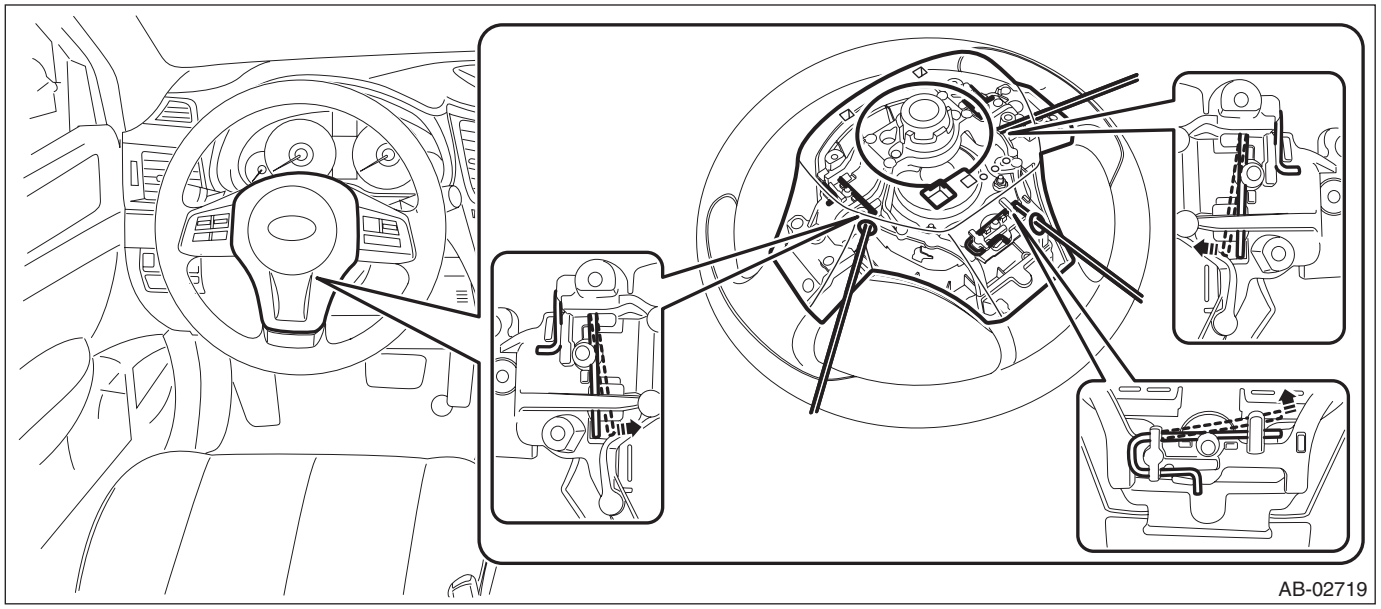
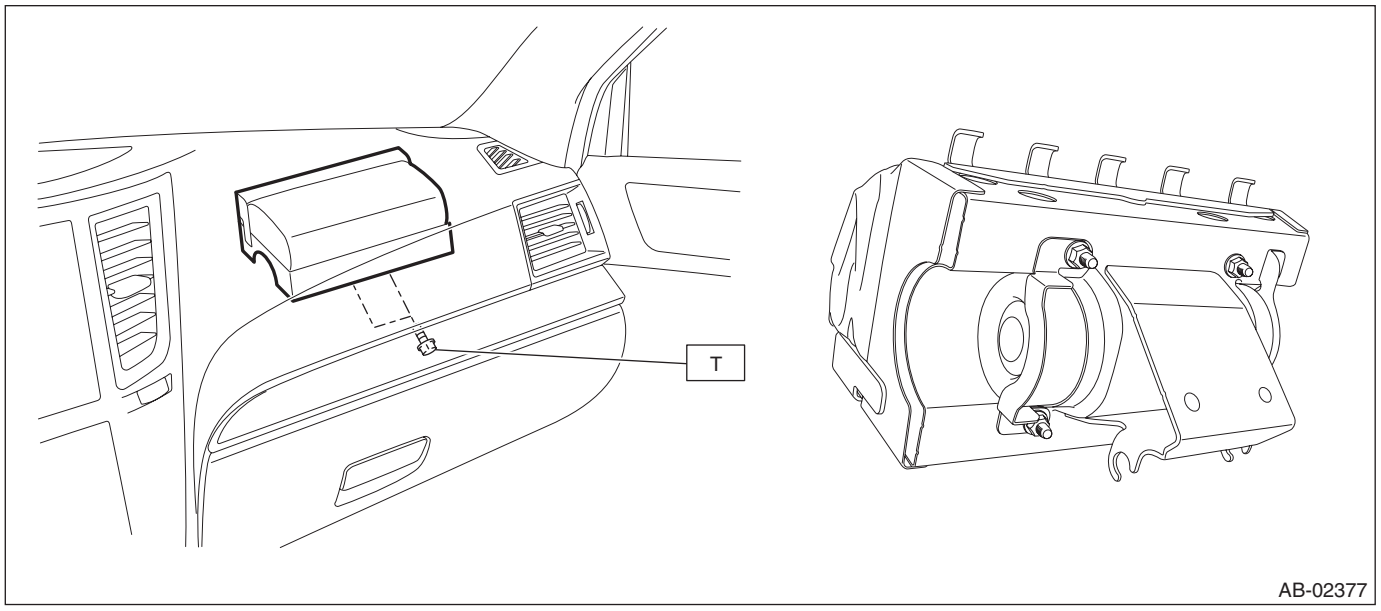
1. DRIVER'S AIRBAG MODULE

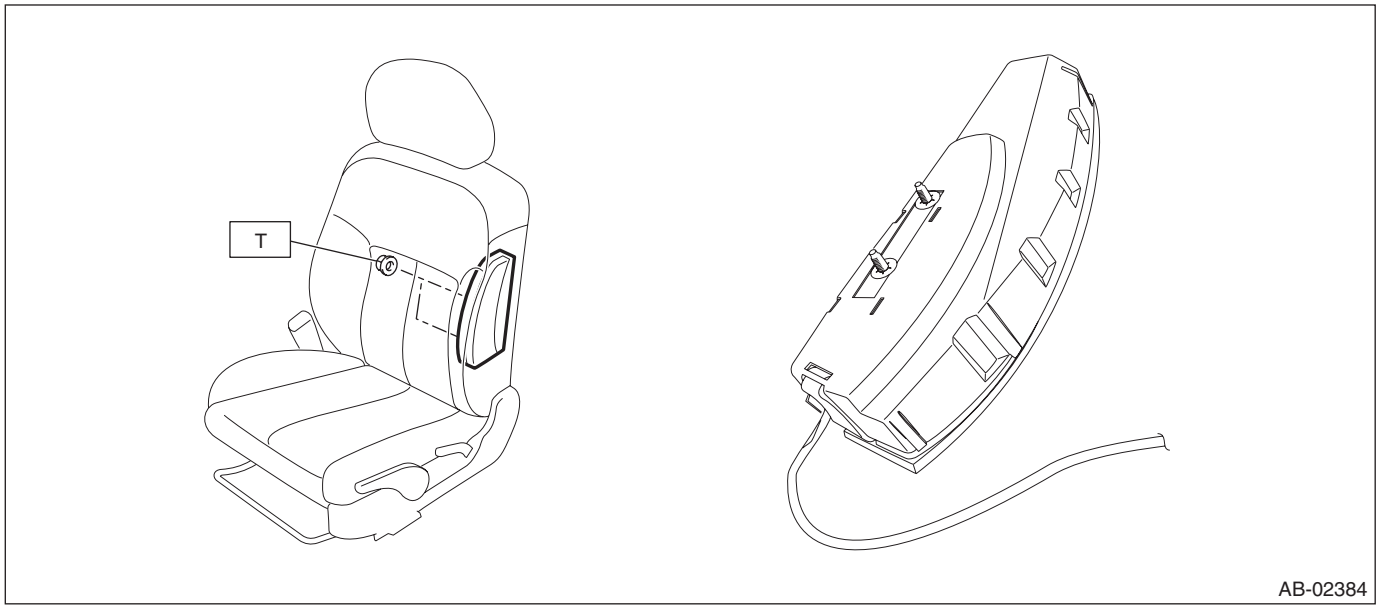


2. PASSENGER'S AIRBAG MODULE



Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

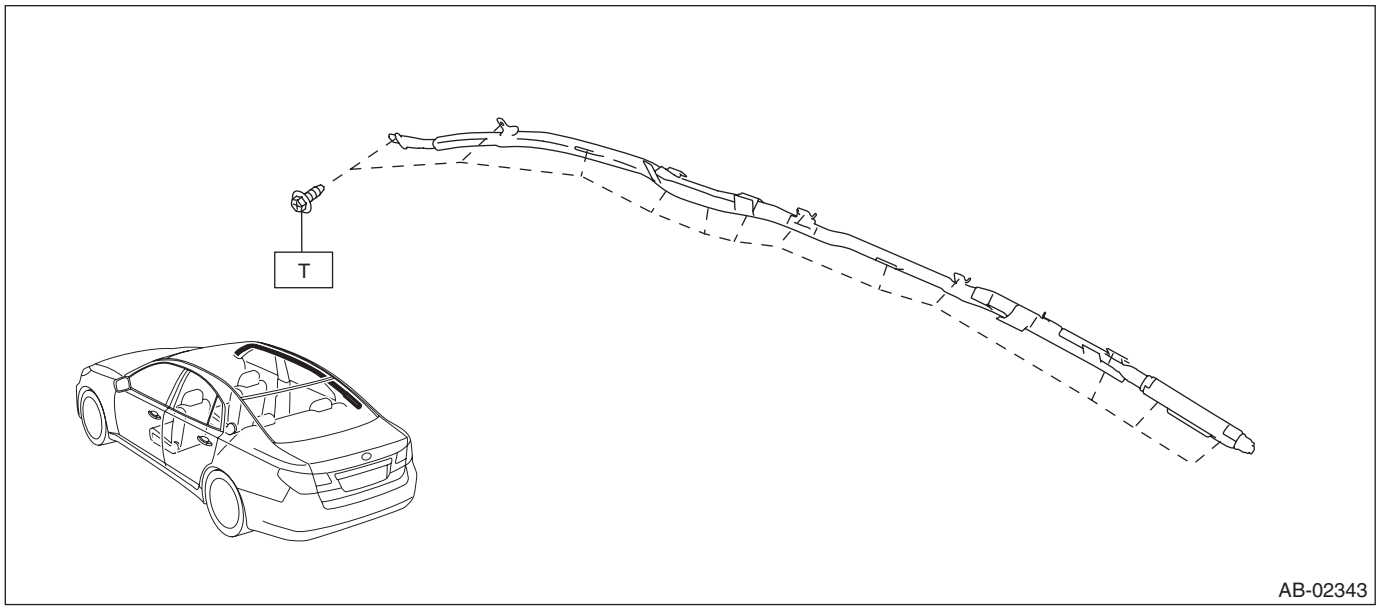
3. SIDE AIRBAG MODULE



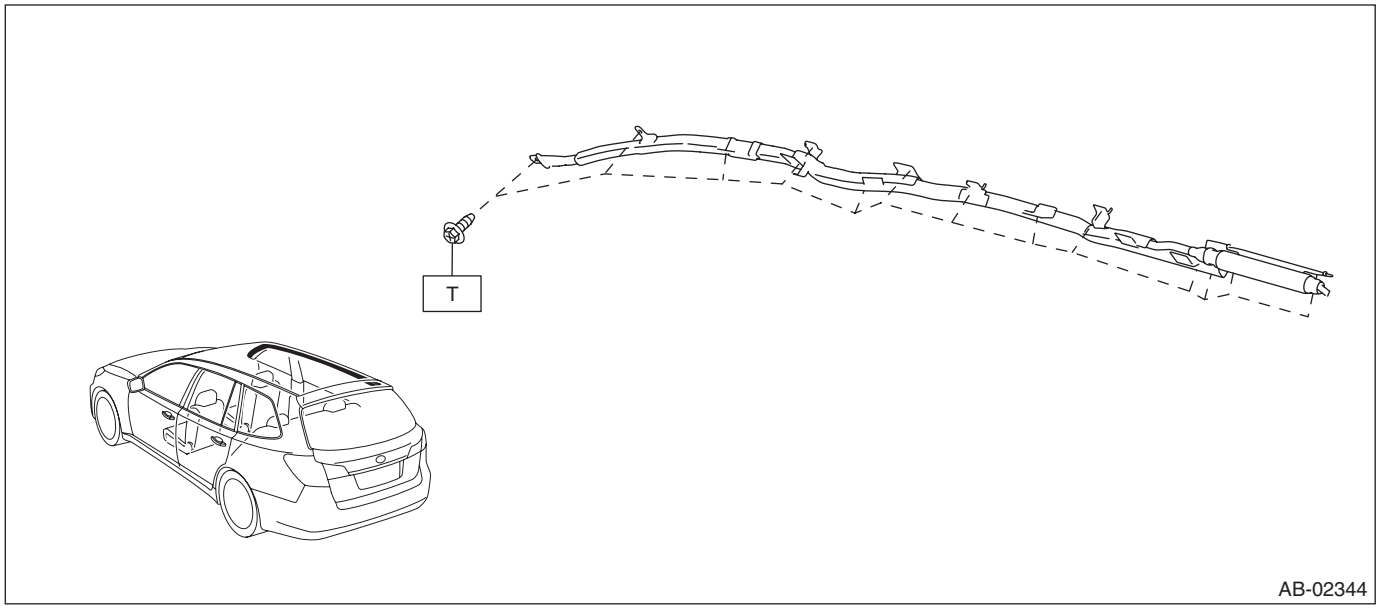
Tightening torque:
6 N·m (0.61 kgf-m, 4.4 ft-lb)

4. CURTAIN AIRBAG MODULE

- Sedan model



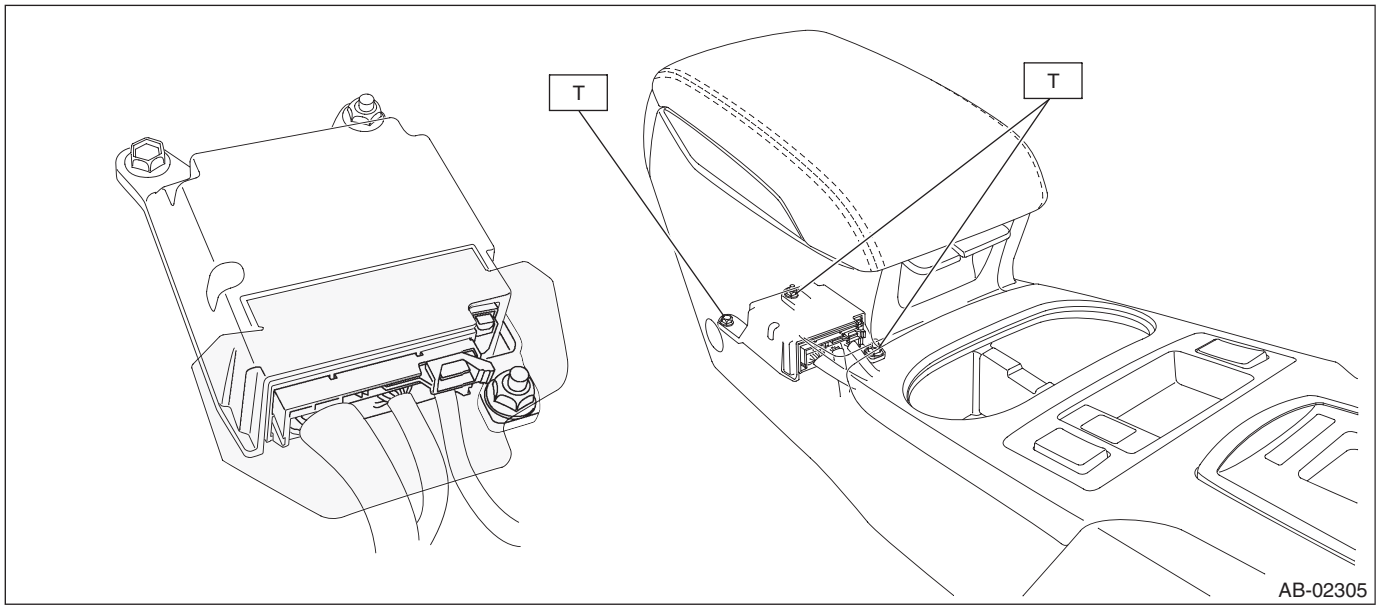
- OUTBACK model



Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

5. AIRBAG CONTROL MODULE

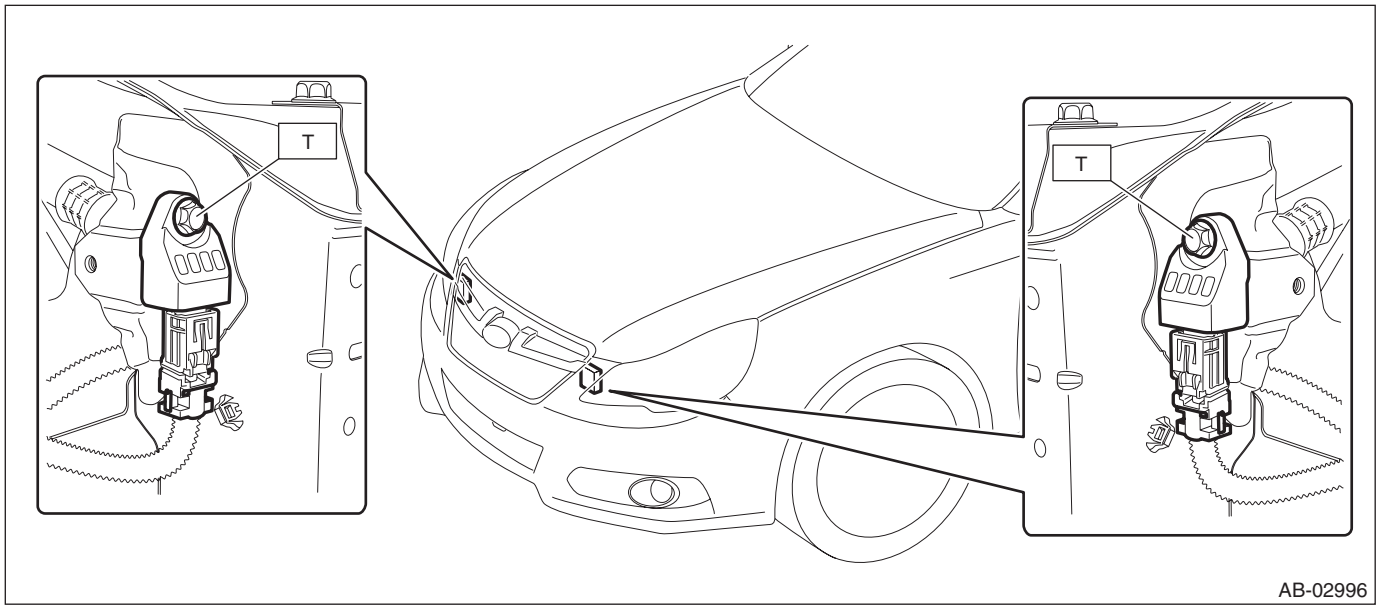
CAUTION:
Do not reuse mounting bolts and nuts.



Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)

6. FRONT SUB SENSOR

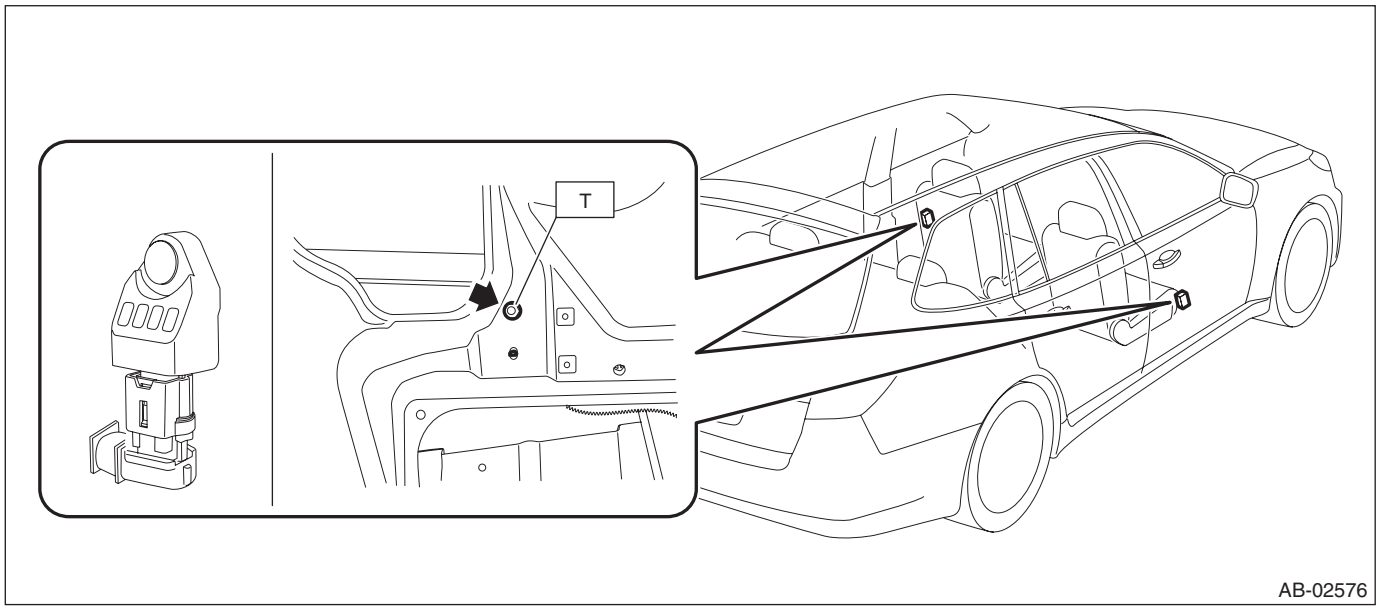
CAUTION:
Do not reuse mounting bolts and nuts.



Tightening torque:
13 N·m (1.33 kgf-m, 9.6 ft-lb)

7. FRONT DOOR IMPACT SENSOR

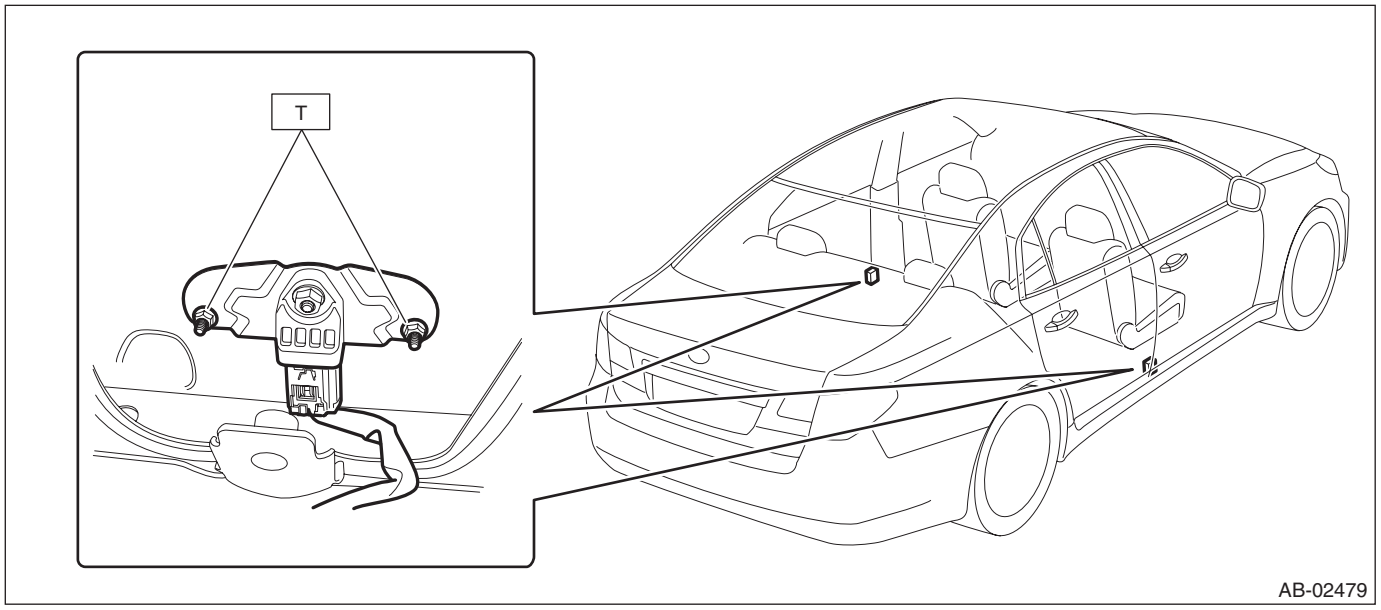
CAUTION:
Do not reuse mounting bolts and nuts.



Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

8. SIDE AIRBAG SENSOR

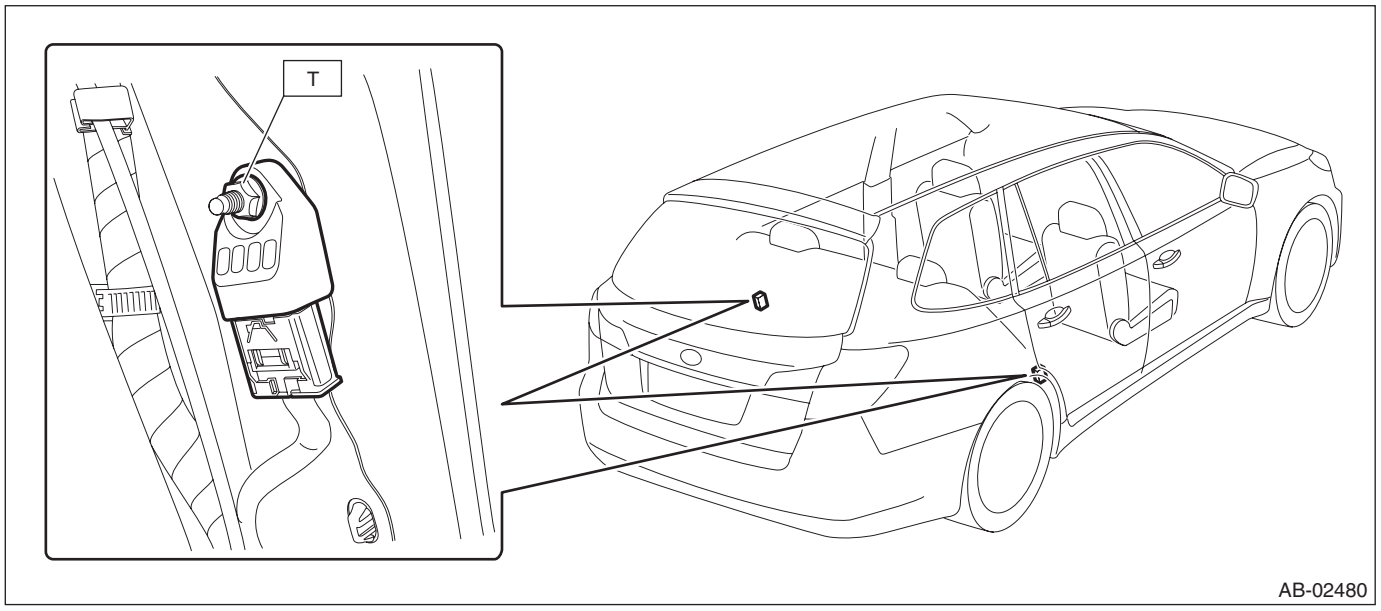
CAUTION:
Do not reuse mounting bolts and nuts.



Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

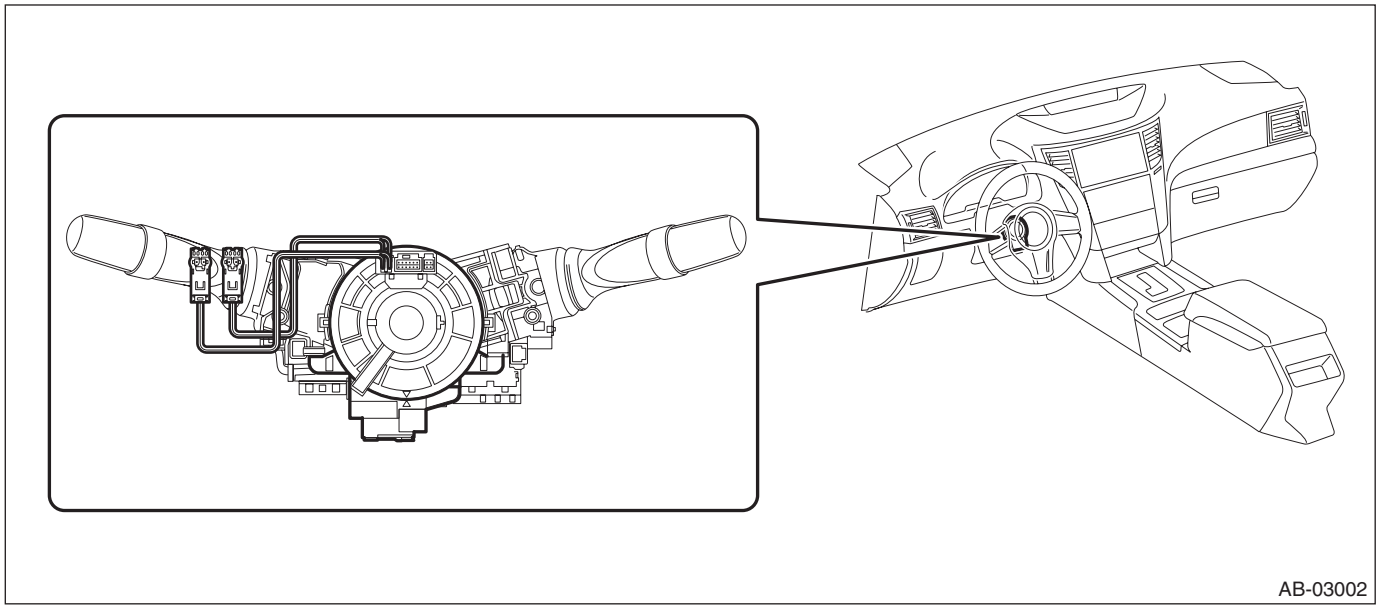
9. CURTAIN AIRBAG SENSOR

CAUTION:
Do not reuse mounting bolts and nuts.



Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

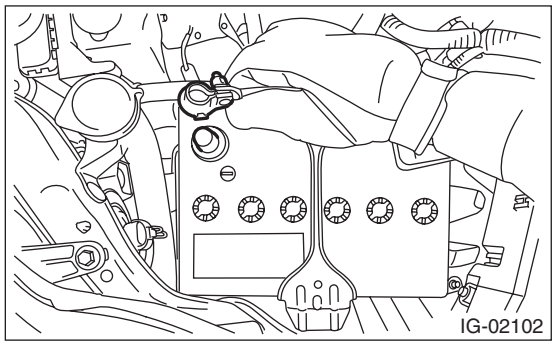
10.STEERING ROLL CONNECTOR



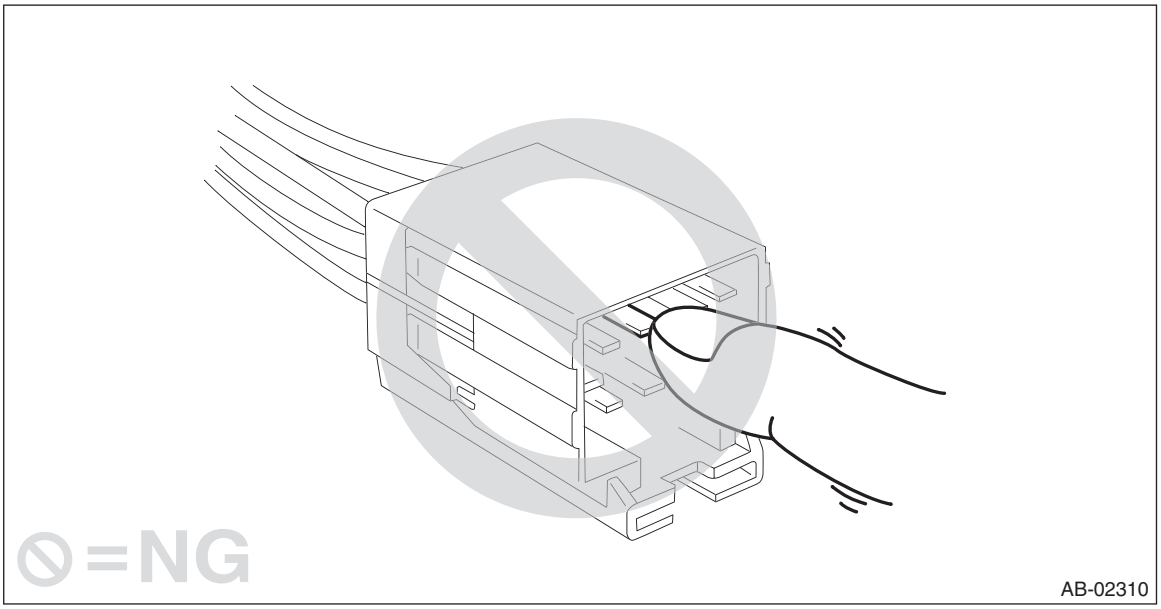
B: CAUTION

1. BEFORE STARTING ALL WORKS

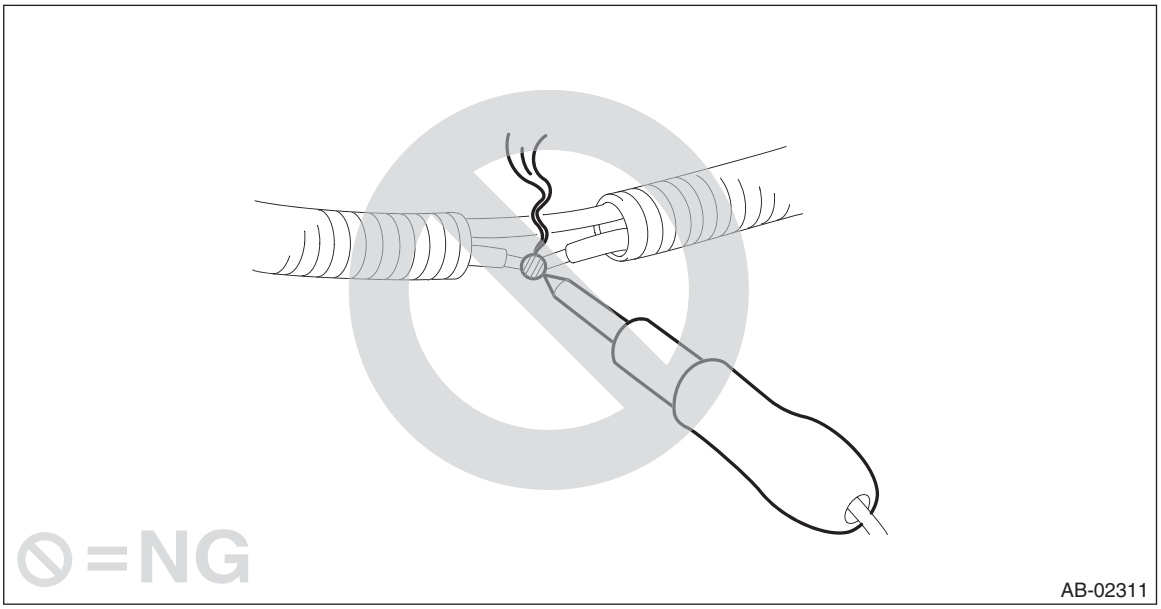
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds or more before starting the service of airbag system.



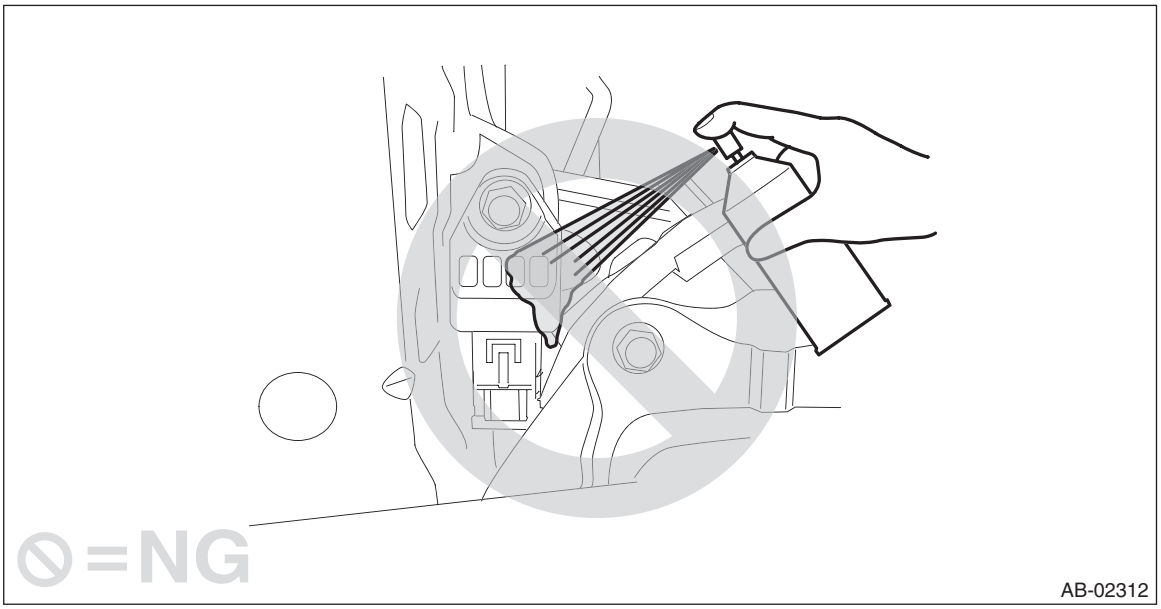
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for 60 seconds or more before starting work.
• Once the airbag warning light lights up, immediately inspect or repair the vehicle. Otherwise, the airbag system may malfunction.
• Do not allow water or oil to come in contact with the connector terminals. Also, do not touch the connector terminals directly.



• If damage, open circuit or rust is found on airbag system wiring harness, do not repair the harness. Always replace the faulty harness with a new genuine part.



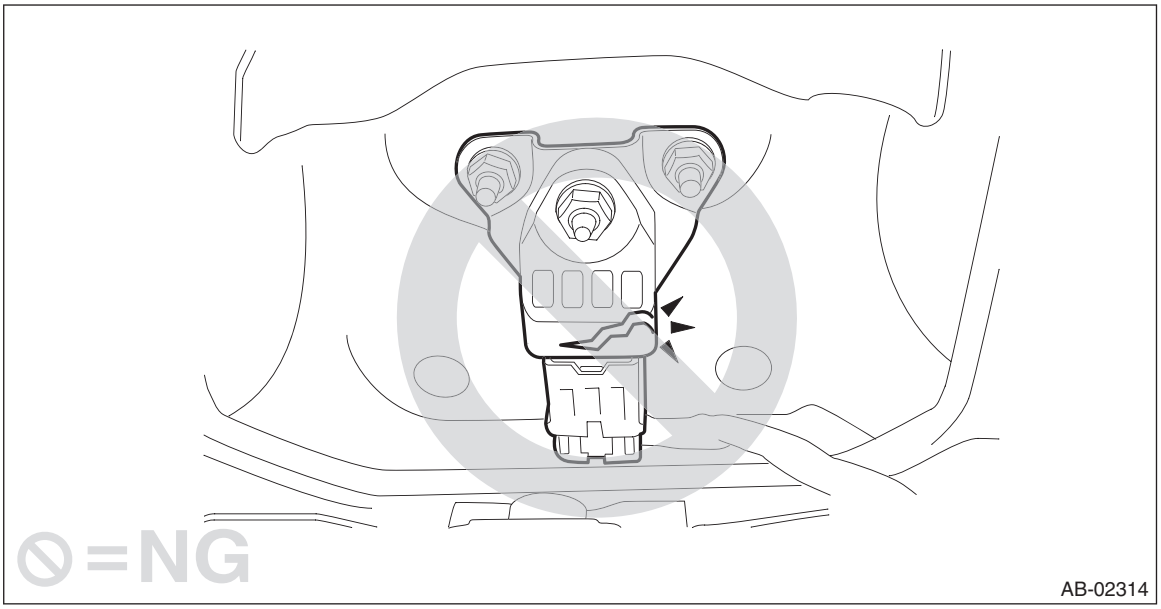
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and radiator panel side, remove the front sub sensors and wiring harness of airbag system.
• When painting or performing sheet metal work on the side of the vehicle, including the side sill, center pillar and front and rear doors, remove the side airbag sensors, curtain airbag sensor, and wiring harness of the airbag system.



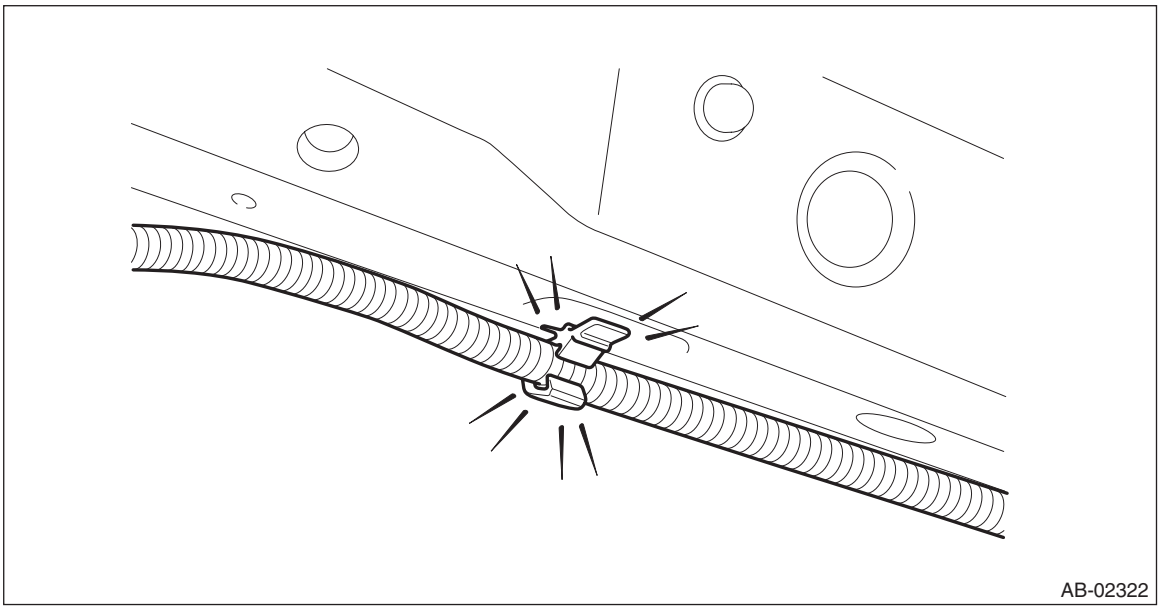
• When installing steering wheel and steering roll connector, be sure to adjust the steering roll connector.

2. BEFORE STARTING PARTS REPLACEMENT

• If airbag sensors, airbag module, airbag control module, pretensioners, or harnesses are deformed or damaged, replace with new parts.

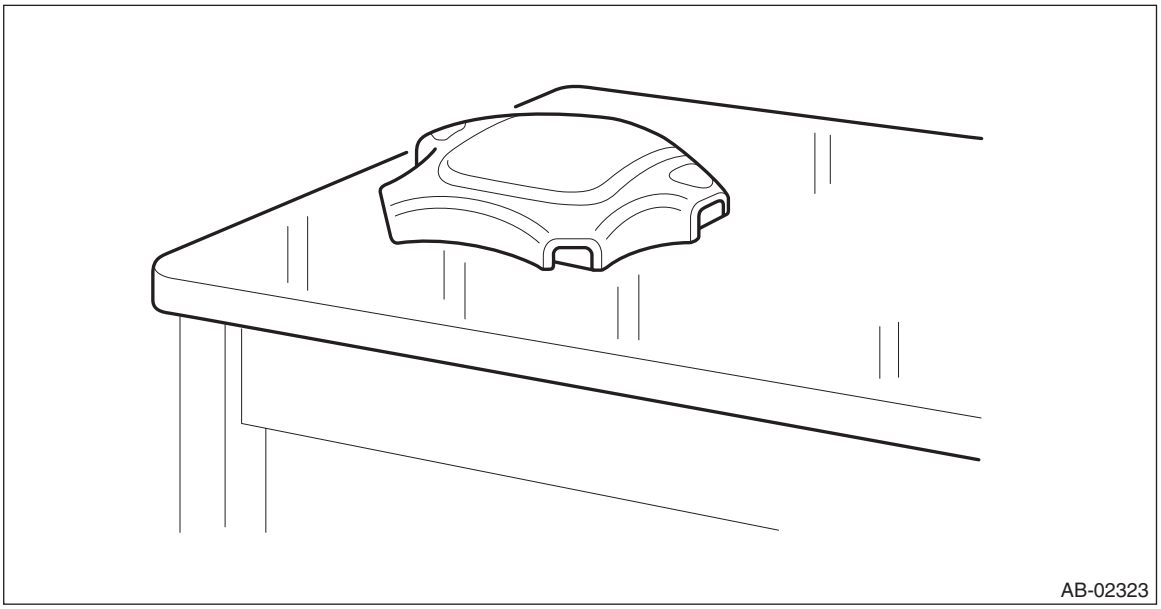


• Install the wiring harness securely with the specified clips to avoid interference or tangled with other parts.

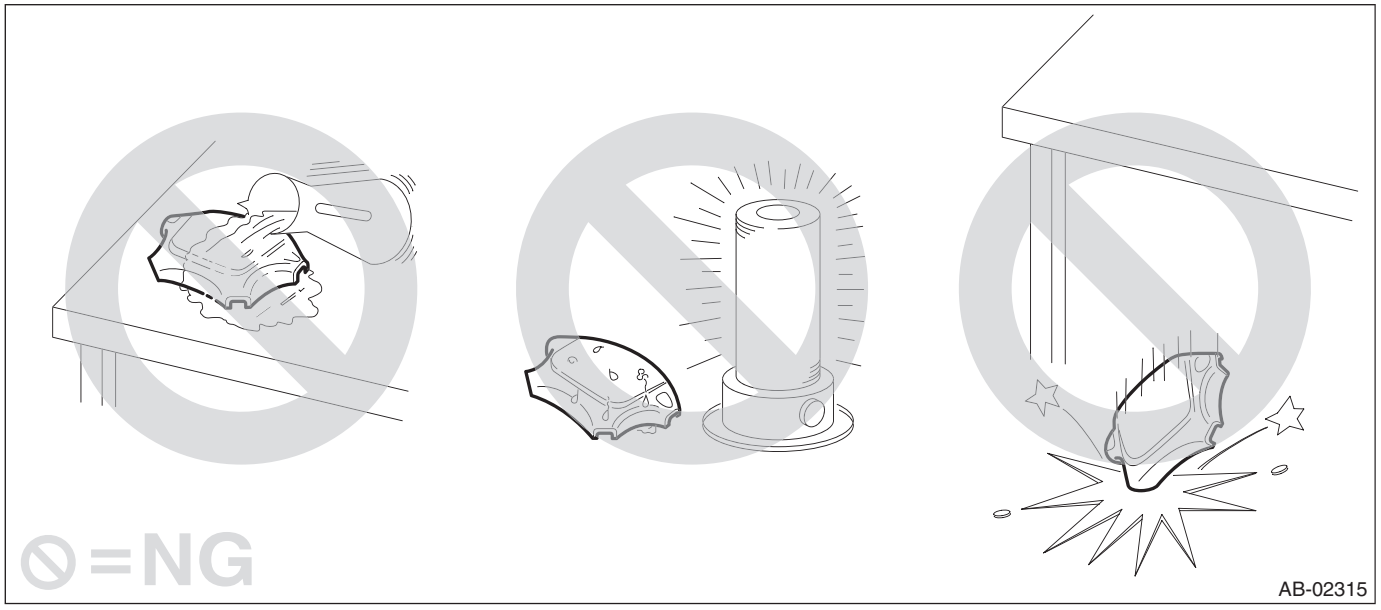


• Do not use the airbag or pretensioner parts from other vehicles. Always replace the defective parts with new parts.
• Never reuse any activated airbag module and pretensioner.
• Do not discard undeployed airbag or pretensioner.
• When airbag control module, front sub sensor, side airbag sensor and curtain airbag sensor are removed, do not reuse the bolts and nuts of them. Always use new bolts and nuts for them.
• When installing steering wheel and steering roll connector, be sure to adjust the steering roll connector.

• After removal of each parts for airbag system, keep them with the pad facing upward on a dry, clean and flat surface without heat, light sources, moisture and dust.

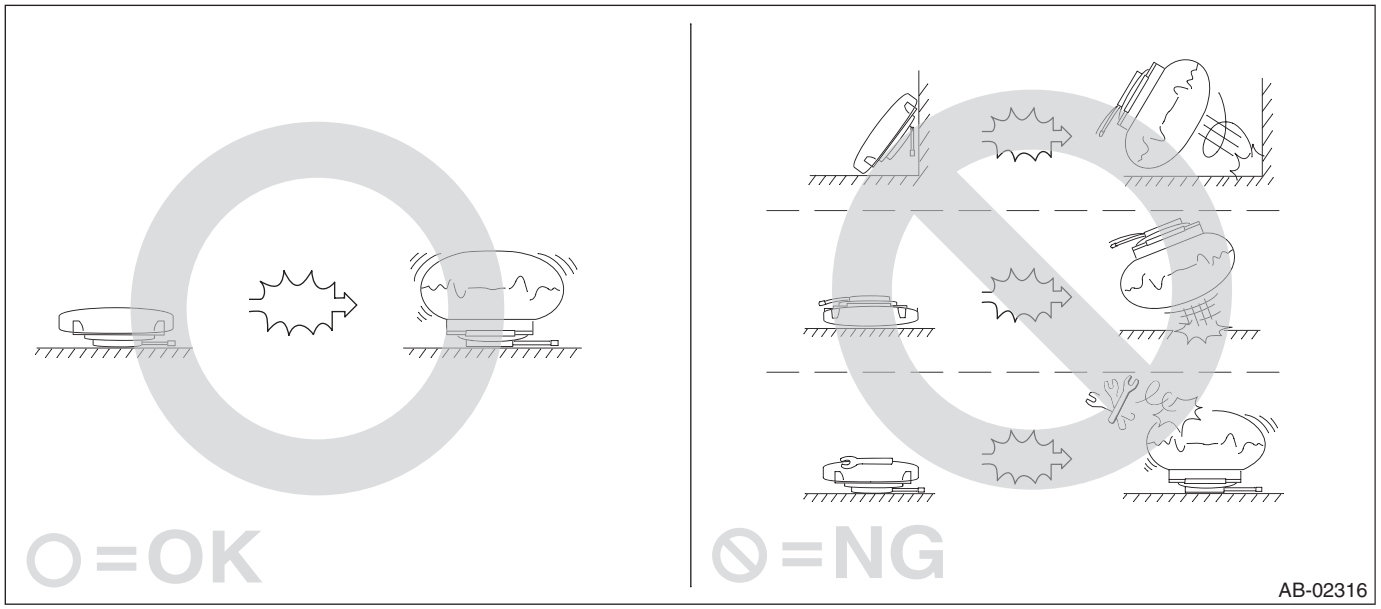


• Do not drop any airbag component, store them under high temperature of 85°C (185°F) or more, or let water, oil or grease get on them; the internal parts may be damaged or the reliability may be greatly lowered.

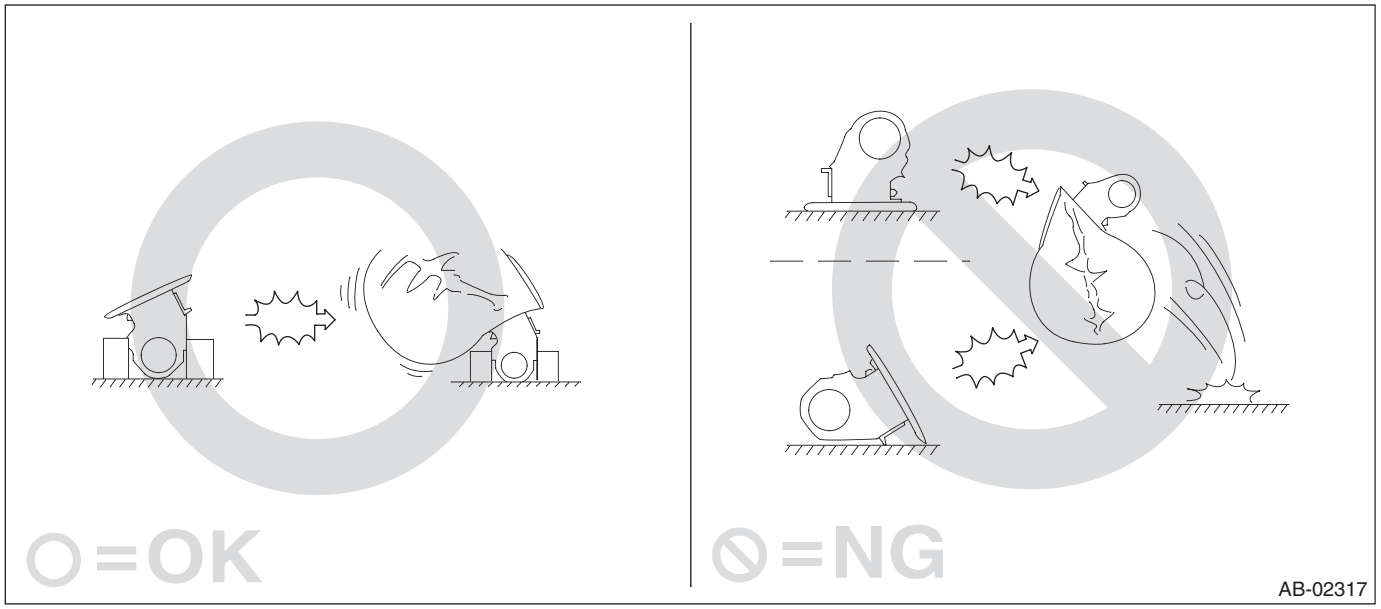


• When storing a removed airbag module, do not place it with the pad side of airbag facing downward. Do not place any objects on the airbag module. Do not pile up the airbag module. If the pad of the airbag module is in contact with other objects, it may cause a serious accident if the airbag accidentally operates.

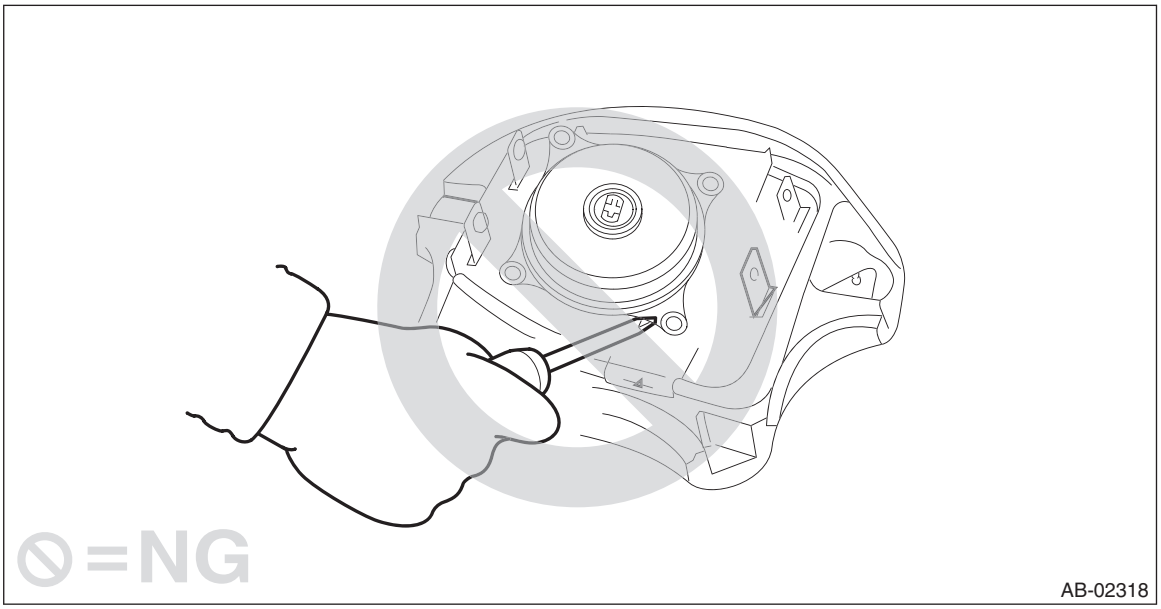
• Driver's airbag module



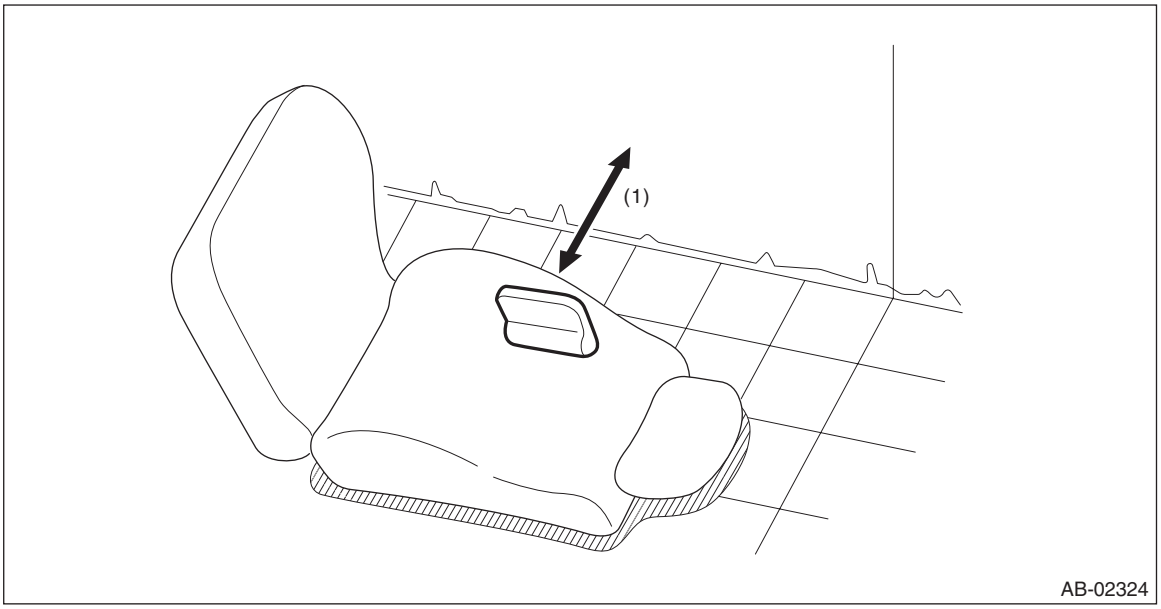
• Passenger's airbag module & side airbag module



• Do not disassemble driver's airbag module, passenger's airbag module, side or curtain airbag modules, or pretensioner.



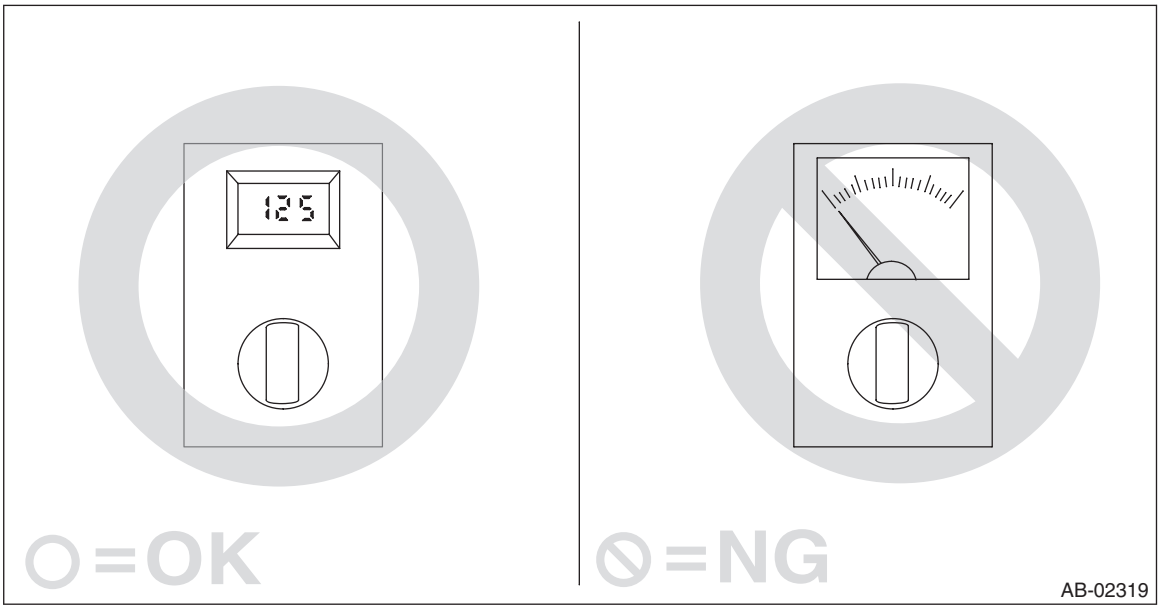
• The removed front seat with airbag module must be kept at least 200 mm (8 in) away from walls and other objects.



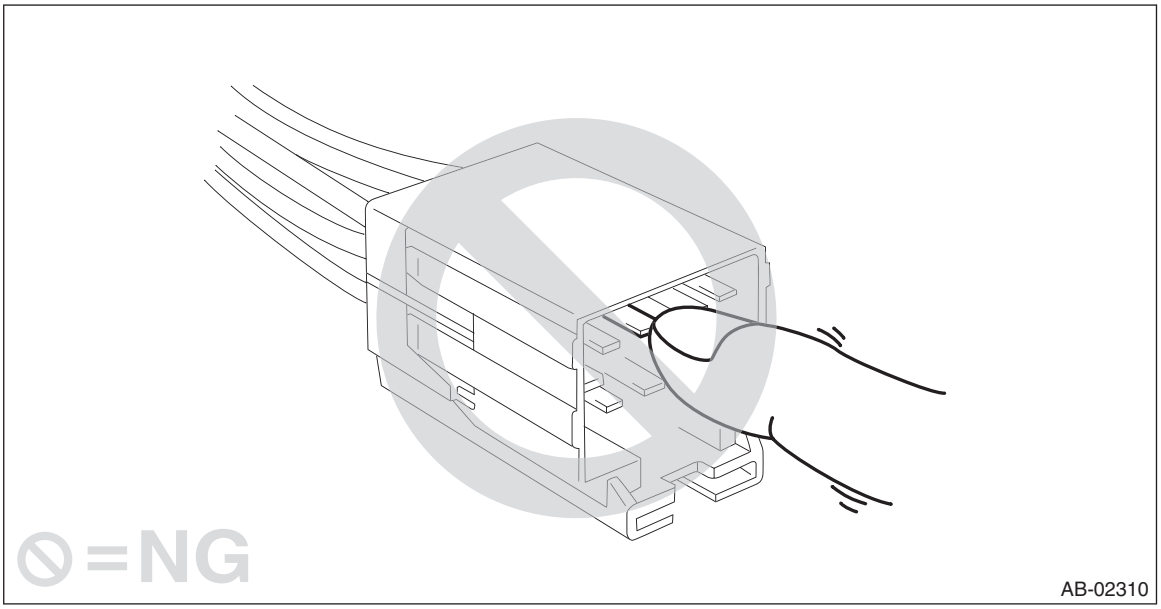
(1) 200 mm (8 in) or more

3. BEFORE STARTING TROUBLESHOOTING

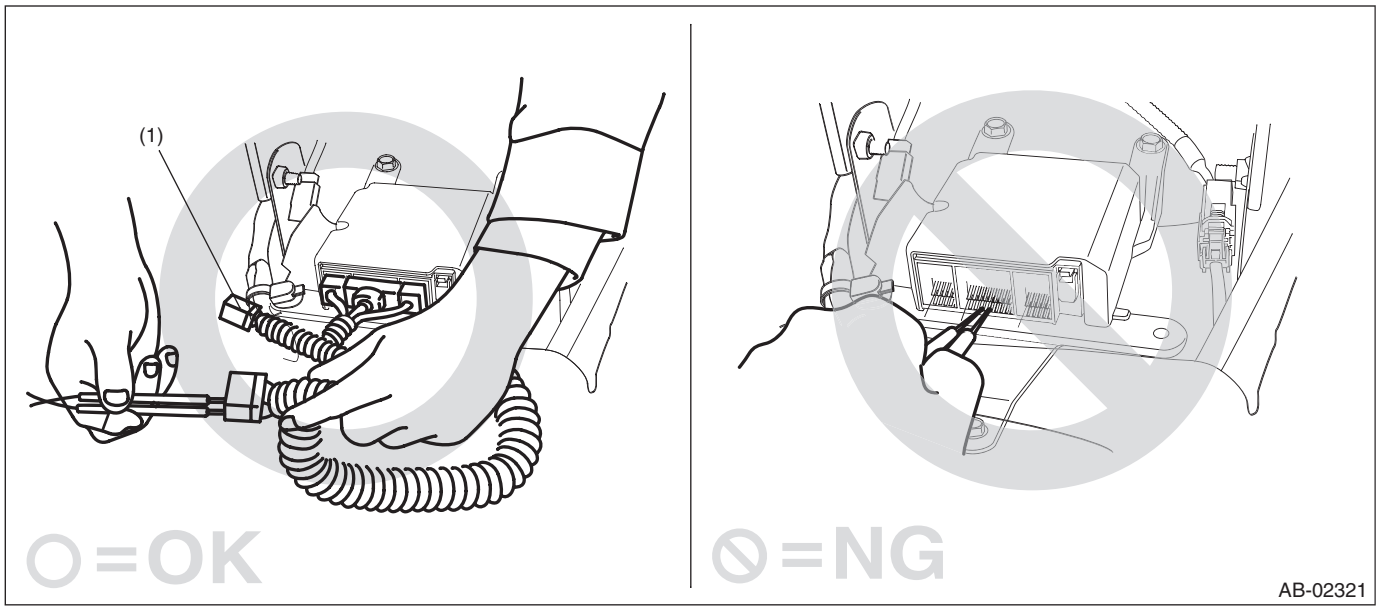
• Even if any part is to be replaced as the result of diagnosis, do not use airbag parts or pretensioner parts from other vehicles. Always replace the defective parts with new parts.
• When checking the airbag system, be sure to use a digital circuit tester. Use of an analog circuit tester may cause the airbag to activate erroneously due to a minimal current inside tester.



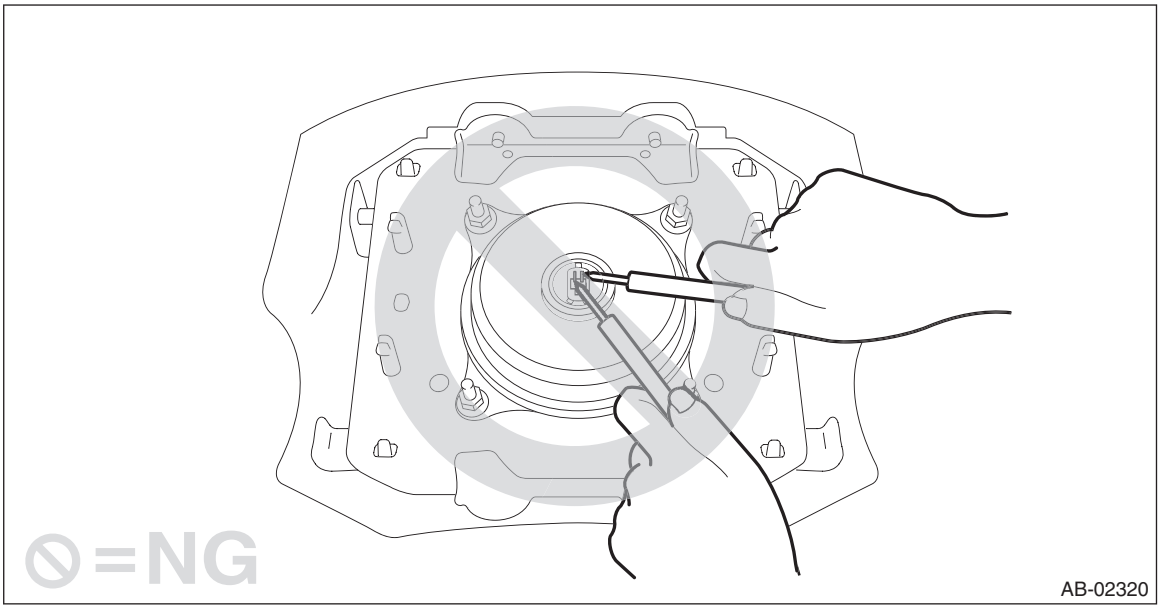
• Do not allow water or oil to come in contact with the connector terminals. Also, do not touch the connector terminals directly.



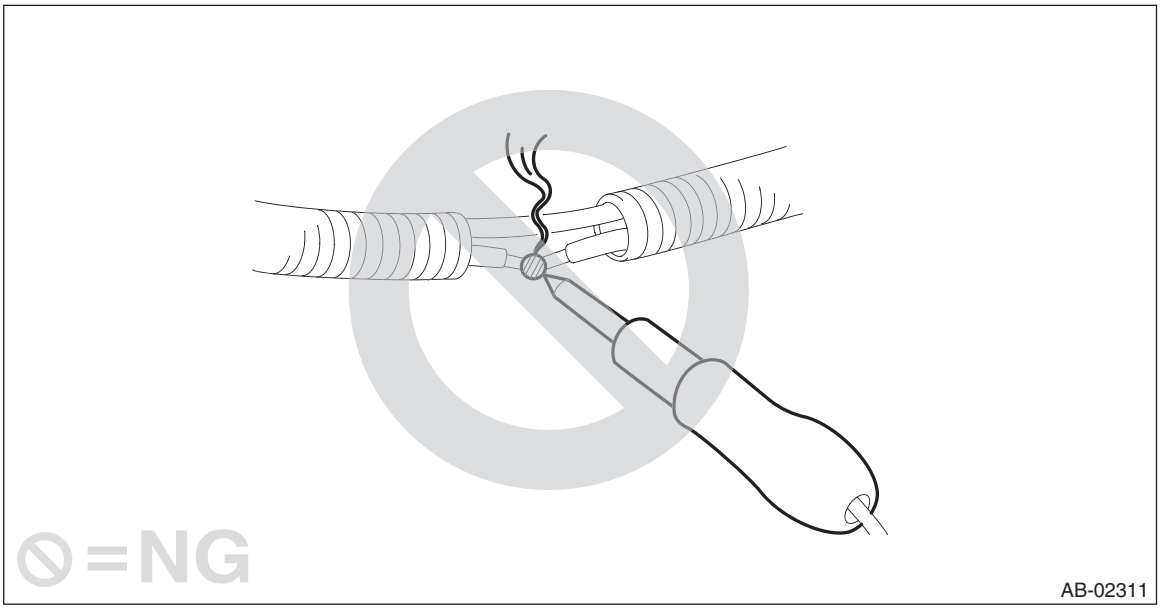
• When checking, use a test harness (1). Damage to connector terminal cause malfunction. Do not directly apply the tester probe to connector terminal of airbag.



• Do not check continuity of the airbag modules for driver's side, passenger's side and curtain, or the pretensioner.

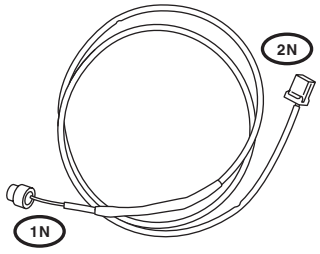
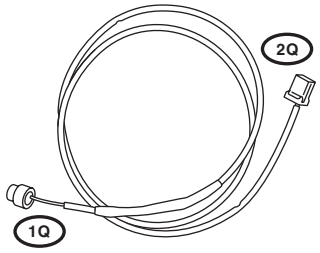


• If damage, open circuit or rust is found on airbag system wiring harness, do not repair the harness. Always replace the faulty harness with a new genuine part.



C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA000	98299SA000	TEST HARNESS N	Used for unit inspection of steering roll connector.
 ST98299SA040	98299SA040	TEST HARNESS Q	Used for unit inspection of steering roll connector.

2. GENERAL TOOL

TOOL NAME	REMARKS
Steering wheel puller	Used for removing the steering wheel.

2. Airbag Connector

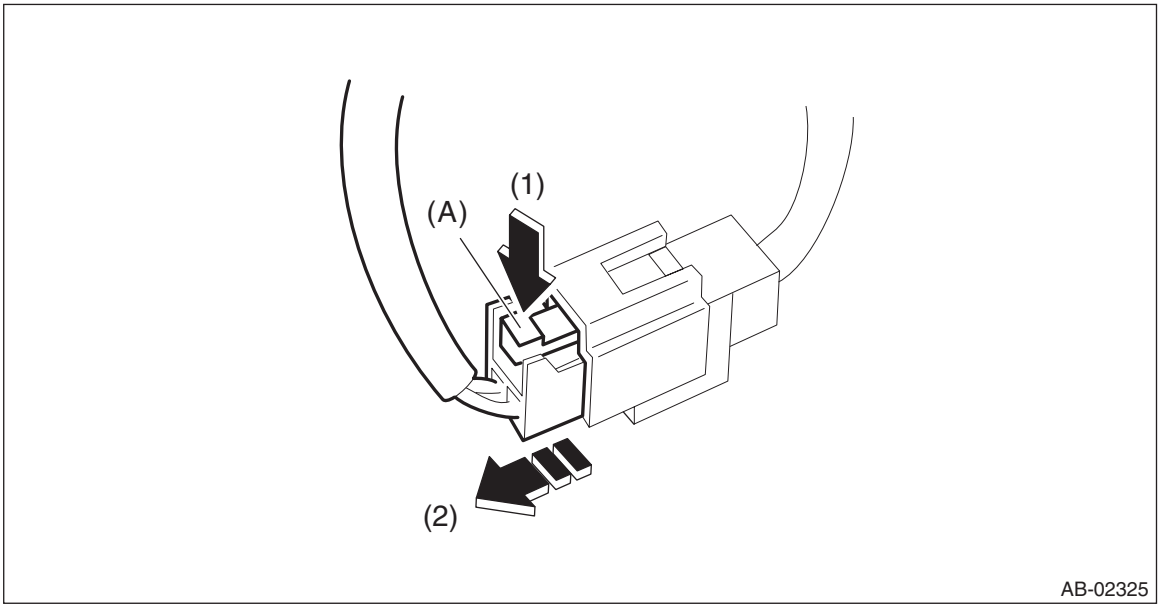
A: PROCEDURE

1. POWER SUPPLY

1) How to disconnect:

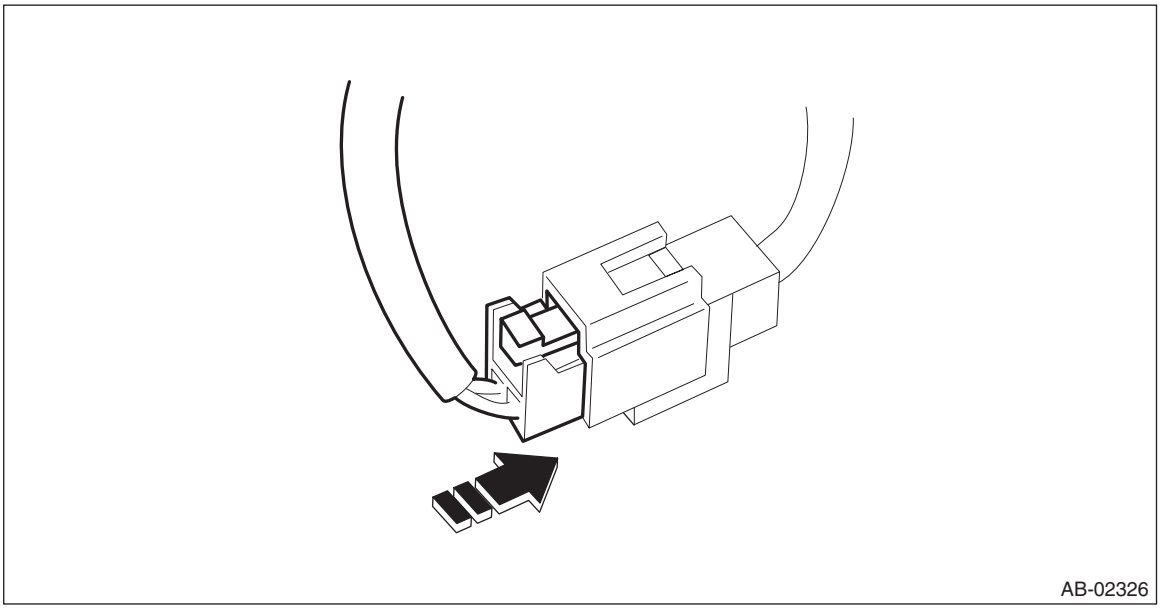
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Push the lock (A).
(2) While holding down the lock (A), disconnect the connector.



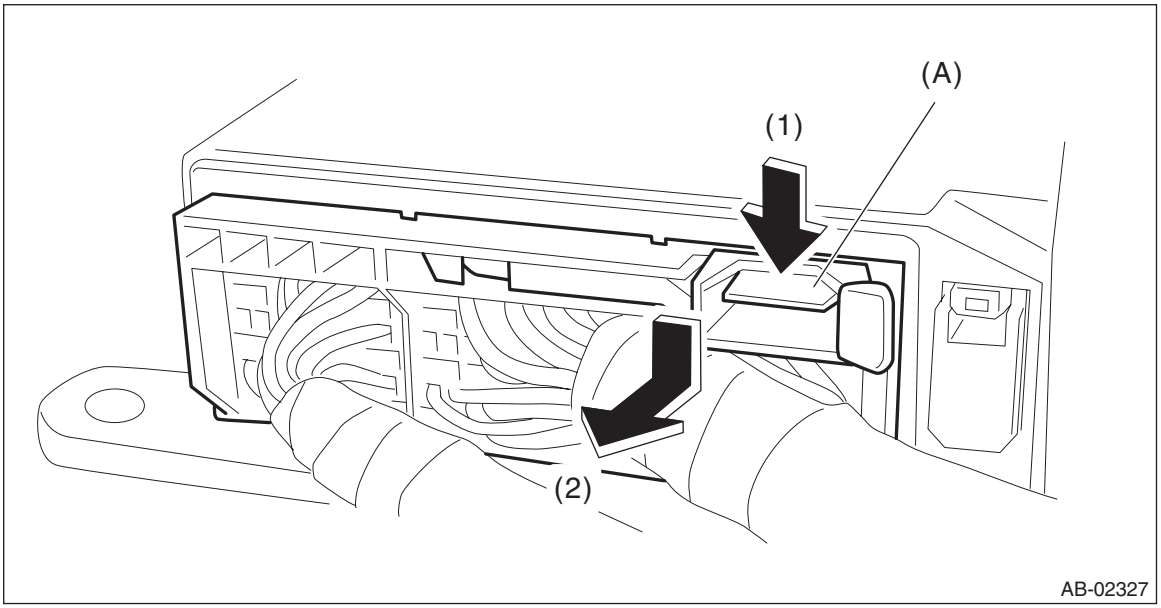
2) How to connect:

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.



2. AIRBAG CONTROL MODULE

1) How to disconnect:
   (1) Push the lock lever plate (A).
   (2) While holding down the lock lever plate (A), pull the lever toward you.



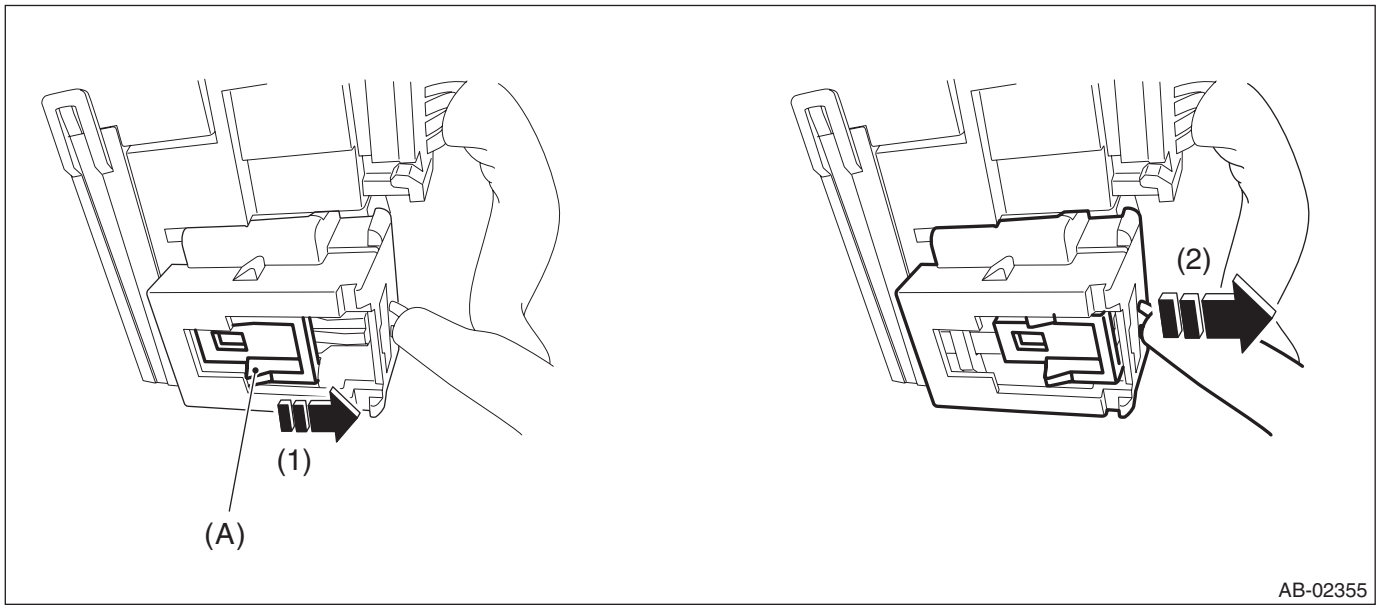
2) How to connect:

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Insert the connector and push the lock lever in securely.

3. DRIVER'S AIRBAG MODULE (ROLL CONNECTOR)

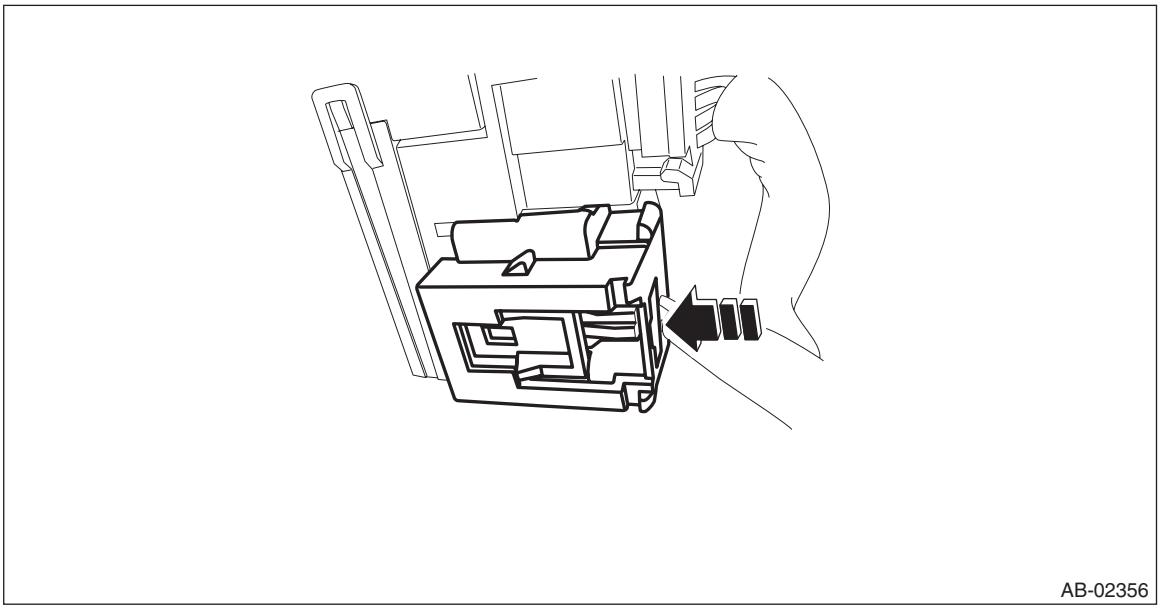
1) How to disconnect:

CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.
   (1) Push the slide lock (A) in the direction of arrow.
   (2) With the slide lock pushed, disconnect the connector.



2) How to connect:

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.

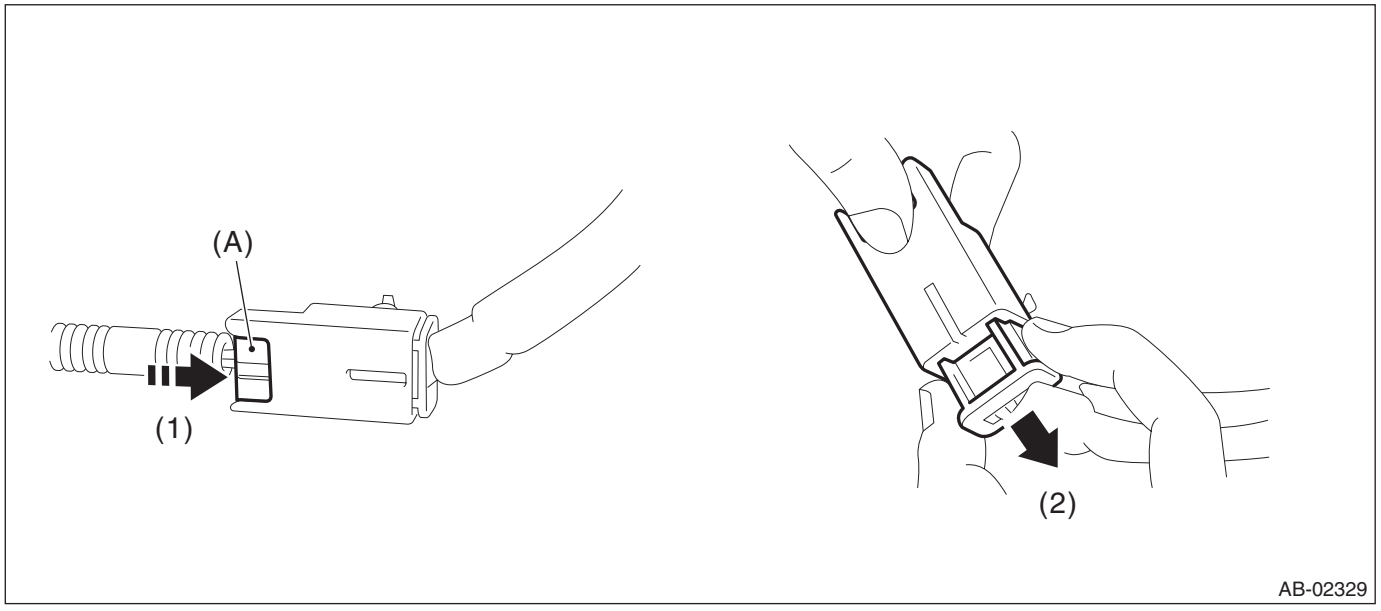


4. PASSENGER'S AIRBAG MODULE

1) How to disconnect:

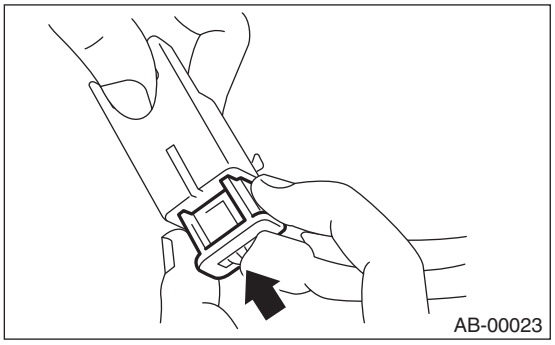
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Push the slide lock (A) in the direction of arrow.
(2) With the slide lock pushed, disconnect the connector.



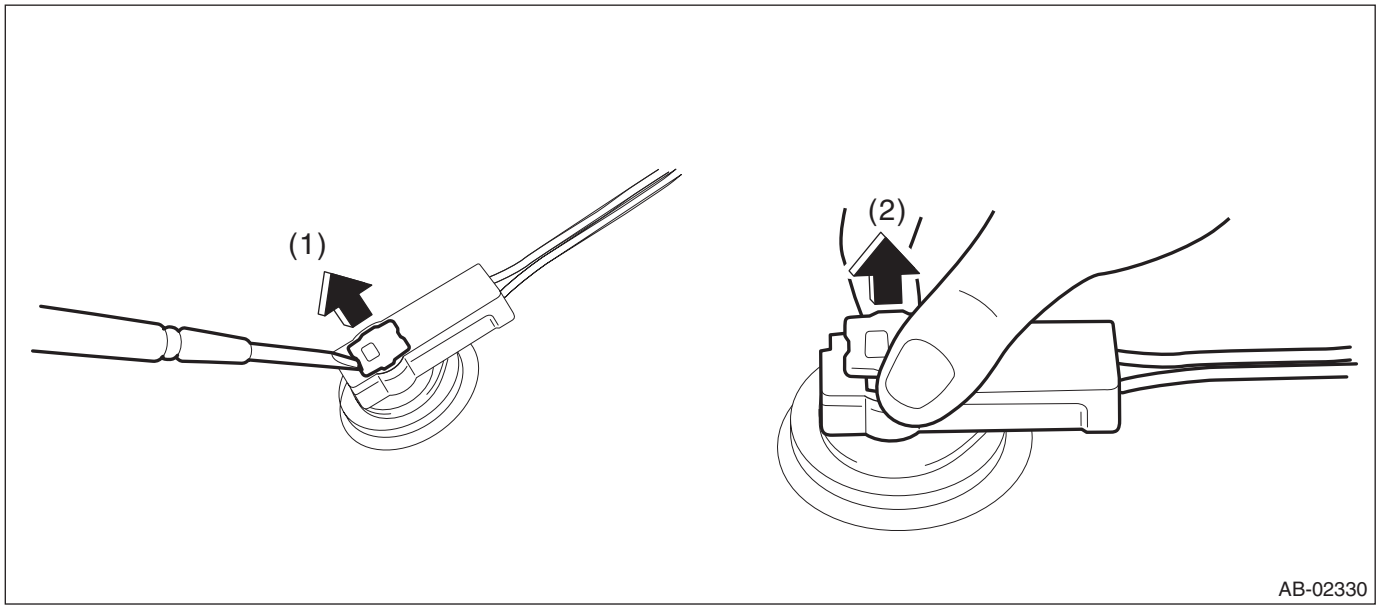
2) How to connect:

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.



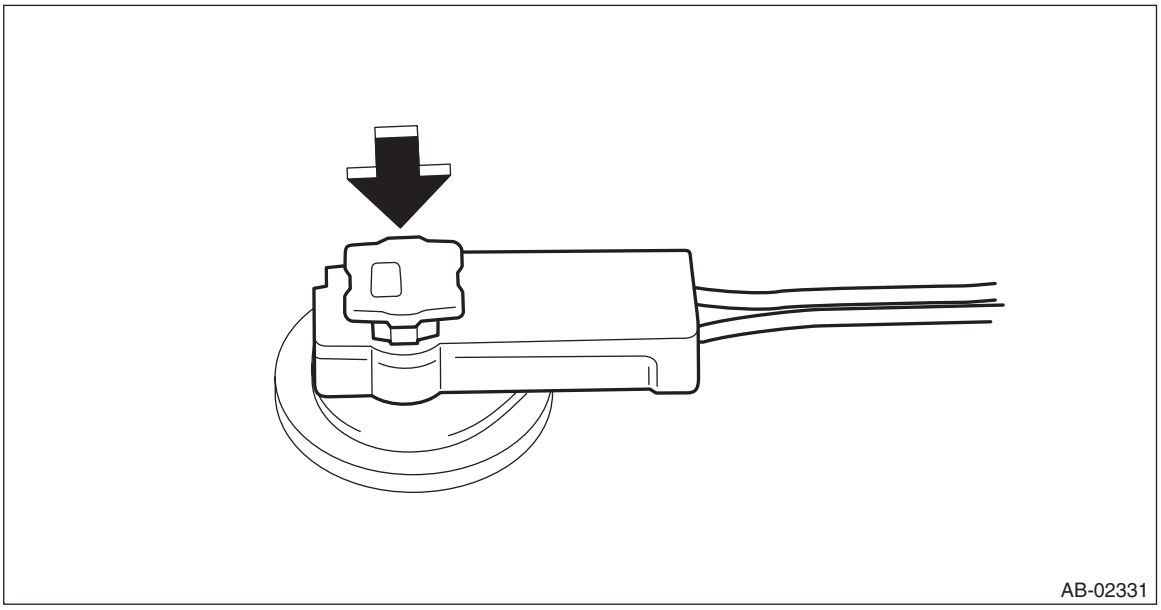
5. DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER

1) How to disconnect:
(1) Using a flat tip screwdriver, pry the push lock upward to unlock.
(2) Pull the connector to disconnect from the driver's airbag module assembly or the retractor assembly.



2) How to connect:

CAUTION:
- **Be sure to insert the connector in until it is locked.**
- **Be sure to push the push lock in securely. Then pull it gently to make sure that it is locked.**



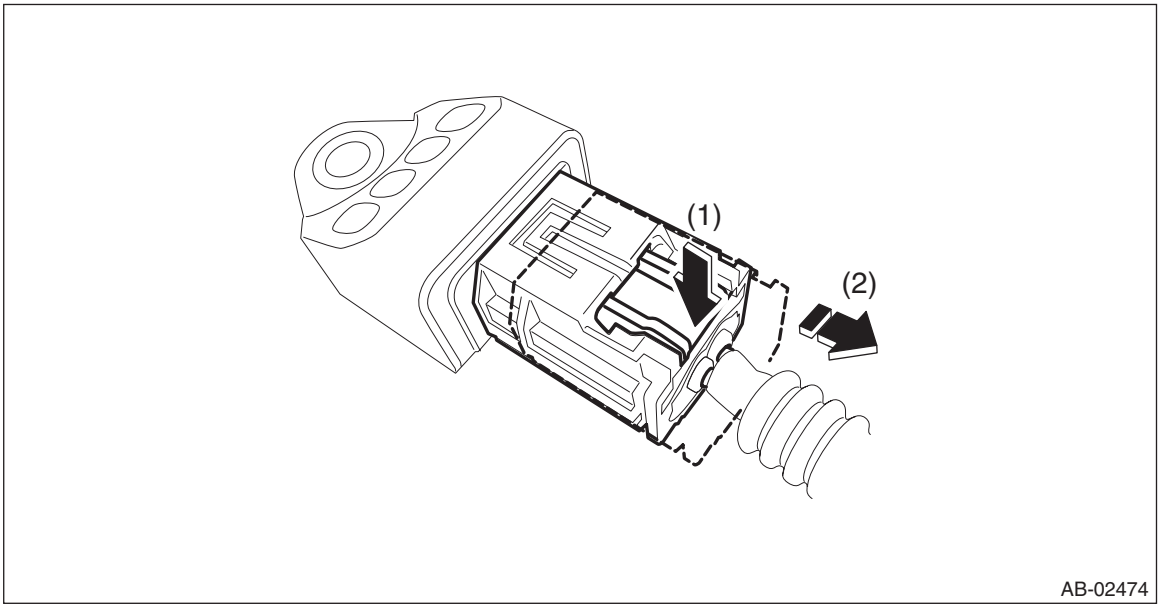
Connect the connector in the reverse order of disconnecting. At this time, be sure to insert it until a clicking sound is heard.

6. FRONT SUB SENSOR

1) How to disconnect:

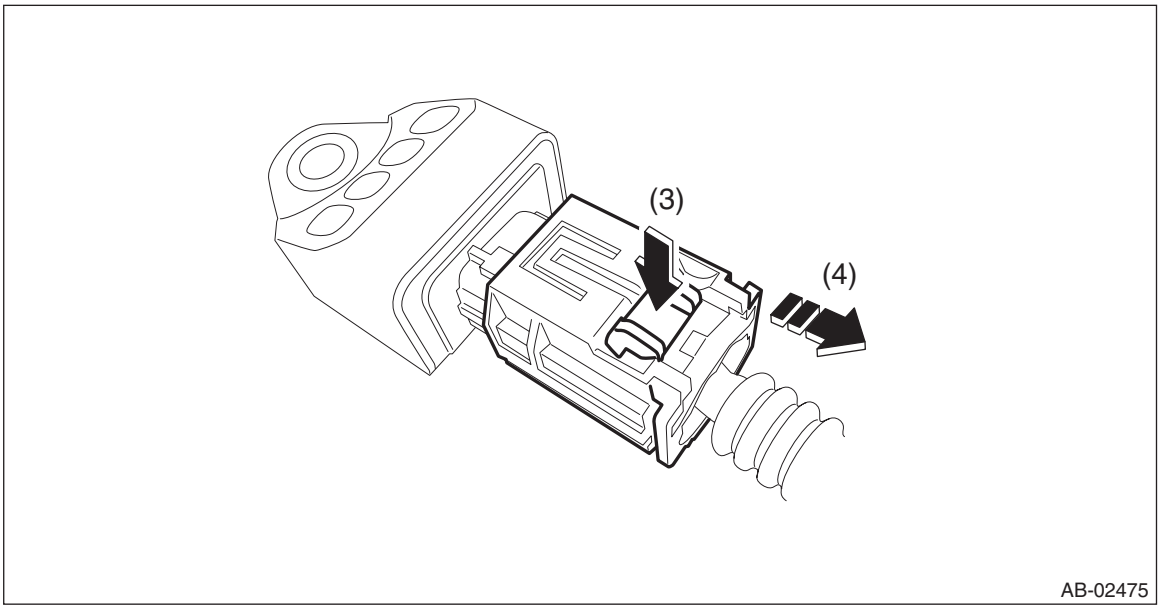
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Push the lock arm.
(2) Holding outer part, pull it one step in the direction of arrow.



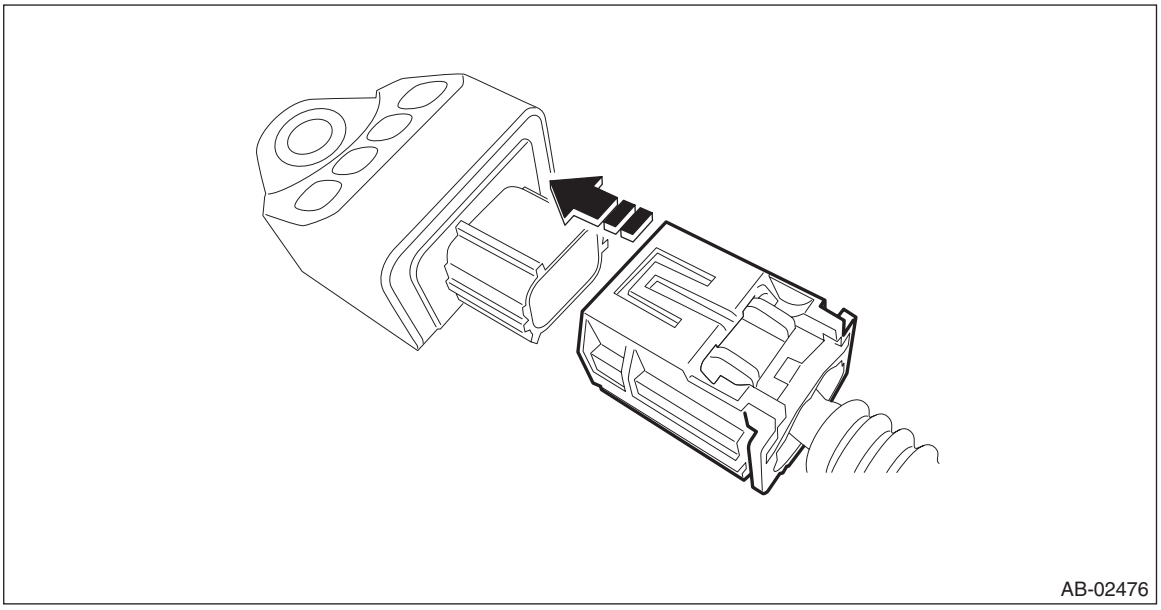
(3) Push the lock arm again.

(4) Holding outer part, pull it in the direction of arrow to disconnect the connector.



2) How to connect:

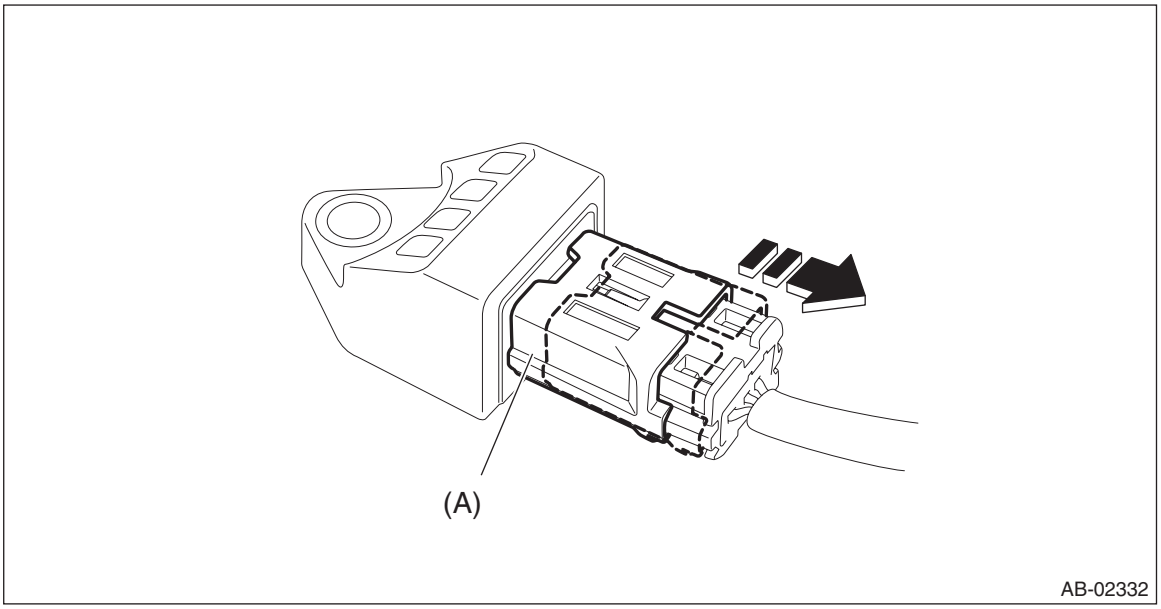
CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.



7. FRONT DOOR IMPACT SENSOR

1) How to disconnect:

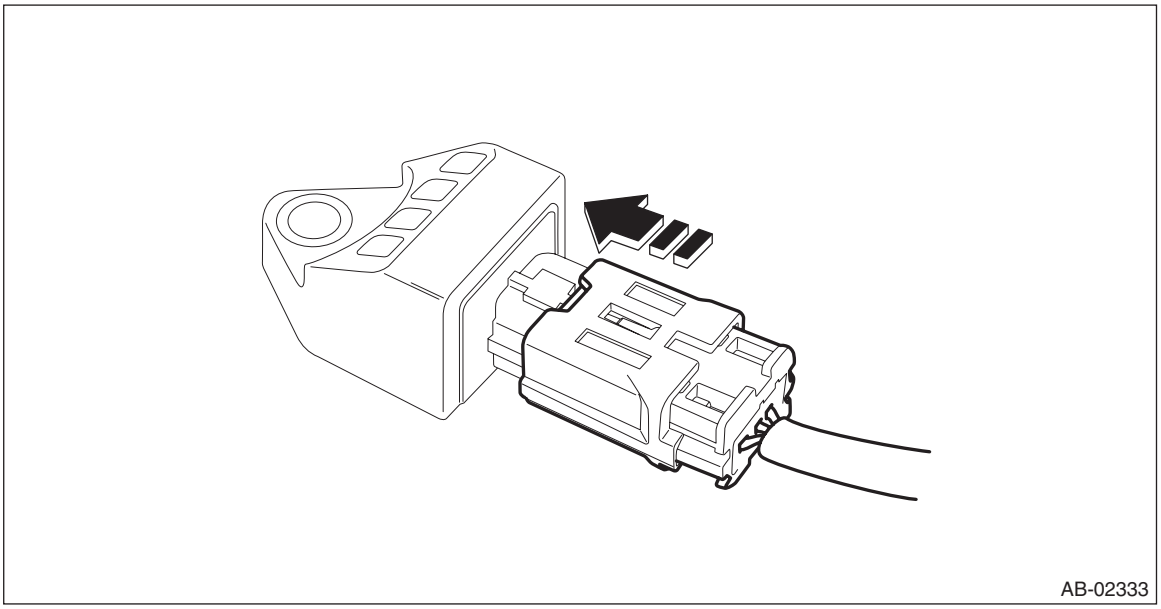
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.
Holding outer part (A), pull it in the direction of arrow.



2) How to connect:

CAUTION:
- **Do not touch the outer side section or else the outer side (A) will move back.**
- **Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.**

Holding the connector, push it in securely until a clicking sound is heard.

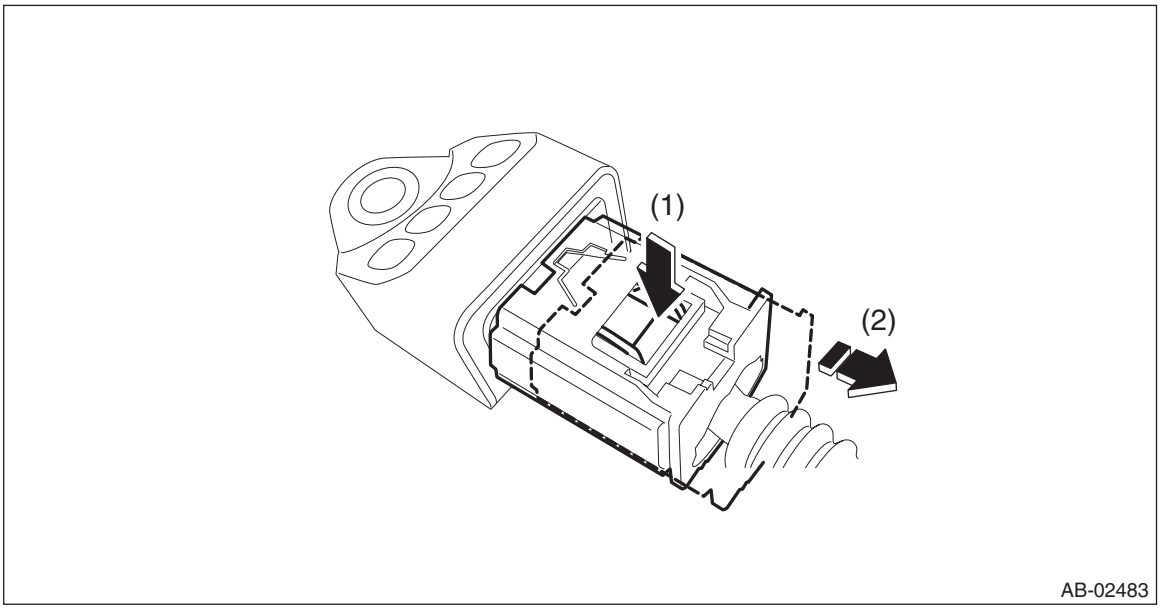


8. SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR

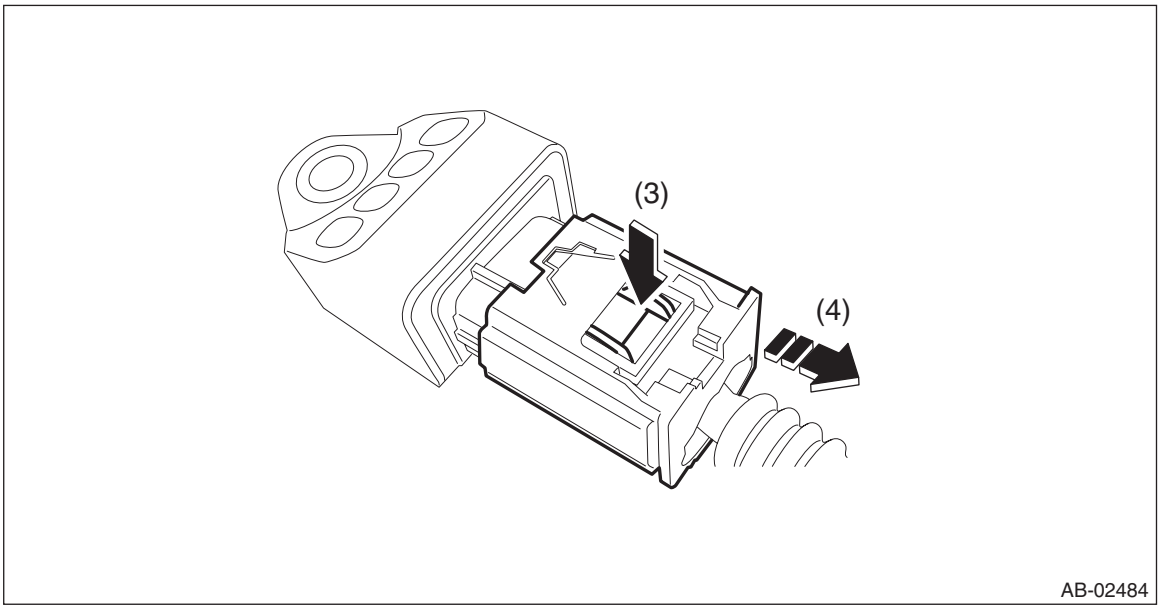
1) How to disconnect:

CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Push the lock arm.
(2) Holding outer part, pull it one step in the direction of arrow.

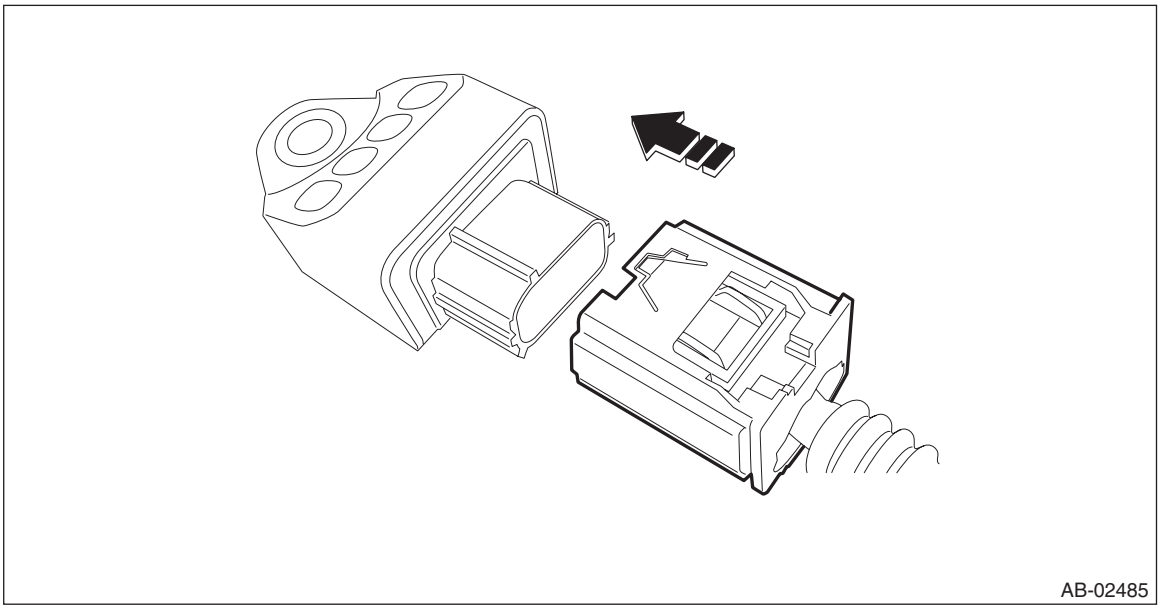


(3) Push the lock arm again.
(4) Holding outer part, pull it in the direction of arrow to disconnect the connector.



2) How to connect:

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.

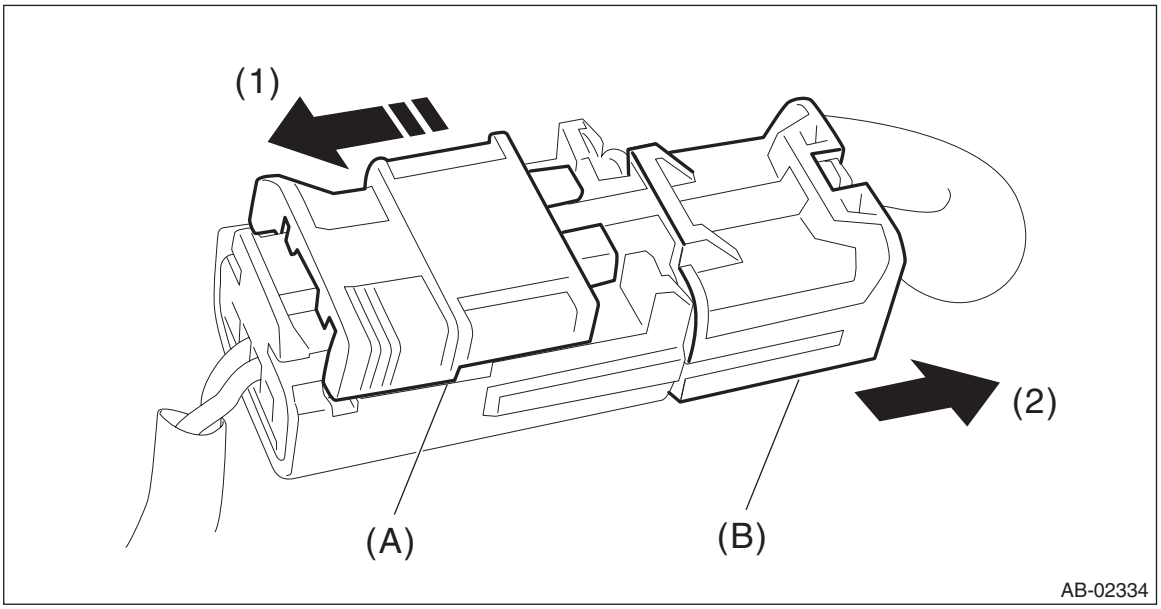


9. SIDE AIRBAG MODULE

1) How to disconnect:

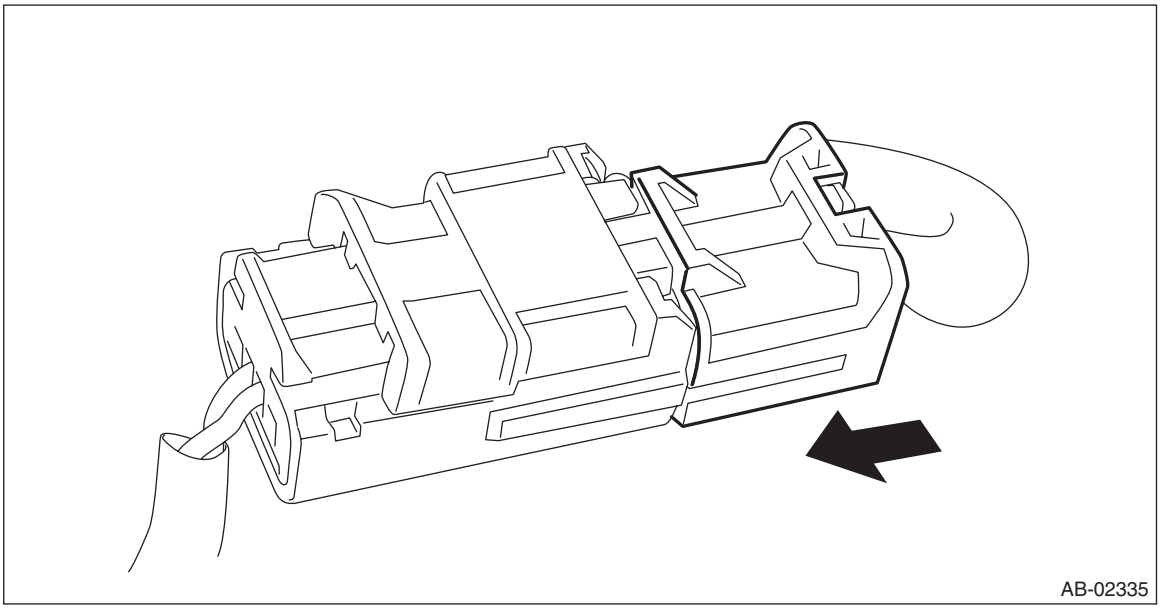
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Move the slide lock (A) in the direction of arrow and hold it.
(2) While holding the slide lock (A) in place, pull the connector (B) to the direction of arrow.



2) How to connect:

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.

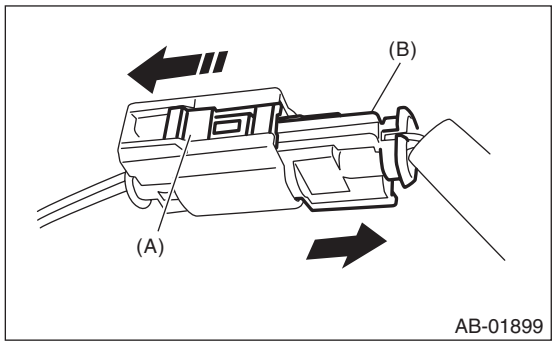


10.BUCKLE SWITCH RH

1) How to disconnect:

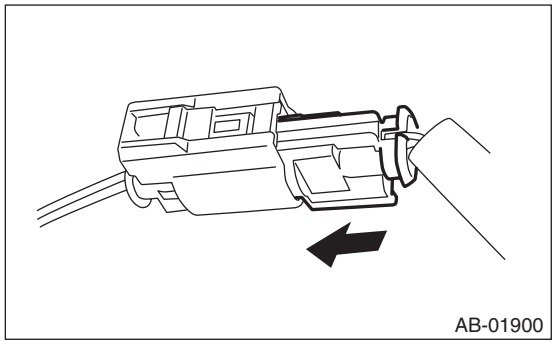
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Move the slide lock (A) in the direction of arrow and hold it.
(2) While holding the slide lock (A), pull the connector (B) in the direction of arrow.



2) How to connect:

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.



11.OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS)

Refer to the occupant detection system section. <Ref. to OD(diag)-8, OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS), PROCEDURE, Airbag Connector.>

3. Inspection Locations after a Collision

A: REPLACEMENT

Replace the following parts if the airbag has been activated.

1. FRONT COLLISION

1) Driver's airbag module
2) Passenger's airbag module
3) Driver's seat belt (pretensioner)
4) Driver's seat belt (lap seat belt pretensioner)
5) Passenger's seat belt (pretensioner)
6) Passenger's seat belt (lap seat belt pretensioner)
7) Airbag control module
8) Front sub sensor (right and left)
9) Roll connector
10) Passenger's side seat cushion pad and frame assembly
11) Instrument panel (for integrating with passenger's airbag module)
12) Curtain airbag module (when activated)

2. SIDE COLLISION

1) Airbag control module
2) Side airbag module (operating side)
3) Side airbag sensor (operating side)
4) Front door impact sensor (operating side)
5) Curtain airbag module (operating side)
6) Curtain airbag sensor (operating side)
7) Driver's seat belt (pretensioner) (operating side)
8) Driver's seat belt (lap seat belt pretensioner) (operating side)
9) Passenger's seat belt (pretensioner) (operating side)
10) Passenger's seat belt (lap seat belt pretensioner) (operating side)

3. INSPECTION OF OTHER PARTS

Check for the following parts, and replace the damaged parts with new parts.
1) Steering wheel and steering shaft
Check the steering shaft for mounting conditions and deflection of front and rear, upward and downward directions, and deflection of front and rear direction with tilt lever released. (After a collision, absorbing part of steering shaft may have been operated.)
2) Check the direct type connector of driver's airbag module, curtain airbag module, and pretensioner for damage, and also check each harness for pinching and connector damage. Replace the main harness as an assembly if damage is found.
3) Check the seat cushion, backrest, seat rail and headrest for installing condition and play.
4) If any break or fray is found in the backrest cover of the driver's seat or passenger's seat, replace the backrest cover with a new part because the side airbag system may not operate normally if no care is made.
5) For the passenger's seat, replace the seat cushion pad frame assembly with a new part if the seat cushion frame assembly is deformed or cracked.
6) If there are tears or loosening in the passenger side seat cushion cover, it may interfere with the proper operation of the occupant detection system. Replace with a new cushion cover.
7) Be sure to perform the system calibration for the occupant detection system after removing or replacing the passenger seat cushion cover. If system adjustment is not performed, the occupant detection system may not function properly. <Ref. to OD(diag)-18, OPERATION, System Calibration (Rezeroing).>
8) Use the Subaru Select Monitor to check the front right seat belt buckle switch is operating normally.

B: INSPECTION

If the vehicle is involved in a collision, even if it is a slight collision, be sure to check the following systems.

1. DRIVER'S AIRBAG MODULE

1) Frontal collision (driver's airbag module activated)

1. Replace the following parts with new ones.
   - Airbag control module
   - Driver's airbag module assembly
   - Passenger's airbag module assembly
   - Curtain airbag module assembly (when activated)
   - Seat belt pretensioner assembly (left and right)
   - Lap seat belt pretensioner assembly (left and right)
   - Front sub sensor (right and left)
   - Sensor cover plate (left and right)
   - Steering shaft assembly
2. Visually inspect the following items and replace any damaged part with a new one.
   - Steering wheel assembly
   - Steering support beam assembly
   - Column cover
   - Knee protector
   - Instrument panel harness and connector on body side

2) Frontal collision (driver's airbag module not activated)

Visually inspect the following items and replace any damaged or cracked part with a new one.
Specially inspect the damage of airbag module body, mounting bracket and harness connector.

- Driver's airbag module assembly
- Passenger's airbag module assembly
- Curtain airbag module assembly (left and right)
- Seat belt pretensioner assembly (left and right)
- Lap seat belt pretensioner assembly (left and right)
- Front sub sensor (right and left)
- Sensor cover plate (left and right)
- Instrument panel assembly (because it is integrated with passenger's airbag module)

3) No frontal collision

Visually inspect the airbag modules for damage or contamination and replace any faulty part with a new one.

2. PASSENGER'S AIRBAG MODULE

1) Frontal collision (passenger's airbag module activated)

1. Replace the following parts with new ones.
   - Airbag control module
   - Driver's airbag module assembly
   - Passenger's airbag module assembly
   - Curtain airbag module assembly (when activated)
   - Seat belt pretensioner assembly (left and right)
   - Lap seat belt pretensioner assembly (left and right)
   - Front sub sensor (right and left)
   - Sensor cover plate (left and right)
   - Instrument panel assembly (because it is integrated with passenger's airbag module)
2. Visually inspect the following items and replace any damaged part with a new one.
   - Steering support beam assembly
   - Instrument panel harness and connector on body side

2) Frontal collision (passenger's airbag module not activated)
Visually inspect the following items and replace any damaged or cracked part with a new one.
Specially inspect the damage of airbag module body, mounting bracket and harness connector.
- Driver's airbag module assembly
- Passenger's airbag module assembly
- Curtain airbag module assembly (left and right)
- Seat belt pretensioner assembly (left and right)
- Lap seat belt pretensioner assembly (left and right)
- Front sub sensor (right and left)
- Sensor cover plate (left and right)
- Instrument panel assembly (because it is integrated with passenger's airbag module)

3) No frontal collision
Visually inspect the airbag modules for damage or contamination and replace any faulty part with a new one.

3. SIDE AIRBAG MODULE

1) Side impact (side airbag activated)
1. Replace the following parts with new ones.
   - Airbag control module
   - Front door impact sensor
   - Side airbag module assembly
   - Side airbag sensor
   - Curtain airbag module assembly
   - Curtain airbag sensor
   - Seat belt pretensioner assembly
   - Lap seat belt pretensioner assembly
   - Backrest pad assembly
   - Backrest frame assembly
   - Backrest cover assembly
2. Visually inspect the following items and replace any damaged part with a new one.
   - Headrest assembly
   - Headrest lock bushing
   - Outer slide rail
   - Inner slide rail
   - Seat hinge cover
   - Seat lifter lever
   - Reclining lever
   - Side airbag harness and connector on body side

2) Side impact (side airbag not activated)
Visually inspect the following items and replace any damaged or cracked part with a new one.
Specially inspect the damage of airbag module body, mounting bracket and harness connector.
- Backrest pad assembly
- Backrest frame assembly
- Backrest cover assembly
- Front door impact sensor
- Side airbag module assembly
- Side airbag sensor
- Curtain airbag module assembly
- Curtain airbag sensor
- Seat belt pretensioner assembly
- Lap seat belt pretensioner assembly

3) No side impact
Visually inspect the airbag modules for contamination and replace any faulty part with a new one.

4. CURTAIN AIRBAG MODULE

1) Side impact (curtain airbag activated)

1. Replace the following parts with new ones.
   - Airbag control module
   - Curtain airbag module assembly
   - Front door impact sensor
   - Side airbag sensor
   - Curtain airbag sensor
   - Seat belt pretensioner assembly
   - Lap seat belt pretensioner assembly
   - Roof trim
   - Each pillar trim
   - Airbag bracket (model with sunroof)
2. Visually inspect the following items and replace any damaged part with a new one.
   - Assist grip
   - Assist grip bracket
   - Curtain airbag harness and connector on body side.

2) Side impact (side airbag not activated)

Visually inspect the following items and replace any damaged or cracked part with a new one.
Specially inspect the damage of airbag module body, mounting bracket and harness connector.

- Roof trim
- Each pillar trim
- Curtain airbag module assembly
- Seat belt pretensioner assembly
- Lap seat belt pretensioner assembly
- Front Door Impact Sensor
- Side airbag sensor
- Curtain airbag sensor

3) No side impact

Visually inspect the airbag covers for damage or contamination and replace any faulty part with a new one.

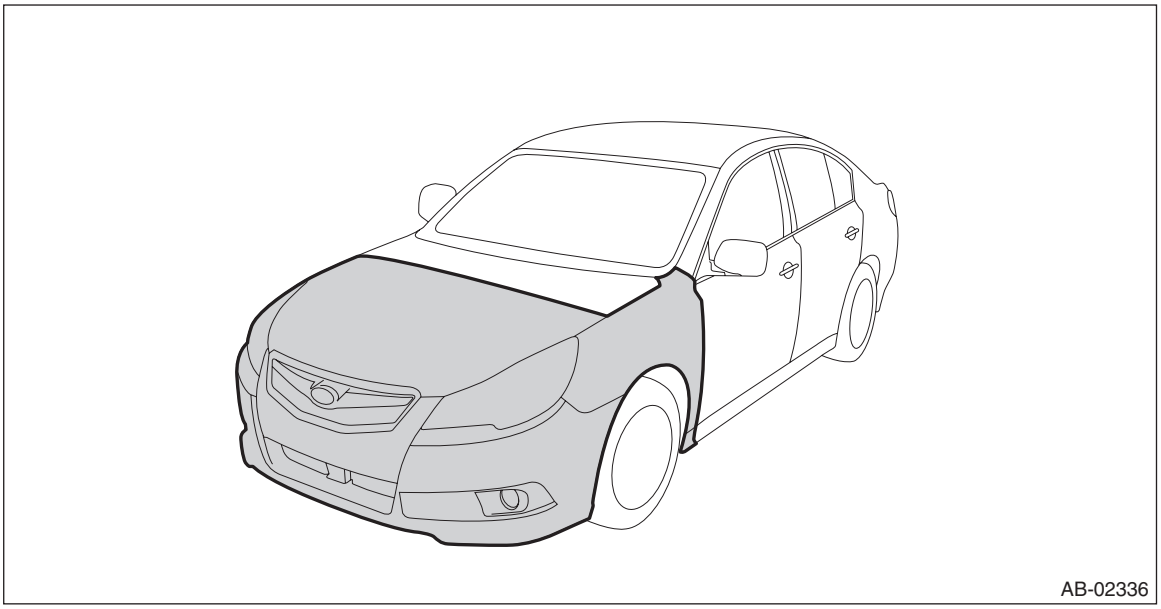
5. AIRBAG CONTROL MODULE

Check for the following, and replace the damaged parts with new parts.

- Control module is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Driver's airbag has been activated.
- Passenger's airbag has been activated.
- Side airbag has been activated.
- Curtain airbag has been activated.
- Seat belt pretensioner has been activated.
- Lap seat belt pretensioner has been activated.

6. FRONT SUB SENSOR

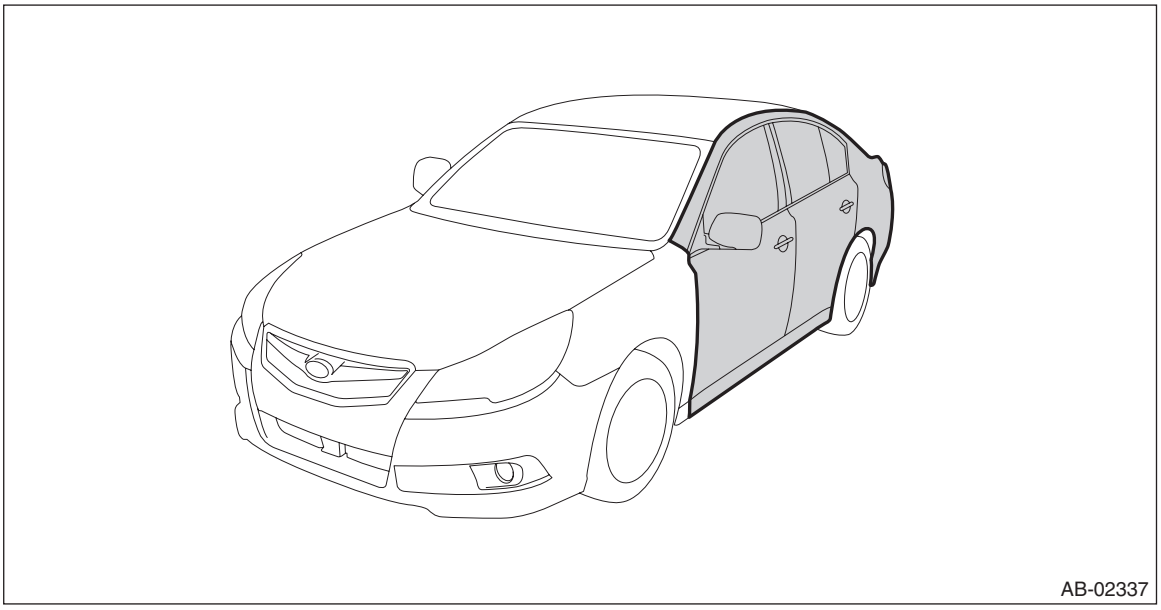
If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.



- Front sub sensor is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Airbag has been activated.

7. FRONT DOOR IMPACT SENSOR, SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR

If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.



- Front door impact sensor, side airbag sensor and curtain airbag sensor are cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Front door impact sensor, side airbag or curtain airbag has been activated. (operating side)

8. ROLL CONNECTOR

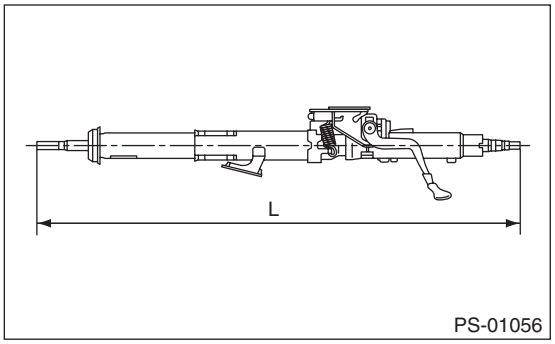
Check the following items and replace any damaged, cracked, or deformed parts with new parts.
- Combination switch
- Steering roll connector

9. STEERING SHAFT AND STEERING WHEEL

Check the following items, and if there is anything out of standard value, it is considered to be damaged. If so, replace it with a new part.
- Measure the whole length of the steering column.

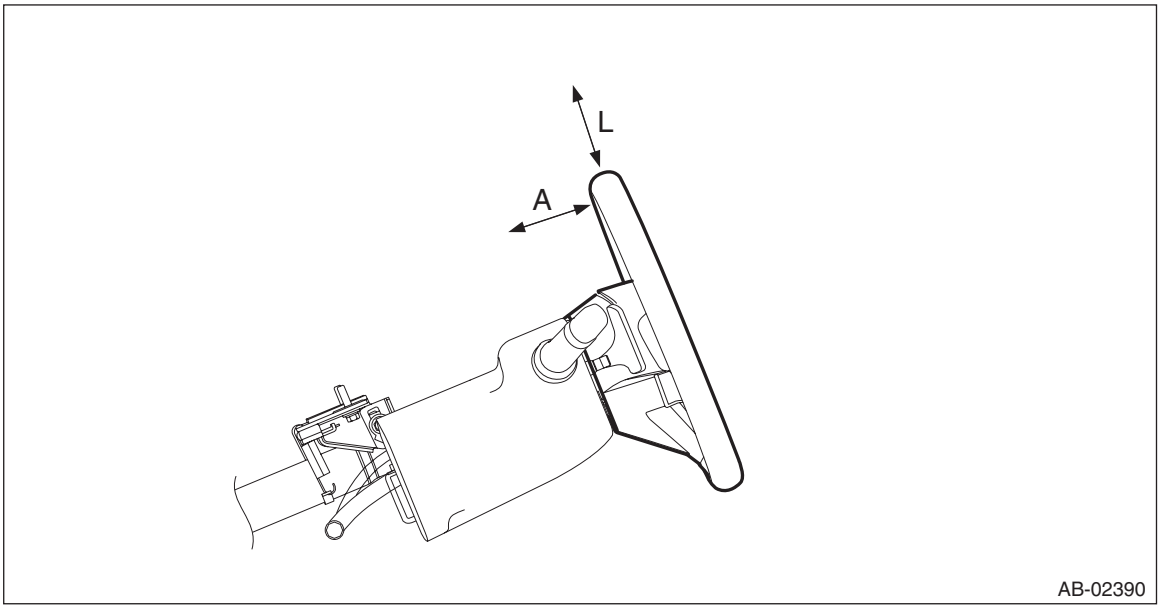
Standard: Overall length L

Tilt and telescopic column (measure while minimized)
$816.9^{+1.5}_{-1.5}$ mm ($32.16^{+0.059}_{-0.059}$ in)



- Check the steering wheel deflection in axial and vertical directions.

Specification:
Axial deflection A (deflection of steering wheel)
Less than 6 mm (0.24 in)
Vertical deflection L (runout of steering wheel)
Less than 17 mm (0.68 in)



10.PASSENGER'S SEAT

1) Check for the following, and replace the damaged parts with new parts.
- Seat belt buckle body or bracket is scratched, cracked or deformed.
- Backrest frame for crack or deformation
- Headrest for deformation or play
- If the seat cushion cover and seat backrest cover is scratched or coming loose, replace with a new cover and readjust the system. <Ref. to OD(diag)-18, OPERATION, System Calibration (Rezeroing).>

CAUTION:
If any of the following applies, replace the seat cushion pad and frame assembly. Do not disassemble.
- **Cracks or deformation found in the seat cushion frame or seat cushion pad.**
- **Scratches, cracks, or deformation found on the occupant detection system sensor mat or occupant detection control module, or attachment brackets of the control module.**
- **Harness and/or connector is cracked, deformed or open. Harness wire is exposed.**

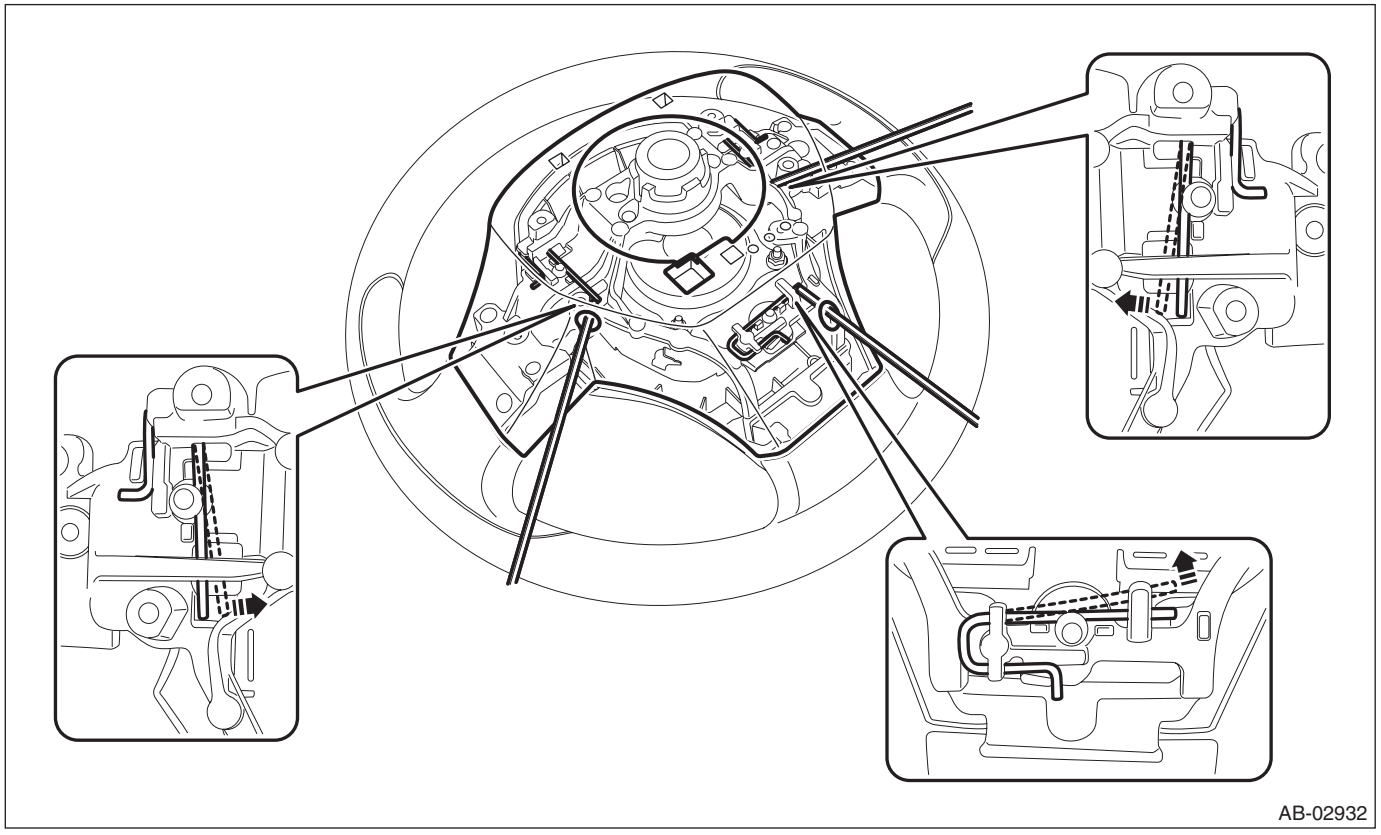
2) After checking the installing condition of passenger's seat, perform the system adjustment of occupant detection system. <Ref. to OD(diag)-18, OPERATION, System Calibration (Rezeroing).>

4. Driver's Airbag Module

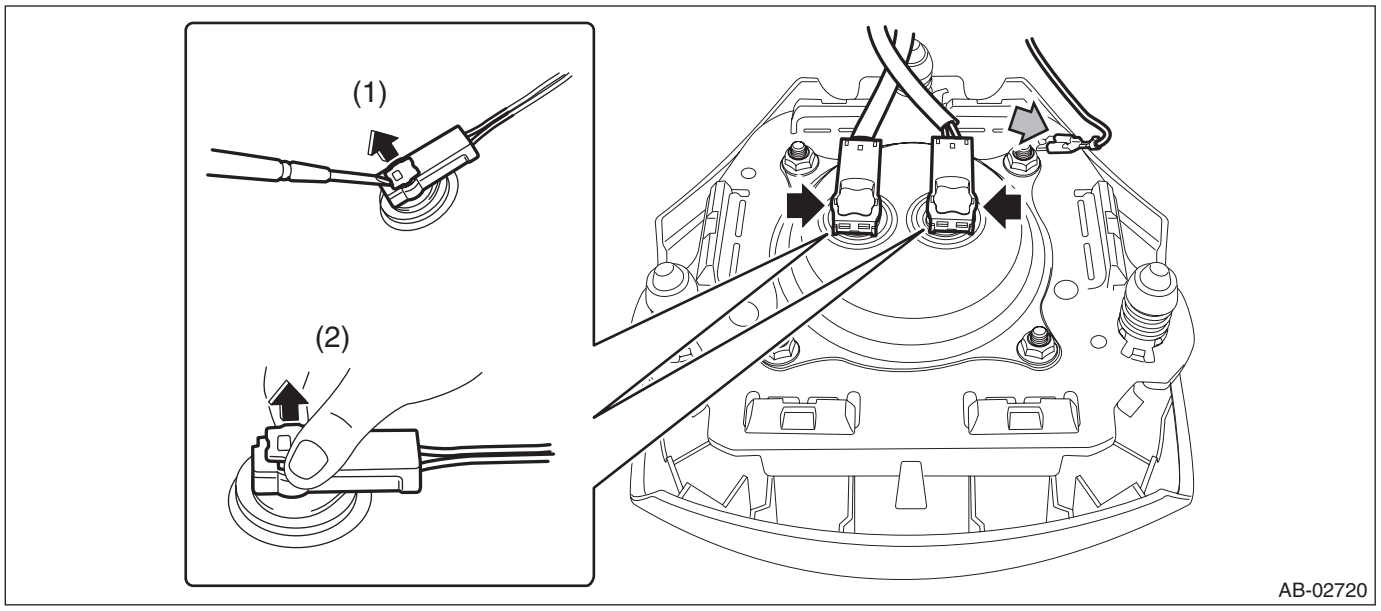
A: REMOVAL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>

1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.
   (1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



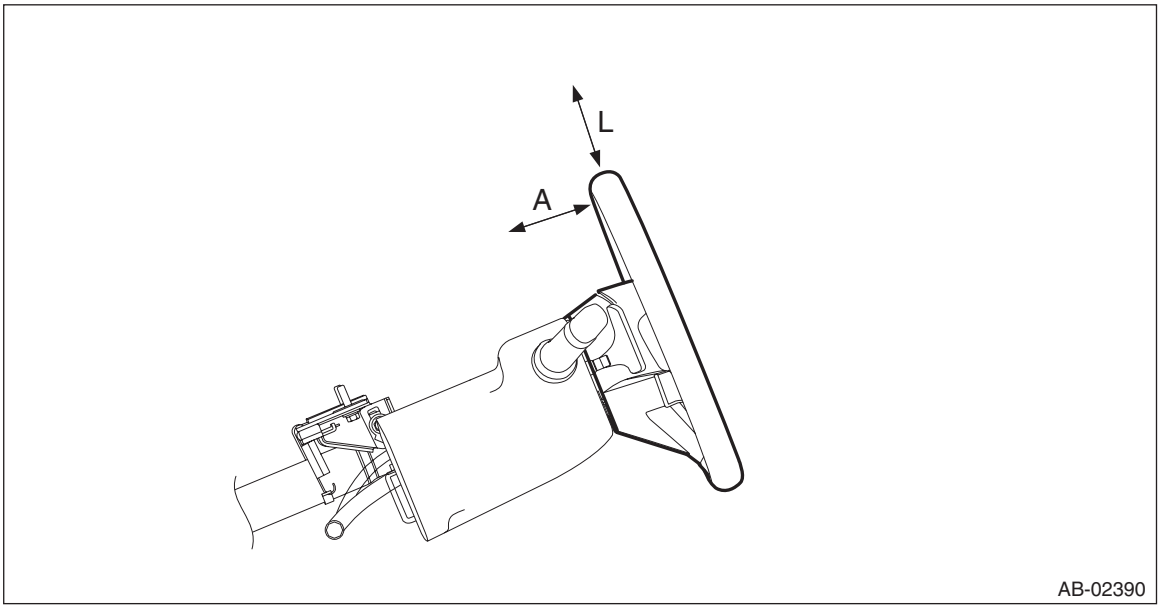
(2) Disconnect the horn harness and airbag connector and remove the airbag module assembly. <Ref. to AB-22, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER, PROCEDURE, Airbag Connector.>



B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
1) Before installation, inspect the following items and replace any faulty part with a new one.
- Airbag module is cracked or deformed.
- Harness and/or connector is cracked, deformed or open.
- Harness wire is exposed.
- The steering wheel is in the way, making it difficult to install the airbag module.
- The steering wheel deformation in axial and vertical directions exceed limits.

Specification:
Axial deflection A (deflection of steering wheel)
Less than 6 mm (0.24 in)
Vertical deflection L (runout of steering wheel)
Less than 17 mm (0.68 in)



2) Install each part in the reverse order of removal.

CAUTION:
• If the clearance between the driver's airbag module and steering wheel is not constant, replace it with a new part.
• Press in the airbag module, and securely fit three pins.

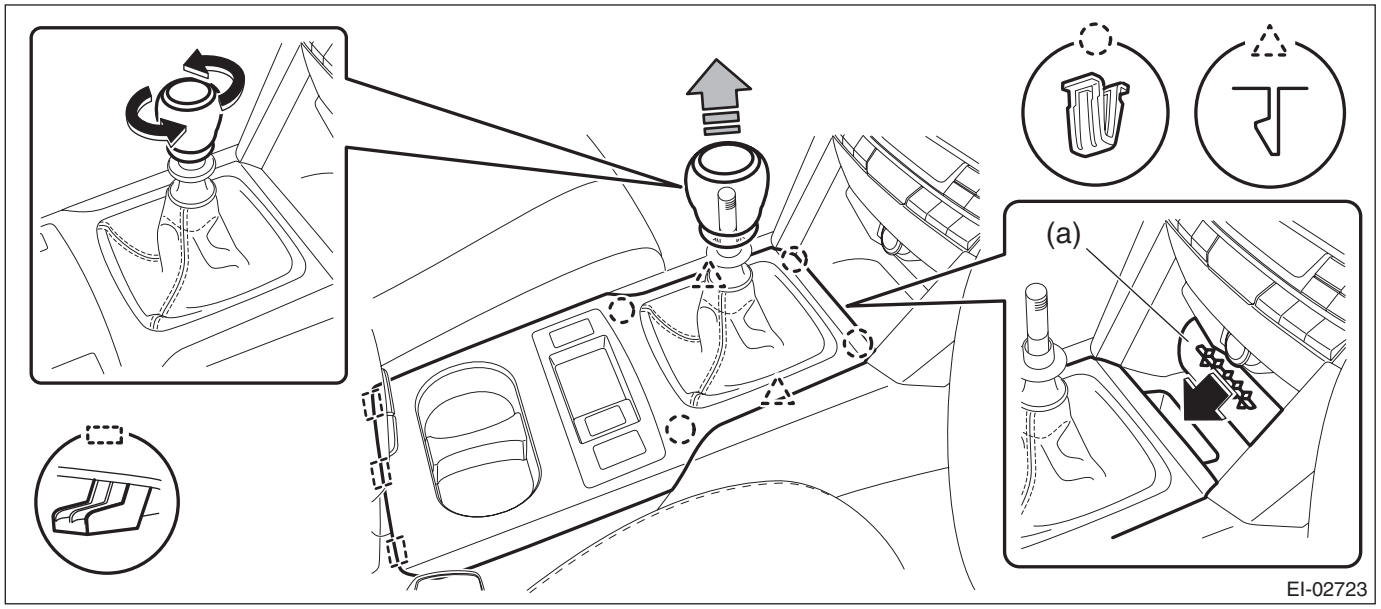
5. Passenger's Airbag Module

A: REMOVAL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the console front cover assembly.

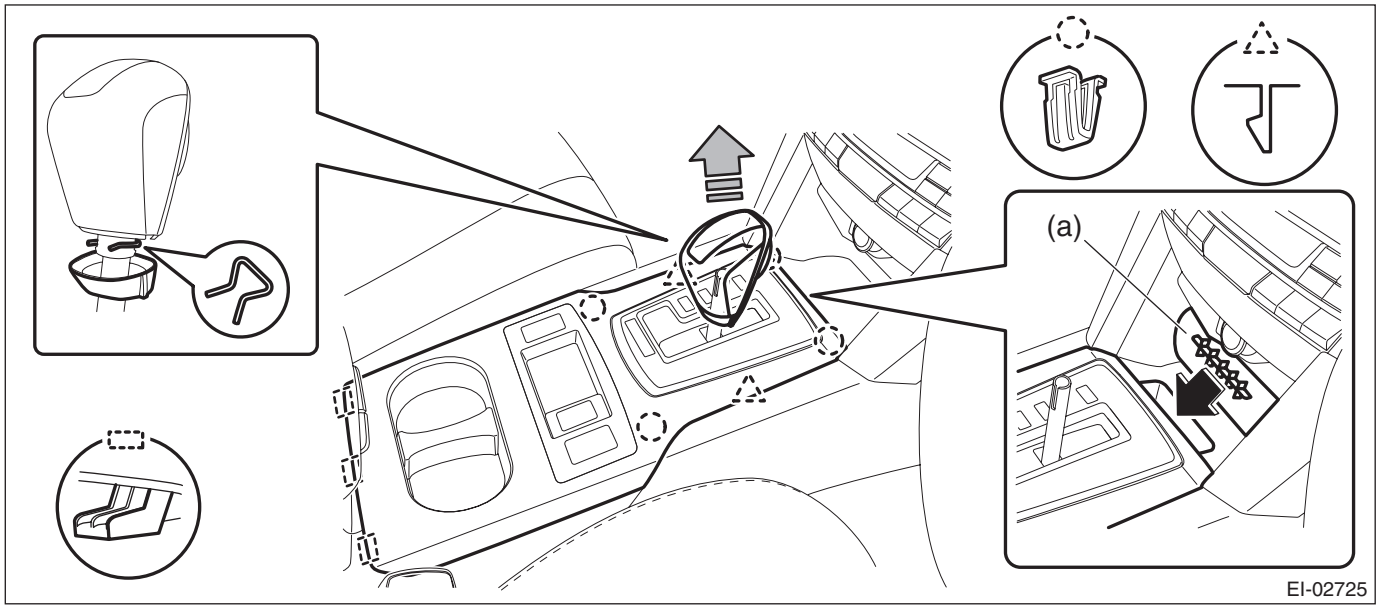
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

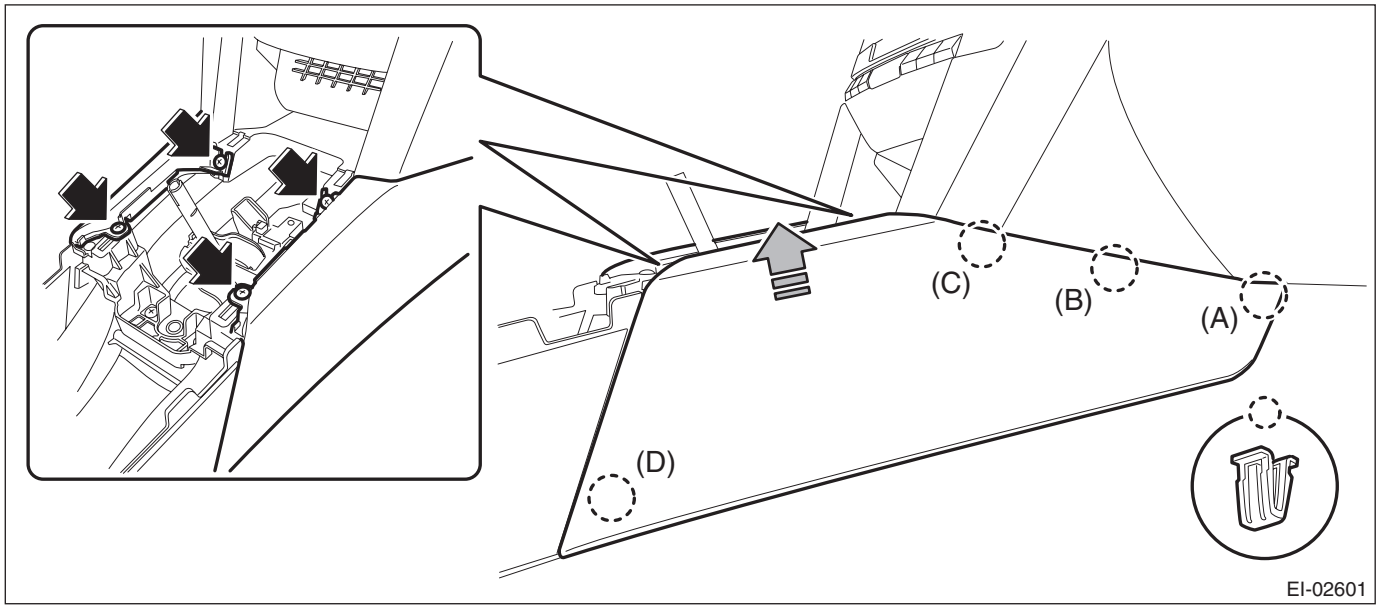
- AT model / CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

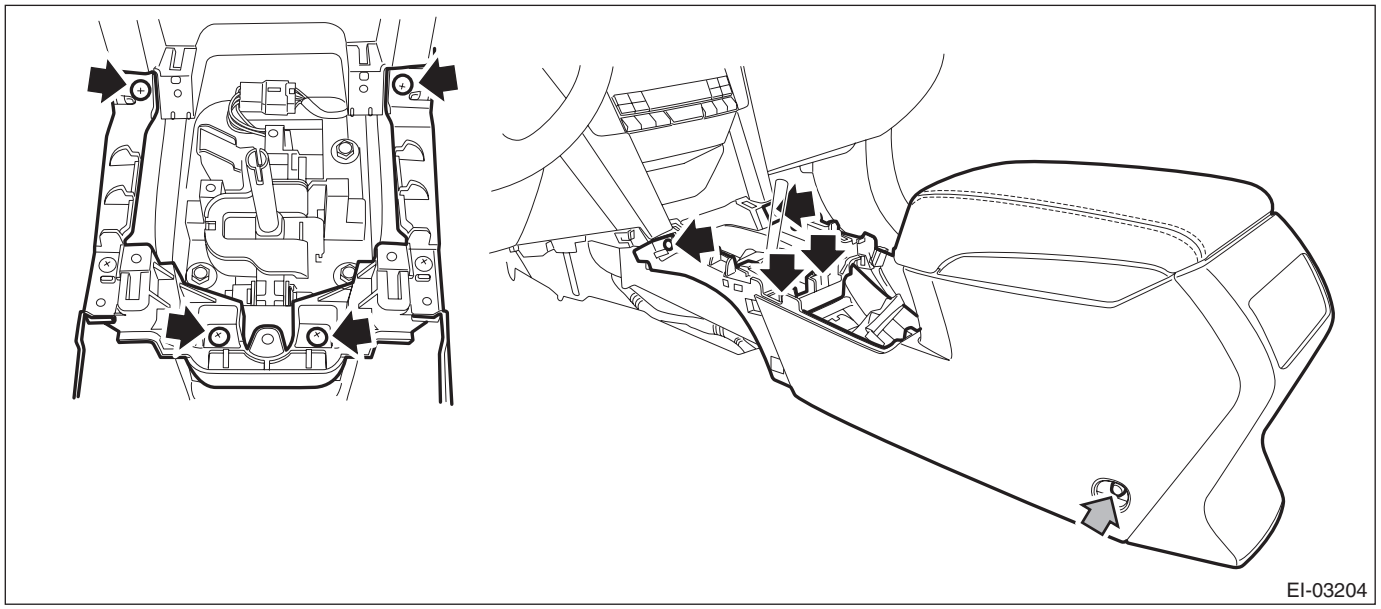
4) Remove the left and right console front side cover assembly.
   (1) Remove the screws and release the clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.



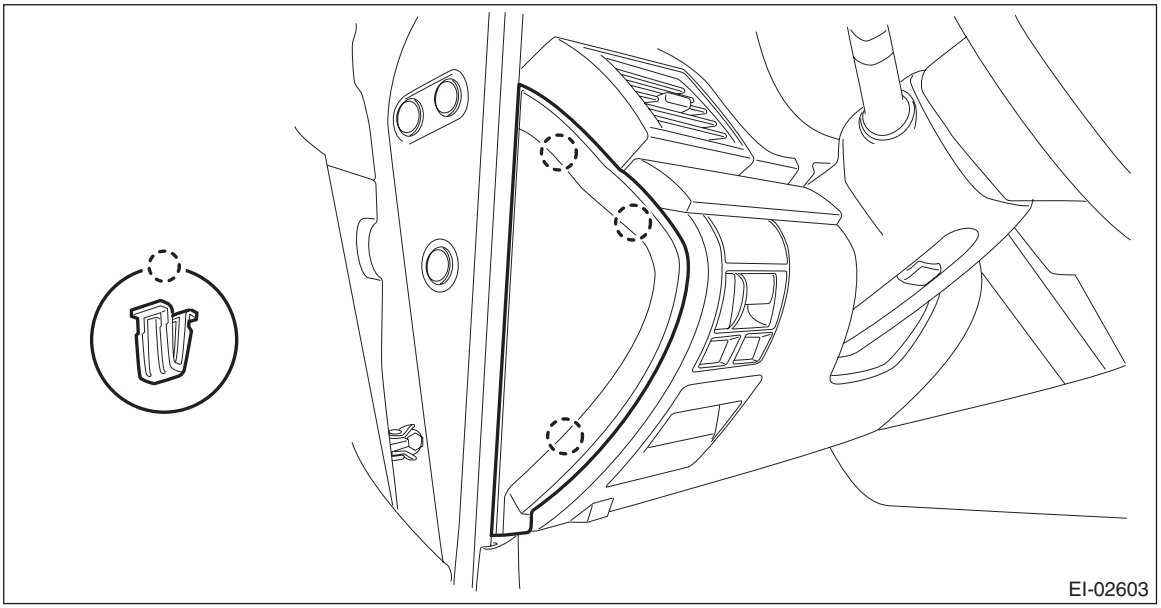
5) Remove the console box assembly.
(1) Move the seat forward, and remove the bolts after detaching the left and right caps.

NOTE:
For a model with power seat, connect the battery ground cable and move the seat. Then, disconnect the battery ground cable again and wait for 60 seconds at least before restarting the work.

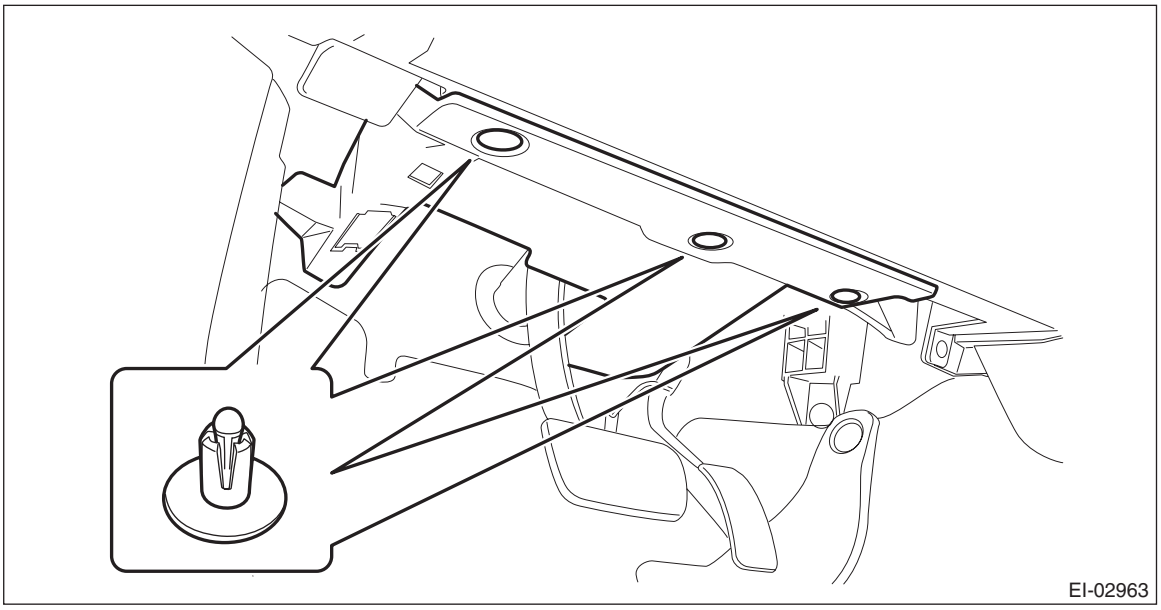
(2) Remove the screws, disconnect the harness connector and remove the console box assembly.



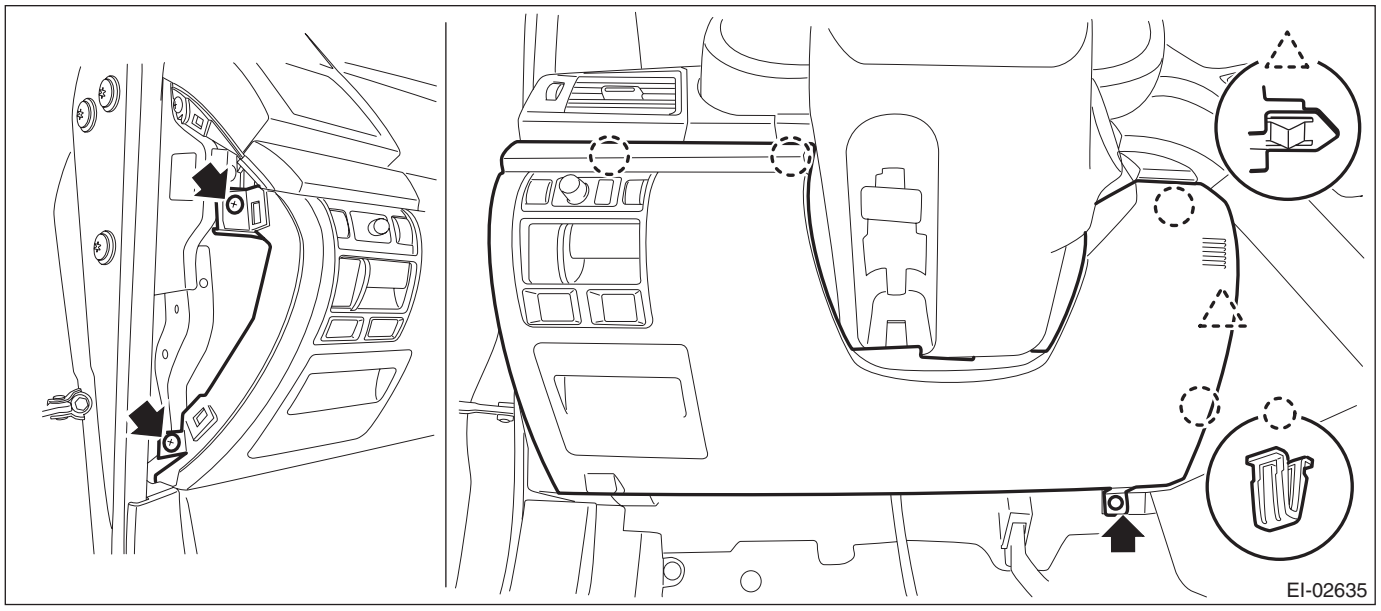
6) Remove the instrument panel lower cover.
(1) Remove the clips, and remove the instrument panel side cover LH.



(2) Remove the clips and data link connector, and remove the instrument panel lower cover under.



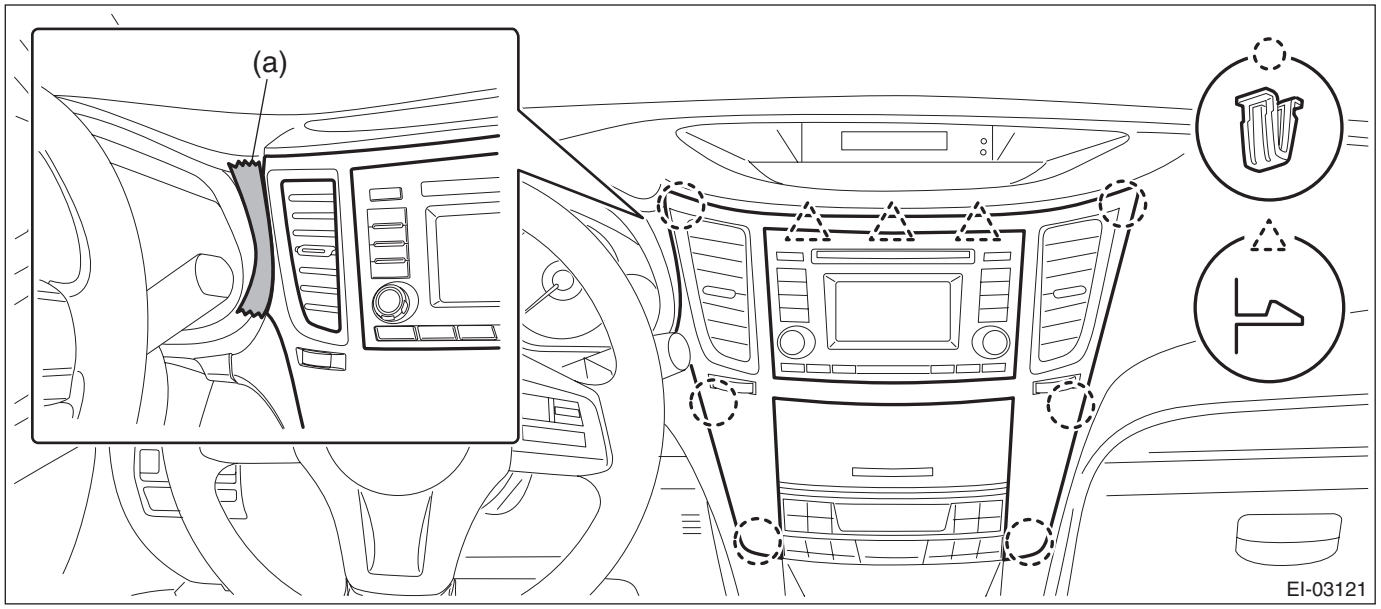
(3) Remove the screws and clips and release the claws, and remove the instrument panel lower cover while disconnecting the harness connectors.



7) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

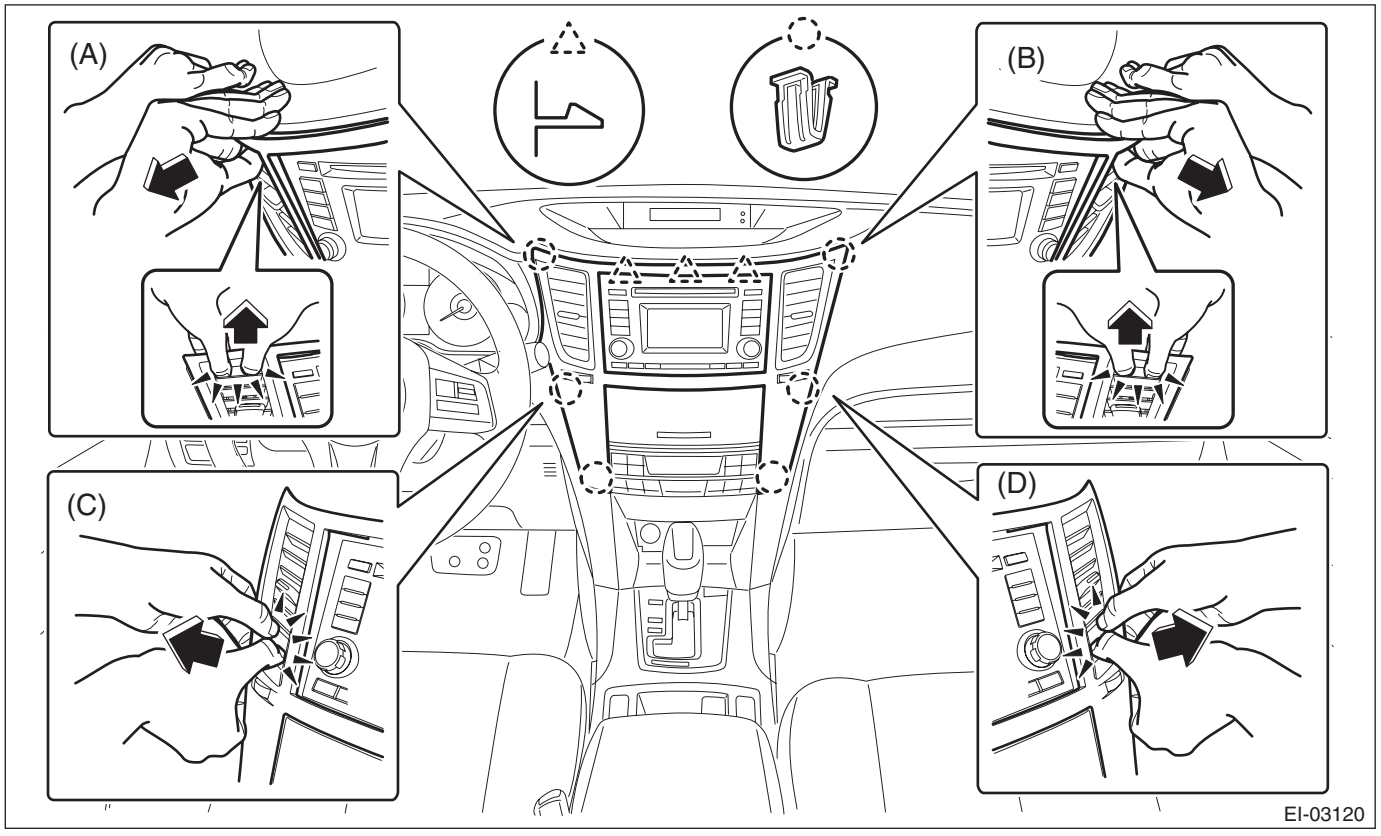
(1) Attach the protective tape (a) to the meter visor.



(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)

(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)

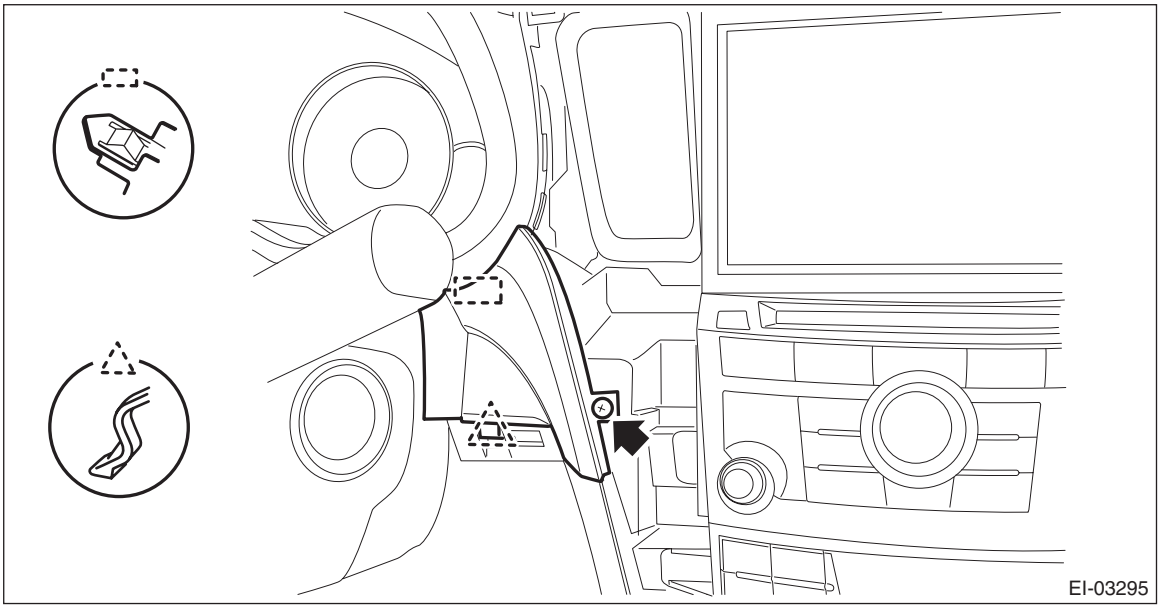
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.

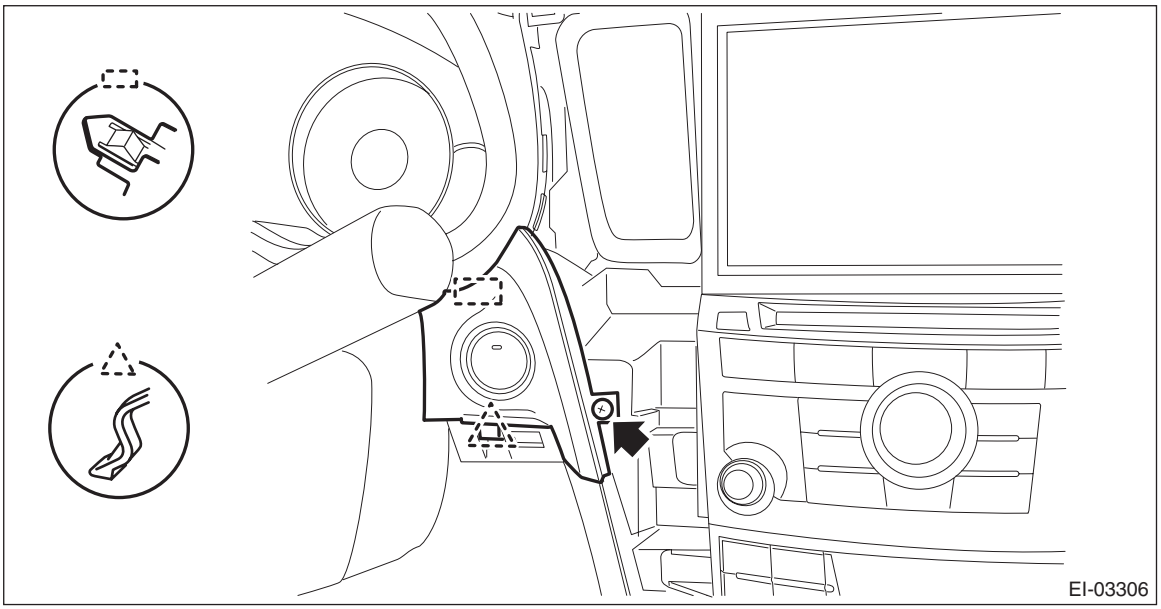


8) Remove the combination meter assembly.

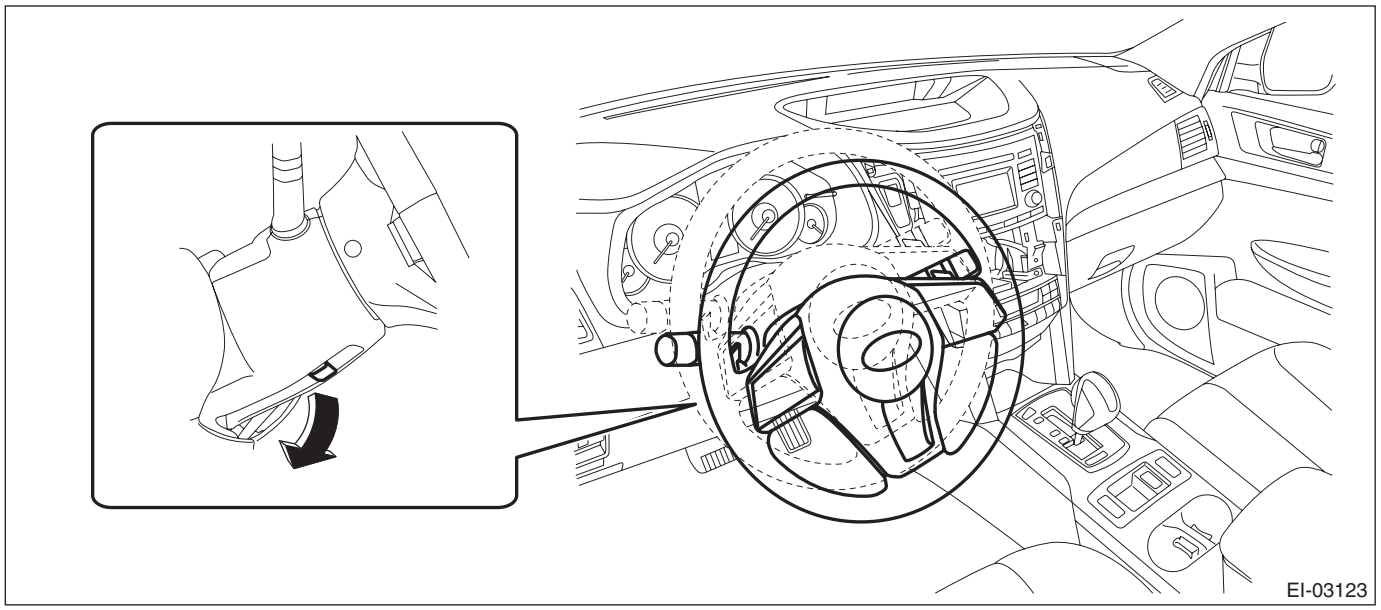
CAUTION:
- **Be careful not to damage the meter or instrument panel.**
- **Pay particular attention to avoid damaging the meter glass.**

(1) Remove the screws and release the claws, then detach the starter cover assembly.

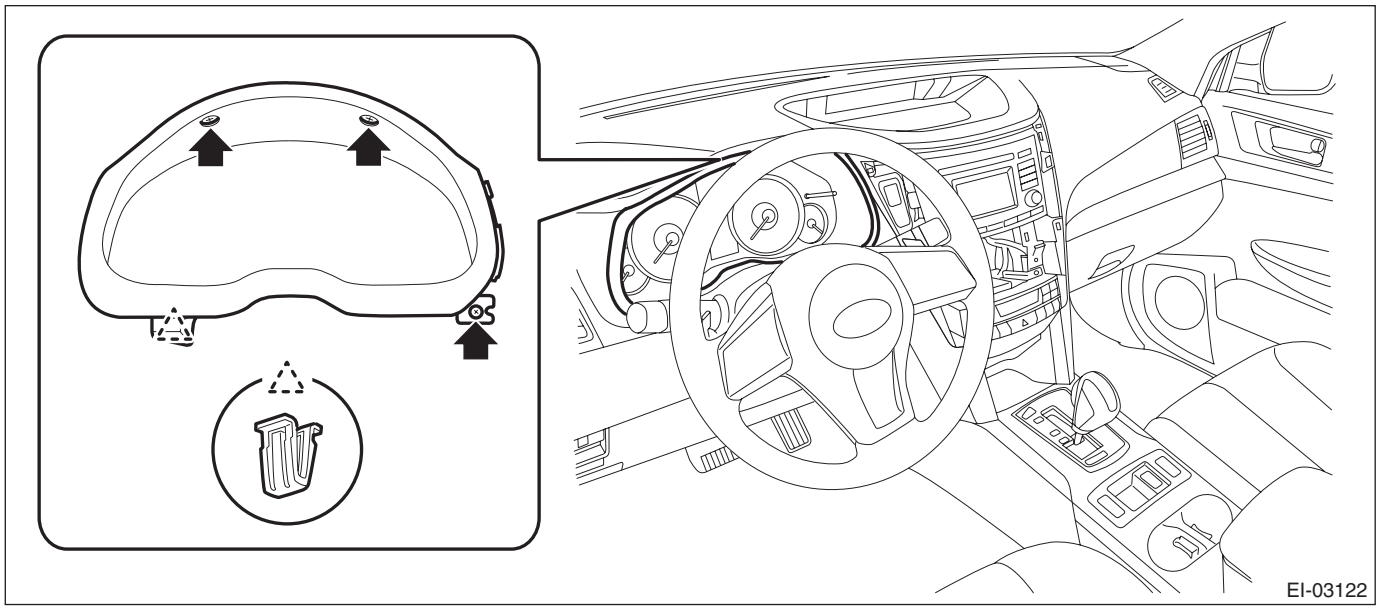




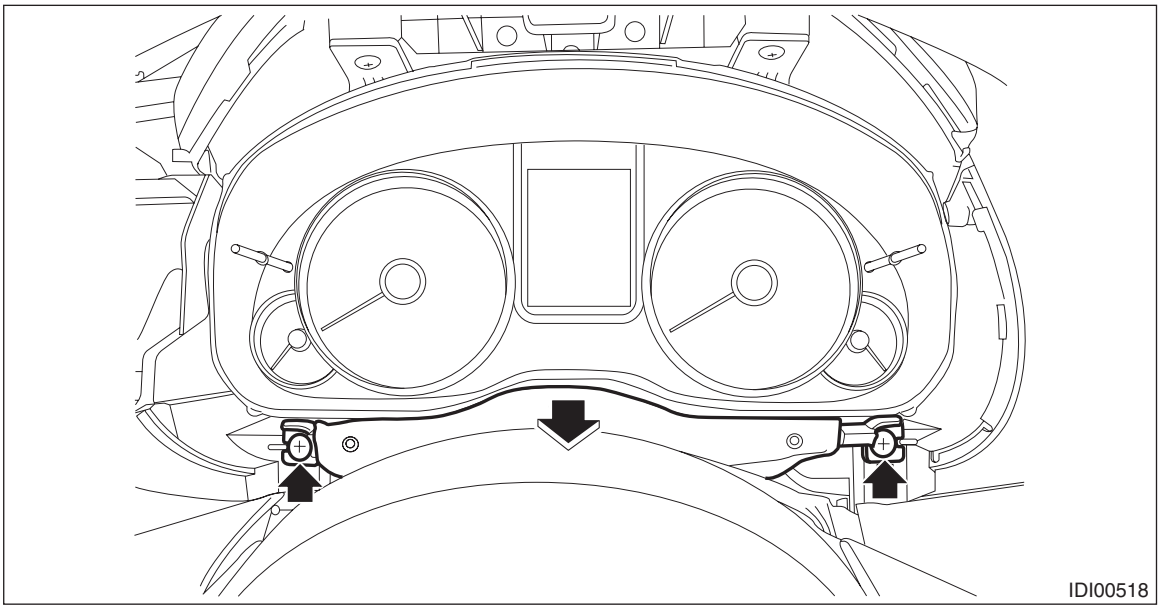
(2) Release the lock, tilt the steering column to the lowest end and fully extend the column by the telescopic system.



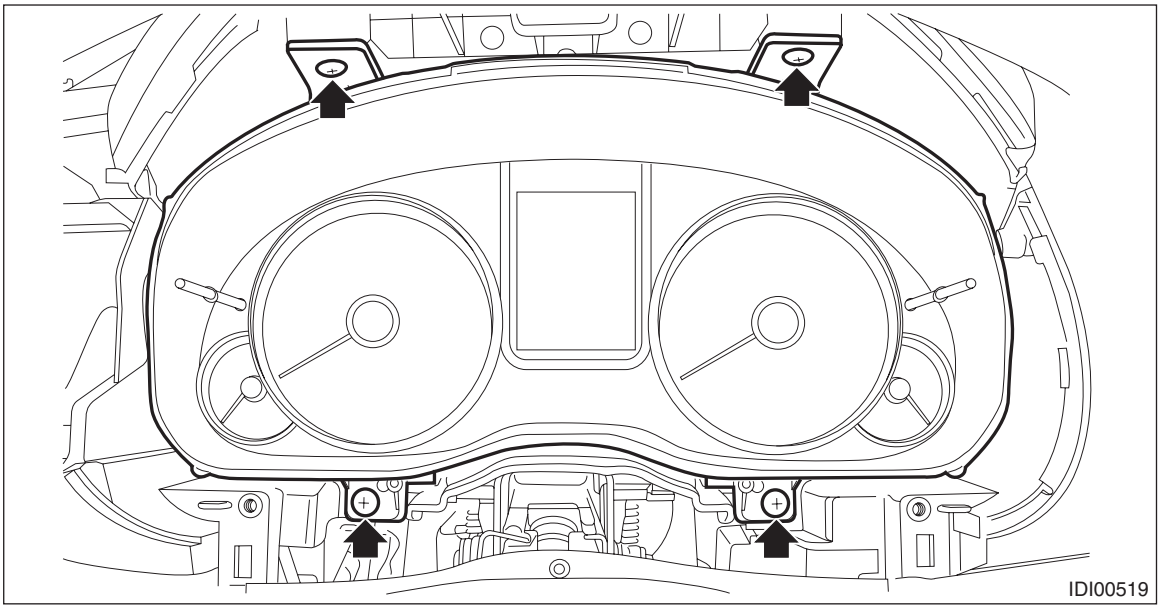
(3) Release the screws and clips, then detach the meter visor assembly.



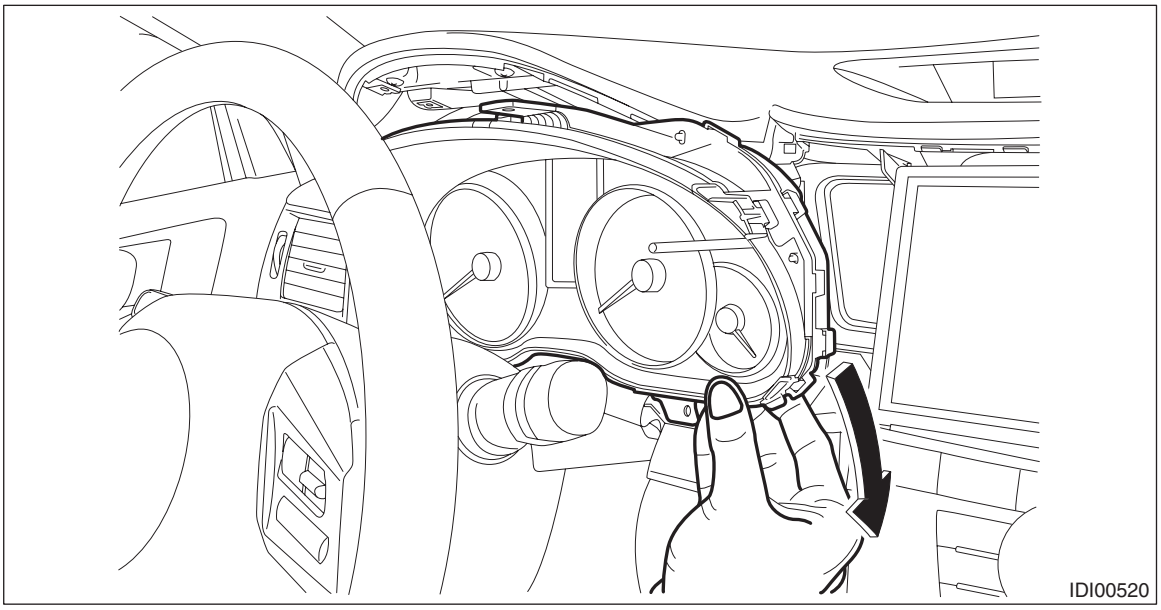
(4) Remove the screws and pull the steering COMPL upper cover toward you.



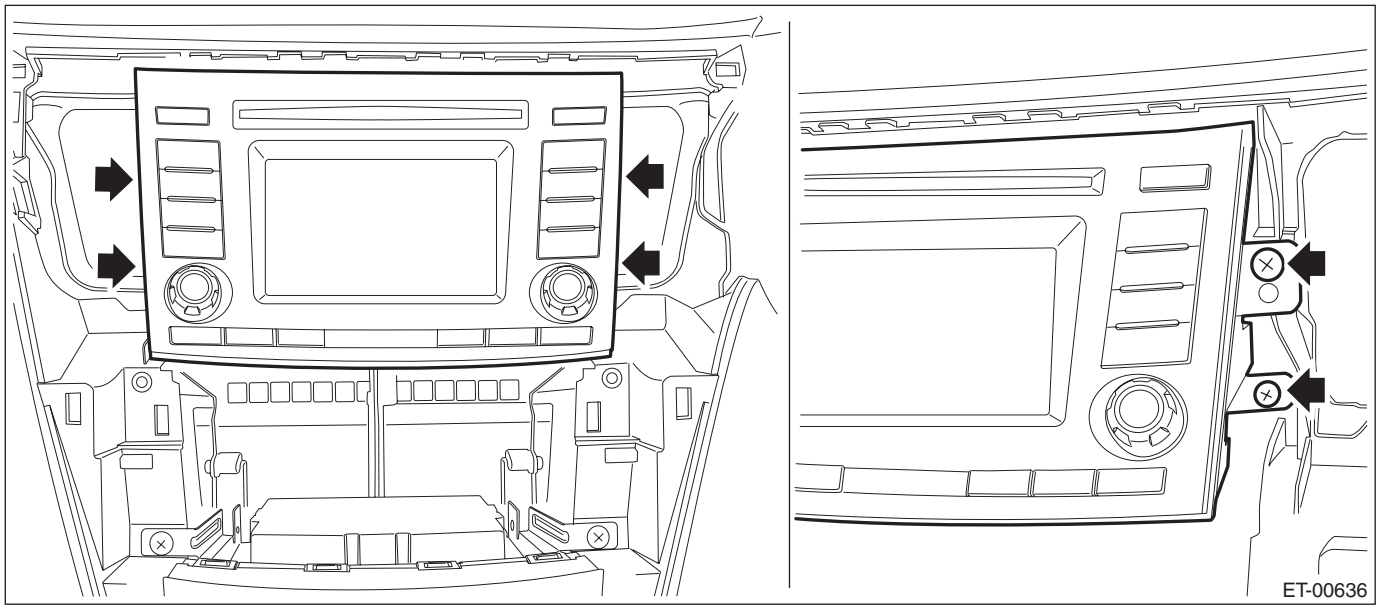
(5) Remove the screws and pull out the combination meter toward you to disconnect the connectors.



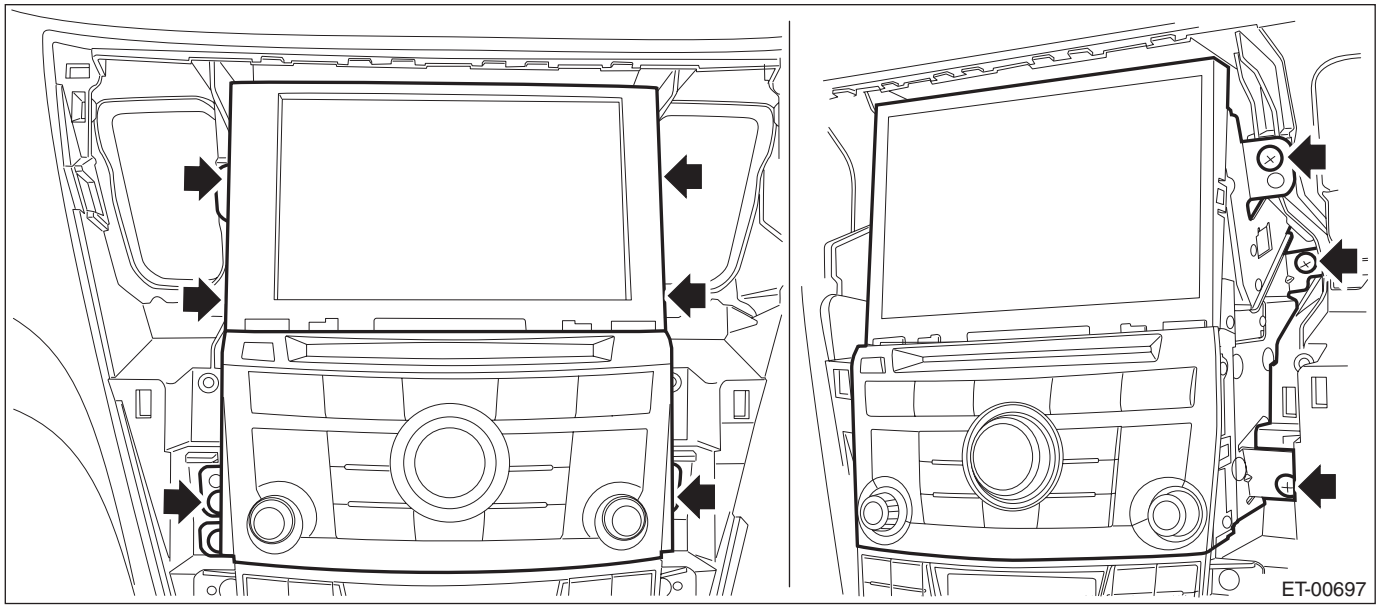
(6) Remove the combination meter assembly as shown in the figure.



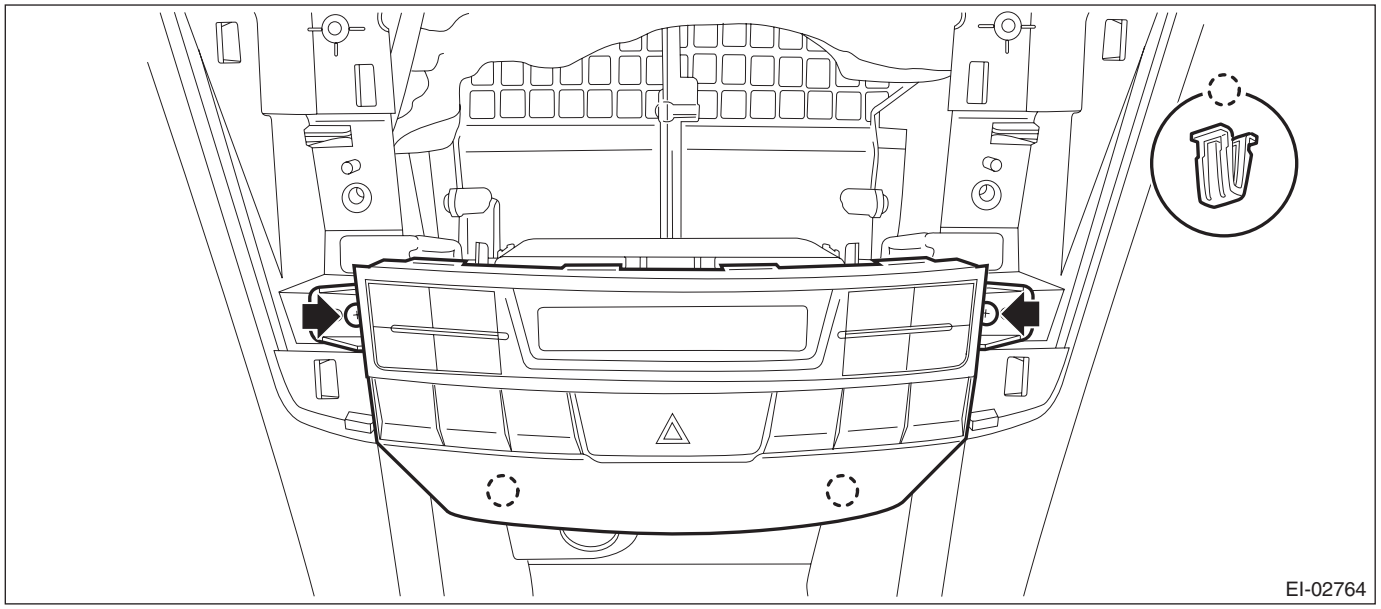
9) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



10) Remove the navigation assembly. (Model with navigation)
(1) Remove the left and right screws.
(2) Disconnect the connectors, and remove the navigation assembly.



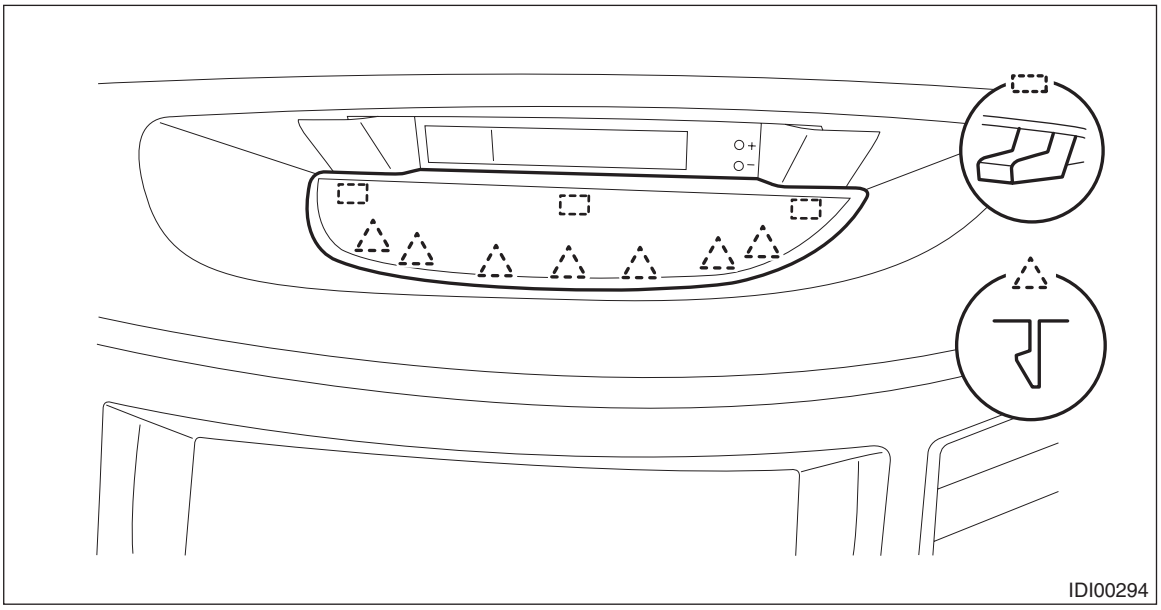
11) Remove the control panel assembly.
(1) Remove the screws, and pull out the control panel assembly toward you.
(2) Disconnect the connector, and remove the control panel assembly.



12) Remove the multi display assembly.

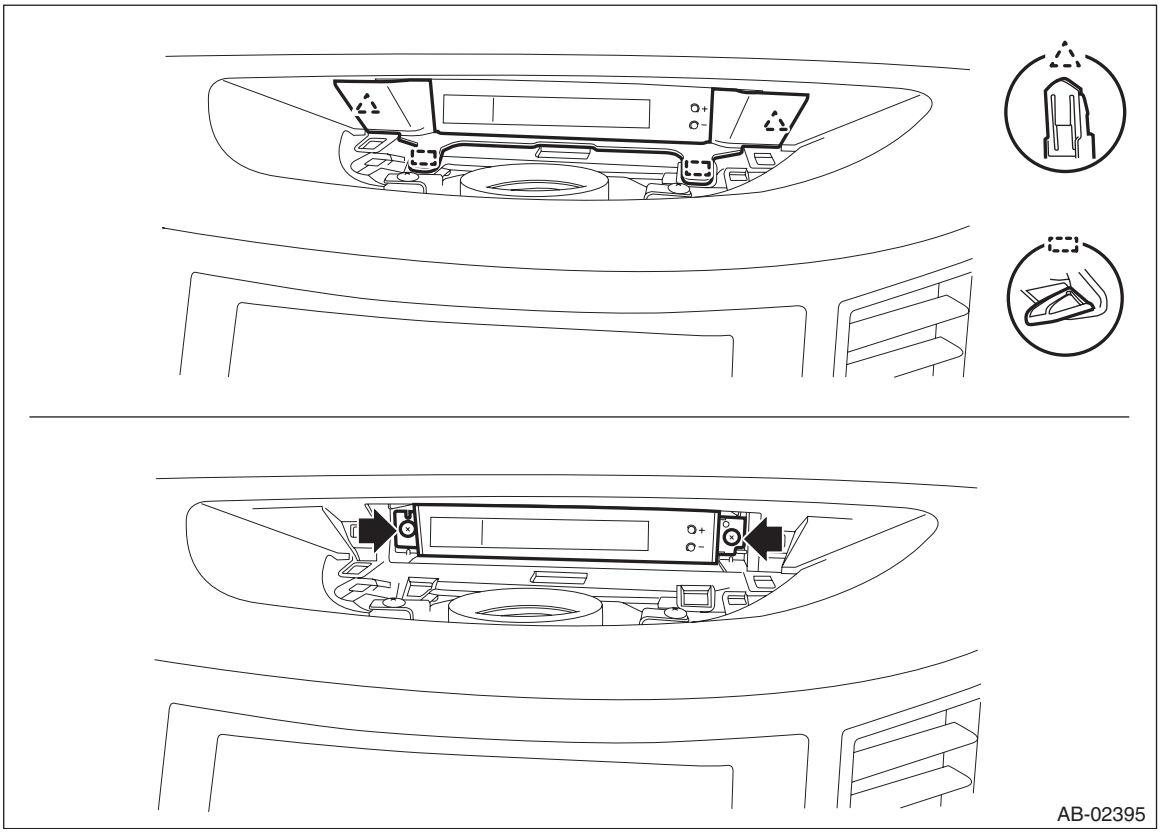
CAUTION:
Be careful not to damage the multi display or instrument panel.

(1) Detach the center speaker cover by releasing the claws and hooks.



NOTE:
An easy way of removal is to first remove the audio assembly or navigation assembly and push up the cover from the backside.

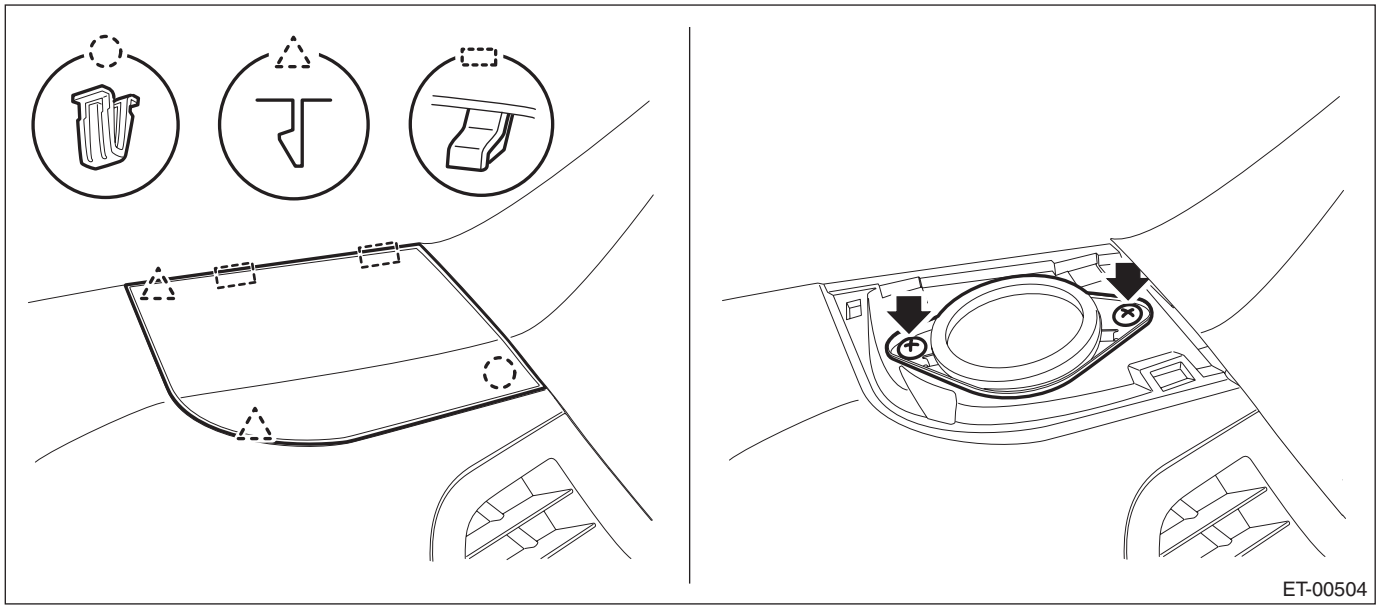
(2) Release the clips and claws, detach the multi display panel LWR.
(3) Remove the screws and pull out the multi display toward you to disconnect the connectors.



13) Remove the left and right front side speaker assembly. (Models with front side speaker)
(1) Release the clips and claws, then detach the side speaker cover.

CAUTION:
To remove the cover, use a plastic clip remover or equivalent tool.
(2) Remove the screws.

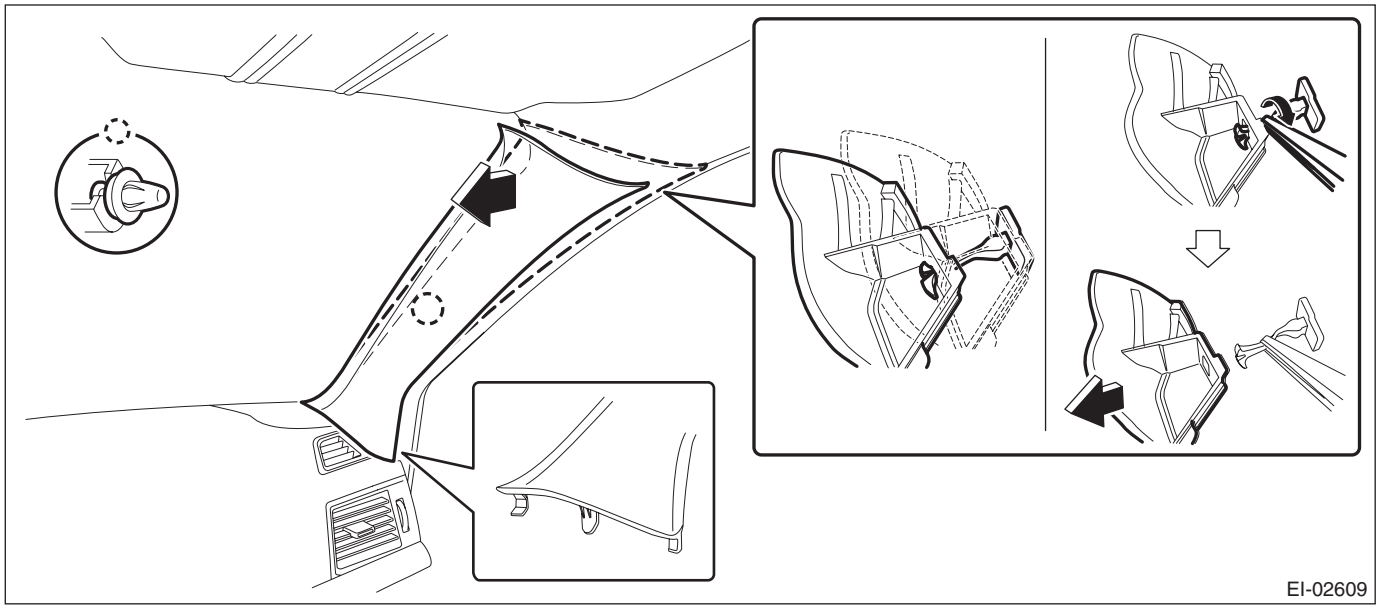
Preparation tool:
Stubby screwdriver
(3) Disconnect the connector and remove the front side speaker assembly.



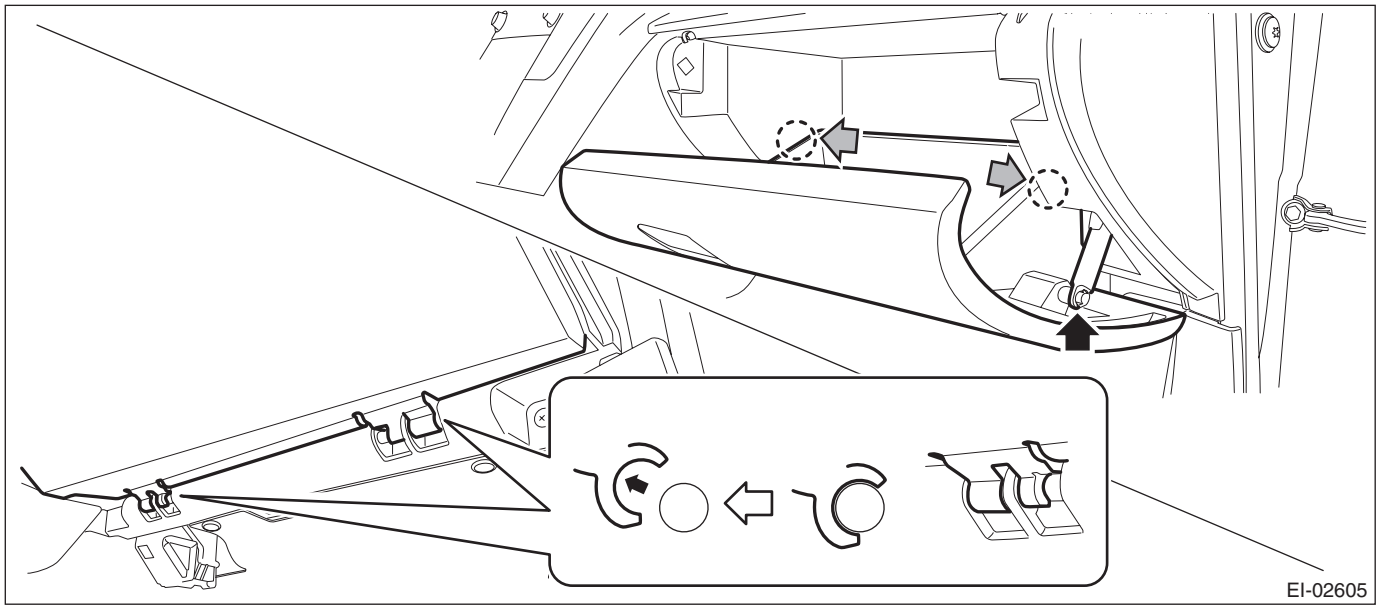
NOTE:
On the passenger's side, also disconnect the sunload sensor connector.
14) Remove the left and right front pillar trims.
(1) Pull the upper part of the front pillar trim towards the center of the vehicle.
(2) Insert long-nose pliers into the top part of the trim, grip the tether clip with the pliers, and twist it 90° in that position.

CAUTION:
Be careful not to damage the pillar trim surface and curtain airbag module when inserting the pliers.
(3) While holding the tether clip twisted as in the previous step, remove the front pillar trim from the tether clip.

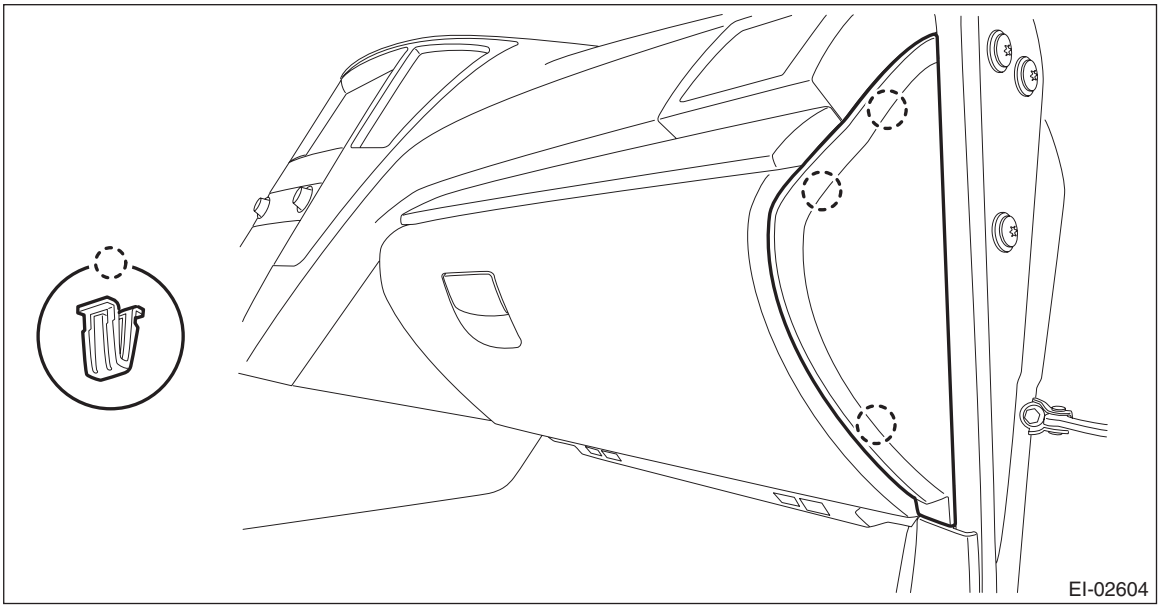
(4) Remove the clip and the front pillar trim.



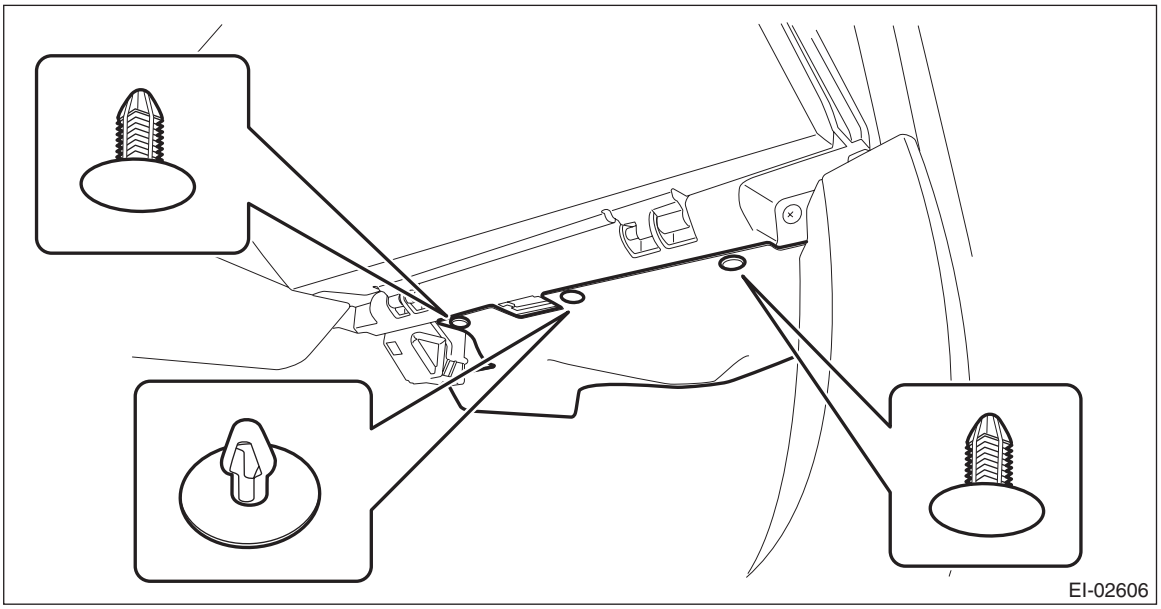
15) Remove the glove box lid assembly.
(1) Remove the glove box damper.
(2) Release the stoppers and remove the glove box lid assembly by pulling it toward you.



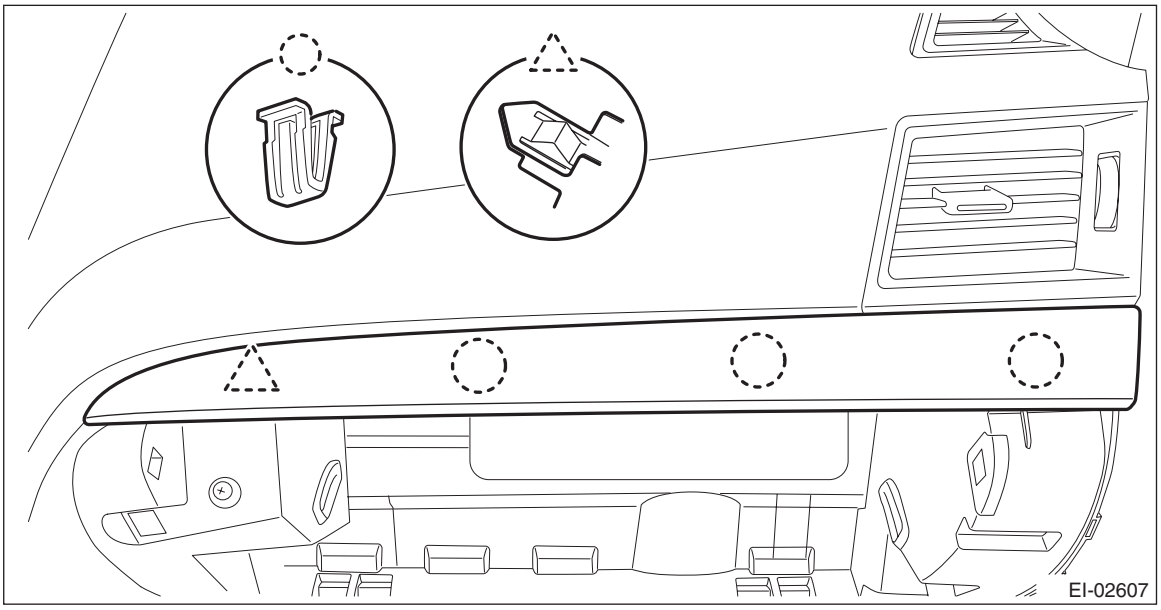
16) Remove the glove box back panel.
(1) Release the clips, and remove the instrument panel side cover RH.



(2) Release the clips, and remove the glove box under cover.

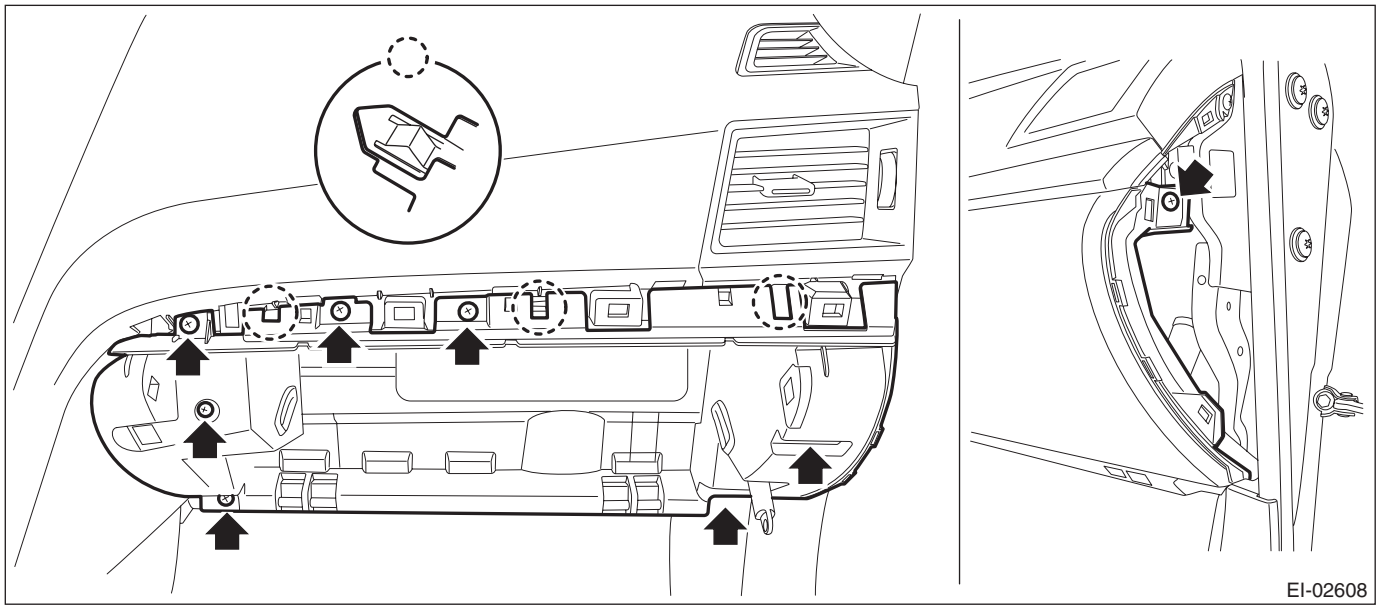


(3) Release the clips and claws, and remove the ornament panel assembly P.



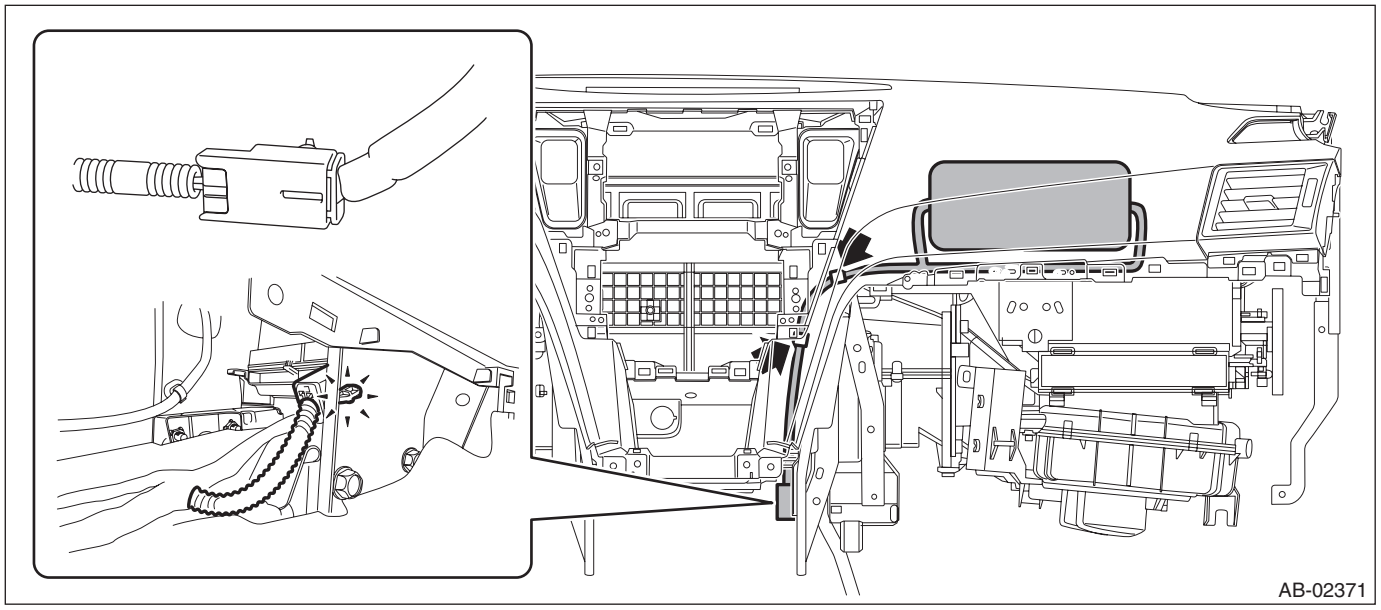
(4) Remove the screws and release the claws, then detach the glove box back panel.

CAUTION:
Pay attention to the glove box light LED harness.

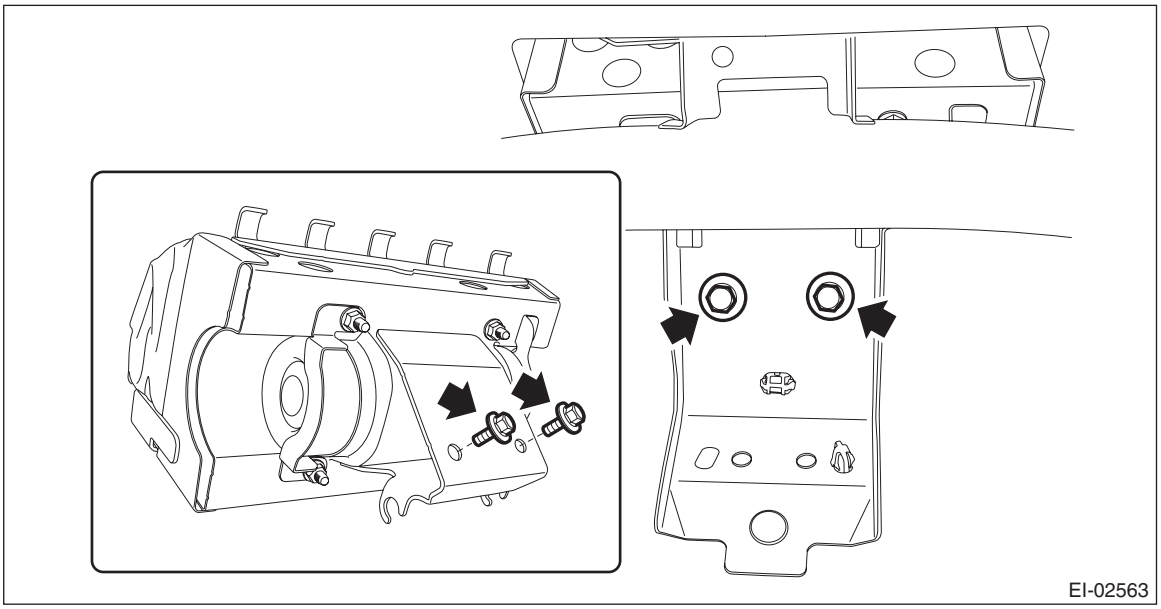


(5) Disconnect the glove box light LED connector.

17) Disconnect the connector from the passenger's airbag module assembly and remove the bolt.
(1) Release the connector and harness clamps and disconnect the airbag connector.

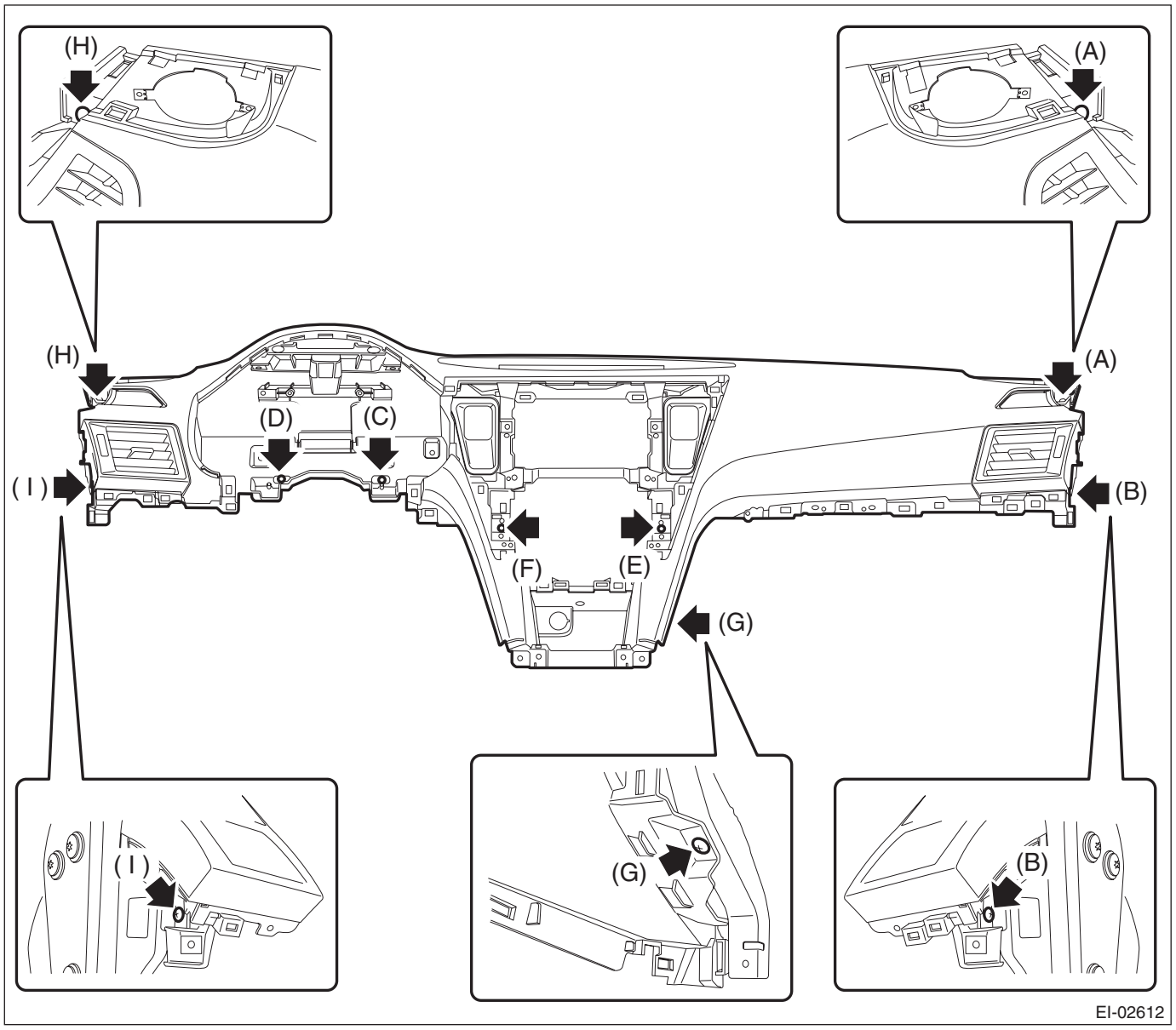


(2) Remove passenger's airbag module assembly bolts.



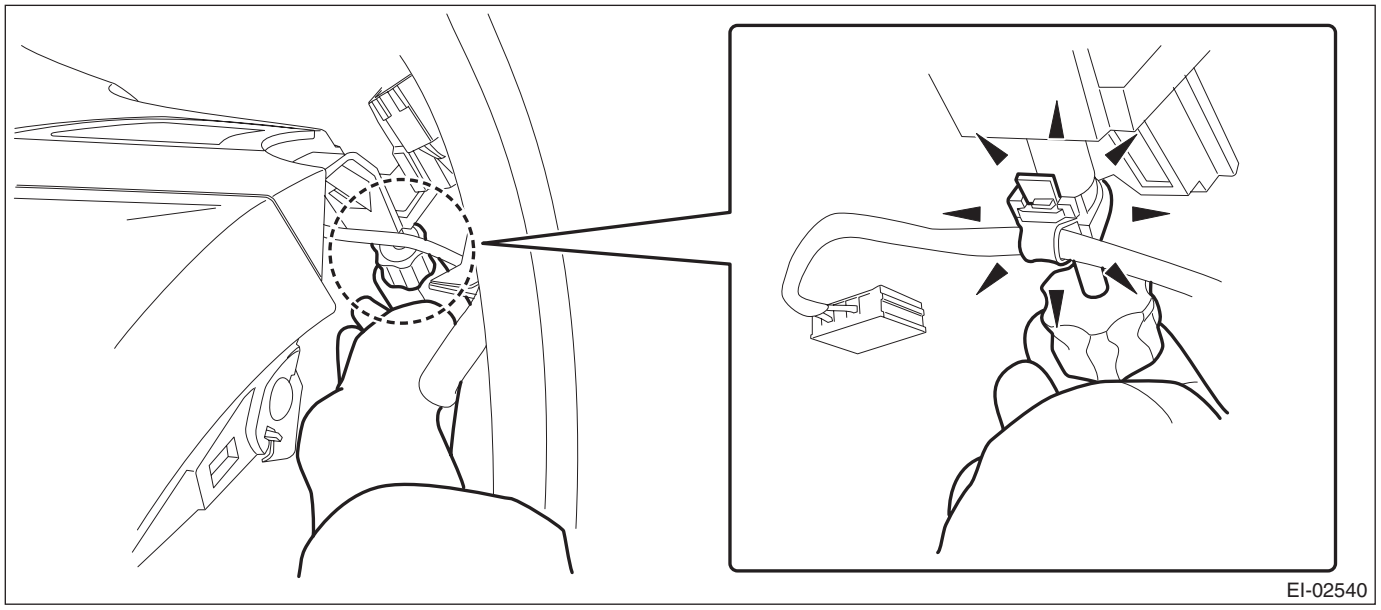
18) Remove the steering shaft assembly. <Ref. to PS-25, REMOVAL, Steering Column.>

19) Remove the instrument panel assembly.
(1) Remove the screws. (A), (B), (C), (D), (E), (F), (G), (H), (I)



(2) Pull out the instrument panel assembly toward you and release the clamps of the left and right front side speakers.

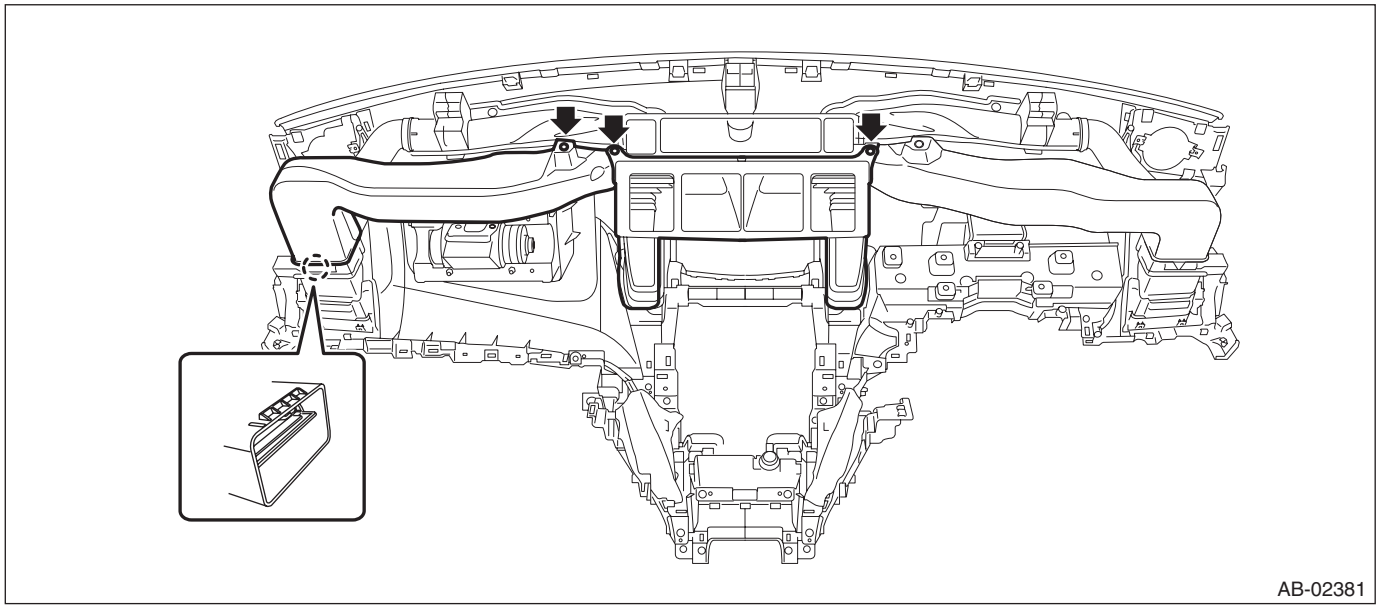
Preparation tool:
Stubby screwdriver


EI-02540

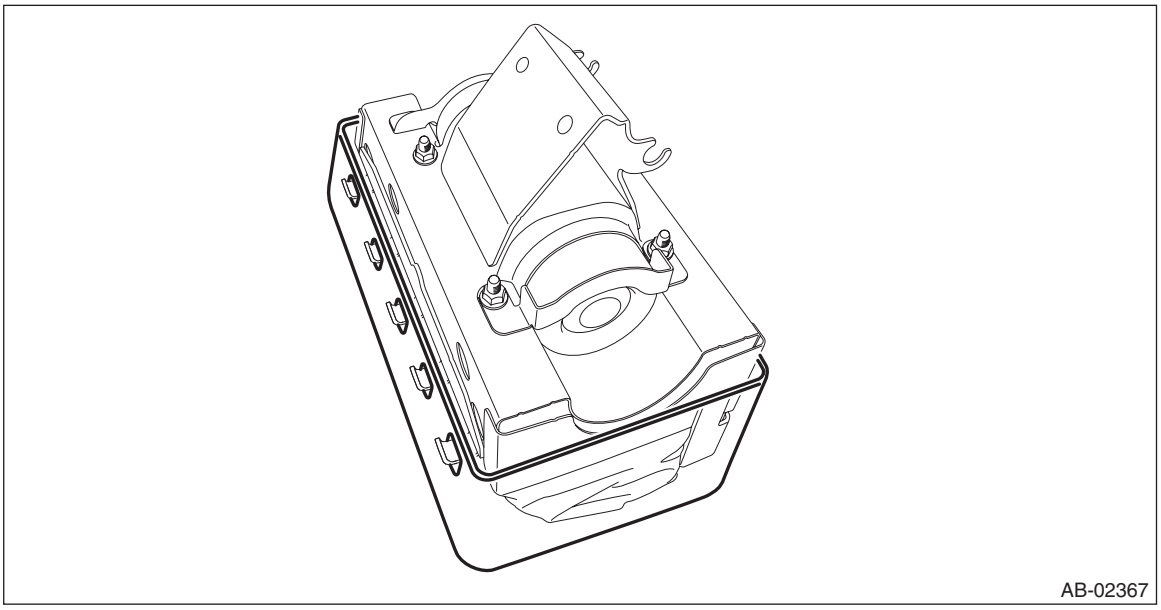
(3) After checking that all harness clamps and connectors are released and disconnected, remove the instrument panel assembly.

CAUTION:
Be careful not to damage the instrument panel surface and interior trims.

20) Remove the heater vent duct.
(1) Remove the screws, and remove the center vent duct.
(2) Release the claws and remove the screws, then detach the side vent duct RH.


AB-02381

21) Remove the claws, and remove the passenger's airbag module.



22) For handling of the removed airbag module, refer to "CAUTION". <Ref. to AB-10, CAUTION, General Description.>

B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
• Do not reuse the clips in the upper section of the front pillar trim. Always replace them with new ones.
Once removed from the pillar trim, the clip retention power deteriorates and the front pillar trim may come off.

1) Before installation, inspect the following items and replace any faulty part with a new one.
- Passenger's airbag lid (instrument panel surface) is cracked or deformed.
- Airbag module is cracked or deformed.
- Harness and/or connector is cracked, deformed or open.
- Harness wire is exposed.
- Mounting bracket is cracked or deformed.

2) Install each part in the reverse order of removal.

Tightening torque:
Passenger's airbag module: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Console box: 6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

6. Side Airbag Module

A: REMOVAL

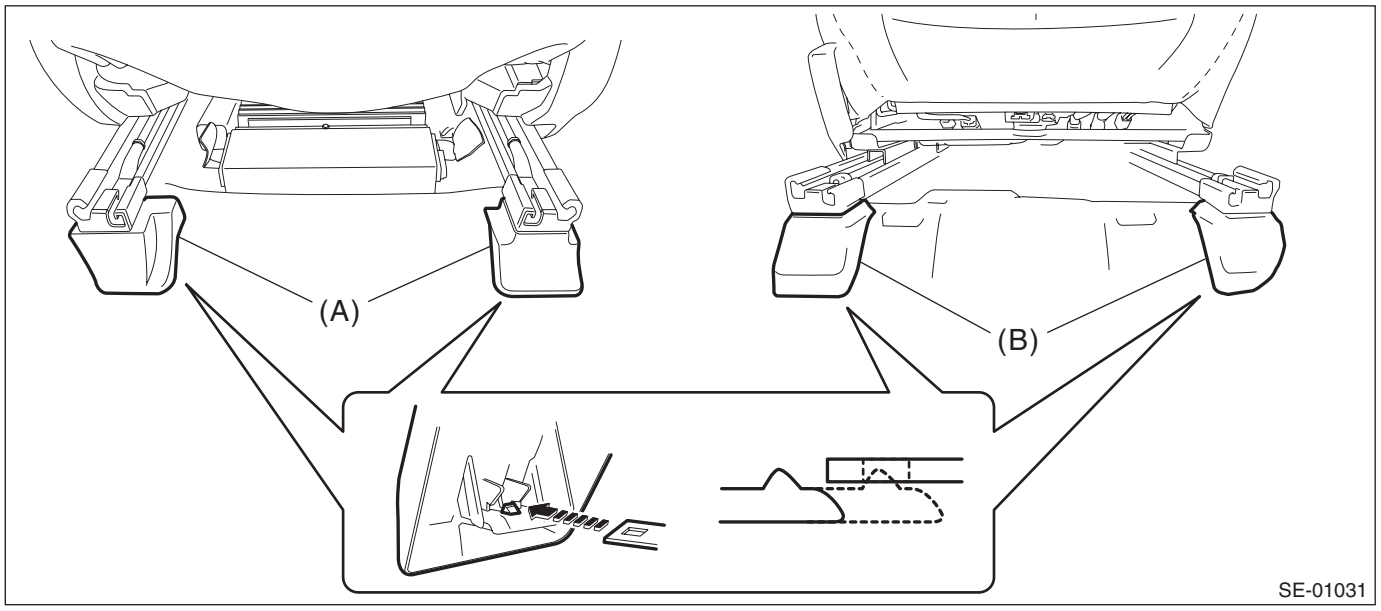
CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>

NOTE:
Remove the passenger's side by referring to driver's side.
1) Remove the headrest.

NOTE:
For models with headrest monitor, remove the headrest in the following procedures.
1. Fold the backrest all the way backward, and then remove the headrest.
2. Place the headrest on the seating face.
3. Return the backrest to the original position.

2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

NOTE:
For the power seat, remove the slide rail installing bolt before removing the battery ground.
3) Remove the front seats.
   (1) Tilt the backrest forward and move the seat to the front most position.
   (2) Remove the rear bolt cover (A) and remove the two bolts.
   (3) Move the seat to the rearmost position.
   (4) Remove the front bolt cover (B) and remove the two bolts.



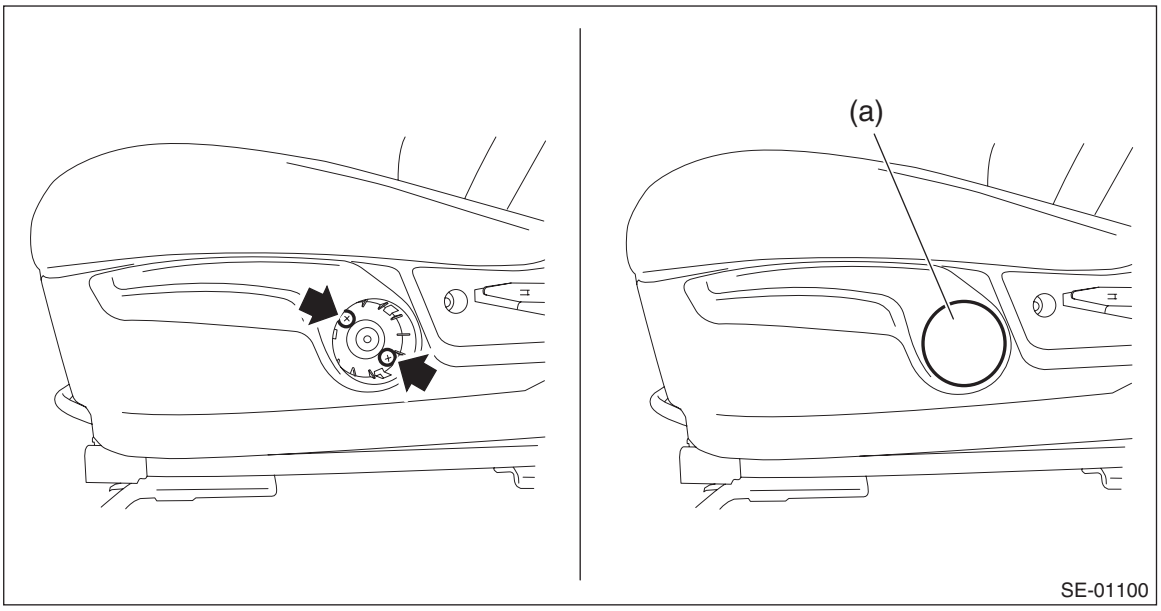
   (5) Disconnect the connector under the seat.

CAUTION:
Disconnect the ground cable from battery, and wait 60 seconds before disconnecting the connector.
- Seat belt warning light connector (driver's seat)
- Occupant detection system harness connector (passenger's seat)
- Side airbag connector
- Seat heater connector (model with seat heater)
- Power seat connector (model with power seats)
- Headrest monitor connector (model with headrest monitor)

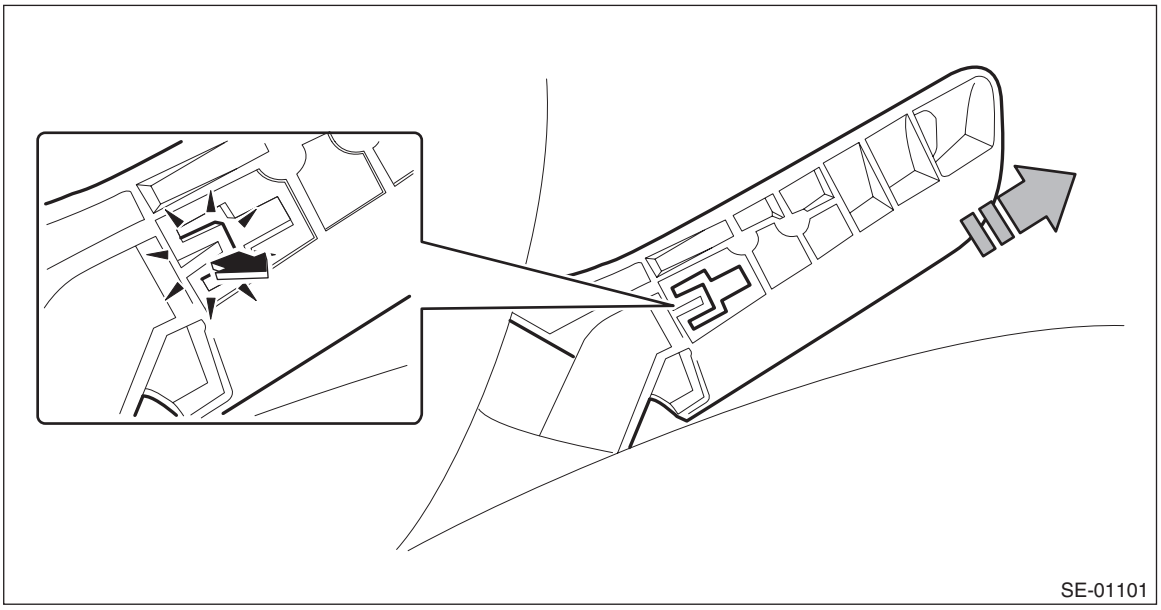
   (6) Take out the front seat from the vehicle.

CAUTION:
Be careful not to damage the body.

4) Remove the seat lifter lever. (Manual seat)
   (1) Using a flat tip screwdriver, remove the seat lifter lever cover (a).
   (2) Remove the screw and remove the seat lifter lever.

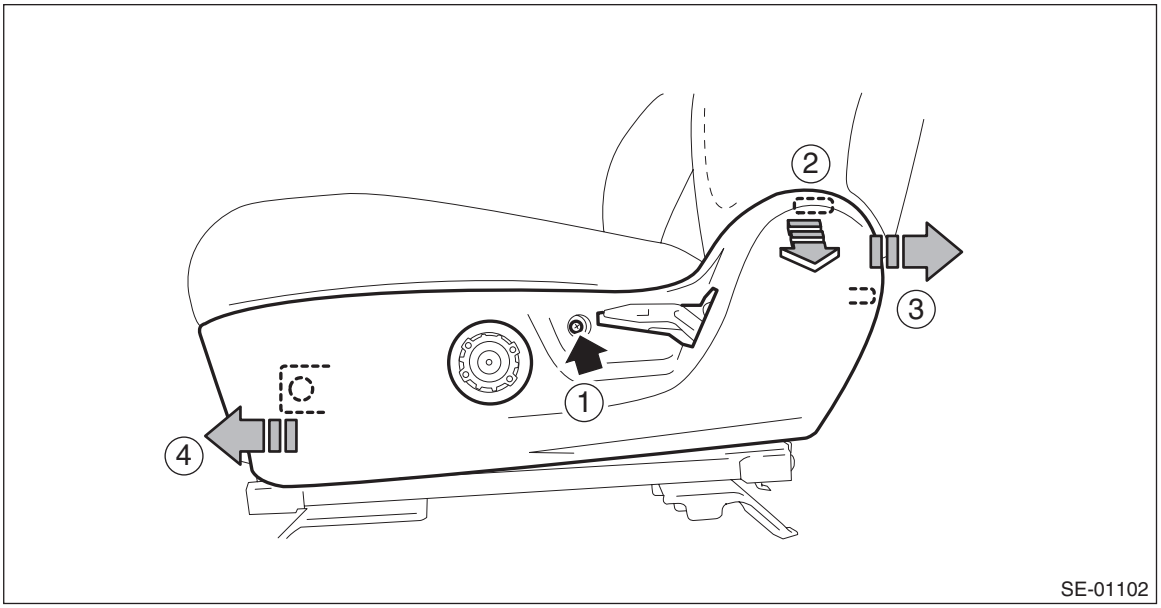


5) Remove the reclining lever cover. (Manual seat)
   (1) Pull up the reclining lever and release the claws on the back.
   (2) Pull out the reclining lever cover.

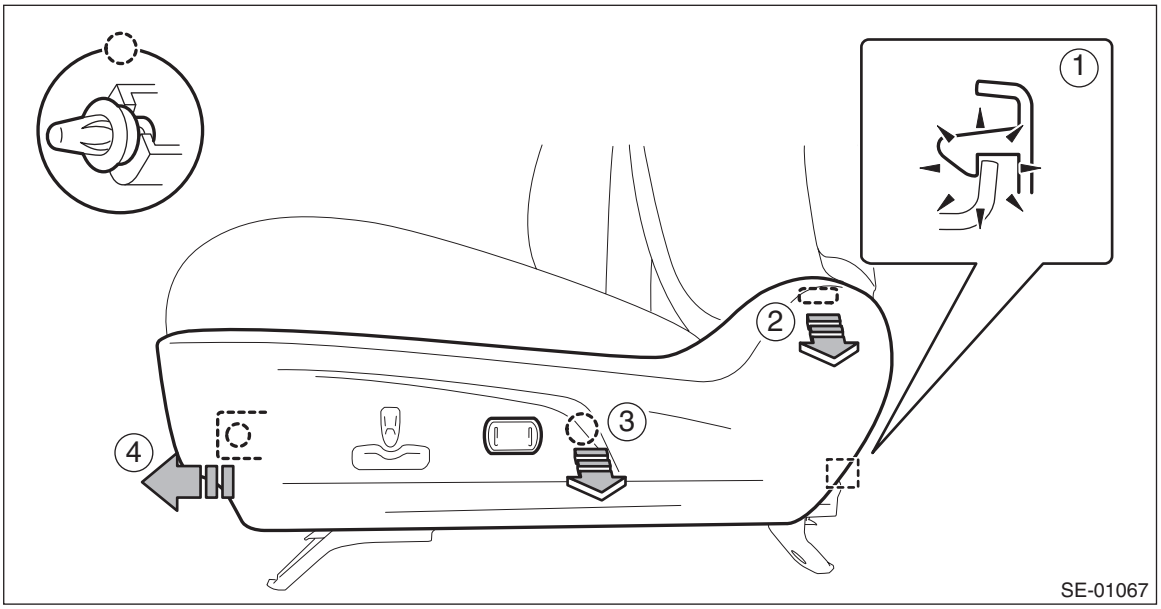


6) Remove the seat side cover OUT.

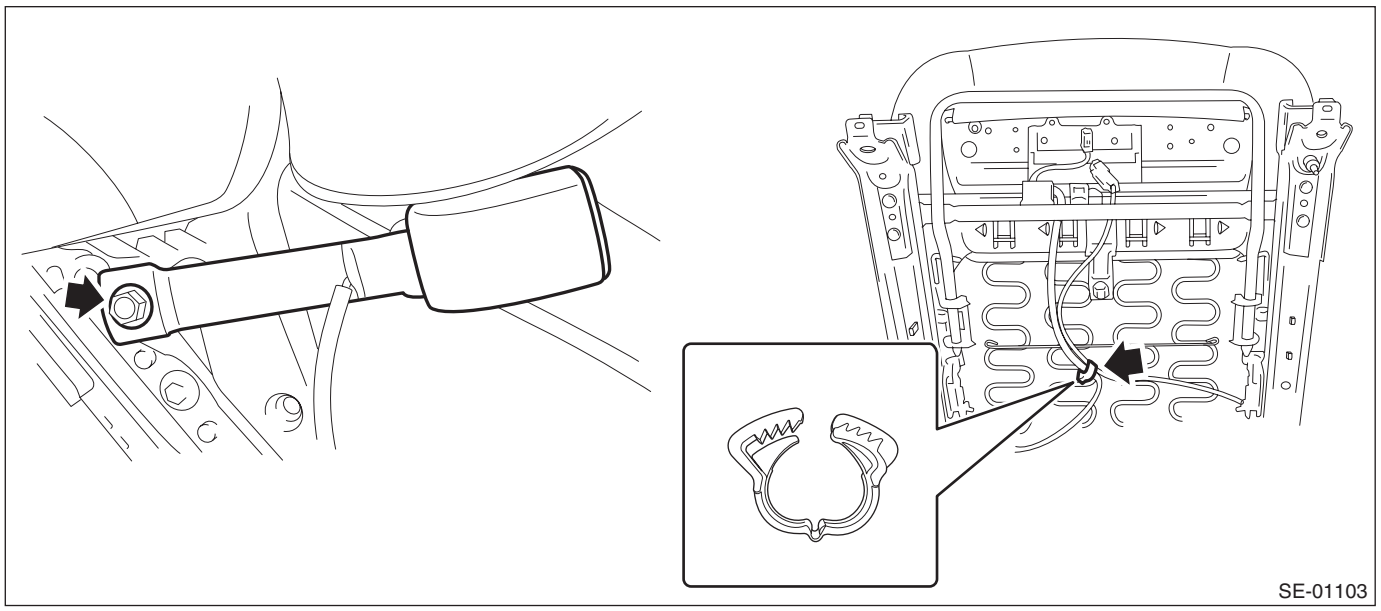
- Manual seat
  1. Remove the screws.
  2. Release the claw in the upper section of the seat side cover.
  3. Release the claw in the rear section of the seat side cover.
  4. Release the claw in the front section of the seat side cover, then remove the seat side cover OUT.



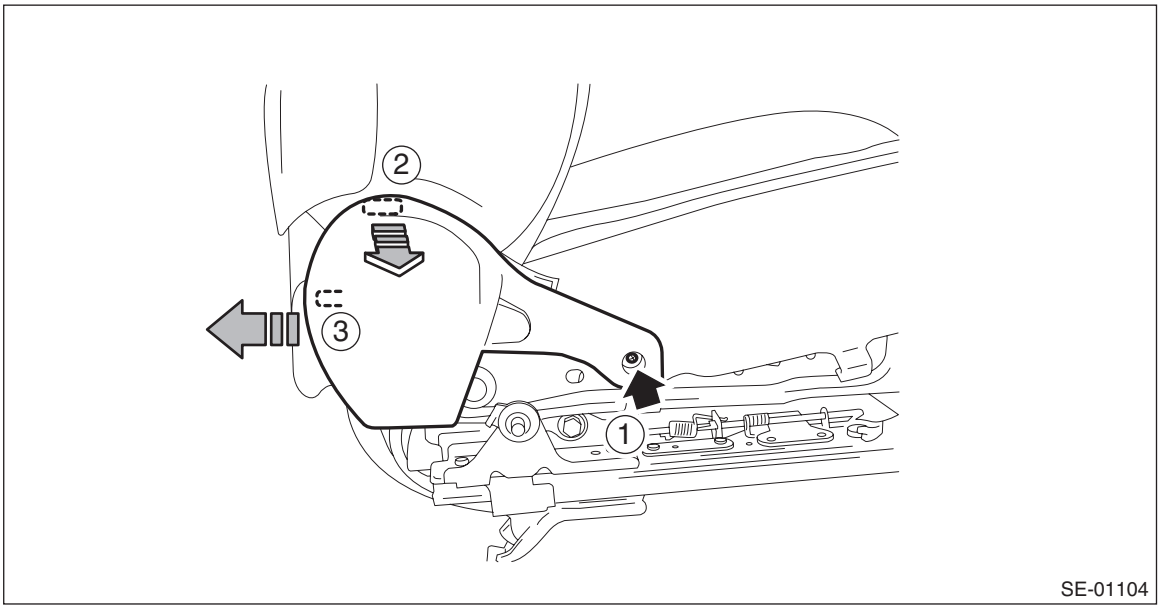
- Power seat
  1. Release the claw in the rear section of the seat side cover.
  2. Release the claw in the upper section of the seat side cover.
  3. Remove the clip and release the claw in the front section of the seat side cover.
  4. Disconnect the power seat switch connector and remove the seat side cover OUT.



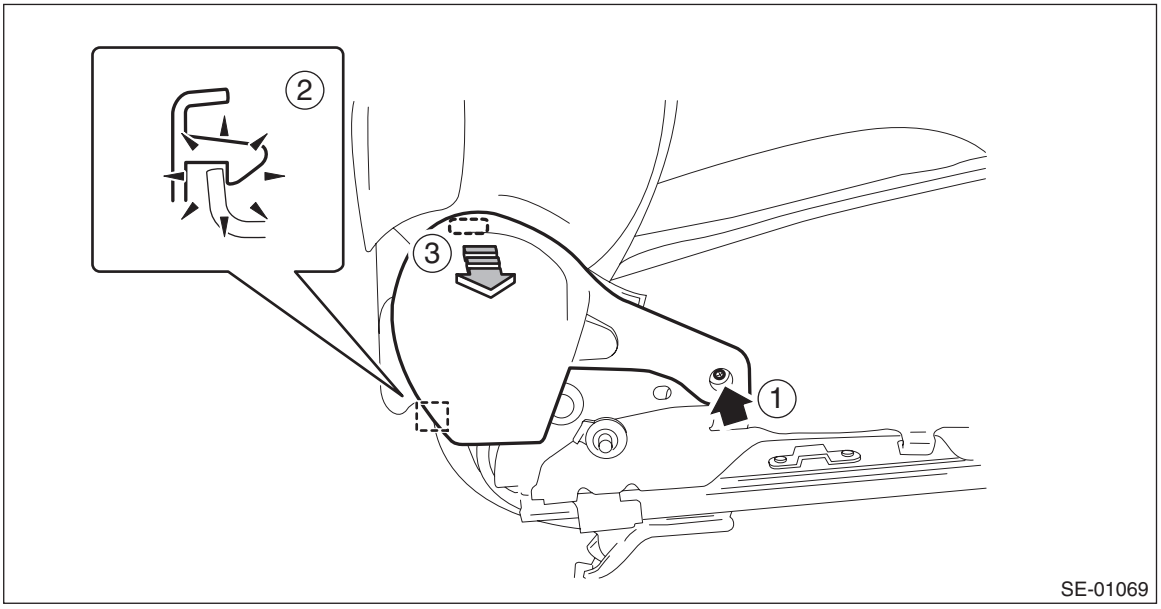
7) Remove the inner seat belt assembly.
(1) Remove the nut and remove the inner seat belt assembly.
(2) Remove the clip for the inner seat belt harness located under the seat cushion.



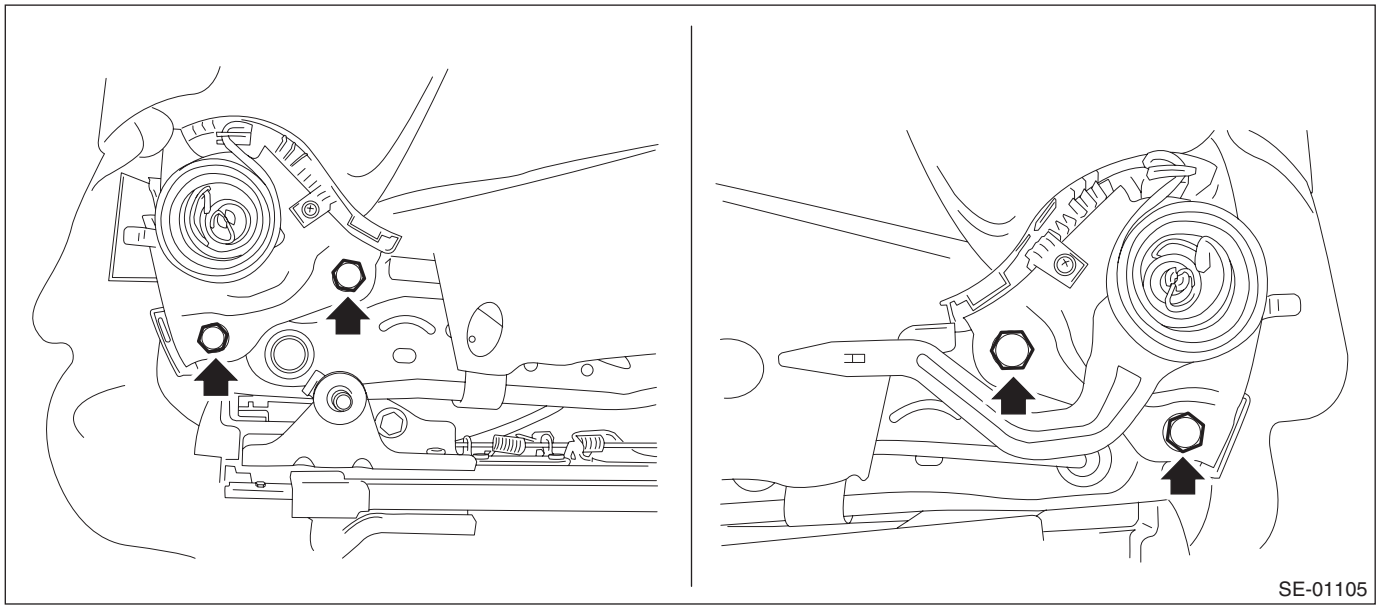
8) Remove the seat side cover IN.
- Manual seat
  1. Remove the screws.
  2. Release the claw in the upper section of the seat side cover.
  3. Release the claw in the rear section of the seat side cover, then remove the seat side cover IN.



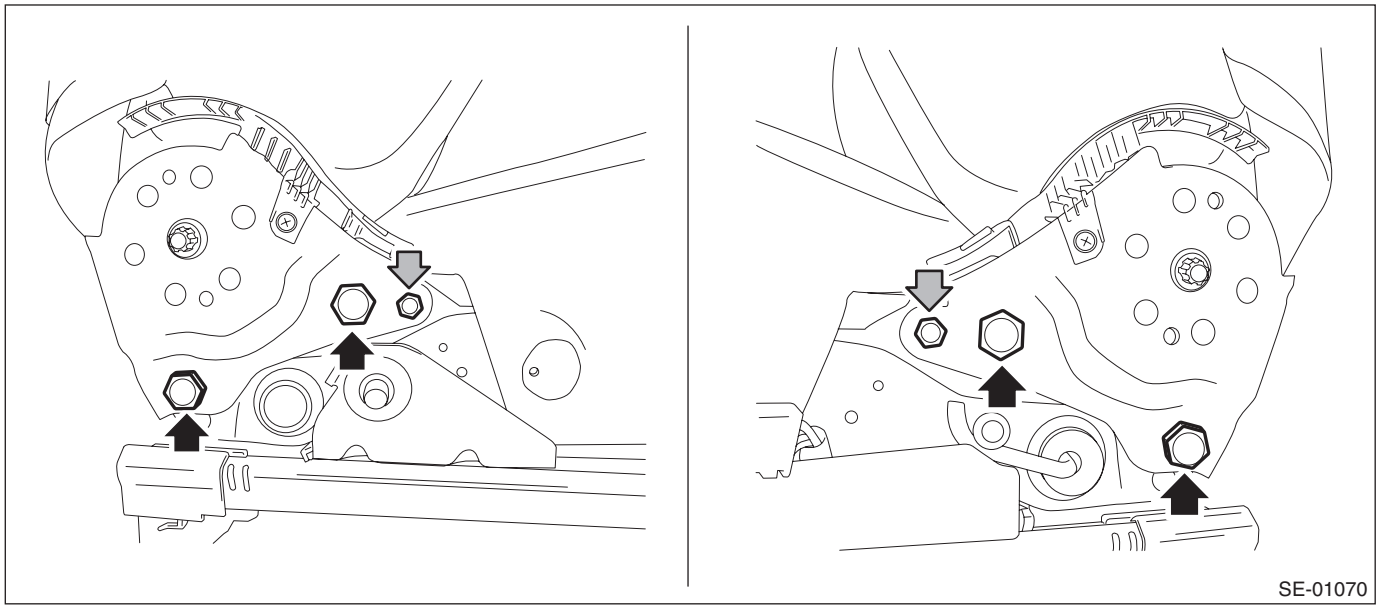
- Power seat
  1. Remove the screws.
  2. Release the claw in the rear section of the seat side cover.
  3. Release the claw in the upper section of the seat side cover, then remove the seat side cover IN.



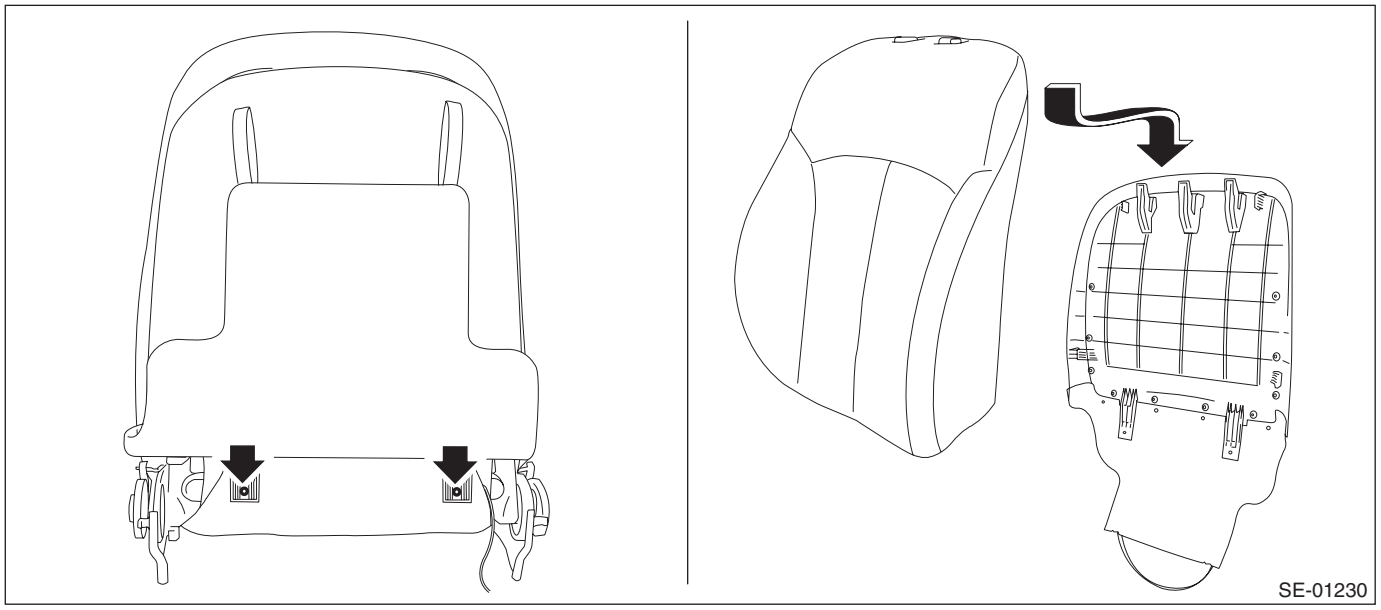
9) Separate the backrest assembly and the seat cushion assembly.
   (1) Remove the clip for the side airbag harness located under the seat cushion.
   (2) Remove the bolts from reclining hinge of both sides.
   (3) While taking care not to damage the airbag harness, separate the backrest assembly and the seat cushion assembly.
   - Manual seat



- Power seat



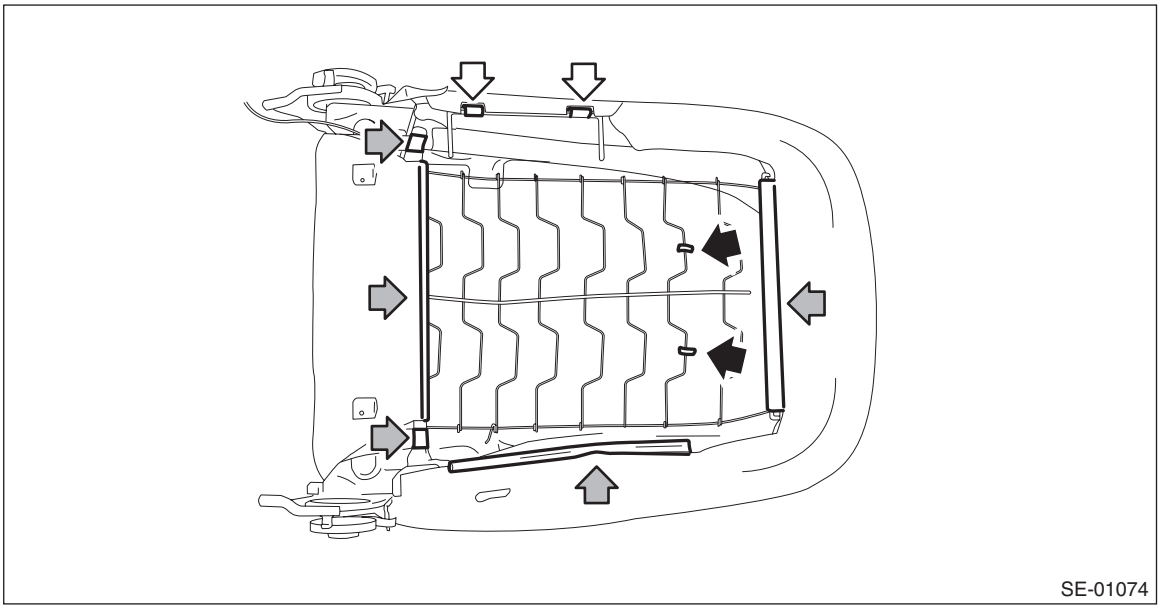
10) Remove the backrest back cover.
(1) Remove the screws.
(2) Release the hooks by pulling down the back cover and remove the backrest back cover.



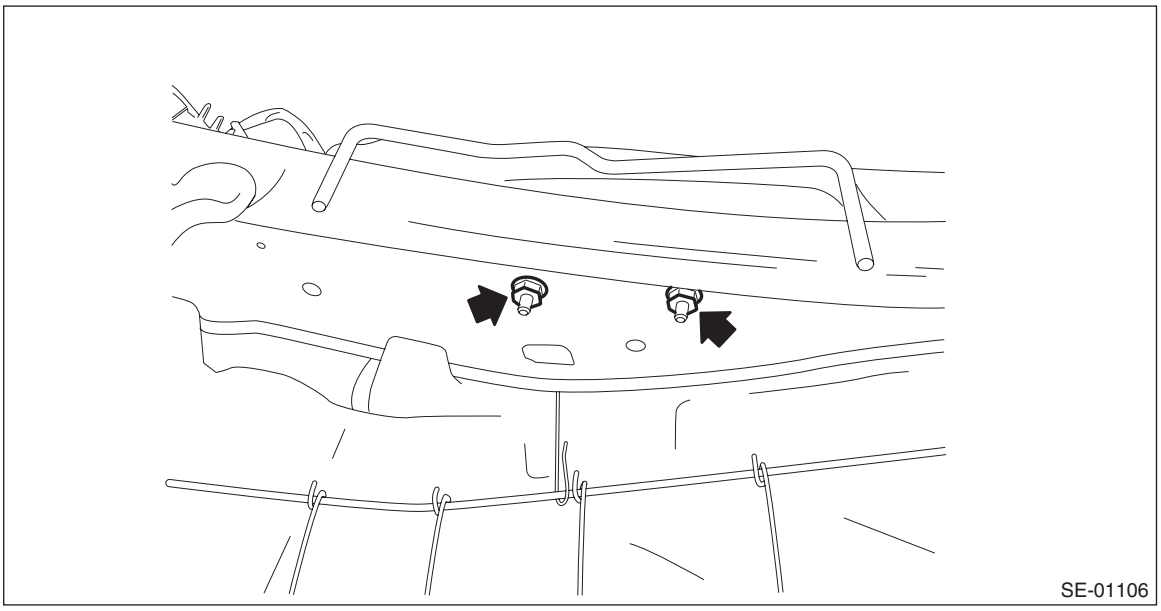
11) Remove the side airbag module assembly.

CAUTION:
• Be careful not to tear the vinyl inside the seat when removing the hog rings. If torn, replace with a new part.
• Do not open the (plastic) protective cover of the airbag. If any damage is present in the protective cover (such as airbag module cloth coming out), replace the side airbag module assembly with a new one.

(1) Remove the hooks and hog rings.


SE-01074

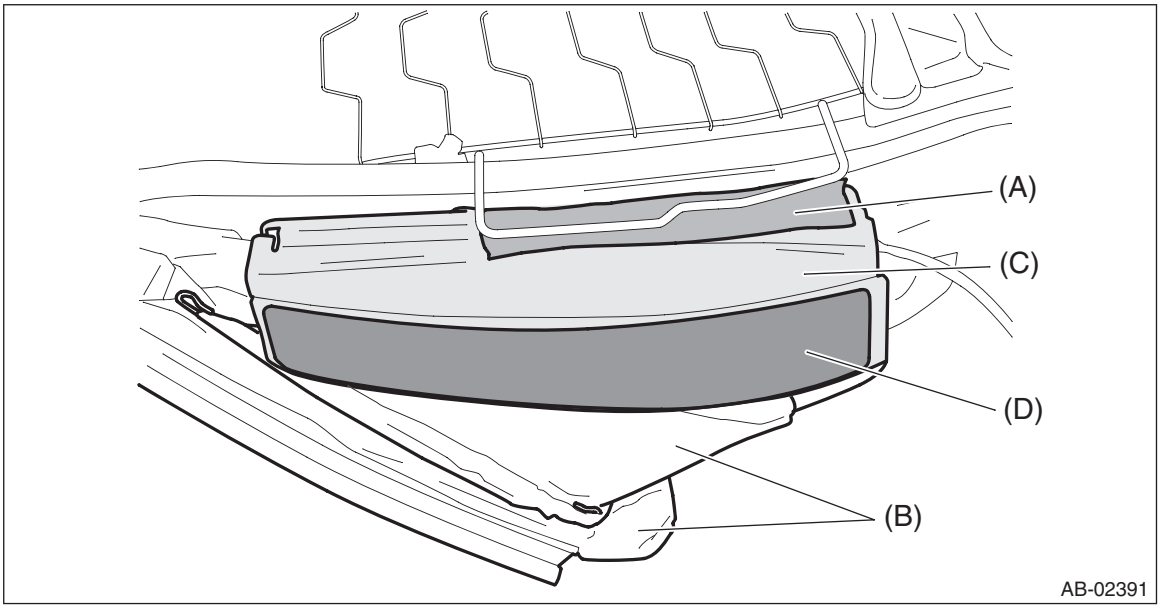
(2) Remove the backrest pad & cover from backrest assembly.
(3) Remove the mounting nuts of the side airbag module.


SE-01106

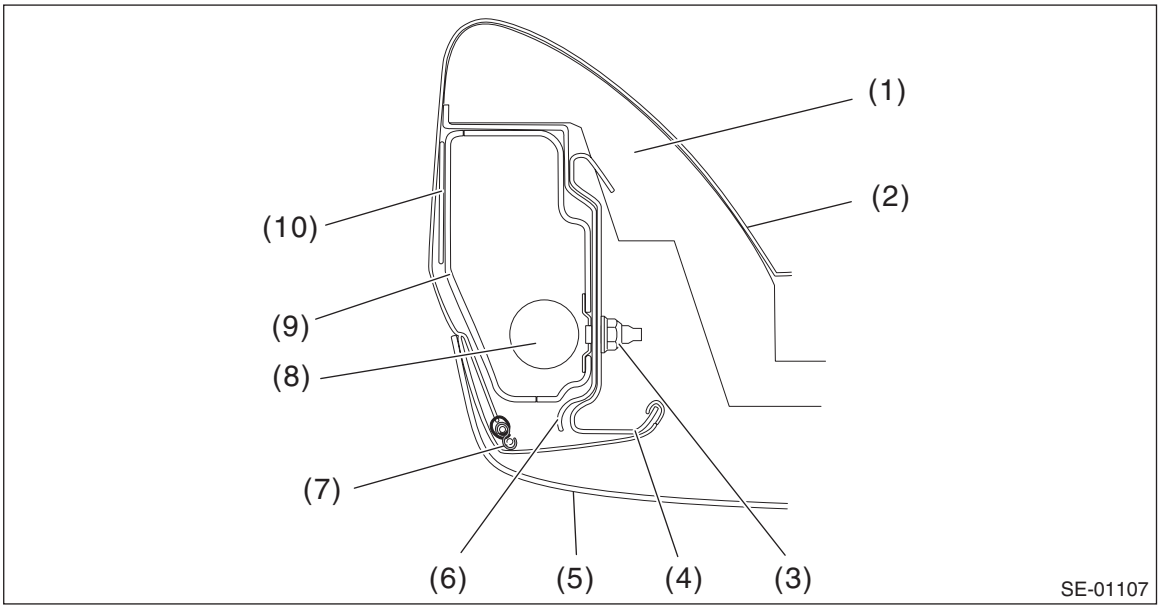
(4) Remove the side airbag harness from backrest frame assembly.
(5) While taking care not to damage the airbag (plastic) protective cover, remove the side airbag module assembly.

B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
• Be sure to perform the system calibration for occupant detection system after passenger's seat installation. <Ref. to OD(diag)-18, OPERATION, System Calibration (Rezeroing).>
• Make sure that the side airbag module assembly is installed as shown in the figure.



(A) Side airbag guide cloth
(B) Backrest cover
(C) Side airbag module ASSY
(D) Side airbag tape



(1) Backrest pad
(2) Backrest cover
(3) Nut
(4) Backrest frame
(5) Backrest back cover
(6) Side airbag guide cloth
(7) S hook
(8) Side airbag module inflator
(9) Side airbag module case
(10) Side airbag tape

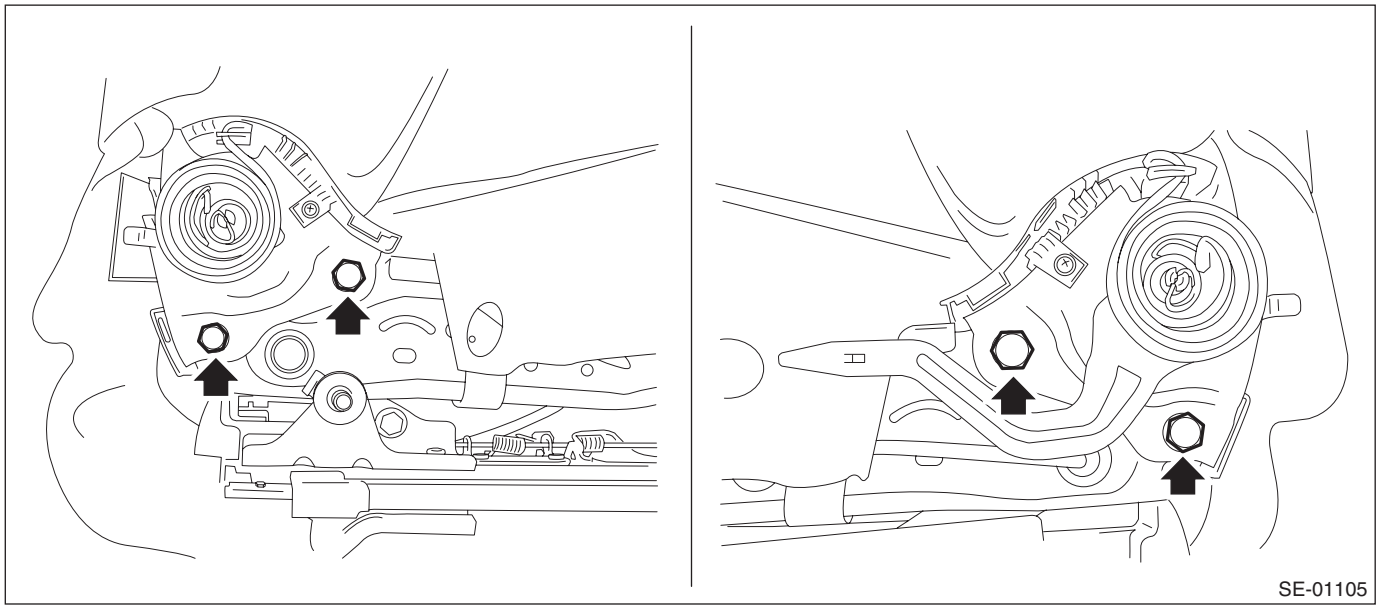
- **When replacing the side airbag assembly with new one, be sure to attach the side airbag tape.**
- **Be careful not to stain or damage the backrest cover during assembly.**
- **Do not reuse hog rings and S hooks.**
- **Secure the hog ring using hog ring pliers.**
- **Install the hog rings to the specified points securely and make sure that there is no wrinkle or twisting on backrest cover.**

1) Before installation, inspect the following items and replace any faulty part with a new one.
- Make sure that there is no foreign matter on side airbag module.
- Front seat, airbag module and mounting bracket are damaged or deformed.
- Harness and/or connector is cracked, deformed or open.
- Harness wire is exposed.

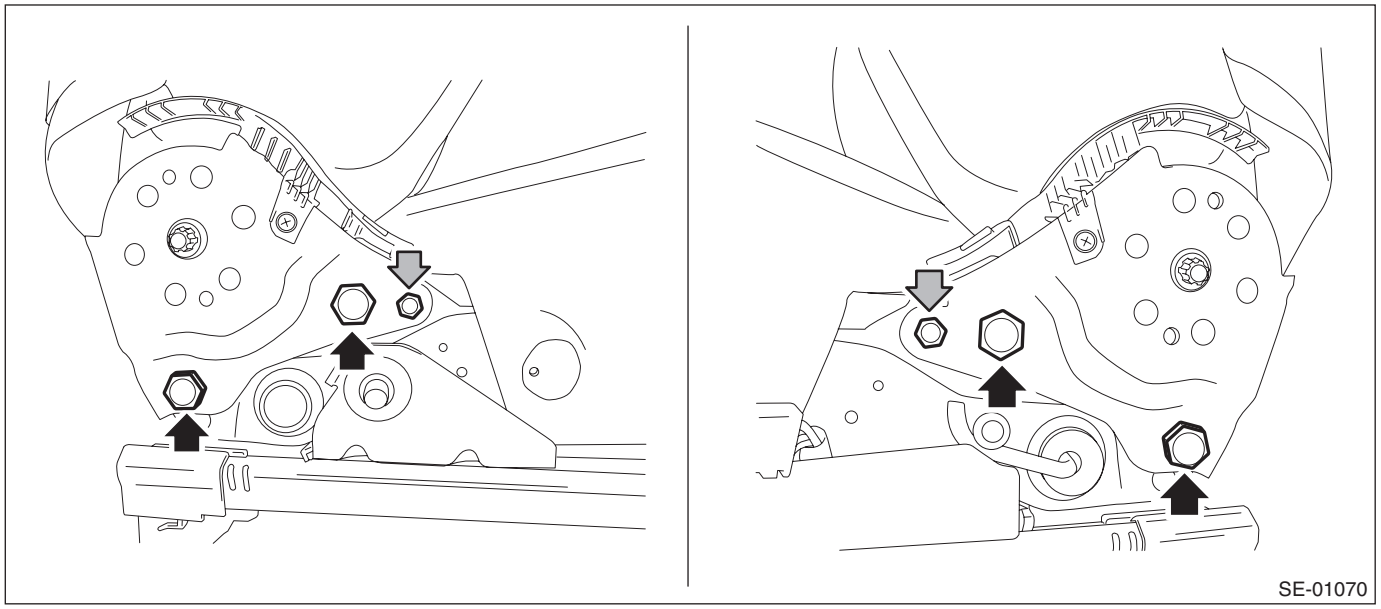
2) Install the side airbag module to backrest frame assembly.

Tightening torque:
6 N·m (0.61 kgf-m, 4.4 ft-lb)

3) Install the side airbag harness to backrest frame assembly.
4) Install the backrest cover.
5) Secure the backrest hinge.
- Manual seat



- Power seat



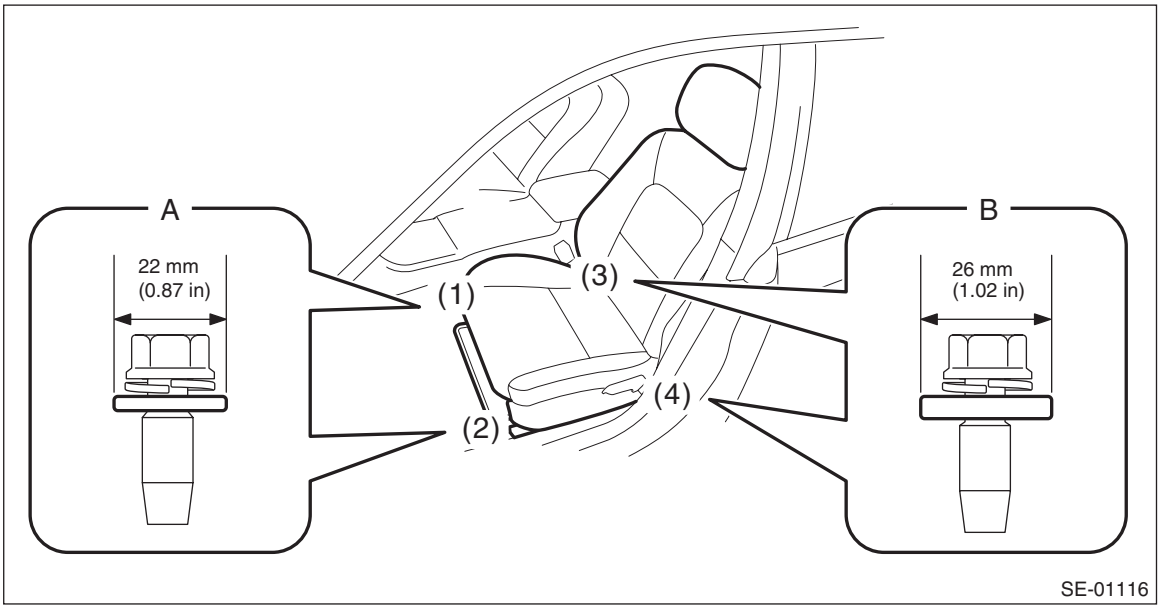
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, FRONT SEAT, COMPONENT, General Description.>

6) Install the side airbag harness to the back of the seat cushion assembly using a cable clip.

CAUTION:
After restoring the seat, operate the reclining and sliding mechanisms to check that the side airbag harness is not caught.

7) Install the front seat to the body.

CAUTION:
• The seat mounting bolts differ between the front mounting points and the rear mounting points. Make sure that you are using correct bolts at correct positions.
• Tighten the slide rail installing bolts in the order as shown in the figure, in several steps by gradually increasing the torque until they reach the specified torque.



- **Front (bolt A): Washer diameter 22 mm (0.87 in)**
- **Rear (bolt B): Washer diameter 26 mm (1.02 in)**

Tightening torque:
Front seat assembly: 53 N·m (5.40 kgf-m, 39.1 ft-lb)

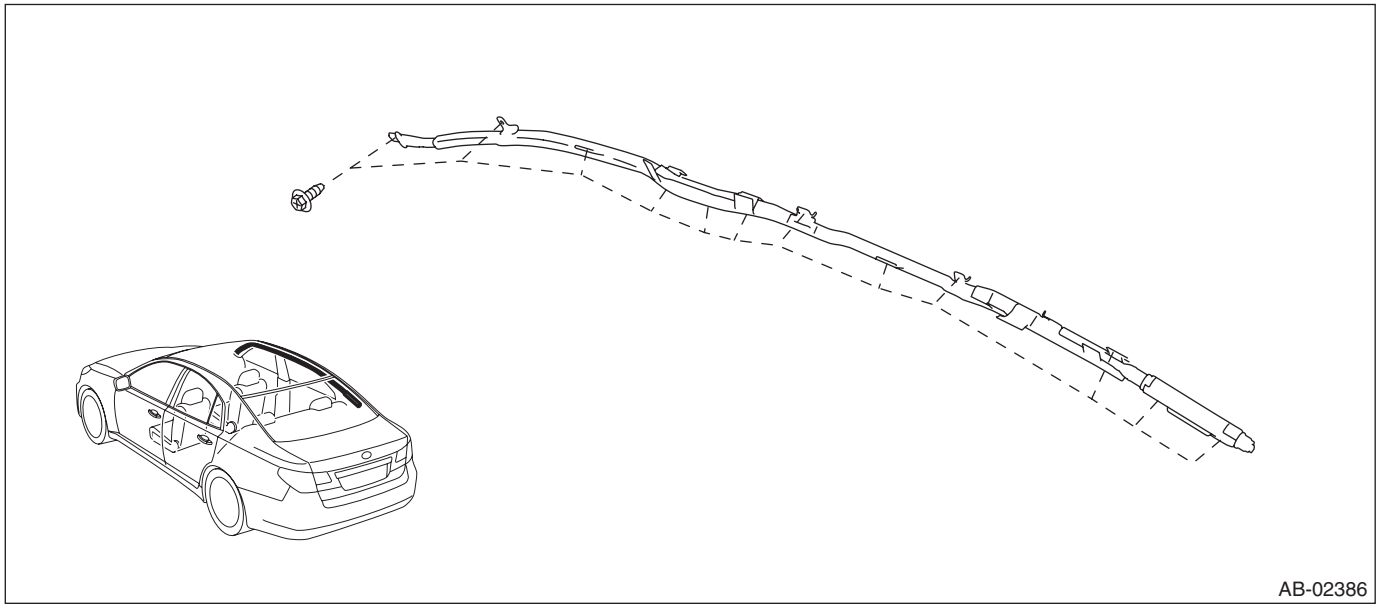
7. Curtain Airbag Module

A: REMOVAL

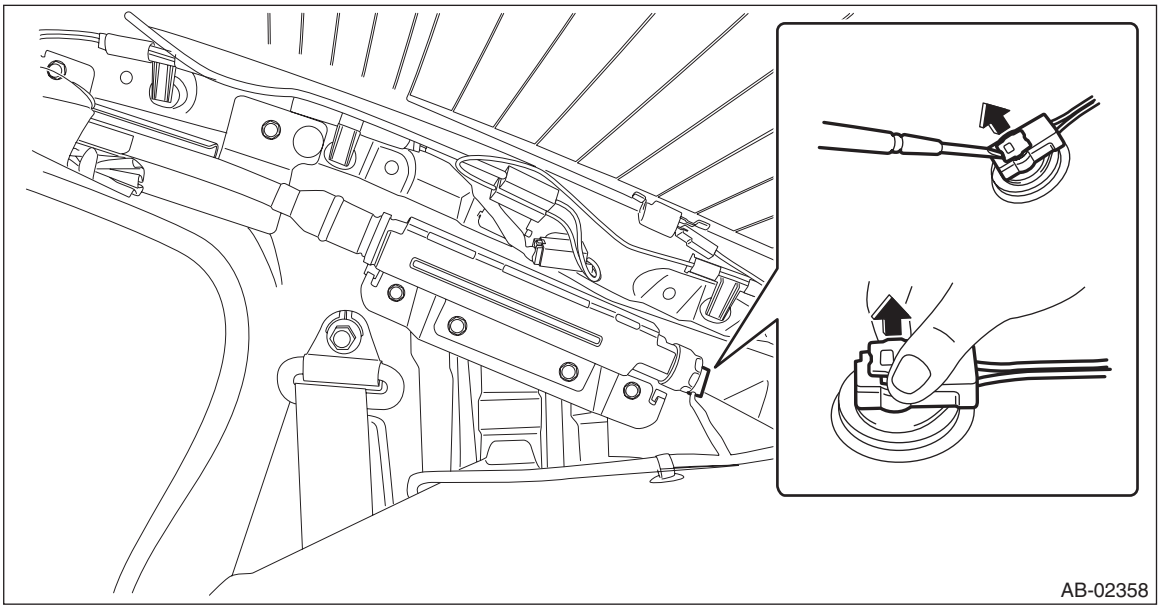
1. SEDAN MODEL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the roof trim. <Ref. to EI-134, SEDAN MODEL, REMOVAL, Roof Trim.>
4) Remove the curtain airbag module assembly.

CAUTION:
- **Be careful not to damage the curtain airbag module during removal.**
- **Never open the curtain airbag module before activation. Never reuse the deployed curtain airbag module.**
- **Remove the modules in order starting from the vehicle front.**
  (1) Remove all bolts and clips, and remove the curtain airbag module assembly.



(2) Disconnect the curtain airbag module connector.



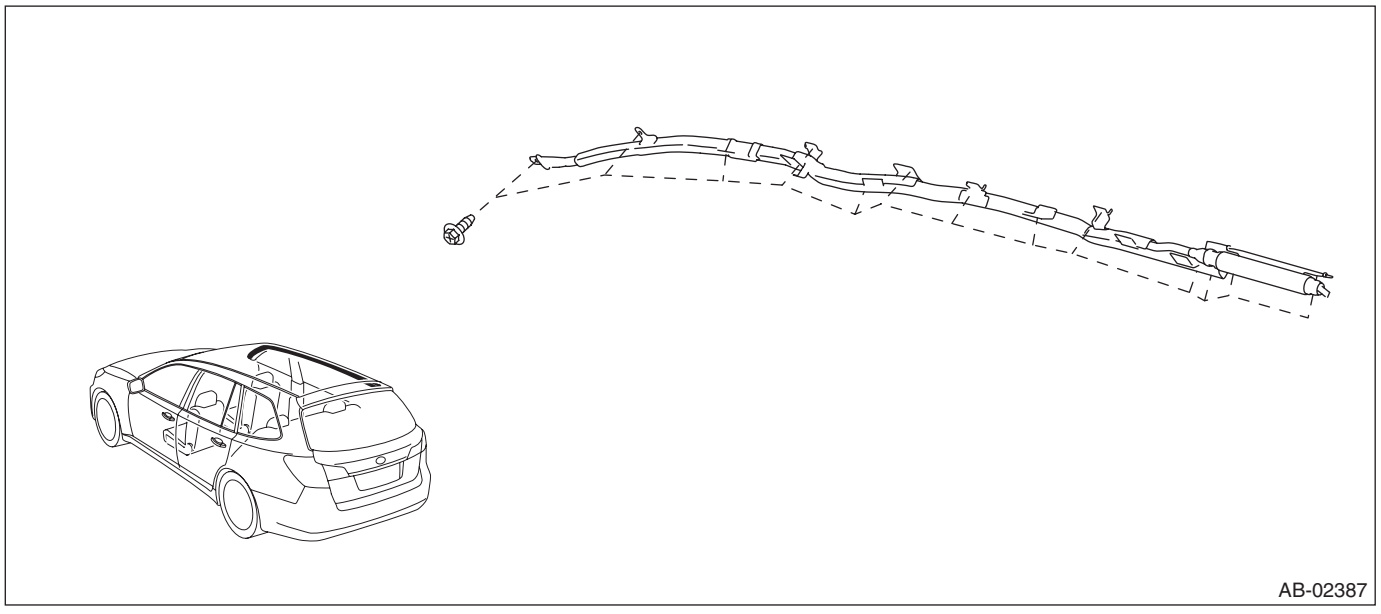
2. OUTBACK MODEL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>

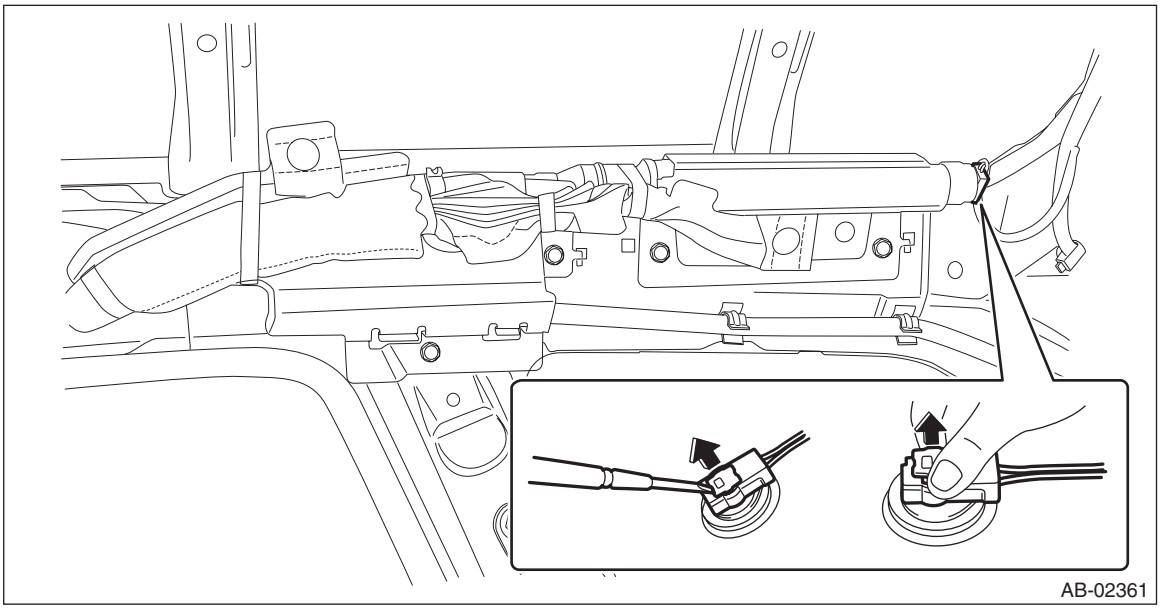
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
3) Remove the roof trim. <Ref. to EI-148, OUTBACK MODEL, REMOVAL, Roof Trim.>
4) Remove the curtain airbag module assembly.

CAUTION:
- **Be careful not to damage the curtain airbag module during removal.**
- **Never open the curtain airbag module before activation. Never reuse the deployed curtain airbag module.**
- **Remove the modules in order starting from the vehicle front.**

(1) Remove all bolts and clips, and remove the curtain airbag module assembly.



(2) Disconnect the curtain airbag module connector.



B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
• When installing the curtain airbag module, install a specified part at specified place.
• Be careful not to damage the curtain airbag module during installation.
• Never open the curtain airbag module before activation. Never reuse the deployed curtain airbag module.
• Make sure that there are no foreign matter on airbag module.

1) Before installation, inspect the following items and replace any faulty part with a new one.
- Airbag cover is scratched or torn.
- Harness and/or connector is cracked, deformed or open.
- Harness wire is exposed.
- Mounting bracket and securing clip are cracked or deformed.

2) Install each part in the reverse order of removal.

CAUTION:
• For installation of the stereo camera cover, refer to "INSTALLATION", "Stereo Camera Cover" in the "EyeSight" section and observe the precautions for installation. <Ref. to ES-12, INSTALLATION, Stereo Camera.>
• Do not reuse the tether clips on the upper part of the front pillar trim. Always replace with a new part.
Once the tether clip is removed from the pillar trim, the retention power deteriorates and the front pillar trim may come off.
• Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.
• Before installing the front pillar trim, check the condition of (white) protective unwoven cloth of curtain airbag. If it is damaged (airbag module cloth is exposed), replace the curtain airbag module assembly with a new part.

Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

8. Airbag Control Module

A: REMOVAL

CAUTION:
• Do not disassemble the airbag control module.
• If the airbag control module is deformed or if the damage from water is suspected, replace the airbag control module with a new part.
• Do not drop the airbag control module.
• After removal, keep the airbag control module on a dry, clean surface away from moisture, heat and dust.

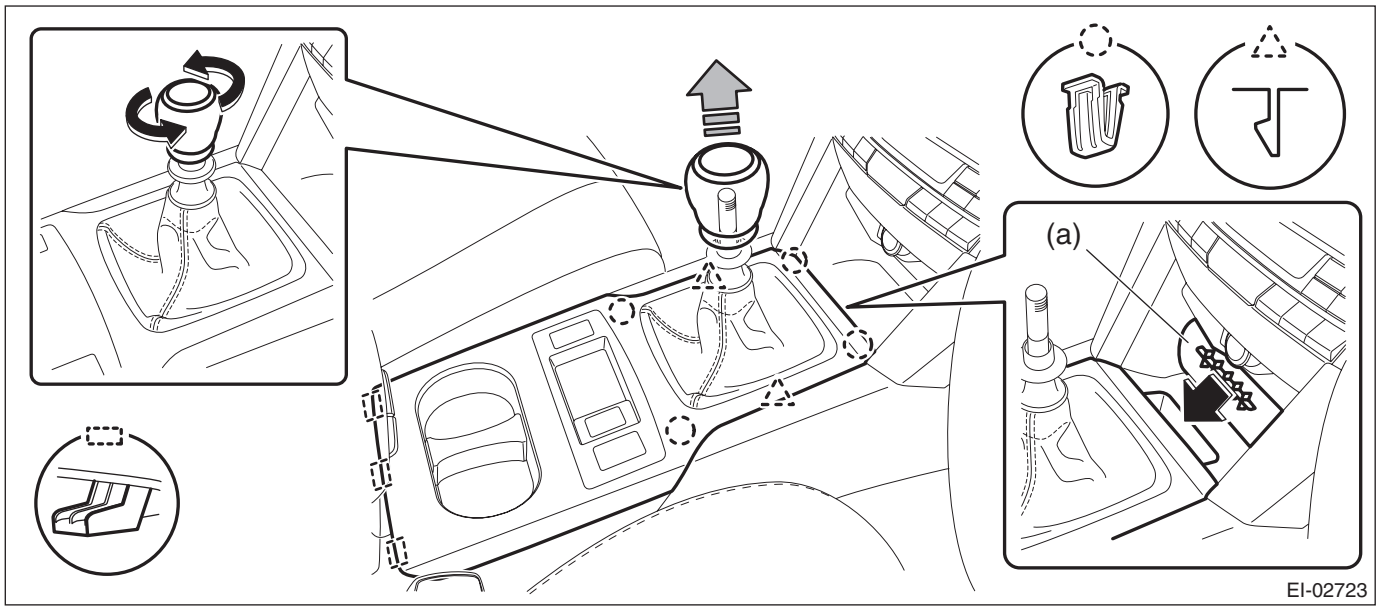
1) Turn the ignition switch to OFF.

CAUTION:
Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

NOTE:
For a model with power seat, remove the console box assembly before disconnecting the battery ground cable.

2) Remove the console front cover assembly.

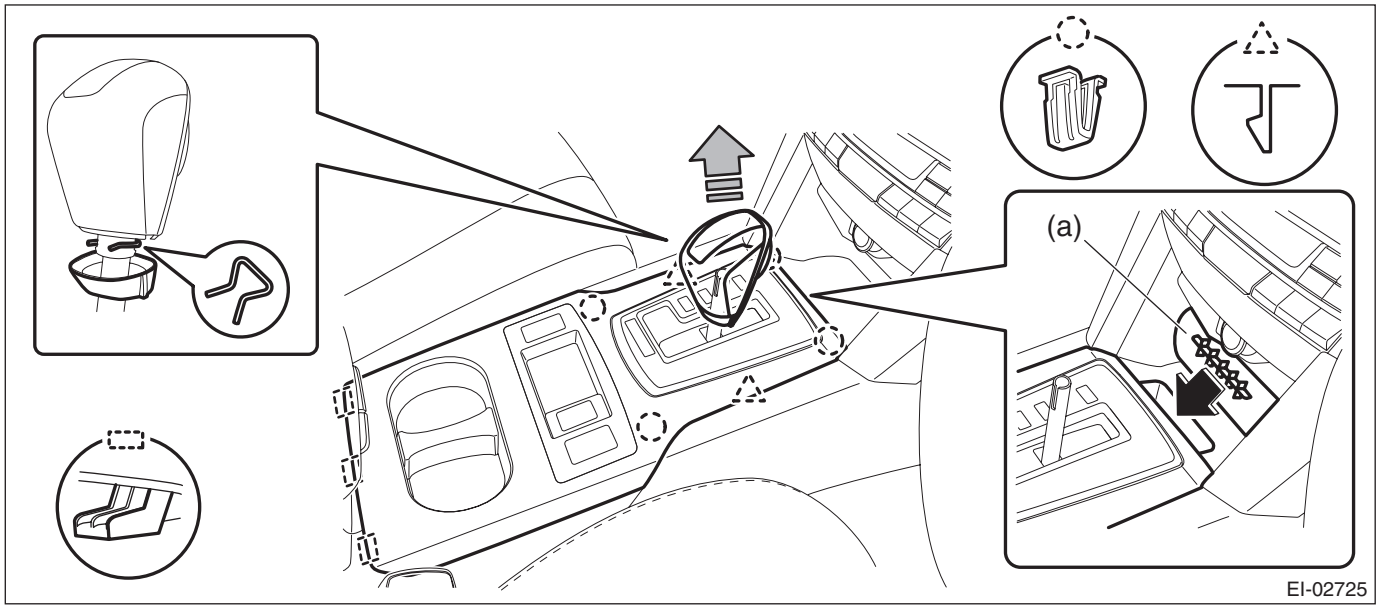
• MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

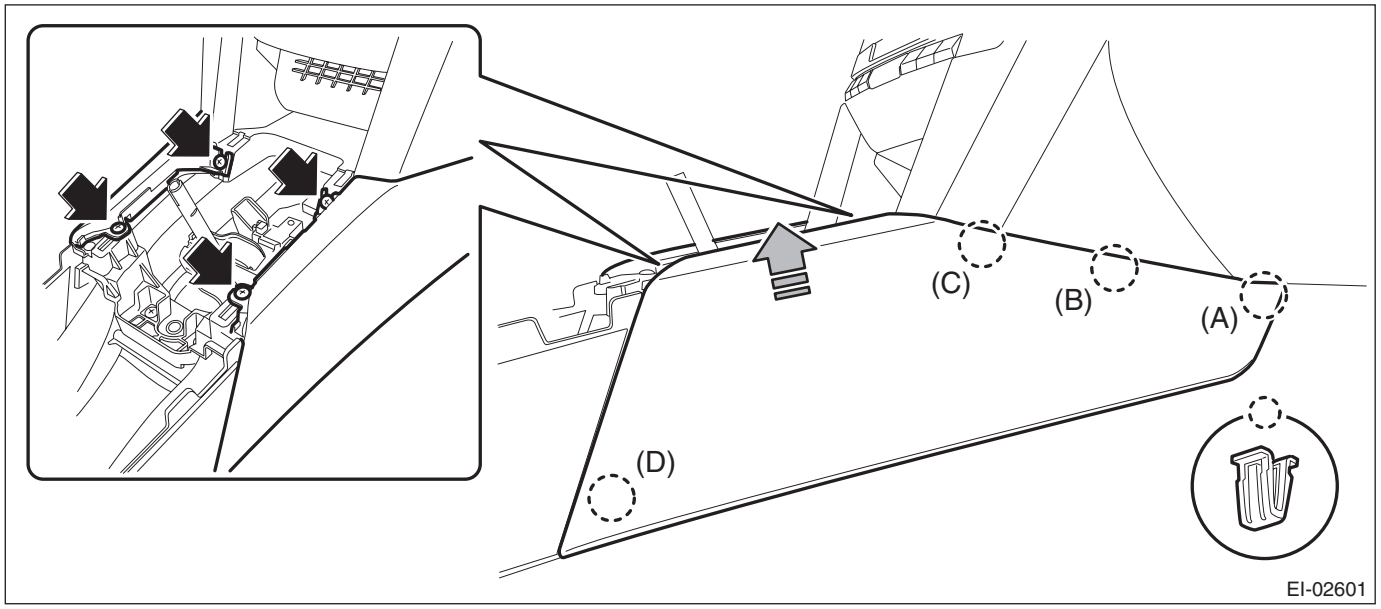
- AT model / CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

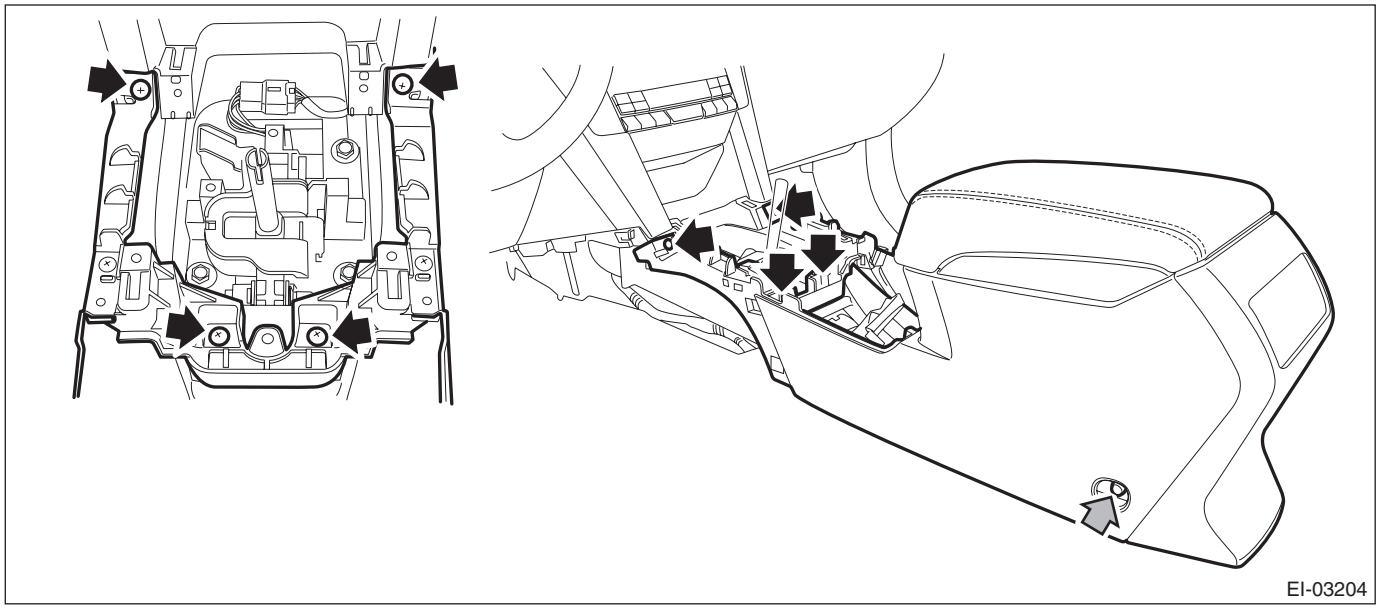
3) Remove the left and right console front side cover assembly.
   (1) Remove the screws and release the clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.



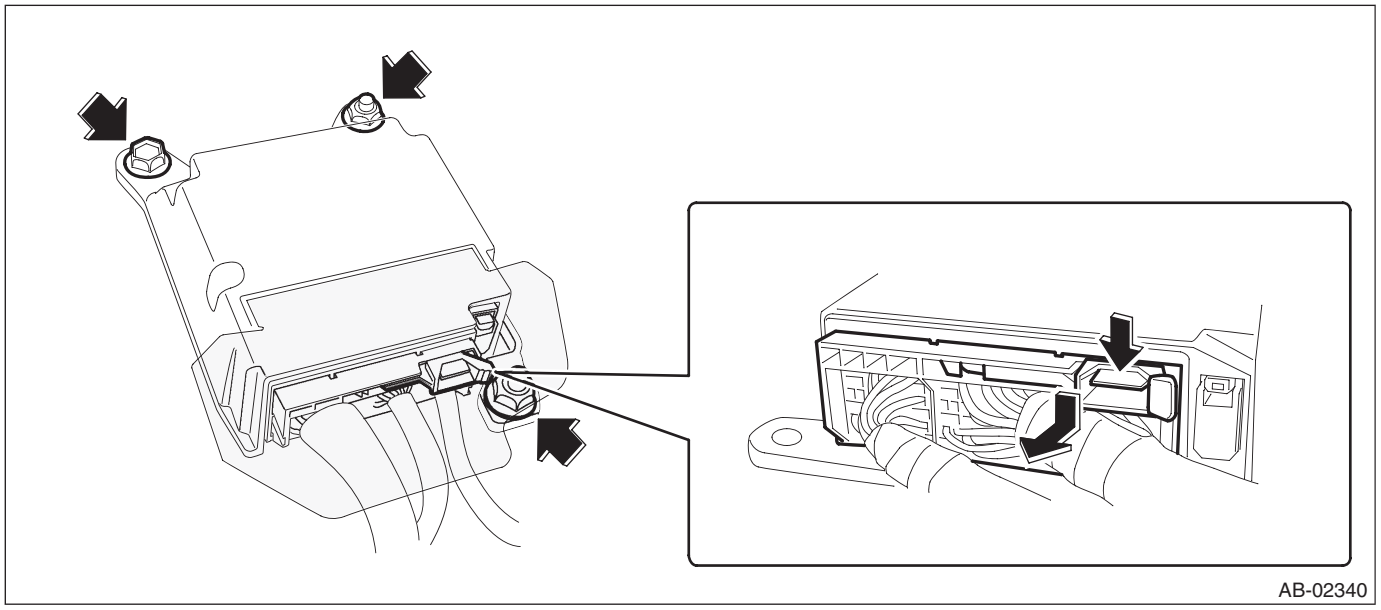
4) Remove the console box assembly.
   (1) Move the seat forward, and remove the bolts after detaching the left and right caps.

NOTE:
For a model with power seat, connect the battery ground cable and move the seat. Then, disconnect the battery ground cable again and wait for 60 seconds at least before restarting the work.

(2) Remove the screws, disconnect the harness connector and remove the console box assembly.



5) Remove the airbag control module.
(1) Disconnect the connector from airbag control module.
(2) Remove the bolt and nuts and remove the airbag control module.



B: INSTALLATION

CAUTION:
Do not reuse the bolt and nut.
Always use new bolts and nuts for them.

1) Before installation, inspect the following items and replace any faulty part with a new one.
- Control module is deformed.
- Control module connector is damaged.
- Control module mounting bracket is damaged.

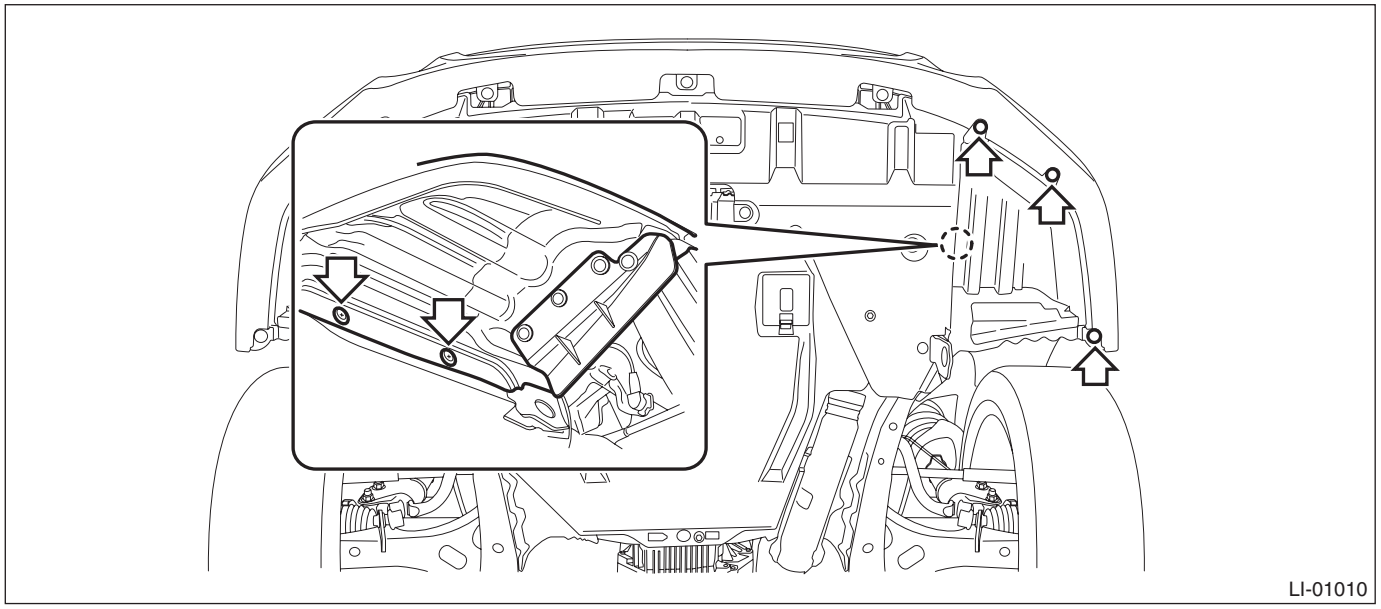
2) Install each part in the reverse order of removal.

Tightening torque:
Airbag control module: 25 N·m (2.55 kgf-m, 18.4 ft-lb)
Console box assembly: 6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

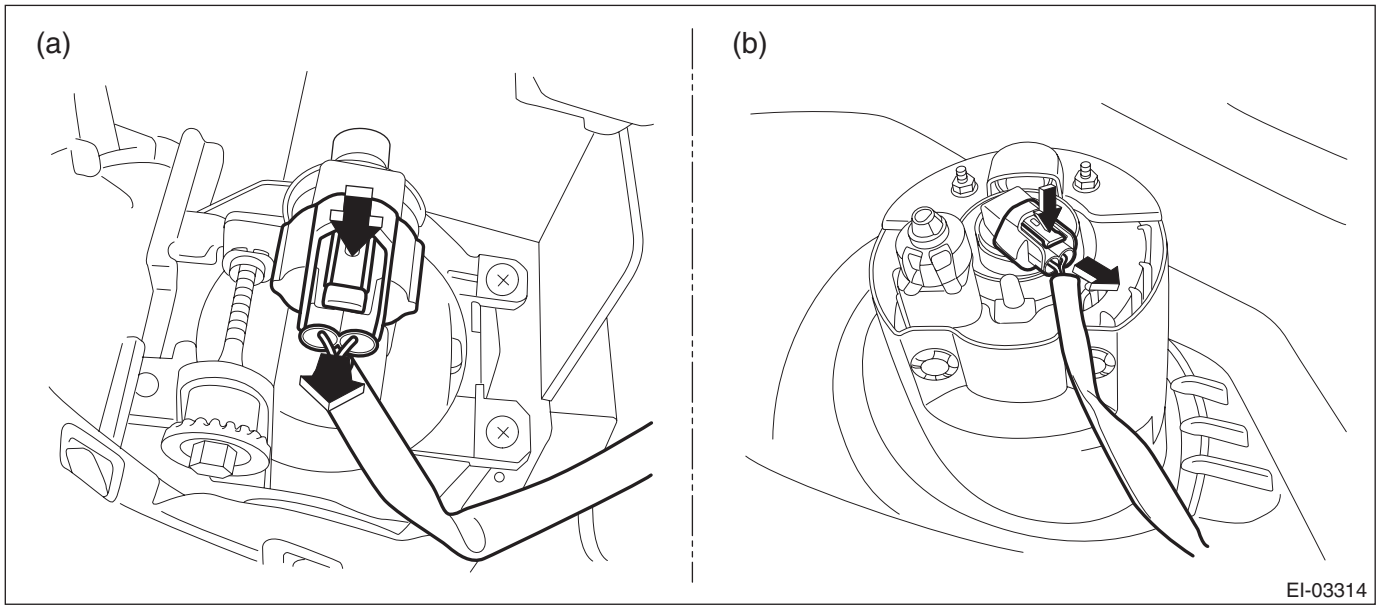
9. Front Sub Sensor

A: REMOVAL

1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
2) Remove the front bumper face assembly.
   (1) Remove the clips and turn over the front end of front mud guard. (Model with fog light)



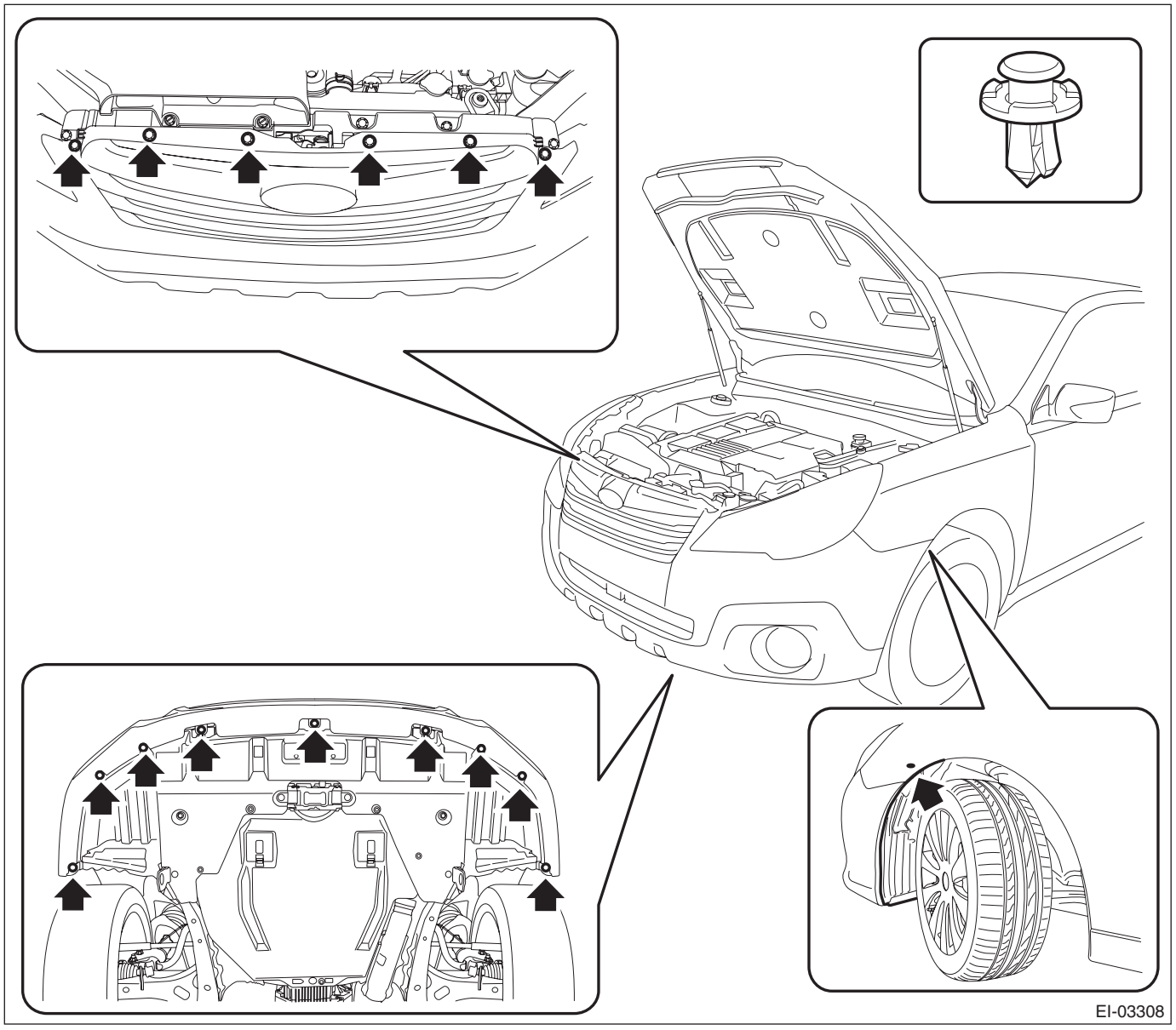
   (2) Disconnect the front fog light connector. (Model with fog light)



(a) Sedan model (b) OUTBACK model

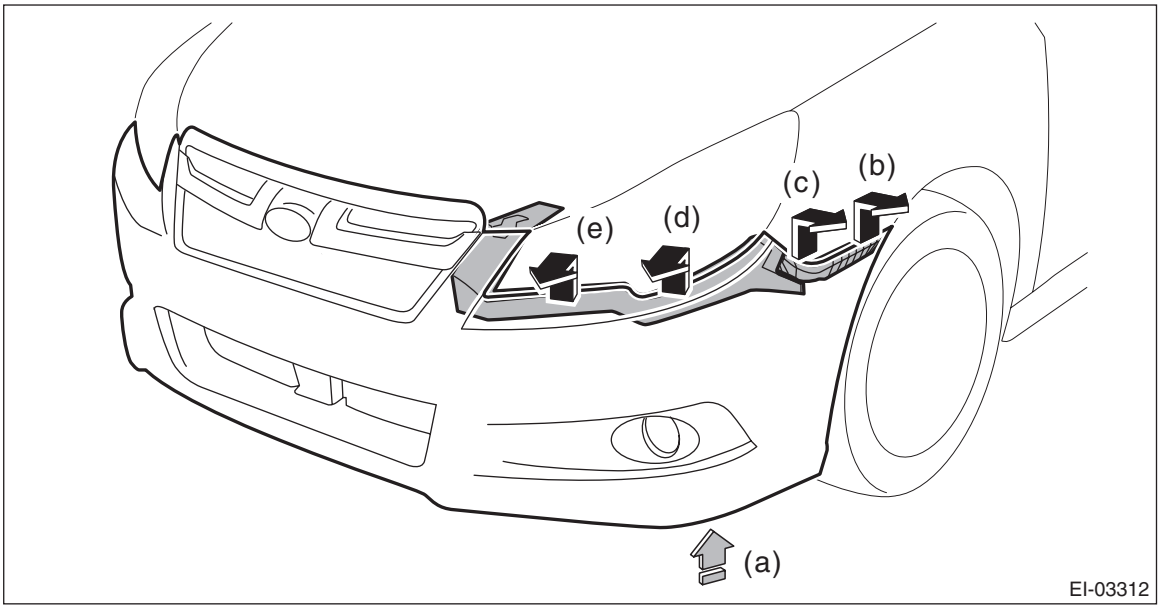
   (3) Remove the clips at the upper side of the bumper.
   (4) Remove the clips from the fender.

(5) Remove the clips at the lower side of bumper.



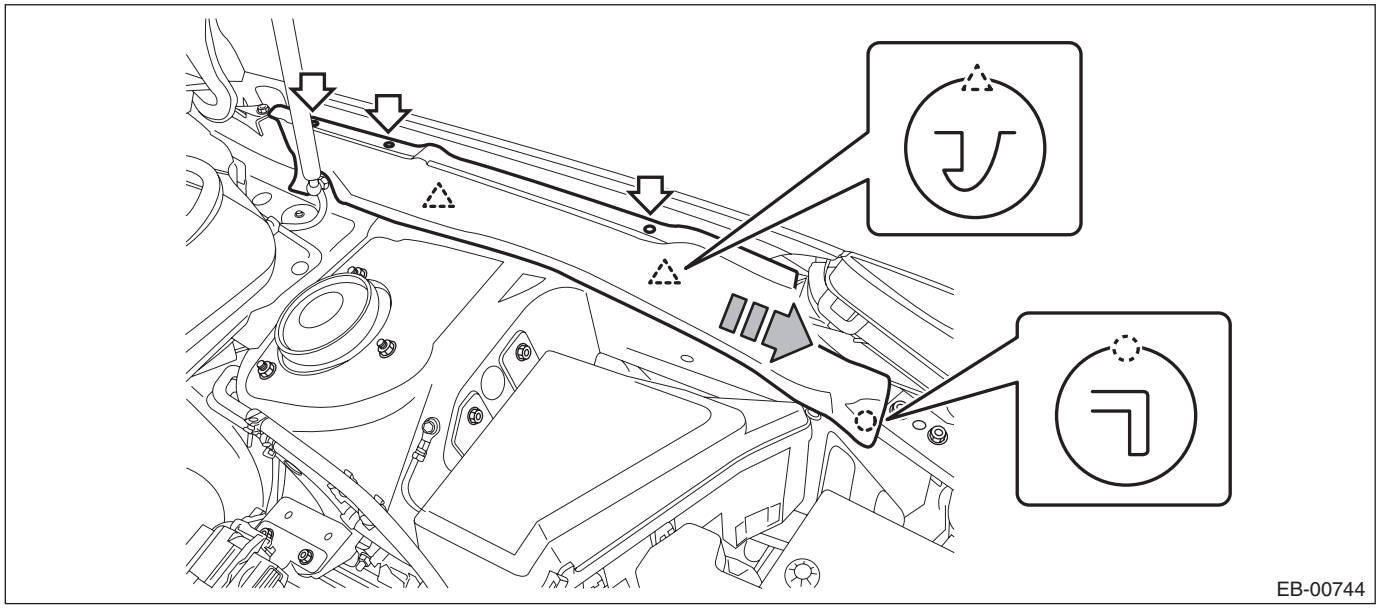
(6) Detach the flange section on the bumper face side from the bracket side front UPR.

CAUTION:
Do not pull forcibly. It may damage the flange section on the bumper face - front side when it comes off from the claws of bracket side front UPR.



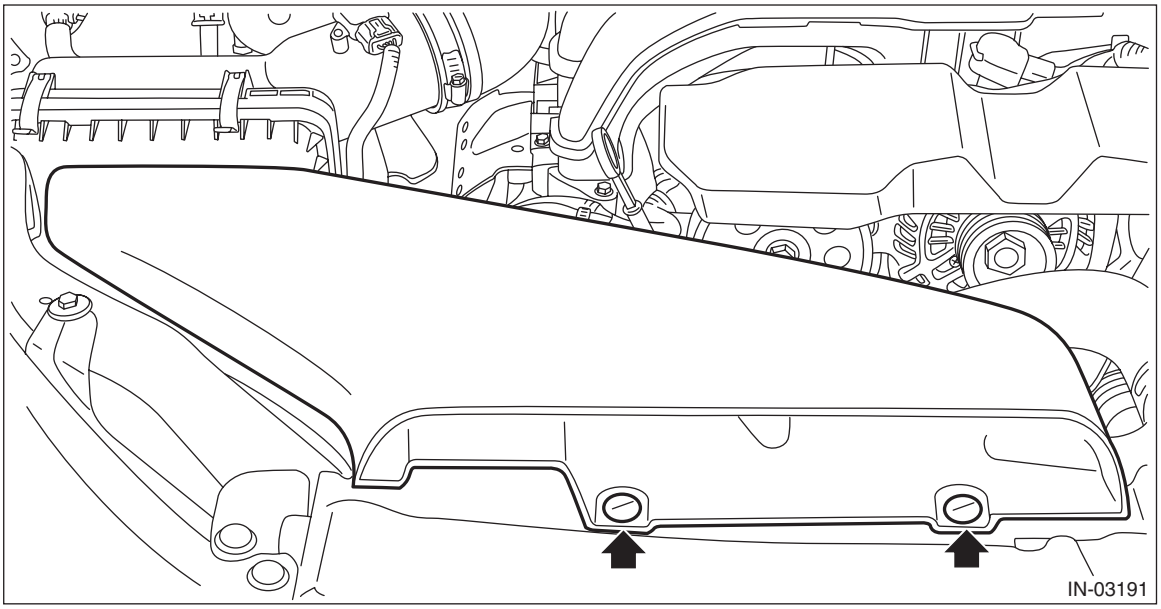
NOTE:
Pushing up the lower side (a) of the fog light, remove from (b) to (e).
Detach the opposite side in the same manner.

3) Remove the headlight assembly.
(1) Remove the fender cover assembly UPR.
a) Remove the clip.
b) Release the claws of the fender cover assembly UPR by pulling it forward and remove the fender cover.

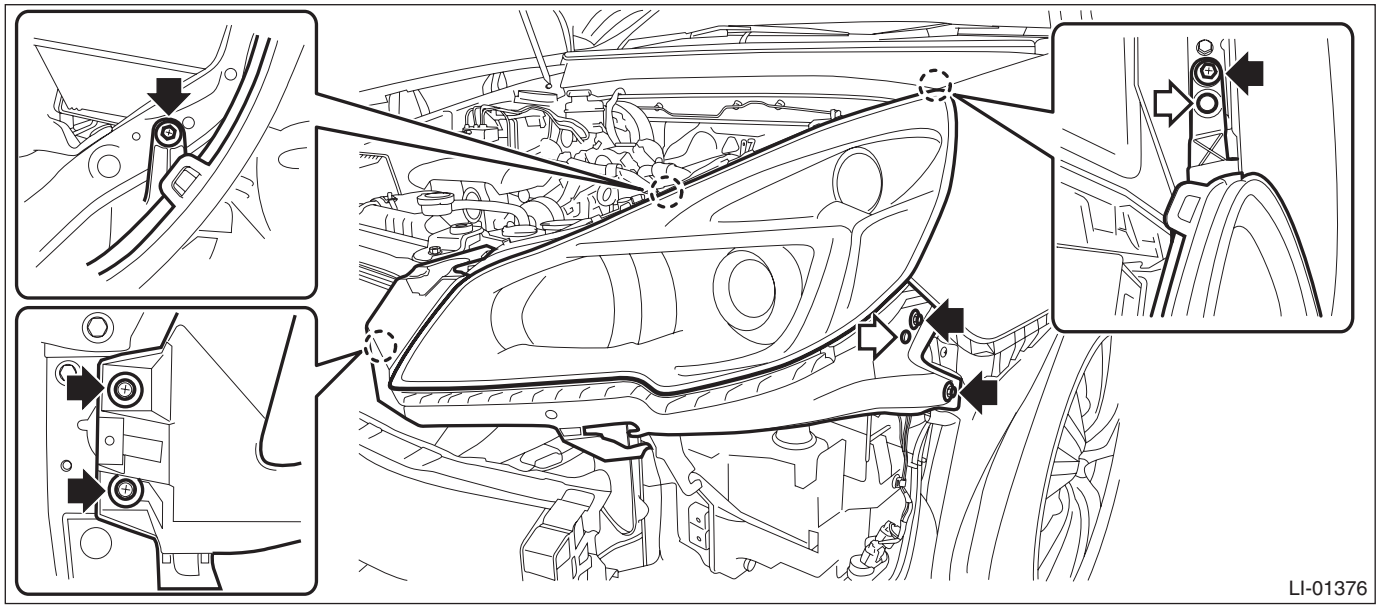


(2) Remove the headlight assembly.

NOTE:
When removing the RH headlight, remove the air intake duct.

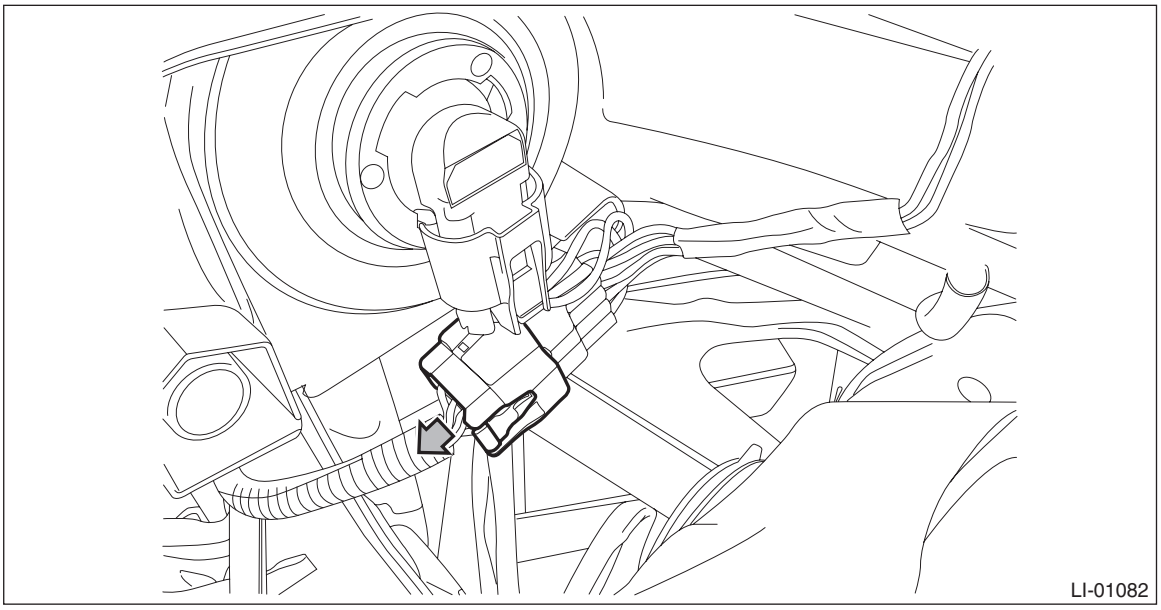


a) Remove the bolts and clips, and pull out the headlight assembly to the front of the vehicle.

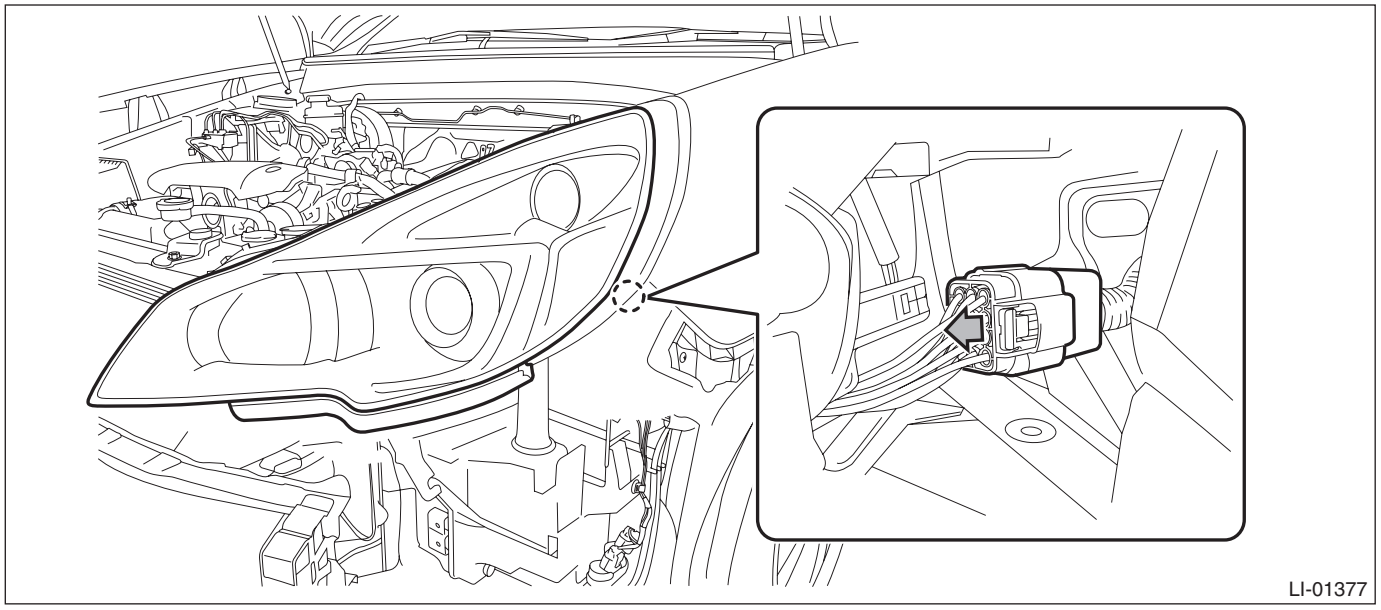


b) Disconnect the connector and remove the headlight assembly.

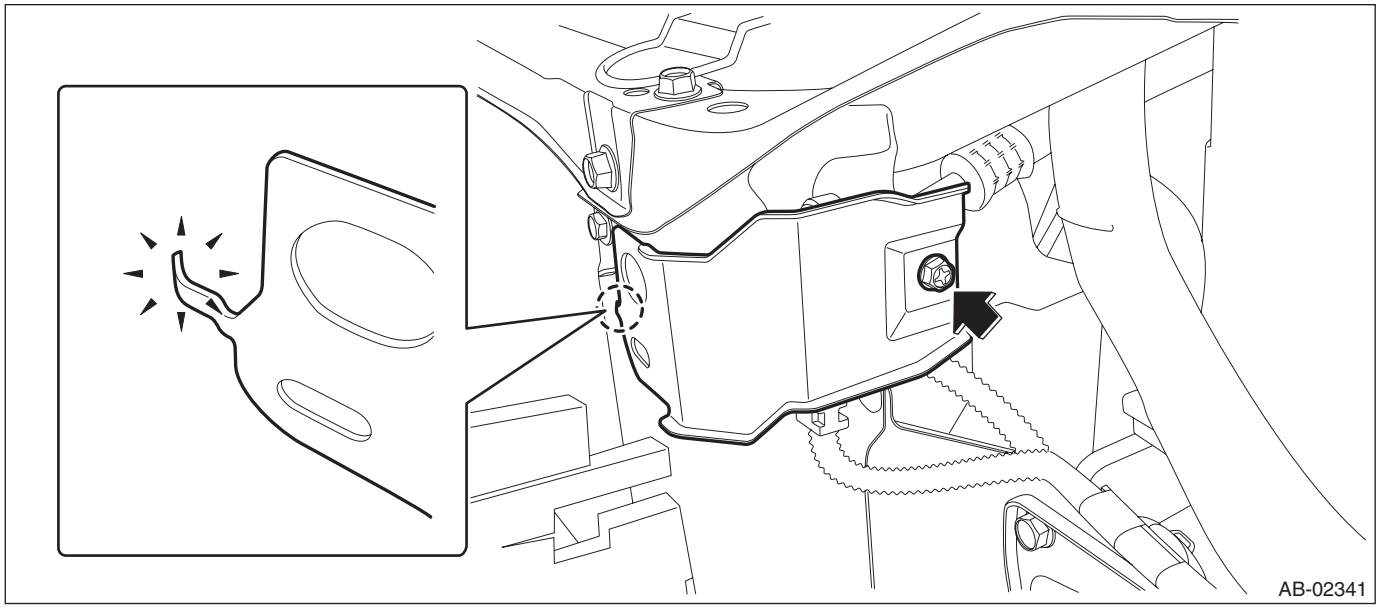
- RH headlight connector



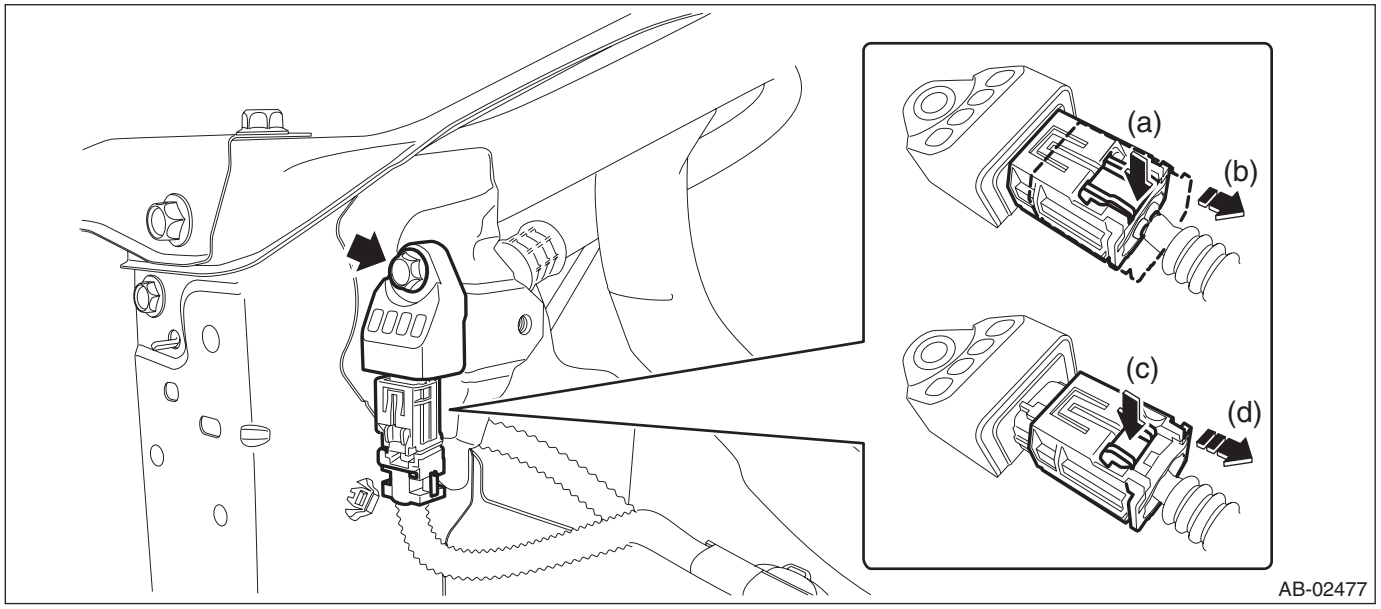
- LH headlight connector



4) Remove the front sub sensor assembly.
(1) Remove the bolt, and remove the sensor cover plate.



(2) Remove the front sub sensor by removing the bolt and disconnect the connector.
a) Push the lock arm.
b) Holding outer part, pull it one step in the direction of arrow.
c) Push the lock arm again.
d) Holding outer part, pull it in the direction of arrow to disconnect the connector.



B: INSTALLATION

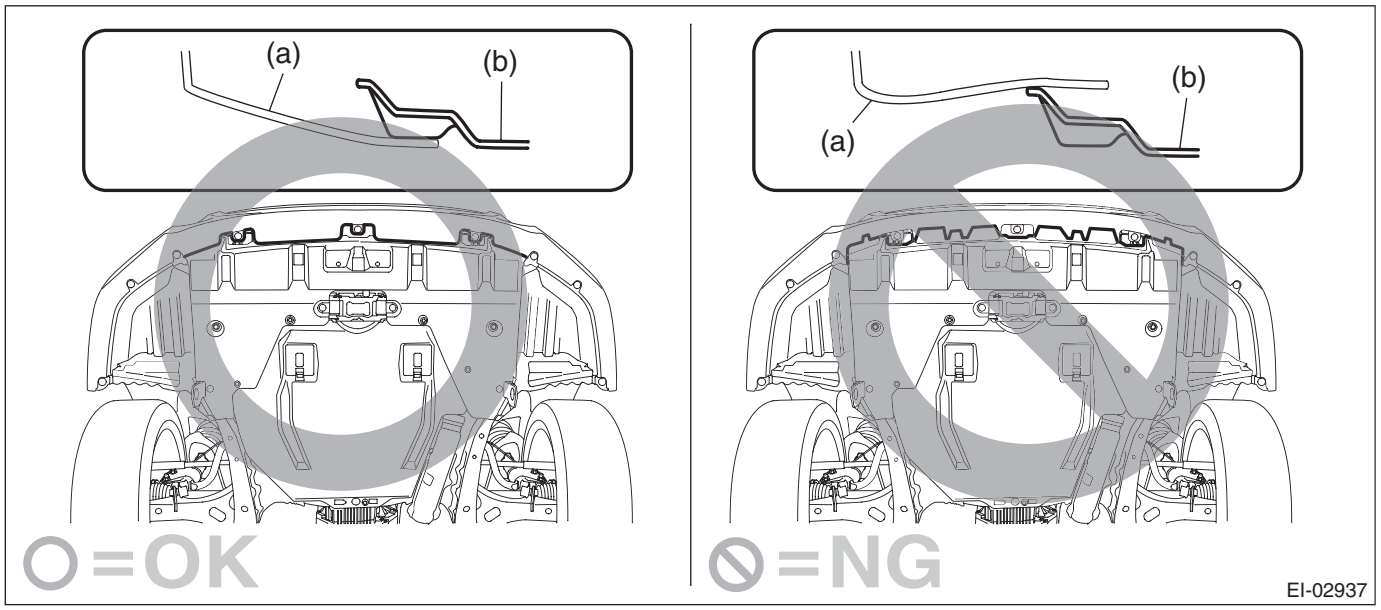
CAUTION:
- **If the airbag has been activated, replace the front sub sensor assembly with a new part.**
- **Do not reuse the bolt and nut.**

Always replace with the specified new bolts and nuts.
- **When installing the sensor, insert the set pin on the backside of the sensor into the hole on the body side securely.**
- **After the installation of headlight assembly, be sure to perform headlight beam adjustment.**

1) Before installation, inspect the following items and replace any faulty part with a new part.
- Front sub sensor damage
- Connector damage
- Sensor cover plate deformation or damage

2) Install each part in the reverse order of removal.

CAUTION:
- **Install the bumper face so that the under cover front end (b) comes inside the front bumper face (a).**



- **Before installing the bumper face, match the claws on the bracket - front bumper with the engaging position of flange section on the bumper face side. If the engaging position is not correct, the flange section may be broken or the clearance between fender panel and bumper face may not be uniform.**

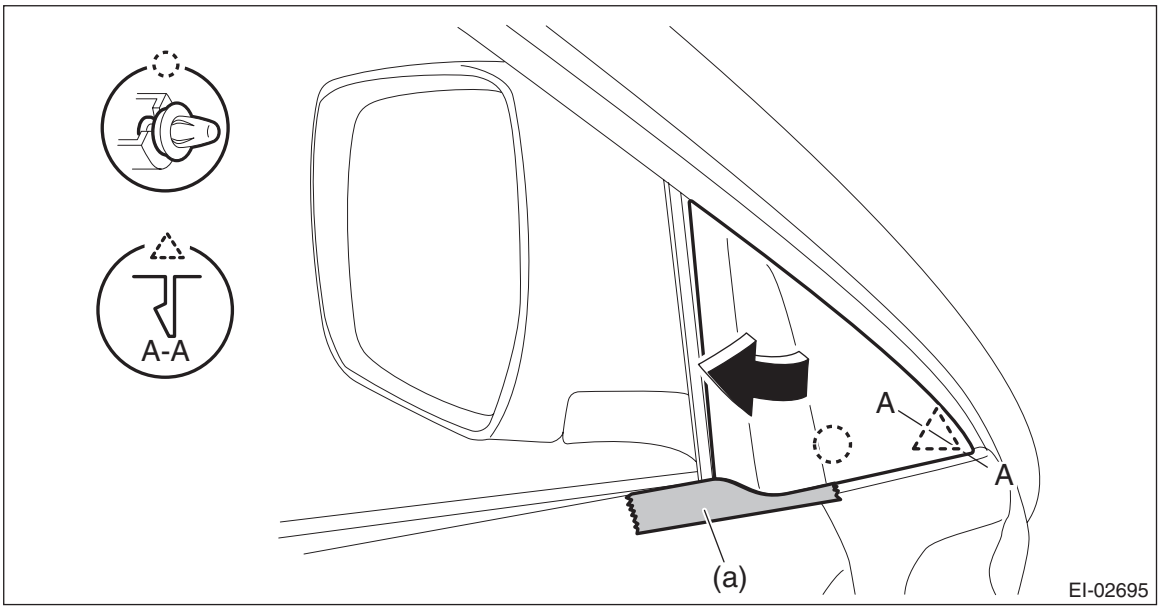
Tightening torque:
Front sub sensor: 13 N·m (1.33 kgf-m, 9.6 ft-lb)
Headlight assembly: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

3) Adjust the fog light beam. (Model with fog light) <Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

10.Front Door Impact Sensor

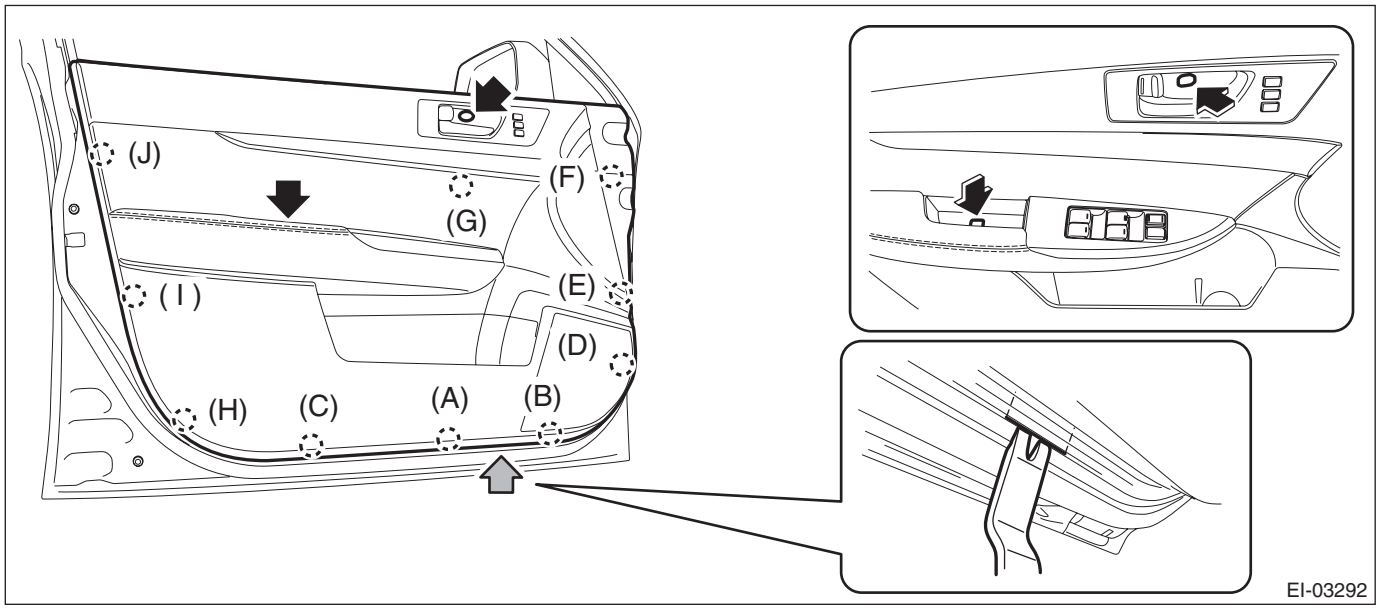
A: REMOVAL

1) Operate the power window switch to close the front door glass.
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the gusset cover.
   (1) Attach the protective tape (a) to the door trim.
   (2) Release the clips and claws, then detach the gusset cover.



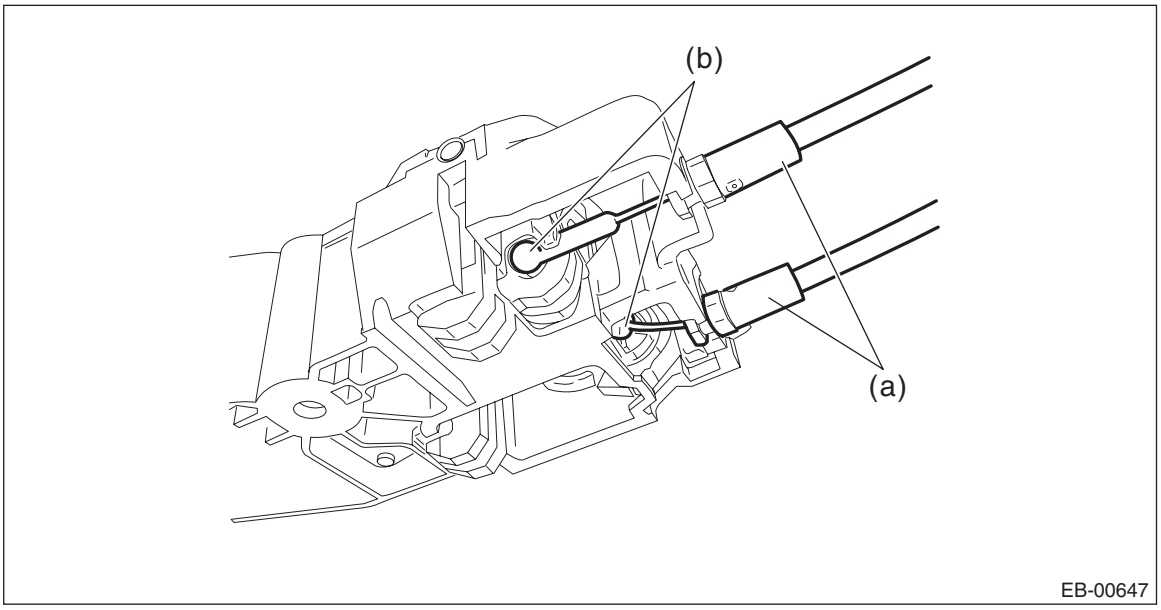
5) Remove the door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (J) and remove the door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.

(3) Remove the cables (a) and (b) from the cable holder of inner remote.



(4) Disconnect the harness connector and remove the door trim assembly.

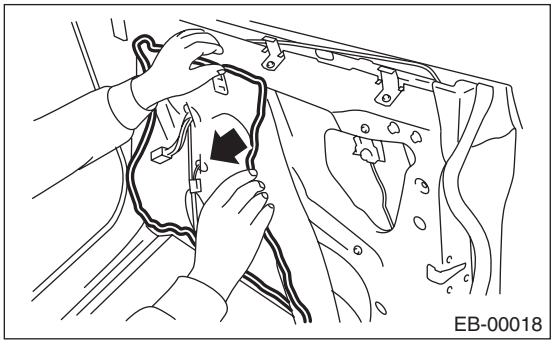
6) Remove the sealing cover.

CAUTION:

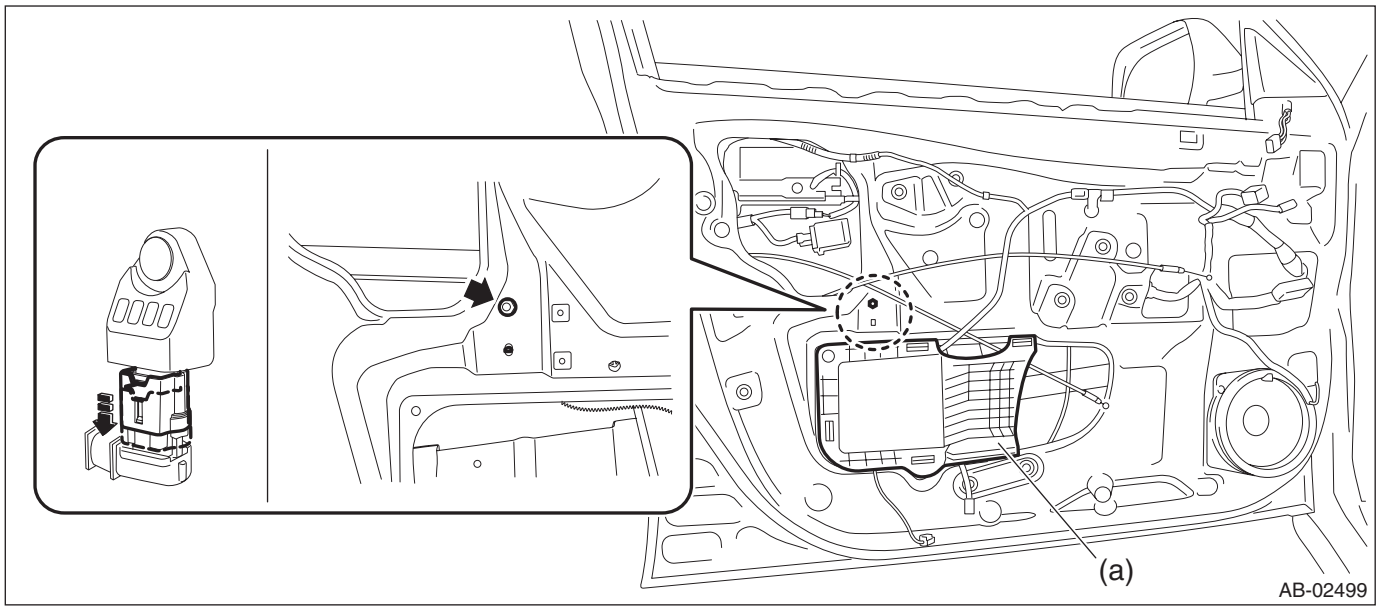
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**

(1) Remove the screw to remove the door trim bracket.

(2) Carefully remove the butyl tape to remove the sealing cover.



7) Remove the front door impact sensor.
(1) Remove the front door inner pad (a).
(2) Remove the nut, and then remove the center assembly.
(3) Pull outer part of slide lock in the direction of arrow to disconnect the connector, and remove the front door impact sensor.



B: INSTALLATION

CAUTION:
Do not reuse the bolt and nut.
Always replace with the specified new bolts and nuts.

1) Before installation, inspect the following items and replace any faulty part with a new part.
- The front door impact sensor or connector is damaged.
- Front door inner panel area is deformed.
- Side airbag has been activated.

Tightening torque:
Front door impact sensor: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

2) Install each part in the reverse order of removal.

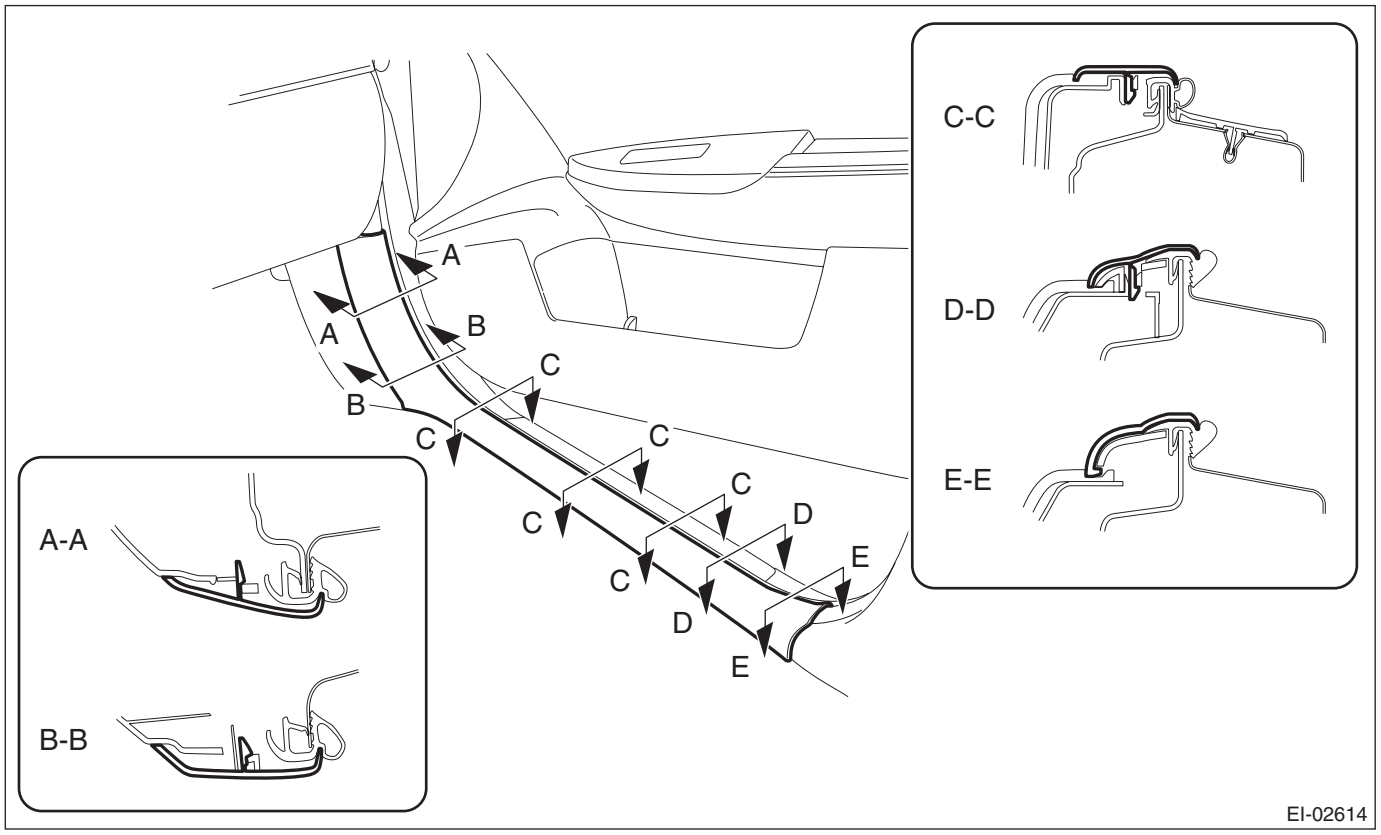
11.Side Airbag Sensor

A: REMOVAL

1) Move the seat all the way forward, from which the airbag sensor is to be removed.

NOTE:
This is to remove the seat belt retractor assembly.
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Release the claws, and then remove the side sill cover - front INN. (On the side where airbag sensor is removed)

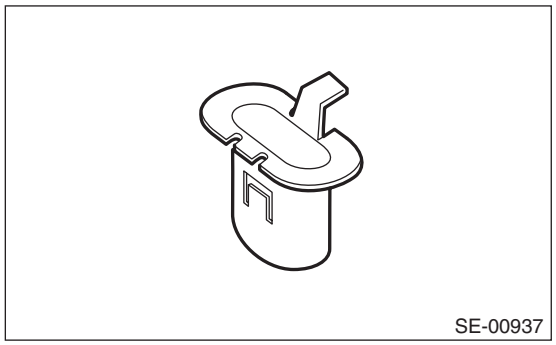
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

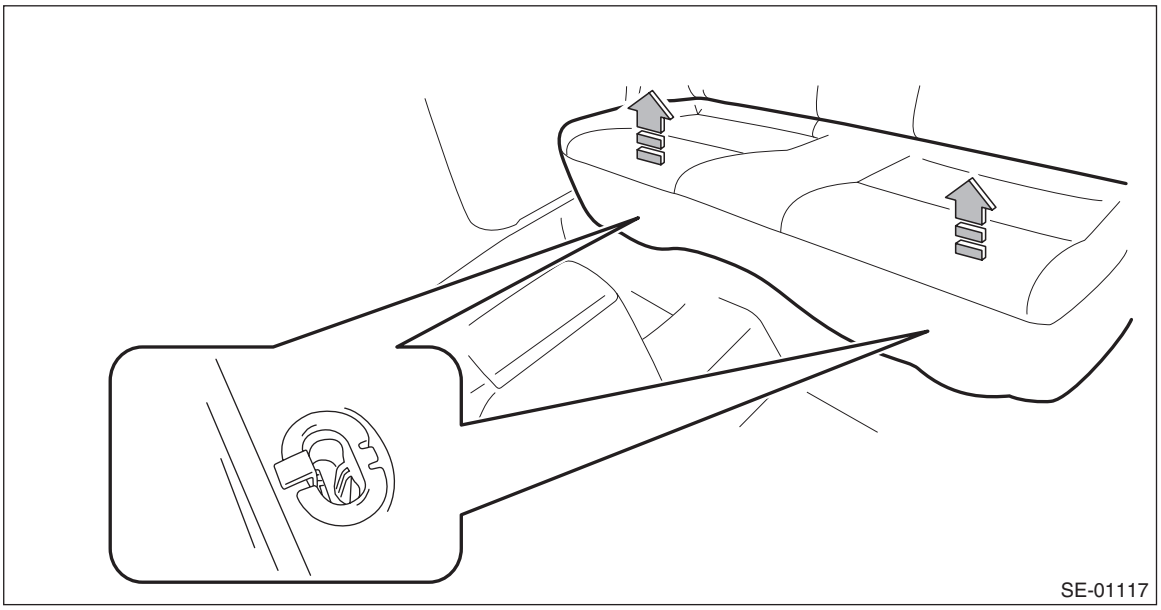


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

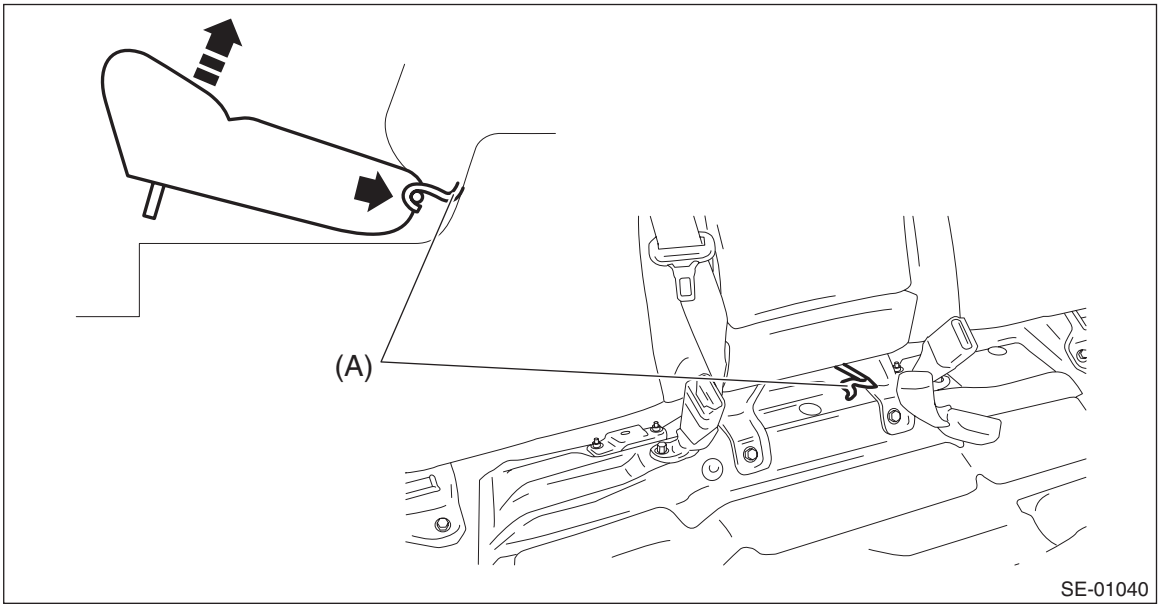
5) Remove the rear seat cushion assembly.
(1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


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SE-01117

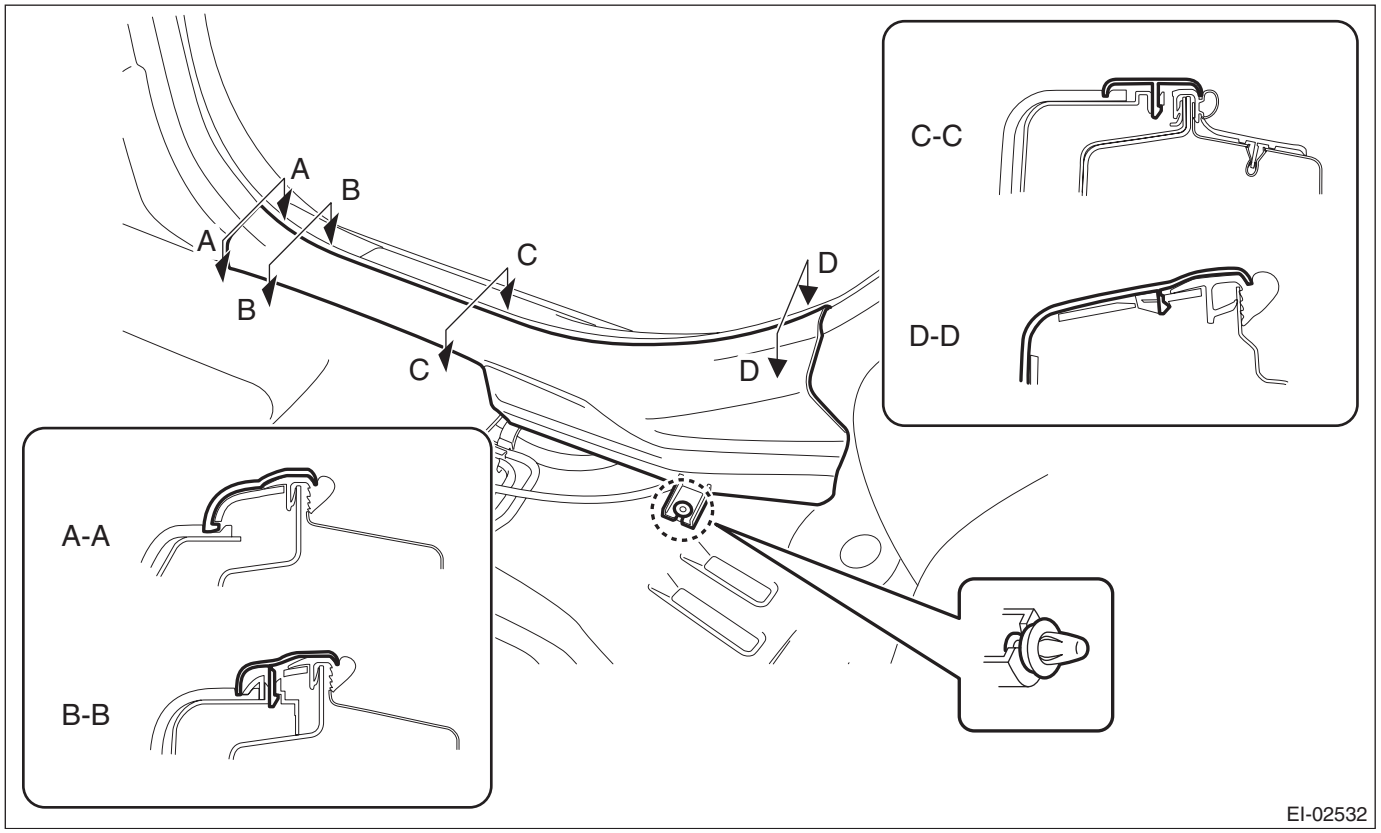
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion assembly.



SE-01040

6) Release the clips and claws, and then remove the side sill cover - rear INN. (On the side where airbag sensor is removed)

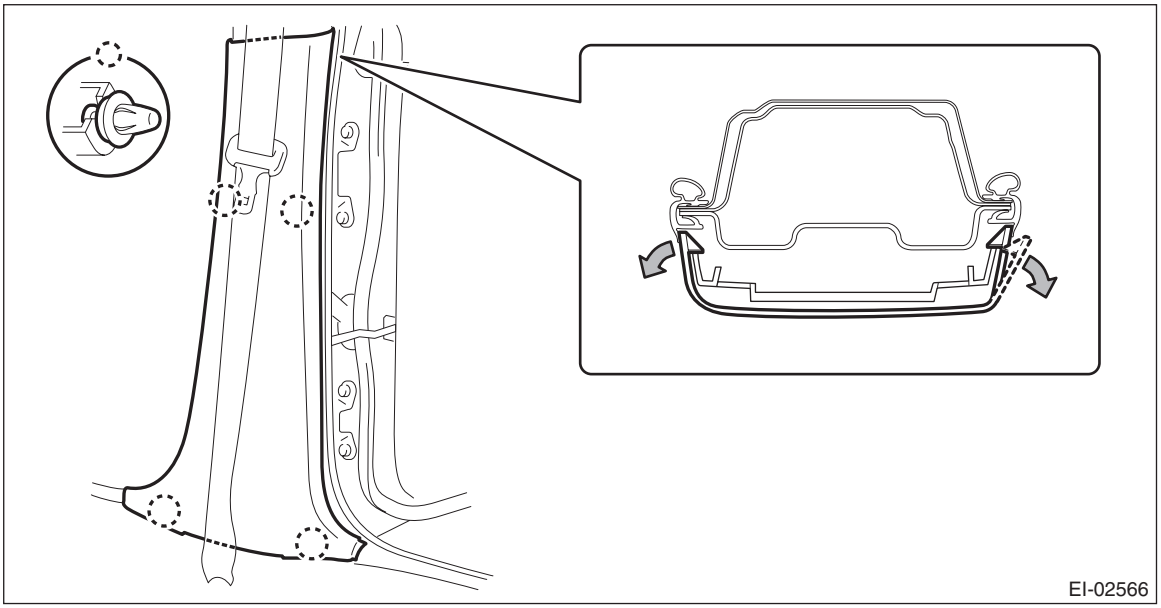
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

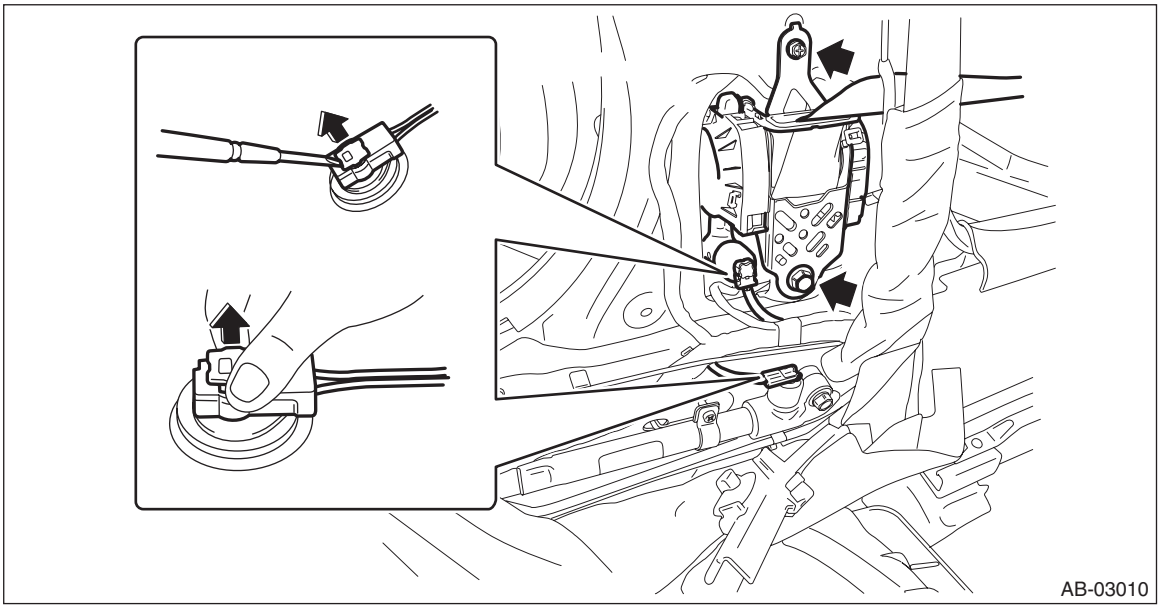
7) Remove the center pillar trim LWR. (On the side where airbag sensor is removed)
   (1) Release the clip by pulling the center pillar trim LWR toward you.
   (2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.



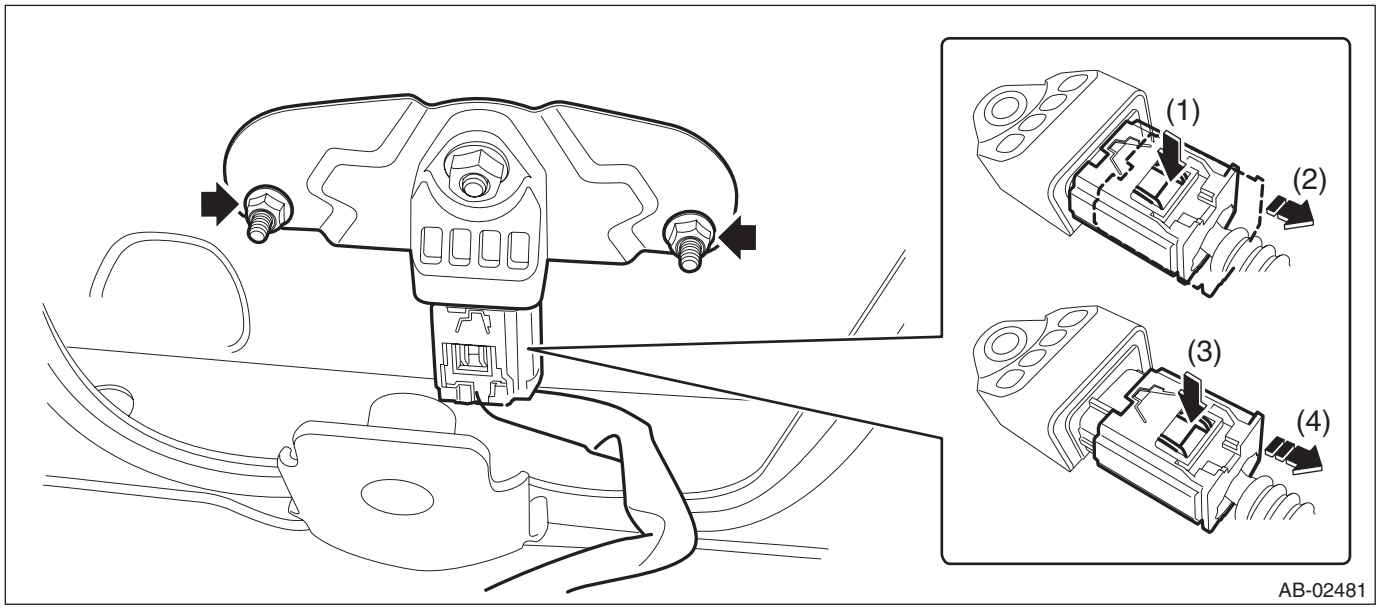
NOTE:
First release the claw located to the rear of the vehicle.

8) Remove the seat belt retractor. (On the side where airbag sensor is removed)
   (1) Turn over the floor mat and disconnect the connectors of pretensioner and lap seat belt pretensioner.
   (2) Remove the bolt to remove the seat belt retractor.



9) Remove the nuts and then remove the side airbag sensor assembly.

CAUTION:
- **Do not separate the side airbag sensor and bracket. It causes the airbag system malfunction.**
- **If the sensor is removed from the bracket, be sure to replace with a new part.**
  (1) Push the lock arm.
  (2) Holding outer part, pull it one step in the direction of arrow.
  (3) Push the lock arm again.
  (4) Holding outer part, pull it in the direction of arrow to disconnect the connector.



B: INSTALLATION

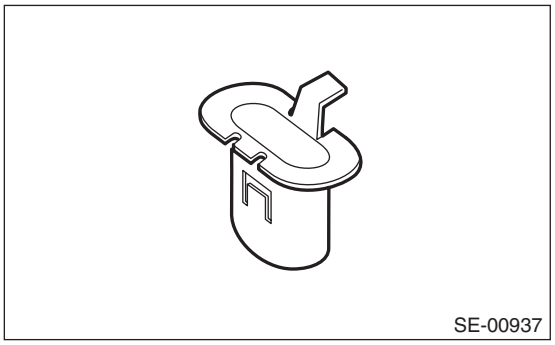
CAUTION:
Do not reuse the bolt and nut.
Always replace with the specified new bolts and nuts.

1) Before installation, inspect the following items and replace any faulty part with a new part.
- The side airbag sensor, sensor bracket, or connector are damaged.
- Side airbag has been activated.

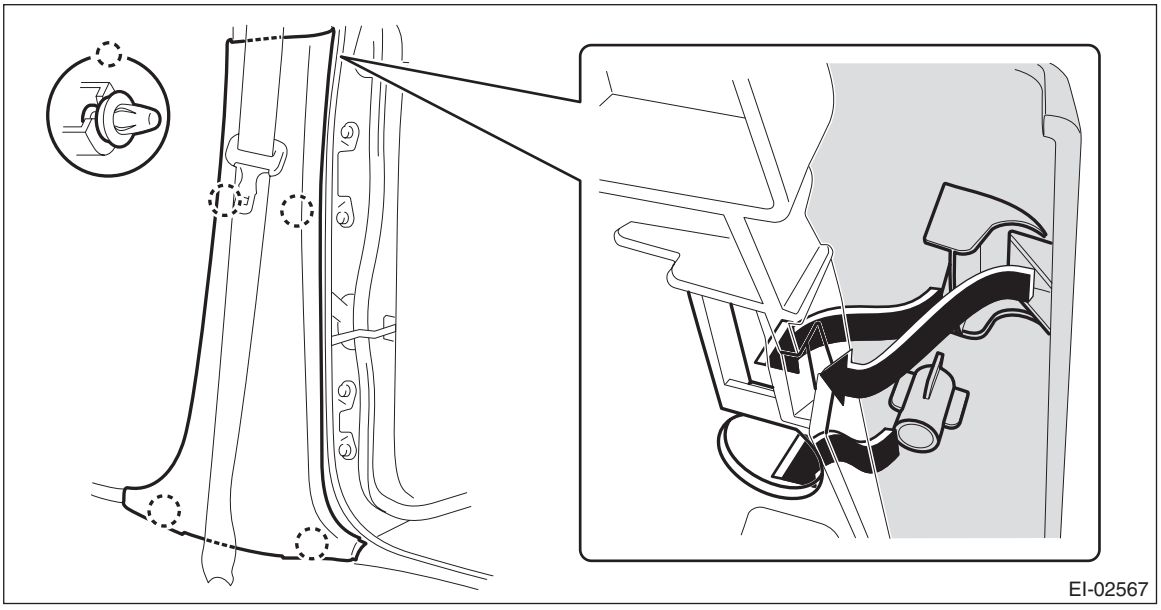
Tightening torque:
Side airbag sensor: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

2) Install each part in the reverse order of removal.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.



NOTE:
Assemble the center pillar trim LWR to the center pillar trim UPR securely.



Tightening torque:
Front seat belt: <Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

12.Curtain Airbag Sensor

A: REMOVAL

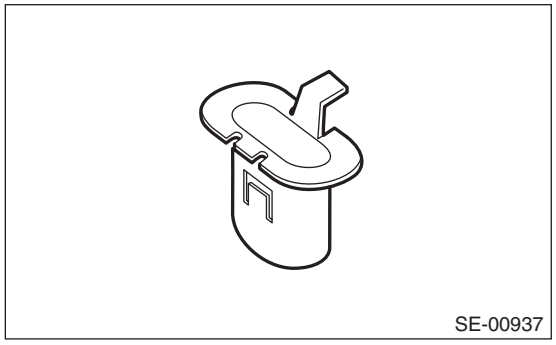
1. SEDAN MODEL

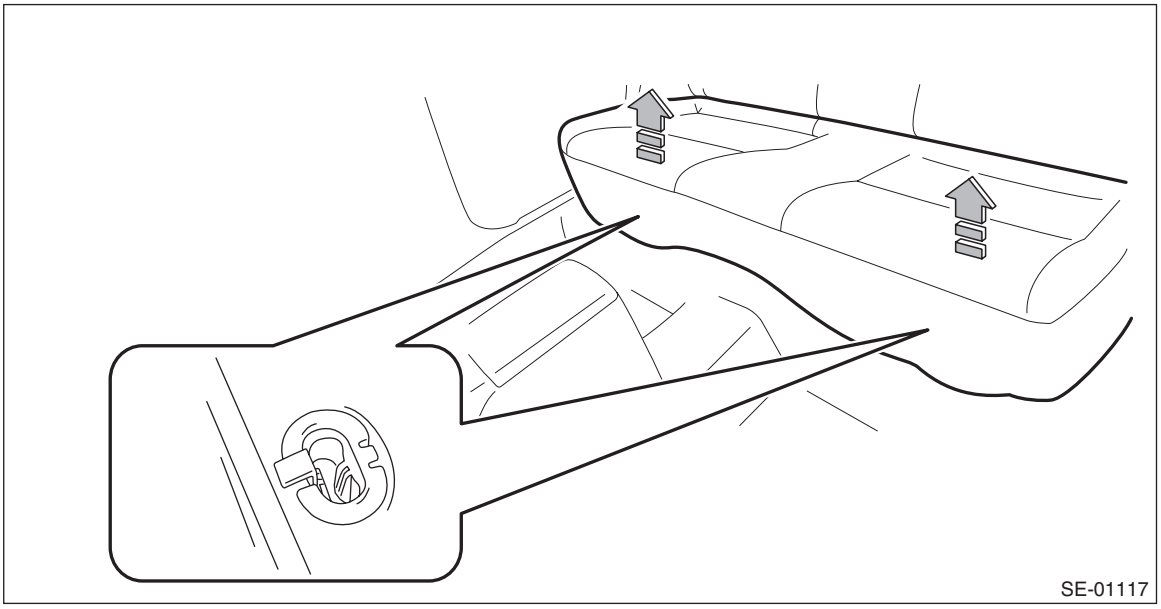
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

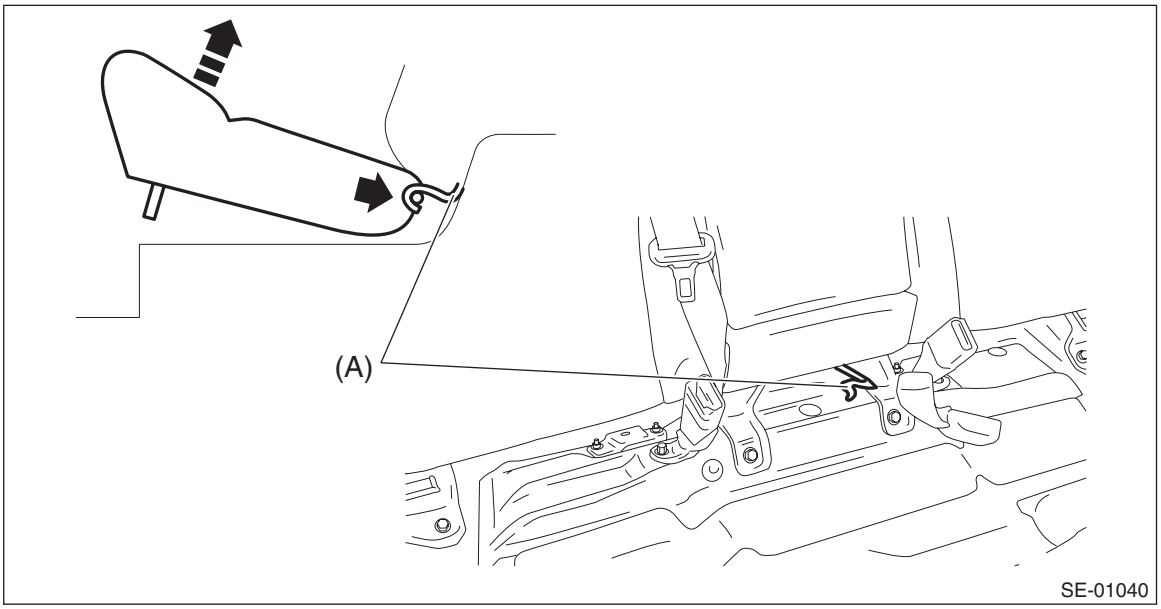
2) Remove the rear seat cushion assembly.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937

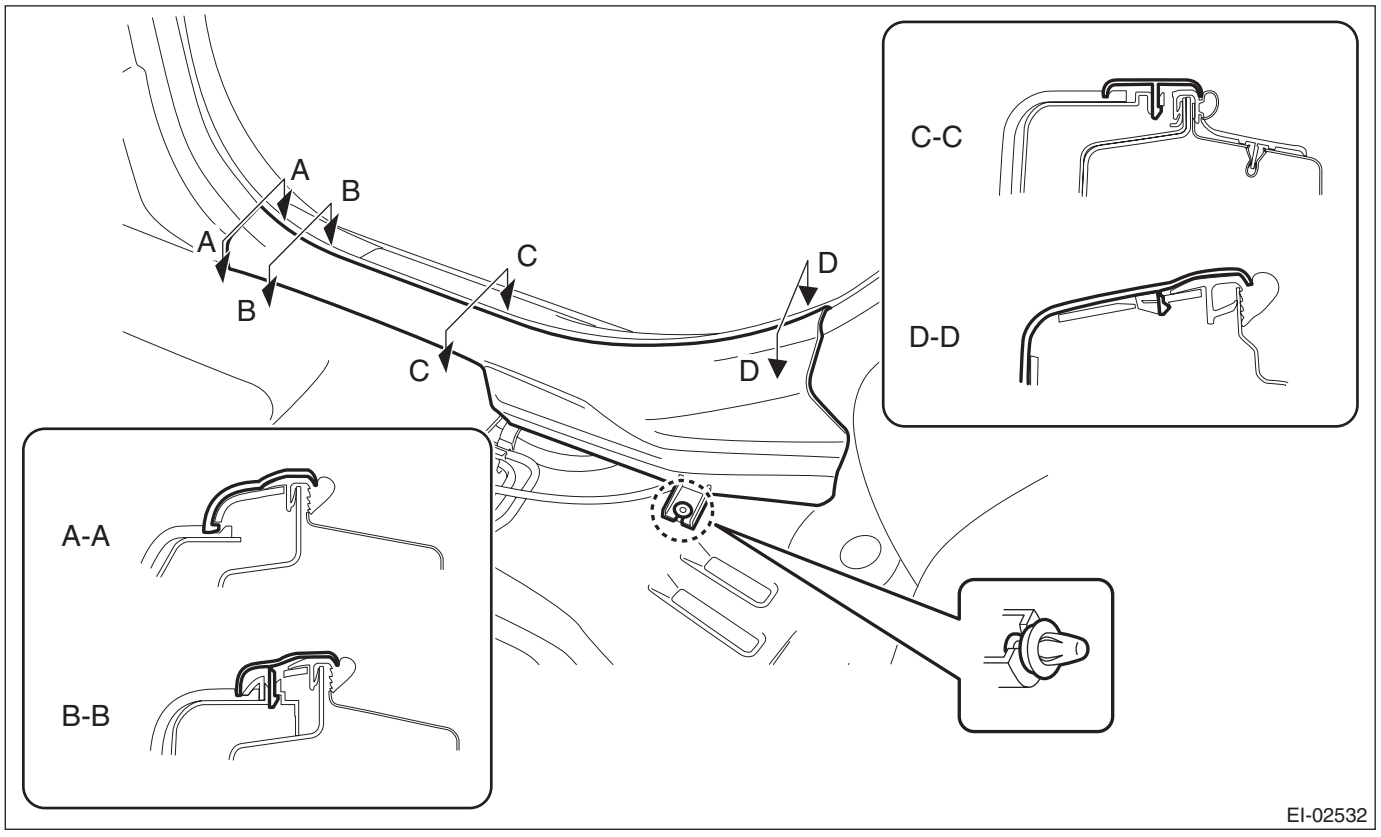

SE-01117

(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion assembly.



3) Release the clips and claws, and then remove the side sill cover - rear INN. (On the side where airbag sensor is removed)

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

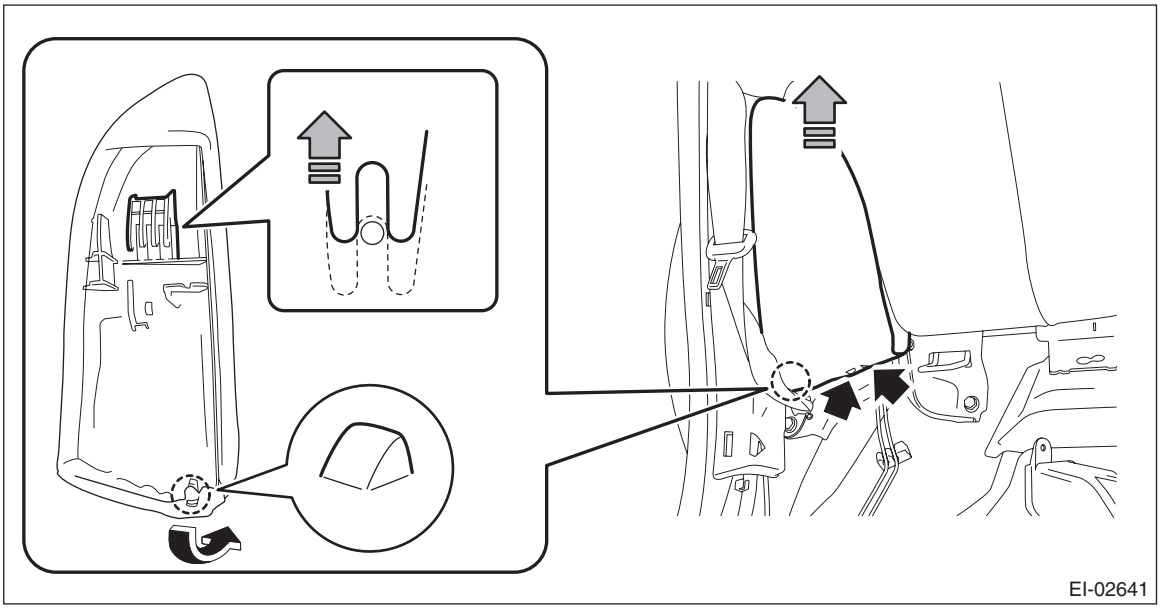


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

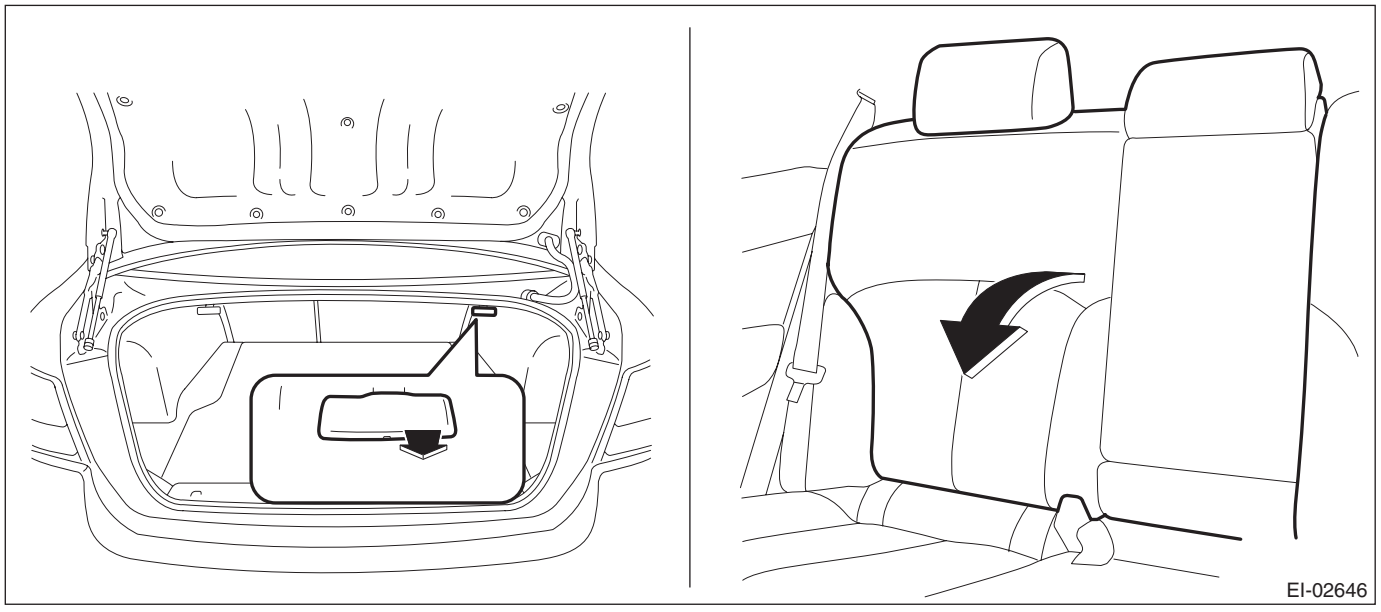
4) Remove the rear quarter trim LWR. (On the side where airbag sensor is removed)
(1) Remove the backrest side pad.
a) Remove the screws.

Preparation tool:
Stubby screwdriver

b) Turn over the bottom end of the backrest side pad in the forward direction so that the claws are released.
c) Remove the backrest side pad by pulling it up.

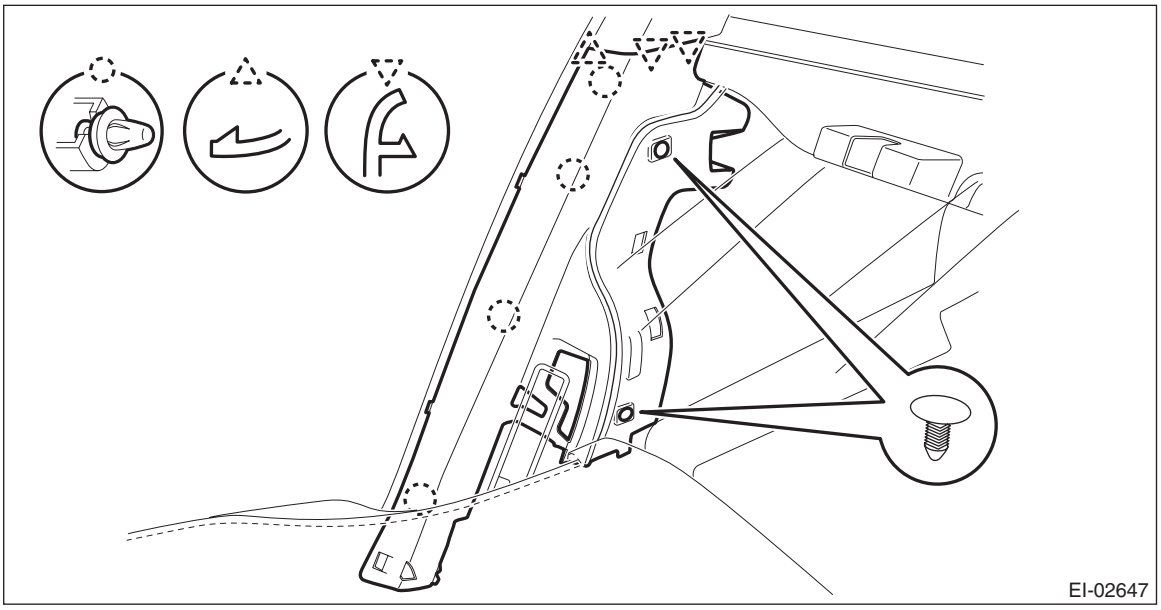


(2) Pull the release lever in the trunk room, and then tilt the backrest forward.

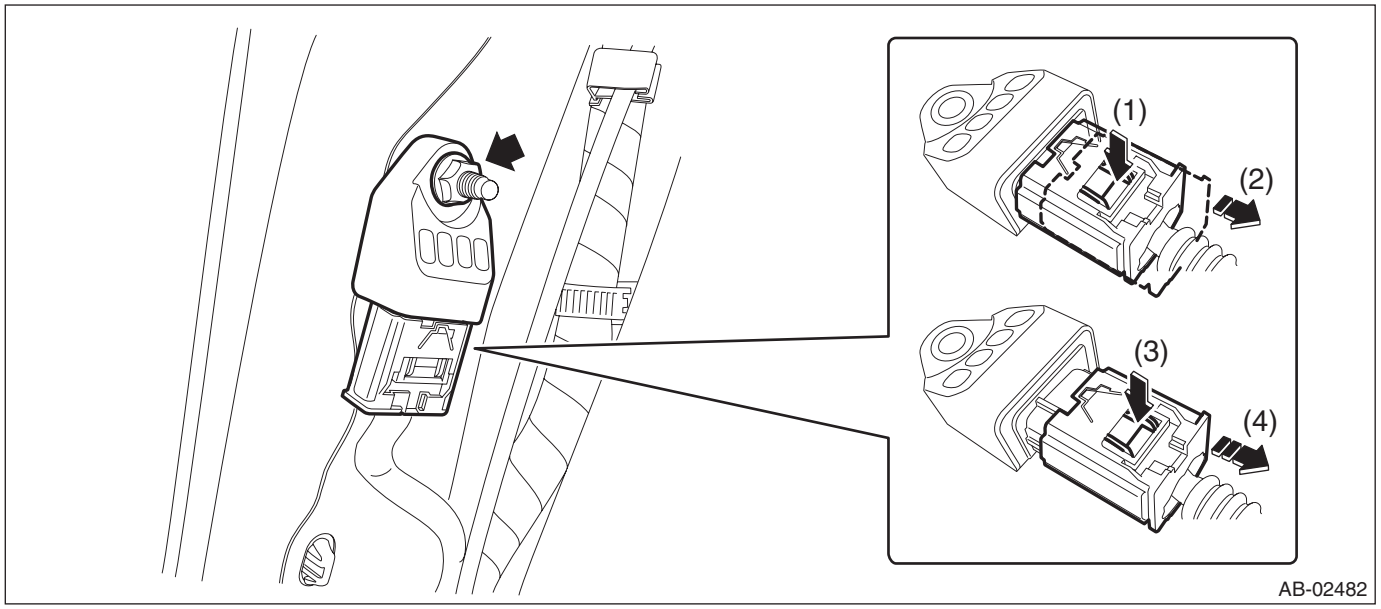


(3) Release the clips of the trunk trim panel assembly - side.

(4) Remove the clips, and remove the rear quarter trim LWR.



5) Remove the nut and then remove the curtain airbag sensor assembly.
(1) Push the lock arm.
(2) Holding outer part, pull it one step in the direction of arrow.
(3) Push the lock arm again.
(4) Holding outer part, pull it in the direction of arrow to disconnect the connector.



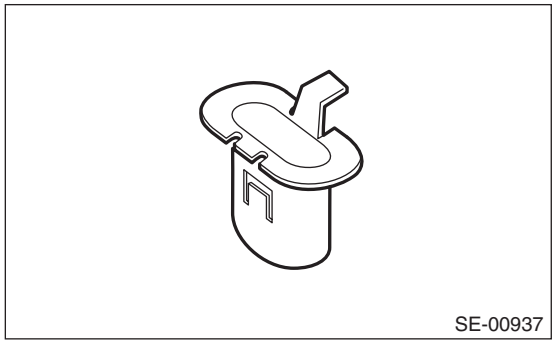
2. OUTBACK MODEL

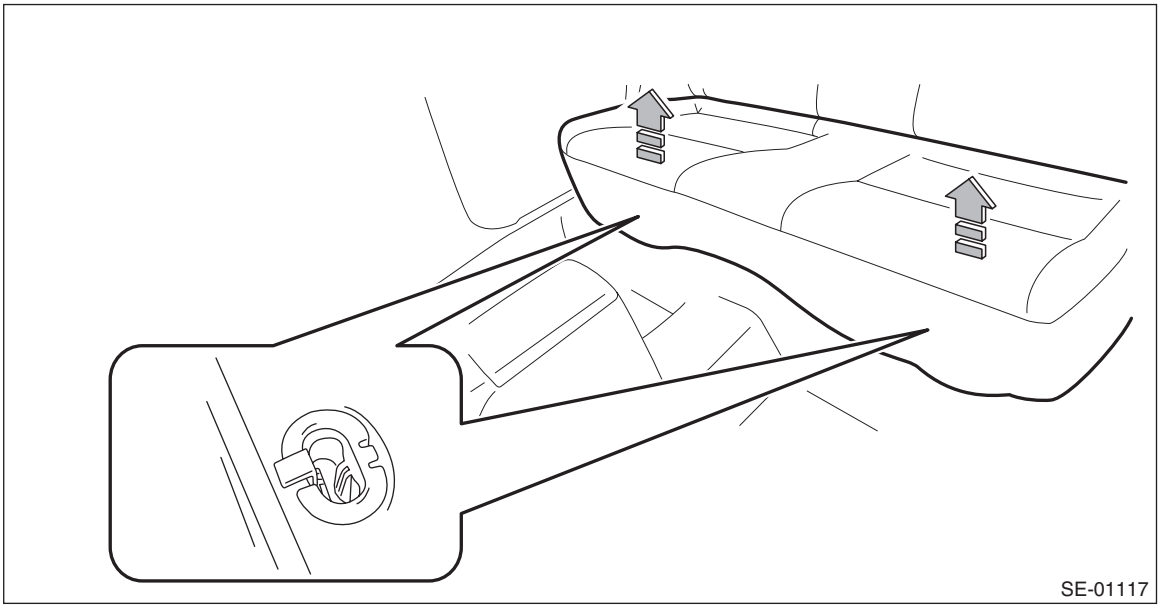
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

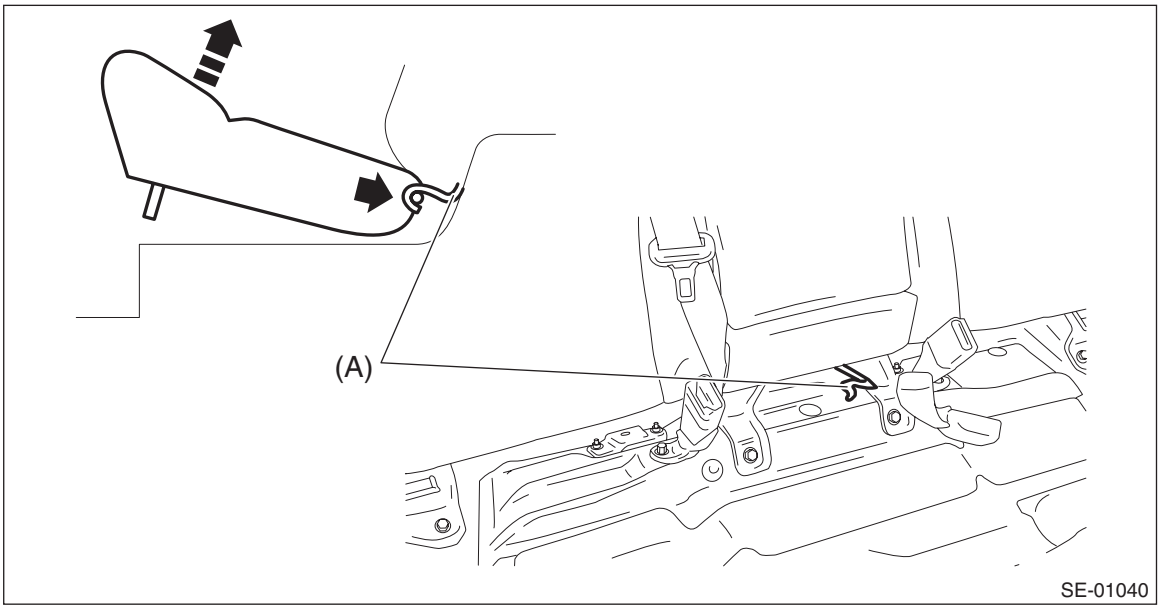
2) Remove the rear seat cushion assembly.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937

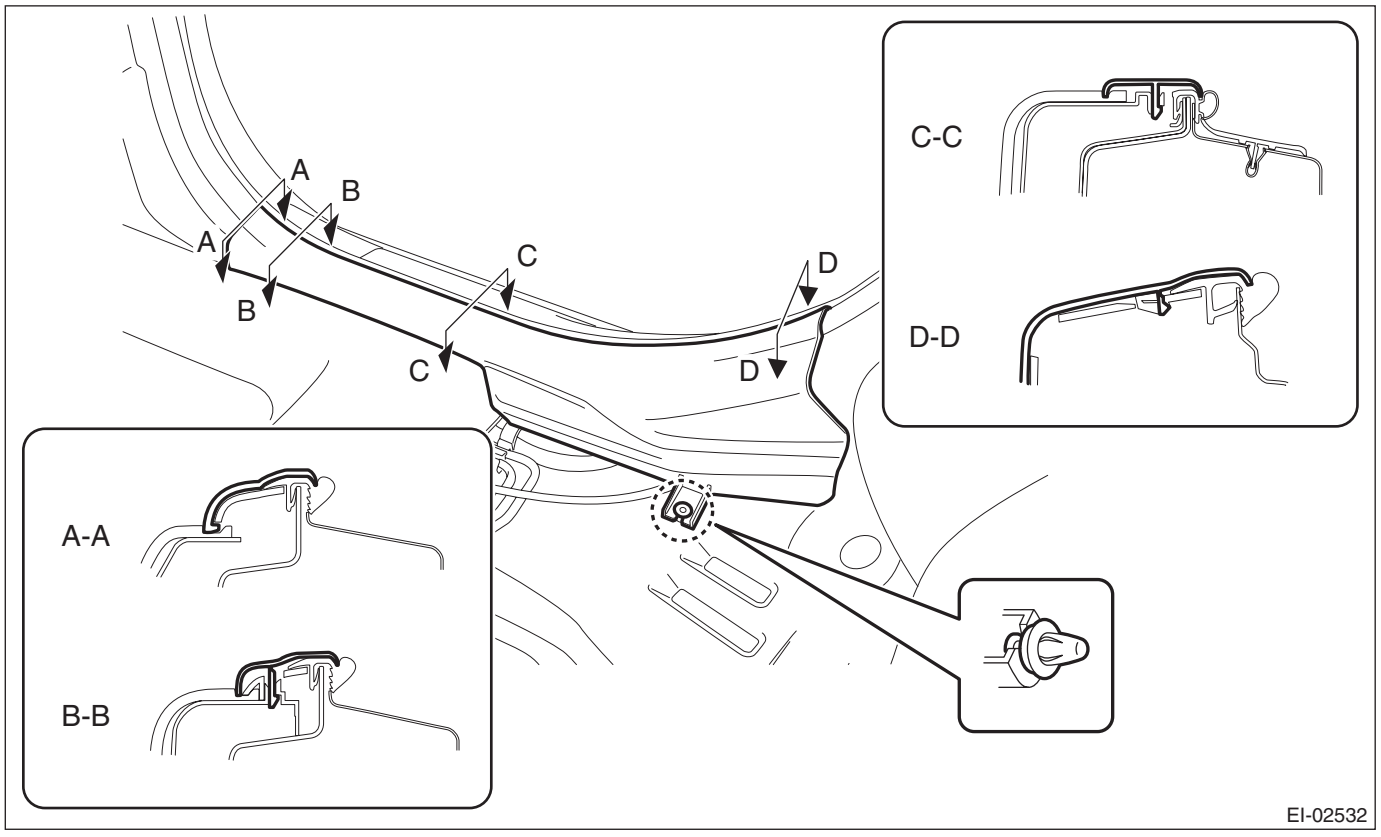

SE-01117

(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion assembly.



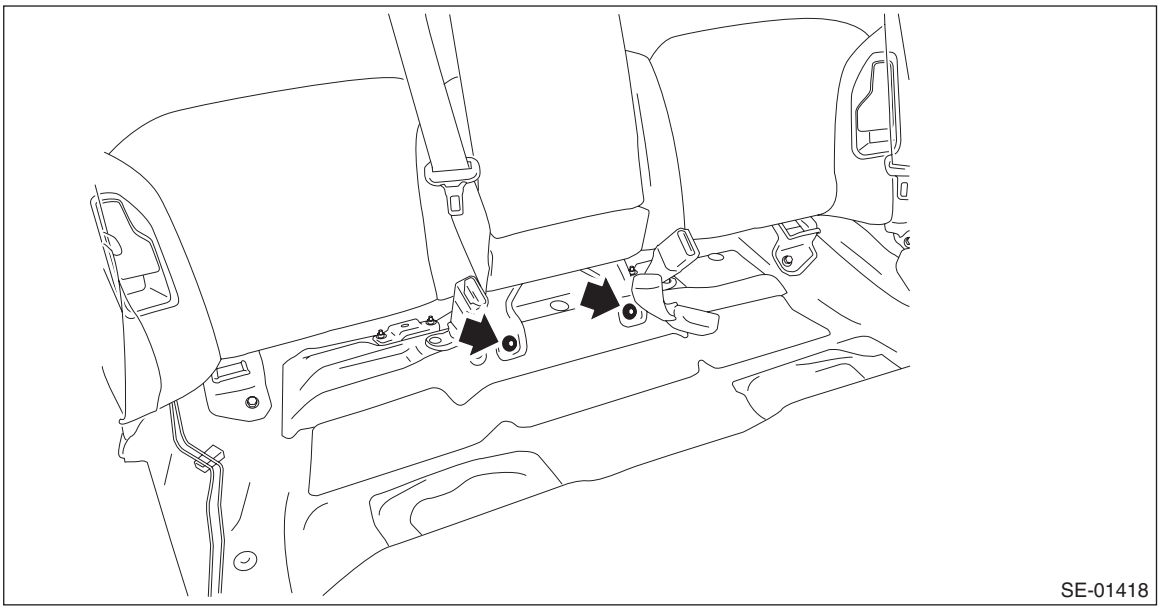
3) Release the clips and claws, and then remove the side sill cover - rear INN. (On the side where airbag sensor is removed)

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

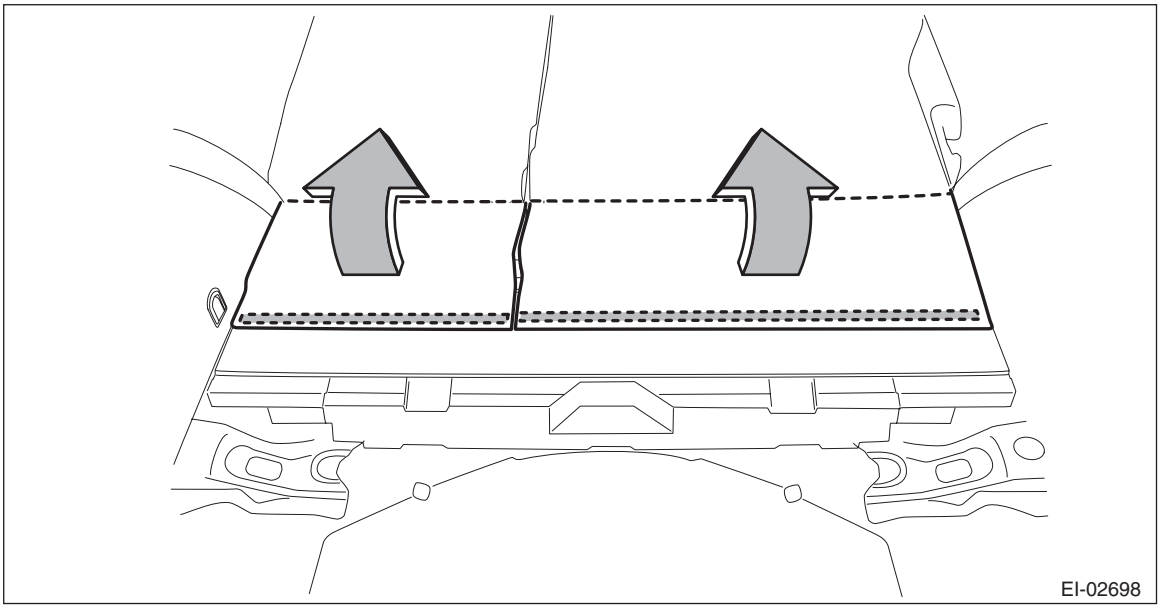


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

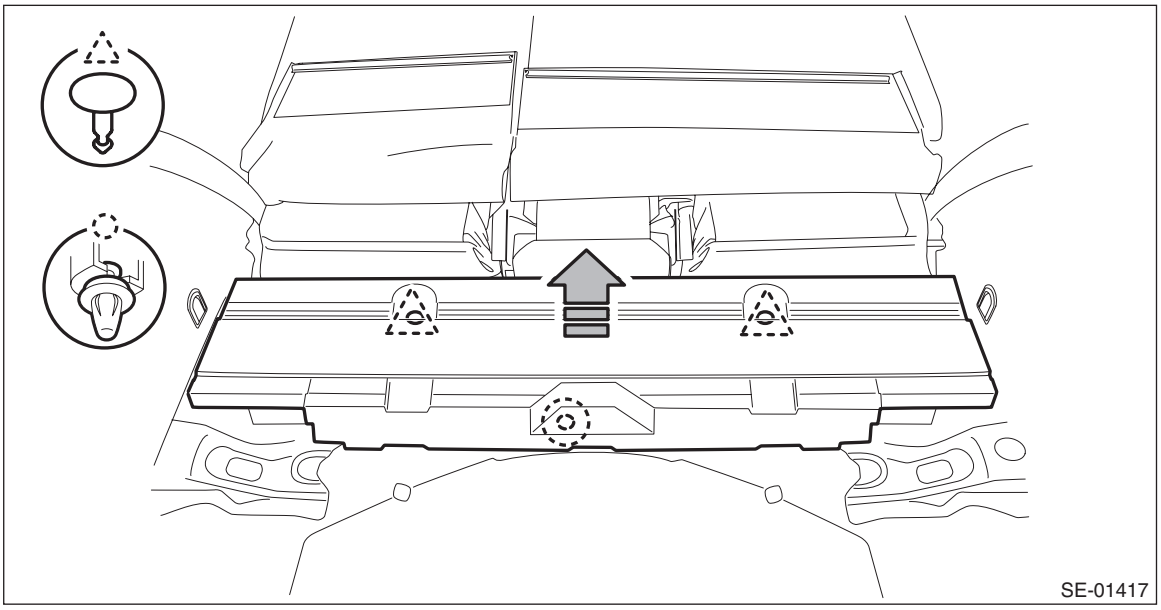
4) Remove the headrest.
5) Remove the backrest assembly RH.
(1) Remove the hinge bolts at the front of the backrest assembly RH.


SE-01418

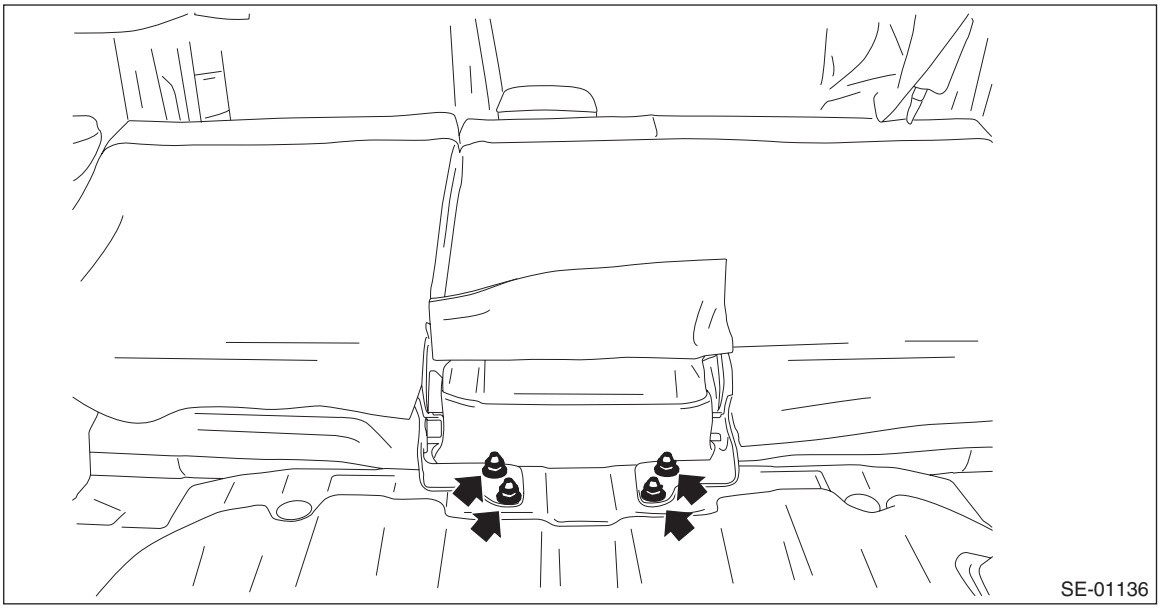
(2) Tilt the backrest forward, and then turn over the backrest backside mat.


EI-02698

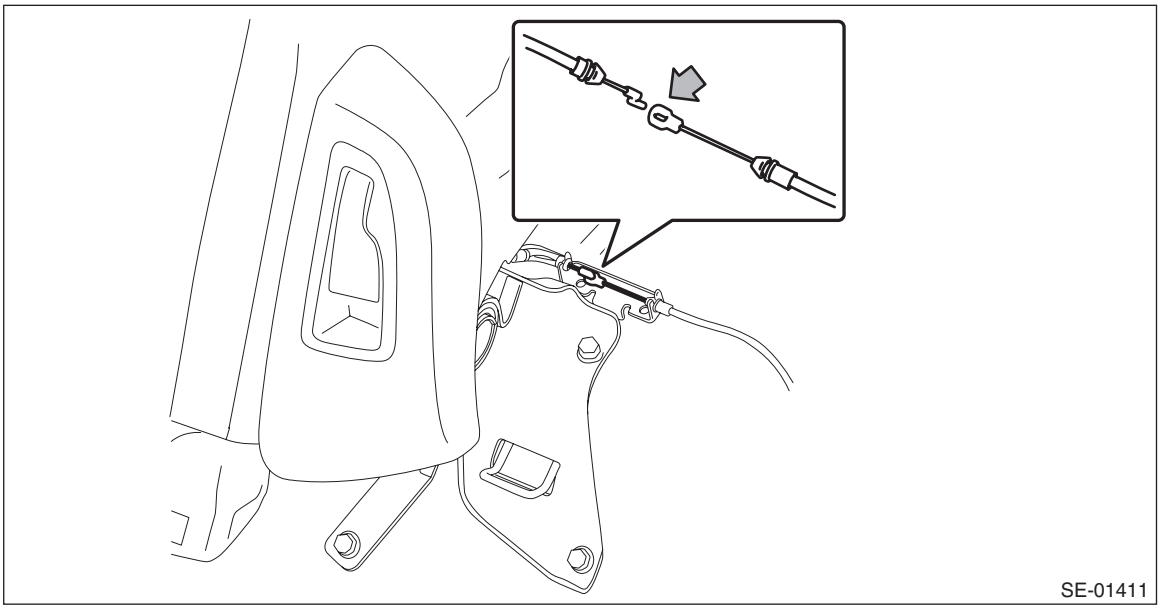
(3) Remove the clips, and remove the rear floor mat - front.



(4) Remove the nuts at the rear of backrest hinge.

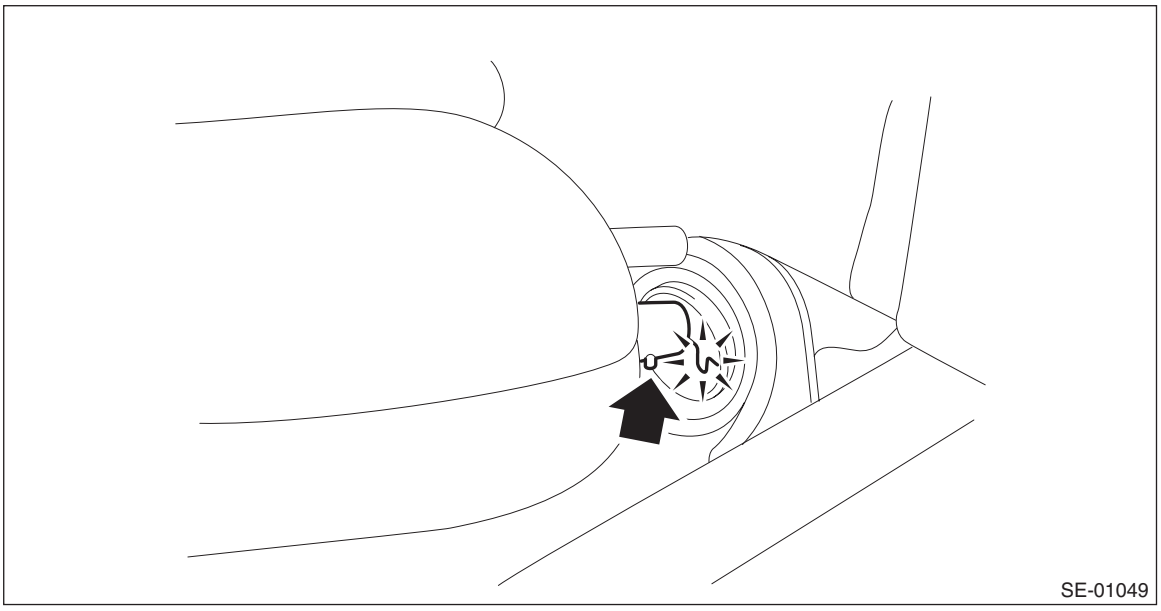


(5) Disconnect the backrest cable and reclining cable.



NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

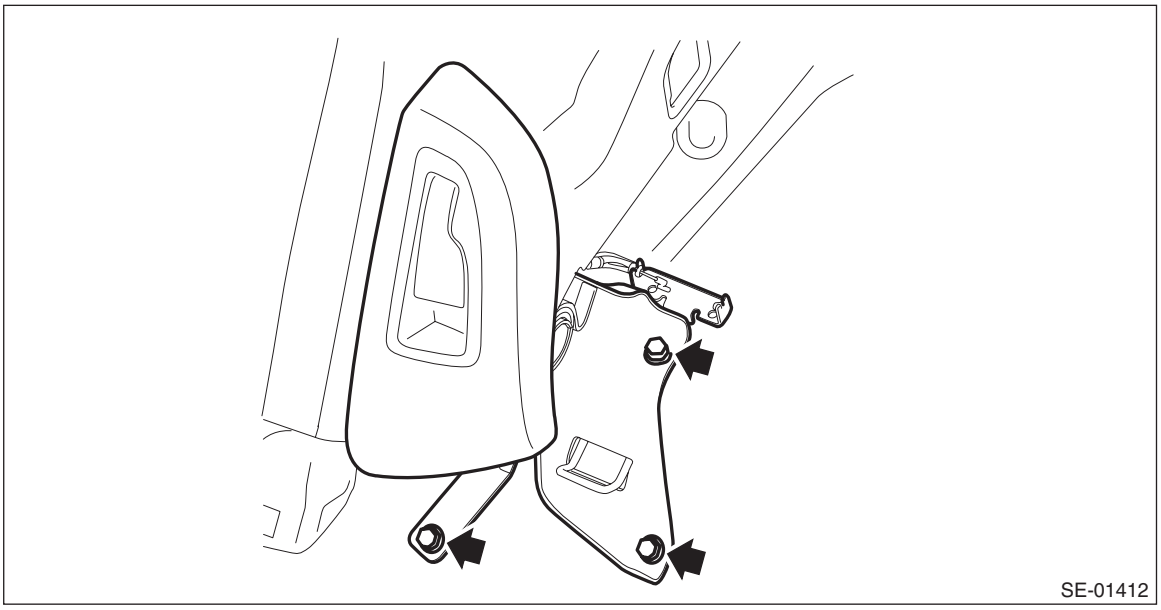
(6) Remove the backrest assembly RH from the hinge assembly RH.



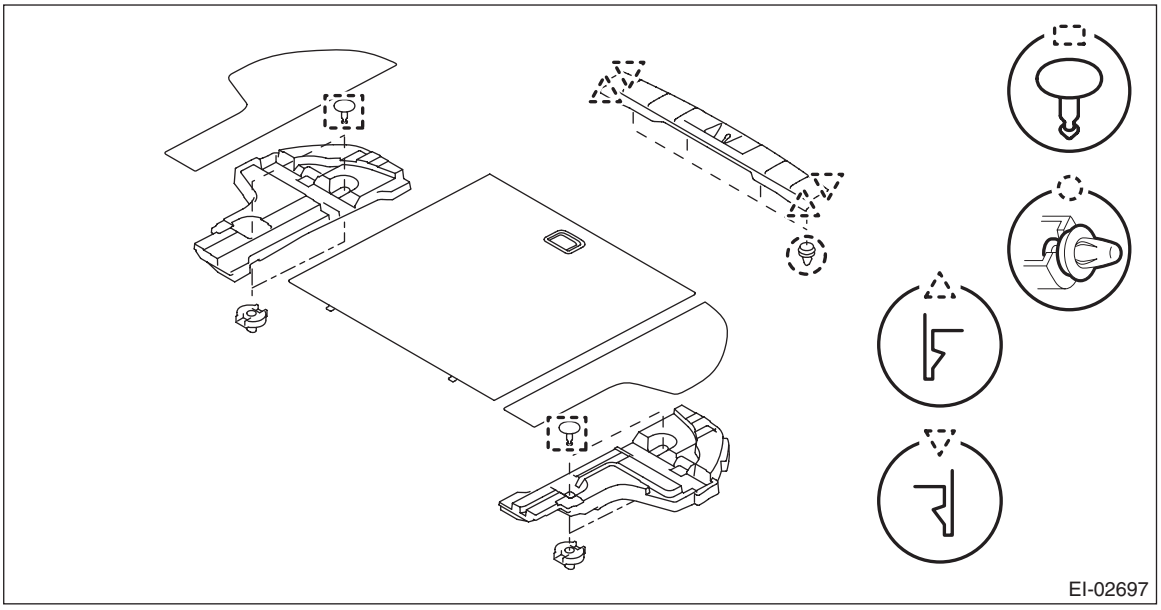
NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

(7) Take out the part outside the vehicle so that the body is not damaged by the hinges.

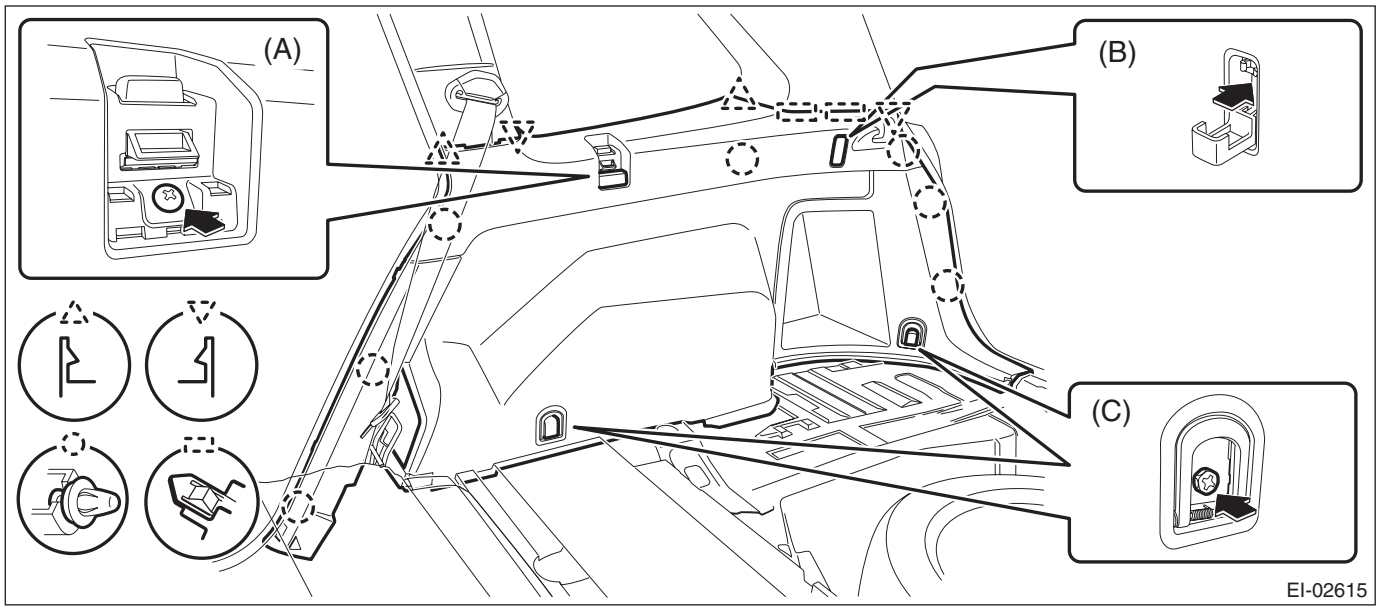
6) Remove the bolts, and remove the backrest side pad assembly RH.



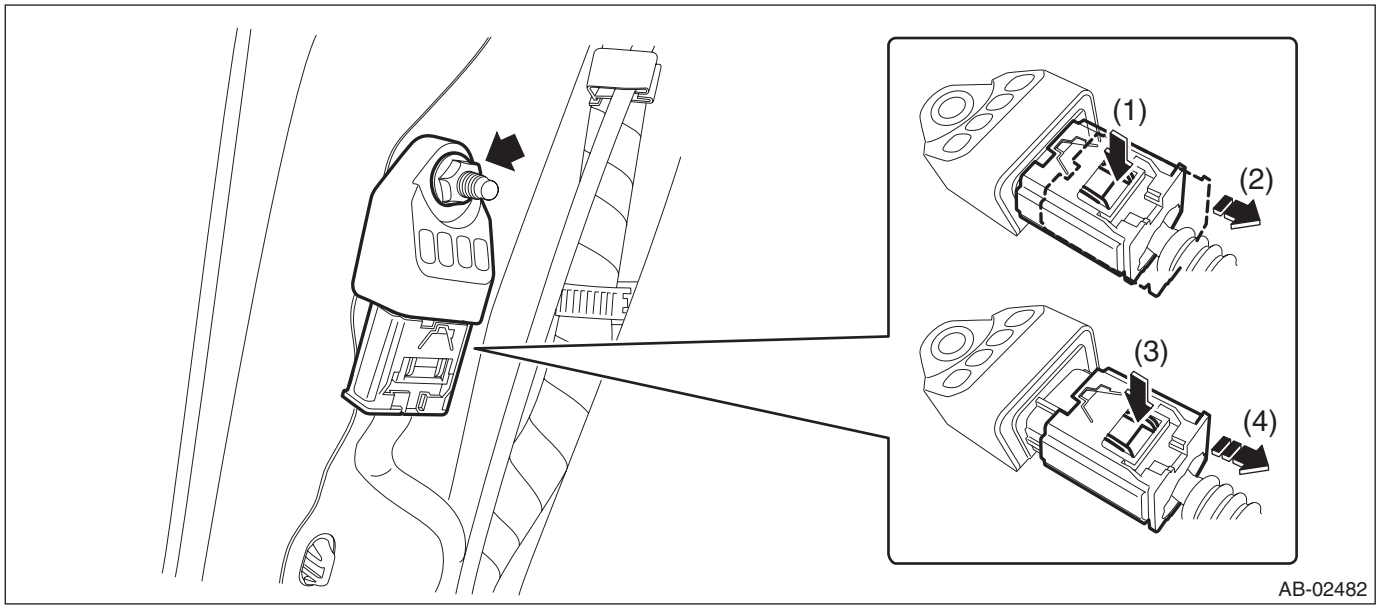
7) Remove the clips, and remove the luggage floor box and rear floor edge cover.



8) Remove the rear quarter trim LWR. (On the side where airbag sensor is removed)
   (1) Remove the caps, screws, and bolts. (A), (C)
   (2) Take out the hook and remove the screw inside. (B)
   (3) Remove the clips, and remove the rear quarter trim LWR.



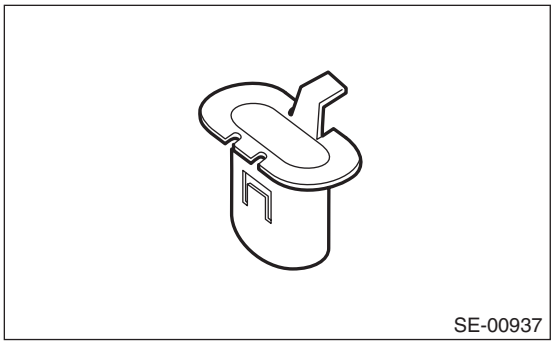
9) Remove the nut and then remove the curtain airbag sensor assembly.
   (1) Push the lock arm.
   (2) Holding outer part, pull it one step in the direction of arrow.
   (3) Push the lock arm again.
   (4) Holding outer part, pull it in the direction of arrow to disconnect the connector.



B: INSTALLATION

CAUTION:
• Do not reuse the bolt and nut.
Always replace with the specified new bolts and nuts.
• When installing the sensor, insert the set pin on the backside of the sensor into the hole on the body side securely.
1) Before installation, inspect the following items and replace any faulty part with a new one.
• Curtain airbag sensor or connector is damaged.
• Curtain airbag has been activated.
2) Install each part in the reverse order of removal.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.

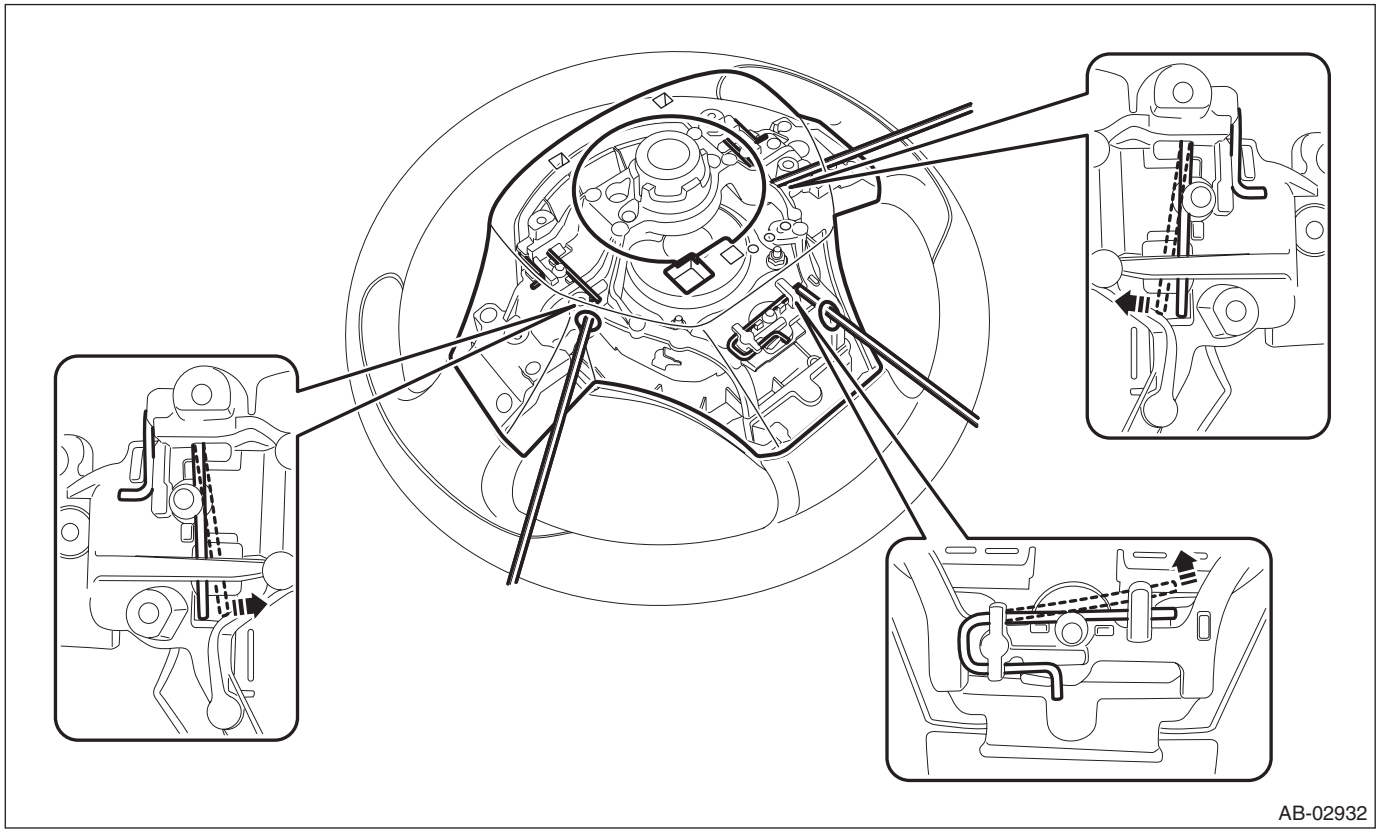

SE-00937

Tightening torque:
Curtain airbag sensor: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

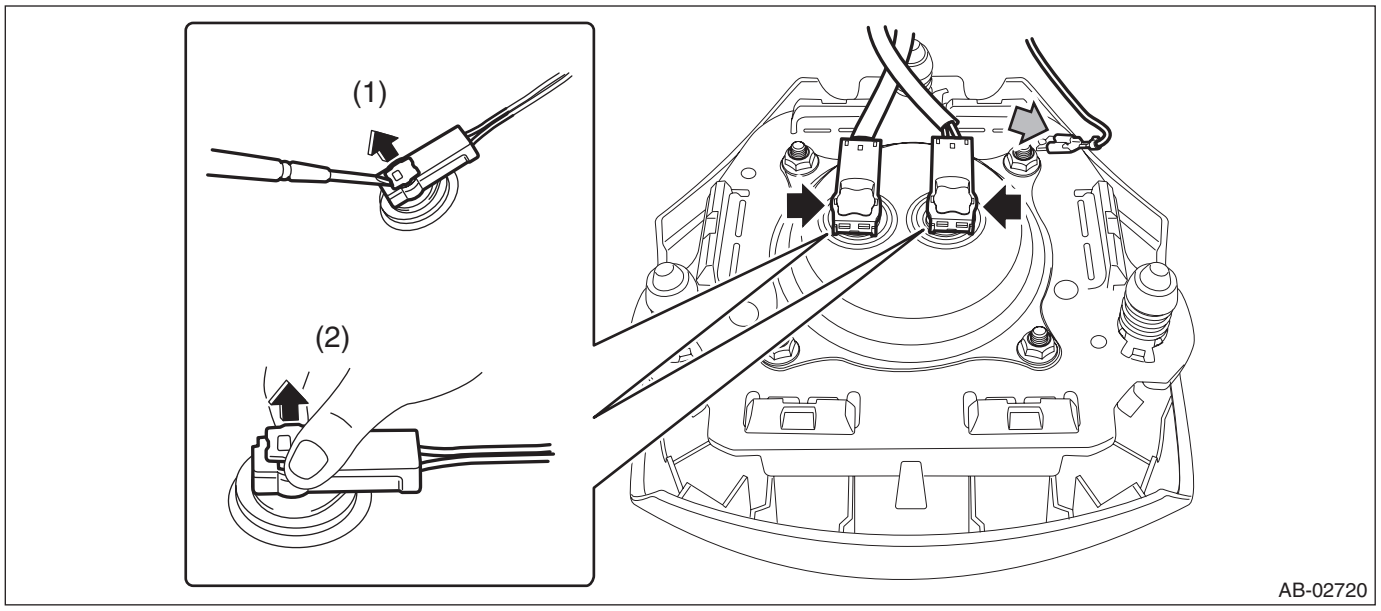
13.Roll Connector

A: REMOVAL

1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.
   (1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



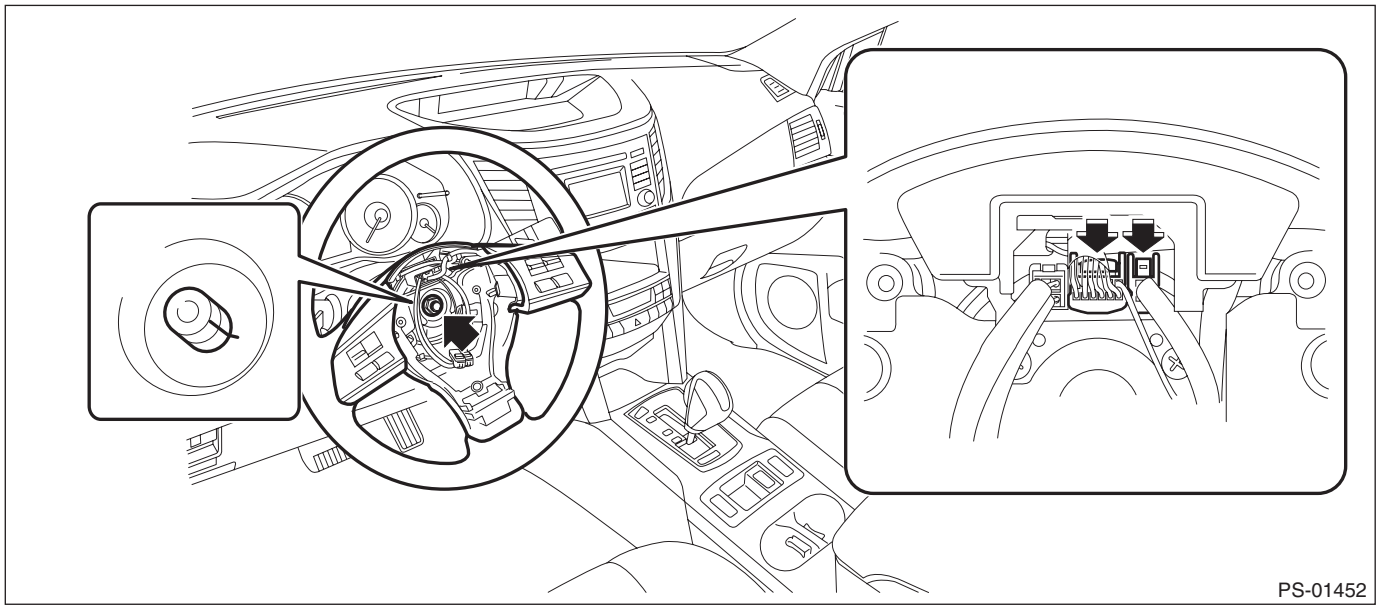
(2) Disconnect the horn harness and airbag connector and remove the airbag module assembly. <Ref. to AB-22, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER, PROCEDURE, Airbag Connector.>



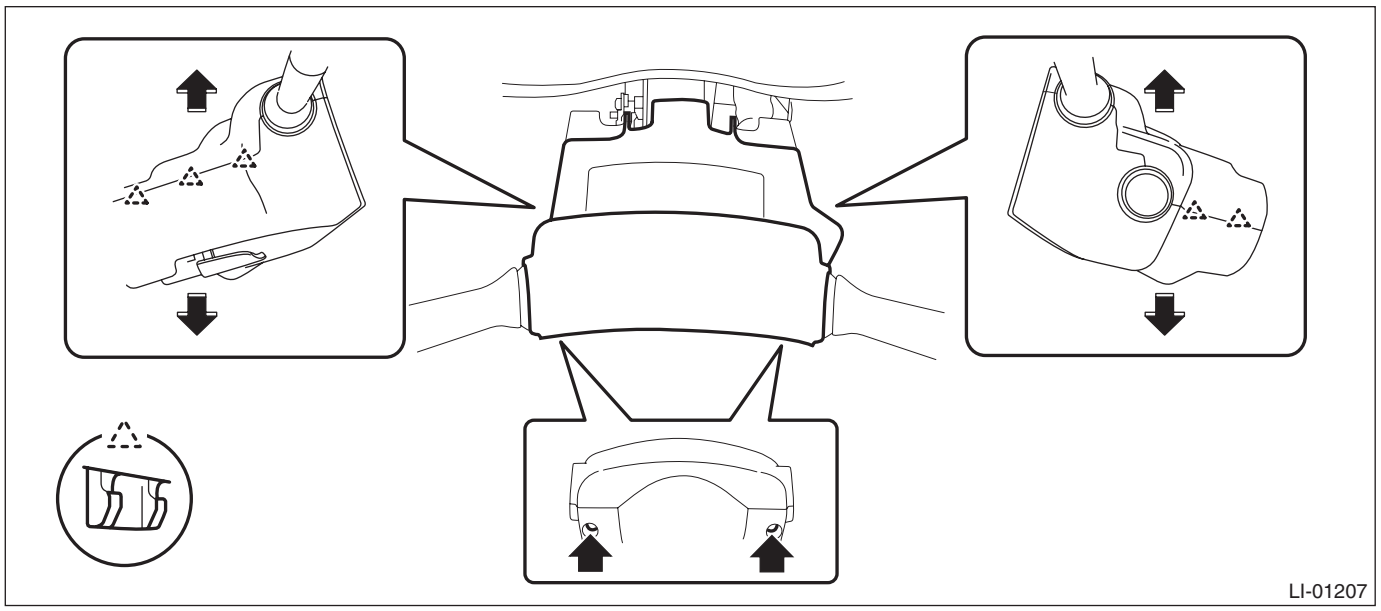
5) Remove the steering wheel.

CAUTION:
- **Always use the steering wheel puller for removal to avoid deforming the steering wheel.**
- **If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.**

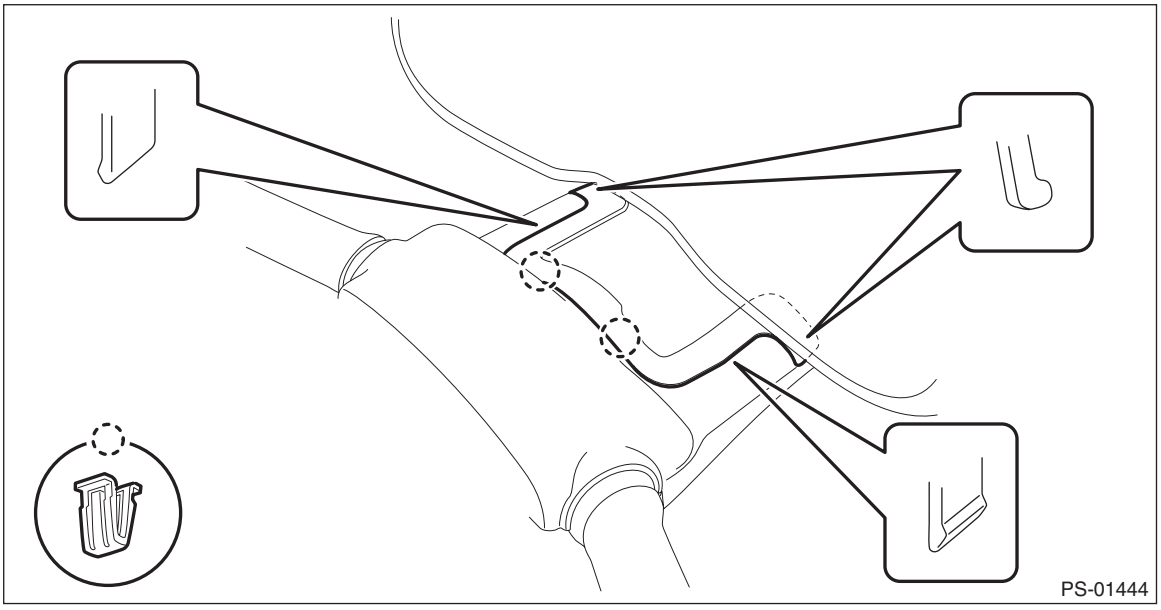
(1) Disconnect the connector and remove the nut.
(2) Put alignment marks and remove the steering wheel.



6) Remove the steering column cover.
(1) Lower the lever of the steering column.
(2) Release the claws and remove the screws, then detach the steering column lower cover.



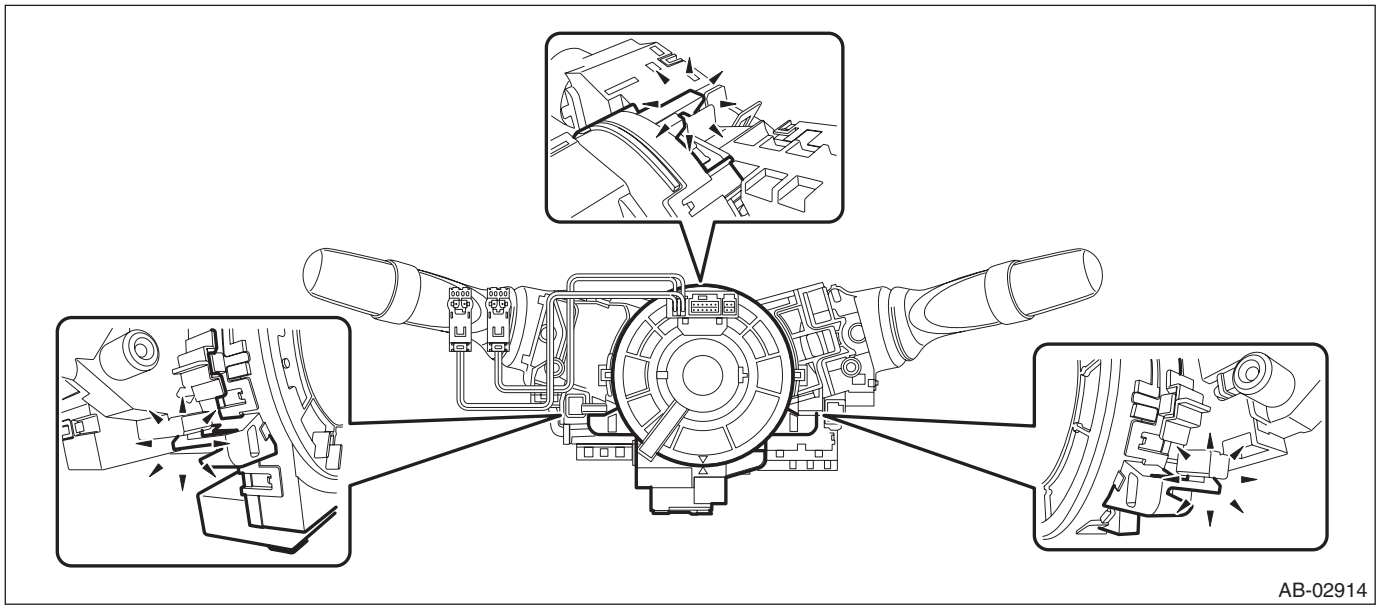
(3) Separate the steering column upper cover and steering upper cover, and remove the steering column upper cover.



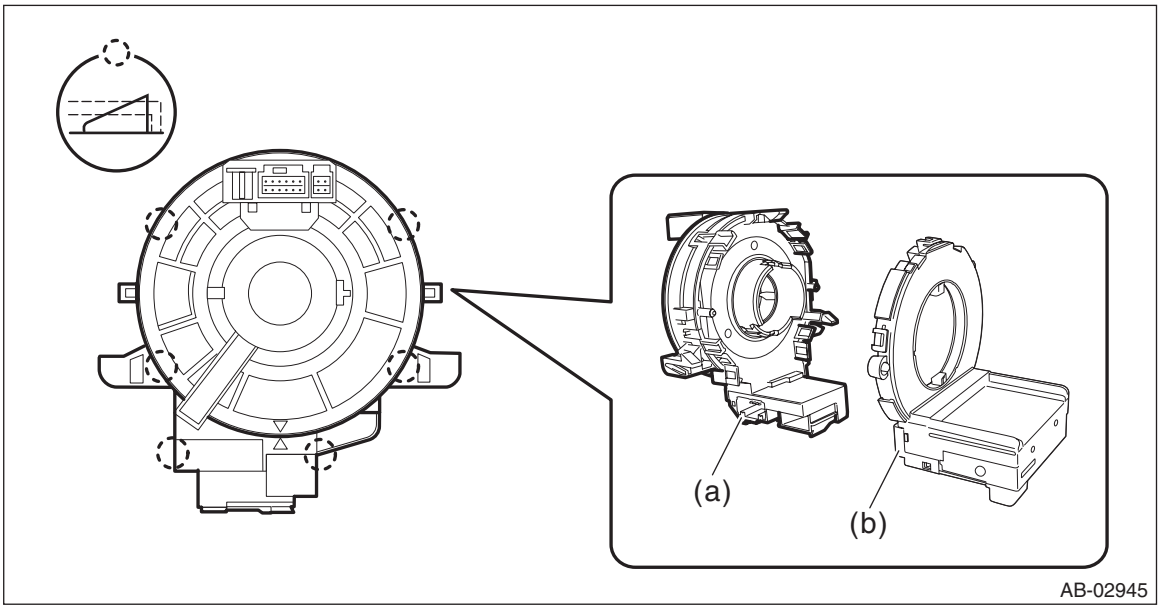
7) Remove the roll connector.

CAUTION:
Make sure that the roll connector is not turned from the original position.

(1) Disconnect the connector under the roll connector.
(2) Release the claws and remove the roll connector.

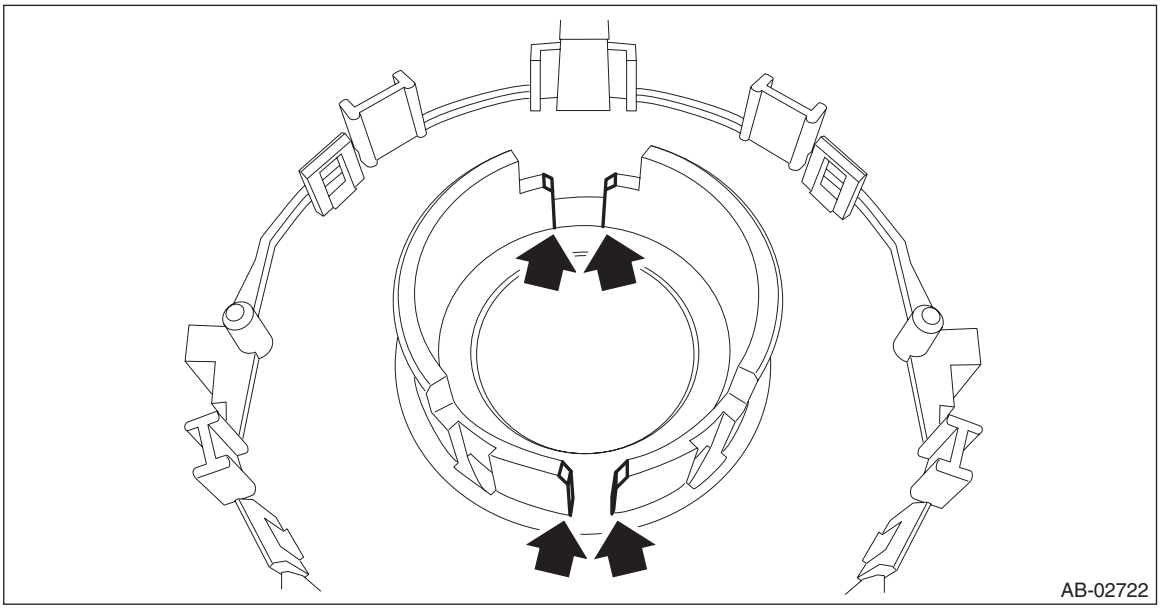


(3) Release the claws and separate the roll connector (a) and steering angle sensor (b).



B: INSTALLATION

1) Before attaching a new roll connector, apply a thin coat of grease contained in the connector onto the areas shown by the arrows.



2) Install each part in the reverse order of removal.
3) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>

Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

Clearance:
Between column cover and steering wheel: 4 — 6 mm (0.16 — 0.24 in)

C: INSPECTION

1. VISUAL INSPECTION

Check for the following, and replace the damaged parts with new parts.
- Combination switch is cracked or deformed.
- Roll connector is cracked or deformed.

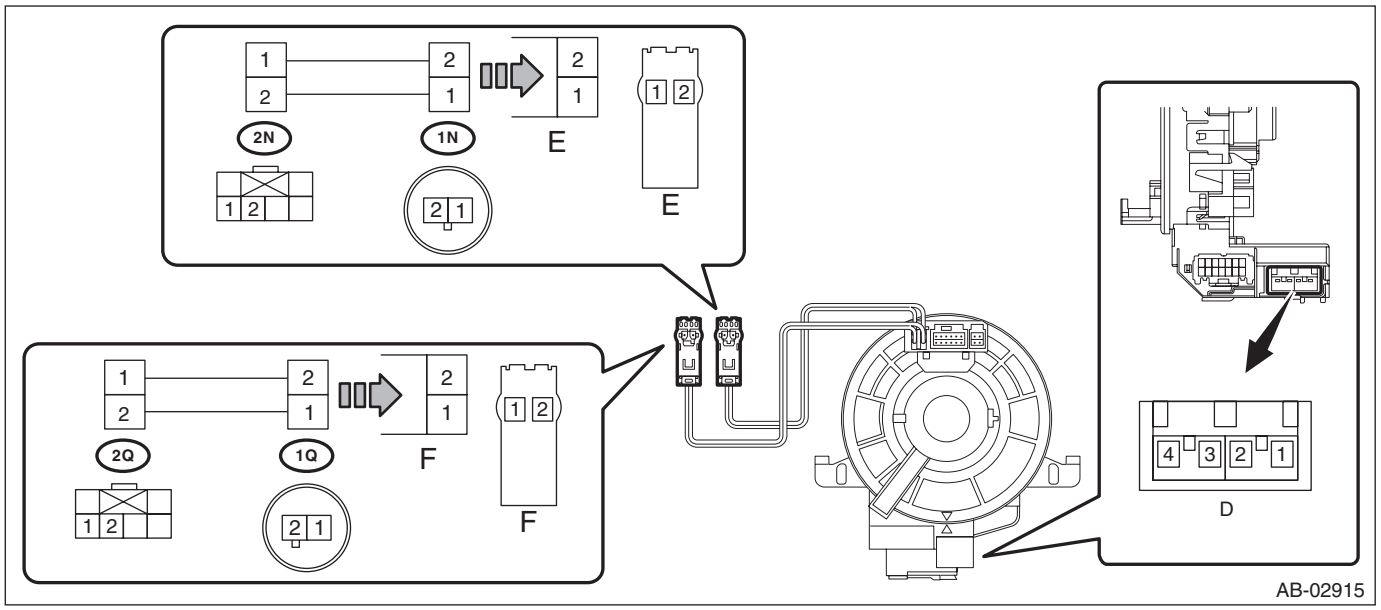
2. UNIT INSPECTION OF ROLL CONNECTOR

CAUTION:
• Do not rotate the roll connector to more than the specified number of turns. Otherwise, the roll connector internal wire may be broken.
• When determining the end stop, rotate the connector slowly without applying excessive force. Applying excessive force at the end stop may break the internal wire.
1) Adjust the roll connector. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>
2) Set the roll connector to the central position.
3) Connect the test harness to the connector E and connector F.

Preparation tool:
Test harness N (98299SA000)
Test harness Q (98299SA040)
- Connector E - Test harness N (1N)
- Connector F - Test harness Q (1Q)

4) With the following conditions, check the resistance between the test harness connector terminals.
- Perform the check with the roll connector centered (front wheels direct straightforward).
- Rotate the roll connector counterclockwise from the center (front wheels direct straightforward) to an end stop. Then, perform the check while rotating it clockwise to approximately 4.5 turns.

Preparation tool:
Circuit tester



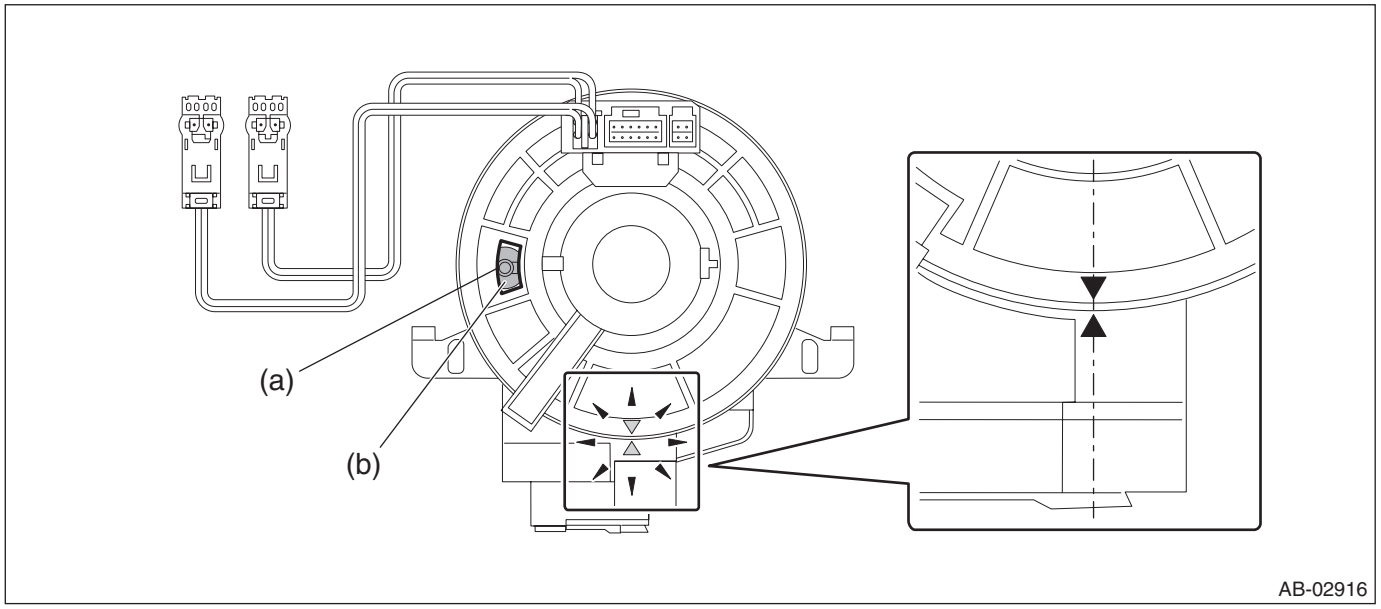
Terminal No.	Inspection conditions	Standard
(2N) No. 1 — (2N) No. 2	Always	Less than 1 Ω
(2Q) No. 1 — (2Q) No. 2	Always	Less than 1 Ω

NOTE:
The connector D is designed to short the terminals D1/D2 and D3/D4 when disconnected.
5) Replace the roll connector with a new part if the inspection result is not within the standard value.

D: ADJUSTMENT

CAUTION:
• Do not rotate the roll connector to more than the specified number of turns. Otherwise, the roll connector internal wire may be broken.
• When determining the end stop, rotate the connector slowly without applying excessive force. Applying excessive force at the end stop may break the internal wire.
1) Check that front wheels are positioned in straight ahead direction.
2) Rotate the roll connector counterclockwise until it stops.
3) Rotate the roll connector clockwise approx. 2.5 turns until "▲" marks are aligned.

NOTE:
When the roll connector comes to the center position, the orange roller (b) can be seen from the sight glass (a).



AIRBAG SYSTEM (DIAGNOSTICS)

AB(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**CHECK WARNING LIGHT.** Check whether the airbag warning light in the combination meter is lit.	Does the airbag warning light illuminate?	Go to step **2**.	Perform the diagnosis according to phenomenon of the problem.
2	**READ DTC.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON and run the Subaru Select Monitor. 4) Read the DTC. (Current malfunction) <Ref. to AB(diag)-27, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to AB(diag)-24, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 5) Record all DTCs and freeze frame data.	Is DTC displayed?	Go to step **3**.	Go to "Airbag Warning Light Failure" <Ref. to AB(diag)-33, Airbag Warning Light Failure.>.
3	**PERFORM DIAGNOSIS.** 1) Determine the possible cause from "List of Diagnostic Trouble Code (DTC)" <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>. 2) Inspect the DTC using "List of Diagnostic Trouble Code (DTC)". 3) Repair the trouble cause. 4) Perform the Clear Memory Mode. <Ref. to AB(diag)-29, Clear Memory Mode.> 5) Perform the Inspection Mode. <Ref. to AB(diag)-28, Inspection Mode.> 6) Read any other DTCs displayed.	Is DTC displayed?	Perform the procedure 1) to 5) in step 3.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Customer's Name		Inspector's Name	
Date Vehicle Brought in	/ /	Registration No.	
Odometer Reading	km miles	V.I.N.	
Date Problem Occurred	/ /	Registration Year	/ /
Weather	❑ Fine ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Others:		
Temperature	°C (°F)		
Road Condition	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Others:		
Vehicle Operation	❑ Starting ❑ Idling ❑ Driving ❑ Constant speed ❑ Accelerating ❑ Decelerating ❑ Turning ❑ Others:		
Details of Problem			
Airbag Warning Light Operation	❑ Normal (After turning the ignition switch to ON, lit for approximately 6 seconds and goes off.) ❑ Remains ON ❑ Remains OFF		
DTC output	❑ OK code ❑ DTC: (Code:)		

3. General Description

A: CAUTION

Refer to “CAUTION” in “General Description” in Airbag System. <Ref. to AB-10, CAUTION, General Description.>

B: INSPECTION

Measure the battery voltage and check electrolyte.

Standard voltage: 12 V

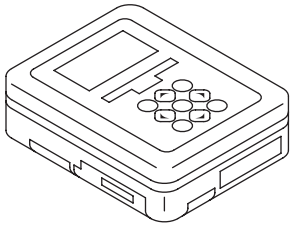
Specific gravity: 1.260 or more

C: PREPARATION TOOL

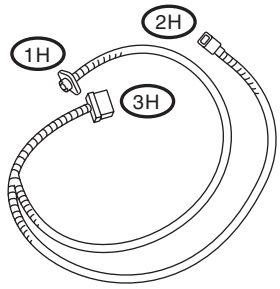
CAUTION:
To measure the voltage and resistance of airbag system component, be sure to use the specified test harness.

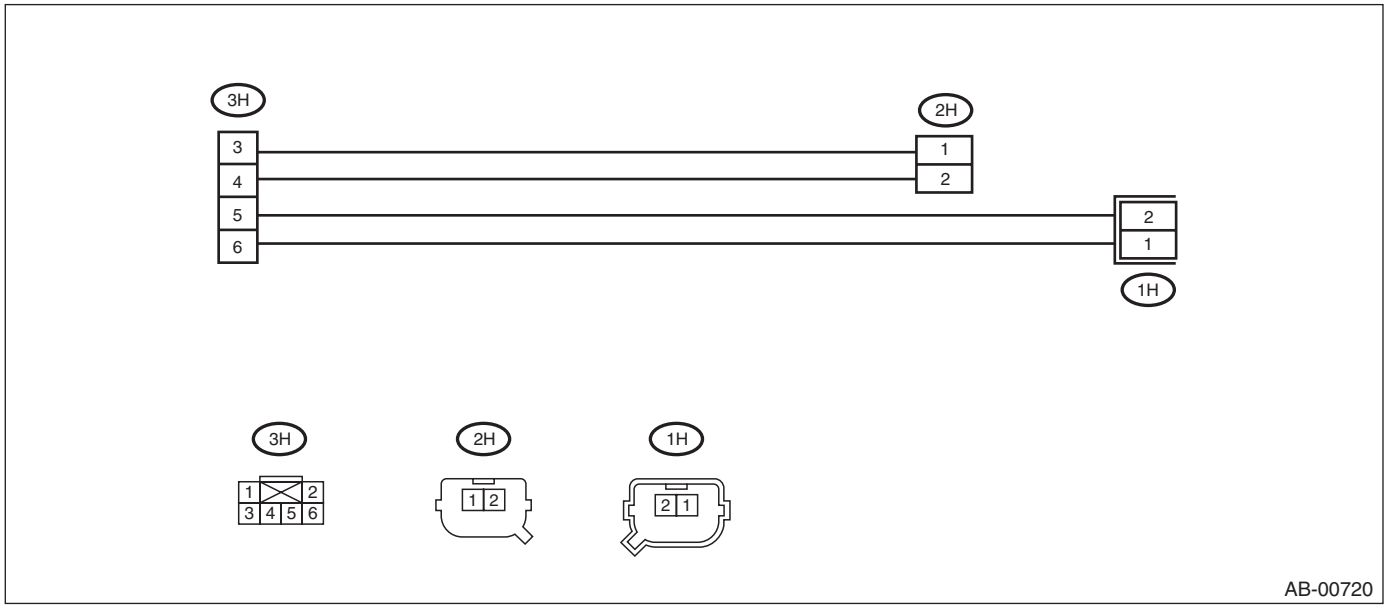
1. SPECIAL TOOL

- Subaru Select Monitor

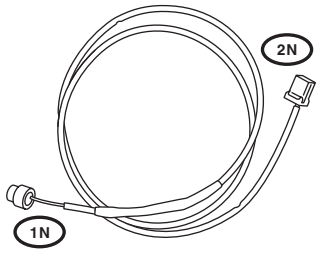
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

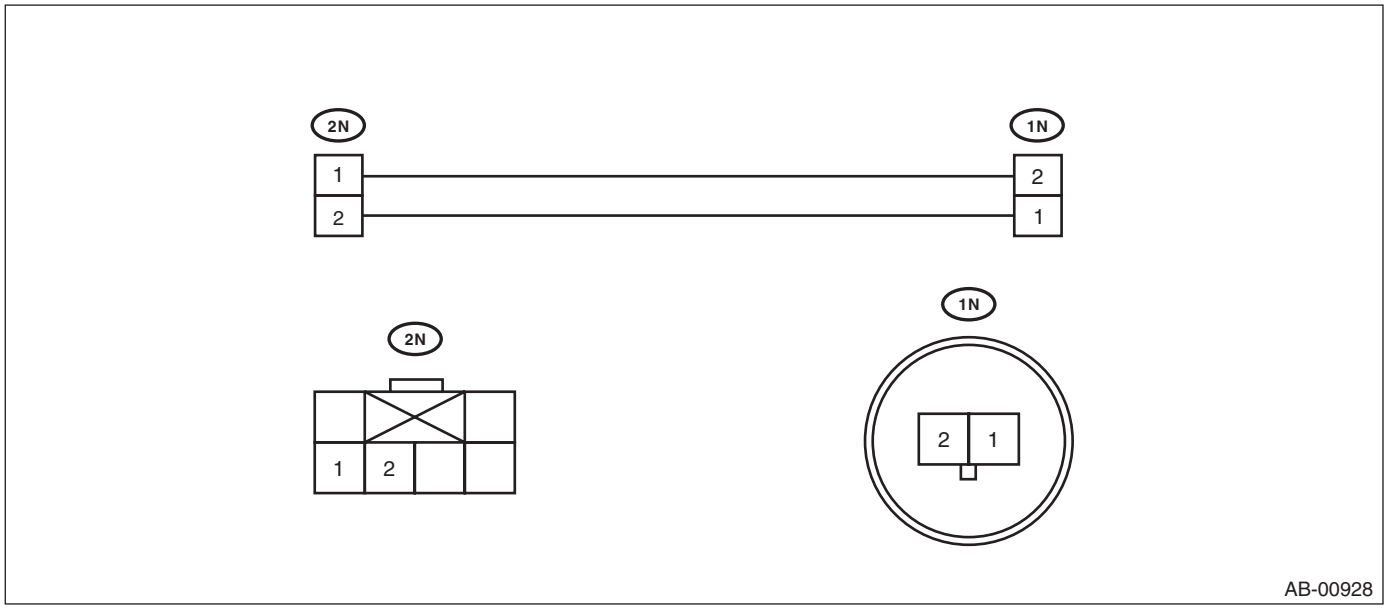
- TEST HARNESS H

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FA030	98299FA030	TEST HARNESS H	Used when measuring voltage and resistance of front sub sensor and front door impact sensor.

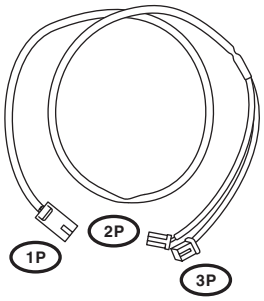


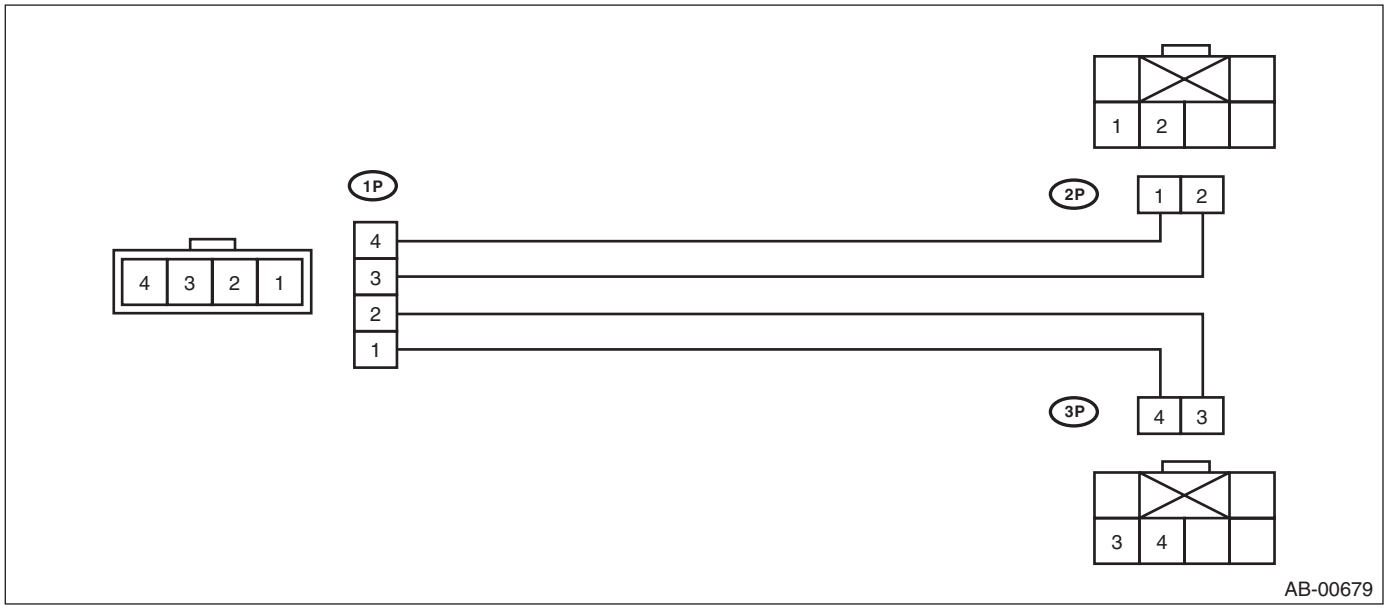
- TEST HARNESS N

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA000	98299SA000	TEST HARNESS N	Used when measuring voltage and resistance of driver's airbag module, seat belt pretensioner and curtain airbag module.

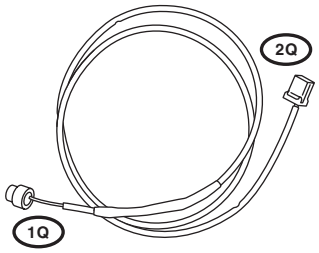


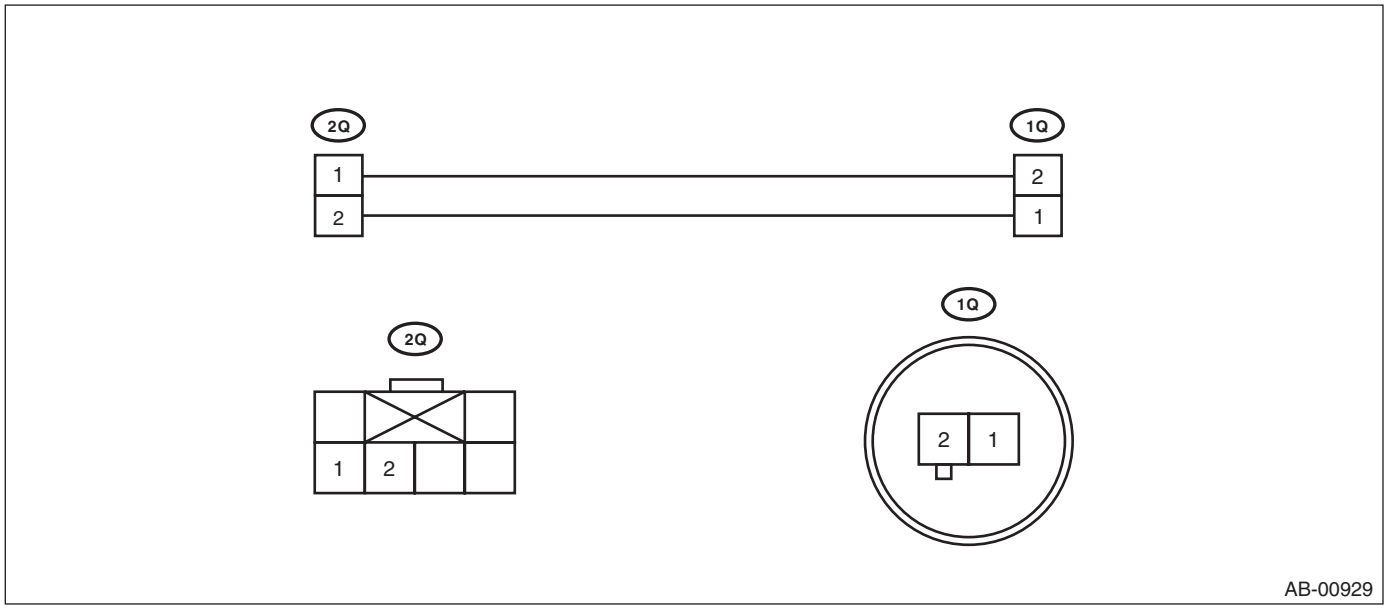
- TEST HARNESS P

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA020	98299SA020	TEST HARNESS P	Used when measuring voltage and resistance of passenger's airbag module harness.

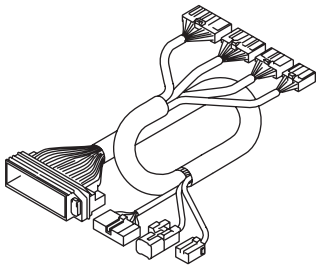


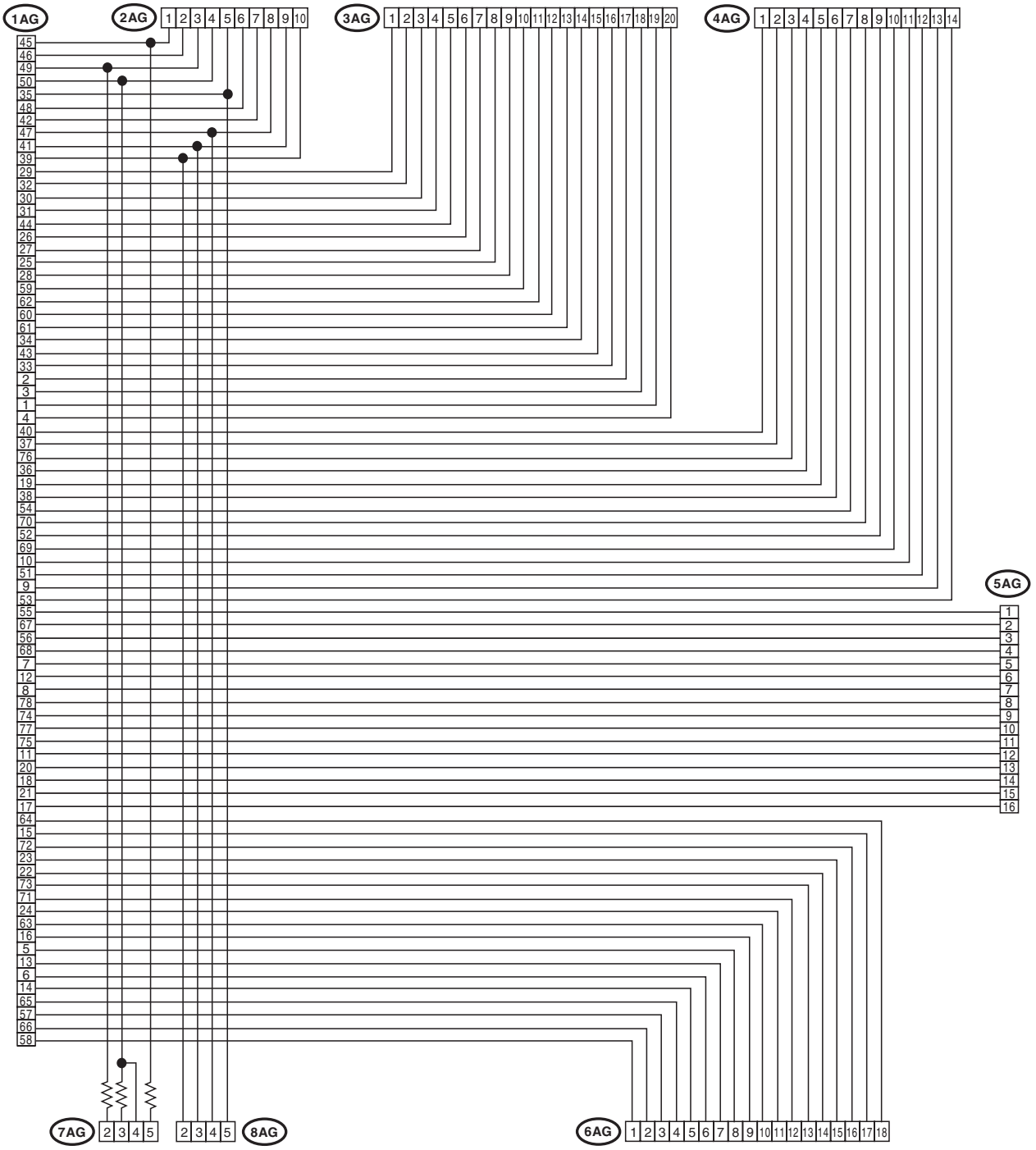
- TEST HARNESS Q

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA040	98299SA040	TEST HARNESS Q	Used when measuring voltage and resistance of driver's airbag module and lap seat belt pretensioner.

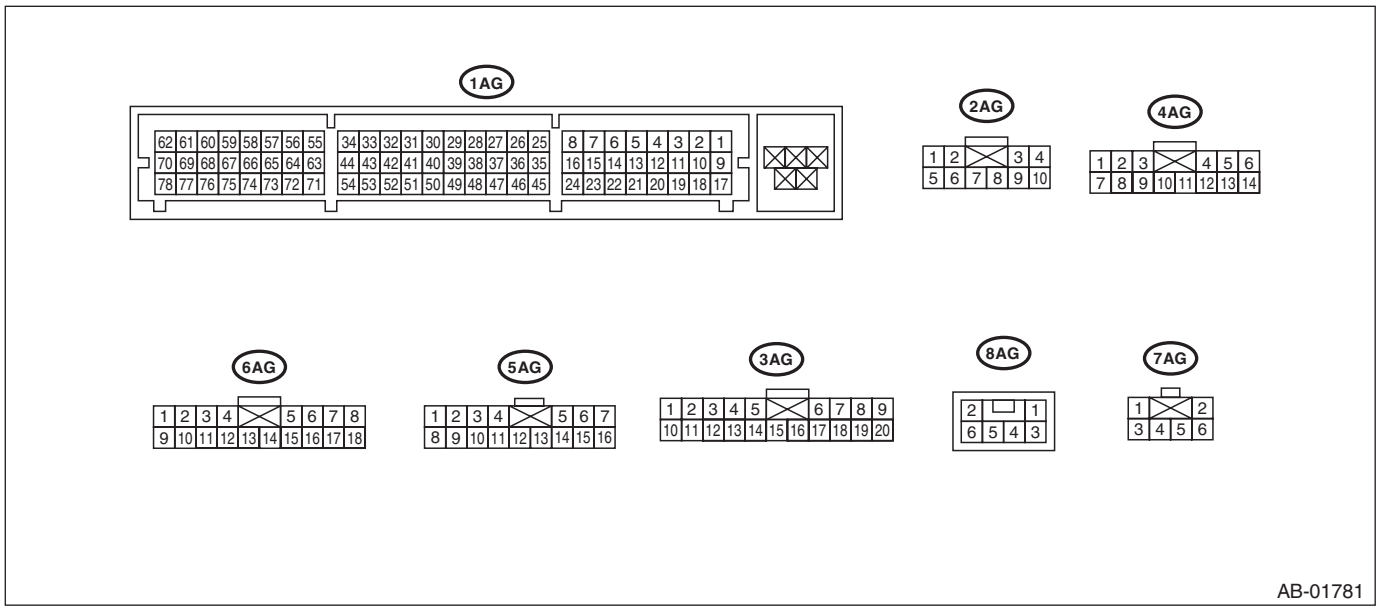


- TEST HARNESS AG

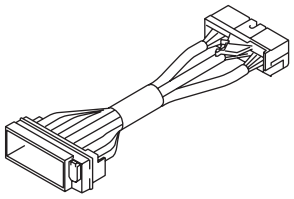
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG070	98299AG070	TEST HARNESS AG	Used when measuring voltage and resistance of airbag control module.

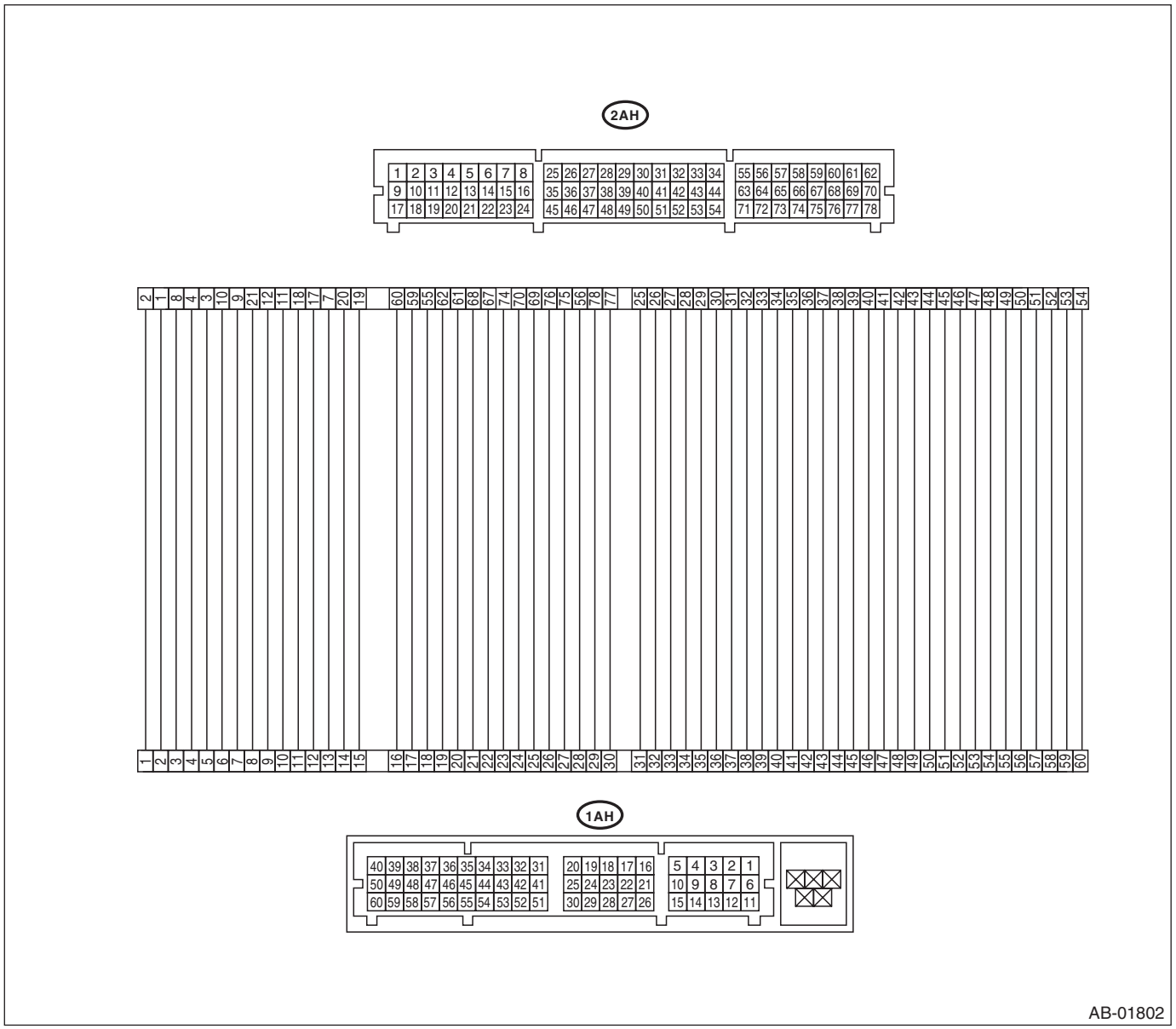


AB-01902

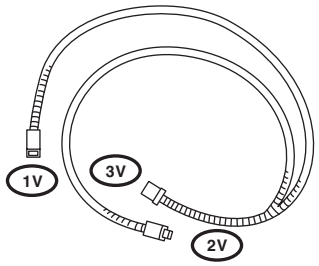

1AG
62 61 60 59 58 57 56 55
70 69 68 67 66 65 64 63
78 77 76 75 74 73 72 71
34 33 32 31 30 29 28 27 26 25
44 43 42 41 40 39 38 37 36 35
54 53 52 51 50 49 48 47 46 45
8 7 6 5 4 3 2 1
16 15 14 13 12 11 10 9
24 23 22 21 20 19 18 17
2AG
1 2 3 4
5 6 7 8 9 10
4AG
1 2 3 4 5 6
7 8 9 10 11 12 13 14
6AG
1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16 17 18
5AG
1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
3AG
1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19 20
8AG
2 1
6 5 4 3
7AG
1 2
3 4 5 6
AB-01781

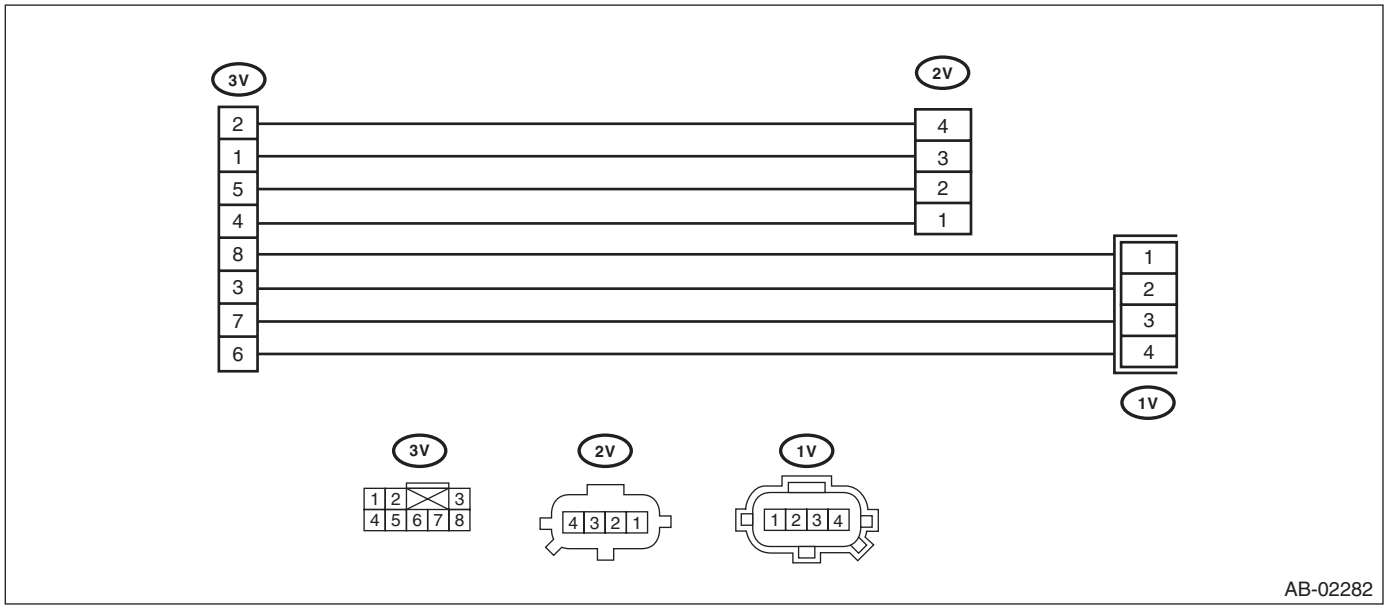
- TEST HARNESS AH

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG080	98299AG080	TEST HARNESS AH	Used together with test harness AG when measuring voltage and resistance of the airbag control module.

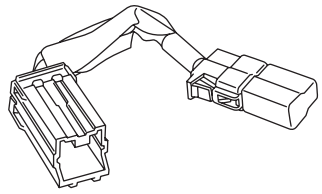


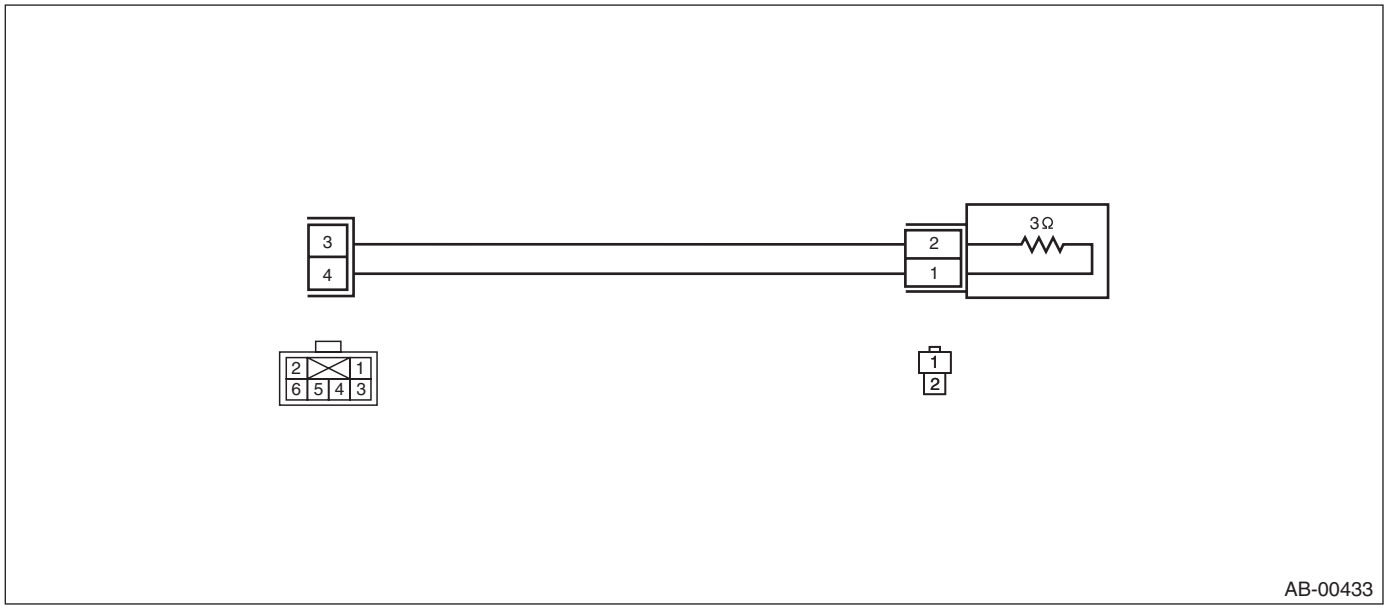
- TEST HARNESS V

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG010	98299AG010	TEST HARNESS V	Used when measuring voltage and resistance of side airbag sensor and curtain airbag sensor.

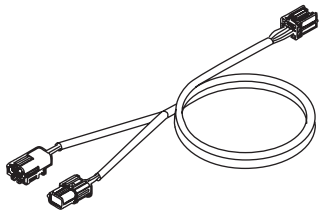


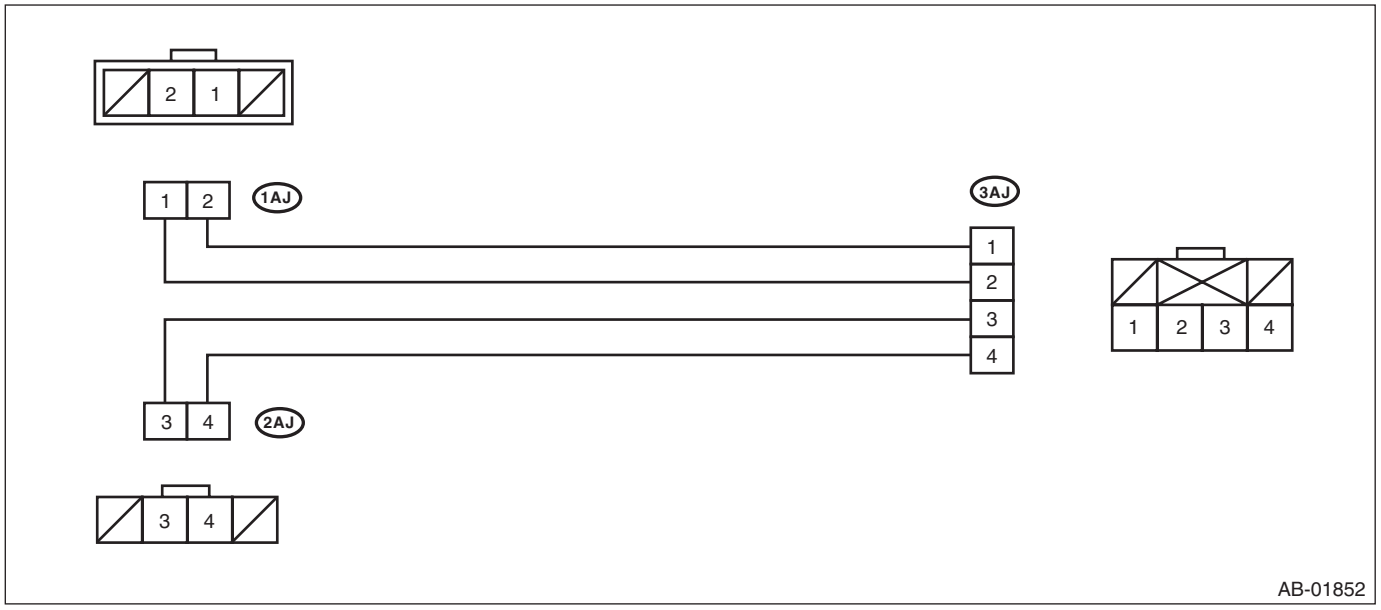
- AIRBAG RESISTOR

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299PA040	98299PA040	AIRBAG RESISTOR	Used in replacement of airbag module for which resistance value is same as airbag module. Two STs are required for diagnosis of two-stage inflator type airbag module.

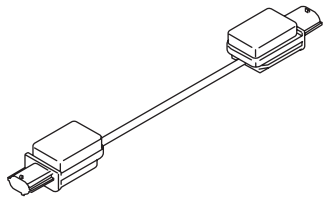


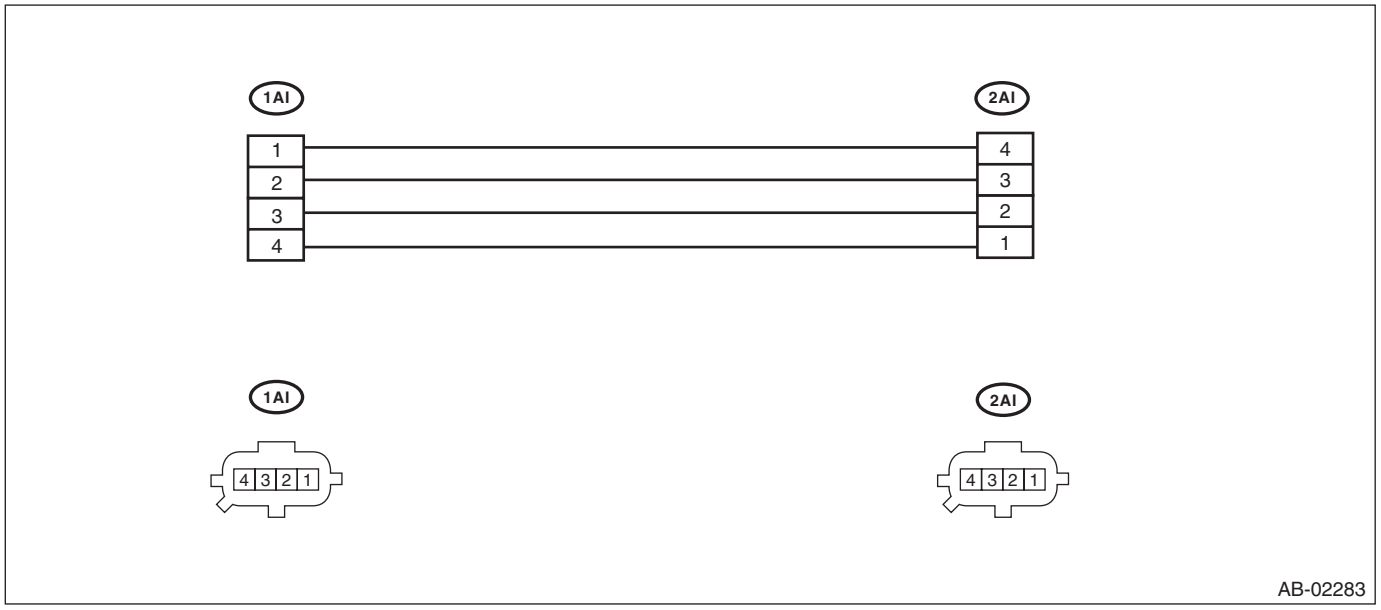
- TEST HARNESS AJ

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FG000	98299FG000	TEST HARNESS AJ	Used when measuring power supply and resistance of side airbag harness.



- TEST HARNESS AI

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG090	98299AG090	TEST HARNESS AI	• Used for diagnoses of side airbag sensor and curtain airbag sensor. • Used together with test harness V.



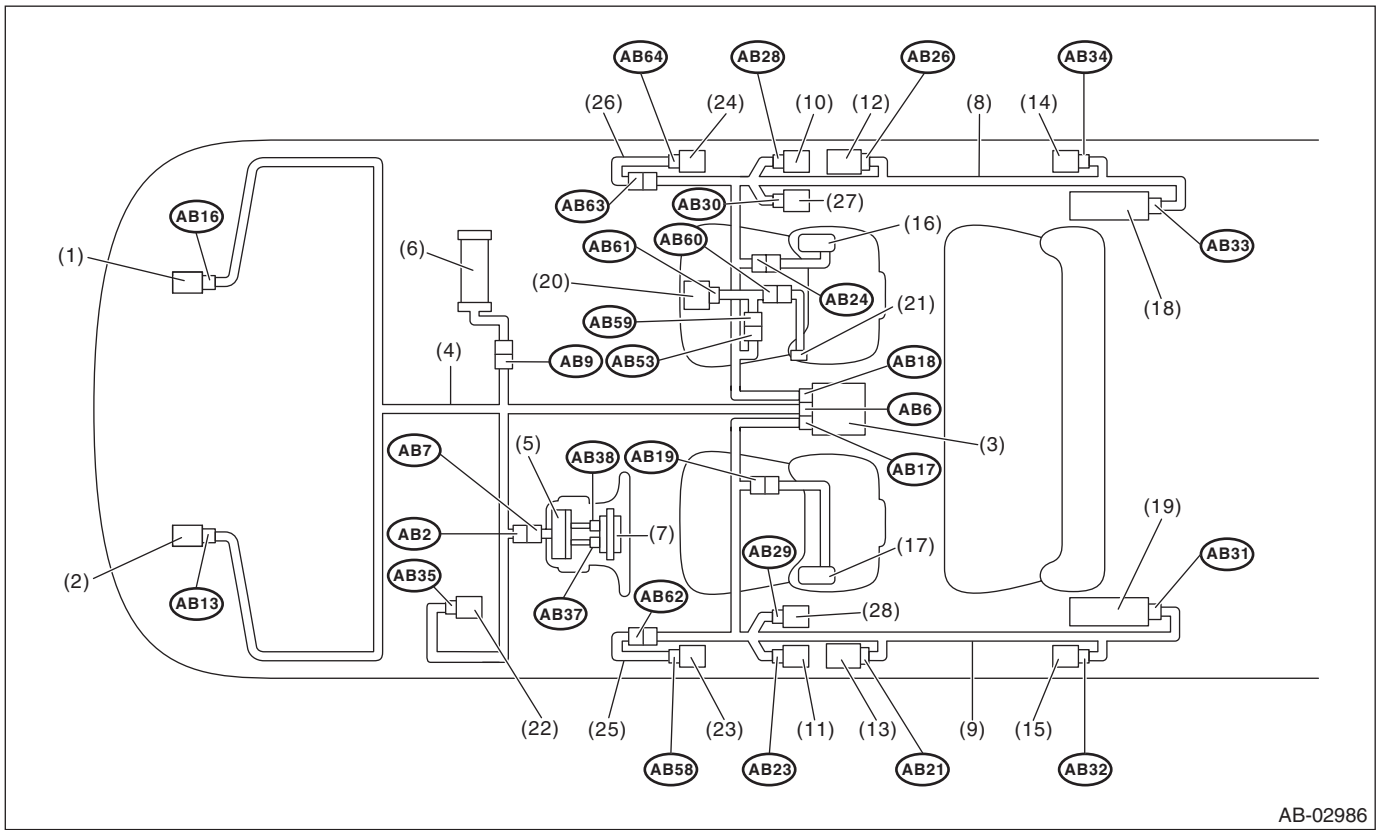
2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Oscilloscope	Used for measuring the sensor.

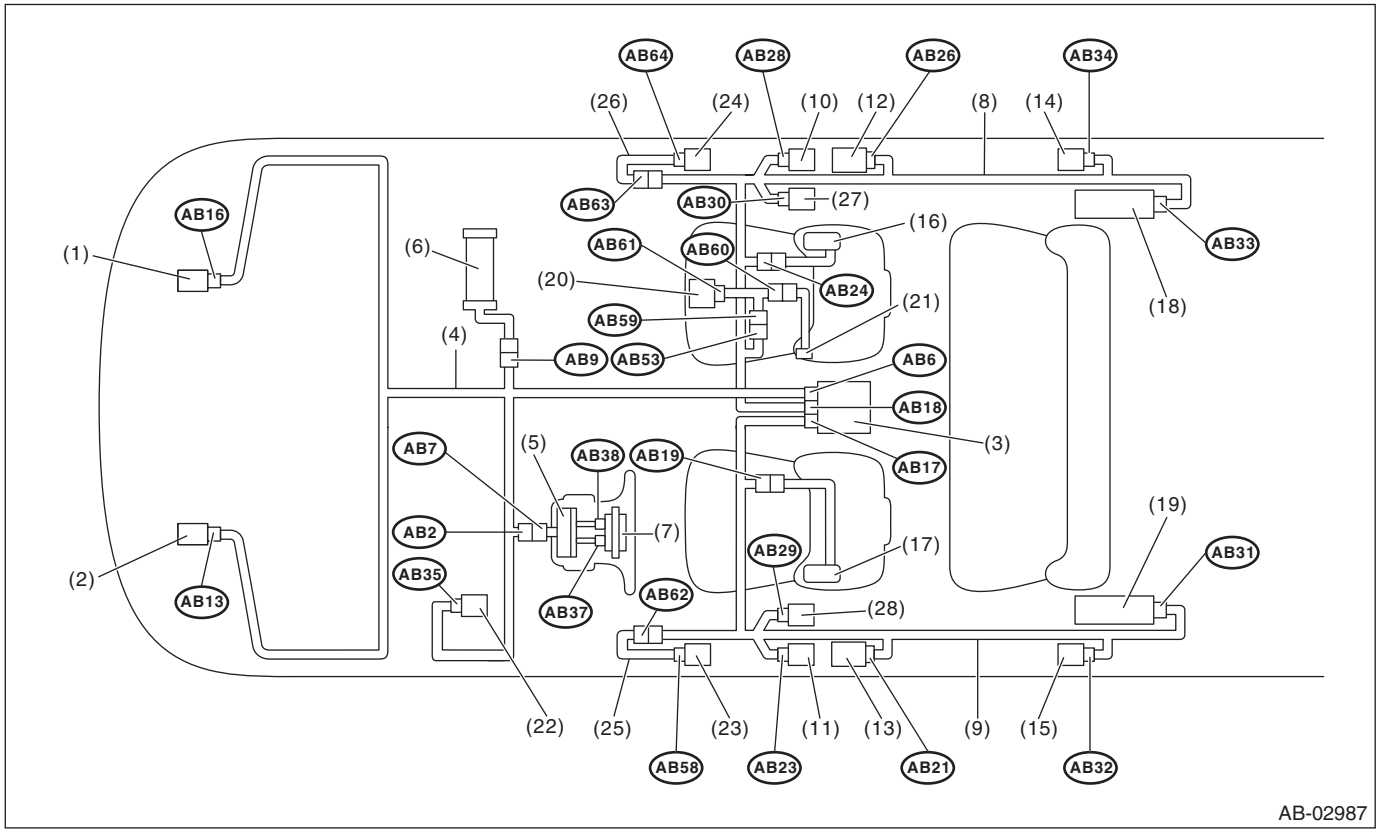
4. Electrical Component Location

A: LOCATION

- OUTBACK model



- Sedan model



(1) Front sub sensor (RH)
(2) Front sub sensor (LH)
(3) Airbag control module
(4) Airbag main harness
(5) Roll connector
(6) Passenger's airbag inflator
(7) Driver's airbag inflator
(8) Airbag rear harness (RH)
(9) Airbag rear harness (LH)
(10) Side airbag sensor (RH)
(11) Side airbag sensor (LH)
(12) Seat belt pretensioner (RH)
(13) Seat belt pretensioner (LH)
(14) Curtain airbag sensor (RH)
(15) Curtain airbag sensor (LH)
(16) Side airbag inflator (RH)
(17) Side airbag inflator (LH)
(18) Curtain airbag inflator (RH)
(19) Curtain airbag inflator (LH)
(20) Occupant detection control module
(21) Buckle switch (RH)
(22) Fuse box
(23) Front door impact sensor (LH)
(24) Front door impact sensor (RH)
(25) Door harness (LH)
(26) Door harness (RH)
(27) Lap seat belt pretensioner (RH)
(28) Lap seat belt pretensioner (LH)

Connector No.	(AB2)	(AB6)	(AB7)	(AB9)	(AB13)	(AB16)	(AB17)	(AB18)	(AB19)	(AB21)	(AB23)	(AB24)
Pin	4	30	4	4	2	2	15 or 24	15 or 24	4	2	4	4
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Black	Yellow	Yellow
Male/Female	Female	Female	Male	Female	Female	Female	Female	Female	Female	Female	Female	Female
Connector No.	(AB26)	(AB28)	(AB29)	(AB30)	(AB31)	(AB32)	(AB33)	(AB34)	(AB35)	(AB37)	(AB38)	(AB53)
Pin	2	4	2	2	2	4	2	4	2	2	2	3
Color	Black	Yellow	Orange	Orange	Black	Yellow	Black	Yellow	★	Orange	Black	Brown
Male/Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female
Connector No.	(AB58)	(AB59)	(AB60)	(AB61)	(AB62)	(AB63)	(AB64)					
Pin	2	3	2	10	2	2	2					
Color	Yellow	Brown	Yellow	Black	Yellow	Yellow	Yellow					
Male/Female	Female	Male	Male	Female	Female	Female	Female					
★: White or natural color												

5. Airbag Connector

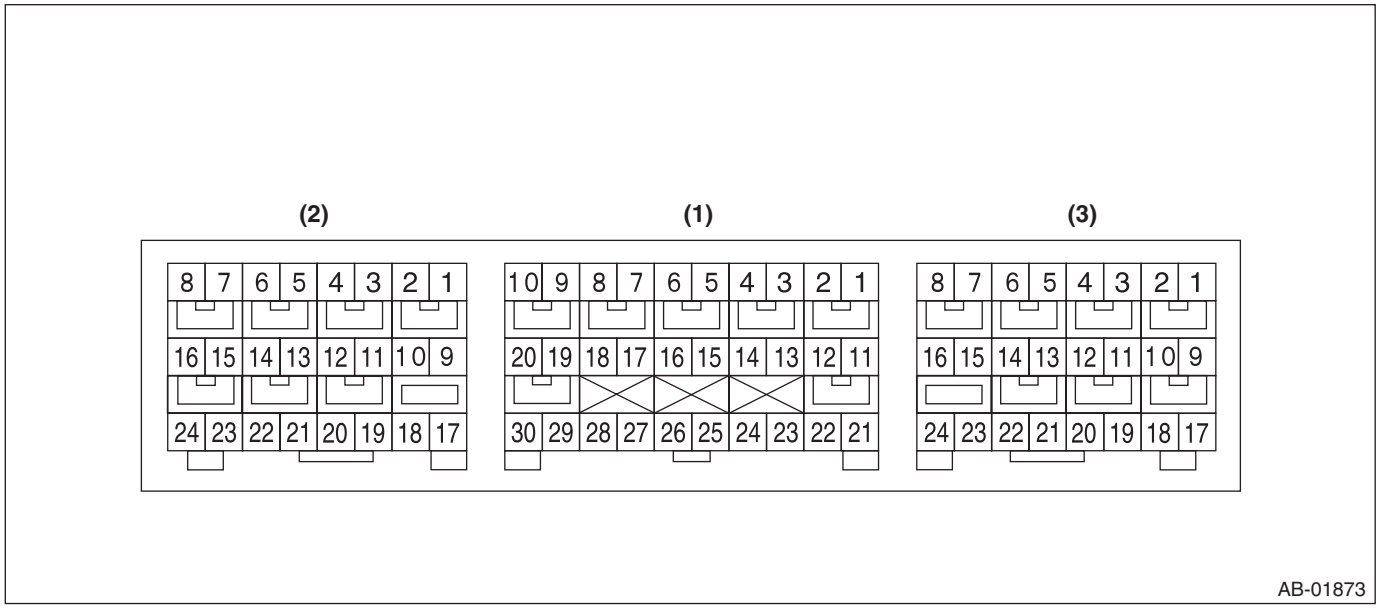
A: PROCEDURE

For operation procedures, refer to “Airbag Connector” of Airbag System. <Ref. to AB-19, Airbag Connector.>

6. Airbag Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

- OUTBACK model

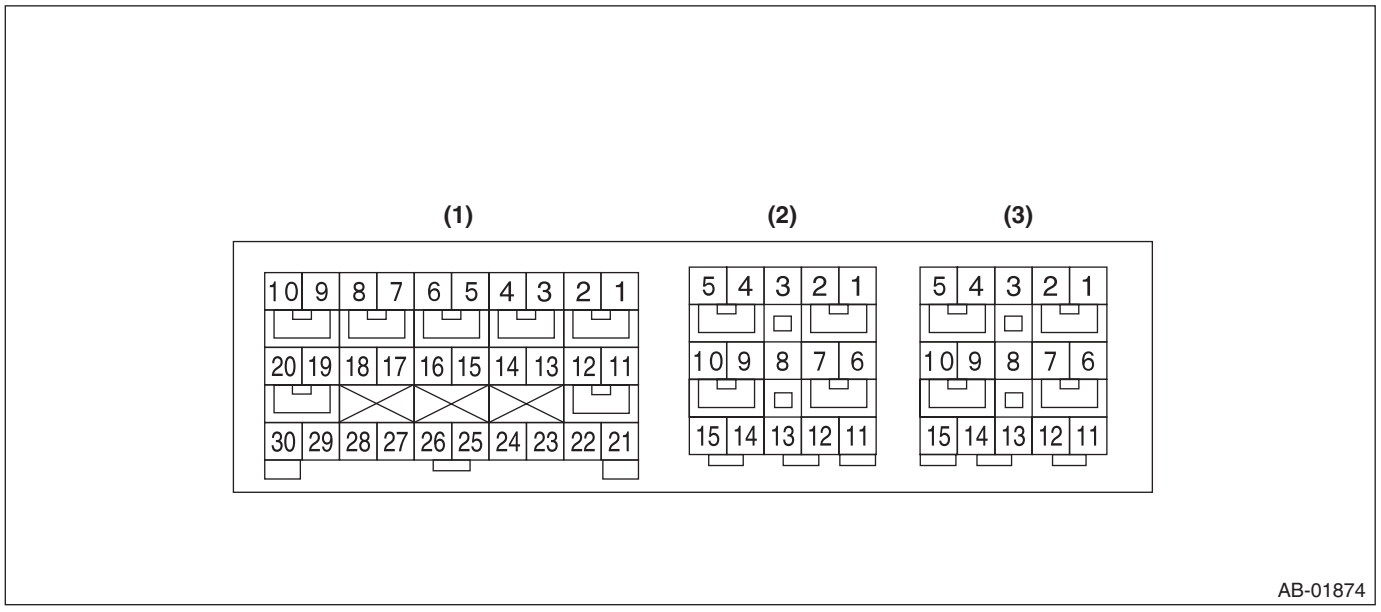


- Terminal numbers in airbag control module connector are shown in the figure.
- The airbag warning light illuminates when the connector is removed from the airbag control module.

Item		Control module terminal No.
Data link connector		(1) — 16
Ignition power supply	Dedicated fuse	(1) — 21
Passenger's airbag module level one	+	(1) — 4
	–	(1) — 3
Passenger's airbag module level two	+	(1) — 1
	–	(1) — 2
Driver's airbag module level one	+	(1) — 5
	–	(1) — 6
Driver's airbag module level two	+	(1) — 8
	–	(1) — 7
CAN-H		(1) — 13
CAN-L		(1) — 22
Front sub sensor LH	+	(1) — 30
	–	(1) — 28
Front sub sensor RH	+	(1) — 29
	–	(1) — 27
Ground line (GND)		(1) — 25
		(1) — 26
Passenger's airbag ON indicator		(1) — 23
Passenger's airbag OFF indicator		(1) — 17
Passenger's seat belt warning		(1) — 15
Side airbag sensor RH	+	(2) — 24
Curtain airbag sensor RH Front door impact sensor RH	–	(2) — 23
Seat belt pretensioner RH	+	(2) — 5
	–	(2) — 6

Item		Control module terminal No.
Lap seat belt pretensioner RH	+	(2) — 8
	–	(2) — 7
Side airbag module RH	+	(2) — 1
	–	(2) — 2
Curtain airbag module RH	+	(2) — 4
	–	(2) — 3
Occupant detection control module	+	(2) — 9
	–	(2) — 17
Side airbag sensor LH Curtain airbag sensor LH Front door impact sensor LH	+	(3) — 17
	–	(3) — 18
Side airbag module LH	+	(3) — 8
	–	(3) — 7
Curtain airbag module LH	+	(3) — 5
	–	(3) — 6
Seat belt pretensioner LH	+	(3) — 4
	–	(3) — 3
Lap seat belt pretensioner LH	+	(3) — 1
	–	(3) — 2

- Sedan model



- Terminal numbers in airbag control module connector are shown in the figure.
- The airbag warning light illuminates when the connector is removed from the airbag control module.

Item		Control module terminal No.
Data link connector		(1) — 16
Ignition power supply	Dedicated fuse	(1) — 21
Passenger's airbag module level one	+	(1) — 4
	–	(1) — 3
Passenger's airbag module level two	+	(1) — 1
	–	(1) — 2
Driver's airbag module level one	+	(1) — 5
	–	(1) — 6
Driver's airbag module level two	+	(1) — 8
	–	(1) — 7

Item		Control module terminal No.
CAN-H		(1) — 13
CAN-L		(1) — 22
Front sub sensor LH	+	(1) — 30
	–	(1) — 28
Front sub sensor RH	+	(1) — 29
	–	(1) — 27
Ground line (GND)		(1) — 25
		(1) — 26
Passenger's airbag ON indicator		(1) — 23
Passenger's airbag OFF indicator		(1) — 17
Passenger's seat belt warning		(1) — 15
Seat belt pretensioner RH	+	(2) — 2
	–	(2) — 1
Lap seat belt pretensioner RH	+	(2) — 4
	–	(2) — 5
Ground line (GND)		(2) — 3
Side airbag sensor RH Curtain airbag sensor RH Front door impact sensor RH	+	(2) — 8
	–	(2) — 15
Side airbag module RH	+	(2) — 9
	–	(2) — 10
Curtain airbag module RH	+	(2) — 7
	–	(2) — 6
Occupant detection control module	+	(2) — 14
	–	(2) — 13
Seat belt pretensioner LH	+	(3) — 4
	–	(3) — 5
Lap seat belt pretensioner LH	+	(3) — 2
	–	(3) — 1
Ground line (GND)		(3) — 3
Side airbag sensor LH Curtain airbag sensor LH Front door impact sensor LH	+	(3) — 8
	–	(3) — 11
Side airbag module LH	+	(3) — 7
	–	(3) — 6
Curtain airbag module LH	+	(3) — 9
	–	(3) — 10

B: WIRING DIAGRAM

Refer to the WI section wiring diagram. <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>

7. Subaru Select Monitor

A: OPERATION

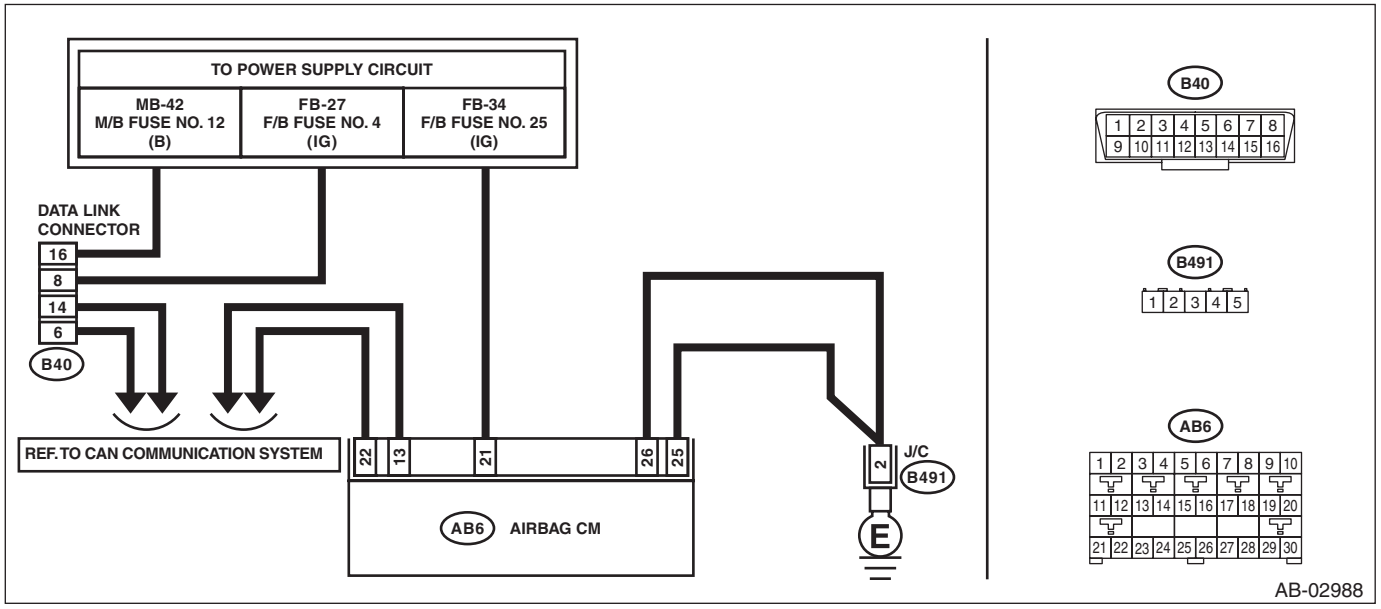
For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DTC DETECTING CONDITION:
Defective harness connector
TROUBLE SYMPTOM:
Communication is impossible between the airbag control module and the Subaru Select Monitor.

CAUTION:
Before performing diagnosis, refer to “CAUTION” in “General Description”. <Ref. to AB(diag)-4, CAUTION, General Description.>
WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select the airbag mode using the Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.
4	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Go to step **9**.	Go to step **5**.
5	**CHECK SUBARU SELECT MONITOR.**	Is Subaru Select Monitor powered on?	Go to step **7**.	Go to step **6**.

	Step	Check	Yes	No
6	**CHECK FUSE.** Remove a fuse in the data link connector and visually check the fuse.	Is the fuse OK?	Repair the harness between the battery and the data link connector.	Replace the fuse. If the fuse is blown out again, check the power supply circuit.
7	**CHECK AIRBAG CONTROL MODULE CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Confirm that the connectors of airbag control module (AB6, AB17, AB18) are securely connected.	Is the connector of the airbag control module securely connected?	Go to step **8**.	Connect the connector of the airbag control module.
8	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Disconnect the airbag control module connector. 2) Connect the battery ground terminal. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **9**.
9	**CHECK FUSE.** Remove fuse No. 25 from the fuse & relay box, and perform visual inspection.	Is the fuse OK?	Go to step **10**.	Replace the fuse. If the fuse is blown out again, check the power supply circuit.
10	**CHECK AIRBAG CONTROL MODULE CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Confirm that the connectors of airbag control module (AB6, AB17, AB18) are securely connected.	Is the connector of the airbag control module securely connected?	Go to step **11**.	Connect the connector of the airbag control module.
11	**CHECK CAN COMMUNICATION.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is there any fault?	Repair it according to the diagnosis for LAN system.	Go to step **12**.
12	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 2) Connect the connector (1AH) in the test harness AH to the connectors (AB6, AB17, AB18). 3) Connect the connector (2AH) in the test harness AH and the connector (1AG) in the test harness AG. 4) Turn the ignition switch to ON. 5) Measure the voltage between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **13**.	Repair the harness between the airbag control module and the battery. Or replace the airbag main harness along with the bulkhead harness.
13	**CHECK BETWEEN AIRBAG CONTROL MODULE AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 4 — Chassis ground:*** ***(2AG) No. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **14**.	Repair the harness between the airbag control module and the chassis ground. Or replace the airbag main harness along with the bulkhead harness.

Step		Check	Yes	No
14	CHECK POOR CONTACT OF CONNECTOR.	Is there poor contact of the control module power supply, ground circuit and data link connector?	Repair the connector. (Replace the harness instead of repairing the airbag system connector.)	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
For details concerning DTCs, refer to List of Diagnostic Trouble Codes (DTC). <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>

9. Inspection Mode

A: PROCEDURE

Recreate the circumstance by referring to the conditions described in the checklist.

10.Clear Memory Mode

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
Clear the DTC stored in the airbag control module after repairing the airbag system.

11.Display of Status Information

A: OPERATION

Check the operating condition of each sensor in the event of malfunction in the seat belt buckle switch, or when the seat belt buckle switch has been replaced.
1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Airbag System}.
3) On «Airbag System» display, select {Current Data Display & Save}.
The following table is for support data.

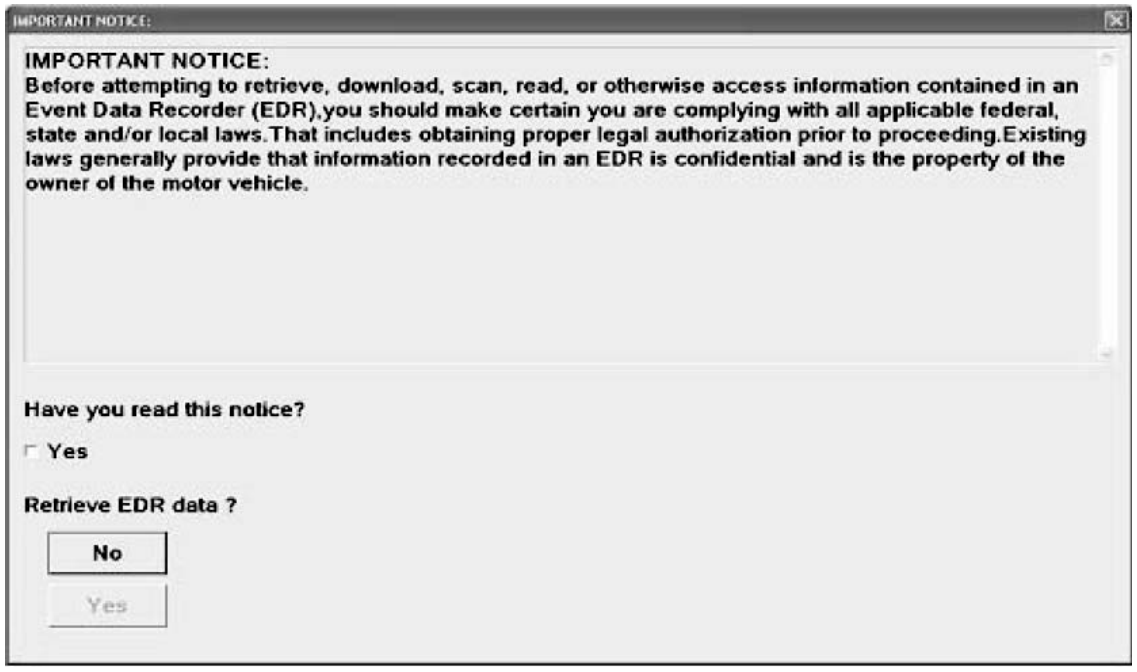
Item	Display	Note
Trip Count	—	—
Count	—	—
Time Count	—	—
Belt Buckle Switch RH	Unbelted/Belted	“Belted” when passenger’s seat belt is fastened “Unbelted” when passenger’s seat belt is not fastened
Passenger Occupant Status	Adult/Child/Empty or CRS	“Adult” when the occupant is present “Child” or “Empty or CRS” when the seat is unoccupied or when child restraint seat is installed
Passenger Airbag Status	ON/OFF	“ON” when the passenger occupant status is “Occupied” “OFF” when the status is “Empty or CRS”

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

12.Event Record Data

A: OPERATION

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Airbag System}.
3) On «Airbag System» display, select {Event Record Data}. After it is selected, {IMPORTANT NOTICE} screen is displayed.
4) Once you have read the contents of the «IMPORTANT NOTICE», click the Yes checkbox.
5) If doing so will not violate any laws, click the {Yes} button to retrieve the EDR data.



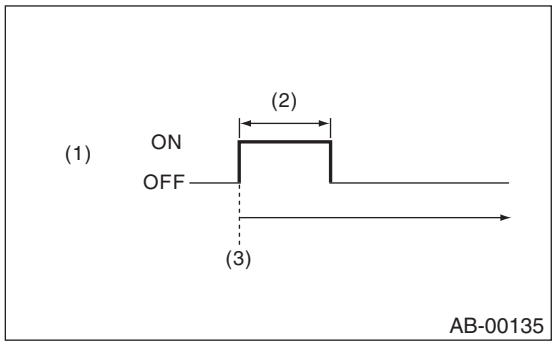
AB-02847

6) Select the items to be checked from each event record data.
7) Select the record data to be checked from each record data.
8) The selected record data is displayed. If there is no data recorded, «No Event Record Data Recorded» is displayed.
9) Select [Exit] to return to each event record data screen.

13. Airbag Warning Light Illumination Pattern

A: INSPECTION

Turn the ignition switch to ON, and confirm that the airbag warning light remains on for approx. 6 seconds then turns off afterwards.



(1) Airbag warning light
(2) Approx. 6 sec.
(3) Ignition switch ON

14.Airbag Warning Light Failure

A: AIRBAG WARNING LIGHT REMAINS ON

DETECTING CONDITION:

- Airbag warning light is faulty.
- Airbag control module to combination meter circuit is shorted or open.
- Grounding circuit is faulty.
- Airbag control module is faulty.
- Connector connection is improper.
- Connections of (AB6, AB17, AB18) to airbag control module are improper.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is there any fault?	Repair it according to diagnosis of LAN system.	Go to step **2**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Check the connection status of airbag CM connector.	Is there poor contact of connector?	Reconnect the connector. Or repair the connector.	Go to step **3**.
3	**CHECK FOR POOR CONTACT.** Check the combination meter. <Ref. to IDI-8, SELF-DIAGNOSIS DISPLAY MODE, OPERATION, Combination Meter System.>	Is there any fault?	Replace the combination meter. <Ref. to IDI-25, REMOVAL, Combination Meter.>	Replace the airbag CM. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

B: AIRBAG WARNING LIGHT REMAINS OFF

NOTE:
For the diagnostic procedure, refer to "AIRBAG WARNING LIGHT REMAINS ON". <Ref. to AB(diag)-33, AIRBAG WARNING LIGHT REMAINS ON, Airbag Warning Light Failure.>

15.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Reference
U0073	Control Module Communication Bus “A” Off	CAN communication error occurred.	<Ref. to AB(diag)-44, DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF, Diagnostic Chart with Trouble Code.>
B1000	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1003	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1003 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1105	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1105 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1106	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1106 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1115	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1115 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1116	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1116 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1120	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1120 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1121	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-44, DTC B1121 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1125	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1125 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1126	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1126 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1145	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1145 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1146	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1146 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1170	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1170 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1185	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1185 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1195	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1195 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1196	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1196 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1199	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1199 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B11E0	Rollover Ignition	Curtain airbag module (LH/RH) and seat belt pretensioner (LH/RH) are deployed.	<Ref. to AB(diag)-46, DTC B11E0 ROLLOVER IGNITION, Diagnostic Chart with Trouble Code.>
B11F2	Front Impact Ignition	Front airbag module and seat belt pretensioner (LH/RH) are inflated.	<Ref. to AB(diag)-46, DTC B11F2 FRONT IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11F3	Front Impact Ignition	Front airbag module and seat belt pretensioner (LH/RH) are inflated.	<Ref. to AB(diag)-46, DTC B11F3 FRONT IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11F4	Front Impact Ignition	Front airbag module and seat belt pretensioner (LH/RH) are inflated.	<Ref. to AB(diag)-46, DTC B11F4 FRONT IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11F5	Front Impact Ignition	Front airbag module and seat belt pretensioner (LH/RH) are inflated.	<Ref. to AB(diag)-46, DTC B11F5 FRONT IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11F7	Side Impact Ignition	• Side airbag module and curtain airbag module are deployed. • Curtain airbag module is deployed.	<Ref. to AB(diag)-46, DTC B11F7 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11F8	Side Impact Ignition	• Side airbag module and curtain airbag module are deployed. • Curtain airbag module is deployed.	<Ref. to AB(diag)-46, DTC B11F8 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11F9	Side Impact Ignition	• Side airbag module and curtain airbag module are deployed. • Curtain airbag module is deployed.	<Ref. to AB(diag)-46, DTC B11F9 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11FA	Side Impact Ignition	• Side airbag module and curtain airbag module are deployed. • Curtain airbag module is deployed.	<Ref. to AB(diag)-47, DTC B11FA SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11FB	Side Impact Ignition	• Side airbag module and curtain airbag module are deployed. • Curtain airbag module is deployed.	<Ref. to AB(diag)-47, DTC B11FB SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B11FC	Side Impact Ignition	• Side airbag module and curtain airbag module are deployed. • Curtain airbag module is deployed.	<Ref. to AB(diag)-47, DTC B11FC SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>
B1610	Front Sub Sensor RH Failure	Front sub sensor (RH) is faulty	<Ref. to AB(diag)-47, DTC B1610 FRONT SUB SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
B1612	Front Sub Sensor RH Lost Communication	• Open or short circuit in harness (RH) between airbag control module and front sub sensor. • Front sub sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-47, DTC B1612 FRONT SUB SENSOR RH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1613	Front Sub Sensor RH Initialization Error		<Ref. to AB(diag)-48, DTC B1613 FRONT SUB SENSOR RH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>
B1615	Front Sub Sensor LH Failure	Front sub sensor (LH) is faulty.	<Ref. to AB(diag)-50, DTC B1615 FRONT SUB SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
B1617	Front Sub Sensor LH Lost Communication	• Open or short circuit in harness (LH) between airbag control module and front sub sensor. • Front sub sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-50, DTC B1617 FRONT SUB SENSOR LH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1618	Front Sub Sensor LH Initialization Error		<Ref. to AB(diag)-51, DTC B1618 FRONT SUB SENSOR LH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>
B16F2	Front Sub Sensor RH Recognition Error	• Front sensor (RH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-53, DTC B16F2 FRONT SUB SENSOR RH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>
B16F3	Front Sub Sensor LH Recognition Error	• Front sensor (LH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-53, DTC B16F3 FRONT SUB SENSOR LH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1620	Side Airbag Sensor RH Failure	Side airbag sensor (RH) is faulty.	<Ref. to AB(diag)-53, DTC B1620 SIDE AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
B1622	Side Airbag Sensor RH Lost Communication	• Open or short circuit in harness (RH) between airbag control module and side airbag sensor. • Side airbag sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-53, DTC B1622 SIDE AIRBAG SENSOR RH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1623	Side Airbag Sensor RH Initialization Error		<Ref. to AB(diag)-54, DTC B1623 SIDE AIRBAG SENSOR RH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>
B1625	Side Airbag Sensor LH Failure	Side airbag sensor (LH) is faulty.	<Ref. to AB(diag)-56, DTC B1625 SIDE AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
B1627	Side Airbag Sensor LH Lost Communication	• Open or short circuit in harness (LH) between airbag control module and side airbag sensor. • Side airbag sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-56, DTC B1627 SIDE AIRBAG SENSOR LH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1628	Side Airbag Sensor LH Initialization Error		<Ref. to AB(diag)-57, DTC B1628 SIDE AIRBAG SENSOR LH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>
B1630	Curtain Airbag Sensor RH Failure	Curtain airbag sensor (RH) is faulty.	<Ref. to AB(diag)-59, DTC B1630 CURTAIN AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
B1632	Curtain Airbag Sensor RH Lost Communication	• Open or short circuit in harness (RH) between airbag control module and curtain airbag sensor. • Side airbag sensor (RH) is faulty. • Curtain airbag sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-59, DTC B1632 CURTAIN AIRBAG SENSOR RH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1633	Curtain Airbag Sensor RH Initialization Error		<Ref. to AB(diag)-60, DTC B1633 CURTAIN AIRBAG SENSOR RH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>
B1635	Curtain Airbag Sensor LH Failure	Curtain airbag sensor (LH) is faulty.	<Ref. to AB(diag)-62, DTC B1635 CURTAIN AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
B1637	Curtain Airbag Sensor LH Lost Communication	• Open or short circuit in harness (LH) between airbag control module and curtain airbag sensor. • Side airbag sensor (LH) is faulty. • Curtain airbag sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-62, DTC B1637 CURTAIN AIRBAG SENSOR LH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1638	Curtain Airbag Sensor LH Initialization Error		<Ref. to AB(diag)-63, DTC B1638 CURTAIN AIRBAG SENSOR LH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>
B16F4	Side Airbag Sensor RH Recognition Error	• Side airbag sensor (RH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-74, DTC B16F4 SIDE AIRBAG SENSOR RH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>
B16F5	Side Airbag Sensor LH Recognition Error	• Side airbag sensor (LH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-74, DTC B16F5 SIDE AIRBAG SENSOR LH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>
B16F6	Curtain Airbag Sensor RH Recognition Error	• Curtain airbag sensor (RH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-74, DTC B16F6 CURTAIN AIRBAG SENSOR RH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>
B16F7	Curtain Airbag Sensor LH Recognition Error	• Curtain airbag sensor (LH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-75, DTC B16F7 CURTAIN AIRBAG SENSOR LH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>
B1642	Side Satellite Sensor Bus RH Lost Communication	• Open or short circuit in harness (RH) between airbag control module and curtain airbag sensor. • Side airbag sensor (RH) is faulty. • Curtain airbag sensor (RH) is faulty. • Front door impact sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-66, DTC B1642 SIDE SATELLITE SENSOR BUS RH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1647	Side Satellite Sensor Bus LH Lost Communication	• Open or short circuit in harness (LH) between airbag control module and curtain airbag sensor. • Side airbag sensor (LH) is faulty. • Curtain airbag sensor (LH) is faulty. • Front door impact sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-70, DTC B1647 SIDE SATELLITE SENSOR BUS LH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1650	Occupant Classification System Malfunction	• Occupant detection sensor is faulty. • Occupant detection control module is faulty. • Occupant detection harness is faulty. • Rear airbag harness (RH) is faulty. • Fuse No. 25 is blown.	<Ref. to AB(diag)-75, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1655	Front Buckle Switch RH Failure	• Buckle switch (RH) circuit is open, shorted or shorted to ground. • Occupant detection system is faulty. • Occupant detection harness is faulty.	<Ref. to AB(diag)-75, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Chart with Trouble Code.>
B1660	Passenger's Airbag On Indicator Failure	• Passenger's airbag indicator is faulty. • Airbag control module is faulty. • Airbag main harness circuit is open, shorted or shorted to ground. • Body harness circuit is open.	<Ref. to AB(diag)-76, DTC B1660 PASSENGER'S AIRBAG ON INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>
B16F9	Door Sensor RH Recognition Error	• Front door impact sensor (RH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-78, DTC B16F9 DOOR SENSOR RH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>
B1690	Door Sensor RH Failure	Front door impact sensor (RH) is faulty.	<Ref. to AB(diag)-78, DTC B1690 DOOR SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
B1692	Lost Communication With Door Sensor RH	• Open or short circuit in harness between curtain airbag sensor and front door impact sensor.	<Ref. to AB(diag)-78, DTC B1692 LOST COMMUNICATION WITH DOOR SENSOR RH, Diagnostic Chart with Trouble Code.>
B1693	Door Sensor RH Initialization Incomplete	• Front door impact sensor (RH) is faulty. • Curtain airbag sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-79, DTC B1693 DOOR SENSOR RH INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>
B16FA	Lost Communication With Door Sensor LH	• Front door impact sensor (LH) is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-82, DTC B16FA LOST COMMUNICATION WITH DOOR SENSOR LH, Diagnostic Chart with Trouble Code.>
B1695	Door Sensor LH Failure	Front door impact sensor (LH) is faulty.	<Ref. to AB(diag)-82, DTC B1695 DOOR SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
B1697	Lost Communication With Door Sensor LH	• Open or short circuit in harness between curtain airbag sensor and front door impact sensor.	<Ref. to AB(diag)-82, DTC B1697 LOST COMMUNICATION WITH DOOR SENSOR LH, Diagnostic Chart with Trouble Code.>
B1698	Door Sensor LH Initialization Incomplete	• Front door impact sensor (LH) is faulty. • Curtain airbag sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-83, DTC B1698 DOOR SENSOR LH INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>
B161A	Lost Communication With Front Satellite Sensor Bus	• Open or short circuit in harness between airbag control module and front sub sensor. • Front sub sensor is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-86, DTC B161A LOST COMMUNICATION WITH FRONT SATELLITE SENSOR BUS, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B16EE	ODS Calibration Error	• Occupant detection control module is faulty. • Calibration of occupant detection control module is initial setting or faulty.	<Ref. to AB(diag)-75, DTC B16EE ODS CALIBRATION ERROR, Diagnostic Chart with Trouble Code.>
B16EF	ODS System Wrong Parts	• Specification of occupant detection control module is improper. • Occupant detection control module is faulty.	<Ref. to AB(diag)-75, DTC B16EF ODS SYSTEM WRONG PARTS, Diagnostic Chart with Trouble Code.>
B16F1	Passenger's Seat Belt Warning Failure	• Airbag control module is faulty. • Body integrated unit is faulty. • Harness circuits between body integrated unit and airbag control module are open, shorted or shorted to ground.	<Ref. to AB(diag)-89, DTC B16F1 PASSENGER'S SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>
B16F0	Passenger's Airbag Off Indicator Failure	• Airbag warning light is faulty. • Open or short circuit in harness between airbag control module and airbag warning light. • Poor contact of airbag main harness and instrument panel harness. • Ground circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-90, DTC B16F0 PASSENGER'S AIRBAG OFF INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>
B1800	Short in Driver's Airbag	• Airbag main harness circuit is shorted. • Airbag module harness (driver's side) circuit is shorted. • Roll connector circuit is shorted. • Driver's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-91, DTC B1800 SHORT IN DRIVER'S AIRBAG, Diagnostic Chart with Trouble Code.>
B1801	Open in Driver's Airbag	• Airbag main harness circuit is open. • Airbag module harness circuit (driver's side) is open. • Roll connector circuit is open. • Driver's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-93, DTC B1801 OPEN IN DRIVER'S AIRBAG, Diagnostic Chart with Trouble Code.>
B1802	Short in Driver's Airbag (To Ground)	• Airbag main harness circuit is shorted to ground. • Airbag module harness (driver's side) circuit is shorted to ground. • Roll connector circuit is shorted to ground. • Driver's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-95, DTC B1802 SHORT IN DRIVER'S AIRBAG (TO GROUND), Diagnostic Chart with Trouble Code.>
B1803	Short in Driver's Airbag (To +B)	• Airbag main harness circuit is shorted to power supply. • Airbag module harness circuit (driver's side) is shorted to power supply. • Roll connector circuit is shorted to power supply. • Airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-97, DTC B1803 SHORT IN DRIVER'S AIRBAG (TO +B), Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1805	Short in Passenger's Airbag	• Airbag main harness circuit is shorted. • Airbag module harness circuit (passenger's side) is shorted. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-99, DTC B1805 SHORT IN PASSENGER'S AIRBAG, Diagnostic Chart with Trouble Code.>
B1806	Open in Passenger's Airbag	• Airbag main harness circuit is open. • Airbag module harness circuit (passenger's side) is open. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-101, DTC B1806 OPEN IN PASSENGER'S AIRBAG, Diagnostic Chart with Trouble Code.>
B1807	Short in Passenger's Airbag (To Ground)	• Airbag main harness circuit is shorted to ground. • Airbag module harness (passenger's side) circuit is shorted to ground. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-103, DTC B1807 SHORT IN PASSENGER'S AIRBAG (TO GROUND), Diagnostic Chart with Trouble Code.>
B1808	Short in Passenger's Airbag (To +B)	• Airbag main harness circuit is shorted to power supply. • Airbag module harness (passenger's side) circuit is shorted to power supply. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-105, DTC B1808 SHORT IN PASSENGER'S AIRBAG (TO +B), Diagnostic Chart with Trouble Code.>
B1810	Short in Driver's Airbag Dual Stage - 2nd Step	• Airbag main harness circuit is shorted. • Airbag module harness (driver's side) circuit is shorted. • Roll connector circuit is shorted. • Driver's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-107, DTC B1810 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP, Diagnostic Chart with Trouble Code.>
B1811	Open in Driver's Airbag Dual Stage - 2nd Step	• Airbag main harness circuit is open. • Airbag module harness circuit (driver's side) is open. • Roll connector circuit is open. • Driver's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-109, DTC B1811 OPEN IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP, Diagnostic Chart with Trouble Code.>
B1812	Short in Driver's Airbag Dual Stage - 2nd Step (To Ground)	• Airbag main harness circuit is shorted to ground. • Airbag module harness (driver's side) circuit is shorted to ground. • Roll connector circuit is shorted to ground. • Driver's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-111, DTC B1812 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP (TO GROUND), Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1813	Short in Driver's Airbag Dual Stage - 2nd Step Circuit (To +B)	• Airbag main harness circuit is shorted to power supply. • Airbag module harness circuit (driver's side) is shorted to power supply. • Roll connector circuit is shorted to power supply. • Airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-113, DTC B1813 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP CIRCUIT (TO +B), Diagnostic Chart with Trouble Code.>
B1815	Open in Passenger's Airbag Dual Stage - 2nd Step	• Airbag main harness circuit is shorted. • Airbag module harness circuit (passenger's side) is shorted. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-115, DTC B1815 OPEN IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP, Diagnostic Chart with Trouble Code.>
B1816	Open in Passenger's Airbag Dual Stage - 2nd Step	• Airbag main harness circuit is open. • Airbag module harness circuit (passenger's side) is open. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-117, DTC B1816 OPEN IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP, Diagnostic Chart with Trouble Code.>
B1817	Short in Passenger's Airbag Dual Stage - 2nd Step (To Ground)	• Airbag main harness circuit is shorted to ground. • Airbag module harness (passenger's side) circuit is shorted to ground. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-119, DTC B1817 SHORT IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP (TO GROUND), Diagnostic Chart with Trouble Code.>
B1818	Short in Passenger's Airbag Dual Stage - 2nd Step Circuit (To +B)	• Airbag main harness circuit is shorted to power supply. • Airbag module harness (passenger's side) circuit is shorted to power supply. • Passenger's airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-121, DTC B1818 SHORT IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP CIRCUIT (TO +B), Diagnostic Chart with Trouble Code.>
B1820	Short in Side Airbag RH	• Side airbag harness (RH) circuit is shorted. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-123, DTC B1820 SHORT IN SIDE AIRBAG RH, Diagnostic Chart with Trouble Code.>
B1821	Open in Side Airbag RH	• Side airbag harness (RH) circuit is open. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-125, DTC B1821 OPEN IN SIDE AIRBAG RH, Diagnostic Chart with Trouble Code.>
B1822	Short in Side Airbag RH (To Ground)	• Side airbag harness (RH) circuit is shorted to ground. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-127, DTC B1822 SHORT IN SIDE AIRBAG RH (TO GROUND), Diagnostic Chart with Trouble Code.>
B1823	Short in Side Airbag RH (To +B)	• Side airbag harness (RH) circuit is shorted to power supply. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-129, DTC B1823 SHORT IN SIDE AIRBAG RH (TO +B), Diagnostic Chart with Trouble Code.>
B1825	Short in Side Airbag LH	• Side airbag harness (LH) circuit is shorted. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-131, DTC B1825 SHORT IN SIDE AIRBAG LH, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1826	Open in Side Airbag LH	• Side airbag harness (LH) circuit is open. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-133, DTC B1826 OPEN IN SIDE AIRBAG LH, Diagnostic Chart with Trouble Code.>
B1827	Short in Side Airbag LH (To Ground)	• Side airbag harness (LH) circuit is shorted to ground. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-135, DTC B1827 SHORT IN SIDE AIRBAG LH (TO GROUND), Diagnostic Chart with Trouble Code.>
B1828	Short in Side Airbag LH (To +B)	• Side airbag harness (LH) circuit is shorted to power supply. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-137, DTC B1828 SHORT IN SIDE AIRBAG LH (TO +B), Diagnostic Chart with Trouble Code.>
B1830	Short in Curtain Airbag RH Squib Circuit	• Curtain airbag harness (RH) circuit is shorted. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-139, DTC B1830 SHORT IN CURTAIN AIRBAG RH SQUIB CIRCUIT, Diagnostic Chart with Trouble Code.>
B1831	Open in Curtain Airbag RH Squib Circuit	• Curtain airbag harness (RH) circuit is open. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-141, DTC B1831 OPEN IN CURTAIN AIRBAG RH SQUIB CIRCUIT, Diagnostic Chart with Trouble Code.>
B1832	Short in Curtain Airbag RH Squib Circuit (To Ground)	• Curtain airbag harness (RH) circuit is shorted to ground. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-143, DTC B1832 SHORT IN CURTAIN AIRBAG RH SQUIB CIRCUIT (TO GROUND), Diagnostic Chart with Trouble Code.>
B1833	Short in Curtain Shield Airbag RH Squib Circuit (To +B)	• Curtain airbag harness (RH) is shorted to power supply. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-145, DTC B1833 SHORT IN CURTAIN SHIELD AIRBAG RH SQUIB CIRCUIT (TO +B), Diagnostic Chart with Trouble Code.>
B1835	Short in Curtain Airbag LH Squib Circuit	• Curtain airbag harness (LH) circuit is shorted. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-147, DTC B1835 SHORT IN CURTAIN AIRBAG LH SQUIB CIRCUIT, Diagnostic Chart with Trouble Code.>
B1836	Open in Curtain Airbag LH Squib Circuit	• Curtain airbag harness (LH) circuit is open. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-149, DTC B1836 OPEN IN CURTAIN AIRBAG LH SQUIB CIRCUIT, Diagnostic Chart with Trouble Code.>
B1837	Short in Curtain Airbag LH Squib Circuit (To Ground)	• Curtain airbag harness (LH) circuit is shorted to ground. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-151, DTC B1837 SHORT IN CURTAIN AIRBAG LH SQUIB CIRCUIT (TO GROUND), Diagnostic Chart with Trouble Code.>
B1838	Short in Curtain Shield Airbag LH Squib Circuit (To +B)	• Curtain airbag harness (LH) is shorted to power supply. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-153, DTC B1838 SHORT IN CURTAIN SHIELD AIRBAG LH SQUIB CIRCUIT (TO +B), Diagnostic Chart with Trouble Code.>
B1900	Short in Front P/T RH	• Seat belt pretensioner (RH) circuit is shorted. • Pretensioner (RH) is faulty. • Pretensioner harness (RH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-155, DTC B1900 SHORT IN FRONT P/T RH, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1901	Open in Front P/T RH	• Seat belt pretensioner (RH) circuit is open. • Pretensioner (RH) is faulty. • Pretensioner harness (RH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-157, DTC B1901 OPEN IN FRONT P/T RH, Diagnostic Chart with Trouble Code.>
B1902	Short in Front P/T RH (To Ground)	• Seat belt pretensioner (RH) circuit is shorted to ground. • Pretensioner (RH) is faulty. • Pretensioner harness (RH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-159, DTC B1902 SHORT IN FRONT P/T RH (TO GROUND), Diagnostic Chart with Trouble Code.>
B1903	Short in Front P/T RH (To +B)	• Seat belt pretensioner (RH) circuit is shorted to power supply. • Pretensioner (RH) is faulty. • Pretensioner harness (RH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-161, DTC B1903 SHORT IN FRONT P/T RH (TO +B), Diagnostic Chart with Trouble Code.>
B1905	Short in Front P/T LH	• Seat belt pretensioner (LH) circuit is shorted. • Pretensioner (LH) is faulty. • Pretensioner harness (LH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-163, DTC B1905 SHORT IN FRONT P/T LH, Diagnostic Chart with Trouble Code.>
B1906	Open in Front P/T LH	• Seat belt pretensioner (LH) circuit is open. • Pretensioner (LH) is faulty. • Pretensioner harness (LH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-165, DTC B1906 OPEN IN FRONT P/T LH, Diagnostic Chart with Trouble Code.>
B1907	Short in Front P/T LH (To Ground)	• Seat belt pretensioner (LH) circuit is shorted to ground. • Pretensioner (LH) is faulty. • Pretensioner harness (LH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-167, DTC B1907 SHORT IN FRONT P/T LH (TO GROUND), Diagnostic Chart with Trouble Code.>
B1908	Short in Front P/T LH (To +B)	• Seat belt pretensioner (LH) circuit is shorted to power supply. • Pretensioner (LH) is faulty. • Pretensioner harness (LH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-169, DTC B1908 SHORT IN FRONT P/T LH (TO +B), Diagnostic Chart with Trouble Code.>
B19F0	Short in Front P/T 2 RH	• Lap seat belt pretensioner (RH) circuit is shorted. • Lap seat belt pretensioner (RH) is faulty. • Lap seat belt pretensioner harness (RH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-171, DTC B19F0 SHORT IN FRONT P/T 2 RH, Diagnostic Chart with Trouble Code.>
B19F1	Open in Front P/T 2 RH	• Lap seat belt pretensioner (RH) circuit is open. • Lap seat belt pretensioner (RH) is faulty. • Lap seat belt pretensioner harness (RH) is open. • Airbag control module is faulty.	<Ref. to AB(diag)-173, DTC B19F1 OPEN IN FRONT P/T 2 RH, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B19F2	Short in Front P/T 2 RH (To Ground)	• Lap seat belt pretensioner (RH) circuit is shorted to ground. • Lap seat belt pretensioner (RH) is faulty. • Lap seat belt pretensioner harness (RH) is shorted to ground. • Airbag control module is faulty.	<Ref. to AB(diag)-175, DTC B19F2 SHORT IN FRONT P/T 2 RH (TO GROUND), Diagnostic Chart with Trouble Code.>
B19F3	Short in Front P/T 2 RH (To +B)	• Lap seat belt pretensioner (RH) circuit is shorted to power supply. • Lap seat belt pretensioner (RH) is faulty. • Lap seat belt pretensioner harness (RH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-177, DTC B19F3 SHORT IN FRONT P/T 2 RH (TO +B), Diagnostic Chart with Trouble Code.>
B19F4	Short in Front P/T 2 LH	• Lap seat belt pretensioner (LH) circuit is shorted. • Lap seat belt pretensioner (LH) is faulty. • Lap seat belt pretensioner harness (LH) is shorted. • Airbag control module is faulty.	<Ref. to AB(diag)-179, DTC B19F4 SHORT IN FRONT P/T 2 LH, Diagnostic Chart with Trouble Code.>
B19F5	Open in Front P/T 2 LH	• Lap seat belt pretensioner (LH) circuit is open. • Lap seat belt pretensioner (LH) is faulty. • Lap seat belt pretensioner harness (LH) is open. • Airbag control module is faulty.	<Ref. to AB(diag)-181, DTC B19F5 OPEN IN FRONT P/T 2 LH, Diagnostic Chart with Trouble Code.>
B19F6	Short in Front P/T LH (To Ground)	• Lap seat belt pretensioner (LH) circuit is shorted to ground. • Lap seat belt pretensioner (LH) is faulty. • Lap seat belt pretensioner harness (LH) is shorted to ground. • Airbag control module is faulty.	<Ref. to AB(diag)-183, DTC B19F6 SHORT IN FRONT P/T LH (TO GROUND), Diagnostic Chart with Trouble Code.>
B19F7	Short in Front P/T 2 LH (To +B)	• Lap seat belt pretensioner (LH) circuit is shorted to power supply. • Lap seat belt pretensioner (LH) is faulty. • Lap seat belt pretensioner harness (LH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-185, DTC B19F7 SHORT IN FRONT P/T 2 LH (TO +B), Diagnostic Chart with Trouble Code.>

16.Diagnostic Chart with Trouble Code

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF

This is detected when a CAN line malfunction occurs.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

B: DTC B1000 AIRBAG ECU MALFUNCTION

DTC DETECTING CONDITION:
Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to “CAUTION” in “General Description”. <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC. (Current malfunction) <Ref. to AB(diag)-27, Read Diagnostic Trouble Code (DTC).>	Is “Airbag ECU Malfunction” displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Perform the Clear Memory Mode. <Ref. to AB(diag)-29, Clear Memory Mode.>

C: DTC B1003 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1103, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

D: DTC B1105 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1105, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

E: DTC B1106 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1106, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

F: DTC B1115 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1115, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

G: DTC B1116 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1116, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

H: DTC B1120 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1120 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

I: DTC B1121 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1106 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

J: DTC B1125 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1125 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

K: DTC B1126 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1126 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

L: DTC B1135 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1135 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

M: DTC B1136 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1136 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

N: DTC B1145 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1145 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

O: DTC B1146 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1146 for details on DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

P: DTC B1170 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1170, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

Q: DTC B1185 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1185, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

R: DTC B1195 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1195, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

S: DTC B1196 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1196, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

T: DTC B1199 AIRBAG ECU MALFUNCTION

NOTE:
For details on DTC B1199, refer to DTC B1100. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

U: DTC B11E0 ROLLOVER IGNITION

This DTC is indicated when the curtain airbag module and the seat belt pretensioner are deployed.
Once this DTC is displayed, the memory cannot be cleared. Replace the following parts.
- Airbag control module <Ref. to AB-72, Airbag Control Module.>
- Curtain airbag module (operating side) <Ref. to AB-69, Curtain Airbag Module.>
- Curtain airbag sensor (operating side) <Ref. to AB-91, Curtain Airbag Sensor.>
- Front outer seat belt with pretensioner (operating side) <Ref. to SB-17, Front Seat Belt.>

V: DTC B11F2 FRONT IMPACT IGNITION

DTC DETECTING CONDITION:
This DTC is indicated when the front airbag module and the pretensioner are deployed.
Once this DTC is displayed, the memory cannot be cleared. Therefore replace the following parts.
- Airbag control module <Ref. to AB-72, Airbag Control Module.>
- Driver's airbag module <Ref. to AB-37, Driver's Airbag Module.>
- Passenger's airbag module <Ref. to AB-40, Passenger's Airbag Module.>
- Front sub sensor of both sides. <Ref. to AB-75, Front Sub Sensor.>
- Front outer seat belt with pretensioner of both sides. <Ref. to SB-17, Front Seat Belt.>
- Steering roll connector <Ref. to AB-103, Roll Connector.>
- Occupant detection system (passenger's seat cushion & frame assembly) <Ref. to SE-10, Front Seat.>
- Curtain airbag module (operating side) <Ref. to AB-69, Curtain Airbag Module.>

W: DTC B11F3 FRONT IMPACT IGNITION

NOTE:
For details on DTC B11F3, refer to DTC B11F2. <Ref. to AB(diag)-46, DTC B11F2 FRONT IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

X: DTC B11F4 FRONT IMPACT IGNITION

NOTE:
For details on DTC B11F4, refer to DTC B11F2. <Ref. to AB(diag)-46, DTC B11F2 FRONT IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

Y: DTC B11F5 FRONT IMPACT IGNITION

NOTE:
For details on DTC B11F5, refer to DTC B11F2. <Ref. to AB(diag)-46, DTC B11F2 FRONT IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

Z: DTC B11F7 SIDE IMPACT IGNITION

This DTC is displayed when the side airbag module and curtain airbag module are deployed.
Once this DTC is displayed, the memory cannot be cleared. Replace the following parts.
- Airbag control module <Ref. to AB-72, Airbag Control Module.>
- Side airbag module (operating side) <Ref. to AB-59, Side Airbag Module.>
- Side airbag sensor (operating side) <Ref. to AB-85, Side Airbag Sensor.>
- Curtain airbag module (operating side) <Ref. to AB-69, Curtain Airbag Module.>
- Curtain airbag sensor (operating side) <Ref. to AB-91, Curtain Airbag Sensor.>

AA:DTC B11F8 SIDE IMPACT IGNITION

NOTE:
For details on DTC B11F8. refer to DTC B11F7. <Ref. to AB(diag)-46, DTC B11F7 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

AB:DTC B11F9 SIDE IMPACT IGNITION

NOTE:
For details on DTC B11F9, refer to DTC B11F7. <Ref. to AB(diag)-46, DTC B11F7 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

AC:DTC B11FA SIDE IMPACT IGNITION

NOTE:
For details on DTC B11FA, refer to DTC B11F7. <Ref. to AB(diag)-46, DTC B11F7 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

AD:DTC B11FB SIDE IMPACT IGNITION

NOTE:
For details on DTC B11FB, refer to DTC B11F7. <Ref. to AB(diag)-46, DTC B11F7 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

AE:DTC B11FC SIDE IMPACT IGNITION

NOTE:
For details on DTC B11FC, refer to DTC B11F7. <Ref. to AB(diag)-46, DTC B11F7 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

AF:DTC B1610 FRONT SUB SENSOR RH FAILURE

DTC DETECTING CONDITION:
Front sub sensor (RH) is faulty.
If DTC B1610 is displayed, the circuit within the front sub sensor (RH) is faulty.
Replace the front sub sensor (RH). <Ref. to AB-75, Front Sub Sensor.>

AG:DTC B1612 FRONT SUB SENSOR RH LOST COMMUNICATION

NOTE:
For details on DTC B1612, refer to DTC B1613. <Ref. to AB(diag)-48, DTC B1613 FRONT SUB SENSOR RH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>

AH:DTC B1613 FRONT SUB SENSOR RH INITIALIZATION ERROR

DTC DETECTING CONDITION:

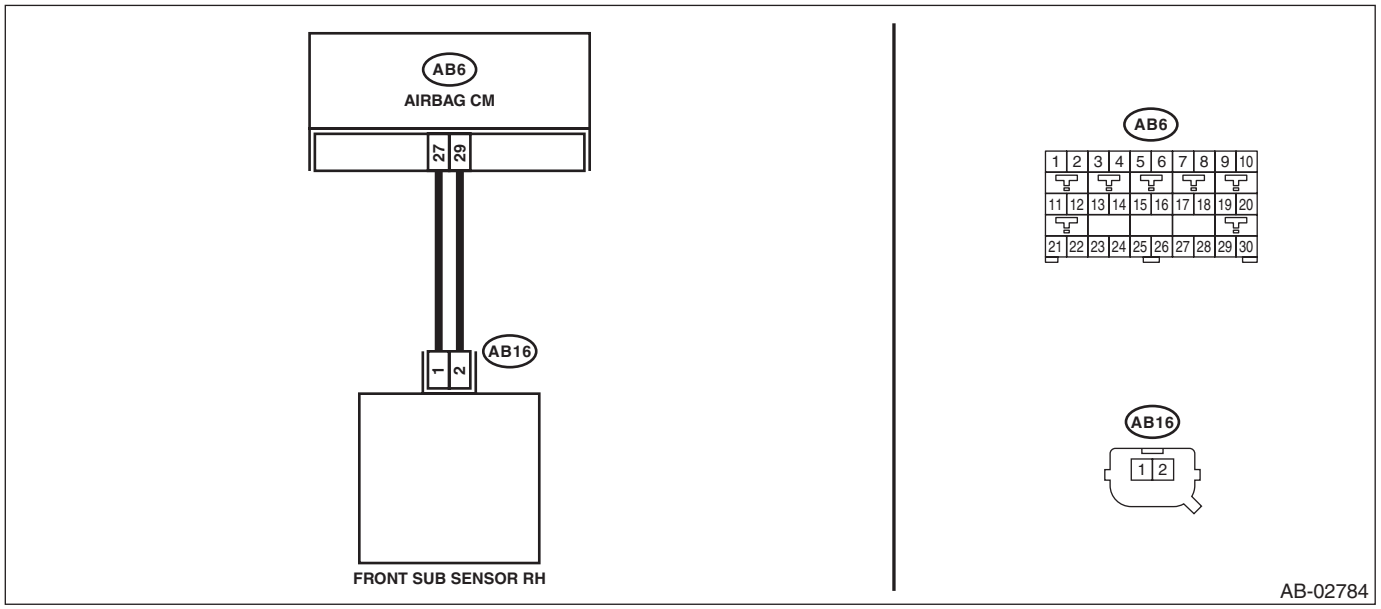
- Open or short circuit in harness of front sensor bus (RH).
- Front sub sensor (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB6, AB16) between the airbag control module and the front sub sensor (RH).	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the instrument panel lower cover and column cover, and disconnect the connectors (AB7) and (AB2). 3) Remove the console front panel and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) Disconnect the connector (AB16) from the front sub sensor (RH), and then connect the connector (1H) in the test harness H to connector (AB16). 7) Measure the resistance between connector (4AG) in the test harness AG and connector (3H) in the test harness H. ***Connector & terminal*** ***(4AG) No. 14 — (3H) No. 5:*** ***(4AG) No. 12 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS RH).** Measure the resistance between connector (4AG) in the test harness AG and chassis ground, and the resistance between connector (4AG) terminals in the test harness AG. ***Connector & terminal*** ***(4AG) No. 12 — Chassis ground:*** ***(4AG) No. 14 — Chassis ground:*** ***(4AG) No. 12 — (4AG) No. 14:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the front sub sensor (RH). <Ref. to AB-75, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AI: DTC B1615 FRONT SUB SENSOR LH FAILURE

DTC DETECTING CONDITION:

Front sub sensor (LH) is faulty.

If DTC B1615 is displayed, the circuit within the front sub sensor (LH) is faulty.

Replace the front sub sensor (LH). <Ref. to AB-75, Front Sub Sensor.>

AJ:DTC B1617 FRONT SUB SENSOR LH LOST COMMUNICATION

NOTE:

For details on DTC B1617, refer to DTC B1618. <Ref. to AB(diag)-51, DTC B1618 FRONT SUB SENSOR LH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>

AK:DTC B1618 FRONT SUB SENSOR LH INITIALIZATION ERROR

DTC DETECTING CONDITION:

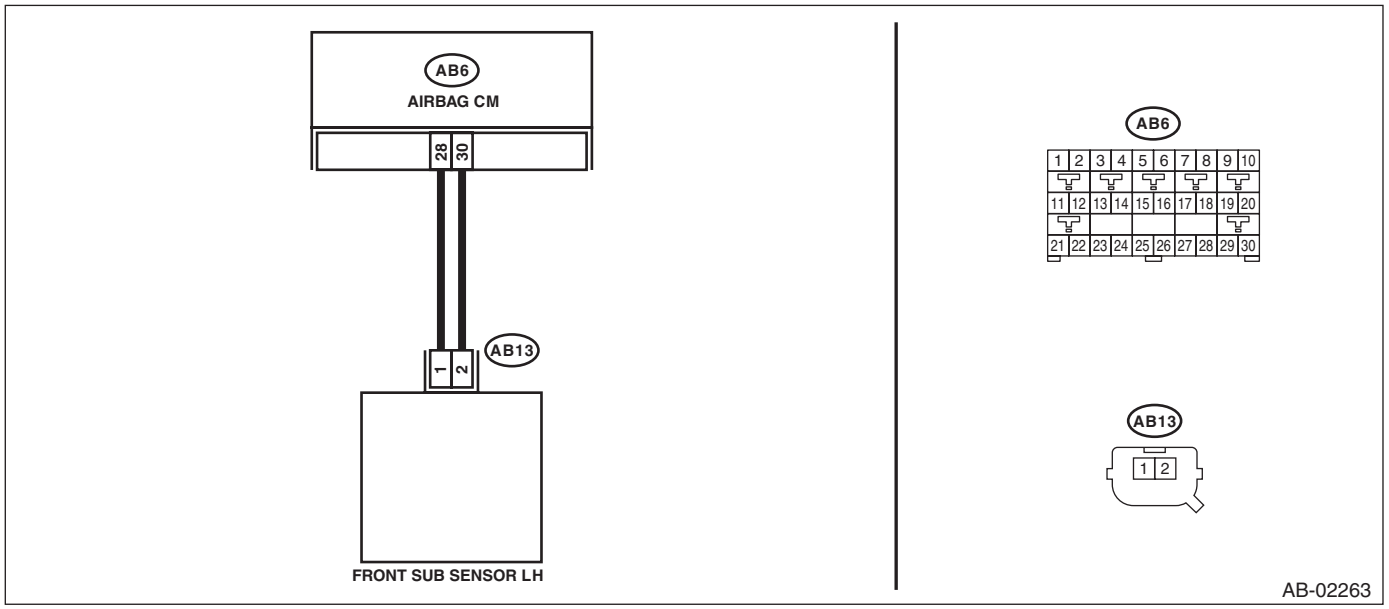
- Open or short circuit in harness of front sensor bus (LH).
- Front sub sensor (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB6, AB13) between the airbag control module and the front sub sensor (LH).	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the instrument panel lower cover and column cover, and disconnect the connectors (AB7) and (AB2). 3) Remove the console front panel and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) Disconnect the connector (AB13) from the front sub sensor (LH), and then connect the connector (1H) in the test harness H to connector (AB13). 7) Measure the resistance between connector (4AG) in the test harness AG and connector (3H) in the test harness H. ***Connector & terminal*** ***(4AG) No. 7 — (3H) No. 5:*** ***(4AG) No. 9 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS LH).** Measure the resistance between connector (4AG) in the test harness AG and chassis ground, and the resistance between connector (4AG) terminals in the test harness AG. ***Connector & terminal*** ***(4AG) No. 7 — Chassis ground:*** ***(4AG) No. 9 — Chassis ground:*** ***(4AG) No. 7 — (4AG) No. 9:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the front sub sensor (LH). <Ref. to AB-75, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AL:DTC B16F2 FRONT SUB SENSOR RH RECOGNITION ERROR

DTC DETECTING CONDITION:
Front sub sensor (RH) is misinstalled.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE FRONT SUB SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front sub sensor (RH) with a genuine sensor. <Ref. to AB-75, REMOVAL, Front Sub Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

AM:DTC B16F3 FRONT SUB SENSOR LH RECOGNITION ERROR

DTC DETECTING CONDITION:
Front sub sensor (LH) is misinstalled.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE FRONT SUB SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front sub sensor (LH) with a genuine sensor. <Ref. to AB-75, REMOVAL, Front Sub Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

AN:DTC B1620 SIDE AIRBAG SENSOR RH FAILURE

DTC DETECTING CONDITION:
Side airbag sensor (RH) is faulty.
When DTC B1620 is displayed, the circuit within the side airbag sensor (RH) is faulty.
Replace the side airbag sensor (RH). <Ref. to AB-85, Side Airbag Sensor.>

AO:DTC B1622 SIDE AIRBAG SENSOR RH LOST COMMUNICATION

NOTE:
For details on DTC B1622, refer to DTC B1623. <Ref. to AB(diag)-54, DTC B1623 SIDE AIRBAG SENSOR RH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>

AP:DTC B1623 SIDE AIRBAG SENSOR RH INITIALIZATION ERROR

DTC DETECTING CONDITION:

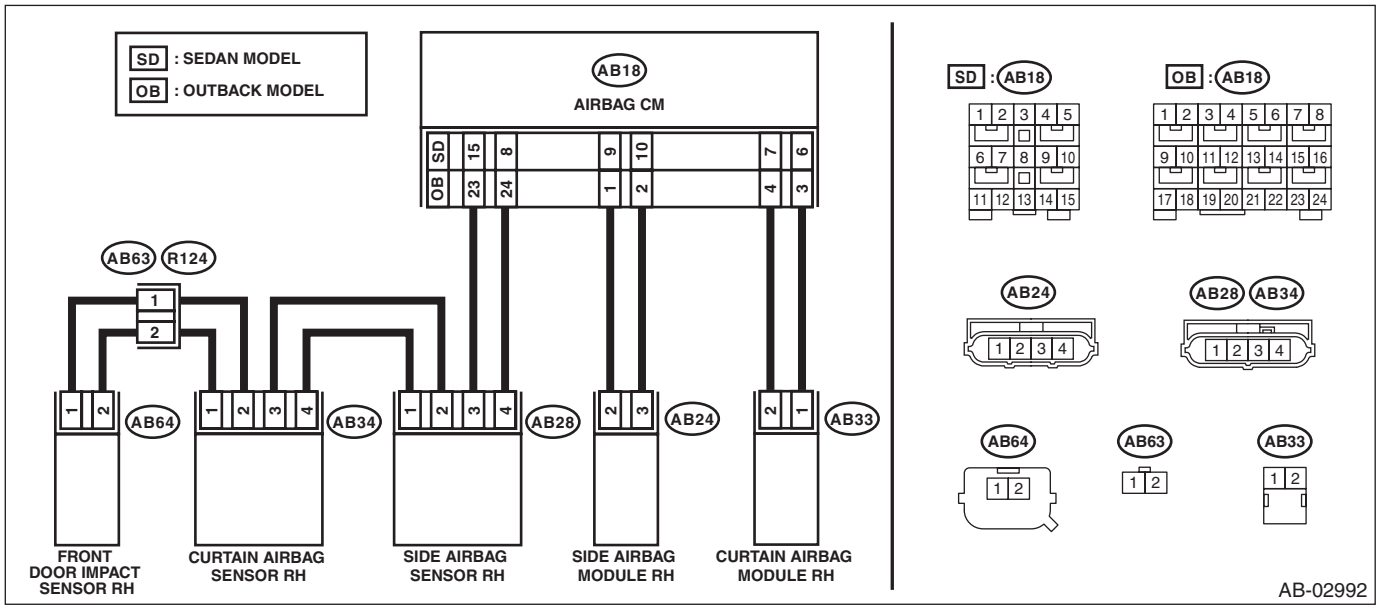
- Open or short circuit in harness of side sensor bus (RH).
- Side airbag sensor (RH) and curtain airbag sensor (RH) are faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the side airbag sensor (RH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) of the side airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Disconnect the connector (AB28) from side airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB28). 8) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***OUTBACK model*** ***(5AG) No. 8 — (3V) No. 2:*** ***(5AG) No. 10 — (3V) No. 1:*** ***Sedan model*** ***(5AG) No. 9 — (3V) No. 2:*** ***(5AG) No. 10 — (3V) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness along with body harness.
3	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR RH).** Measure the resistance between test harness AG connectors (5AG) and chassis ground, and the resistance between connectors (5AG) of the test harness AG. ***Connector & terminal*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — (3V) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **5**.	Go to step **6**.

	Step	Check	Yes	No
5	**REPLACE SIDE AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (RH). <Ref. to AB-85, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the system normal?	Go to step **6**.	Replace the curtain airbag sensor (RH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-72, REMOVAL, Airbag Control Module.>
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AQ:DTC B1625 SIDE AIRBAG SENSOR LH FAILURE

DTC DETECTING CONDITION:

Side airbag sensor (LH) is faulty.

When DTC B1625 is displayed, the circuit within the side airbag sensor (LH) is faulty.

Replace the side airbag sensor (LH). <Ref. to AB-85, Side Airbag Sensor.>

AR:DTC B1627 SIDE AIRBAG SENSOR LH LOST COMMUNICATION

NOTE:

Refer to DTC B1627 for details on DTC B1628. <Ref. to AB(diag)-57, DTC B1628 SIDE AIRBAG SENSOR LH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>

AS:DTC B1628 SIDE AIRBAG SENSOR LH INITIALIZATION ERROR

DTC DETECTING CONDITION:

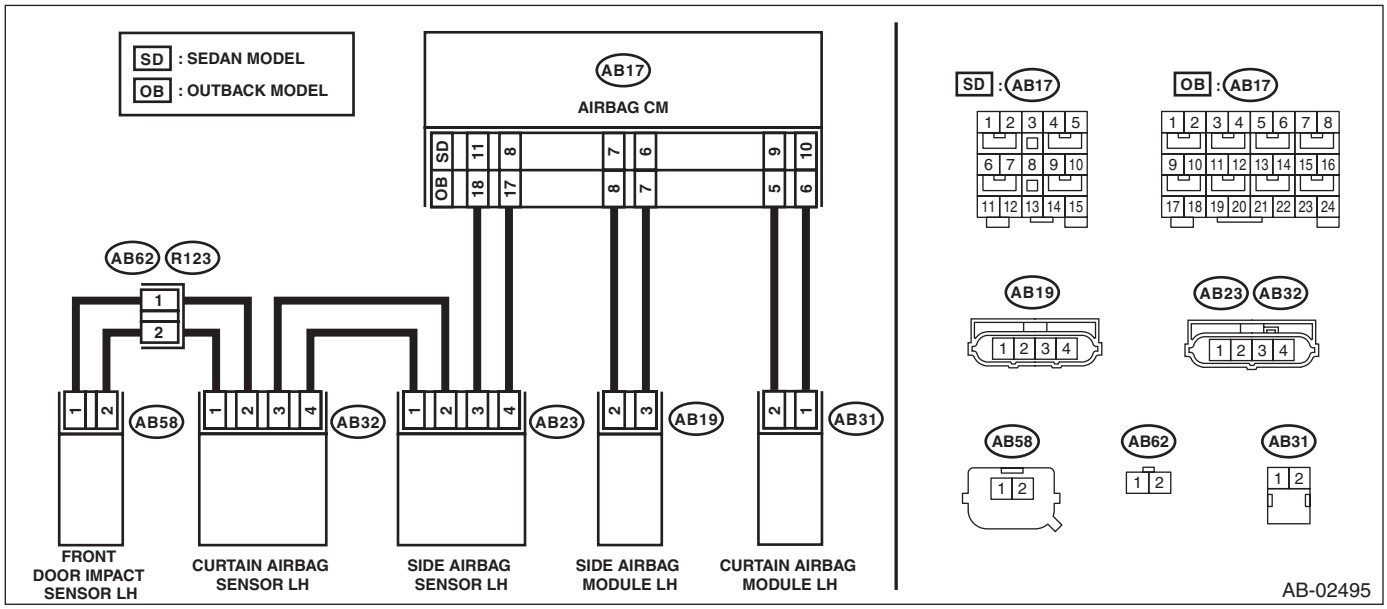
- Open or short circuit in harness of side sensor bus (LH).
- Side airbag sensor (LH) and curtain airbag sensor (LH) are faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the side airbag sensor (RH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect connector (AB19) of the side airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Disconnect the connector (AB23) from side airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB23). 8) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***OUTBACK model*** ***(5AG) No. 14 — (3V) No. 1:*** ***(5AG) No. 16 — (3V) No. 2:*** ***Sedan model*** ***(5AG) No. 14 — (3V) No. 1:*** ***(5AG) No. 15 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness along with body harness.
3	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** Measure the resistance between test harness AG connectors (5AG) and chassis ground, and the resistance between connectors (5AG) of the test harness AG. ***Connector & terminal*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — (3V) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **5**.	Go to step **6**.

Step		Check	Yes	No
5	**REPLACE SIDE AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (LH). <Ref. to AB-85, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the system normal?	Go to step **6**.	Replace the curtain airbag sensor (LH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-72, REMOVAL, Airbag Control Module.>
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AT:DTC B1630 CURTAIN AIRBAG SENSOR RH FAILURE

DTC DETECTING CONDITION:

Curtain airbag sensor (RH) is faulty.
If DTC B1630 is displayed, the circuit within the curtain airbag sensor (RH) is faulty.
Replace the curtain airbag sensor (RH). <Ref. to AB-91, Curtain Airbag Sensor.>

AU:DTC B1632 CURTAIN AIRBAG SENSOR RH LOST COMMUNICATION

NOTE:
For details on DTC B1632, refer to DTC B1633. <Ref. to AB(diag)-60, DTC B1633 CURTAIN AIRBAG SENSOR RH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>

AV:DTC B1633 CURTAIN AIRBAG SENSOR RH INITIALIZATION ERROR

DTC DETECTING CONDITION:

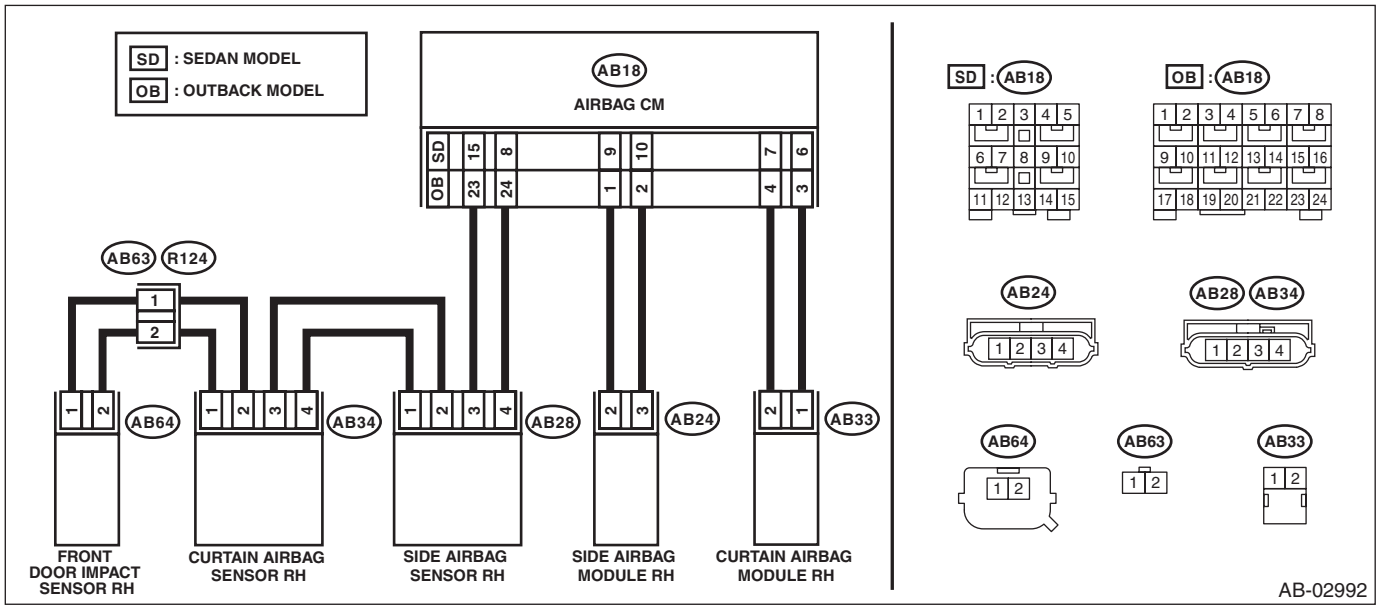
- Open or short circuit in harness of side sensor bus (RH).
- Side airbag sensor (RH) and curtain airbag sensor (RH) are faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK DTC.**	Is DTC B1622 or B1623 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the door sensor (RH).	Is there poor contact?	Replace the airbag rear harness and the door harness.	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR (RH) AND CURTAIN AIRBAG SENSOR (RH)).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) of the side airbag module (RH). 5) Disconnect connector (AB28) from side airbag sensor (RH). 6) Connect the connector (AB28) of side airbag sensor (RH) and the connector (1AI) in the test harness AI. 7) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 8) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34). 9) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR RH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) in test harness V. ***Connector & terminal*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — (3V) No. 1:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **6**.	Go to step **7**.
6	**REPLACE CURTAIN AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain airbag sensor (RH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **7**.	Go to step **8**.

	Step	Check	Yes	No
7	**REPLACE SIDE AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (RH). <Ref. to AB-85, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **8**.
8	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AW:DTC B1635 CURTAIN AIRBAG SENSOR LH FAILURE

DTC DETECTING CONDITION:

Curtain airbag sensor (LH) is faulty.

If DTC B1635 is displayed, the circuit within the curtain airbag sensor (LH) is faulty.

Replace the curtain airbag sensor (LH). <Ref. to AB-91, Curtain Airbag Sensor.>

AX:DTC B1637 CURTAIN AIRBAG SENSOR LH LOST COMMUNICATION

NOTE:

Refer to DTC B1637 for details on DTC B1638. <Ref. to AB(diag)-63, DTC B1638 CURTAIN AIRBAG SENSOR LH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>

AY:DTC B1638 CURTAIN AIRBAG SENSOR LH INITIALIZATION ERROR

DTC DETECTING CONDITION:

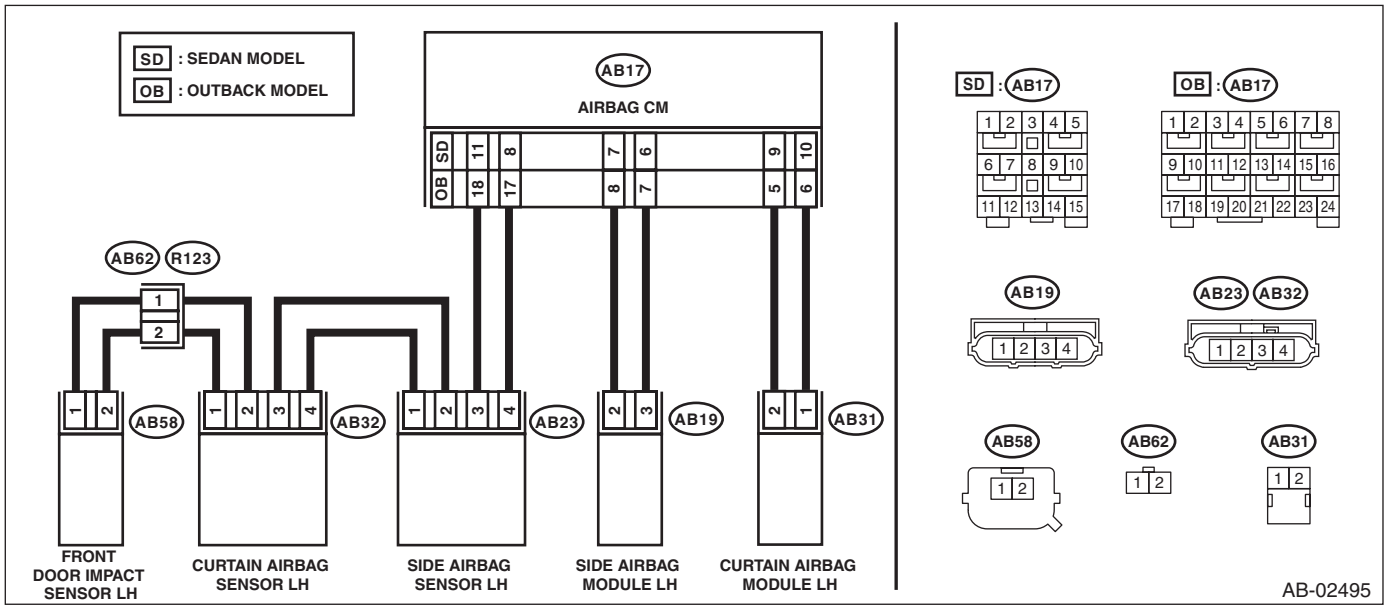
- Open or short circuit in harness of side sensor bus (LH).
- Side airbag sensor (LH) and curtain airbag sensor (LH) are faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK DTC.**	Is DTC B1627 or B1628 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the door sensor (LH).	Is there poor contact?	Replace the airbag rear harness and the door harness.	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR LH AND CURTAIN AIRBAG SENSOR LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect connector (AB19) of the side airbag module (LH). 5) Disconnect the connector (AB23) in the side airbag sensor (LH). 6) Connect the connector (AB23) of side airbag sensor (LH) and the connector (1AI) in the test harness AI. 7) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 8) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect to the connector (2V) in test harness V. 9) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR LH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) in test harness V. ***Connector & terminal*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — (3V) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **6**.	Go to step **8**.
6	**REPLACE CURTAIN AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain airbag sensor (LH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **7**.	Go to step **8**.

	Step	Check	Yes	No
7	**REPLACE SIDE AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (LH). <Ref. to AB-85, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **8**.
8	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AZ:DTC B1642 SIDE SATELLITE SENSOR BUS RH LOST COMMUNICATION

DTC DETECTING CONDITION:

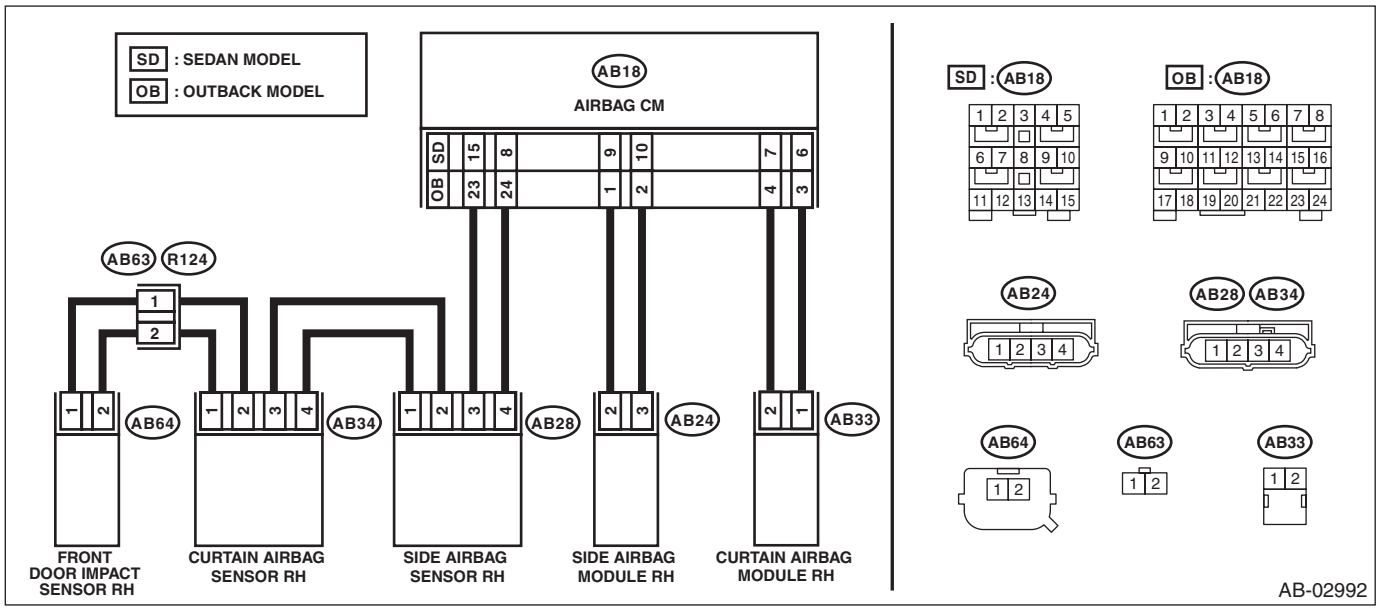
- Open or short circuit in harness of side sensor bus (RH).
- Side airbag sensor (RH) is faulty.
- Curtain airbag sensor (RH) is faulty.
- Front door impact sensor (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC.	Is DTC B1622 or B1623 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC.	Is DTC B1632 or B1633 displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Read the DTC.	Is DTC B1692 or B1693 displayed?	Perform the diagnosis according to DTC.	Go to step **4**.
4	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the front door impact sensor (RH).	Is there poor contact?	Replace the airbag rear harness and the door harness.	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) of the side airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AH) in the test harness AH to the connectors (AB6, AB17, AB18). 7) Connect the connector (2AH) in the test harness AH and the connector (1AG) in the test harness AG. 8) Disconnect connector (AB28) from side airbag sensor (RH). 9) Connect the connector (2V) in the test harness V to the connector (AB28). 10) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***(5AG) No. 15 — (3V) No. 2:*** ***(5AG) No. 14 — (3V) No. 1:***	Is the resistance less than 10 Ω?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR RH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals. ***Connector & terminal*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — (3V) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Replace the airbag rear harness along with body harness.

	Step	Check	Yes	No
7	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR RH).** 1) Disconnect the connector (2V) in the test harness V from the connector (AB28) of side airbag sensor (RH). 2) Connect the connector (AB28) of side airbag sensor (RH) and the connector (1AI) in the test harness AI. 3) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 4) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34). 5) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **8**.	Replace the airbag rear harness along with body harness.
8	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR RH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals in test harness V. ***Connector & terminal*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 1 — (3V) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **9**.	Replace the airbag rear harness along with body harness.
9	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR RH AND DOOR SENSOR RH).** 1) Disconnect the connector (AB64) from the front door impact sensor (RH), and connect the connector (1H) in the test harness H to connector (AB64). 2) Measure the resistance between connector (3V) in the test harness V and connector (3H) in the test harness H. ***Connector & terminal*** ***(3V) No. 4 — (3H) No. 5:*** ***(3V) No. 5 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **10**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.
10	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR RH AND FRONT DOOR IMPACT SENSOR RH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals in test harness V. ***Connector & terminal*** ***(3V) No. 4 — Chassis ground:*** ***(3V) No. 5 — Chassis ground:*** ***(3V) No. 4 — (3V) No. 5:***	Is the resistance 1 MΩ or more?	Go to step **11**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.

	Step	Check	Yes	No
11	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Go to step **12**.	Go to step **15**.
12	**REPLACE SIDE AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (RH). <Ref. to AB-85, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the same DTC displayed?	Go to step **13**.	Go to step **15**.
13	**REPLACE CURTAIN AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain airbag sensor (RH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the same DTC displayed?	Go to step **14**.	Go to step **15**.
14	**REPLACE FRONT DOOR IMPACT SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front door impact sensor (RH). <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **15**.
15	**CHECK FOR ANY OTHER DTC ON DISPLAY.** Read the DTC.	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Finish the diagnosis.

BA:DTC B1647 SIDE SATELLITE SENSOR BUS LH LOST COMMUNICATION

DTC DETECTING CONDITION:

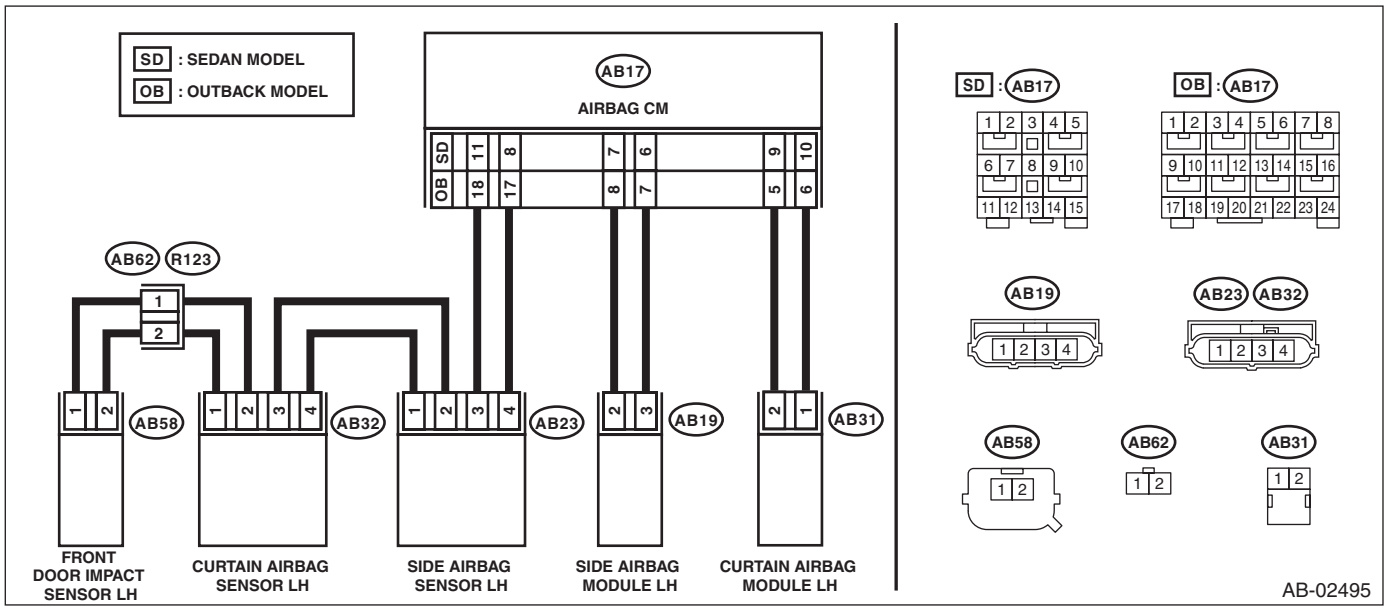
- Open or short circuit in harness of side sensor bus (LH).
- Side airbag sensor (LH) is faulty.
- Curtain airbag sensor (LH) is faulty.
- Front door impact sensor (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC.	Is DTC B1627 or B1628 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC.	Is DTC B1637 or B1638 displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Read the DTC.	Is DTC B1697 or B1698 displayed?	Perform the diagnosis according to DTC.	Go to step **4**.
4	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the front door impact sensor (LH).	Is there poor contact?	Replace the airbag rear harness and the door harness.	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect connector (AB19) of the side airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AH) in the test harness AH to the connectors (AB6, AB17, AB18). 7) Connect the connector (2AH) in the test harness AH and the connector (1AG) in the test harness AG. 8) Disconnect the connector (AB23) from the side airbag sensor (LH). 9) Connect the connector (2V) in the test harness V to the connector (AB23). 10) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***(5AG) No. 10 — (3V) No. 1:*** ***(5AG) No. 9 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **6**.	Replace the airbag rear harness along with body harness.
6	**CHECK AIRBAG REAR HARNESS (BETWEEN AIRBAG CONTROL MODULE AND SIDE AIRBAG SENSOR LH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals. ***Connector & terminal*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — (3V) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Replace the airbag rear harness along with body harness.

	Step	Check	Yes	No
7	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR LH).** 1) Disconnect the connector (2V) in the test harness V from the connector (AB23) of side airbag sensor (LH). 2) Connect the connector (AB23) of side airbag sensor (LH) and the connector (1AI) in the test harness AI. 3) Connect the connector (2AI) in the test harness AI and the connector (1V) in the test harness V. 4) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB32). 5) Measure the resistance between connector (3V) terminals in the test harness V. ***Connector & terminal*** ***(3V) No. 2 — (3V) No. 6:*** ***(3V) No. 1 — (3V) No. 7:***	Is the resistance less than 10 Ω?	Go to step **8**.	Replace the airbag rear harness along with body harness.
8	**CHECK AIRBAG REAR HARNESS (BETWEEN SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR LH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals in test harness V. ***Connector & terminal*** ***(3V) No. 2 — Chassis ground:*** ***(3V) No. 1 — Chassis ground:*** ***(3V) No. 1 — (3V) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **9**.	Replace the airbag rear harness along with body harness.
9	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR LH AND DOOR SENSOR LH).** 1) Disconnect the connector (AB58) from the front door impact sensor (LH), and connect the connector (1H) in the test harness H to connector (AB58). 2) Measure the resistance between connector (3V) in the test harness V and connector (3H) in the test harness H. ***Connector & terminal*** ***(3V) No. 4 — (3H) No. 5:*** ***(3V) No. 5 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **10**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.
10	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR LH AND DOOR SENSOR LH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals in test harness V. ***Connector & terminal*** ***(3V) No. 4 — Chassis ground:*** ***(3V) No. 5 — Chassis ground:*** ***(3V) No. 4 — (3V) No. 5:***	Is the resistance 1 MΩ or more?	Go to step **11**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.

	Step	Check	Yes	No
11	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Go to step **12**.	Go to step **15**.
12	**REPLACE SIDE AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side airbag sensor (LH). <Ref. to AB-85, REMOVAL, Side Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the same DTC displayed?	Go to step **13**.	Go to step **15**.
13	**REPLACE CURTAIN AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain airbag sensor (LH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the same DTC displayed?	Go to step **14**.	Go to step **15**.
14	**REPLACE FRONT DOOR IMPACT SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front door impact sensor (LH). <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **15**.
15	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Finish the diagnosis.

BB:DTC B16F4 SIDE AIRBAG SENSOR RH RECOGNITION ERROR

DTC DETECTING CONDITION:

- Side airbag sensor RH is misinstalled.
- Airbag CM is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE SIDE AIRBAG SENSOR (RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side A/B sensor (RH) with a genuine sensor. <Ref. to AB-85, REMOVAL, Side Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

BC:DTC B16F5 SIDE AIRBAG SENSOR LH RECOGNITION ERROR

DTC DETECTING CONDITION:

- Side airbag sensor LH is misinstalled.
- Airbag CM is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE SIDE AIRBAG SENSOR (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the side A/B sensor (LH) with a genuine sensor. <Ref. to AB-85, REMOVAL, Side Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

BD:DTC B16F6 CURTAIN AIRBAG SENSOR RH RECOGNITION ERROR

DTC DETECTING CONDITION:

- Curtain airbag sensor RH is misinstalled.
- Airbag CM is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE CURTAIN AIRBAG SENSOR (RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain A/B sensor (RH) with a genuine sensor. <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

BE:DTC B16F7 CURTAIN AIRBAG SENSOR LH RECOGNITION ERROR

DTC DETECTING CONDITION:

- Curtain airbag sensor LH is misinstalled.
- Airbag CM is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE CURTAIN AIRBAG SENSOR (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain A/B sensor (LH) with a genuine sensor. <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

BF:DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION

NOTE:
Refer to "Occupant Detection System" for details on DTC B1650. <Ref. to OD(diag)-23, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BG:DTC B1655 FRONT BUCKLE SWITCH RH FAILURE

NOTE:
Refer to "Occupant Detection System" for details on DTC B1655. <Ref. to OD(diag)-25, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BH:DTC B16EE ODS CALIBRATION ERROR

NOTE:
Refer to "OCCUPANT DETECTION SYSTEM" for details on DTC B16EE. <Ref. to OD(diag)-26, DTC B16EE ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BI: DTC B16EF ODS SYSTEM WRONG PARTS

NOTE:
Refer to "OCCUPANT DETECTION SYSTEM" for details on DTC B16EF. <Ref. to OD(diag)-26, DTC B16EF ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BJ:DTC B1660 PASSENGER'S AIRBAG ON INDICATOR FAILURE

DTC DETECTING CONDITION:

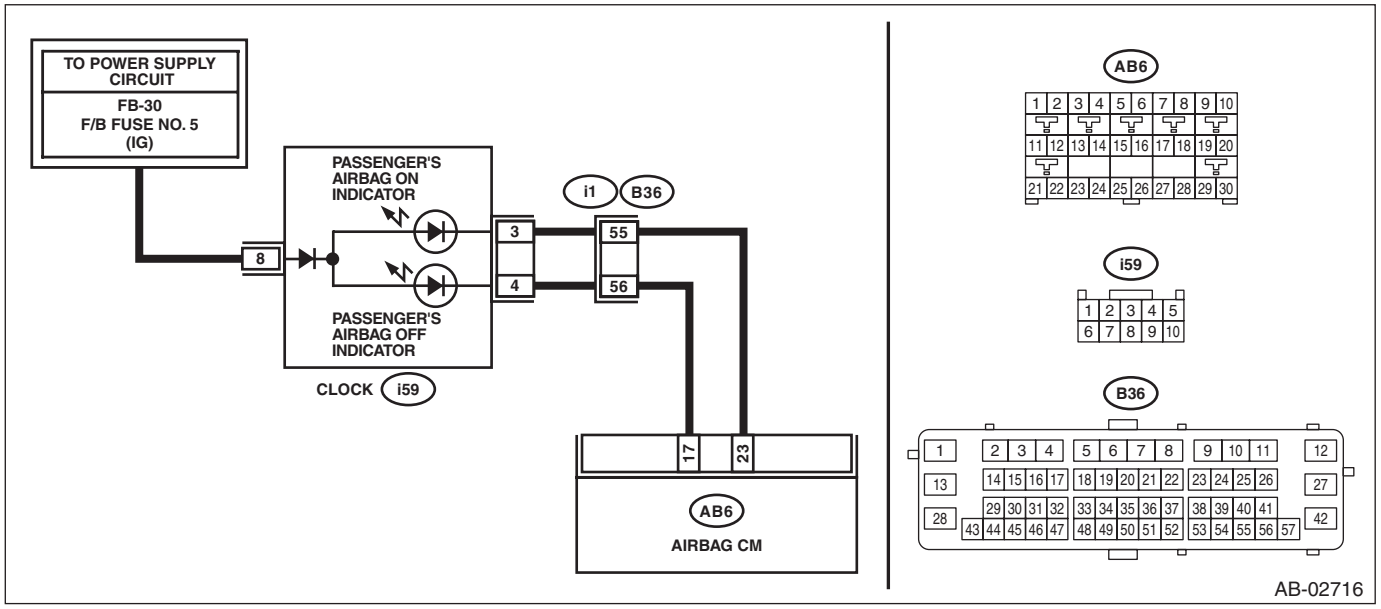
- Passenger's airbag indicator is faulty.
- Airbag control module is faulty.
- Airbag main harness circuit is open or shorted.
- Body harness circuit is open.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK FOR POOR CONTACT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Check that the connector between the airbag control module and the clock is securely connected.	Is there poor contact of any connector?	Repair the bulkhead harness. Or replace the airbag main harness along with body harness.	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS.** 1) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 2) Connect the battery ground terminal and turn the ignition switch to ON. NOTE: Neither of ON/OFF illuminates when it is normal.	Does the passenger's airbag indicator illuminate?	Go to step **3**.	Go to step **4**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the clock, and disconnect the connector (i59). 3) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 4) Measure the resistance between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 9 — (2AG) No. 8:*** ***(2AG) No. 9 — Chassis ground:*** ***(2AG) No. 8 — Chassis ground:***	Is the resistance 1 MΩ or more?	Replace the clock.	Repair the bulkhead harness. Or replace the airbag main harness along with body harness.
4	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 3) Connect the connectors (7AG) and (8AG) in the test harness AG. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the passenger's airbag indicator illuminate?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connectors (7AG) and (8AG) in the test harness AG. 3) Remove the clock, and disconnect the connector (i59). 4) Measure the resistance between connector (2AG) in the test harness AG and connector (i122). ***Connector & terminal*** ***(2AG) No. 9 — (i59) No. 4:*** ***(2AG) No. 8 — (i59) No. 3:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the bulkhead harness. Or replace the airbag main harness along with body harness.
6	**CHECK BODY HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (i59) and chassis ground. ***Connector & terminal*** ***(i59) No. 8 — Chassis ground:***	Is the voltage 10 V or more?	Replace the clock.	Check the power supply circuit of the clock.

BK:DTC B16F9 DOOR SENSOR RH RECOGNITION ERROR

DTC DETECTING CONDITION:

- Front door impact sensor (RH) is misinstalled.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE FRONT DOOR IMPACT SENSOR (RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front door impact sensor (RH) with a genuine sensor. <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

BL:DTC B1690 DOOR SENSOR RH FAILURE

DTC DETECTING CONDITION:

Front door impact sensor (RH) is faulty.
If DTC B1690 is displayed, the circuit within the front door impact sensor (RH) is faulty.
Replace the front door impact sensor (RH). <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.>

BM:DTC B1692 LOST COMMUNICATION WITH DOOR SENSOR RH

NOTE:
For details on DTC B1692, refer to DTC B1693. <Ref. to AB(diag)-79, DTC B1693 DOOR SENSOR RH INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>

BN:DTC B1693 DOOR SENSOR RH INITIALIZATION INCOMPLETE

DTC DETECTING CONDITION:

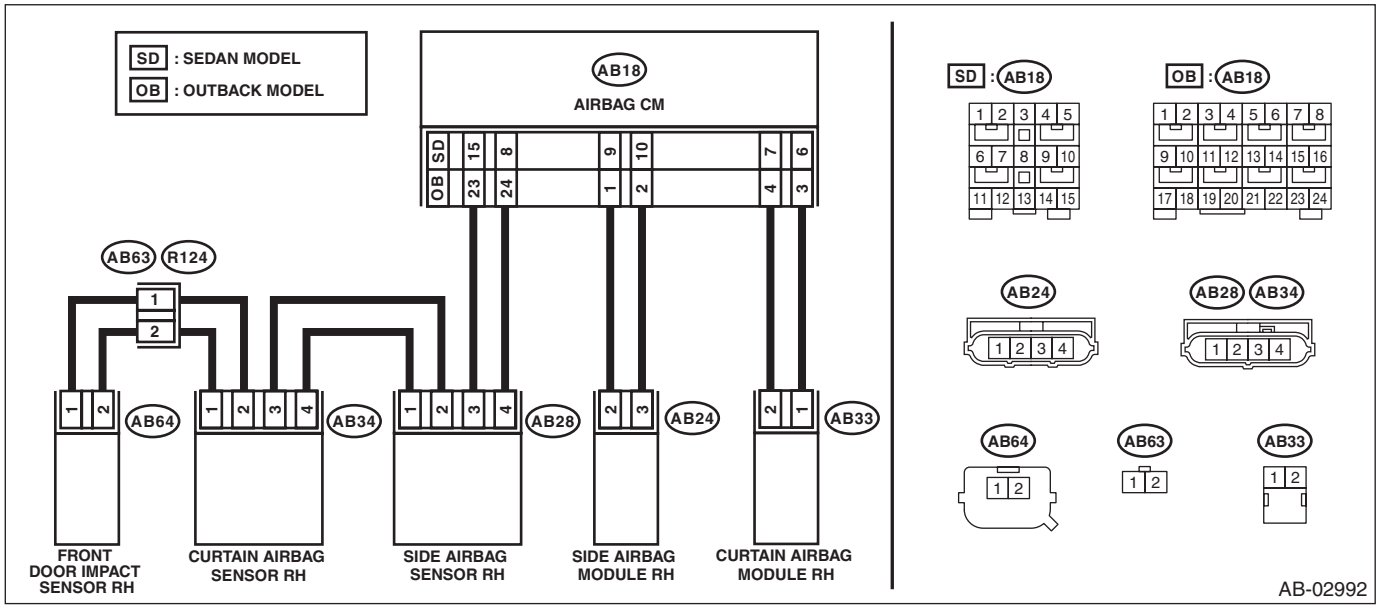
- Open or short circuit in harness of side sensor bus (RH).
- Front door impact sensor (RH) is faulty.
- Curtain airbag sensor (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC. (Current malfunction)	Is DTC B1622 or B1623 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC. (Current malfunction)	Is DTC B1632 or B1633 displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the front door impact sensor (RH).	Is there poor contact?	Replace the airbag rear harness and the door harness.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR RH AND DOOR SENSOR RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34). 6) Disconnect the connector (AB64) from the front door impact sensor (RH), and connect the connector (1H) in the test harness H to connector (AB64). 7) Measure the resistance between connector (3V) in the test harness V and connector (3H) in the test harness H. ***Connector & terminal*** ***(3V) No. 4 — (3H) No. 5:*** ***(3V) No. 5 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.
5	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR RH AND DOOR SENSOR RH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals in test harness V. ***Connector & terminal*** ***(3V) No. 4 — Chassis ground:*** ***(3V) No. 5 — Chassis ground:*** ***(3V) No. 4 — (3V) No. 5:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **7**.	Go to step **9**.
7	**REPLACE FRONT DOOR IMPACT SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front door impact sensor (RH). <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **8**.	Go to step **9**.

	Step	Check	Yes	No
8	**REPLACE CURTAIN AIRBAG SENSOR (RH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain airbag sensor (RH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **9**.
9	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code". <Ref. to AB(diag)-34, LIST, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BO:DTC B16FA LOST COMMUNICATION WITH DOOR SENSOR LH

DTC DETECTING CONDITION:

- Front door impact sensor (LH) is misinstalled.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**REPLACE FRONT DOOR IMPACT SENSOR (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front door impact sensor (LH) with a genuine sensor. <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

BP:DTC B1695 DOOR SENSOR LH FAILURE

DTC DETECTING CONDITION:

Front door impact sensor (LH) is faulty.
If DTC AB is displayed, the circuit within the front door impact sensor (LH) is faulty.
Replace the front door impact sensor (LH). <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.>

BQ:DTC B1697 LOST COMMUNICATION WITH DOOR SENSOR LH

NOTE:
For details on DTC B1697, refer to DTC B1698. <Ref. to AB(diag)-83, DTC B1698 DOOR SENSOR LH INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>

BR:DTC B1698 DOOR SENSOR LH INITIALIZATION INCOMPLETE

DTC DETECTING CONDITION:

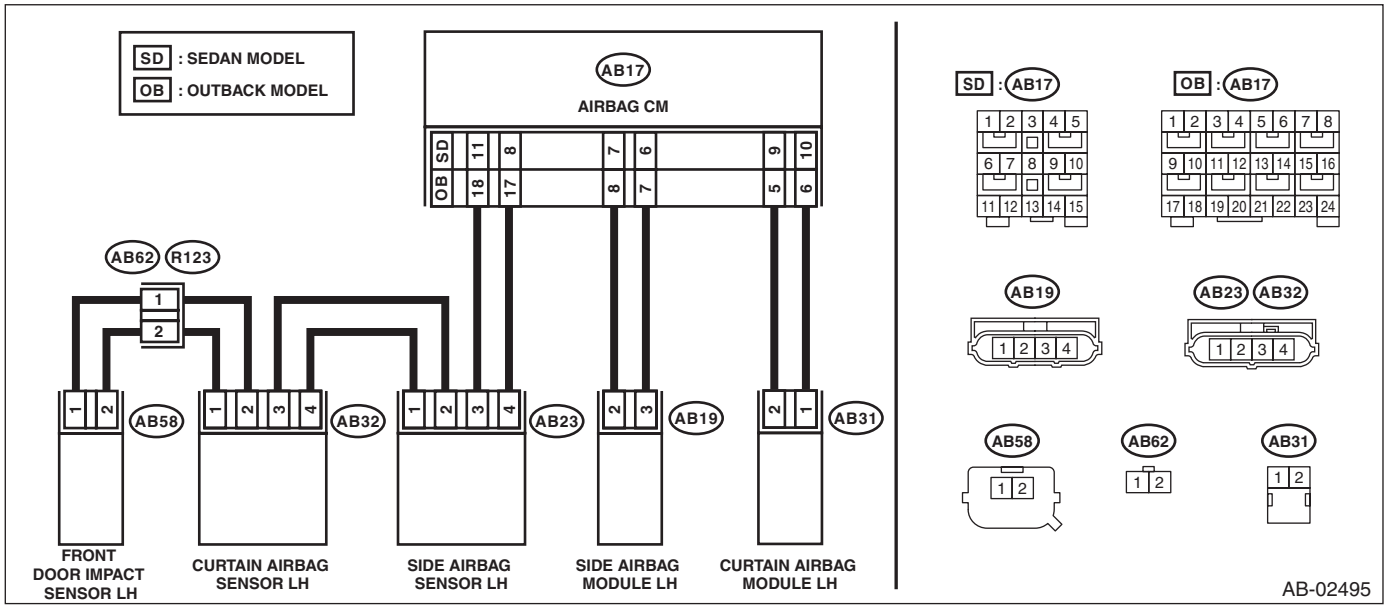
- Open or short circuit in harness of side sensor bus (LH).
- Front door impact sensor (LH) is faulty.
- Curtain airbag sensor (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC. (Current malfunction)	Is DTC B1627 or B1628 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC. (Current malfunction)	Is DTC B1637 or B1638 displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the front door impact sensor (LH).	Is there poor contact?	Replace the airbag rear harness and the door harness.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR LH AND FRONT DOOR IMPACT SENSOR LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect connector (AB19) from side airbag module (LH). 5) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB32). 6) Disconnect the connector (AB58) from the front door impact sensor (LH), and connect the connector (1H) in the test harness H to connector (AB58). 7) Measure the resistance between connector (3V) in the test harness V and connector (3H) in the test harness H. ***Connector & terminal*** ***(3V) No. 4 — (3H) No. 5:*** ***(3V) No. 5 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.
5	**CHECK AIRBAG REAR HARNESS AND DOOR HARNESS (BETWEEN CURTAIN AIRBAG SENSOR LH AND FRONT DOOR IMPACT SENSOR LH).** Measure the resistance between connector (3V) in test harness V and chassis ground, and the resistance between connector (3V) terminals in test harness V. ***Connector & terminal*** ***(3V) No. 4 — Chassis ground:*** ***(3V) No. 5 — Chassis ground:*** ***(3V) No. 4 — (3V) No. 5:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Check the door harness, and if any fault is found, replace the harness. If there is no fault, replace the airbag rear harness together with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **7**.	Go to step **9**.
7	**REPLACE FRONT DOOR IMPACT SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the front door impact sensor (LH). <Ref. to AB-82, REMOVAL, Front Door Impact Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Go to step **8**.	Go to step **9**.

	Step	Check	Yes	No
8	**REPLACE CURTAIN AIRBAG SENSOR (LH) AND CHECK AIRBAG CONTROL MODULE AFTER REPLACEMENT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Replace the curtain airbag sensor (LH). <Ref. to AB-91, REMOVAL, Curtain Airbag Sensor.> 3) Connect all connectors. 4) Clear the memory. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **9**.
9	**CHECK FOR ANY OTHER DTC ON DISPLAY.** Read the DTC. (Current malfunction)	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code”. <Ref. to AB(diag)-34, LIST, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BS:DTC B161A LOST COMMUNICATION WITH FRONT SATELLITE SENSOR BUS

DTC DETECTING CONDITION:

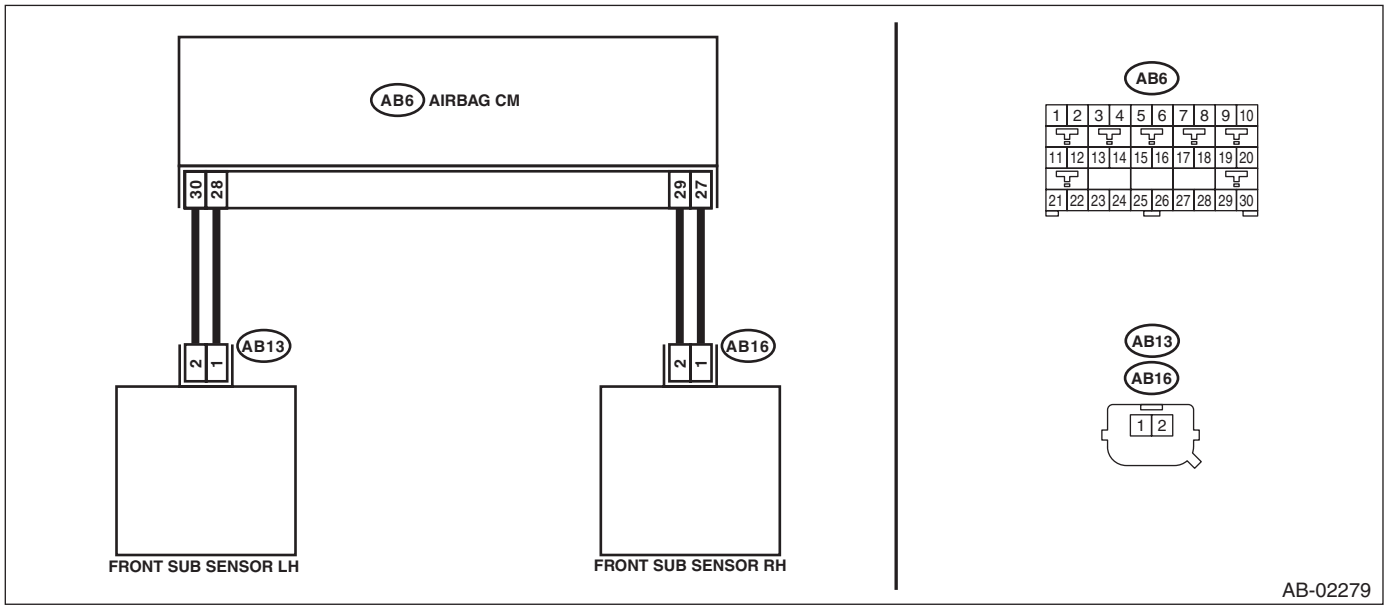
- Harness between airbag control module and front sub sensor is open or shorted.
- Front sub sensor is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the front sub sensor.	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the instrument panel lower cover and column cover, and disconnect the connectors (AB7) and (AB2). 3) Remove the console front panel and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) Disconnect the connector (AB13) from the front sub sensor (LH), and then connect the connector (1H) in the test harness H to connector (AB13). 7) Measure the resistance between connector (4AG) in the test harness AG and connector (3H) in the test harness H. ***Connector & terminal*** ***(4AG) No. 7 — (3H) No. 5:*** ***(4AG) No. 9 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS LH).** Measure the resistance between connector (4AG) in the test harness AG and chassis ground, and the resistance between connector (4AG) terminals in the test harness AG. ***Connector & terminal*** ***(4AG) No. 7 — Chassis ground:*** ***(4AG) No. 9 — Chassis ground:*** ***(4AG) No. 7 — (4AG) No. 9:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS RH).** 1) Disconnect the connector (AB16) from the front sub sensor (RH), and then connect the connector (1H) in the test harness H to connector (AB16). 2) Measure the resistance between connector (4AG) in the test harness AG and connector (3H) in the test harness H. ***Connector & terminal*** ***(4AG) No. 14 — (3H) No. 5:*** ***(4AG) No. 12 — (3H) No. 6:***	Is the resistance less than 10 Ω?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG MAIN HARNESS (FRONT SENSOR BUS RH).** Measure the resistance between connector (4AG) in the test harness AG and chassis ground, and the resistance between connector (4AG) terminals in the test harness AG. ***Connector & terminal*** ***(4AG) No. 12 — Chassis ground:*** ***(4AG) No. 14 — Chassis ground:*** ***(4AG) No. 12 — (4AG) No. 14:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness along with body harness.

Step		Check	Yes	No
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the front sub sensor (LH) and front sub sensor (RH). <Ref. to AB-75, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-72, REMOVAL, Airbag Control Module.>	Go to step **7**.
7	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

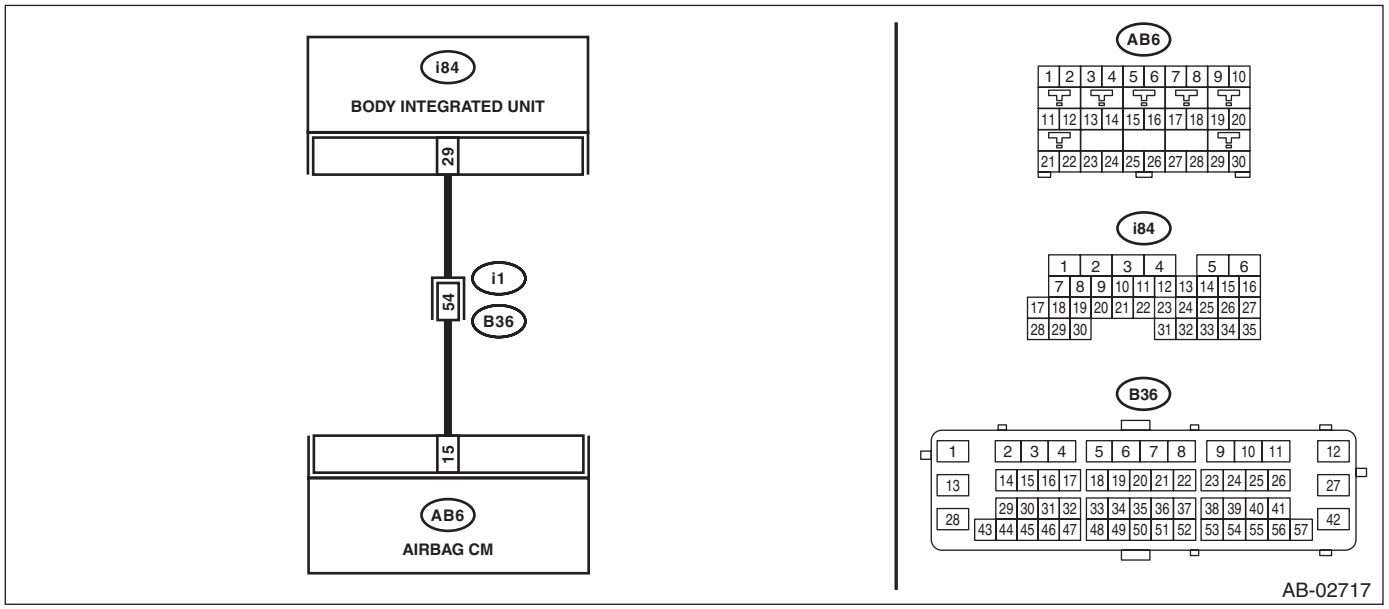
BT:DTC B16F1 PASSENGER'S SEAT BELT WARNING FAILURE

DTC DETECTING CONDITION:

- Airbag control module is faulty.
- Body integrated unit is faulty.
- Harness circuits between body integrated unit and airbag control module are open, shorted or shorted to ground.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:
Seat belt warning system <Ref. to WI-271, WIRING DIAGRAM, Seat Belt Warning System.>



	Step	Check	Yes	No
1	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 3) Connect the battery ground terminal and turn the ignition switch to ON.	Does the passenger's seat belt warning light blink for 6 seconds and go off?	Go to step **3**.	Go to step **2**.
2	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 3) Measure the resistance between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 10 — Chassis ground:***	Is the resistance 1 MΩ or more?	Replace the body integrated unit.	Repair the bulkhead harness and instrument panel harness. Or replace the airbag main harness along with body harness.

	Step	Check	Yes	No
3	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 3) Connect the connectors (7AG) and (8AG) in the test harness AG. 4) Turn the ignition switch to ON.	Does the passenger's seat belt warning light blink for 6 seconds, then repeatedly light and go off?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **4**.
4	**CHECK AIRBAG HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors (7AG) and (8AG) in the test harness AG in the condition of step 3. 3) Disconnect the connector (i10) from meter. 4) Measure the resistance between connector (2AG) in the test harness AG and connector (i84). ***Connector & terminal*** ***(2AG) No. 10 — (i84) No. 29:***	Is the resistance less than 10 Ω?	Replace the body integrated unit.	Repair the bulkhead harness and instrument panel harness. Or replace the airbag main harness along with body harness.

BU:DTC B16F0 PASSENGER'S AIRBAG OFF INDICATOR FAILURE

NOTE:
For details on DTC B16F0, refer to DTC B1660. <Ref. to AB(diag)-76, DTC B1660 PASSENGER'S AIRBAG ON INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>

BV:DTC B1800 SHORT IN DRIVER'S AIRBAG

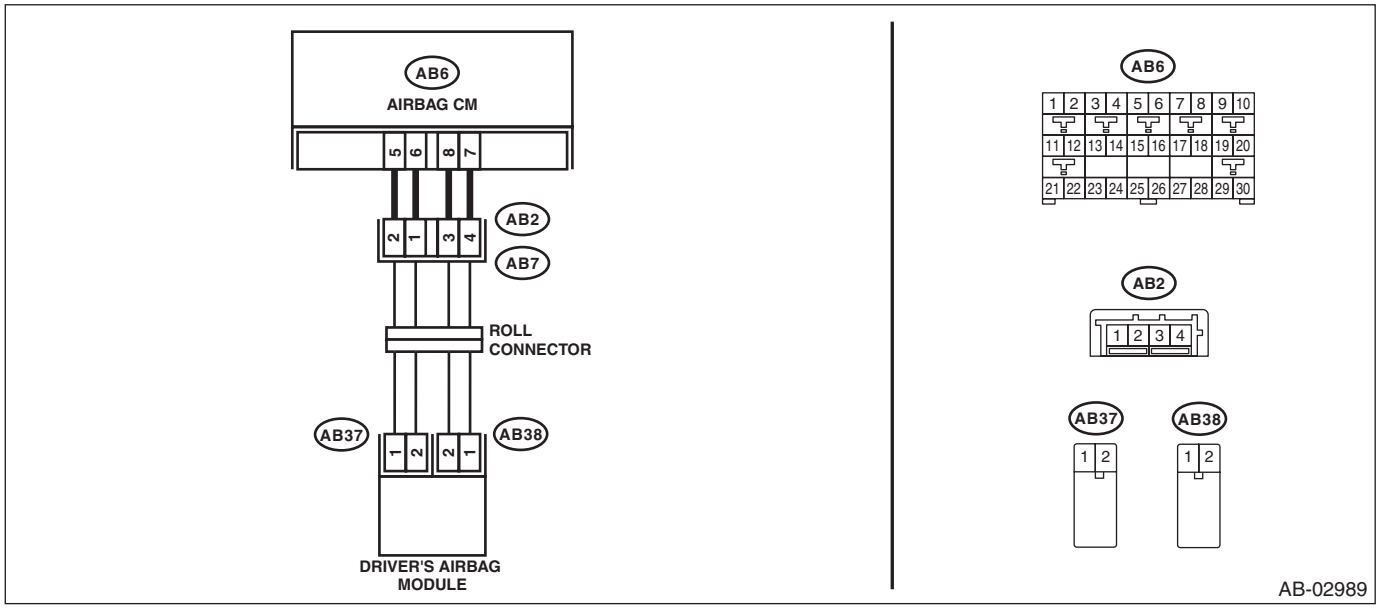
DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted.
- Airbag module harness (driver's side) circuit is shorted.
- Roll connector circuit is shorted.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR AND AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (2Q) terminals in test harness Q. ***Connector & terminal*** ***(2Q) No. 1 — (2Q) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Go to step **4**.
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 2) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal*** ***(3AG) No. 1 — (3AG) No. 3:***	Is the resistance 1 MΩ or more?	Replace the roll connector. <Ref. to AB-103, Roll Connector.>	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BW:DTC B1801 OPEN IN DRIVER'S AIRBAG

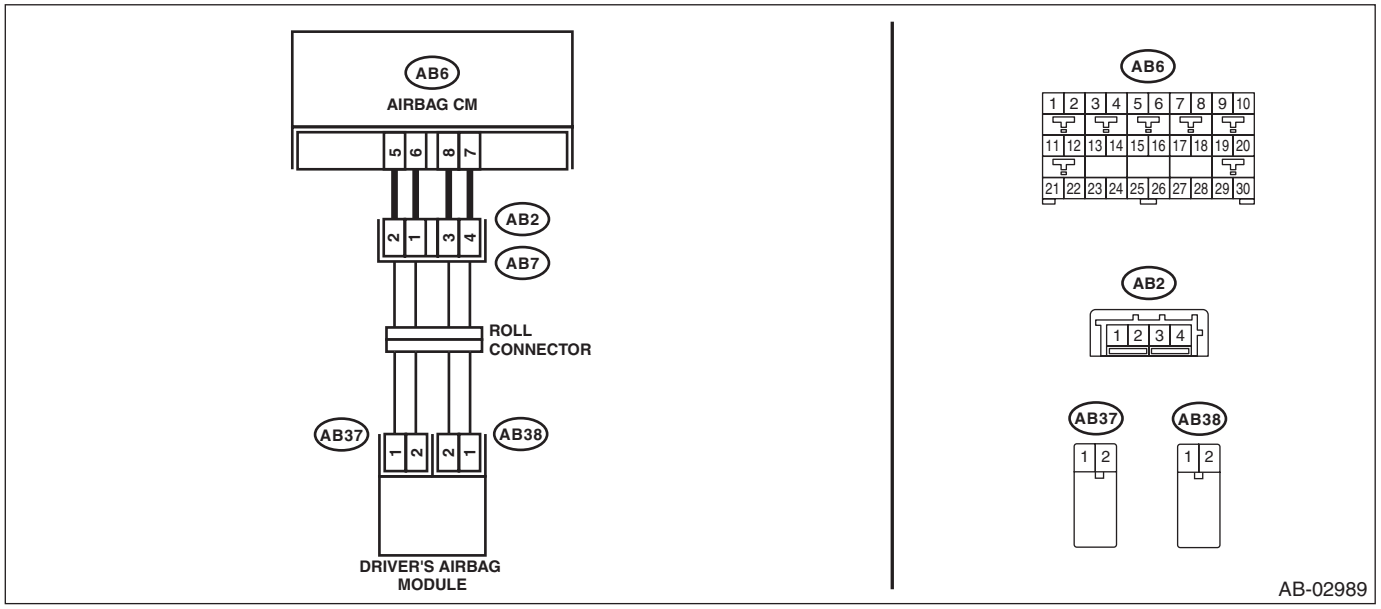
DTC DETECTING CONDITION:

- Airbag main harness circuit is open.
- Airbag module harness (driver's side) circuit is open.
- Roll connector is open.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the connector (1Q) in the test harness Q to connector (AB37). 5) Connect the airbag resistor to the connector (2Q) in the test harness Q. 6) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR AND AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the airbag resistor from the connector (2N) in test harness N. 4) Disconnect the airbag resistor from the connector (2Q) of test harness Q. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Measure the resistance between connector (2Q) terminals in test harness Q. ***Connector & terminal*** ***(2Q) No. 1 — (2Q) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Go to step **4**.
4	**CHECK ROLL CONNECTOR.** 1) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 2) Measure the resistance between connector (2Q) terminals in test harness Q. ***Connector & terminal*** ***(2Q) No. 1 — (2Q) No. 2:***	Is the resistance less than 10 Ω?	Replace the airbag main harness along with body harness.	Replace the roll connector. <Ref. to AB-103, Roll Connector.>
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BX:DTC B1802 SHORT IN DRIVER'S AIRBAG (TO GROUND)

DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to ground.
- Airbag module harness (driver's side) circuit is shorted to ground.
- Roll connector circuit is shorted to ground.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

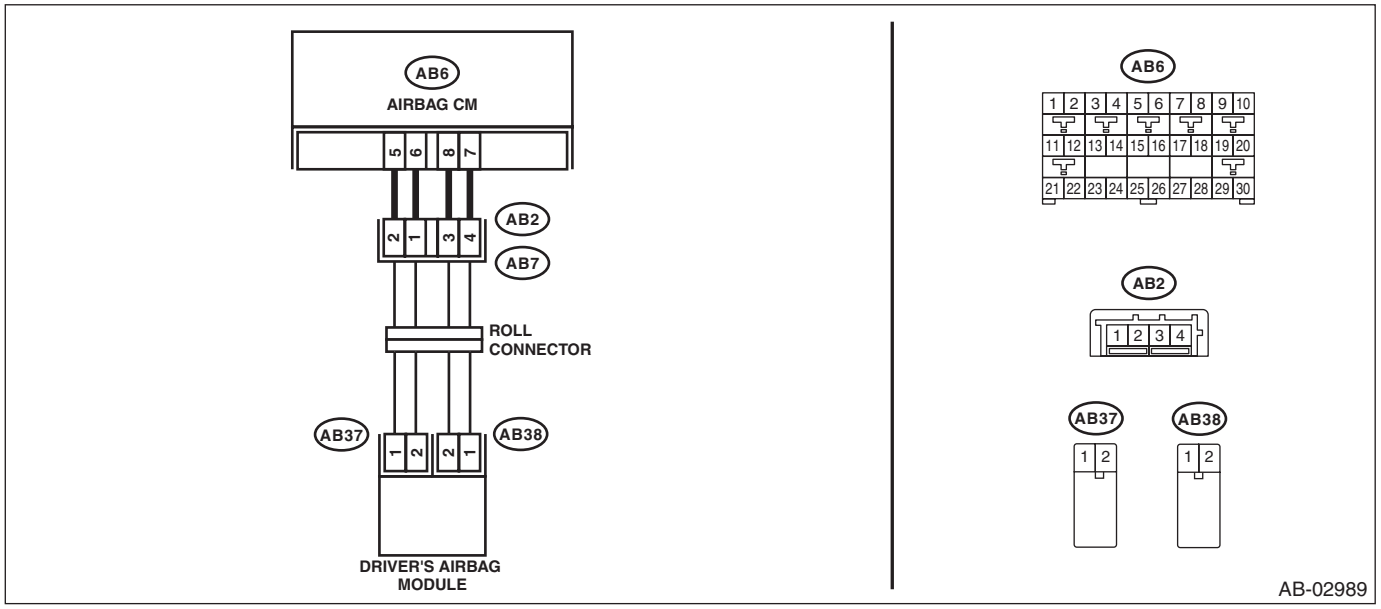
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 4) Measure the resistance between connector (2Q) in the test harness Q and chassis ground. ***Connector & terminal*** ***(2Q) No. 1 — Chassis ground:*** ***(2Q) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the roll connector. <Ref. to AB-103, Roll Connector.>
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Disconnect the test harness N from connector (AB38). 2) Disconnect the test harness Q from connector (AB37). 3) Remove the console front panel and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 1 — Chassis ground:*** ***(3AG) No. 3 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BY:DTC B1803 SHORT IN DRIVER'S AIRBAG (TO +B)

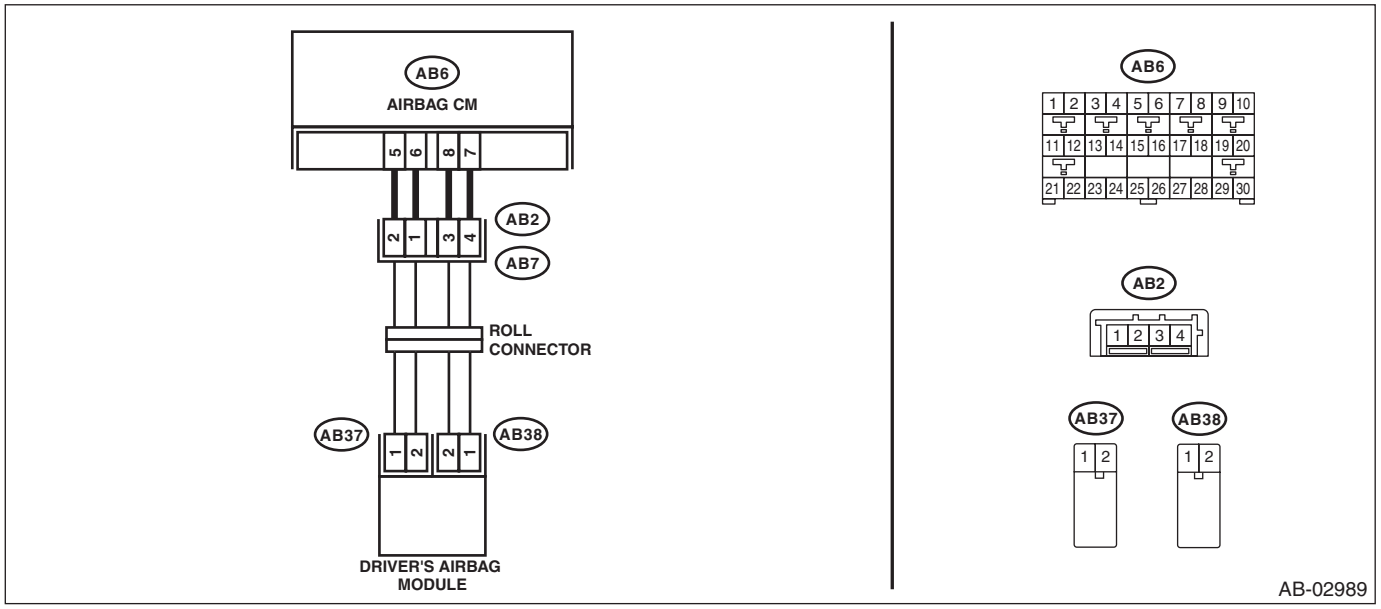
DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to power supply.
- Airbag module harness (driver's side) circuit is shorted to power supply.
- Roll connector circuit is shorted to power supply.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 4) Measure the voltage between connector (2Q) in the test harness Q and chassis ground. ***Connector & terminal*** ***(2Q) No. 1 (+) — Chassis ground (–):*** ***(2Q) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the roll connector. <Ref. to AB-103, Roll Connector.>
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Disconnect the test harness N from connector (AB38). 2) Disconnect the test harness Q from connector (AB37). 3) Remove the console front panel and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 1 (+) — Chassis ground (–):*** ***(3AG) No. 3 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BZ:DTC B1805 SHORT IN PASSENGER'S AIRBAG

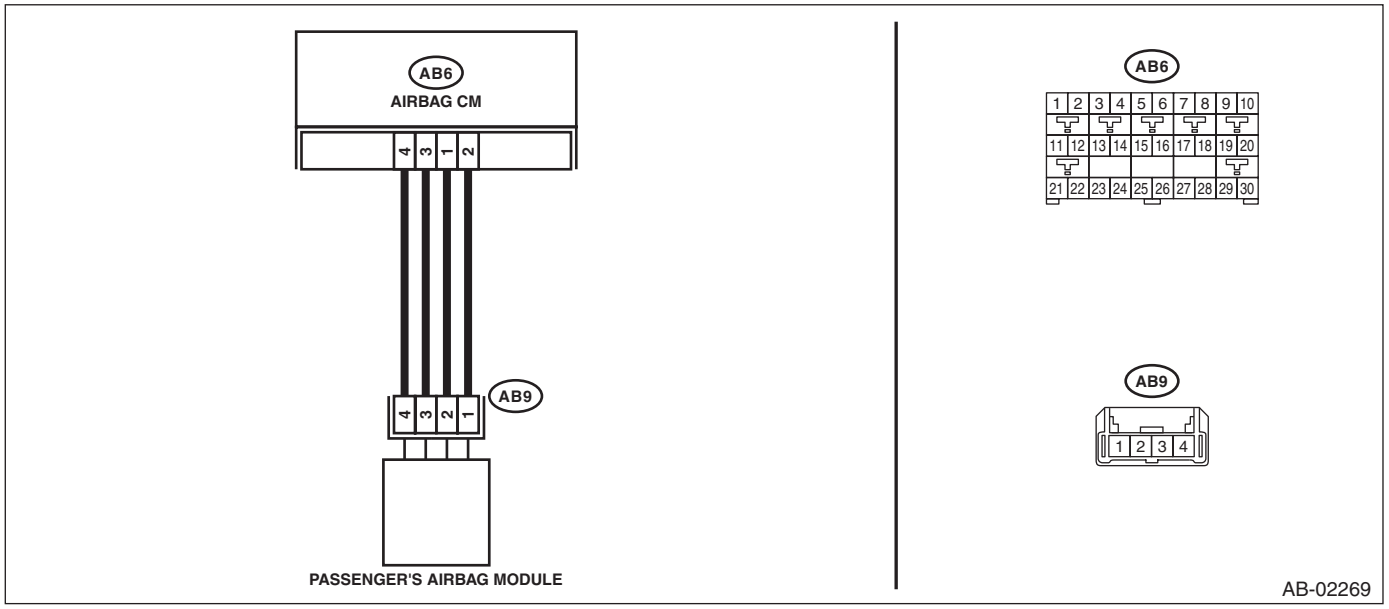
DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted.
- Airbag module harness circuit (passenger's side) is shorted.
- Roll connector circuit is shorted.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal (3AG) No. 7 — (3AG) No. 9:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CA:DTC B1806 OPEN IN PASSENGER'S AIRBAG

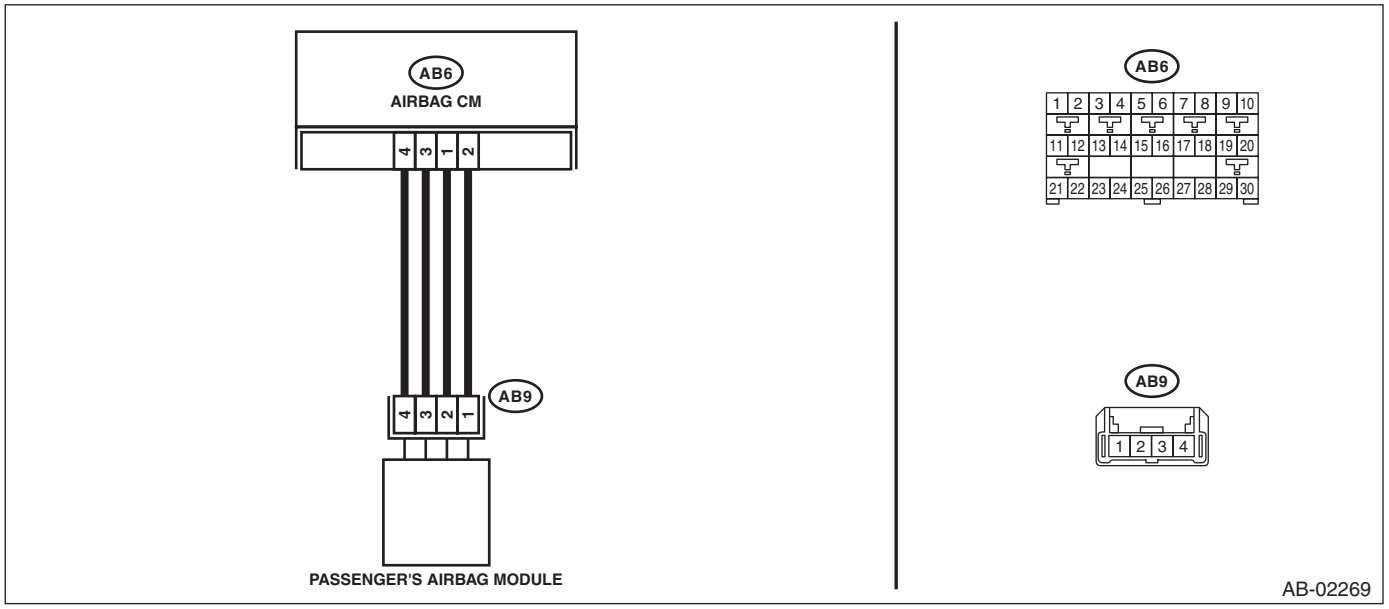
DTC DETECTING CONDITION:

- Airbag main harness circuit is open.
- Airbag module harness (passenger's side) circuit is open.
- Roll connector circuit is shorted.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) of test harness AG and connector (2P) of test harness P. ***Connector & terminal*** ***(3AG) No. 9 — (2P) No. 1:*** ***(3AG) No. 7 — (2P) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CB:DTC B1807 SHORT IN PASSENGER'S AIRBAG (TO GROUND)

DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to ground.
- Airbag module harness (passenger's side) circuit is shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

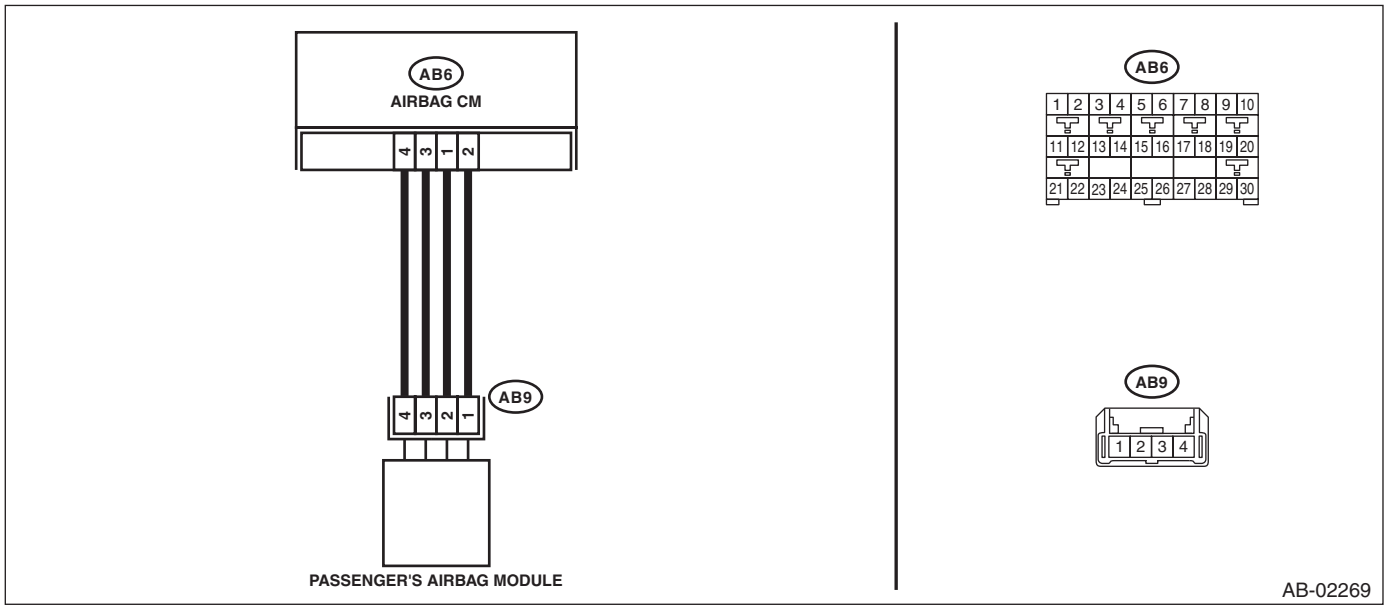
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 9 — Chassis ground:*** ***(3AG) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CC:DTC B1808 SHORT IN PASSENGER'S AIRBAG (TO +B)

DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to power supply.
- Airbag module harness (passenger's side) circuit is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

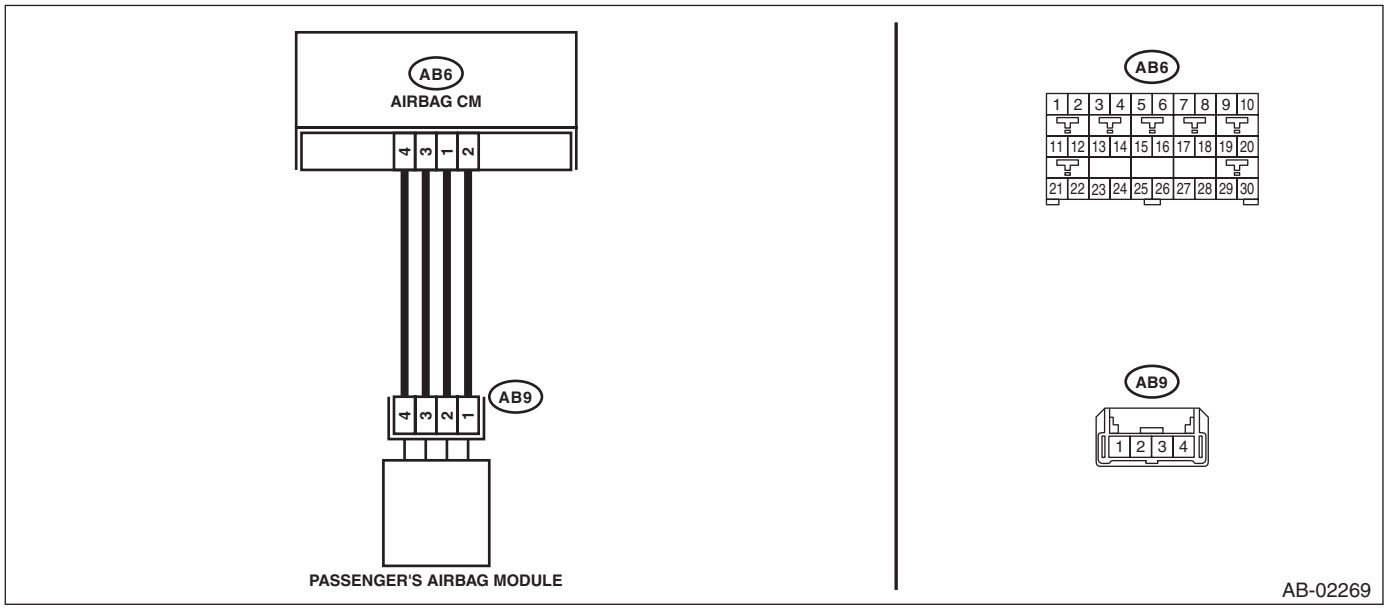
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness along with chassis harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 9 (+) — Chassis ground (–):*** ***(3AG) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CD:DTC B1810 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP

DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted.
- Airbag module harness (driver's side) circuit is shorted.
- Roll connector circuit is shorted.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

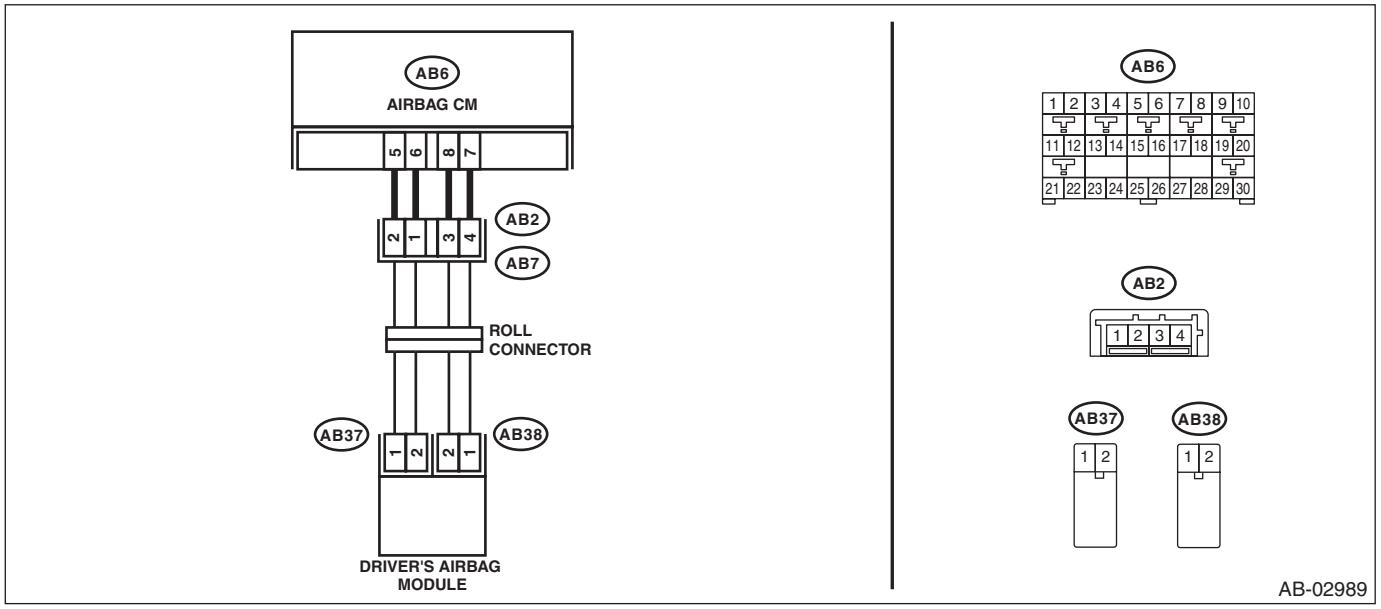
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR AND AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (2N) terminals in test harness N. ***Connector & terminal (2N) No. 1 — (2N) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Go to step **4**.
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 2) Disconnect the test harness Q from connector (AB37). 3) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal (3AG) No. 2 — (3AG) No. 4:***	Is the resistance 1 MΩ or more?	Replace the roll connector. <Ref. to AB-103, Roll Connector.>	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CE:DTC B1811 OPEN IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP

DTC DETECTING CONDITION:

- Airbag main harness circuit is open.
- Airbag module harness (driver's side) circuit is open.
- Roll connector circuit is open.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

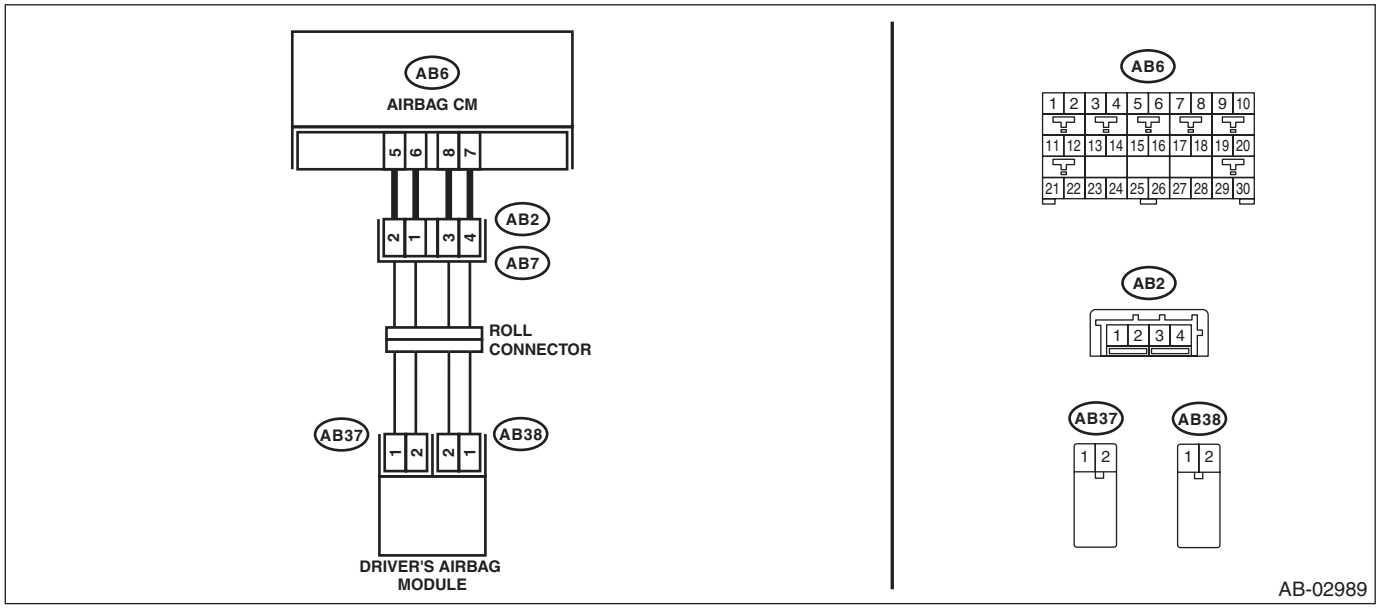
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR AND AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the airbag resistor from the connector (2N) in test harness N. 4) Disconnect the airbag resistor from the connector (2Q) of test harness Q. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Measure the resistance between connector (2N) terminals in test harness N. ***Connector & terminal*** ***(2N) No. 1 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Go to step **4**.
4	**CHECK ROLL CONNECTOR.** 1) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 2) Measure the resistance between connector (2N) terminals in test harness N. ***Connector & terminal*** ***(2N) No. 1 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Replace the airbag main harness along with body harness.	Replace the roll connector. <Ref. to AB-103, Roll Connector.>
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CF:DTC B1812 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP (TO GROUND)

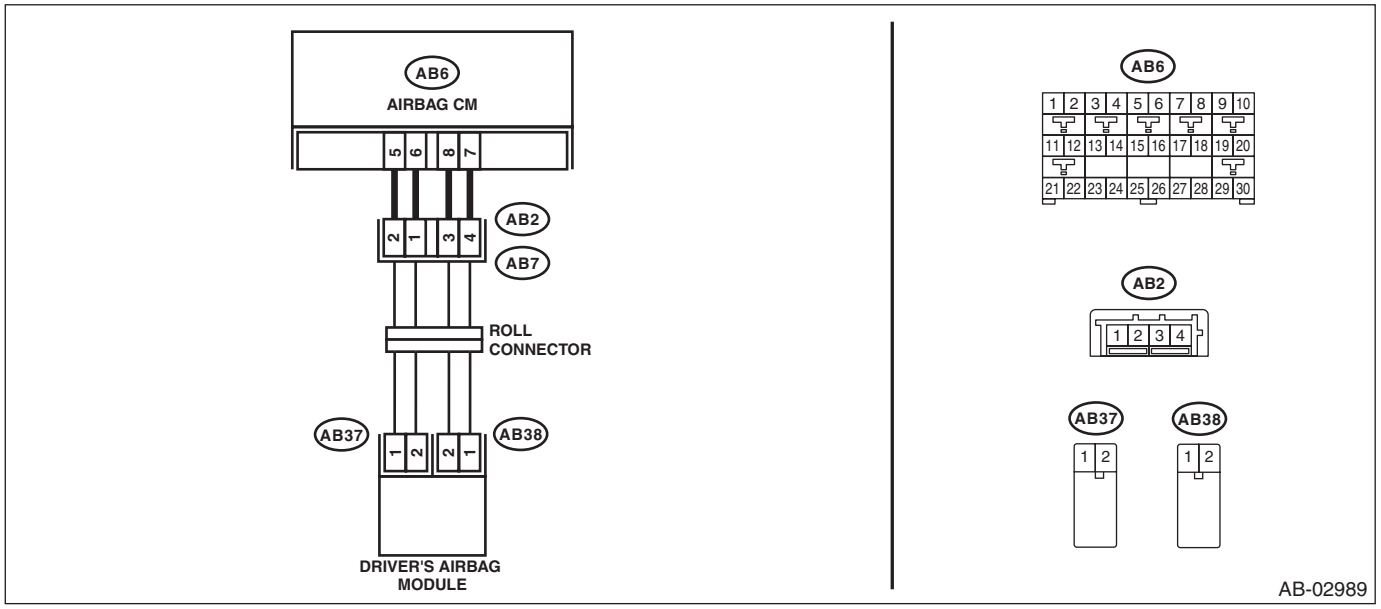
DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to ground.
- Airbag module harness (driver's side) circuit is shorted to ground.
- Roll connector circuit is shorted to ground.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 4) Measure the resistance between connector (2N) in the test harness N and chassis ground. ***Connector & terminal*** ***(2N) No. 1 — Chassis ground:*** ***(2N) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the roll connector. <Ref. to AB-103, Roll Connector.>
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Disconnect the test harness N from connector (AB38). 2) Disconnect the test harness Q from connector (AB37). 3) Remove the console front panel and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 2 — Chassis ground:*** ***(3AG) No. 4 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CG:DTC B1813 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP CIRCUIT (TO +B)

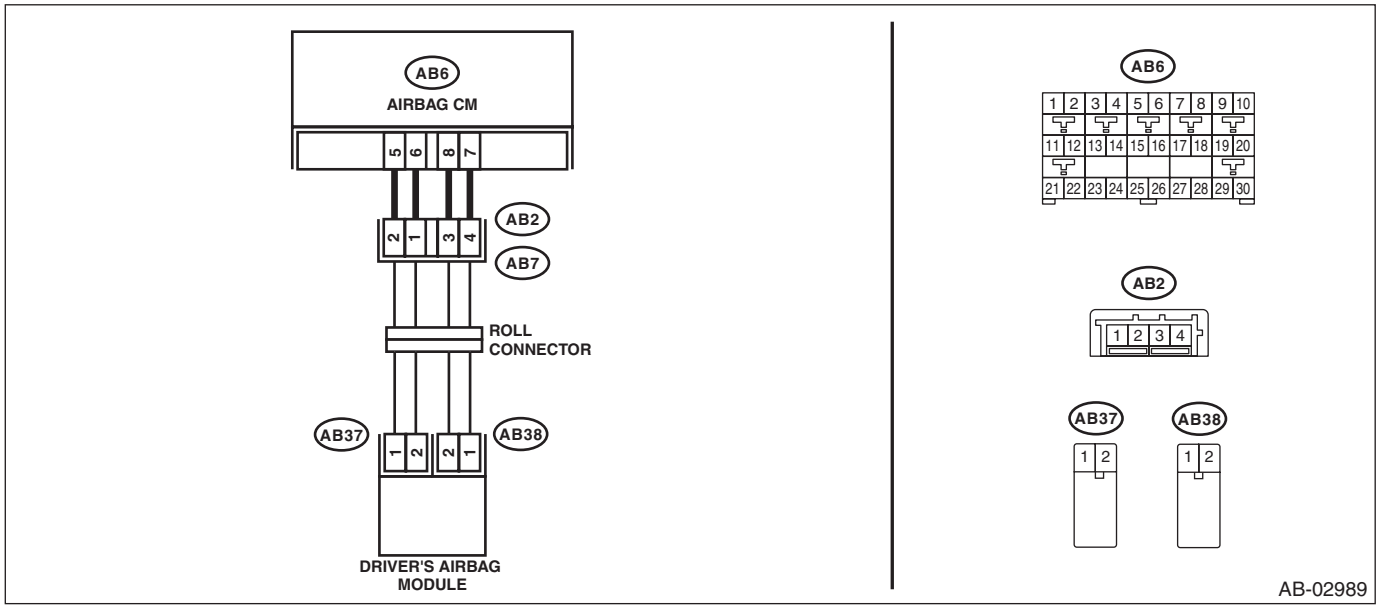
DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to power supply.
- Airbag module harness (driver's side) circuit is shorted to power supply.
- Roll connector is shorted to power supply.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the driver's airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB38). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the connector (1Q) in the test harness Q to connector (AB37). 6) Connect the airbag resistor to the connector (2Q) in the test harness Q. 7) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the driver's airbag module. <Ref. to AB-37, Driver's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 4) Measure the voltage between connector (2N) in the test harness N and chassis ground. ***Connector & terminal*** ***(2N) No. 1 (+) — Chassis ground (–):*** ***(2N) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the roll connector. <Ref. to AB-103, Roll Connector.>
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Disconnect the test harness N from connector (AB38). 2) Disconnect the test harness Q from connector (AB37). 3) Remove the console front panel and disconnect the connector (AB9). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 2 (+) — Chassis ground (–):*** ***(3AG) No. 4 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **5**.	Replace the airbag main harness along with body harness.
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **6**.
6	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CH:DTC B1815 OPEN IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP

DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted.
- Airbag module harness (passenger's side) circuit is shorted.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

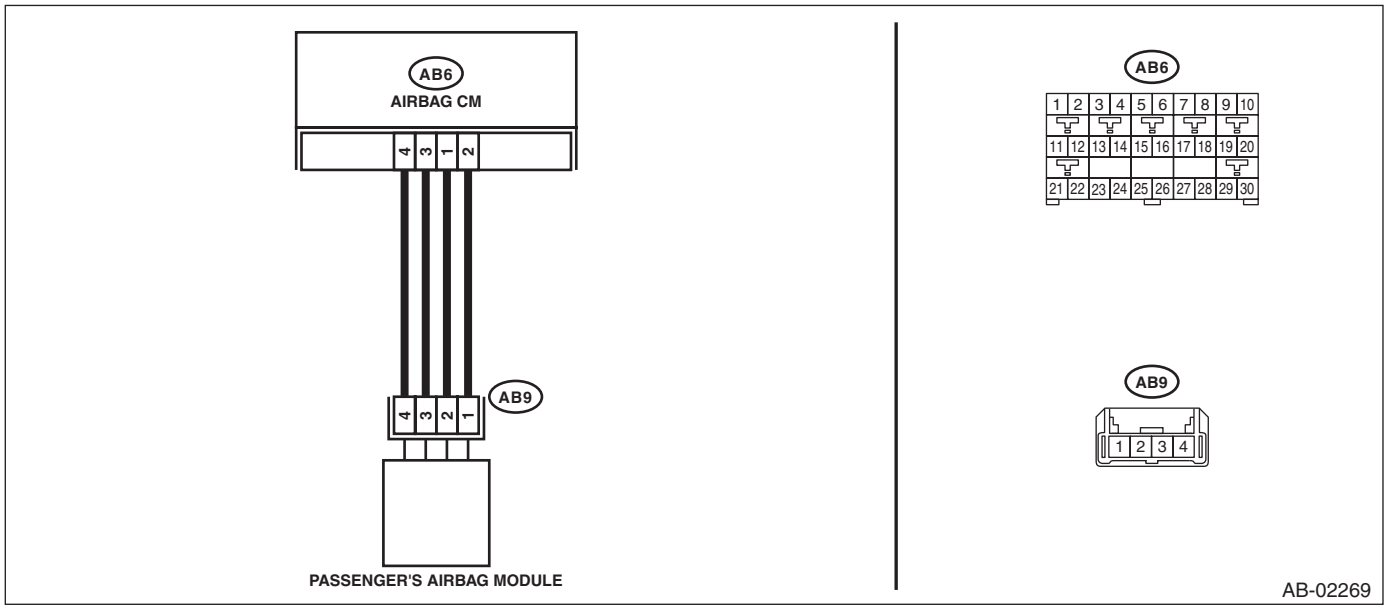
CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:
Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal (3AG) No. 6 — (3AG) No. 8:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CI: DTC B1816 OPEN IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP

DTC DETECTING CONDITION:

- Airbag main harness circuit is open.
- Airbag module harness (passenger's side) circuit is open.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

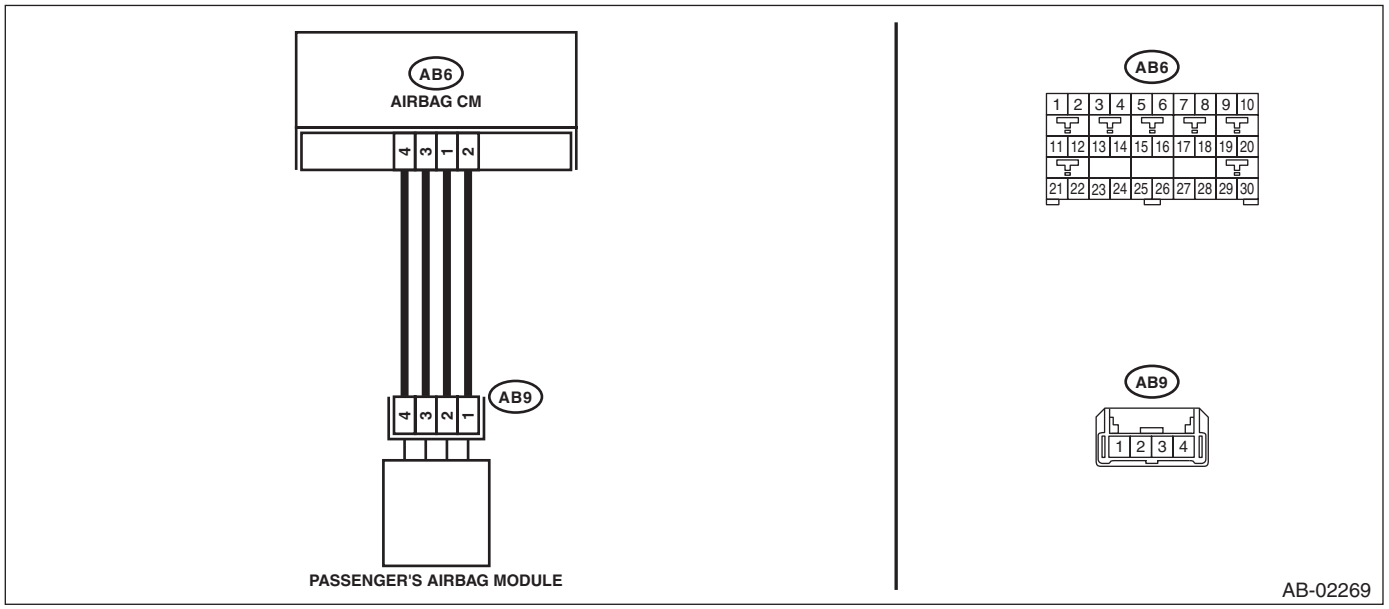
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) of test harness AG and connector (3P) of test harness P. ***Connector & terminal*** ***(3AG) No. 6 — (3P) No. 4:*** ***(3AG) No. 8 — (3P) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CJ:DTC B1817 SHORT IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP (TO GROUND)

DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to ground.
- Airbag module harness (passenger's side) circuit is shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

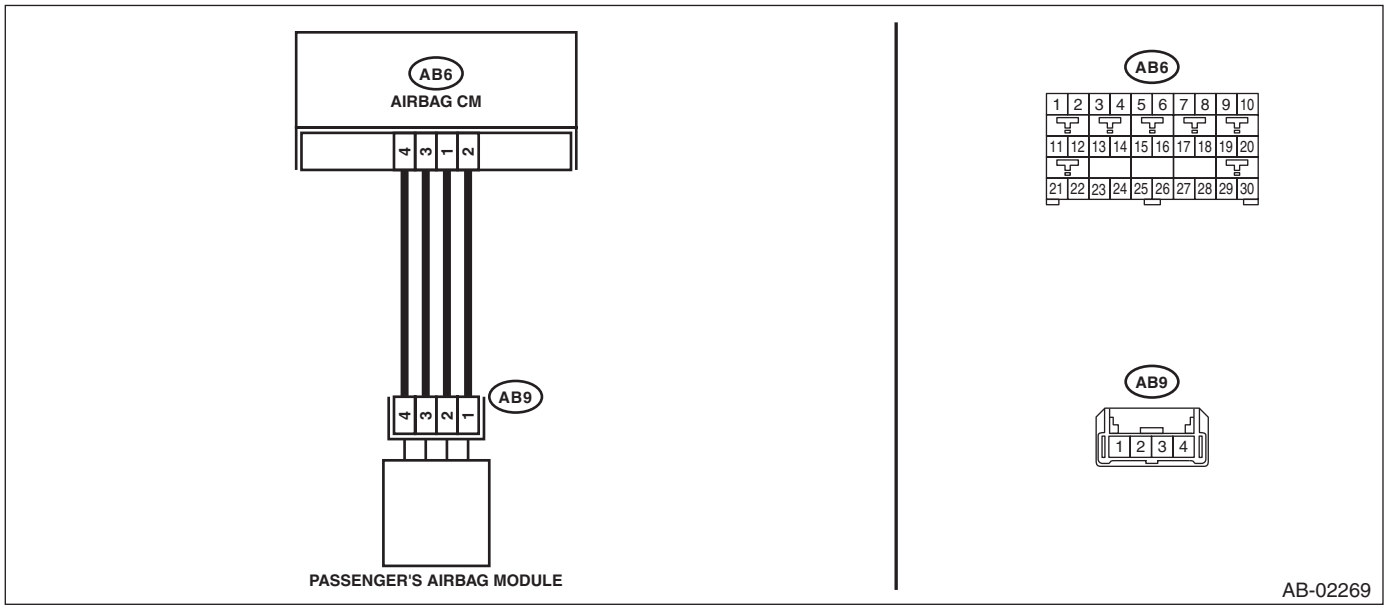
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 8 — Chassis ground:*** ***(3AG) No. 6 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CK:DTC B1818 SHORT IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP CIRCUIT (TO +B)

DTC DETECTING CONDITION:

- Airbag main harness circuit is shorted to power supply.
- Airbag module harness (passenger's side) circuit is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

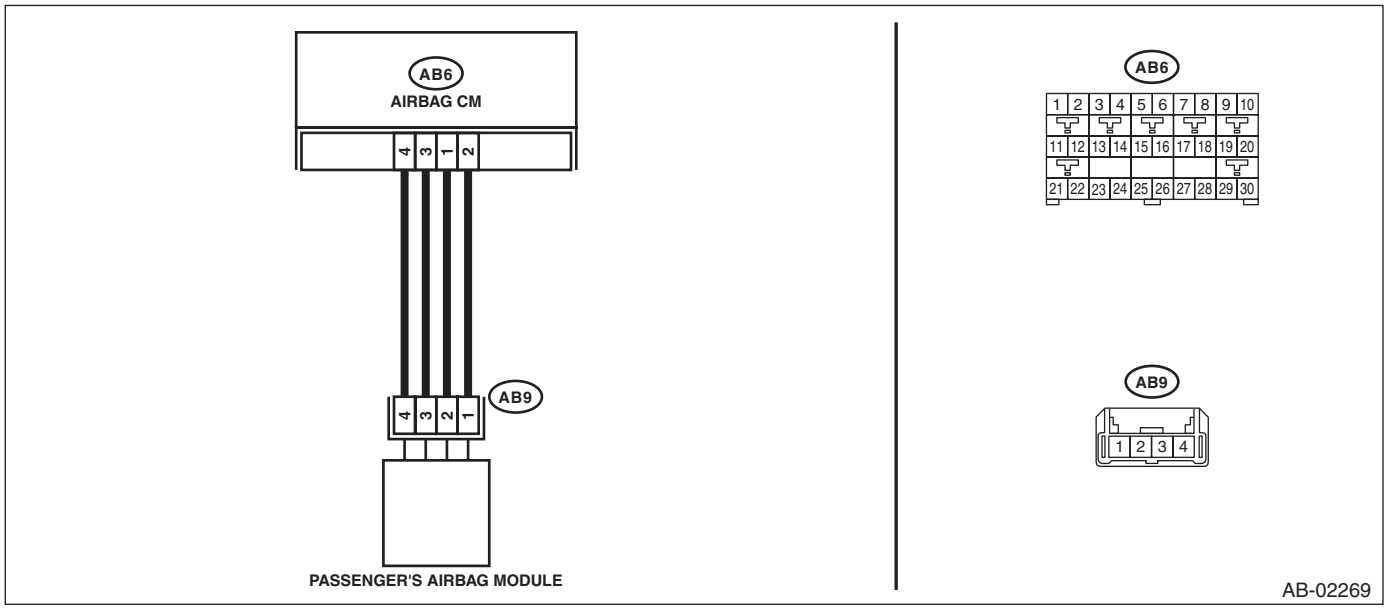
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

Prior to starting work, prepare two AIRBAG RESISTORs (98299PA040).

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness along with chassis harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Remove the console front panel and disconnect the connector (AB9). 3) Connect the connector (1P) in the test harness P to connector (AB9). 4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the passenger's airbag module. <Ref. to AB-40, Passenger's Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 8 (+) — Chassis ground (–):*** ***(3AG) No. 6 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CL:DTC B1820 SHORT IN SIDE AIRBAG RH

DTC DETECTING CONDITION:

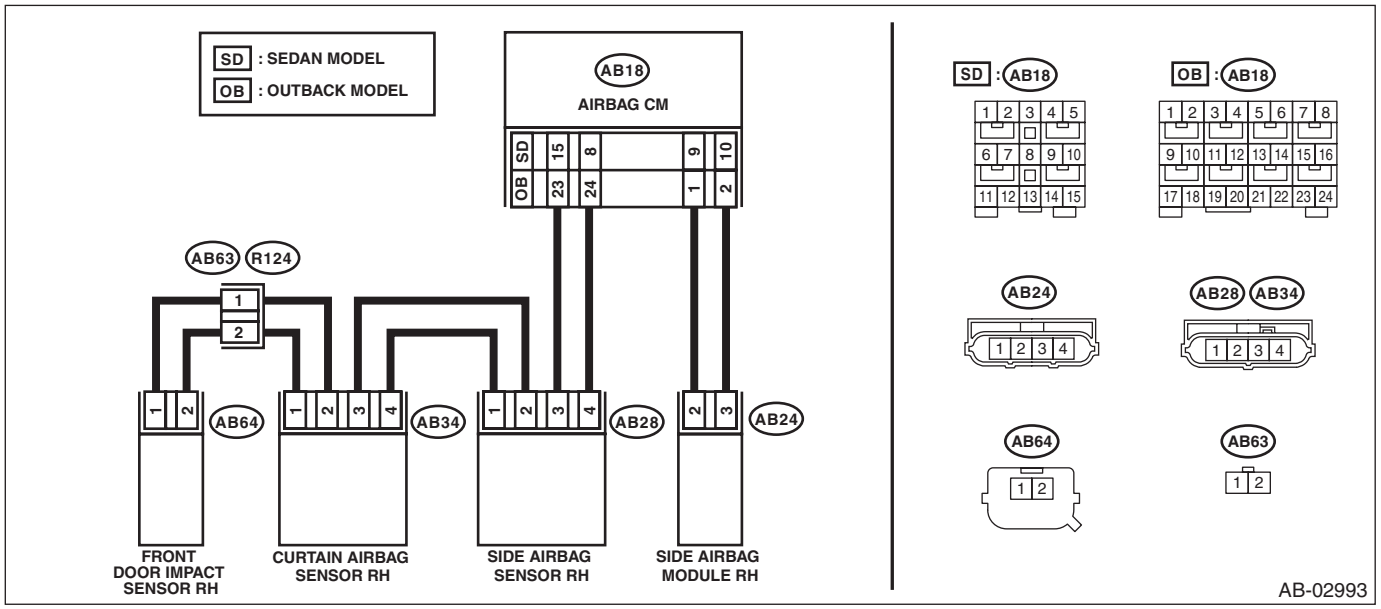
- Side airbag harness (RH) circuit is shorted.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB24) from the side airbag module (RH), and connect the connector (1AJ) in the test harness AJ to connector (AB24). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness AJ. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AJ) terminals in test harness AJ. ***Connector & terminal (3AJ) No. 1 — (3AJ) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CM:DTC B1821 OPEN IN SIDE AIRBAG RH

DTC DETECTING CONDITION:

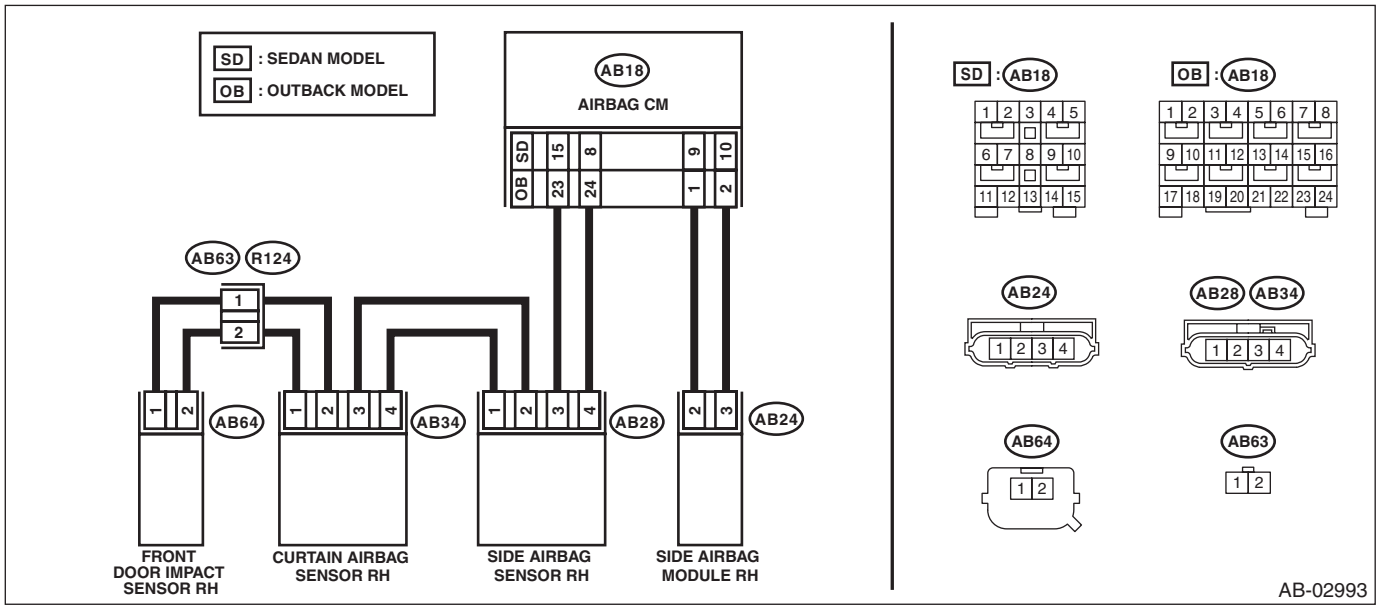
- Side airbag harness (RH) circuit is open.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB24) from the side airbag module (RH), and connect the connector (1AJ) in the test harness AJ to connector (AB24). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness AJ. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (4AG) or (5AG) in the test harness AG and connector (3AJ) in the test harness AJ. ***Connector & terminal*** ***Sedan model*** ***(4AG) No. 8 — (3AJ) No. 2:*** ***(4AG) No. 10 — (3AJ) No. 1:*** ***OUTBACK model*** ***(5AG) No. 1 — (3AJ) No. 2:*** ***(5AG) No. 3 — (3AJ) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CN:DTC B1822 SHORT IN SIDE AIRBAG RH (TO GROUND)

DTC DETECTING CONDITION:

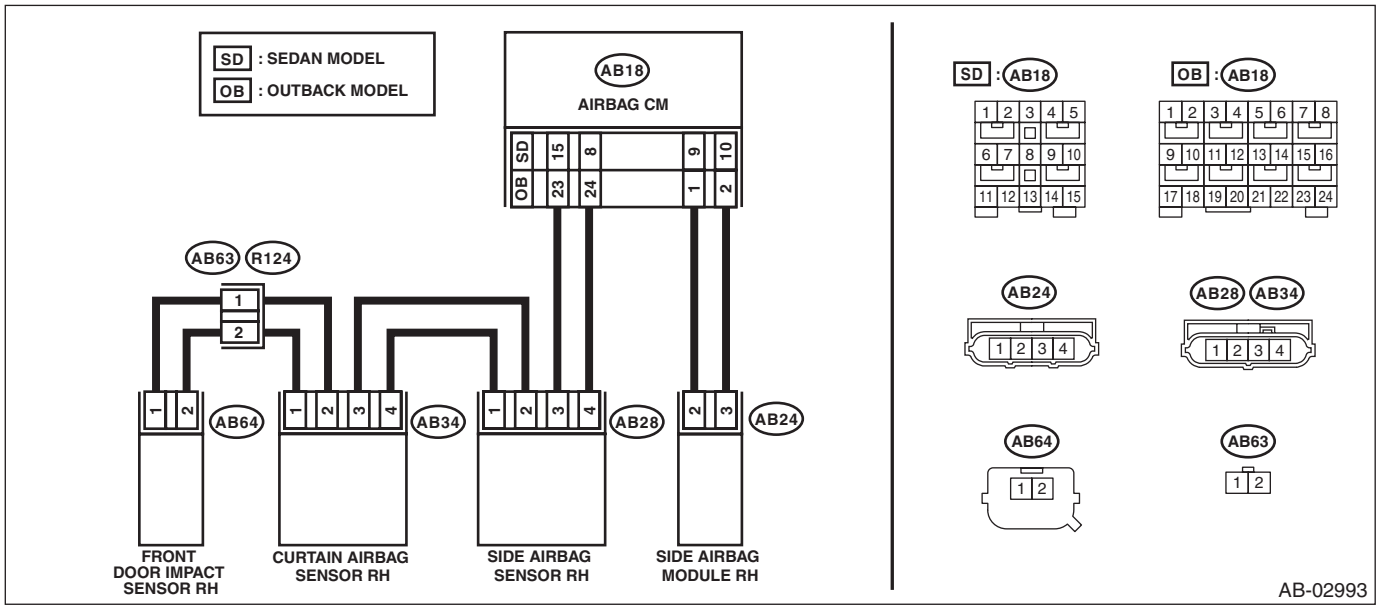
- Side airbag harness (RH) circuit is shorted to ground.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB24), and connect the connector (1AJ) in test harness AJ to connector (AB24). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness AJ. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AJ) in the test harness AJ and chassis ground. ***Connector & terminal*** ***(3AJ) No. 1 — Chassis ground:*** ***(3AJ) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CO:DTC B1823 SHORT IN SIDE AIRBAG RH (TO +B)

DTC DETECTING CONDITION:

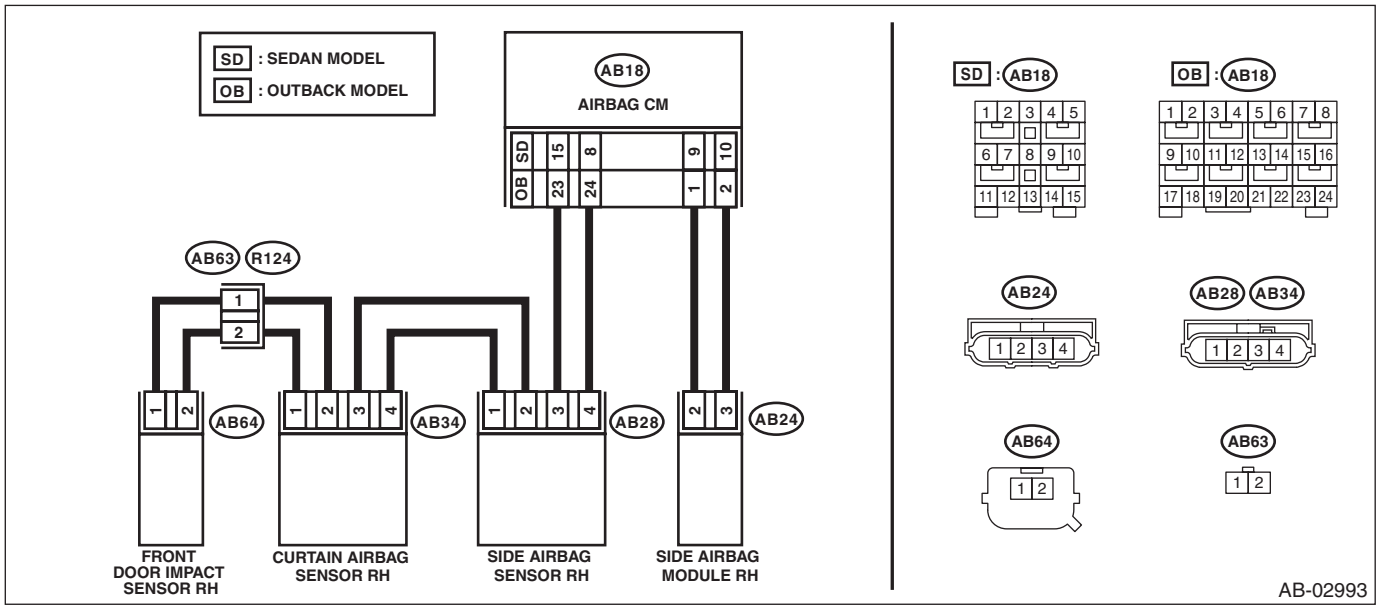
- Side airbag harness (RH) is shorted to power supply.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB24), and connect the connector (1AJ) in test harness AJ to connector (AB24). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (RH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3AJ) in the test harness AJ and chassis ground. ***Connector & terminal*** ***(3AJ) No. 1 (+) — Chassis ground (–):*** ***(3AJ) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CP:DTC B1825 SHORT IN SIDE AIRBAG LH

DTC DETECTING CONDITION:

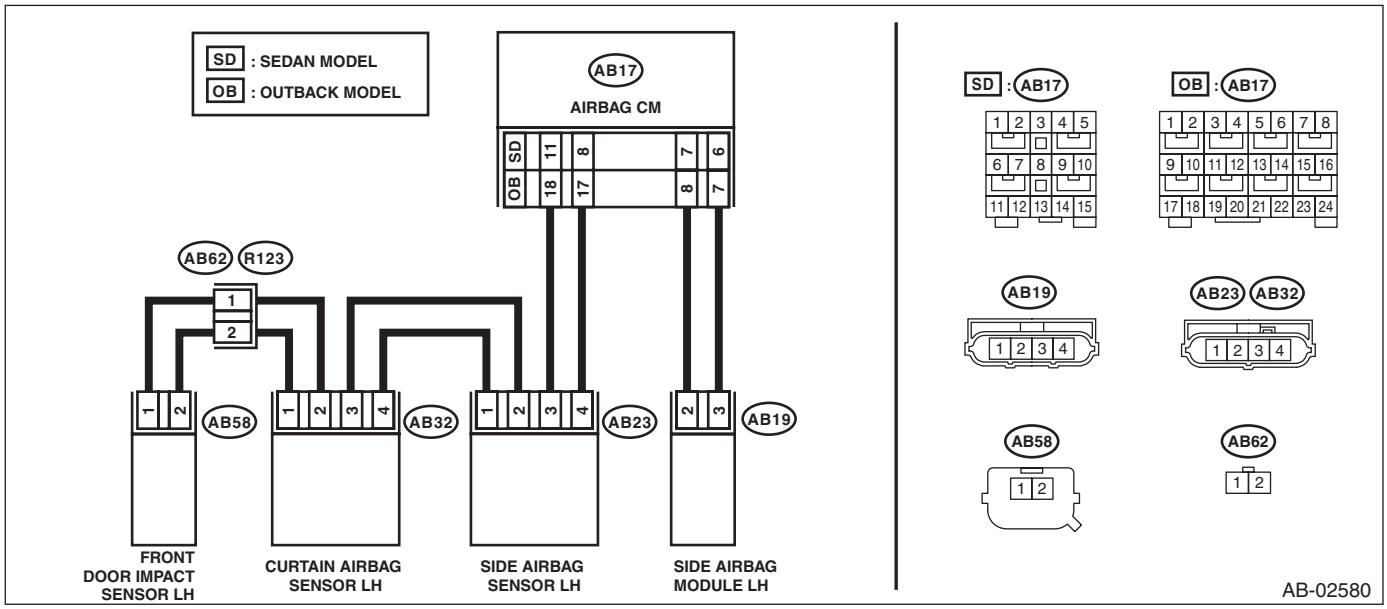
- Side airbag harness (LH) circuit is shorted.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB19) from the side airbag module (LH), and connect the connector (1AJ) in test harness AJ to the connector (AB19). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness AJ. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AJ) terminals in test harness AJ. ***Connector & terminal (3AJ) No. 1 — (3AJ) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CQ:DTC B1826 OPEN IN SIDE AIRBAG LH

DTC DETECTING CONDITION:

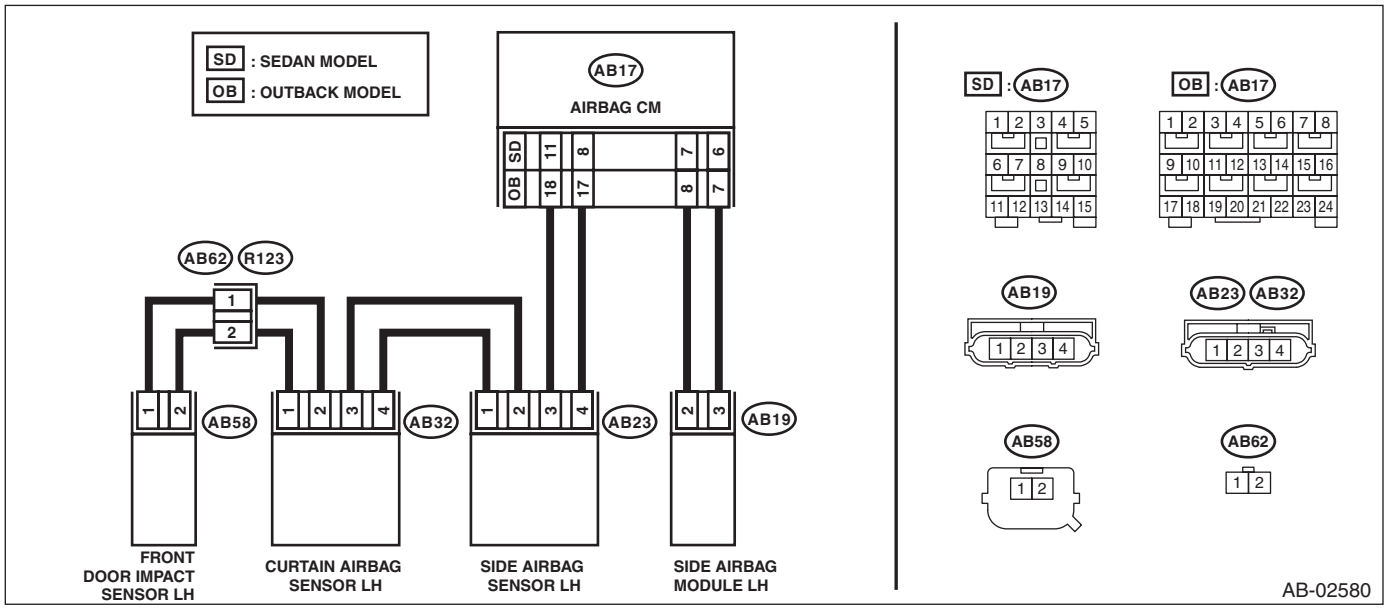
- Side airbag harness (LH) circuit is open.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB19) from the side airbag module (LH), and connect the connector (1AJ) in test harness AJ to the connector (AB19). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness AJ. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (4AG) or (5AG) in the test harness AG and connector (3AJ) in the test harness AJ. ***Connector & terminal*** ***Sedan model*** ***(4AG) No. 11 — (3AJ) No. 1:*** ***(4AG) No. 13 — (3AJ) No. 2:*** ***OUTBACK model*** ***(5AG) No. 5 — (3AJ) No. 1:*** ***(5AG) No. 7 — (3AJ) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CR:DTC B1827 SHORT IN SIDE AIRBAG LH (TO GROUND)

DTC DETECTING CONDITION:

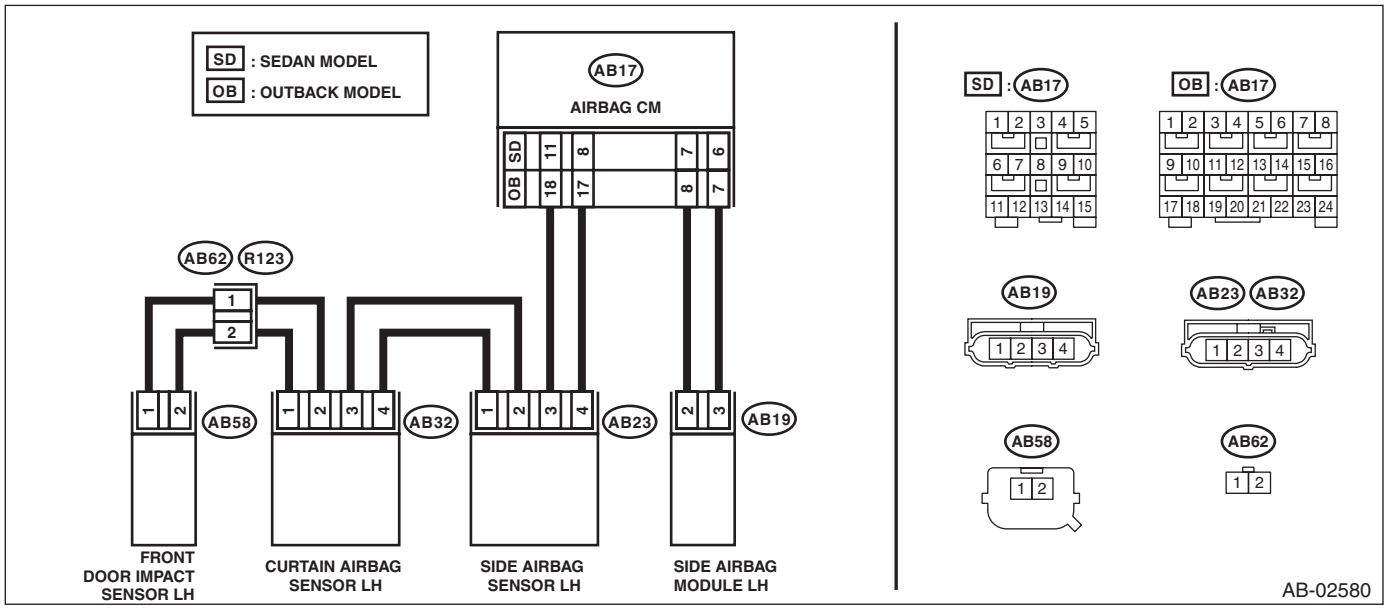
- Side airbag harness (LH) circuit is shorted to ground.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB19), and connect the connector (1AJ) in test harness AJ to connector (AB19). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AJ) in the test harness AJ and chassis ground. ***Connector & terminal*** ***(3AJ) No. 1 — Chassis ground:*** ***(3AJ) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CS:DTC B1828 SHORT IN SIDE AIRBAG LH (TO +B)

DTC DETECTING CONDITION:

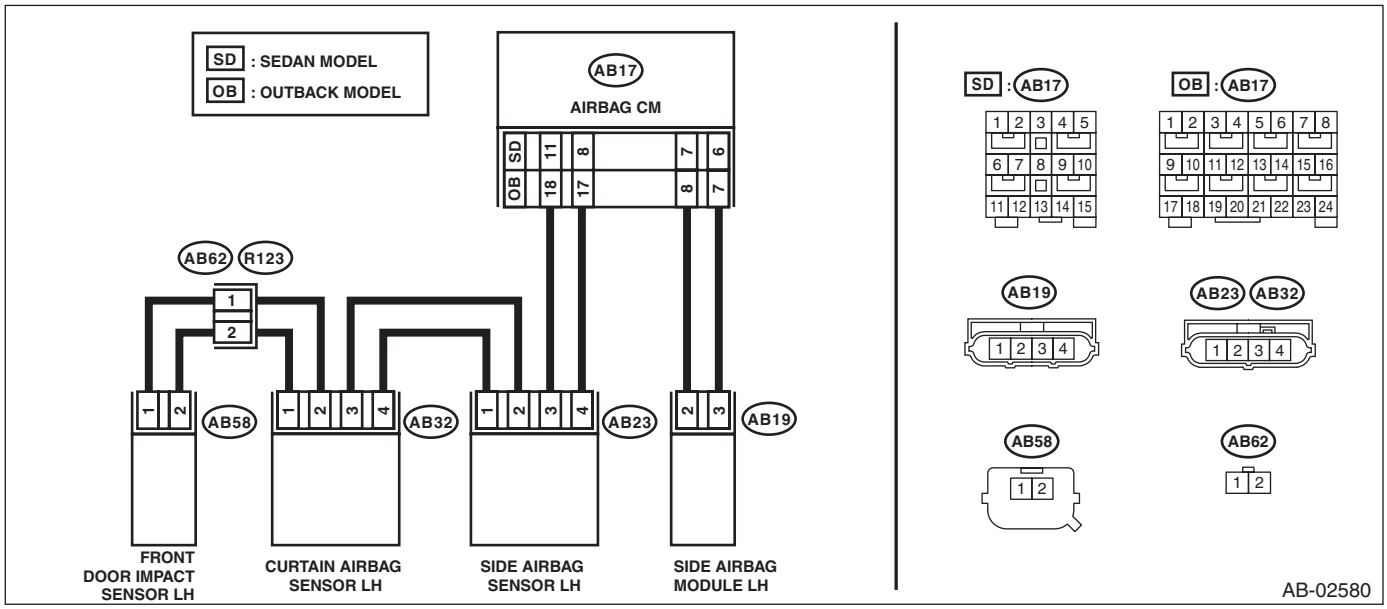
- Side airbag harness (LH) is shorted to power supply.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SIDE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB19), and connect the connector (1AJ) in test harness AJ to connector (AB19). 3) Connect the airbag resistor to the test harness AJ connector (3AJ). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the side airbag module (LH). <Ref. to AB-59, REMOVAL, Side Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3AJ) in the test harness AJ and chassis ground. ***Connector & terminal*** ***(3AJ) No. 1 (+) — Chassis ground (–):*** ***(3AJ) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CT:DTC B1830 SHORT IN CURTAIN AIRBAG RH SQUIB CIRCUIT

DTC DETECTING CONDITION:

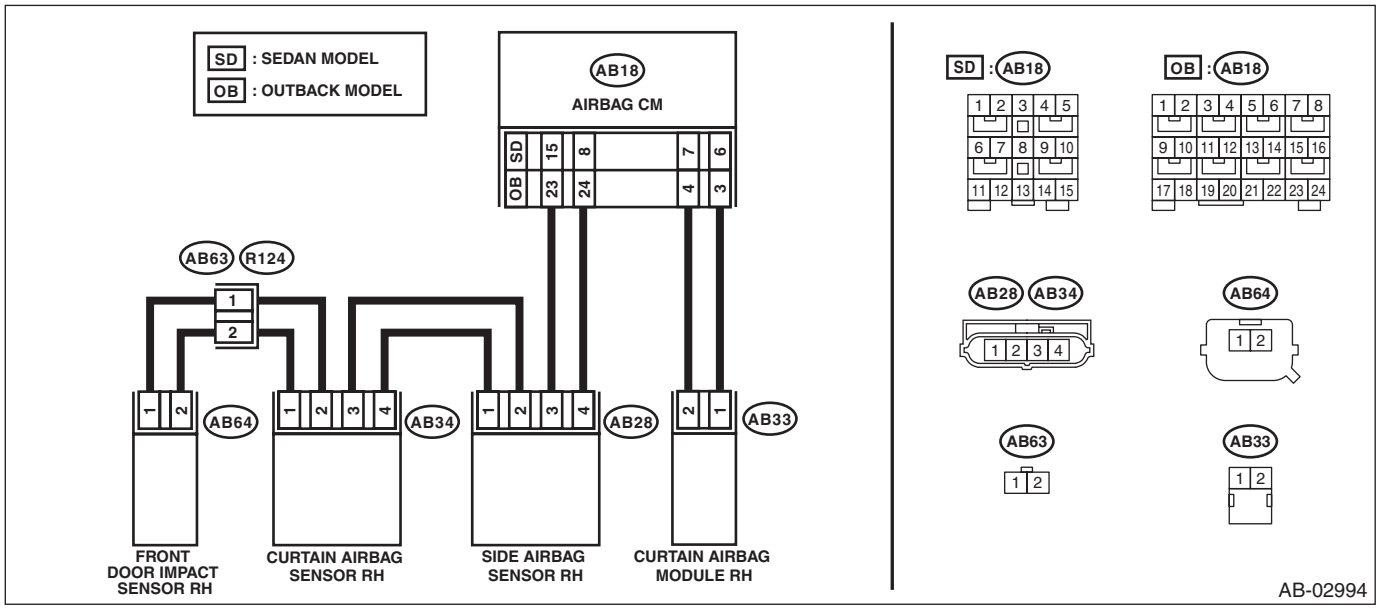
- Curtain airbag harness (RH) circuit is shorted.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module RH and the curtain airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB33) from curtain airbag module (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB33). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (2N) terminals in test harness N. ***Connector & terminal (2N) No. 1 — (2N) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CU:DTC B1831 OPEN IN CURTAIN AIRBAG RH SQUIB CIRCUIT

DTC DETECTING CONDITION:

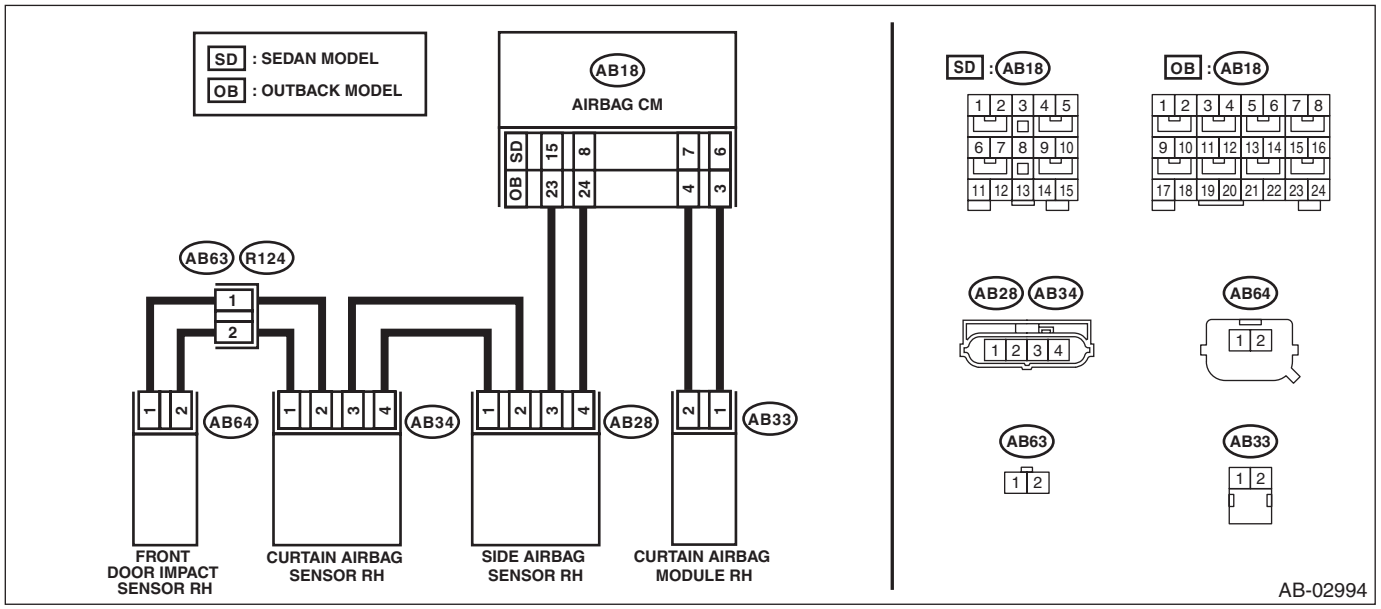
- Curtain airbag harness (RH) circuit is open.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module RH and the curtain airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB33) from curtain airbag module (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB33). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (5AG) or (6AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***Sedan model*** ***(5AG) No. 2 — (2N) No. 1:*** ***(5AG) No. 4 — (2N) No. 2:*** ***OUTBACK model*** ***(6AG) No. 1 — (2N) No. 1:*** ***(6AG) No. 3 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CV:DTC B1832 SHORT IN CURTAIN AIRBAG RH SQUIB CIRCUIT (TO GROUND)

DTC DETECTING CONDITION:

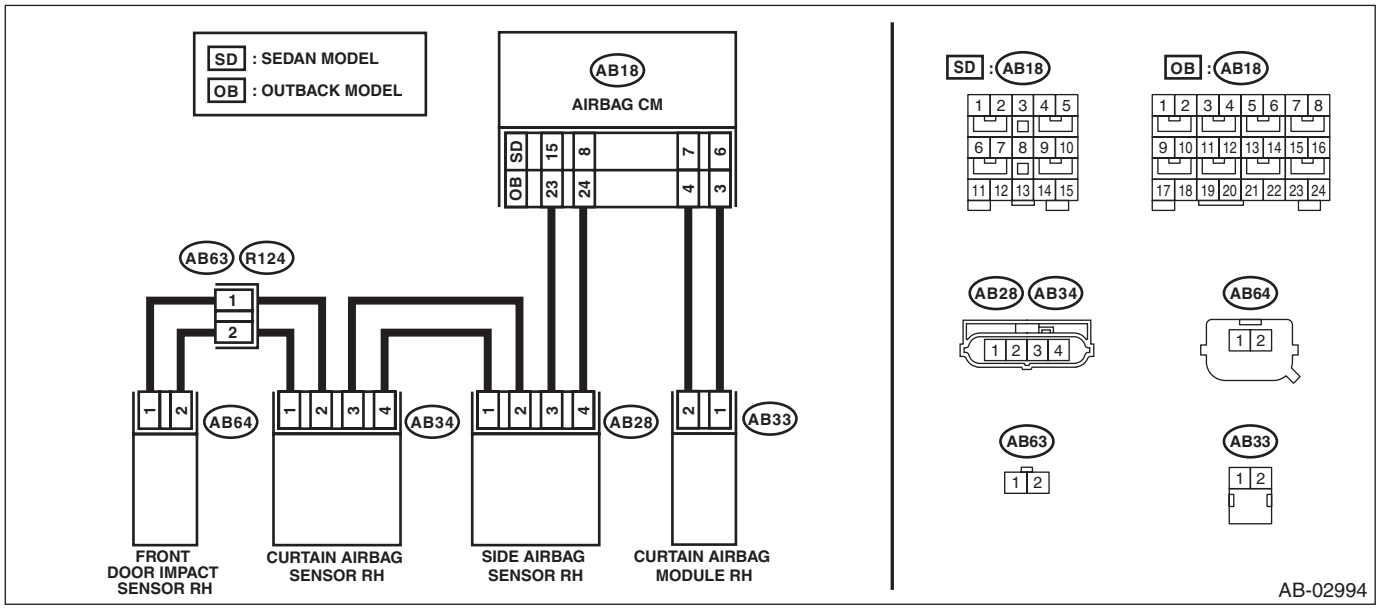
- Curtain airbag harness (RH) circuit is shorted to ground.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module RH and the curtain airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB33), and connect the connector (1N) in test harness N to connector (AB33). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (2N) in the test harness N and chassis ground. ***Connector & terminal*** ***(2N) No. 1 — Chassis ground:*** ***(2N) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CW:DTC B1833 SHORT IN CURTAIN SHIELD AIRBAG RH SQUIB CIRCUIT (TO +B)

DTC DETECTING CONDITION:

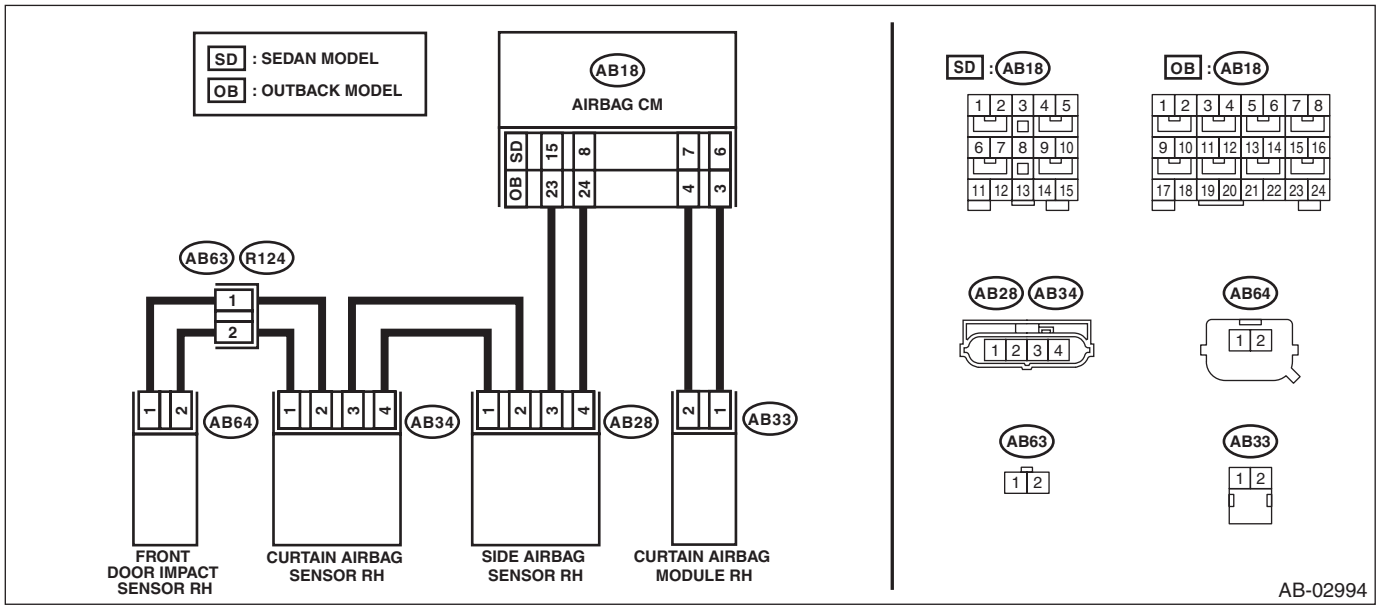
- Curtain airbag harness (RH) is shorted to power supply.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module RH and the curtain airbag sensor RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB33), and connect the connector (1N) in test harness N to connector (AB33). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (RH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (2N) in the test harness N and chassis ground. ***Connector & terminal*** ***(2N) No. 1 (+) — Chassis ground (–):*** ***(2N) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CX:DTC B1835 SHORT IN CURTAIN AIRBAG LH SQUIB CIRCUIT

DTC DETECTING CONDITION:

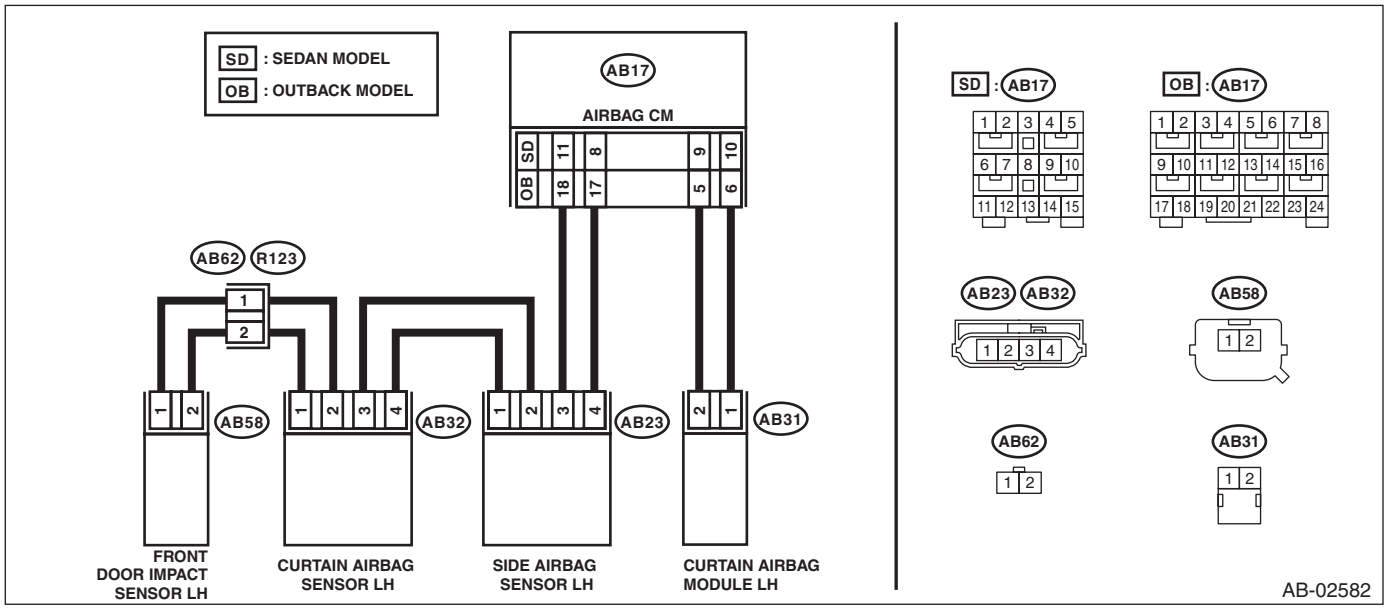
- Curtain airbag harness (LH) circuit is shorted.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module LH and the curtain airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB31) from curtain airbag module (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB31). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (2N) terminals in test harness N. ***Connector & terminal (2N) No. 1 — (2N) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CY:DTC B1836 OPEN IN CURTAIN AIRBAG LH SQUIB CIRCUIT

DTC DETECTING CONDITION:

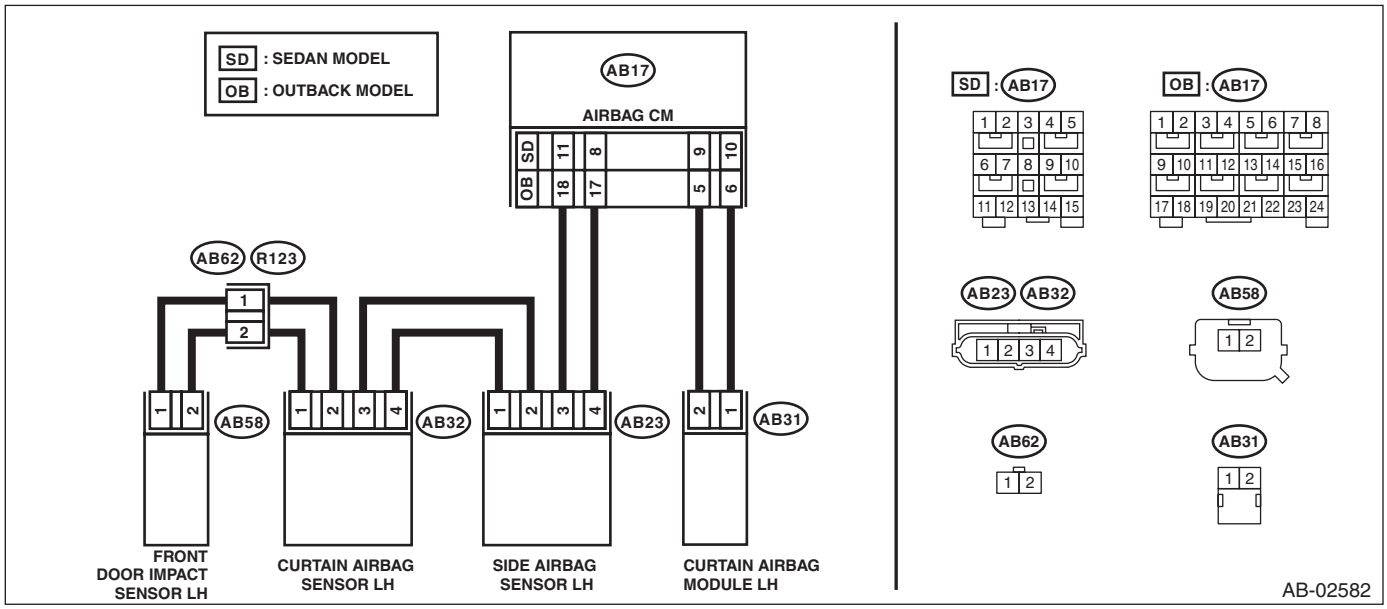
- Curtain airbag harness (LH) circuit is open.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module LH and the curtain airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB31) from curtain airbag module (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB31). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (5AG) or (6AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***Sedan model*** ***(5AG) No. 6 — (2N) No. 1:*** ***(5AG) No. 12 — (2N) No. 2:*** ***OUTBACK model*** ***(6AG) No. 8 — (2N) No. 1:*** ***(6AG) No. 6 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

CZ:DTC B1837 SHORT IN CURTAIN AIRBAG LH SQUIB CIRCUIT (TO GROUND)

DTC DETECTING CONDITION:

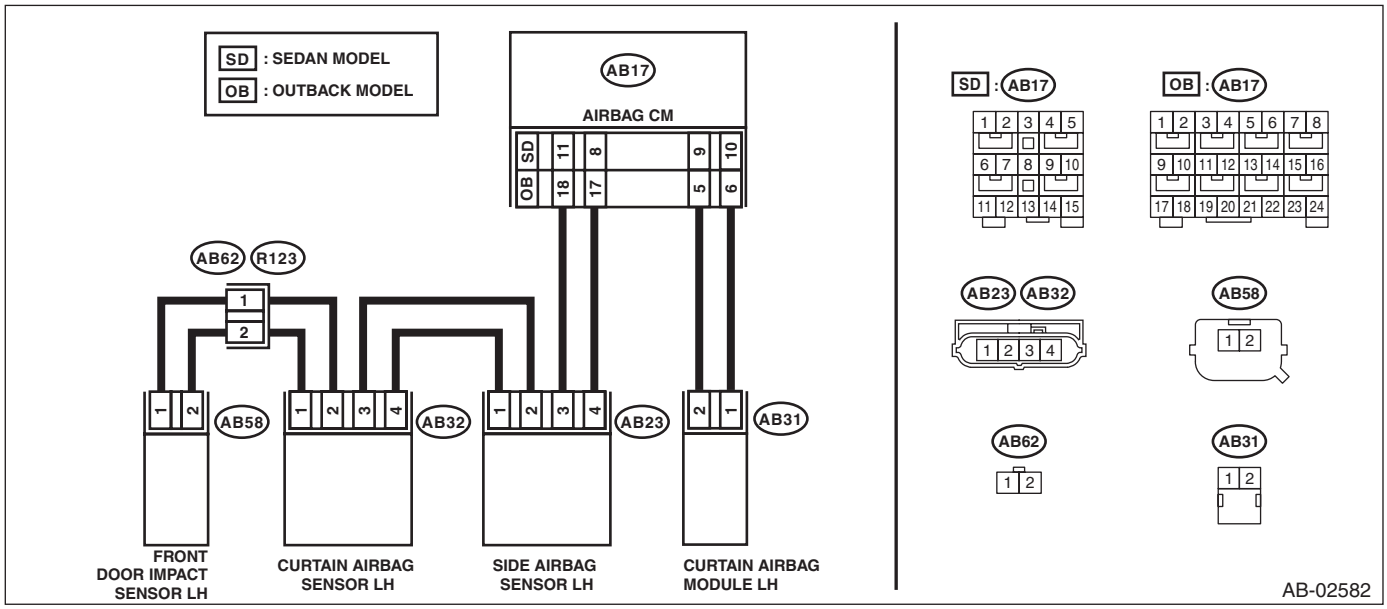
- Curtain airbag harness (LH) circuit is shorted to ground.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module LH and the curtain airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB31), and connect the connector (1N) in test harness N to connector (AB31). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (2N) in the test harness N and chassis ground. ***Connector & terminal*** ***(2N) No. 1 — Chassis ground:*** ***(2N) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DA:DTC B1838 SHORT IN CURTAIN SHIELD AIRBAG LH SQUIB CIRCUIT (TO +B)

DTC DETECTING CONDITION:

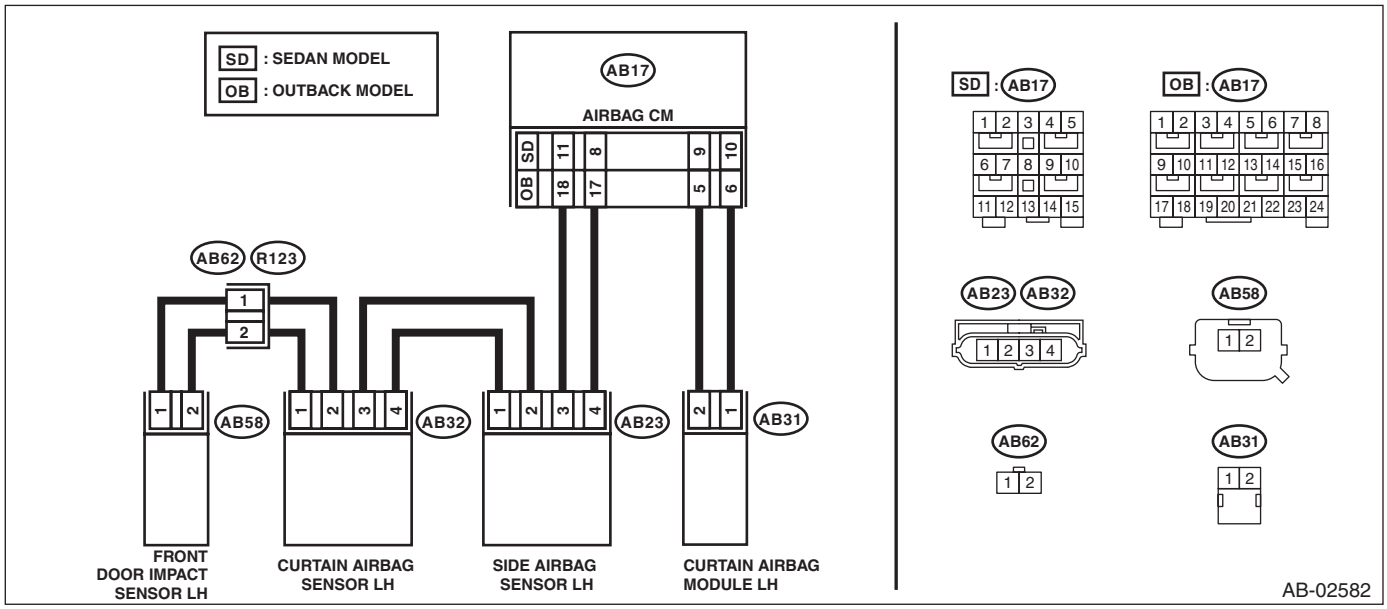
- Curtain airbag harness (LH) is shorted to power supply.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module, curtain airbag module LH and the curtain airbag sensor LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK CURTAIN AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB31), and connect the connector (1N) in test harness N to connector (AB31). 3) Connect the airbag resistor to the connector (2N) of test harness N. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the curtain airbag module (LH). <Ref. to AB-69, Curtain Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (2N) in the test harness N and chassis ground. ***Connector & terminal*** ***(2N) No. 1 (+) — Chassis ground (–):*** ***(2N) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DB:DTC B1900 SHORT IN FRONT P/T RH

DTC DETECTING CONDITION:

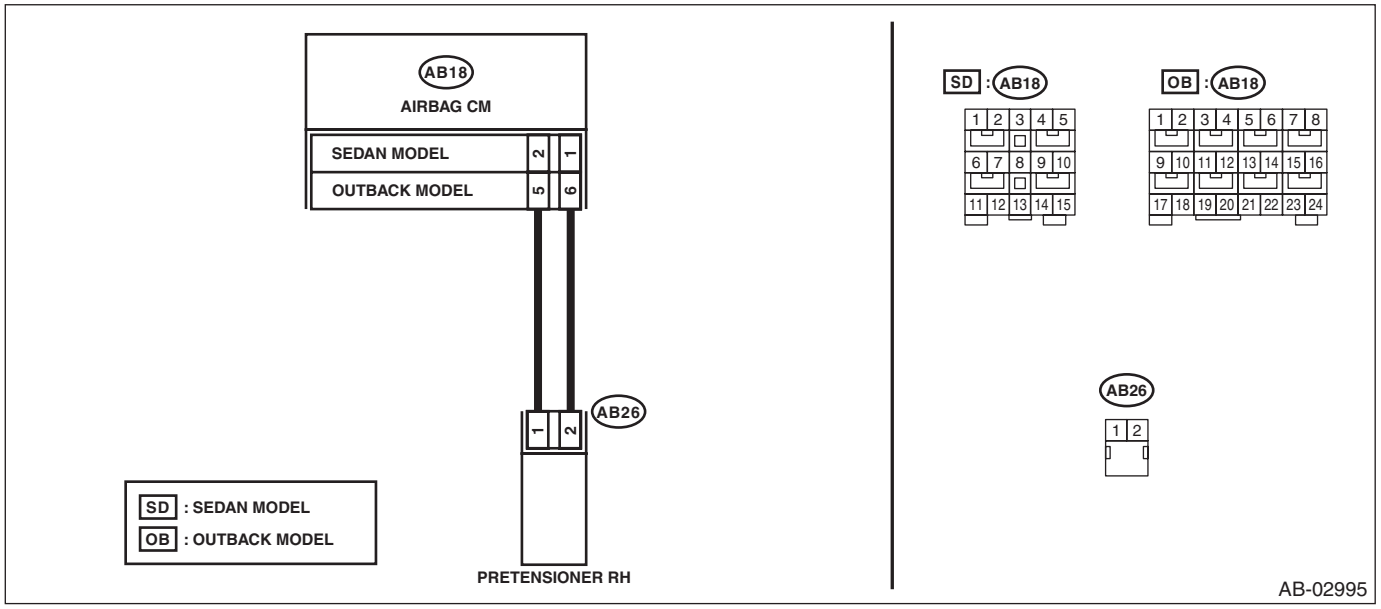
- Seat belt pretensioner (RH) circuit is shorted.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness N. 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal (3AG) No. 10 — (3AG) No. 12:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DC:DTC B1901 OPEN IN FRONT P/T RH

DTC DETECTING CONDITION:

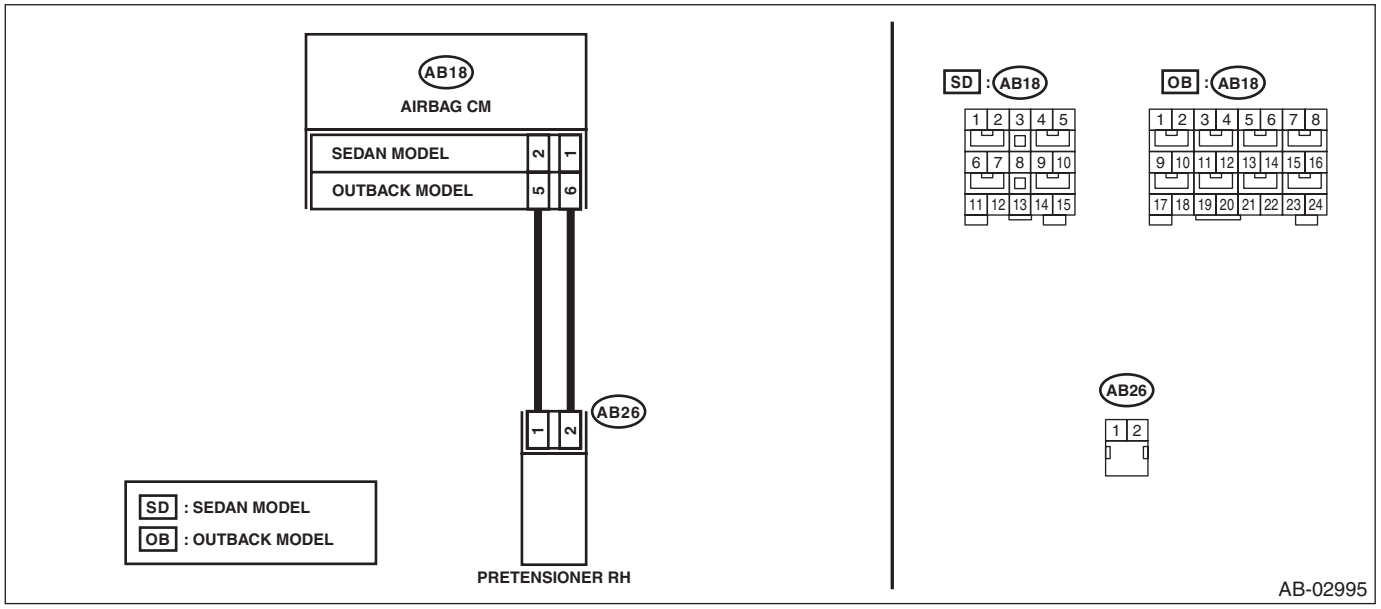
- Seat belt pretensioner (RH) circuit is open.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(3AG) No. 10 — (2N) No. 2:*** ***(3AG) No. 12 — (2N) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DD:DTC B1902 SHORT IN FRONT P/T RH (TO GROUND)

DTC DETECTING CONDITION:

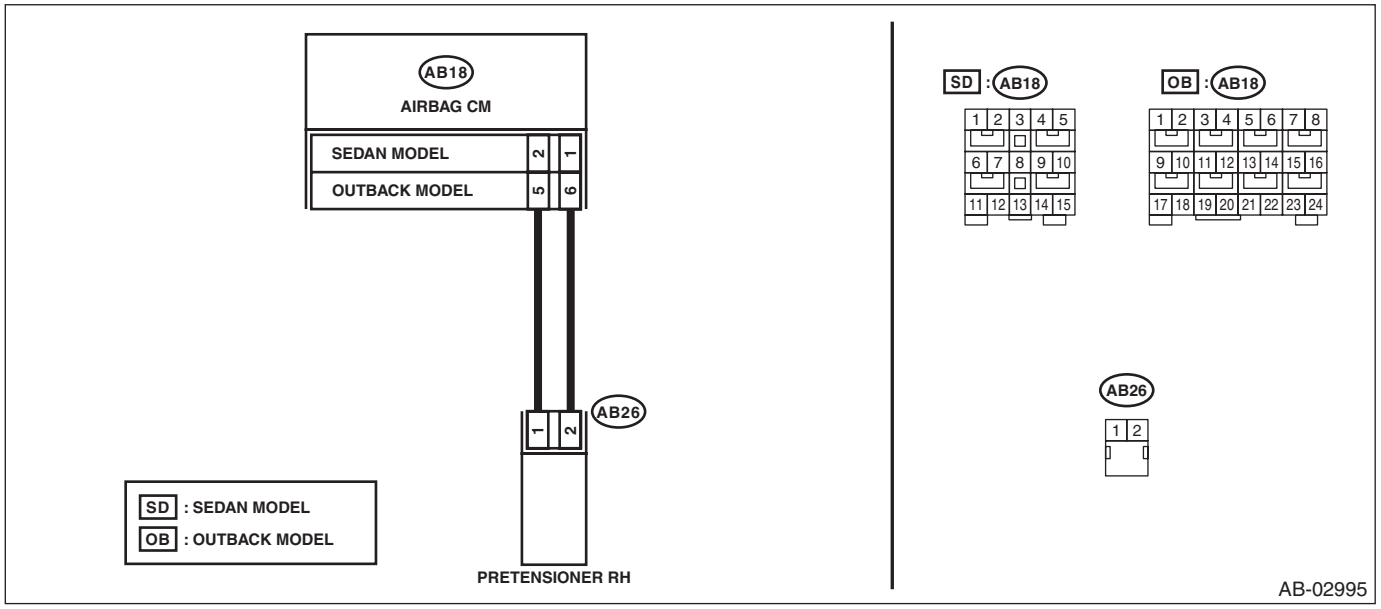
- Seat belt pretensioner (RH) circuit is shorted to ground.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the test harness AG connector (1AG) to connectors (AB18, AB17, AB6). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 10 — Chassis ground:*** ***(3AG) No. 12 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DE:DTC B1903 SHORT IN FRONT P/T RH (TO +B)

DTC DETECTING CONDITION:

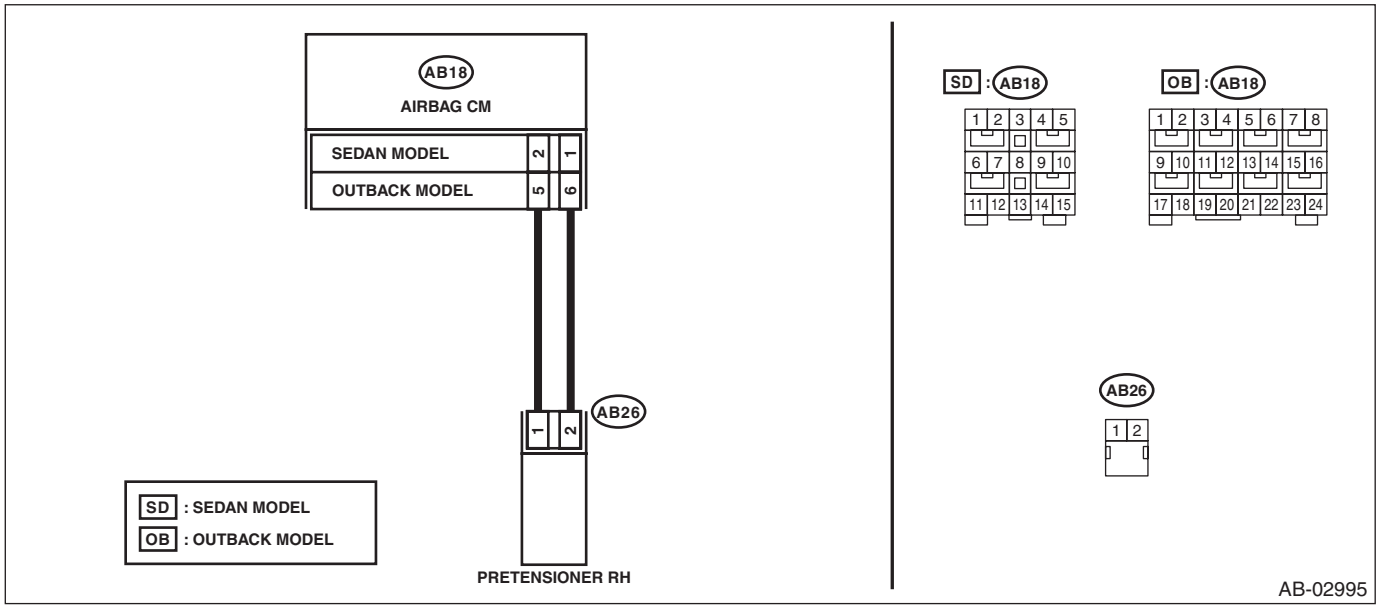
- Seat belt pretensioner (RH) circuit is shorted to power supply.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (RH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 10 (+) — Chassis ground (–):*** ***(3AG) No. 12 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DF:DTC B1905 SHORT IN FRONT P/T LH

DTC DETECTING CONDITION:

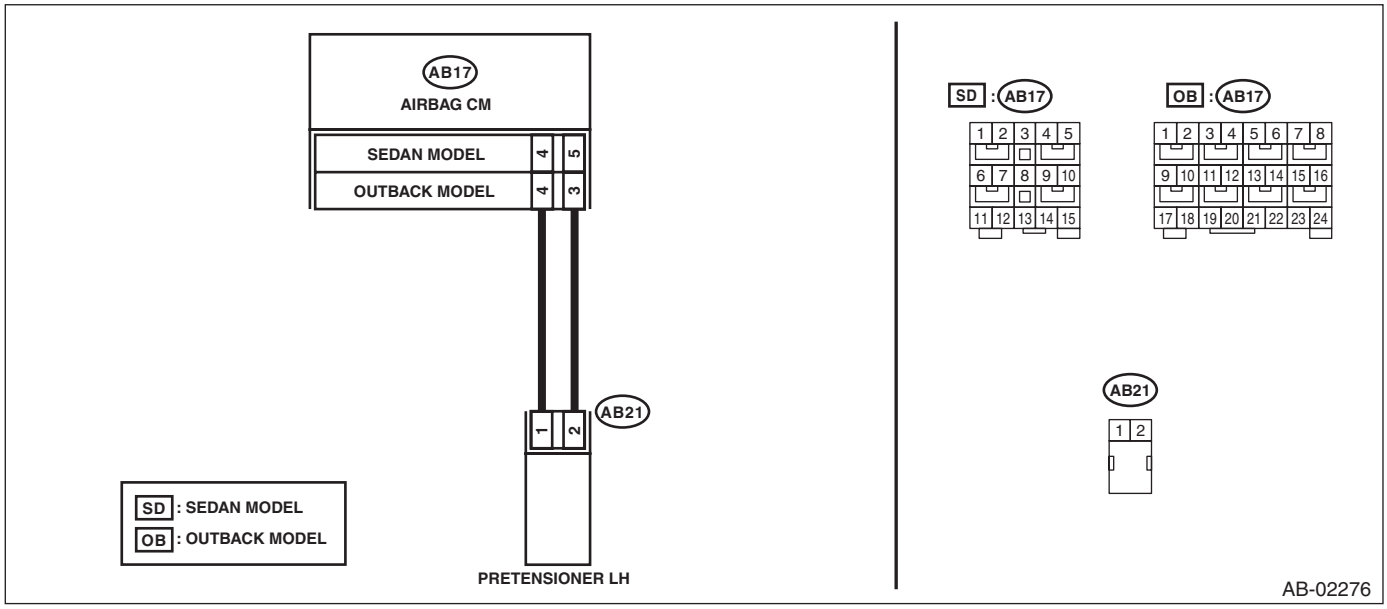
- Seat belt pretensioner (LH) circuit is shorted.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal (3AG) No. 18 — (3AG) No. 20:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DG:DTC B1906 OPEN IN FRONT P/T LH

DTC DETECTING CONDITION:

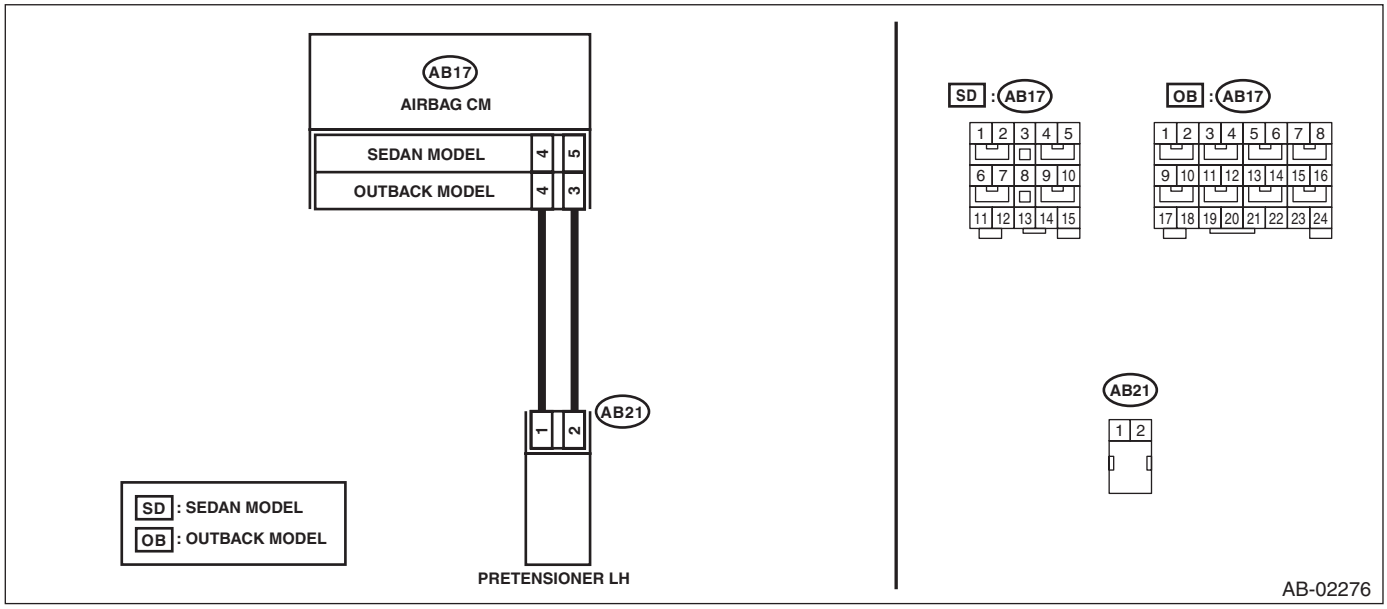
- Seat belt pretensioner (LH) circuit is open.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(3AG) No. 18 — (2N) No. 1:*** ***(3AG) No. 20 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DH:DTC B1907 SHORT IN FRONT P/T LH (TO GROUND)

DTC DETECTING CONDITION:

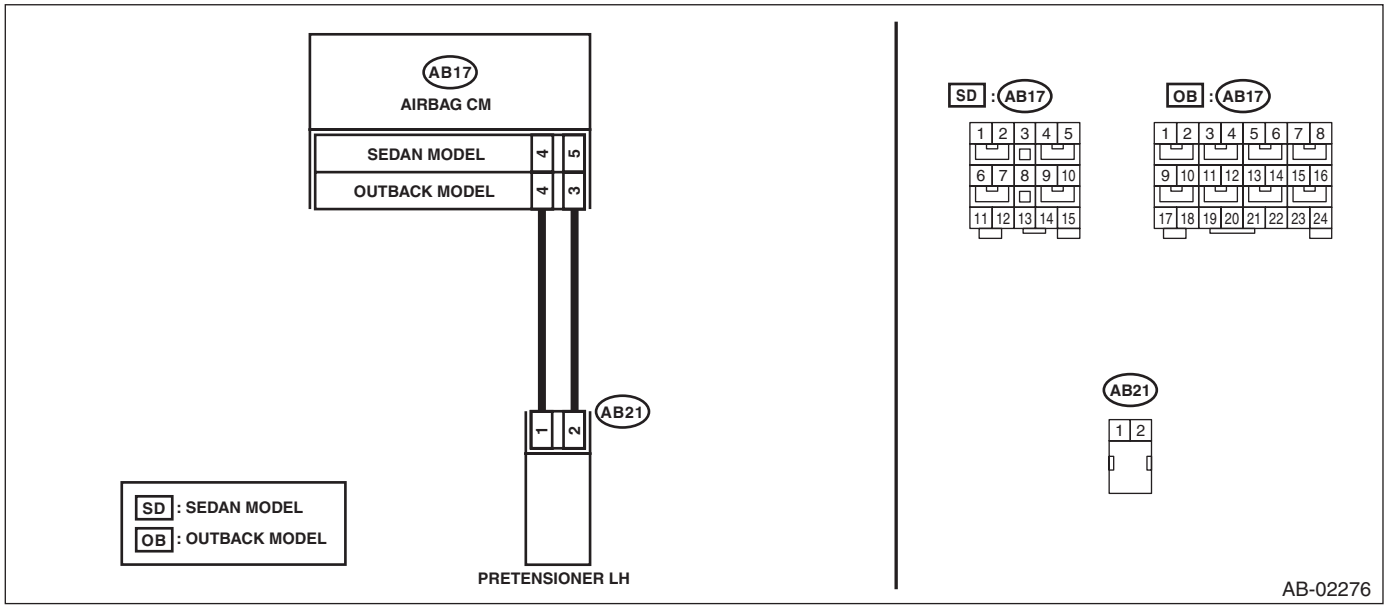
- Seat belt pretensioner (LH) circuit is shorted to ground.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 18 — Chassis ground:*** ***(3AG) No. 20 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DI: DTC B1908 SHORT IN FRONT P/T LH (TO +B)

DTC DETECTING CONDITION:

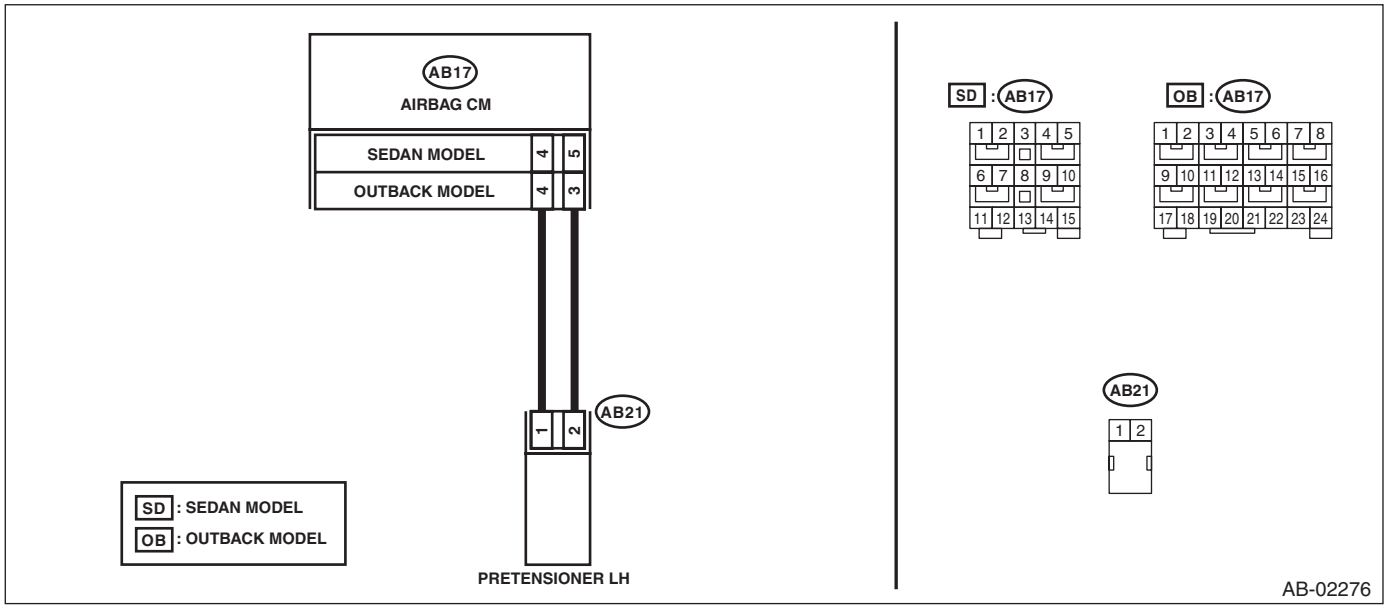
- Seat belt pretensioner (LH) circuit is shorted to power supply.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH.	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) of test harness N. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for six seconds and go off?	Replace the seat belt pretensioner (LH). <Ref. to SB-17, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from the connector (2N) of test harness N. 3) Disconnect connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 18 (+) — Chassis ground (–):*** ***(3AG) No. 20 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DJ:DTC B19F0 SHORT IN FRONT P/T 2 RH

DTC DETECTING CONDITION:

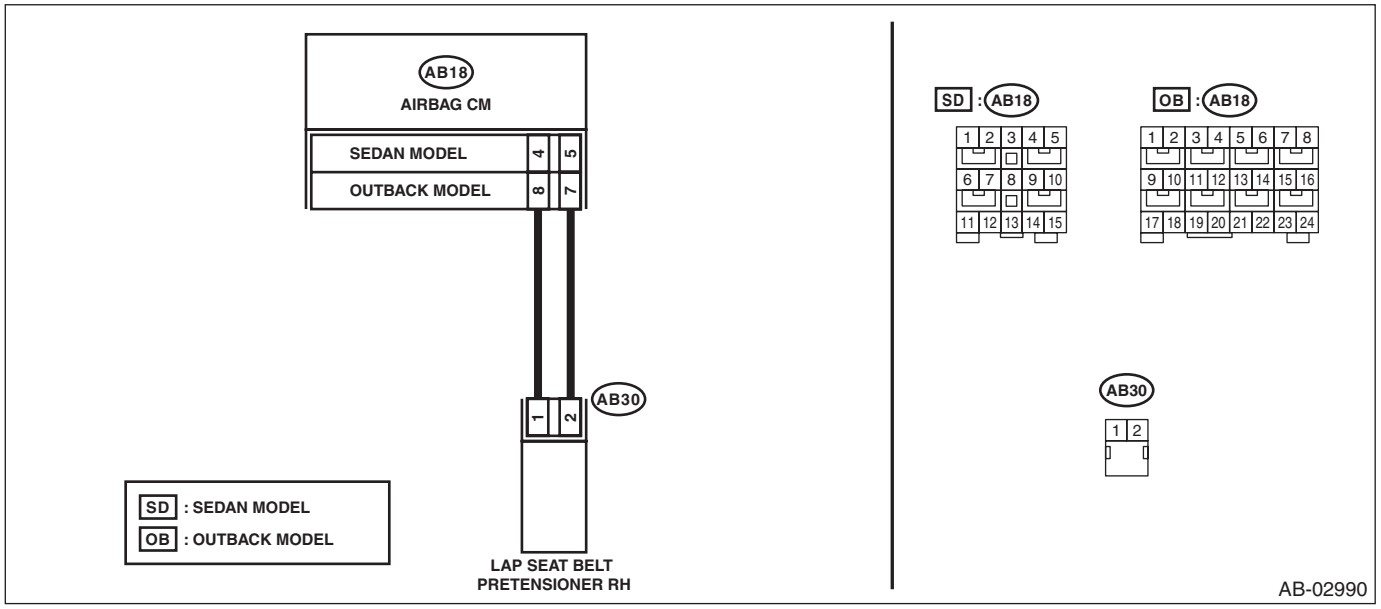
- Lap seat belt pretensioner (RH) circuit is shorted.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is shorted.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (RH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (RH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (LAP SEAT BELT PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal (3AG) No. 11 — (3AG) No. 13:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DK:DTC B19F1 OPEN IN FRONT P/T 2 RH

DTC DETECTING CONDITION:

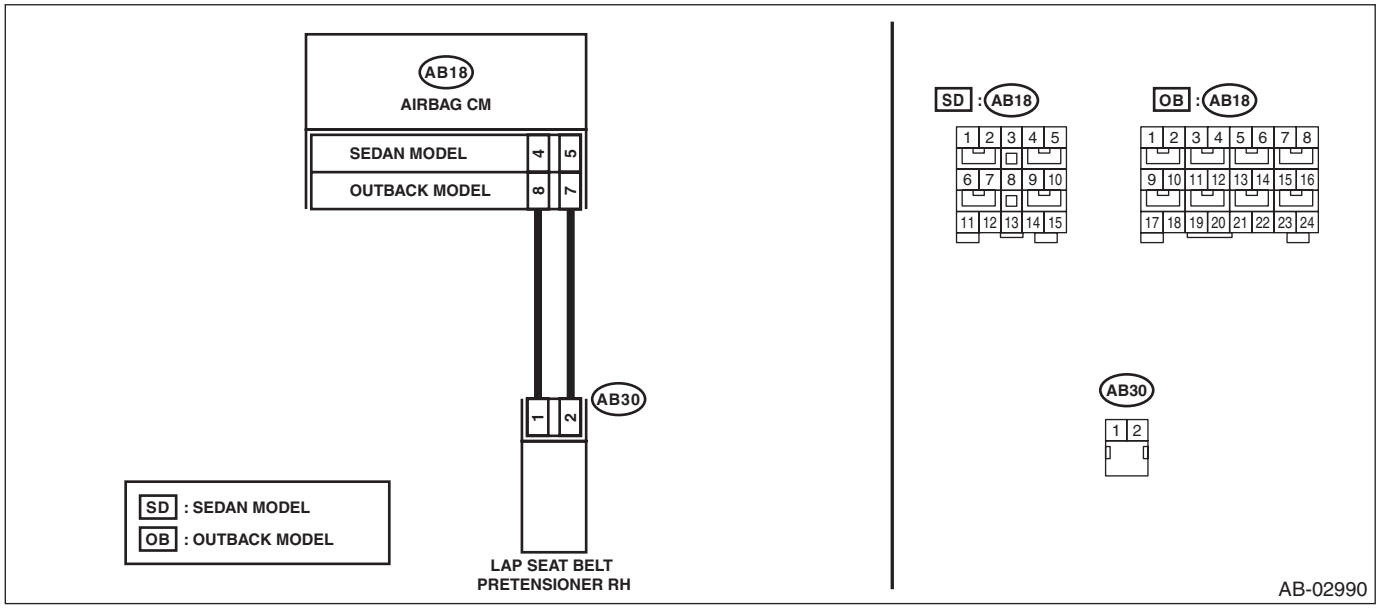
- Lap seat belt pretensioner (RH) circuit is open.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is open.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (RH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (RH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Measure the resistance between the test harness AG connector (3AG) and the test harness Q connector (2Q). ***Connector & terminal*** ***(3AG) No. 11 — (2Q) No. 2:*** ***(3AG) No. 13 — (2Q) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DL:DTC B19F2 SHORT IN FRONT P/T 2 RH (TO GROUND)

DTC DETECTING CONDITION:

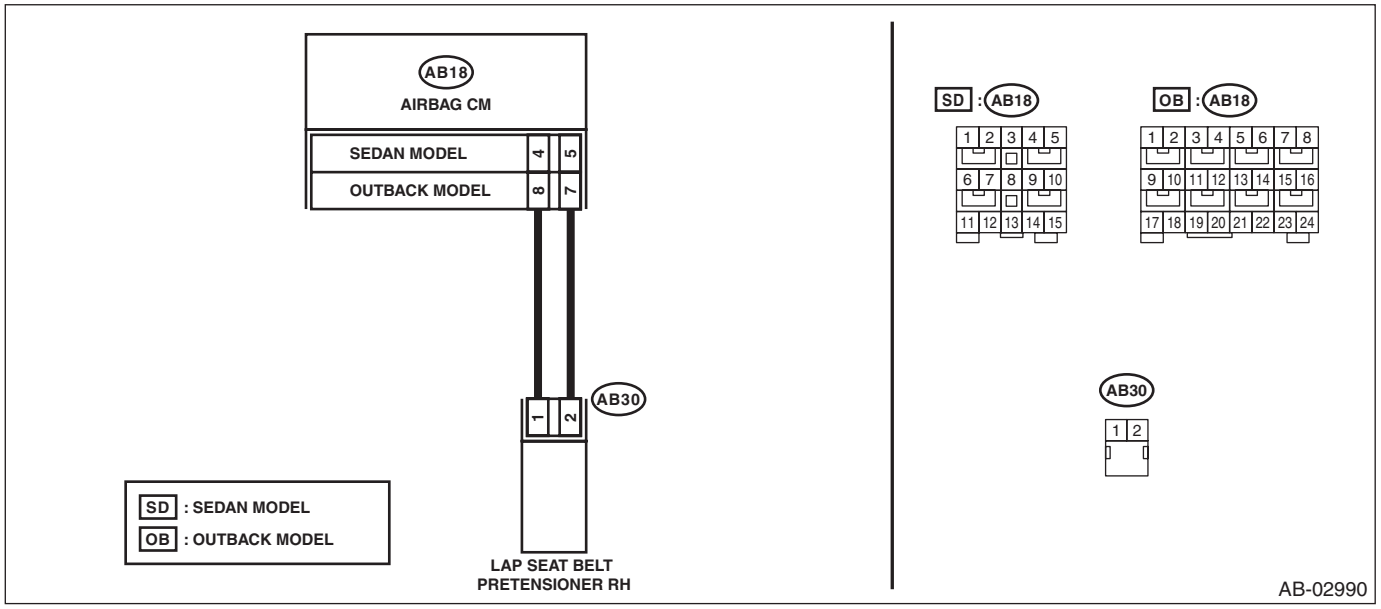
- Lap seat belt pretensioner (RH) circuit is shorted to ground.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is shorted to ground.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (RH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (RH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (LAP SEAT BELT PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 11 — Chassis ground:*** ***(3AG) No. 13 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DM:DTC B19F3 SHORT IN FRONT P/T 2 RH (TO +B)

DTC DETECTING CONDITION:

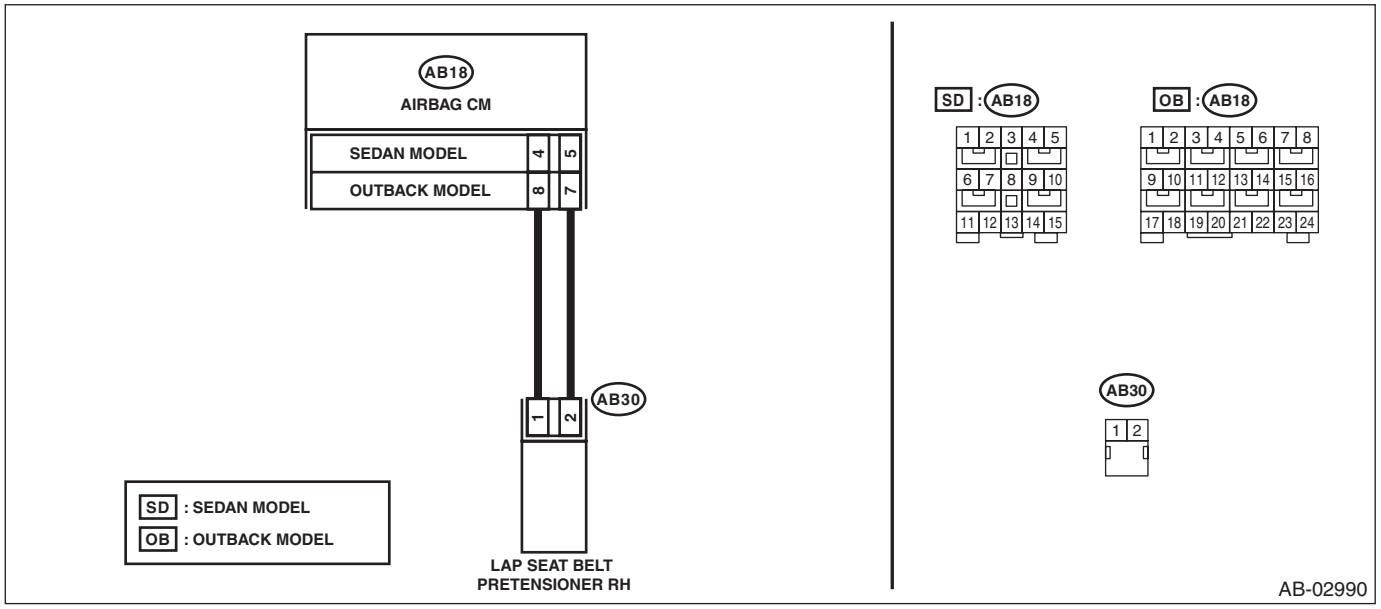
- Lap seat belt pretensioner (RH) circuit is shorted to power supply.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is shorted to power supply.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (RH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (RH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (LAP SEAT BELT PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect connector (AB24) from side airbag module (RH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Connect the battery ground terminal and turn the ignition switch to ON. 9) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 11 (+) — Chassis ground (–):*** ***(3AG) No. 13 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DN:DTC B19F4 SHORT IN FRONT P/T 2 LH

DTC DETECTING CONDITION:

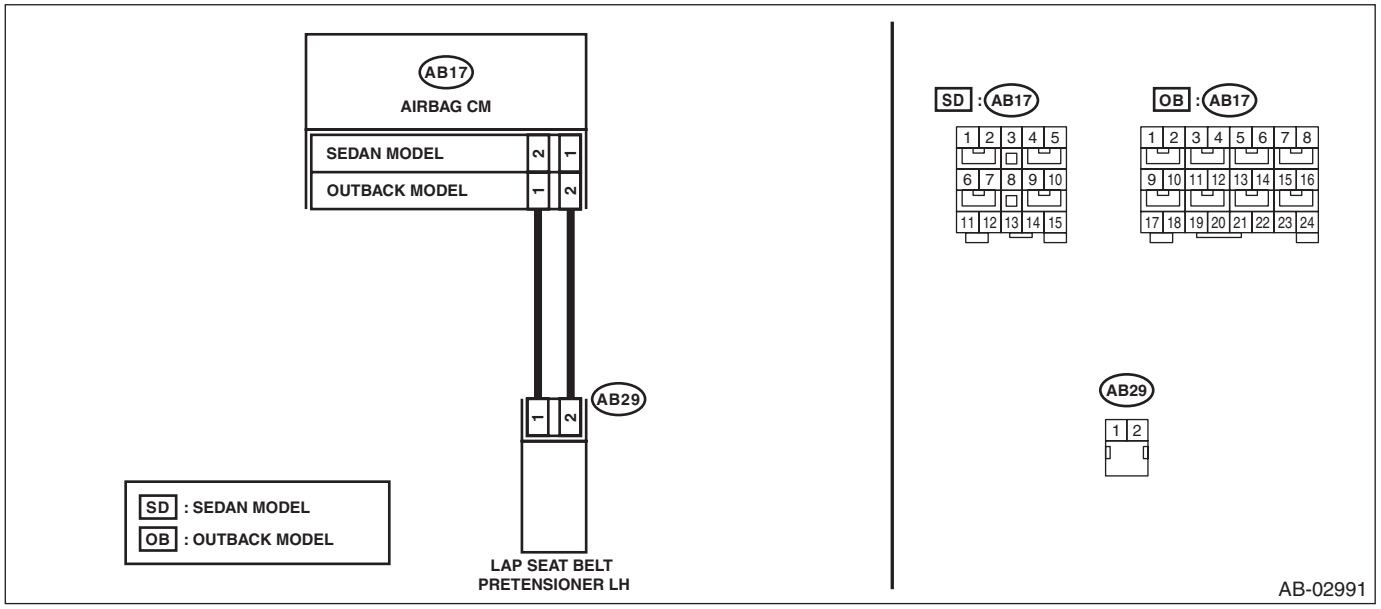
- Lap seat belt pretensioner (LH) circuit is shorted.
- Lap seat belt pretensioner (LH) is faulty.
- Lap seat belt pretensioner harness (LH) is shorted.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (LH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (LH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (LH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (LAP SEAT BELT PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (LH). 4) Disconnect the connector (AB24) from side airbag module (LH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal (3AG) No. 17 — (3AG) No. 19:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DO:DTC B19F5 OPEN IN FRONT P/T 2 LH

DTC DETECTING CONDITION:

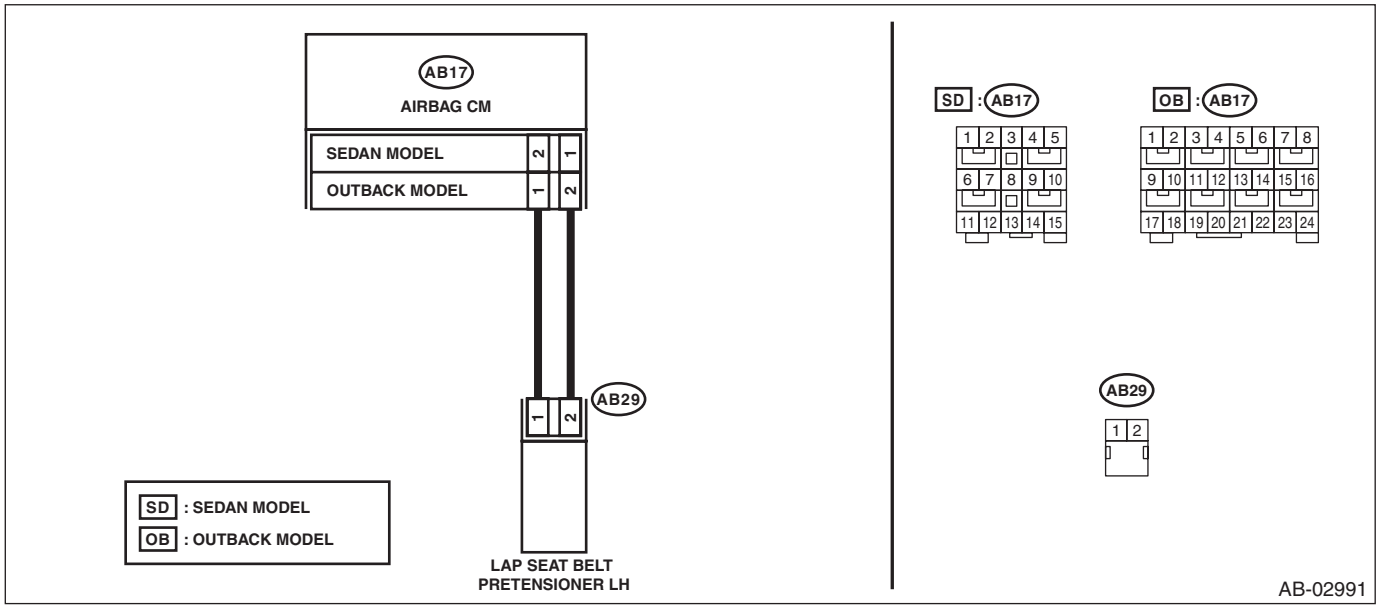
- Lap seat belt pretensioner (LH) circuit is open.
- Lap seat belt pretensioner (LH) is faulty.
- Lap seat belt pretensioner harness (LH) is open.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (LH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (LH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (LH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (SIDE AIRBAG HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (LH). 4) Disconnect the connector (AB24) from side airbag module (LH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Measure the resistance between the test harness AG connector (3AG) and the test harness Q connector (2Q). ***Connector & terminal*** ***(3AG) No. 17 — (2Q) No. 2:*** ***(3AG) No. 19 — (2Q) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DP:DTC B19F6 SHORT IN FRONT P/T LH (TO GROUND)

DTC DETECTING CONDITION:

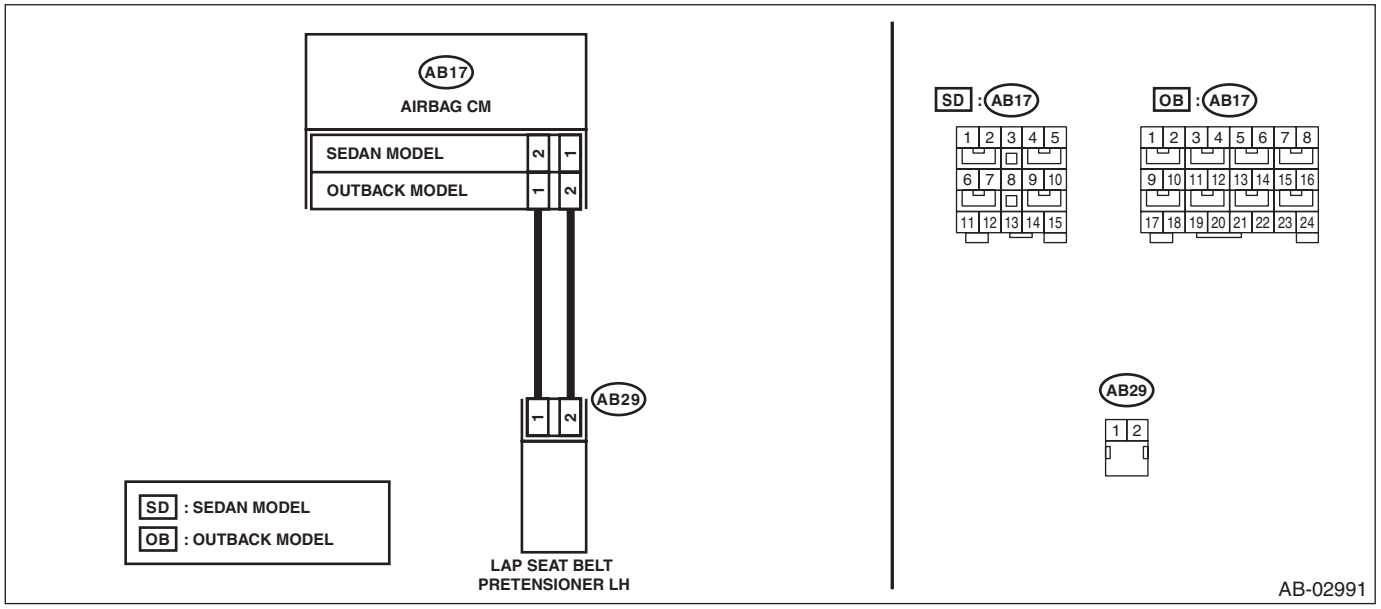
- Lap seat belt pretensioner (LH) circuit is shorted to ground.
- Lap seat belt pretensioner (LH) is faulty.
- Lap seat belt pretensioner harness (LH) is shorted to ground.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (LH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (LH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (LH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (LAP SEAT BELT PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (LH). 4) Disconnect the connector (AB24) from side airbag module (LH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 17 — Chassis ground:*** ***(3AG) No. 19 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

DQ:DTC B19F7 SHORT IN FRONT P/T 2 LH (TO +B)

DTC DETECTING CONDITION:

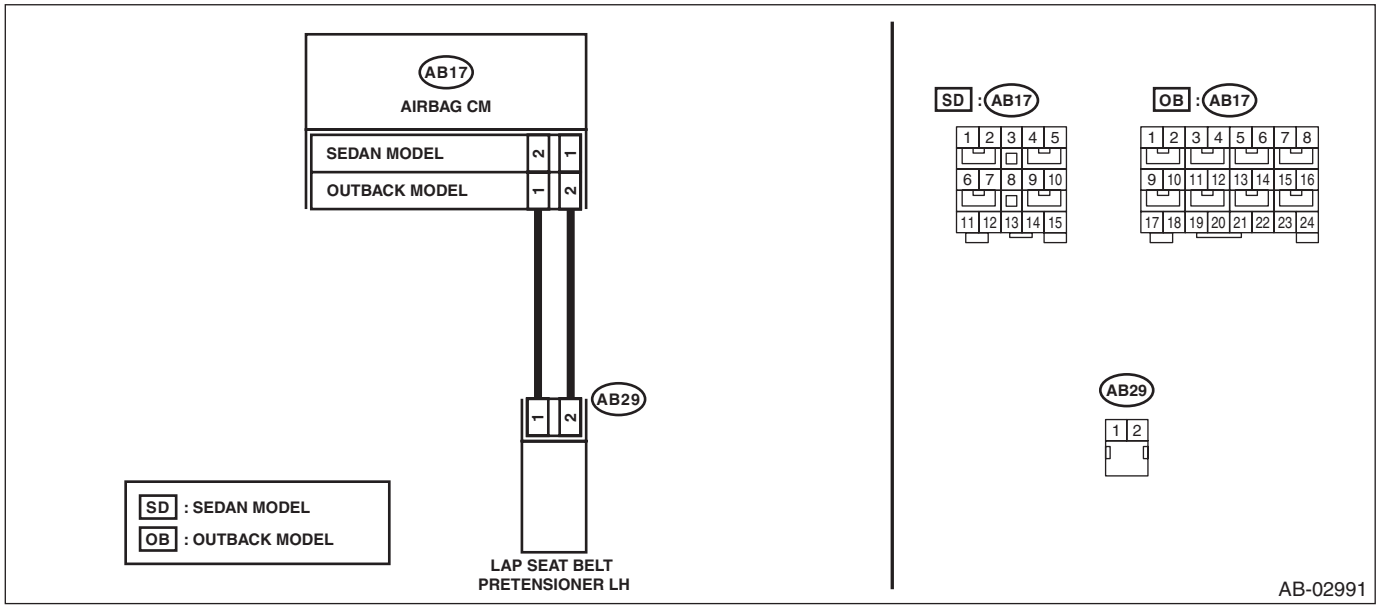
- Lap seat belt pretensioner (LH) circuit is shorted to power supply.
- Lap seat belt pretensioner (LH) is faulty.
- Lap seat belt pretensioner harness (LH) is shorted to power supply.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the lap seat belt pretensioner (LH).	Is there poor contact?	Replace the airbag rear harness along with body harness.	Go to step **2**.
2	**CHECK LAP SEAT BELT PRETENSIONER.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connector (AB30) from lap seat belt pretensioner (LH). 3) Connect the connector (1Q) in the test harness Q to connector (AB30). 4) Connect the airbag resistor to the connector (2Q) in the test harness Q. 5) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the lap seat belt pretensioner (LH). <Ref. to SB-20, INNER BELT ASSY, REMOVAL, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (LAP SEAT BELT PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the airbag resistor from test harness Q. 3) Disconnect the connector (AB33) from curtain airbag module (LH). 4) Disconnect the connector (AB24) from side airbag module (LH). 5) Disconnect the connector (AB26) from seat belt pretensioner. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 8) Connect the battery ground terminal and turn the ignition switch to ON. 9) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 17 (+) — Chassis ground (–):*** ***(3AG) No. 19 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Clear the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **5**.
5	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

OCCUPANT DETECTION SYSTEM (DIAGNOSTICS)

OD(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:
• Subaru Select Monitor is required for reading DTC, performing diagnosis and reading current data.
• Remove foreign matter (dust, water, oil, etc.) from the body integrated unit connector during removal and installation.
• Registration of the immobilizer is necessary after the replacement of the control module, etc. For detailed procedure, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

NOTE:
• To check harness for open or short circuits, shake the suspected trouble spot or connector.
• Check List for Interview <Ref. to BC(diag)-3, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK PRE-INSPECTION.** Ask the customer when and how the trouble occurred using the interview check list. <Ref. to BC(diag)-3, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer.
2	**BASIC INSPECTION.** Check components which might affect body control. <Ref. to BC(diag)-4, INSPECTION, General Description.>	Is the component that might influence the body control problem normal?	Go to step **3**.	Repair or replace each component.
3	**CHECK DTC.** 1) Read the DTC. <Ref. to BC(diag)-10, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to LAN(diag)-70, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Record all DTCs and freeze frame data.	Is DTC displayed on Subaru Select Monitor?	Go to step **5**.	Go to step **4**.
4	**PERFORM GENERAL DIAGNOSTICS.** Inspect using the "General Diagnostic Table". <Ref. to BC(diag)-39, General Diagnostic Table.>	Is result of inspection OK?	The body control system is normal.	Go to step **5**.
5	**PERFORM DIAGNOSIS.** 1) Correct the cause of trouble. 2) Perform the Clear Memory Mode. <Ref. to BC(diag)-11, OPERATION, Clear Memory Mode.> 3) Read the DTC. <Ref. to BC(diag)-10, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed on Subaru Select Monitor?	Repeat step 5 until DTC is not shown.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Inspect the following items regarding the vehicle's state.

Body Control System Check List for Interview		Date of Vehicle Bring-in Year Month Day	
Customer's name		Registration No.	Initial year of registration Year Month Date
		Vehicle model	Frame number
Interviewer	Inspector	Engine type	Odometer reading
Customer specified content			
Date and time when the trouble occurred		Frequency of trouble occurrence	
Condition of trouble occurrence		Weather	
Road conditions		Occurrence location	
Accessory installation condition			
Trouble condition			
❑ Diagnostic code			❑ ( )

3. General Description

A: CAUTION

1. SRS AIRBAG SYSTEM

Airbag system wiring harness is routed near the body integrated unit and body control circuits.

CAUTION:
- **Do not use the electrical test equipment on all airbag system wiring harnesses and connectors.**
- **Be careful not to damage the airbag system wiring harness, when servicing the body control system.**

B: INSPECTION

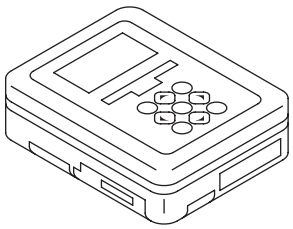
Before performing diagnosis, check the following items which might affect body control system problems.
1) Measure the battery voltage and check electrolyte.

Standard voltage: 12 V or more

Specific gravity: 1.260 or more
2) Check the fuse condition.
Make sure that ampere of the fuse is setting value, and it is not blown out.
3) Check the connecting condition of harness and harness connector.
4) Confirm settings of body integrated unit are corresponded to vehicle equipment. <Ref. to BC(diag)-19, OPERATION, Registration Body Integrated Unit.>
5) Make sure that the User Customizing of the body integrated unit matches the vehicle equipment. <Ref. to BC(diag)-17, OPERATION, User Customizing.>
6) Confirm “Factory initial setting” of body integrated unit registrations is “Market”.
7) Confirm key illumination does not blink with ignition switch turned to ON.

C: PREPARATION TOOL

1. SPECIAL TOOL

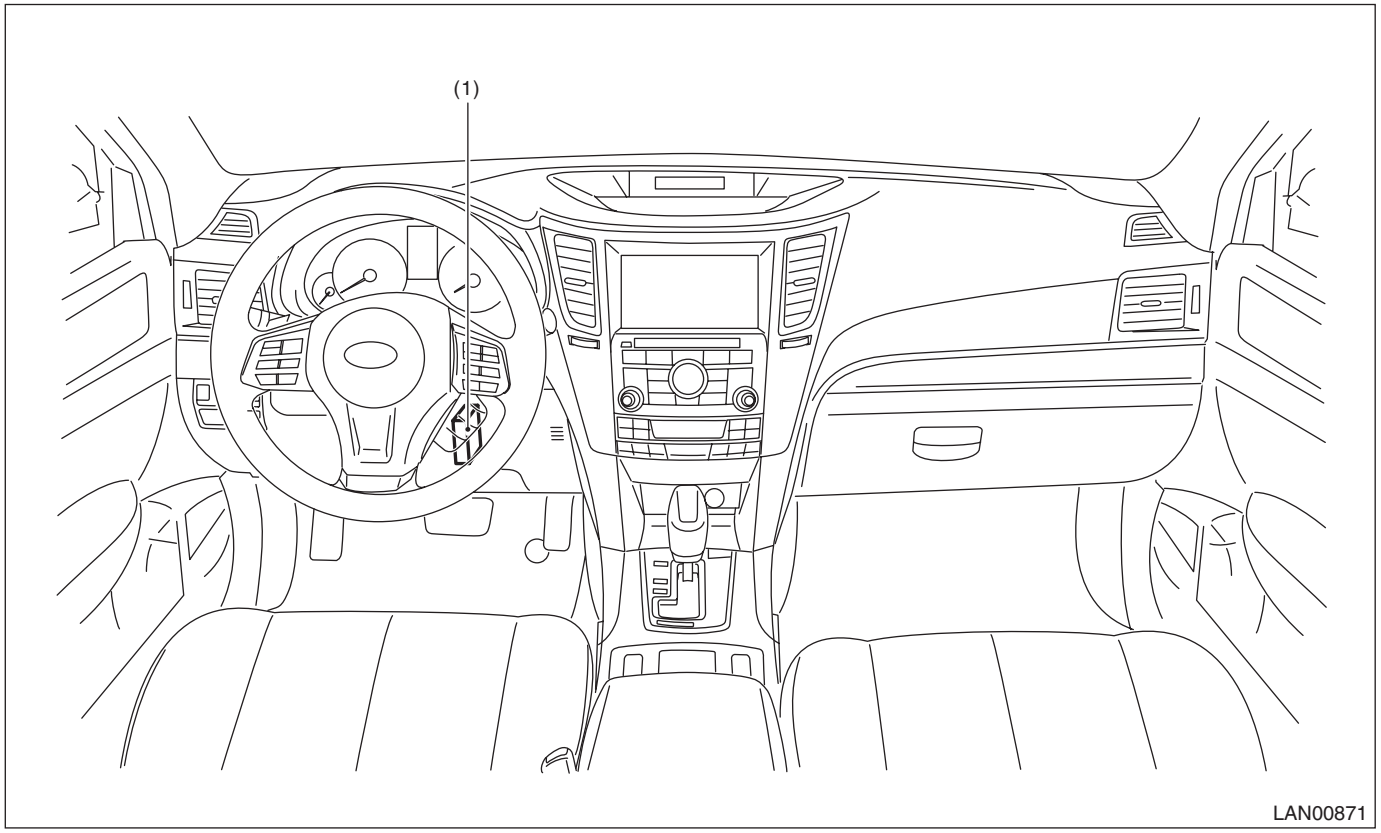
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

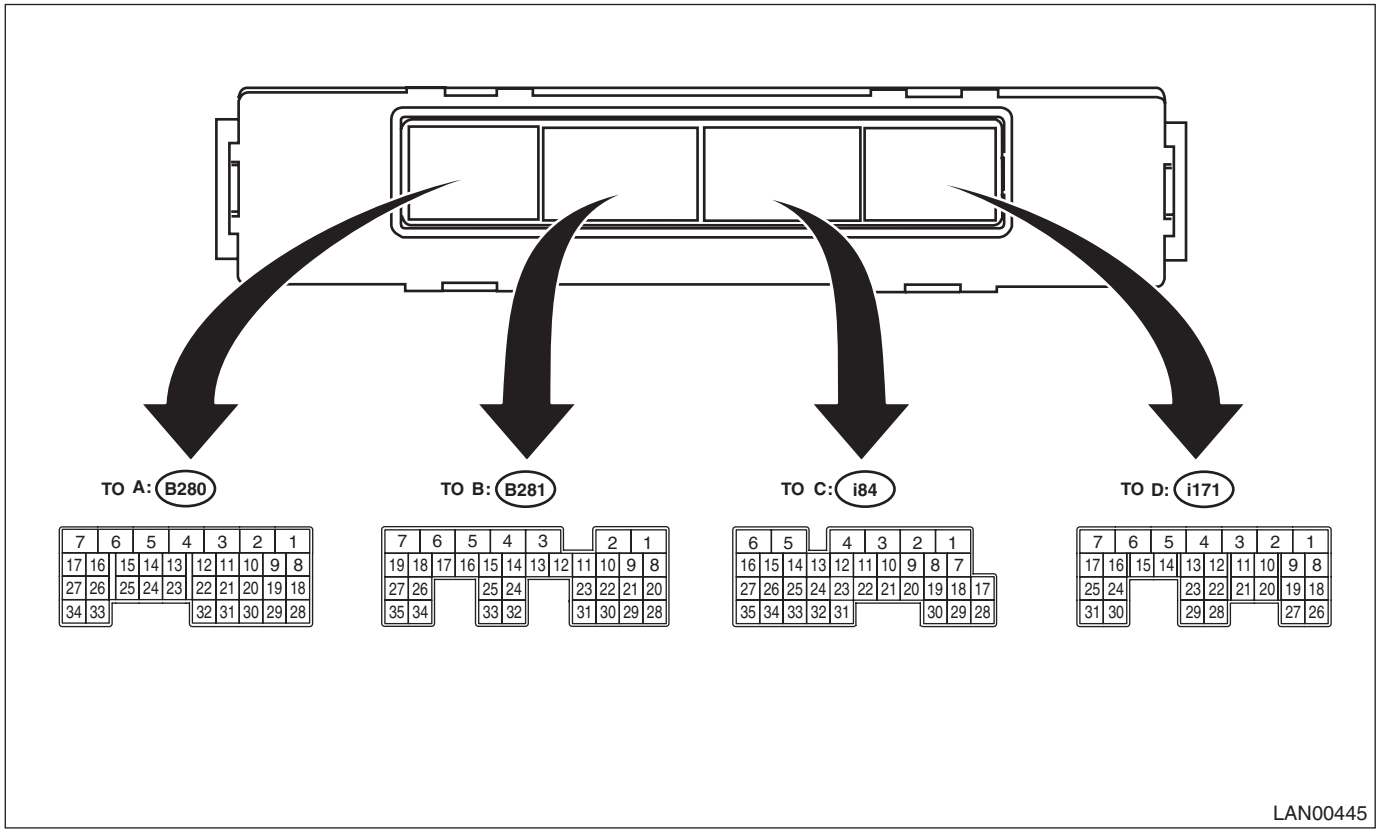
A: LOCATION



(1) Body integrated unit

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Ignition power supply (rear wiper)	A5 ←→ chassis ground	Less than 1.5 V → 10 — 13 V	Ignition switch OFF → ON
Battery power supply (shift lock/ key lock)	B6 ←→ chassis ground	10 — 13 V	Always
Battery power supply (door lock)	D1 ←→ chassis ground	10 — 13 V	Always
Battery power supply (control)	C6 ←→ chassis ground	10 — 13 V	Always
Ground	A1 ←→ chassis ground	Less than 1.5 V	Always
	B31 ←→ chassis ground		
	C1 ←→ chassis ground		
	D29 ←→ chassis ground		
Battery power supply (back-up)	B7 ←→ chassis ground	10 — 13 V	Always
Ignition power supply	D17 ←→ chassis ground	Less than 1.5 V → 10 — 13 V	Ignition switch OFF → ON
ACC power supply	D25 ←→ chassis ground	Less than 1.5 V → 10 — 13 V	Ignition switch OFF → Accessory ON
Key-in switch	A4 ←→ chassis ground	Less than 1.5 V → 10 — 13 V	Key inserted (models without keyless access)
ACC input			ACC ON (model with keyless access)
P range SW	B21 ←→ chassis ground	8 V or more → less than 1.5 V	P range to other than P range
Stop light SW	A10 ←→ chassis ground	Less than 1.5 V → 8 V or more	Stop light switch OFF → ON
Door SW (driver's)	C14 ←→ chassis ground	8 V or more → less than 1.5 V	Front right door closed → open

Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Door SW (passenger's)	C13 ←→ chassis ground	8 V or more → less than 1.5 V	Front left door closed → open
Door SW (rear right)	C25 ←→ chassis ground	8 V or more → less than 1.5 V	Rear right door closed → open
Door SW (rear left)	C24 ←→ chassis ground	8 V or more → less than 1.5 V	Rear left door closed → open
Accessory connector	B30 ←→ chassis ground	8 V or more → less than 1.5 V	Rear gate/trunk closed → open
Rear gate SW/trunk SW	C33 ←→ chassis ground	8 V or more → less than 1.5 V	Rear gate/trunk closed → open
Opener SW (trunk/rear gate)	C10 ←→ chassis ground	8 V or more → less than 1.5 V	Rear gate/trunk opener switch ON
Manual switch (LOCK)	C9 ←→ chassis ground	8 V or more → less than 1.5 V	Door lock switch ON
Manual switch (UNLOCK)	C20 ←→ chassis ground	8 V or more → less than 1.5 V	Door unlock switch ON
Door lock status switch (driver's)	C12	Less than 1 Ω	Door in UNLOCK status
Door lock status switch (passenger's)	C23	Less than 1 Ω	Door in UNLOCK status
Door lock status switch (driver's)	C12 ←→ chassis ground	8 V or more → less than 1.5 V	Door in UNLOCK status
Door lock status switch (passenger's)	C23 ←→ chassis ground	8 V or more → less than 1.5 V	Door in UNLOCK status
Lighting AUTO	B16 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at AUTO position
Lighting II	A34 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at II position
	B34 ←→ chassis ground		
Lighting I	B17 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at I position
Dimmer passing	B25 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at passing position
Dimmer Hi beam	B15 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at Hi beam position
Front fog light SW	B26 ←→ chassis ground	8 V or more → less than 1.5 V	Front fog light switch ON
TPMS	C34	Less than 1 Ω	At answer-back of transmitter registration
Illumination sensor power supply	A9 ←→ A29	Less than 1.5 V → 8 V or more	Ignition switch OFF → ON
Illumination sensor signal	A19	47 — 1,200 Hz	When AUTO
Ground (illumination sensor)	A29 ←→ chassis ground	Less than 1.5 V	Always
Rear wiper SW ON	A12 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at ON position
Rear wiper SW INT	A22 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at INT position
Rear washer SW	A32 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at ON position
Illumination SW (Vi1)	D12 ←→ chassis ground	Approx. 5 V	While clearance light illuminates
Illumination SW (Vi2)	D22 ←→ chassis ground	0.3 — 4.5 V	
Illumination SW (Vi3)	D28 ←→ chassis ground	Less than 1.5 V	Always
Bright SW	C21 ←→ chassis ground	8 V or more → less than 1.5 V	Switch at ON position
Reverse SW (MT)	B22 ←→ chassis ground	Less than 1.5 V → 8 V or more	Reverse SW ON
Fuel level sensor	C17 ←→ chassis ground	15.4 — 416 Ω	Always
Seat belt SW (driver's)	C30 ←→ chassis ground	Less than 1.5 V → 8 V or more	Buckle removal → insert
Seat belt SW (passenger's)	C29 ←→ chassis ground	Less than 1.5 V → 8 V or more	Buckle removal → insert
Impact sensor	C28 ←→ chassis ground	Less than 1.5 V → 8 V or more	Apply an impact

Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Hi-speed CAN communication circuit 1 (Hi)	B20	Serial communication	Except for sleep status*1
Hi-speed CAN communication circuit 1 (Lo)	B28		
Hi-speed CAN communication circuit 2 (Hi)	C27	Serial communication	Except for sleep status*1
Hi-speed CAN communication circuit 2 (Lo)	C35		
KAC CAN circuit (Hi)	A11	Serial communication	Except for sleep status*1
KAC CAN circuit (Lo)	A21		
K-line	B9	Serial communication	Select Monitor communication in progress
Audio/Navigation communication circuit	D21	Serial communication	
Keyless entry communication line	D11	Serial communication	
Immobilizer antenna	B1 ←→ chassis ground	-20 — 20 V	Communication with ignition key in progress
	B2 ←→ chassis ground	0 — 5 V	
Shift lock solenoid	B5 ←→ chassis ground	Less than 1.5 V → 8 V or more	When shift lock is operating (AT models)
Key lock solenoid (LOCK)	B4 ←→ B3	Less than 1.5 V → 8 V or more	LOCK status ON (AT models without keyless access)*2
Key lock solenoid (UNLOCK)	B3 ←→ B4		UNLOCK status ON (AT models without keyless access)*2
Rear wiper ON output	A7 ←→ chassis ground	Less than 0.5 V → 8 V or more	Rear wiper operation in progress
Rear wiper return output	A6 ←→ chassis ground	Less than 0.5 V → 8 V or more	Wiper reversed operation in progress
Door LOCK output	D2 ←→ chassis ground	Less than 0.5 V → 8 V or more	When LOCK signal is output
Door UNLOCK output	D3 ←→ chassis ground	Less than 0.5 V → 8 V or more	When UNLOCK signal is output
Rear gate/trunk UNLOCK output	D7 ←→ chassis ground	Less than 0.5 V → 8 V or more	When UNLOCK signal is output
Lighting relay power supply	A3 ←→ chassis ground	10 — 13 V	ACC or key-in SW ON
	B19 ←→ chassis ground	10 — 13 V	ACC or key-in SW ON
Lighting relay Hi output	A17 ←→ chassis ground	8 V or more → less than 1.0 V	Dimmer SW at Hi position
Lighting relay Lo output	B35 ←→ chassis ground	8 V or more → less than 1.0 V	Dimmer SW at Lo position
Lighting Lo relay output 2	A27 ←→ chassis ground	8 V or more → less than 1.0 V	Lighting II SW at ON position
Lighting relay I output	A16 ←→ chassis ground	8 V or more → less than 1.0 V	Lighting I SW at ON position
Front fog light output	A15 ←→ chassis ground	8 V or more → less than 1.0 V	Front fog light SW at ON position
DRL cancel output	D19 ←→ chassis ground	8 V or more → less than 1.0 V	Headlight switch ON or Hi beam ON, passing switch ON
Illumination output	B8	Pulse output	Illumination ON
	C16	Pulse output	Illumination ON
Key ring illumination	A25	Pulse output	Illumination ON
Room light output	C4	Pulse output	Room light ON (doors interlocked)
Map light output	D8	Pulse output	Map light ON (keyless answer-back, etc.)

Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Luggage/trunk light output	C3	Pulse output	Luggage/trunk at open state
Rear defogger relay output	A26 ←→ chassis ground	8 V or more → less than 1.0 V	Rear defogger SW ON
Wiper deicer relay output	D9 ←→ chassis ground	8 V or more → less than 1.0 V	Wiper deicer SW ON
Turn/hazard output	D18 ←→ chassis ground	8 V or more → less than 1.0 V	When answer-back is output
Security horn output	A24 ←→ chassis ground	8 V or more → less than 1.0 V	When security is operating
Security light	D26	Pulse control	When security light is illuminating
Answer-back buzzer output	A20 ←→ chassis ground	8 V or more → less than 1.0 V	When answer-back operates
Immobilizer communication	A31	Serial communication	(Model without keyless access)

*1: For CAN sleep state, hold on for approx. one minute with ignition OFF and the doors, trunk, and rear gate all closed.
*2: Use an oscilloscope for measurement due to short output time.

6. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details concerning the work procedure, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
For details concerning DTC, refer to List of Diagnostic Trouble Code (DTC). <Ref. to BC(diag)-24, List of Diagnostic Trouble Code (DTC).>

7. Clear Memory Mode

A: OPERATION

For details concerning the work procedure, refer to the “PC application help for Subaru Select Monitor”.

8. Read Current Data

A: OPERATION

For details concerning the work procedure, refer to the “PC application help for Subaru Select Monitor”.

B: LIST

Items to be displayed	Unit of measure	Remarks	Note
BATT voltage (control)	10 — 15 V	Body integrated unit input value	Always
BATT voltage (BACKUP)	10 — 15 V	Body integrated unit input value	Always
ABS_CM Power Voltage	10 — 15 V	Body integrated unit input value	Ignition switch ON
ACC voltage	10 — 15 V	Body integrated unit input value	Ignition switch ACC
Illumination VR Voltage	0 — 5 V	Body integrated unit input value	Input value from illumination volume
Illumi. output d-ratio	0 — 100%	Body integrated unit output value	Small light ON Illumination volume is other than bright.
Ambient Temperature	–40 — 87.5°C	CAN data input value	Ignition switch ON
Fuel level voltage	0 — 8.89 V	Body integrated unit input value	Ignition switch ON
Fuel level resistance input value	0 — 500 Ω	Body integrated unit input value	Ignition switch ON
number of regist.	0 — 4	Number of keyless key registered	(model without keyless access)
Front Wheel Speed	km/h	CAN data input value	Reception from VDC module
Blower fan steps	OFF, 1 — 5 steps, MAX	CAN data input value	Reception from air conditioner ECM
Fuel level resistance output value	0 — 102.3 Ω	CAN data output value	Reception from body integrated unit
Fuel consumption	cc/s	CAN data input value	Reception from ECM
Coolant Temp.	–40 — 130°C	CAN data input value	Reception from ECM
Vehicle longitudinal G	m/s^2	CAN data input value	Reception from VDC module
Shift Position	1 — 4, D, N, R, P	CAN data input value	Reception from TCM
Buzzer beeping request	No beeping Belt warning Key warning Beeping pattern 1 Beeping pattern 2 Free beeping ---	CAN data output value	Reception from body integrated unit
EPB Operating status	Error Cancel Operate Operating Cancelling Dynamic parking	CAN data input value	Reception from EPB
D-belt warning light O/P	Light up Flashing Light off	CAN data output value	Reception from body integrated unit
P-belt warning light O/P	Light up Flashing Light off	CAN data output value	Reception from body integrated unit
Engine displacement	1.5L — 3.6L	CAN data input value	Display engine equipped
Destination Code	0 — 16	CAN data input value	—
Illumination Sensor Output	0 — 1250 Hz	CAN data input value	—

Items to be displayed	Unit of measure	Remarks	Note
key-lock warning SW	ON/OFF	Body integrated unit input value	ON when ignition key inserted (model without keyless access)
ACC Input	ON/OFF	Body integrated unit input value	ON when ACC is ON (only for model with keyless access)
Stop light SW	ON/OFF	Body integrated unit input value	ON when brake pedal is depressed
Front fog lamp SW input	ON/OFF	Body integrated unit input value	When front fog light switch is ON
TPMS input	ON/OFF	Body integrated unit input value	TPMS registration answer-back signal
Driver's Request switch request input	ON/OFF	Body integrated unit input value	ON when request SW is ON (model with keyless access)
Driver's door SW input	ON/OFF	Body integrated unit input value	ON when driver's door is open
P-door SW input	ON/OFF	Body integrated unit input value	ON when passenger's door is open
Rear right door SW input	ON/OFF	Body integrated unit input value	ON when rear right door is open
Rear left door SW input	ON/OFF	Body integrated unit input value	ON when rear left door is open
R Gate SW input	ON/OFF	Body integrated unit input value	ON when rear gate/trunk open
Manual lock SW input	ON/OFF	Body integrated unit input value	Manual lock switch ON
Manual unlock SW input	ON/OFF	Body integrated unit input value	Manual unlock switch ON
Bright SW input	ON/OFF	Body integrated unit input value	Bright switch ON
P SW	ON/OFF	Body integrated unit input value	ON when shift range is in parking Shift lever P switch signal
MT Reverse Switch	ON/OFF	Body integrated unit input value	Reverse switch ON (For MT vehicle only)
R wiper ON SW input	ON/OFF	Body integrated unit input value	Rear wiper switch ON
R wiper INT SW input	ON/OFF	Body integrated unit input value	Rear wiper switch (INT ON)
R washer SW input	ON/OFF	Body integrated unit input value	Rear washer switch ON
Driver's Seat SW input	ON/OFF	Body integrated unit input value	Driver's seat buckle switch ON
P seatbelt SW input	ON/OFF	Body integrated unit input value	Passenger's seat buckle switch ON
Fr wiper input	ON/OFF	Body integrated unit input value	ON when front wiper is operating
Driver's seat lock status SW input	ON/OFF	Body integrated unit input value	Displays latch state, ON when locked (only for model with keyless access)
Passenger's seat lock status SW input	ON/OFF	Body integrated unit input value	
R gate lock status SW input	ON/OFF	Body integrated unit input value	Displays latch state, ON when locked
Rear gate/Trunk release switch	ON/OFF	Body integrated unit input value	Rear gate/trunk release switch ON
Rr Defogger output	ON/OFF	Body integrated unit output value	ON when rear defogger relay is operating

Items to be displayed	Unit of measure	Remarks	Note
lock actuat. LOCK output	ON/OFF	Body integrated unit output value	ON when LOCK signal is output
All seat UNLOCK output	ON/OFF	Body integrated unit output value	ON when unlock signal is output
D-seat UNLOCK output	ON/OFF	Body integrated unit output value	ON when unlock signal is output
R gate/trunk UNLK output	ON/OFF	Body integrated unit output value	ON when rear gate/trunk unlock signal is output
R wiper output	ON/OFF	Body integrated unit output value	ON when rear wiper motor is operating
Shift Lock Solenoid	ON/OFF	Body integrated unit output value	ON when shift lock solenoid is operating (only AT)
Key Lock solenoid	Lock/Unlock	Body integrated unit output value	LOCK when the key is locked (model without keyless access)
wiper deicer output	ON/OFF	Body integrated unit output value	ON when wiper deicer relay is operating
Hazard Output	ON/OFF	Body integrated unit output value	ON when answer-back signal is received or when hazard is operating
Keyless Buzzer Output	ON/OFF	Body integrated unit output value	ON when lock/unlock signal is received
Horn Output	ON/OFF	Body integrated unit output value	ON when security warning is operating
Illumination lamp O/P	ON/OFF	Body integrated unit output value	ON when illumination is illuminated
Room lamp output	ON/OFF	Body integrated unit output value	ON when keyless lock/unlock signal is received (when key in switch connector is removed)
key illumi. lamp o/p	ON/OFF	Body integrated unit output value	ON when key illumination light is illuminated (model without keyless access)
Immobilizer lamp output	ON/OFF	Body integrated unit output value	ON when immobilizer pilot light blinks
Keyless operation 1	Regist./Normal	Body integrated unit input value	When keyless registration connector is connected (model without keyless access)
Keyless operation 2	Deletion/Normal	Body integrated unit input value	When keyless registration is deleted (model without keyless access)
Small Lamp SW	ON/OFF	Body integrated unit input value	ON when small light is illuminated
Headlamp	ON/OFF	Body integrated unit input value	ON when headlight Lo is illuminated
High Beam	ON/OFF	Body integrated unit input value	ON when headlight Hi is illuminated
Rr Defogger SW	ON/OFF	CAN data input value	Rear defogger switch ON
Number of cylinders	4 Cylinder/6 Cylinder	CAN data input value	Display engine equipped
Cam shaft specification	SOHC/DOHC	CAN data input value	Display engine equipped
Turbo	TURBO/Without turbo	CAN data input value	Display engine equipped
AT Vehicle ID Signal	ON/OFF	CAN data input value	Display transmission equipped
Blower fan information	ON/OFF	CAN data input value	Reception from air conditioner CM
Auto A/C failure	OK/NG	CAN data input value	Reception from air conditioner CM
Lighting I Switch Input	ON/OFF	Body integrated unit input value	Small light switch ON
Lighting II Switch Input	ON/OFF	Body integrated unit input value	Headlight switch ON

Items to be displayed	Unit of measure	Remarks	Note
Lighting AUTO input	ON/OFF	Body integrated unit input value	Headlight AUTO switch ON
Dimmer Hi Switch Input	ON/OFF	Body integrated unit input value	Dimmer Hi switch ON
Dimmer Pass Switch Input	ON/OFF	Body integrated unit input value	Dimmer Pass switch ON
Illumination sensor flag	ON/OFF	Body integrated unit input value	Reception from air conditioner CM
Lighting I Lamp Output	ON/OFF	Relay drive	ON when small light is illuminated
Lighting II Lamp Output	ON/OFF	Relay drive	ON when headlight is illuminated
Lighting Hi Lamp Output	ON/OFF	Relay drive	ON when headlight Hi is illuminated
Front Fog Lamp Output	ON/OFF	Relay drive	When front fog light relay ON output
DRL Cancel Output	ON/OFF	Relay drive	When DRL cancel relay ON output
Power Supply Tr	ON/OFF	Inner Tr drive	Headlight auxiliary power supply ON
Map lamp output	ON/OFF	Body integrated unit output value	ON when map light is illuminated
Luggage/Trunk lamp output	ON/OFF	Body integrated unit output value	ON when luggage/trunk light is illuminated
Trunk open cancel SW input	ON/OFF	Body integrated unit input value	
Off delay time	OFF — Long	Body integrated unit setting	Customize setting
Auto Light Sensitivity Adjustment	0 — 3	Body integrated unit setting	Customize setting
Rr defogger op. mode	Continuous/Normal	Body integrated unit setting	Customize setting
Security Alarm Setup	ON/OFF	Body integrated unit setting	Customize setting
Impact Sensor Setup	ON/OFF	Body integrated unit setting	Customize setting
Alarm delay setup	ON/OFF	Body integrated unit setting	Customize setting
Lockout prevention	ON/OFF	Body integrated unit setting	Customize setting
Impact sensor	ON/OFF	Body integrated unit setting	Customize setting
Answer-back buzzer setup	ON/OFF	Body integrated unit setting	Customize setting
Hazard answer-back setup	ON/OFF	Body integrated unit setting	Customize setting
Ans.-back Buzzer	ON/OFF	Body integrated unit setting	Customize setting
Auto locking	ON/OFF	Body integrated unit setting	Customize setting
Select unlock switch	Selection/ALL	Body integrated unit setting value	Customize setting
Passive Alarm	ON/OFF	Body integrated unit setting	Customize setting
Door open warning	ON/OFF	Body integrated unit setting value	Customize setting
Dome Light Alarm Setting	ON/OFF	Body integrated unit setting value	Customize setting
Belt Warning Switch	ON/OFF	Body integrated unit setting value	Customize setting

Items to be displayed	Unit of measure	Remarks	Note
A/C ECM setting	ON/OFF	Body integrated unit setting value	Customize setting
Line Navigation Setting	ON/OFF	Body integrated unit setting value	Customize setting
wiperdeicer	ON/OFF	Body integrated unit setting value	Customize setting
Sedan/Wagon Setting	Sedan/Wagon	Body integrated unit setting value	Customize setting
MT/AT Setting	MT/AT	Body integrated unit setting value	Customize setting
6MT Setting	6MT/Other than 6MT	Body integrated unit setting value	Customize setting
Destination Setting	0 — 16	Body integrated unit setting value	Displays body integrated unit customizing
Seat Memory Setting	ON/OFF	Body integrated unit setting value	Customize setting
Factory initial setting	Market/Factory	Body integrated unit setting value	Displays body integrated unit customizing
SCU applicable	Applicable/Not applicable	Body integrated unit setting value	(Models for Canada only)

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

9. User Customizing

A: OPERATION

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) On «Integ. unit mode failure diag.» display, select {Unit customizing}.
4) Change the setting with UP/DOWN key and set with the [OK] key.

List of User Customizing item

Data	Initial setting value	Customize setting	Remarks
Off delay time	Long		Delay time below can be selected by setting.
		OFF	0 seconds
		Short	10 seconds
		Normal	20 seconds
		Long	30 seconds
Auto Light Sensitivity Adjustment	Normal	Dull	Slow response
		Normal	Standard
		Sensitive	Quick response
		Very sensitive	Fairly quick response
Rr defogger op. mode	Normal	Normal	Automatically stops in 15 minutes after switch is turned to ON.
		Continuous	Repeats active condition for 15 minutes and inactive condition for 2 minutes until switch is turned to OFF.
Security Alarm Setup	ON	ON	Security alarm (hazard, horn or siren) in active condition
		OFF	Security alarm in inactive condition
Impact Sensor Setup	OFF	ON	Workable when Impact Sensor Setup is set to “ON”. Impact sensor function becomes activated.
		OFF	Impact sensor in inactive condition (Set to “OFF” in models without sensors.)
Alarm delay setup	ON		After the keyless lock operation, the alarm monitor starts after the following delay time has passed.
		ON	Delay time is 30 seconds.
		OFF	Delay time is 0 seconds.
Lockout prevention	ON	ON	key lockout prevention function is activated. (The function does not operate if safety knob is locked by hand.)
		OFF	Key lockout prevention function is deactivated.
Impact sensor (OP)	OFF	ON	Vehicle is controlled in impact sensor equipped mode. (Make sure to set to “OFF” for models without the impact sensor. When “ON”, hazard, horn or siren become activated by keyless lock (alarm monitor start).)
		OFF	Vehicle is controlled in no impact sensor mode.
Answer-back buzzer setup	ON	ON	When lock/unlock is selected by keyless entry system operation, buzzer operates.
		OFF	When lock/unlock is selected by keyless entry system operation, buzzer does not operate.
Hazard answer-back setup	ON	ON	When lock/unlock is selected by keyless entry system operation, hazard blinks.
		OFF	When lock/unlock is selected by keyless entry system operation, hazard does not interlock.
Initial keyless setting	—	—	
		Execution	
Initial button setting	—	—	
		Execution	

Data	Initial setting value	Customize setting	Remarks
Select unlock switch	ALL	ALL	All doors are unlocked by one unlock signal.
		Selection	All doors are unlocked by two unlock signals.
Passive Alarm	OFF	ON	
		OFF	
Door open warning	ON	ON	
		OFF	
Dome Light Alarm Setting	OFF	ON	Room light illuminates interlocking with alarm.
		OFF	Room light does not illuminate interlocking with alarm.
Belt Warning Switch	ON	ON	Belt warning buzzer beeps.
		OFF	Belt warning buzzer stops.

5) After setting, make sure that the setting changed in the {Current Data Display & Save} is same as vehicle equipment.

CAUTION:
- **the above settings must match the actual vehicle equipment.**
- **Do not change settings except for setting above while setting the functions.**
- **Be sure not to change Factory initial setting except when installing a new body integrated unit.**

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

10.Registration Body Integrated Unit

A: OPERATION

1. CONFIRM CURRENT SETTING

1) On «Main Menu» display, select {Others}.
2) On «Others» display, select {Customized Setting}.
3) Save the setting.

Required items for new registration. (Except for system not equipped)

Item	Item to confirm				Remarks
number of regist.	1	2	3	4	Number of registered ID
Off delay time	OFF	Long	Normal	Short	Setting for lighting off time
Auto Light Sensitivity Adjustment	Dull	Normal (Standard)	Sensitive	Very sensitive	1st (slow) — 4th (fairly quick)
Rr defogger op. mode	Normal		Continuous		
Security Alarm Setup	ON		OFF		
Impact Sensor Setup	ON		OFF		Option setting
Alarm delay setup	ON		OFF		
Lockout prevention	ON		OFF		
Impact sensor	ON		OFF		Option setting
Answer-back buzzer setup	ON		OFF		
Hazard answer-back setup	ON		OFF		
Select unlock switch	Selection		ALL		
Passive Alarm	ON		OFF		
Door open warning	ON		OFF		
Dome Light Alarm Setting	ON		OFF		
Belt Warning Switch	ON		OFF		
A/C ECM setting	ON		OFF		
Line Navigation Setting	ON		OFF		Models with line navigation
wiperdeicer	ON		OFF		Option setting
Sedan/Wagon Setting	Wagon		Sedan		
MT/AT Setting	MT		AT		
6MT Setting	6MT		Other than 6MT		
Destination Setting	C0,C5		U4, U5, U6, C6		Set for CANADA model only.
Seat Memory Setting	ON		OFF		Option setting
Factory initial setting	Factory		Market		Do not change to factory mode.

2. REGISTRATION BODY INTEGRATED UNIT (FUNCTION SETTING)

CAUTION:
For the body integrated unit, function selection is available to control the entire vehicle systems. It is possible to control the original functions of vehicle when registrations of body integrated unit and function setting are corresponded to vehicle equipment.
If registrations and function setting are different from vehicle equipment, vehicle system does not operate normally and diagnosis cannot be performed correctly. Pay attention to following item.
- **Be sure to correspond registrations, or User Customizing settings to vehicle equipment.**
- **Do not change the settings of vehicle improperly.**
- **Make sure that the key illumination does not blink with ignition switch ON, or that the body integrated unit registration item, "Factory initial setting", is set as "Market". If "Factory initial setting" is set to "Factory", key illumination blinks when the ignition switch is turned ON, to notify that the settings are not confirmed. (Except for model with keyless access)**
- **Key illumination does not blink with ignition switch turned to ON and go off with door closed. (Except for model with keyless access)**
- **Be sure to register immobilizer if body integrated unit is replaced with a new part.**
- **Make a registration of immobilizer when the parts related to immobilizer have been replaced. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) Click the [OK] button after the control module name (integrated unit) is displayed.
4) On «Integ. unit mode failure diag.» display, select {Unit customizing}.

NOTE:
For the vehicle requiring the destination setting, if the destination setting is not finished, display can not be shifted into customizing screen. <Ref. to BC(diag)-21, DESTINATION SETTING, OPERATION, Registration Body Integrated Unit.>
5) Change the setting to the contents saved at confirmation of current setting.

CAUTION:
- **To perform normal operation of vehicle and diagnosis, the above settings must match the actual vehicle equipment.**
- **When the body integrated unit is new or in Factory mode, the key illumination blinks, and user customizing is incomplete. Check the user customizing settings. (If the vehicle is a model with keyless access, check with the current data of Subaru Select Monitor because no key illumination is available.)**
- **Be sure not to change Factory initial setting except when installing a new body integrated unit.**

NOTE:
"Factory" mode:
- Body integrated unit has not been set yet. It can be recognized by key illumination blinking with ignition switch turned to ON. (Except for model with keyless access)
- All replacement body integrated units are set to "Factory" mode. When replacing a body integrated unit, be sure to perform the registration operation.

"Market" mode:
- Each settings have been set. It can be recognized by key ring illumination coming on in concocting with room light and going off with ignition switch turned to ON.

6) Perform the Factory initial setting. On the «Unit customizing» display screen of Subaru Select Monitor, select the {Factory initial setting}.
7) Change the mode from Factory to Market.
8) Turn the ignition switch to OFF to settle the setting.
9) Change the Subaru Select Monitor system selection to «Immobilizer» to register the immobilizer key.
10) Perform the registration according to the procedures of the "REGISTRATION MANUAL FOR IMMOBILIZER".
11) When key registration is completed, "Do you want to register remote engine start?" is displayed. Perform registration only for equipped models. (Except for model with keyless access)

12) Perform the User Customizing. <Ref. to BC(diag)-17, OPERATION, User Customizing.>

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

3. DESTINATION SETTING

NOTE:
For the vehicle requiring the destination setting, if the destination setting is not finished, display can not be shifted into customizing screen.

Step		Check	Yes	No
1	**CONFIRM CURRENT SETTING.** Always perform confirmation of current setting before replacing the module. Record the contents of the “Destination Setting”. NOTE: Refer to the “Read Current Data” and “CONFIRMATION OF CURRENT SETTING” to confirm the current setting. <Ref. to BC(diag)-19, CONFIRM CURRENT SETTING, OPERATION, Registration Body Integrated Unit.> <Ref. to BC(diag)-12, OPERATION, Read Current Data.>	Is the current setting recorded?	Go to step **2**.	Confirm the current setting. Go to step **1**.
2	**CONFIRM DESTINATION SETTING.** 1) Connect the Subaru Select Monitor, and run the application. 2) On «Main Menu» display, select {Each System Check}. 3) On the «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Unit customizing} from «Integ. unit mode». 5) The vehicle destination screen is displayed.	Is the vehicle destination setting screen displayed?	Go to step **3**.	Go to step **4**.
3	**CONFIRM DESTINATION SETTING.** Confirm the screen displayed on Subaru Select Monitor and the actual vehicle destination.	Do the screen and vehicle destination setting match?	Select [OK]. Go to step **8**.	Select [Cancel]. Go to step **4**.
4	**CONFIRM SCREEN.** “Select Parameter” is displayed on Subaru Select Monitor screen.	Is “Select Parameter” displayed on Subaru Select Monitor screen?	Go to step **5**.	Go to step **8**.
5	**ENTER DESTINATION CODE.** Enter the appropriate code in the screen. U4, U5, U6, C4, C6: U400 C0, C5: C000	Is the appropriate code entered?	Select [OK]. Go to step **6**.	Enter the destination code. Go to step **5**.
6	**CONFIRM SCREEN.** Check the screen displayed.	Is error screen displayed?	Enter the suitable code. Go to step **4**.	Go to step **7**.
7	**CONFIRM SCREEN.** Check the screen displayed.	Is there the entered destination among the destinations displayed in the screen?	Select [OK]. Go to step **8**.	Select [Cancel]. Error screen is displayed, select [OK]. Go to step **4**.
8	**REGISTER VEHICLE EQUIPMENT.** Customizing screen is displayed. NOTE: Match the each item setting of body integrated unit registration item list with the vehicle equipment.	Do all setting contents match with the vehicle equipment specification?	Go to step **9**.	Change the items until each content setting match with the vehicle equipment specification. Go to step **8**.

	Step	Check	Yes	No
9	**CONFIRM MARKET MODE.** 1) Customizing screen, select the {Factory initial setting} to change the setting from "Factory" mode to "Market" mode. 2) Turn the ignition switch to OFF. NOTE: When the setting is changed from "Factory" mode to "Market" mode, turning the ignition switch from ON → OFF confirms the setting. 3) Turn the ignition switch to ON, and check the contents of settings.	Is the mode changed to "Market" mode?	Go to step **10**.	Perform the destination setting from the first step. Go to step **1**.
10	**CONFIRM MARKET MODE.** Confirm the engine start.	Is the engine running?	Registration of body integrated unit is finished.	It is possible that harness malfunction may occur. Perform the diagnosis.

11.Function Check

A: OPERATION

NOTE:
In order to check the body integrated unit function, inspect the body integrated unit and actuator using Subaru Select Monitor without operating switches.
1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Integ. unit mode}.
3) On «Integ. unit mode failure diag.» display, select {Function check}.
4) Select an item to be operated on «Function check» display, and press the [OK] button.
5) Pressing [Next] starts, [End] cancels the operation and [OK] returns to the System Operation Check Mode display screen.

NOTE:
- If not equipped (based on area or condition), process will not go on.
- For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

12.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Note
None	Communication for Initializing Impossible	Subaru Select Monitor communication is open or shorted.	<Ref. to LAN(diag)-70, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1100	Integ. Unit System Error	Body integrated unit internal error	<Ref. to BC(diag)-25, DTC B1100 INTEG. UNIT SYSTEM ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1101	BATT P/Supply Malfunction Cont	Voltage malfunction caused by poor contact of battery power supply control circuits	<Ref. to BC(diag)-26, DTC B1101 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1102	BATT P/Supply Malfunction Backup	Voltage malfunction caused by poor contact of battery power supply backup circuits	<Ref. to BC(diag)-28, DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1103	Ignition Power Failure	Voltage malfunction caused by poor contact of IGN power supply circuits	<Ref. to BC(diag)-30, DTC B1103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1104	ACC Power Failure	Voltage malfunction caused by poor contact of ACC power supply circuits	<Ref. to BC(diag)-32, DTC B1104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1106	Shift Lock Circuit Failure	Voltage malfunction caused by poor contact of shift lock circuits	<Ref. to BC(diag)-34, DTC B1106 SHIFT LOCK CIRCUIT FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1401	M Collation NG	Malfunction related immobilizer	<Ref. to BC(diag)-36, DTC B1401 M COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1402	Immobilizer Key Collation NG	Malfunction related immobilizer	<Ref. to BC(diag)-36, DTC B1402 IMMOBILIZER KEY COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1405	SCU Collation NG	Malfunction related immobilizer	<Ref. to BC(diag)-36, DTC B1405 SCU COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1406	SCU_EEPROM_NG	Malfunction related immobilizer	<Ref. to BC(diag)-36, DTC B1406 SCU_EEPROM_NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1500	Keyless UART Com. Malfunction	Open or short circuit in keyless UART circuit	<Ref. to BC(diag)-37, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

13.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1100 INTEG. UNIT SYSTEM ERROR

DTC DETECTING CONDITION:
System error in body integrated unit
TROUBLE SYMPTOM:
LAN communication immobilizer function may not be executed normally.

	Step	Check	Yes	No
1	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is B1100 current malfunction?	Go to step **2**.	Temporary EEPROM access error occurred.
2	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1100 current malfunction?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Temporary EEPROM access error occurred.

B: DTC B1101 BATT P/SUPPLY MALFUNCTION CONT

DTC DETECTING CONDITION:

- Voltage malfunction caused by poor contact of battery power supply control circuit
- Battery voltage of body integrated unit is not within the 8.5 — 16.5 V range.

TROUBLE SYMPTOM:

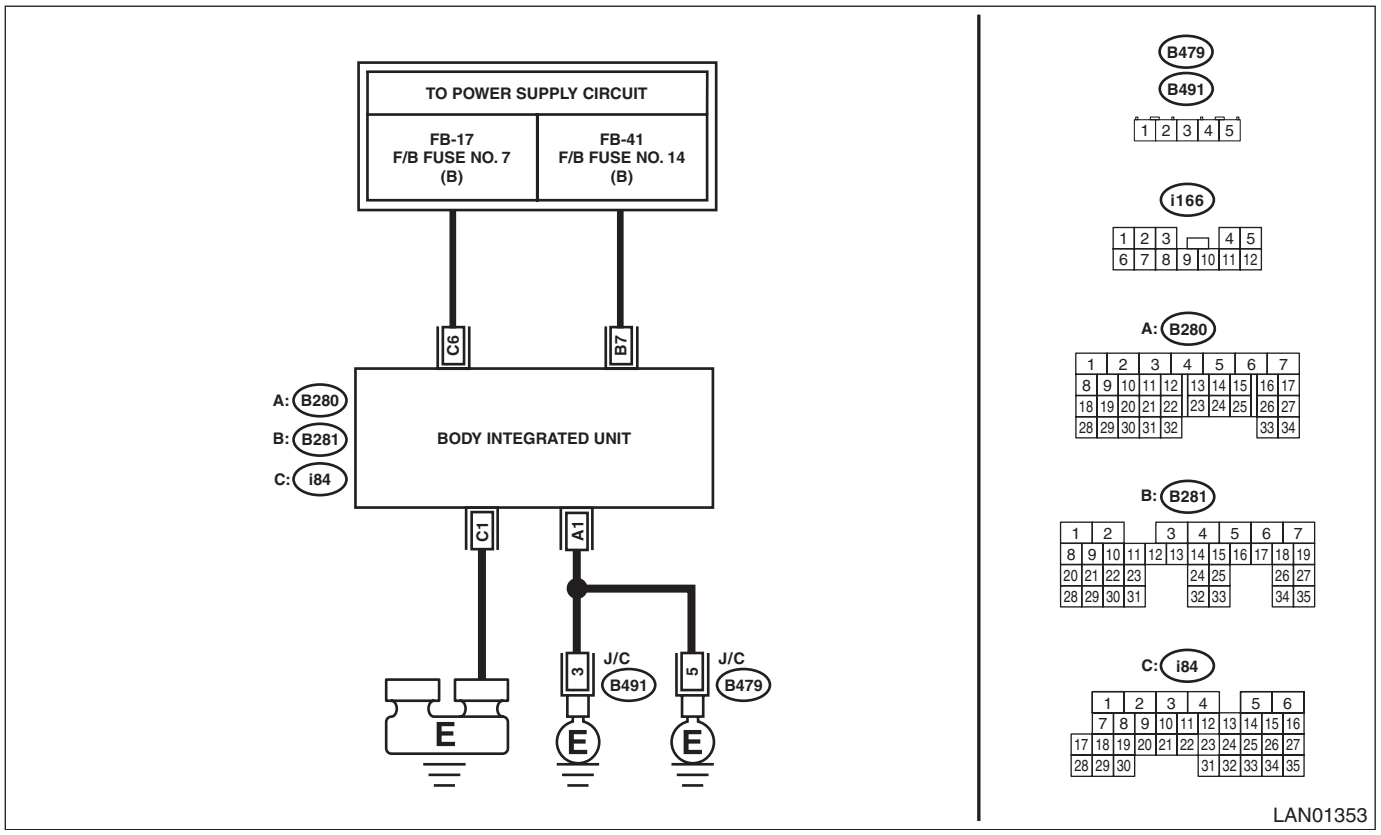
Functions of body integrated unit stop.

NOTE:

When B1102 BATT P/SUPPLY MALFUNCTION BACKUP is output at the same time, all the function of body integrated unit may not operate.

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1101 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1101 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i84) No. 6 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

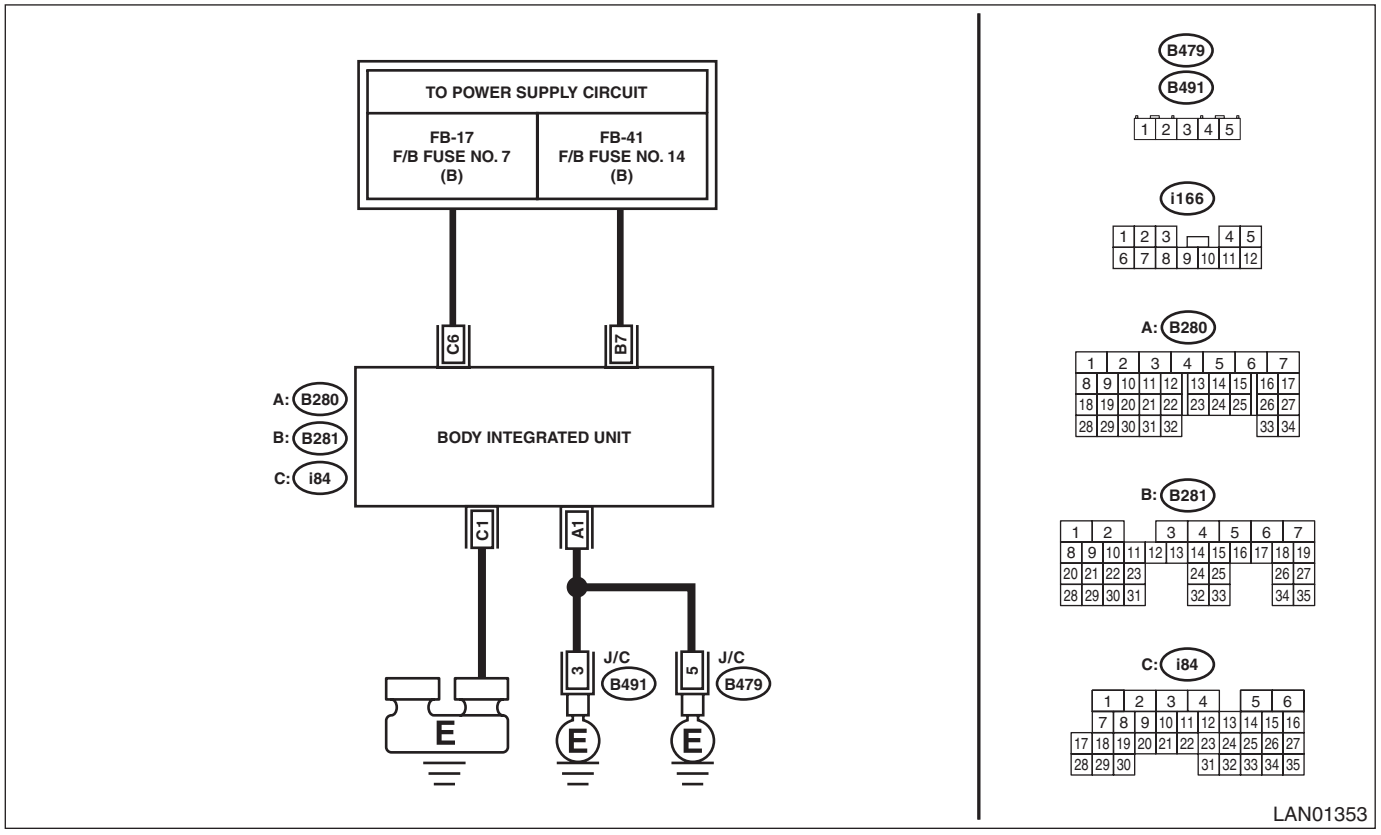
C: DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP

DTC DETECTING CONDITION:
Voltage malfunction caused by poor contact of battery power supply backup circuits

TROUBLE SYMPTOM:
Illuminations for the keyless entry, map light, luggage light, trunk light, room light, and ignition switch do not turn on.

NOTE:
When B1101 BATT P/SUPPLY MALFUNCTION CONT. is output at the same time, all function of body integrated unit may not operate.

WIRING DIAGRAM:
Immobilizer system <Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>

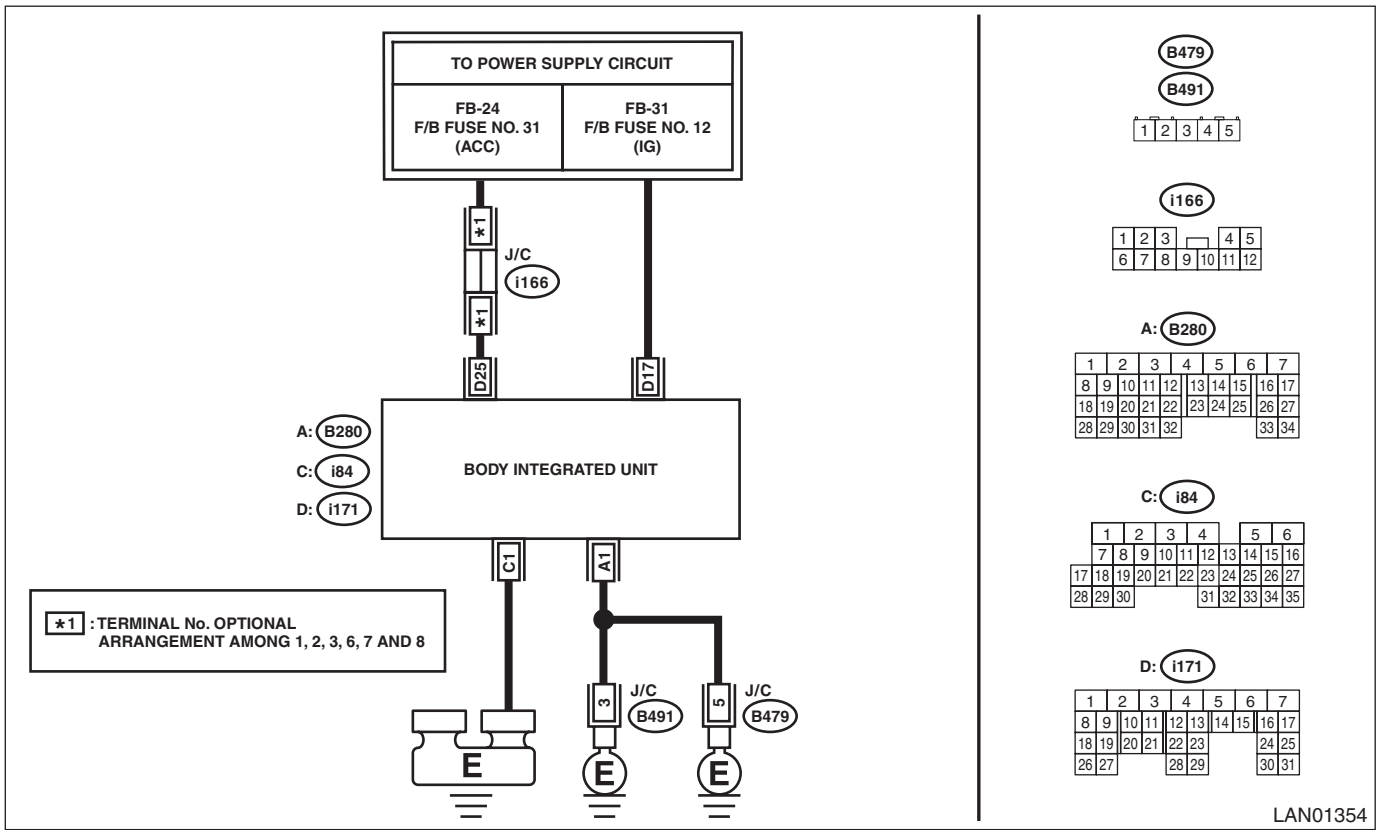


	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1102 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1102 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

D: DTC B1103 IGNITION POWER FAILURE

DTC DETECTING CONDITION:
Voltage malfunction caused by poor contact of IGN power supply circuits
TROUBLE SYMPTOM:
Symptoms such as shift lock, reverse lock or wiper not operating may occur.
WIRING DIAGRAM:
Shift lock control system <Ref. to WI-280, WIRING DIAGRAM, Shift Lock Control System.>

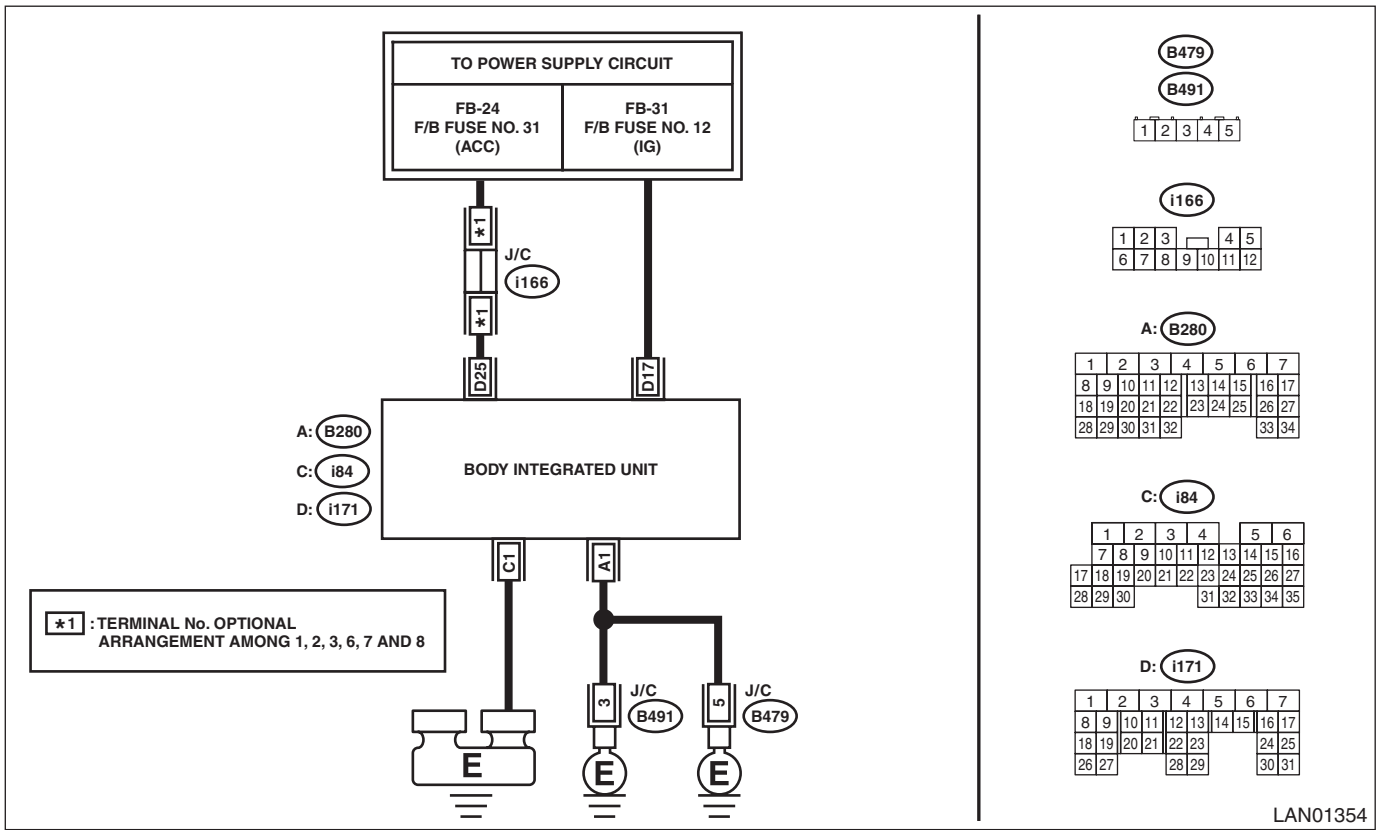


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1103 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1103 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i171) No. 17 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.

	Step	Check	Yes	No
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

E: DTC B1104 ACC POWER FAILURE

DTC DETECTING CONDITION:
Voltage malfunction caused by poor contact of ACC power supply circuit
TROUBLE SYMPTOM:
DRL may not illuminate.
WIRING DIAGRAM:
Headlight system <Ref. to WI-196, WIRING DIAGRAM, Headlight System.>

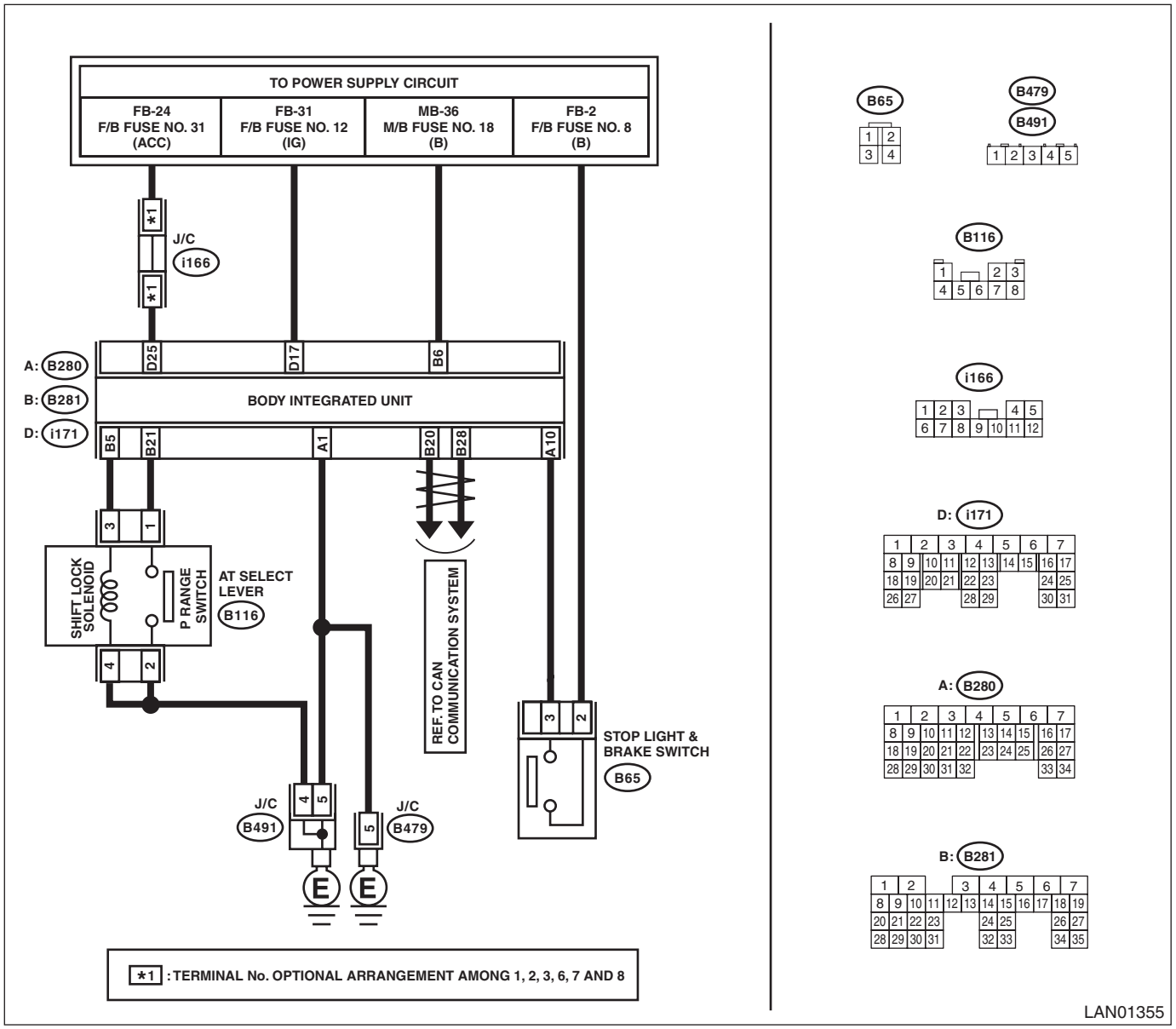


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1104 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1104 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i171) No. 25 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.

	Step	Check	Yes	No
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

F: DTC B1106 SHIFT LOCK CIRCUIT FAILURE

DTC DETECTING CONDITION:
Open or power supply-output short, GND-output short in shift lock circuit.
TROUBLE SYMPTOM:
Shift lock does not be released or remain locked.
WIRING DIAGRAM:
Shift lock control system <Ref. to WI-280, WIRING DIAGRAM, Shift Lock Control System.>



Step		Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Keep the Parking range for approx. 5 seconds. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **6**.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the shift lock solenoid connector. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON, then keep the Parking range for approx. 5 seconds. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the shift lock solenoid connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B116) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK SHIFT LOCK SOLENOID.** Using a tester, measure the resistance between shift lock solenoid terminals. ***Connector & terminal*** ***(B116) No. 4 — No. 3:***	Is the resistance less than 27 — 31 Ω?	Go to step **5**.	Replace the shift lock solenoid. <Ref. to CS-35, DISASSEMBLY, Select Lever.>
5	**CHECK SHIFT LOCK SOLENOID.** Connect the battery terminal to shift lock solenoid. ***Connector & terminal*** ***(B116) No. 3 — positive terminal:*** ***(B116) No. 4 — ground terminal:***	Does the shift lock solenoid operate and then release the lock?	Go to step **6**.	Replace the shift lock solenoid. <Ref. to CS-35, DISASSEMBLY, Select Lever.>
6	**CHECK HARNESS.** Use a tester to measure the resistance between harness terminals. ***Connector & terminal*** ***(B116) No. 3 — (B281) No. 5:*** NOTE: If body integrated unit and shift lock connector are not disconnected, disconnect them first and then perform measurement.	Is the resistance less than 10 Ω?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Repair or replace the open circuit of harness.
7	**CHECK DTC.** 1) Depress the brake pedal at the parking range. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **8**.	Go to step **9**.
8	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector and shift lock connector. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Depress the brake pedal at the parking range. 6) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **4**.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector and shift lock connector.	Is there poor contact of connector terminal?	Repair or replace the poor contact of terminal.	It is possible that temporary poor contact occurs.

G: DTC B1401 M COLLATION NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-25, DTC B1401 M COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

H: DTC B1402 IMMOBILIZER KEY COLLATION NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-25, DTC B1402 IMMOBILIZER KEY COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

I: DTC B1405 SCU COLLATION NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-26, DTC B1405 SCU COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC B1406 SCU_EEPROM_NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-26, DTC B1406 SCU_EEPROM_NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC B1500 KEYLESS UART COM. MALFUNCTION

DTC DETECTING CONDITION:

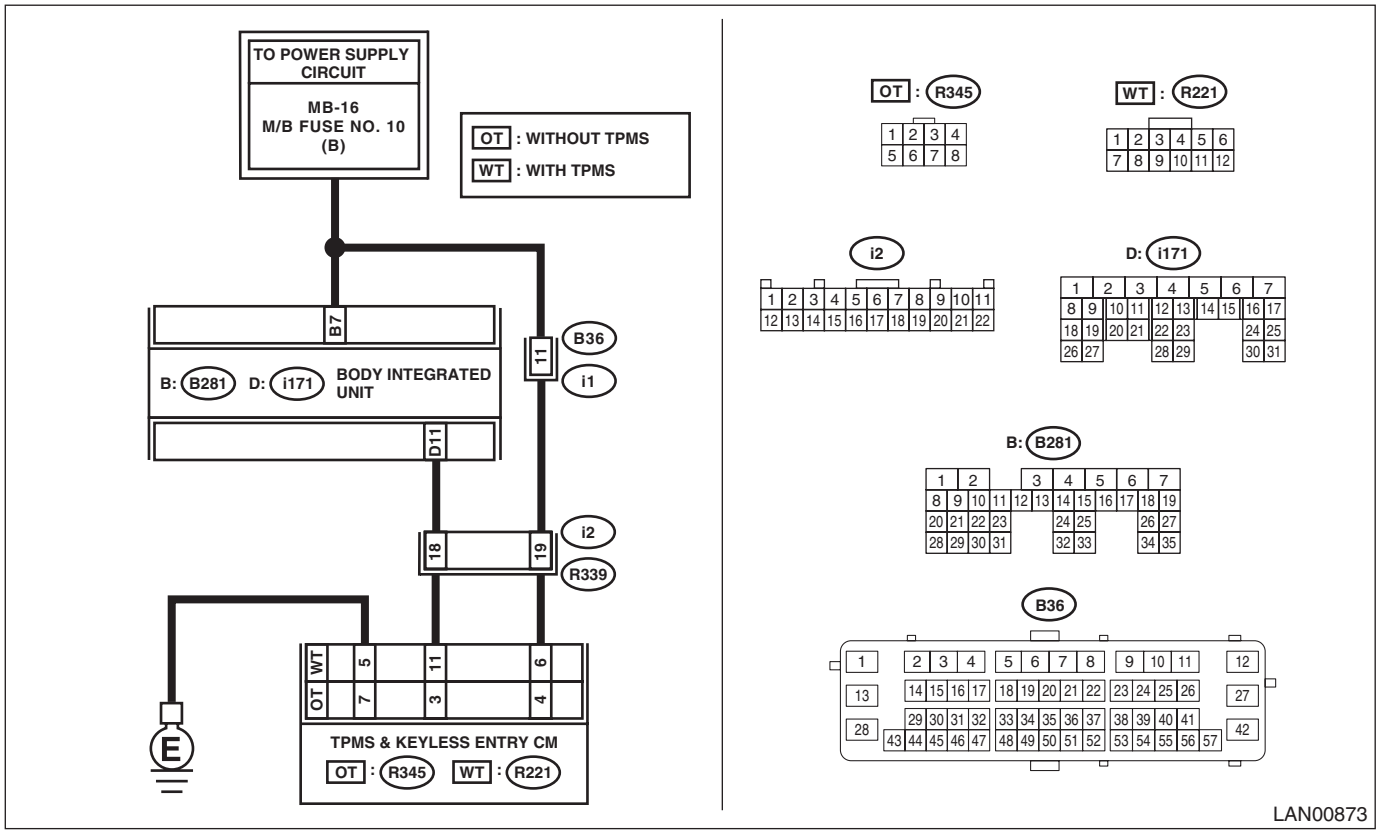
UART between the keyless control module and body integrated unit is open or shorted, or has communication failure.

TROUBLE SYMPTOM:

Door lock does not operate with keyless.

WIRING DIAGRAM:

Keyless entry system <Ref. to WI-215, WIRING DIAGRAM, Keyless Entry System.>



Step		Check	Yes	No
1	**CHECK DTC.** 1) Insert the ignition key to the ignition key cylinder and remove. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1500 current malfunction?	Go to step **2**.	Go to step **7**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit and keyless entry control module connector. 3) Connect the disconnected connectors. 4) Insert the ignition key to the ignition key cylinder and remove. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1500 current malfunction?	Go to step **3**.	Go to step **7**.

	Step	Check	Yes	No
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit and keyless entry control module connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***With TPMS*** ***(i171) No. 11 — (R221) No. 11:*** ***Without TPMS*** ***(i171) No. 11 — (R345) No. 3:***	Is the resistance 10 Ω or less?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Use a tester to measure the voltage between the terminals. ***Connector & terminal*** ***With TPMS*** ***(R221) No. 6 (+) — Chassis ground (–):*** ***Without TPMS*** ***(R345) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Repair the power supply circuit.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***With TPMS*** ***(R221) No. 5 — Chassis ground:*** ***Without TPMS*** ***(R345) No. 7 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **6**.	Repair the ground circuit.
6	**CHECK CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Remove the keyless entry control module. 3) Install a keyless entry control module that was operating normally on another vehicle.	Does it operate with the remote control key of another vehicle?	Replace the keyless entry control module. <Ref. to SL-77, REMOVAL, Keyless Entry Control Module.>	Replace the body integrated unit.
7	**CHECK CONNECTOR.** Check for poor contact of connectors used for UART communication.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

14.General Diagnostic Table

A: INSPECTION

Using the Subaru Select Monitor, read DTC, or check the following data on the current data display to make judgments.

Item	Operation	Specifications		Note
		YES	NO	
Diagnostic trouble code	DTC is not displayed when inspecting all DTCs.	DTC is not displayed.	Perform the diagnosis according to DTC.	—
Remaining fuel level	Fuel gauge displays correctly.	System is normal.	Check the combination meter system and LAN system.	—
	Remaining fuel level warning light is not illuminating.	System is normal.		
Clearance light (Low beam) (High beam)	Clearance light and low/high beams illuminate normally when the switch is operated. Indicator in the meter illuminates at the same time.	System is normal.	Check the lighting system, combination meter system and LAN system.	—
Fog light	Front fog light illuminates when the switch is operated. Indicator in the meter illuminates at the same time.	System is normal.	Check the lighting system, combination meter system and LAN system.	—
Rear defogger	Rear defogger operates when the switch is operated. The indicator illuminates at the same time.	System is normal.	Check the rear window defogger system and A/C system.	—
Wiper deicer	Wiper deicer operates when the switch is operated. The indicator illuminates at the same time. When the ambient temperature is 5°C (41°F) or higher, press the switch 3 seconds or more to forcibly activate the system.	System is normal.	Check the wiper deicer system and A/C system.	Wiper deicer operates when “Wiper deicer setting” of the body integrated unit is set to on.
DRL	After starting the engine and releasing the parking brake, the DRL illuminates.	System is normal.	Check the lighting system and LAN system.	—
Rear wiper	Rear wiper operates when the switch is operated.	System is normal.	Check wiper or washer system.	Depending on user customizing “Sedan/Wagon Setting” of the body integrated unit, vehicle sensory time varies.
Key interlock	• Key cannot be removed in other than P range. • Key can be removed in other than P range.	System is normal.	Check the body control system.	—
Shift lock	The select lever can be moved from the P range to other ranges only when the brake pedal is depressed with IG ON.	System is normal.	Check the body control system.	—
Key warning switch alarm	When the driver’s door is open without the key removed, the buzzer sounds.	System is normal.	Check the combination meter and body control system.	—

General Diagnostic Table

Item	Operation	Specifications		Note
		YES	NO	
Seat belt warning alarm	Indicator in the meter blinks and the alarm sounds when the driver's seat belt is not fastened. Indicator in the clock blinks when the passenger's seat is occupied without the passenger's seat belt fastened. When the vehicle speed exceeds 15 km/h (9 MPH) with the belt unfastened, the buzzer sounds.	System is normal.	Check the seat belt system and combination meter LAN system.	—
Door lock	The doors lock/unlock when the door switch is operated. Rear gate/trunk opens when the rear gate/trunk release switch is operated.	System is normal.	Check the security & lock and body control system.	If user customizing "Sedan/Wagon Setting" is different, trunk and rear gate do not open.
Keyless entry	The lock locks/unlocks when the keyless transmitter is operated. Trunk/rear gate unlocks when trunk/rear gate unlock button is operated.	System is normal.	Check the keyless entry and body control system.	—
Keyless access	The lock locks/unlocks when the access key is operated. With the access key held, the request switch operation locks/door touch sensor operation unlocks. Trunk/rear gate unlocks when trunk/rear gate unlock button is operated.	System is normal.	Check the keyless access and body control system.	—
Answer back	Answer-back operates when the keyless entry or keyless access locks/unlocks.	System is normal.	Check the security & lock system, keyless access, and LAN system.	—
Room light	The light illuminates/goes off according to the door open/close.	System is normal.	Check the room light system, security & lock system, and LAN system.	—
Map light	The light illuminates/goes off according to the door open/close. (Except for rear gate)	System is normal.	Check the spot map light, security & lock system, and LAN system.	—
Luggage/trunk light	The light illuminates/goes off according to the rear gate open/close.	System is normal.	Check the luggage/trunk light, security & lock system, and LAN system.	—
Key illumination	The light illuminates/goes off according to the driver's door open/close.	System is normal.	Check the ignition switch illumination, security & lock, and LAN system.	—
Illumination control	Illumination volume control is available.	System is normal.	Check the illumination control switch, combination meter, and body control system.	Illumination volume control is not available when user customizing "Illumination Control On/Off" of the body integrated unit is set to off.
Engine start	Engine starts.	System is normal.	Check the engine system, immobilizer, and LAN system.	—

Item	Operation	Specifications		Note
		YES	NO	
Vehicle security	Security monitoring/security canceling can be performed by operating the keyless entry/keyless access.	System is normal.	Check the security & lock system, keyless access, and LAN system.	Security monitoring starts and at the same time the warning buzzer sounds, when impact sensor is not connected and user customizing “Impact Sensor” of the body integrated unit is set to on.

WIRING SYSTEM SECTION

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.
This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.
Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

WIRING SYSTEM

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1. General Description

A: SPECIFICATION

Refer to “Body Repair Manual” for general description of body structure, reference points and reference dimensions.

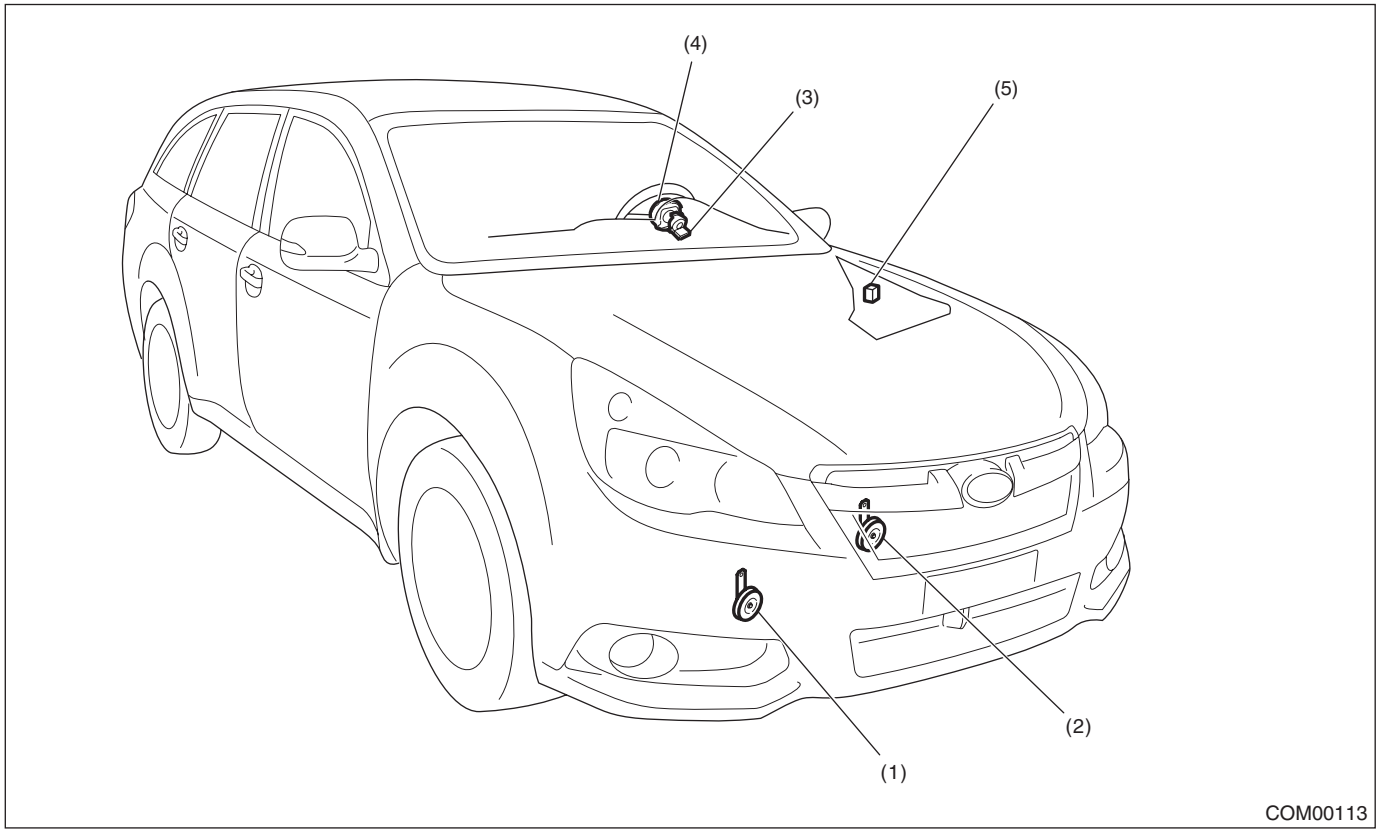
INSTRUMENTATION/DRIVER INFO

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1. General Description

A: COMPONENT



(1) Hi pitch side horn
(2) Lo pitch side horn
(3) Roll connector
(4) Horn switch (driver's airbag module ASSY)
(5) Horn relay

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.
• Yellow connectors and harnesses with yellow tapes around them are the connectors and harnesses for the airbag system. Using a tester above such circuits may cause malfunction of airbag system. Follow the cautions for the airbag system in this case. <Ref. to AB-10, CAUTION, General Description.>
• Be careful not to damage the airbag system wiring harness when servicing electrical parts and switches.

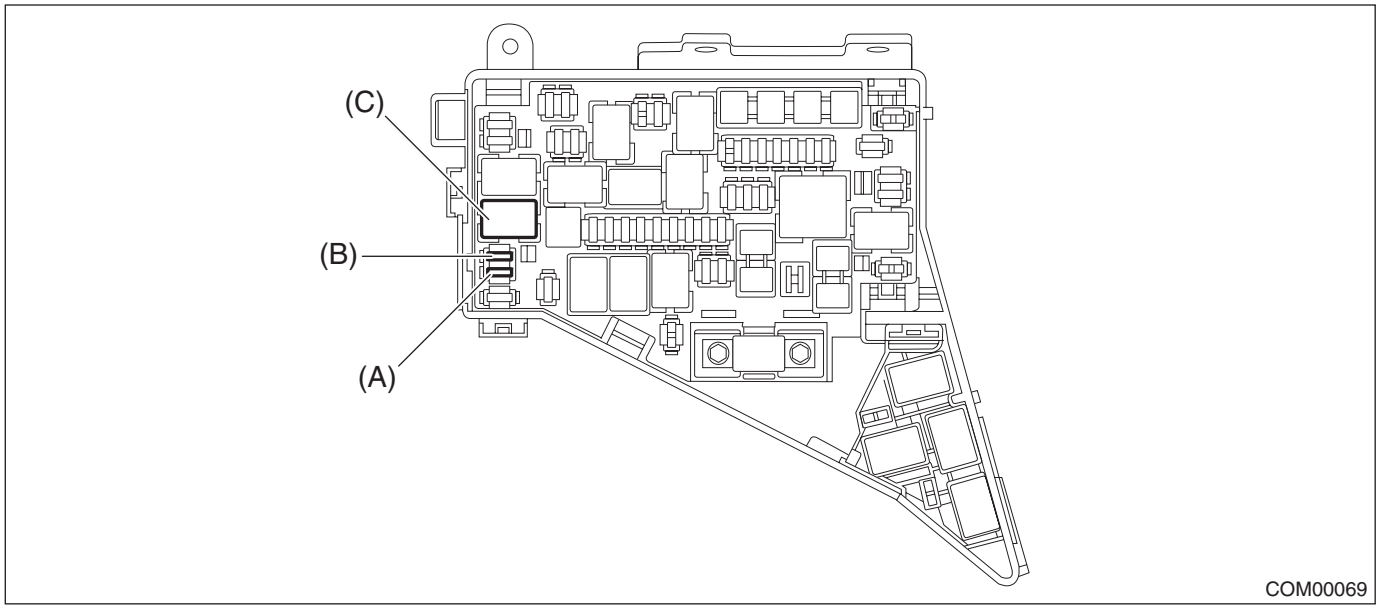
C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.

2. Relay and Fuse

A: LOCATION



Main fuse box	Fuse 7.5A (Hi pitch (RH) side horn)	(A)
	Fuse 7.5A (Lo pitch (LH) side horn)	(B)
	Horn relay	(C)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

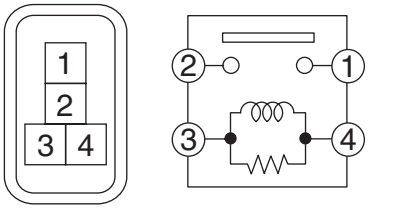
B: INSPECTION

1. CHECK FUSE

1) Remove the fuse and check visually.
2) If the fuse is blown out, replace the fuse.

2. CHECK RELAY

1) Check the resistance between relay terminals.

Terminal No.	Inspection conditions	Specification	Circuit
1 — 2	Always	1 MΩ or more	
1 — 2	Apply battery voltage between 4 — 3 terminals.	Less than 1 Ω	

2) Replace the relay if the inspection result is not within the standard value.

3. Horn System

A: WIRING DIAGRAM

Refer to “Horn System” in the wiring diagram. <Ref. to WI-199, WIRING DIAGRAM, Horn System.>

B: INSPECTION

Symptoms	Inspection steps
Horn does not sound	1. Check the fuse.
	2. Check the horn relay.
	3. Check the role connector.
	4. Check the horn switch.
	5. Check the horn assembly.
	6. Check the harness.

C: NOTE

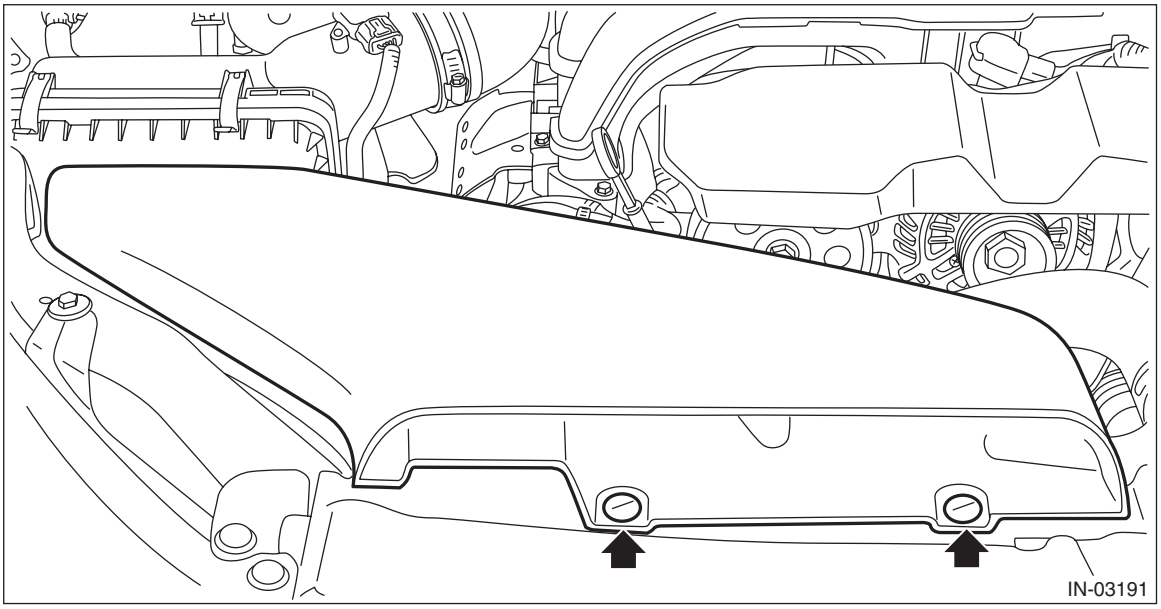
For operation procedures of each component of the horn system, refer to the respective section.

- Horn ASSY: <Ref. to COM-5, Horn.>
- Horn switch: <Ref. to COM-8, Horn Switch.>

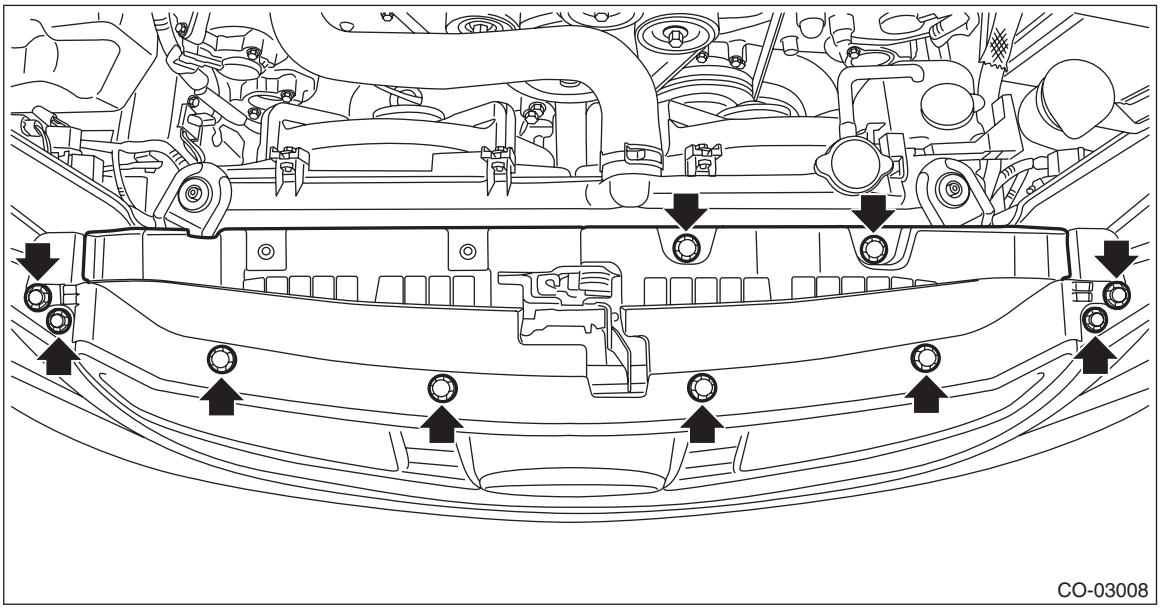
4. Horn

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the Lo pitch side horn.
   (1) Remove the clips and remove the air intake duct.

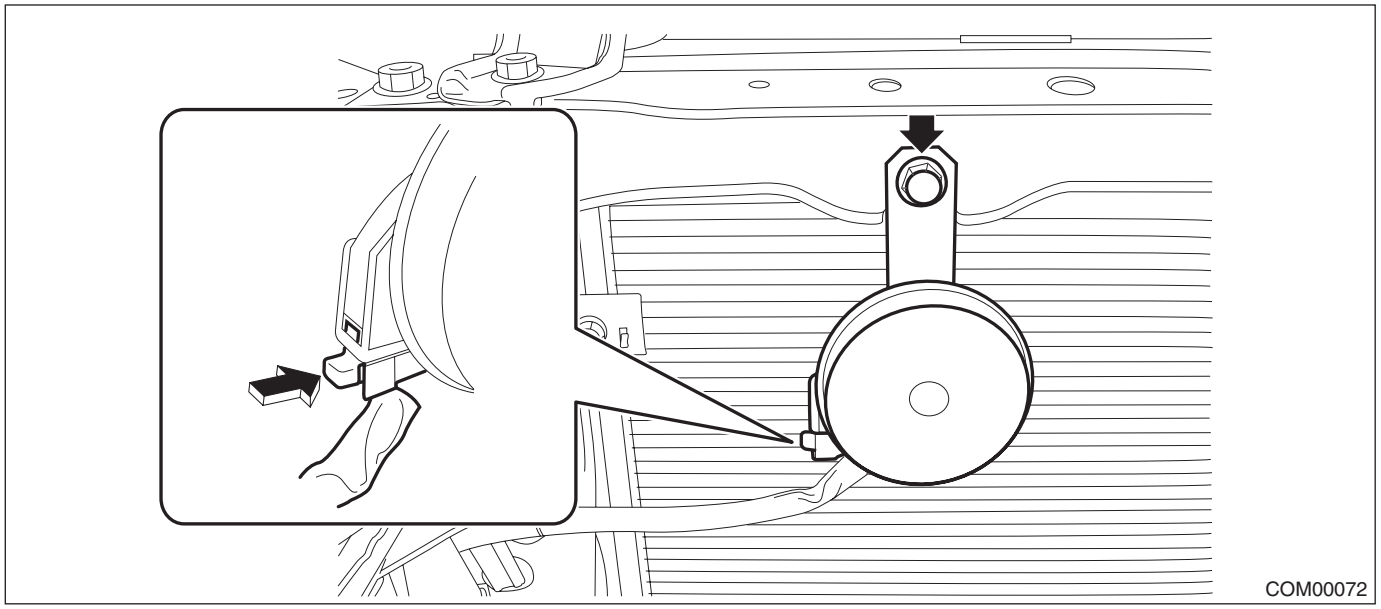


   (2) Remove the clips and remove the grille bracket.



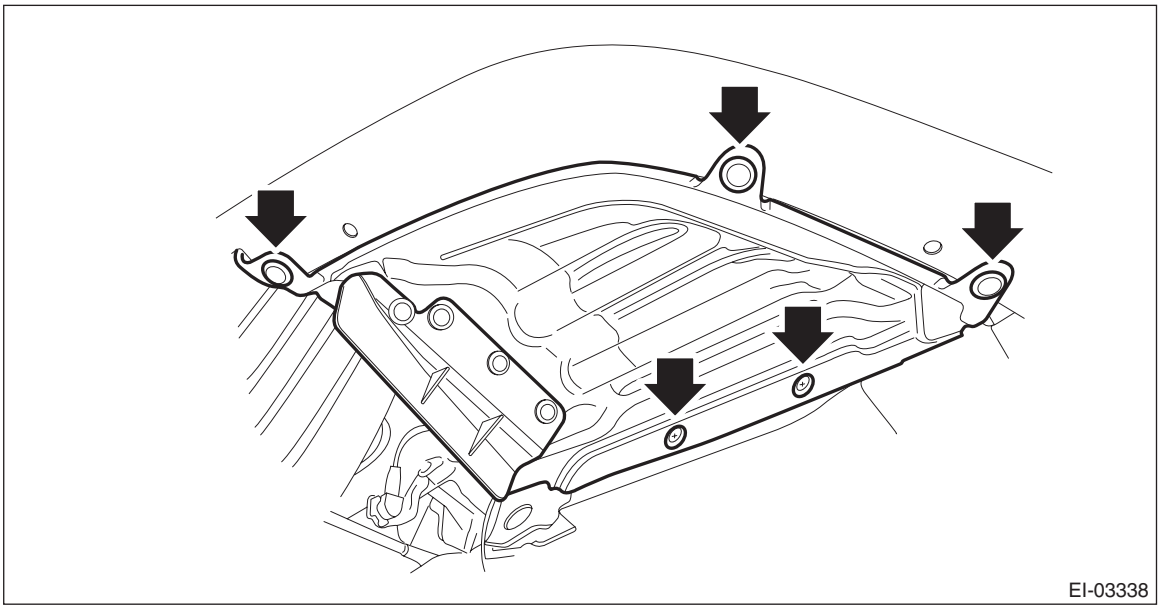
   (3) Disconnect the connector.

(4) Remove the horn bracket mounting bolt, and remove the Lo pitch side horn.



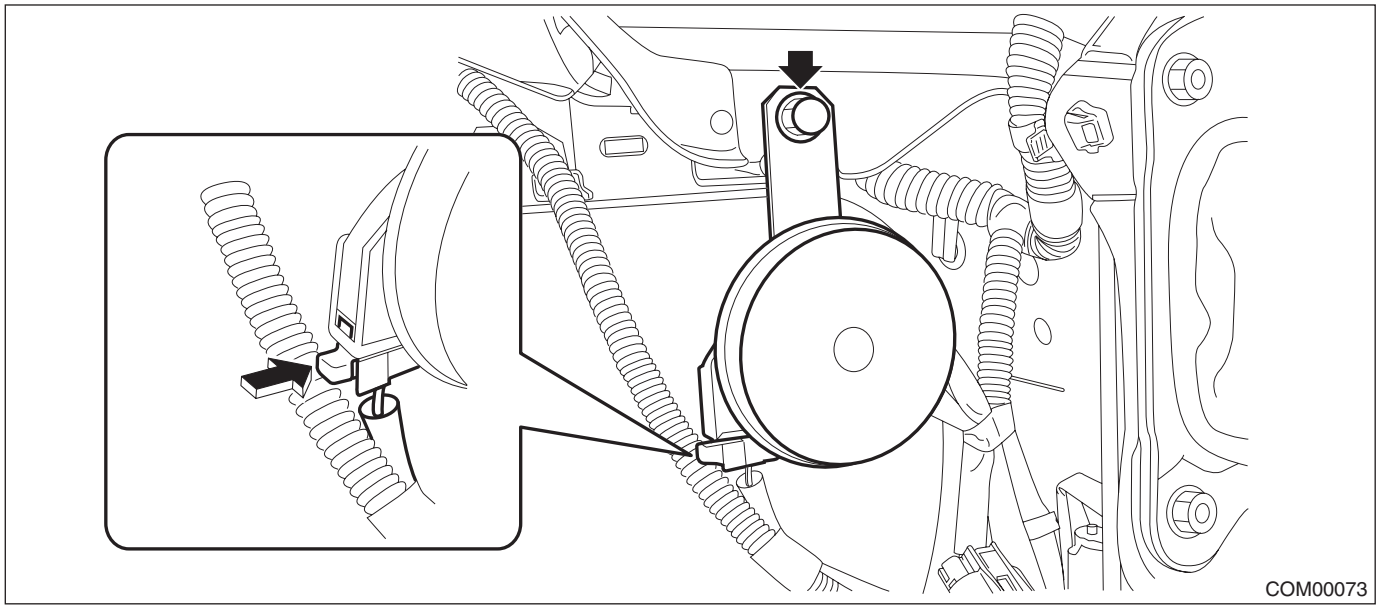
3) Remove the Hi pitch side horn.

(1) Remove the clips and turn over the front mud guard RH.



(2) Disconnect the connector.

(3) Remove the horn bracket mounting bolt, and remove the Hi pitch side horn.



B: INSTALLATION

1) Install each part in the reverse order of removal.

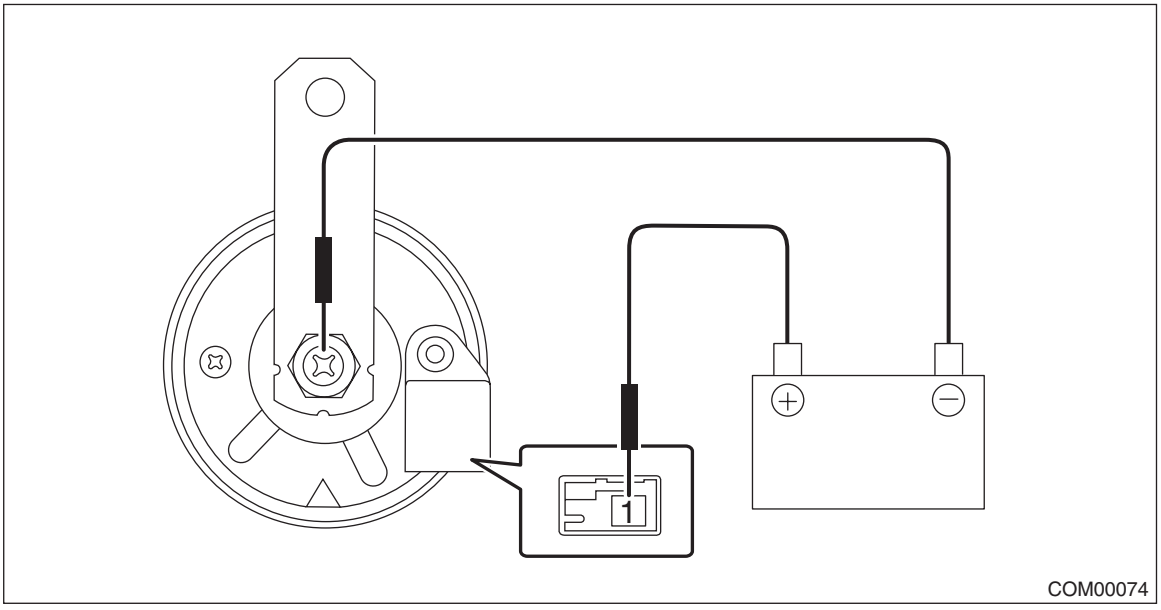
Tightening torque:
Horn assembly: 18 N·m (1.84 kgf-m, 13.3 ft-lb)

2) Adjust the fog light beam. (Model with fog light) <Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: INSPECTION

1. CHECK HORN ASSEMBLY

1) Remove the horn assembly (Hi pitch side and Lo pitch side). <Ref. to COM-5, REMOVAL, Horn.>
2) Check the horn sounds when applying the battery voltage to the horn assembly.



Terminal No.	Inspection conditions	Specification
1 (+) — Horn case (–)	Connect battery to the terminals	Sounds

3) If it does not operate normally, replace the horn assembly.

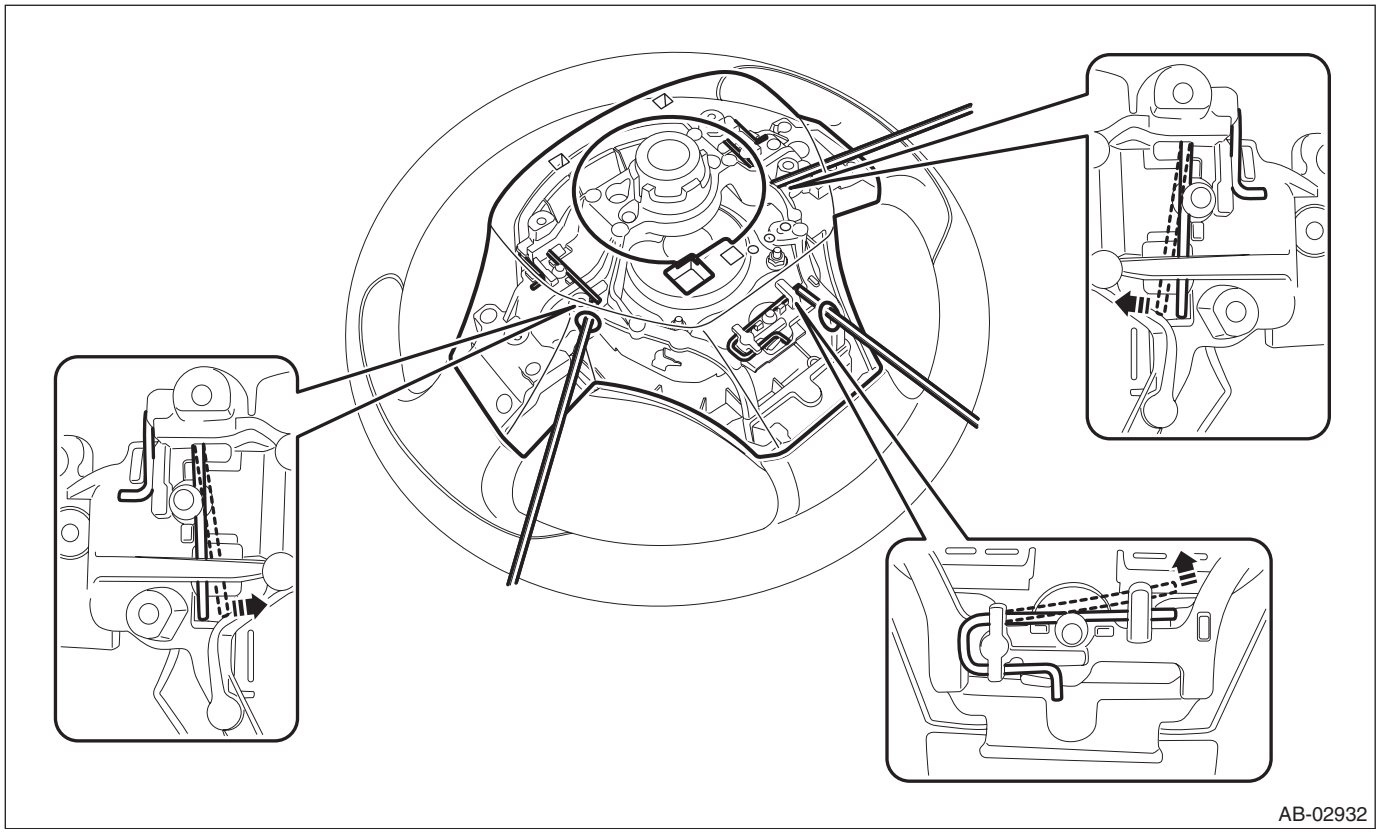
5. Horn Switch

A: REMOVAL

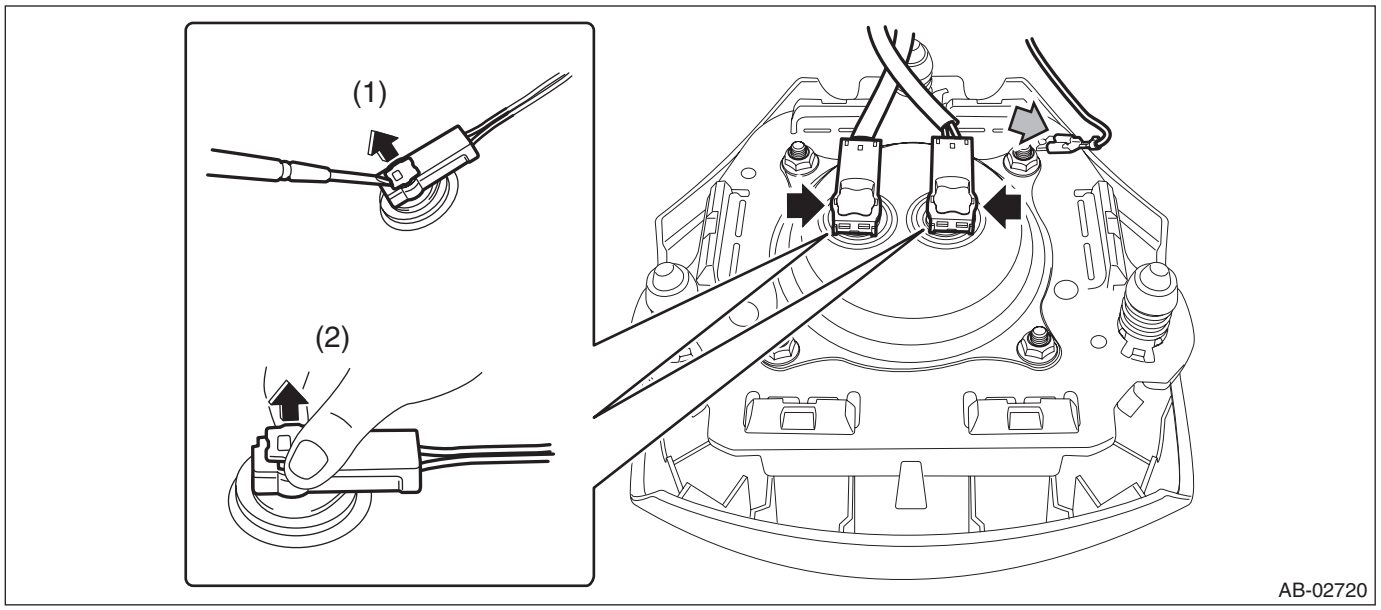
NOTE:
Horn switch is a unit with the driver's airbag module.
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.

CAUTION:
Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>

(1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



(2) Disconnect the horn harness and airbag connector and remove the airbag module assembly. <Ref. to AB-22, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER, PROCEDURE, Airbag Connector.>



B: INSTALLATION

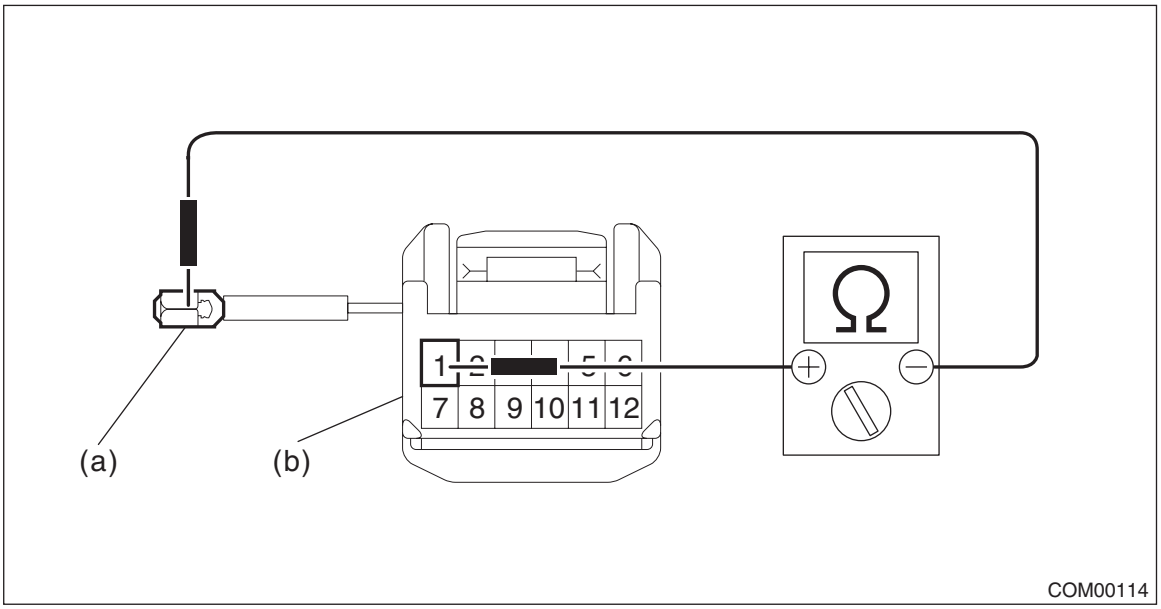
CAUTION:
• Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
1) Install the driver's airbag module. <Ref. to AB-39, INSTALLATION, Driver's Airbag Module.>
2) Install each part in the reverse order of removal.

C: INSPECTION

1. CHECK HORN SWITCH

1) Remove the horn switch. <Ref. to COM-8, REMOVAL, Horn Switch.>
2) Check that the connection of the horn switch harness connector is correct.
3) Disconnect the horn switch harness connector and check the resistance between the harness connectors.

Preparation tool:
Circuit tester



(a) Ground terminal (b) Horn switch terminal

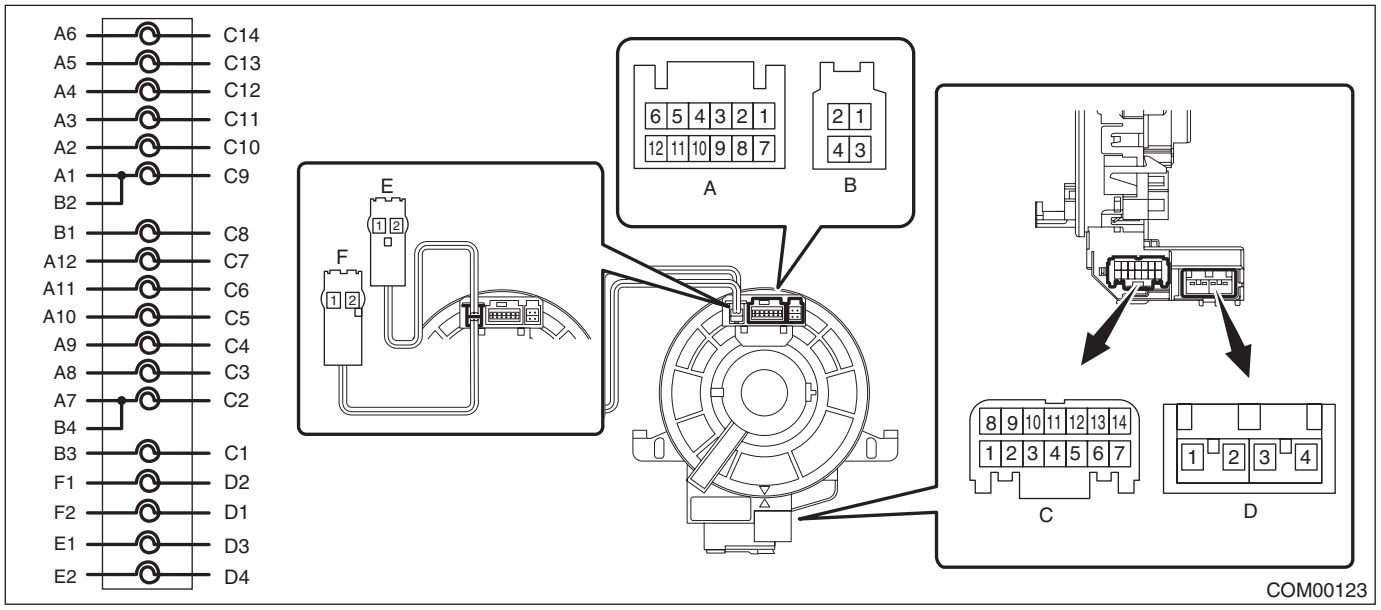
Terminal No.	Inspection conditions	Standard
Ground terminal (a) — Horn switch terminal (b)	The airbag module bracket being pushed	Less than 1 Ω
	The airbag module bracket being separated	1 MΩ or more

4) Replace the driver's airbag module if the inspection result is not within the standard value.

2. CHECK ROLL CONNECTOR

1) Remove the roll connector. <Ref. to AB-103, REMOVAL, Roll Connector.>
2) Check the resistance between roll connector terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions	Standard
A1 — C9	Always	Less than 1 Ω

3) Replace the roll connector if the inspection result is not within the standard value.

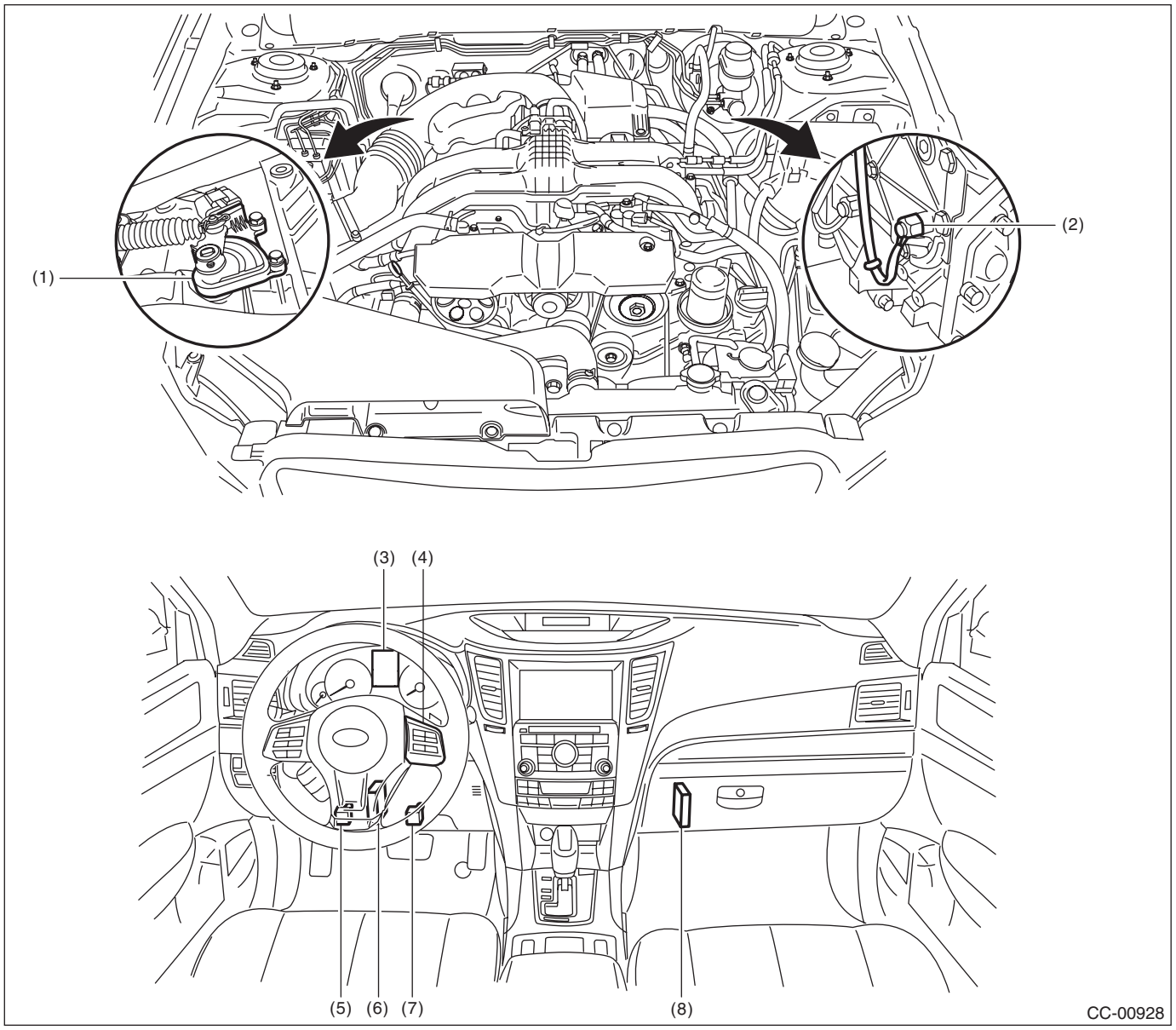
GLASS/WINDOWS/MIRRORS

GW

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15.	Rear Window Defogger System	51
16.	Rear Quarter Glass	54
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1. General Description

A: COMPONENT



(1) Inhibitor switch (CVT model)
(2) Neutral position switch (MT model)
(3) Cruise indicator light and cruise set indicator light
(4) Cruise control command switch
(5) Clutch switch (MT model)
(6) Transmission control module (TCM) (5AT model and CVT model)
(7) Stop light and brake switch
(8) Engine control module (ECM)

NOTE:
Inhibitor switch for 5AT model is installed on the valve body assembly.

B: CAUTION

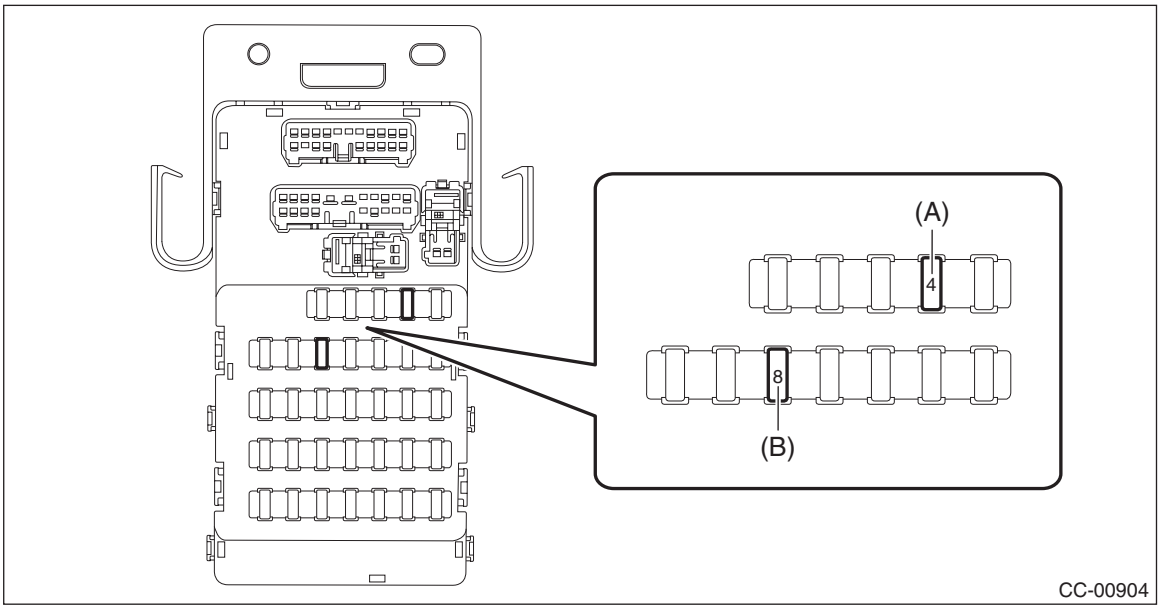
• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Adjust parts to the given specifications.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.
• Yellow connectors and harnesses with yellow tapes around them are the connectors and harnesses for the airbag system. Using a tester above such circuits may cause malfunction of airbag system. Follow the cautions for the airbag system in this case. <Ref. to AB-10, CAUTION, General Description.>
• Be careful not to damage the airbag system wiring harness when servicing electrical parts and switches.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

C: PREPARATION TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Steering wheel puller	Used for removing the steering wheel.

2. Relay and Fuse

A: LOCATION



Relay & fuse box	Fuse 7.5A (ECM, stop light & brake switch, clutch switch)	(A)
	Fuse 15A (stop light & brake switch)	(B)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

B: INSPECTION

1. CHECK FUSE

1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

NOTE:
If the fuse is blown again, check the system wiring harness.

3. Cruise Control System

A: WIRING DIAGRAM

Refer to “Cruise Control System” in the wiring diagram. <Ref. to WI-108, WIRING DIAGRAM, Cruise Control System.>

B: INSPECTION

Refer to “Basic Diagnostic Procedure” of “CRUISE CONTROL SYSTEM (DIAGNOSTICS)”. <Ref. to CC(diag)-2, Basic Diagnostic Procedure.>

C: NOTE

For operation procedures of each component of the cruise control system, refer to the respective section.

- Cruise control unit: <Ref. to CC-6, Cruise Control Module.>
- Cruise control command switch: <Ref. to CC-7, Cruise Control Command Switch.>
- Combination meter: <Ref. to CC-12, Combination Meter.>
- Stop light & brake switch: <Ref. to CC-13, Stop Light & Brake Switch.>
- Clutch switch: <Ref. to CC-14, Clutch Switch.>
- Inhibitor switch: <Ref. to CC-15, Inhibitor Switch.>
- Transmission control module (TCM): <Ref. to CC-16, Transmission Control Module (TCM).>
- Neutral position switch: <Ref. to CC-17, Neutral Position Switch.>

4. Cruise Control Module

A: NOTE

The control of cruise control system is carried out in engine control module (ECM).

B: REMOVAL

- H4 model: <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).>
- H6 model: <Ref. to FU(H6DO)-54, REMOVAL, Engine Control Module (ECM).>

C: INSTALLATION

- H4 model:<Ref. to FU(H4DO)-102, INSTALLATION, Engine Control Module (ECM).>
- H6 model:<Ref. to FU(H6DO)-54, INSTALLATION, Engine Control Module (ECM).>

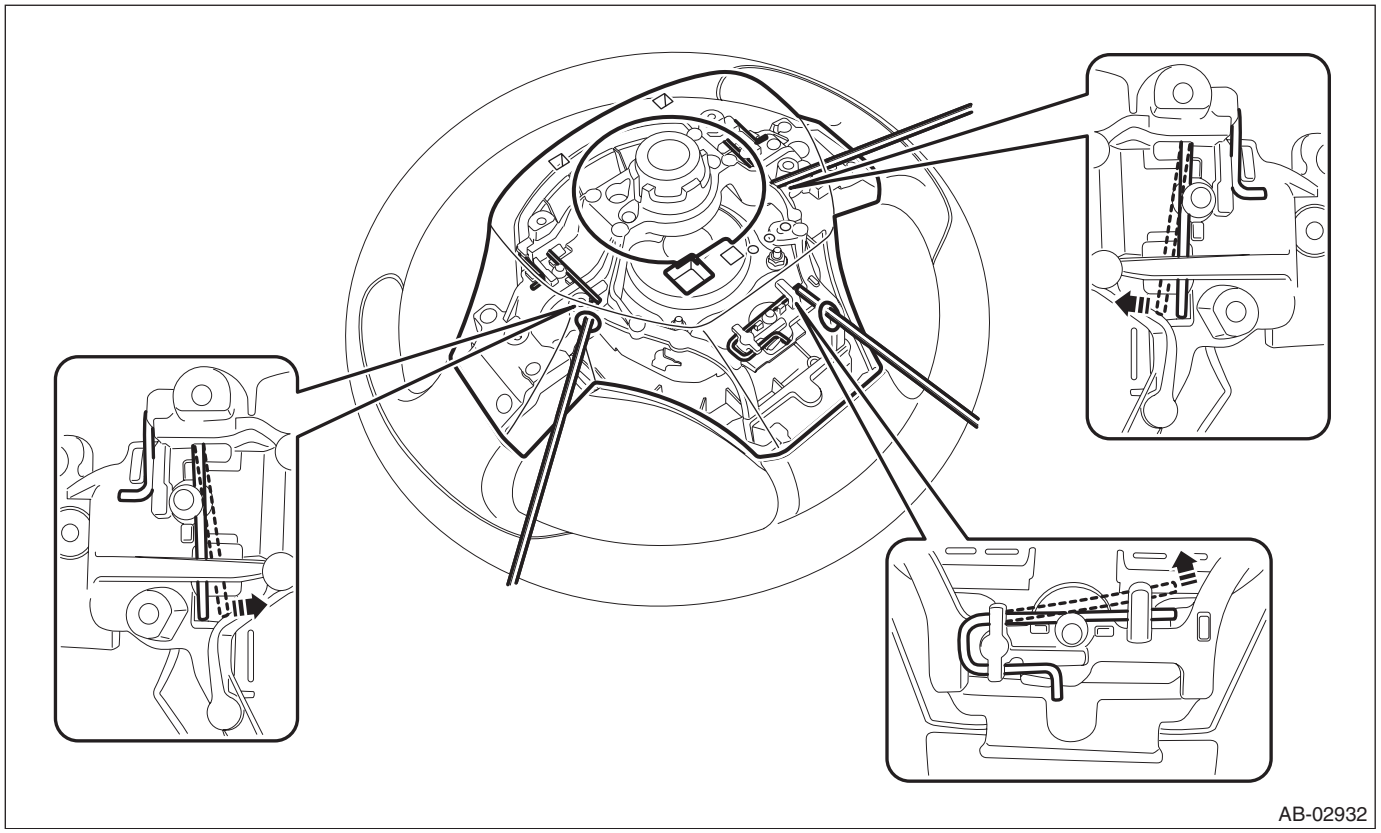
5. Cruise Control Command Switch

A: REMOVAL

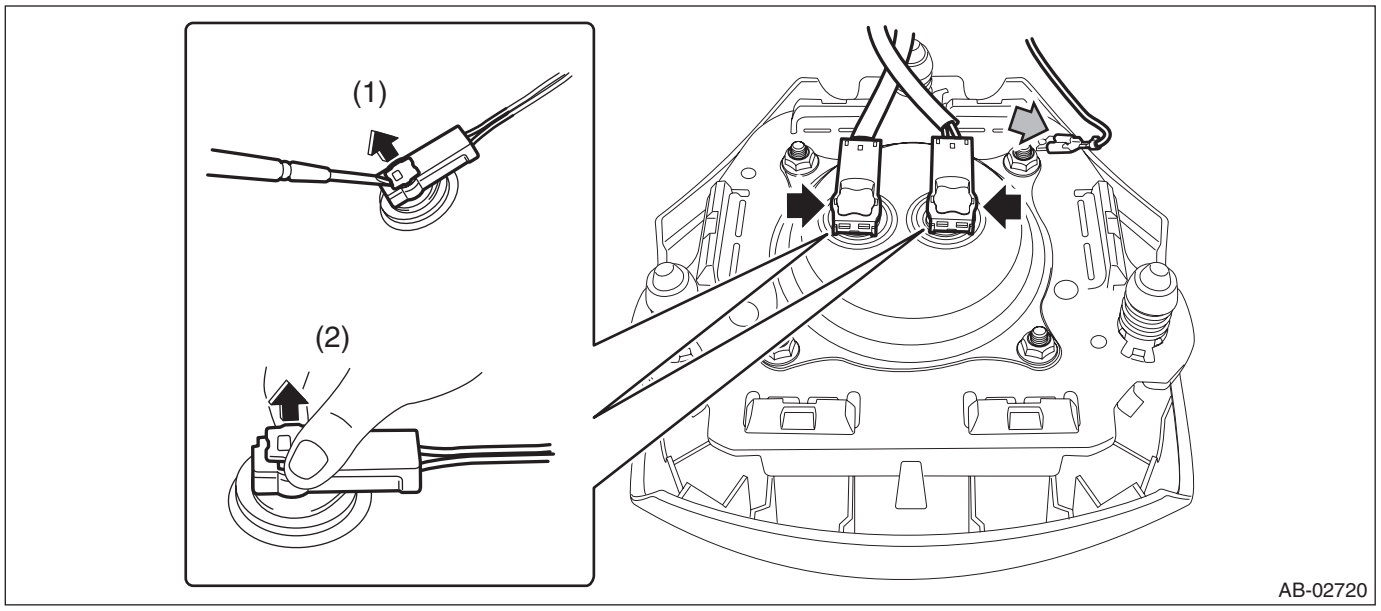
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.

CAUTION:
Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>

(1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



(2) Disconnect the horn harness and airbag connector and remove the airbag module assembly. <Ref. to AB-22, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER, PROCEDURE, Airbag Connector.>

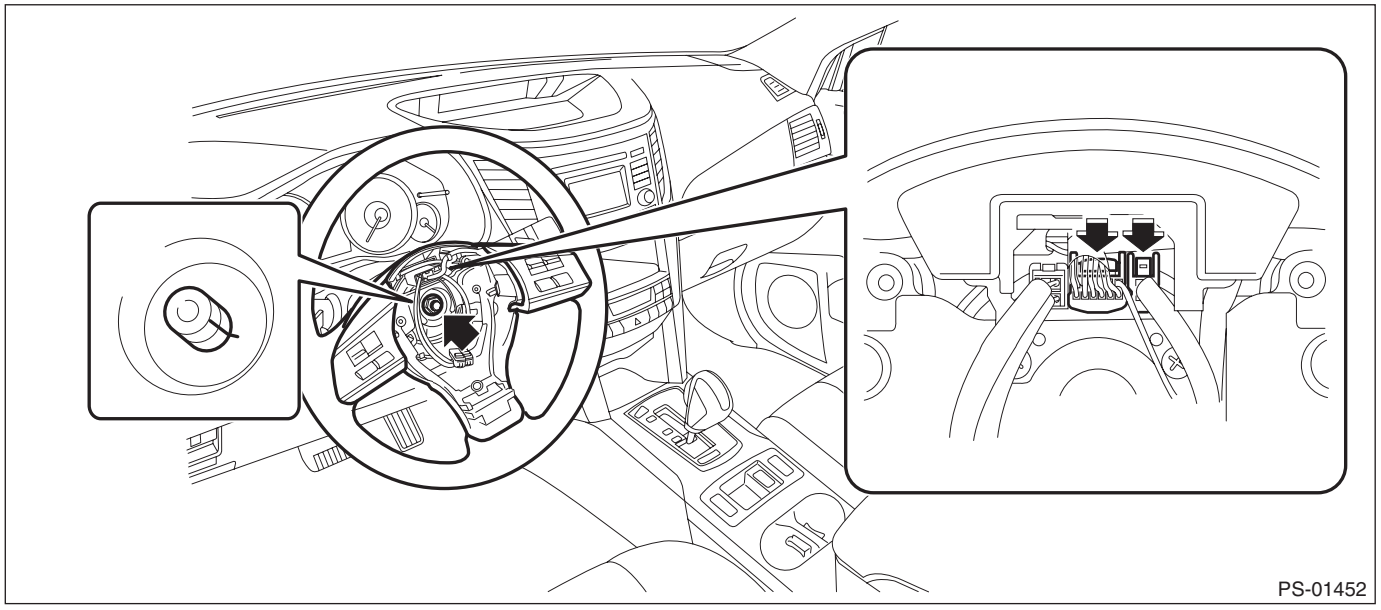


5) Remove the steering wheel.

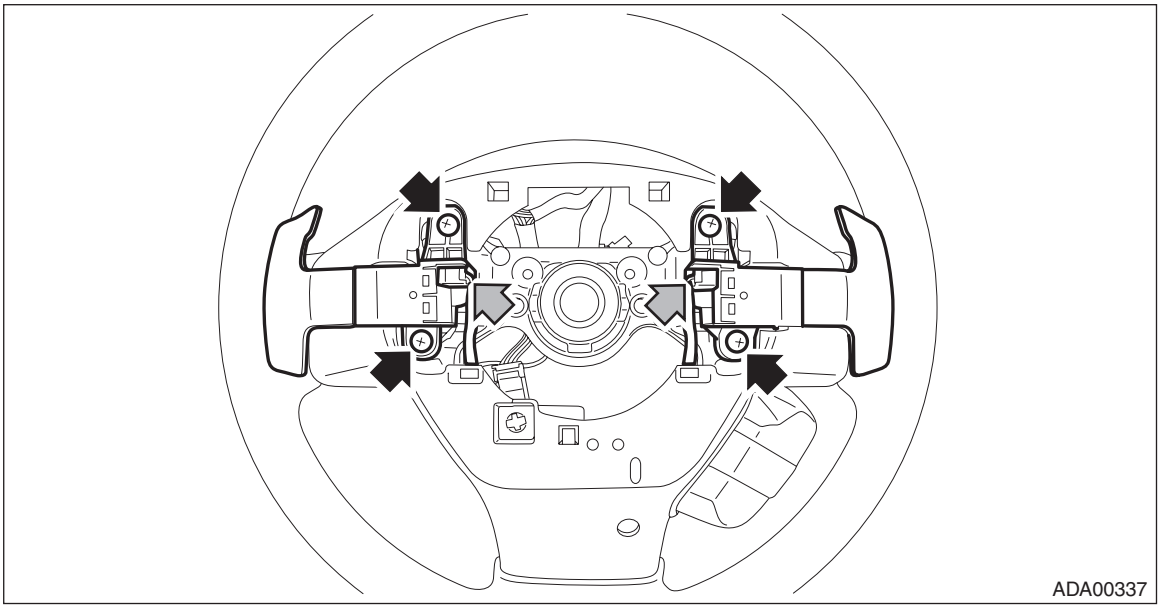
CAUTION:
- **Always use the steering wheel puller for removal to avoid deforming the steering wheel.**
- **If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.**

(1) Disconnect the connector and remove the nut.
(2) Put alignment marks and remove the steering wheel using a steering wheel puller.

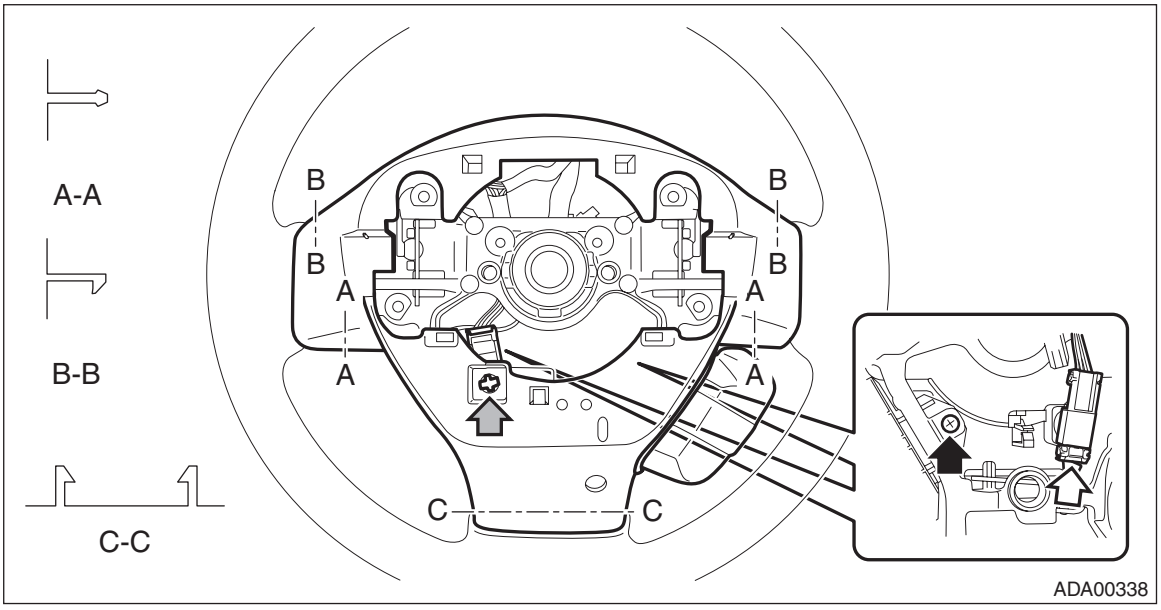
Preparation tool:
Steering wheel puller



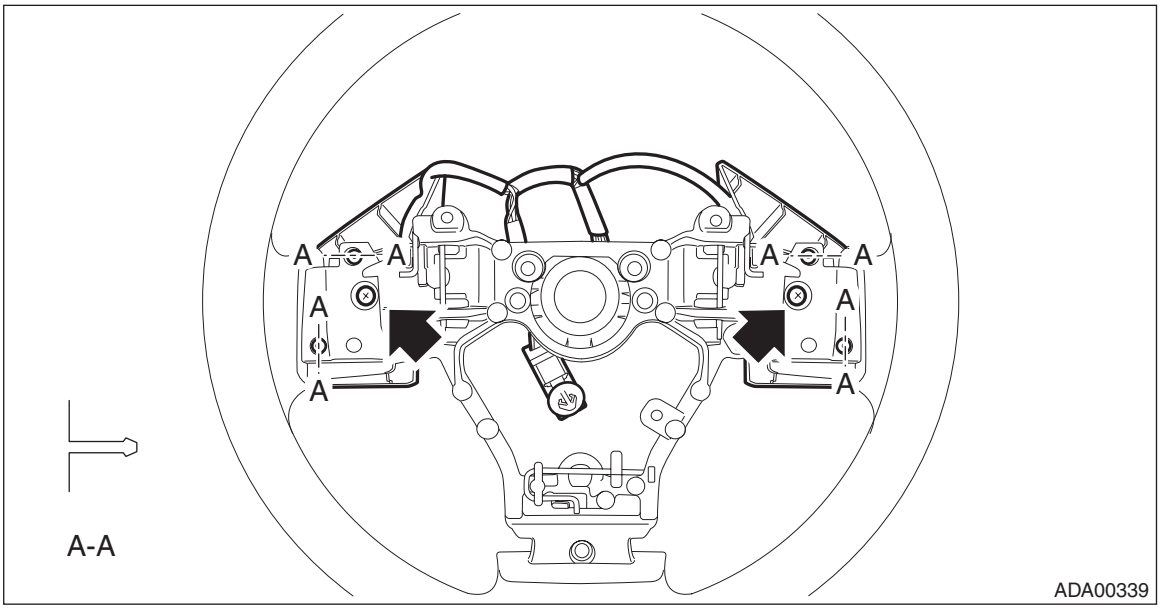
6) Remove the cruise control command switch.
(1) Remove the screw, disconnect the connector and remove the paddle shift switch. (Model with paddle shift)



(2) Remove the steering switch connector and screw. (luminescent meter model)
(3) Disconnect the claws and then remove the lower cover.



(4) Remove the screw to remove the cruise control command switch assembly.



B: INSTALLATION

CAUTION:

- **Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>**
- **Do not allow harness and connectors to interfere or get tangled up with other parts.**
- **If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>**

1) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and steering column.

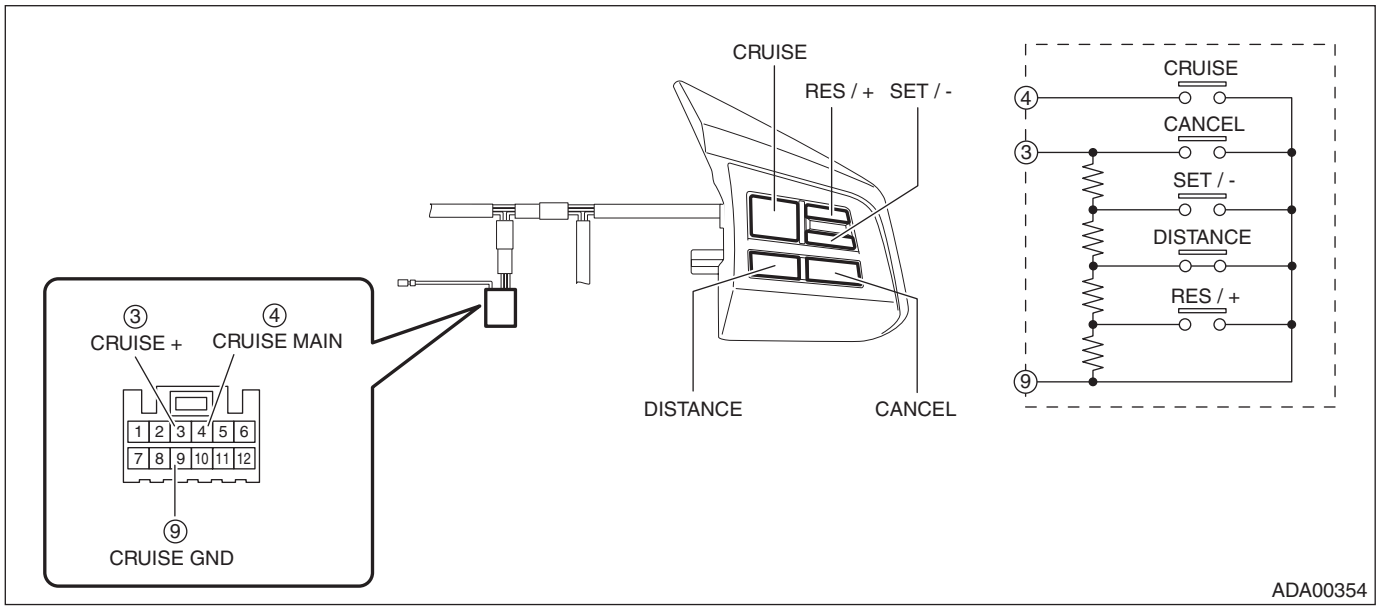
Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

Clearance:
Between column cover and steering wheel: 4 — 6 mm (0.16 — 0.24 in)

C: INSPECTION

1) Disconnect the cruise control command switch connector.
2) Check the resistance between cruise control command switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions		Standard
3 — 9	CANCEL SET/– RES/+	All OFF	Approx. 4 kΩ
3 — 9	CANCEL	ON	Less than 1 Ω
3 — 9	SET/–	ON	Approx. 250 Ω
3 — 9	RES/+	ON	Approx. 1,470 Ω
4 — 9	CRUISE (MAIN)	OFF	1 MΩ or more
4 — 9		ON	Less than 1 Ω

3) Replace the cruise control command switch if the inspection result is not within the standard.

6. Combination Meter

A: NOTE

For the combination meter, refer to “INSTRUMENTATION/DRIVER INFO” section. <Ref. to IDI-25, Combination Meter.>

7. Stop Light & Brake Switch

A: NOTE

For stop light and brake switch, refer to “BRAKE” section. <Ref. to BR-63, Stop Light Switch.>

8. Clutch Switch

A: NOTE

For clutch switch, refer to “CLUTCH” section. <Ref. to CL-30, Clutch Switch.>

9. Inhibitor Switch

A: NOTE

1. CVT MODEL

For inhibitor switch, refer to “CONTINUOUSLY VARIABLE TRANSMISSION” section. <Ref. to CVT-96, Inhibitor Switch.>

2. 5AT MODEL

Inhibitor switch cannot be removed and checked, because the inhibitor switch is installed on control valve assembly.
When a malfunction occurs, refer to “AUTOMATIC TRANSMISSION (DIAGNOSTICS)” section. <Ref. to 5AT(diag)-36, DTC P0705 TRANSMISSION RANGE SENSOR CIRCUIT (PRNDL INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

10.Transmission Control Module (TCM)

A: NOTE

For transmission control module (TCM), refer to following section.

- CVT model: <Ref. to CVT-142, Transmission Control Module (TCM).>
- 5AT model: <Ref. to 5AT-56, Transmission Control Module (TCM).>

11.Neutral Position Switch

A: NOTE

For neutral position switch, refer to “MANUAL TRANSMISSION AND DIFFERENTIAL” section. <Ref. to 6MT-36, Switches and Harness.>

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

CC(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:
• When performing diagnosis, observe the legal speed limit on the road.
• The cancel code will be also appear when cruise control is cancelled by the driver's operation. Do not confuse them.
• Be sure to get an assistant to support the diagnosis while driving, and have him/her operate the select monitor.

	Step	Check	Yes	No
1	**CHECK MALFUNCTION INDICATOR LIGHT.** Make sure the malfunction indicator light illuminates.	Does the malfunction indicator light illuminate?	Go to step **5**.	Go to step **2**.
2	**CHECK CRUISE INDICATOR LIGHT.** Make sure the cruise indicator light blinks.	Does the cruise indicator light blink?	Go to step **7**.	Go to step **3**.
3	**CHECK CRUISE SWITCH OPERATION.** Check the CRUISE switch operation. (Check the illumination of the CRUISE indicator.)	Is the CRUISE switch turned on? (Does the CRUISE indicator illuminate?)	Go to step **4**.	Go to phenomenon 1. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	**CHECK CRUISE CONTROL SET OPERATION.** Check the cruise control setting operation.	Can the cruise control be set while driving at 40 km/h (25 MPH) or more?	Go to step **8**.	Go to step **7**.
5	**CHECK DTC.** Read all DTCs using the Subaru Select Monitor.	Is an engine or ABS/VDC related DTC displayed?	Record the DTC. Go to step **6**.	Go to phenomenon 2. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
6	**CHECK FREEZE FRAME DATA.** Using the Subaru Select Monitor, check the Freeze Frame Data or Information in Trouble State.	Was the Freeze Frame Data or Information in Trouble State recorded?	Record the data. Perform the diagnosis according to the engine or ABS/VDC related DTC.	Perform the diagnosis according to the engine or ABS/VDC related DTC.
7	**CHECK CANCEL CODE.** Using the Subaru Select Monitor, read the cancel codes. NOTE: • Do not turn the ignition switch to OFF after the cruise control is deactivated. • Do not operate the cruise control command switch after the cruise control is deactivated. If the above is performed, the cancel code will be cleared.	Is it possible to read the cancel codes?	Perform the diagnosis according to the cancel code. <Ref. to CC(diag)-13, LIST, List of Cancel Code.>	Go to step **8**.

	Step	Check	Yes	No
8	**CHECK SET INDICATOR.** Check the illumination of the SET indicator.	Does the SET indicator illuminate?	Go to step **9**.	Go to phenomenon 3. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	**CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED.** Make sure the vehicle speed is held within set speed.	Is the vehicle speed kept within setting speed ±3 km/h (±2 MPH)? (Make sure that on a level road.)	Go to step **10**.	Go to phenomenon 4. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
10	**CHECK RES/+ OPERATION.** Check the RES/+ switch operation.	Does the vehicle speed increase or return to set speed after RES/+ switch has been pressed?	Go to step **11**.	Go to phenomenon 5. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
11	**CHECK SET/– OPERATION.** Check the SET/– switch operation.	Does the vehicle speed decrease after SET/– switch has been pressed?	Go to step **12**.	Go to phenomenon 6. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
12	**CANCEL OPERATION CHECK.** Check the CANCEL switch operation.	Is the cruise control released after CANCEL switch has been pressed?	Go to step **13**.	Go to phenomenon 7. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
13	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check the cruise control release operation.	Is the cruise control released after brake pedal has been depressed?	Go to step **14**.	Go to phenomenon 8. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

	Step	Check	Yes	No
14	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check the cruise control release operation.	Is the cruise control released after shifting to the neutral position?	Go to step **15**.	Go to phenomenon 9. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
15	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check the cruise control release operation.	Is the cruise control released after depressing the clutch pedal?	Finish the diagnosis.	Go to phenomenon 10. <Ref. to CC(diag)-11, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

2. General Description

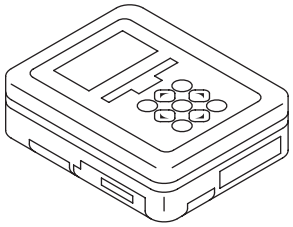
A: CAUTION

Airbag system wiring harness is routed near the cruise control command switch.

CAUTION:
• Do not use the electrical test equipment on the airbag system wiring harnesses and connector circuits.
• Be careful not to damage the airbag system wiring harness when servicing the cruise control command switch. Airbag system wiring harness is routed near the cruise control command switch.

B: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

C: INSPECTION

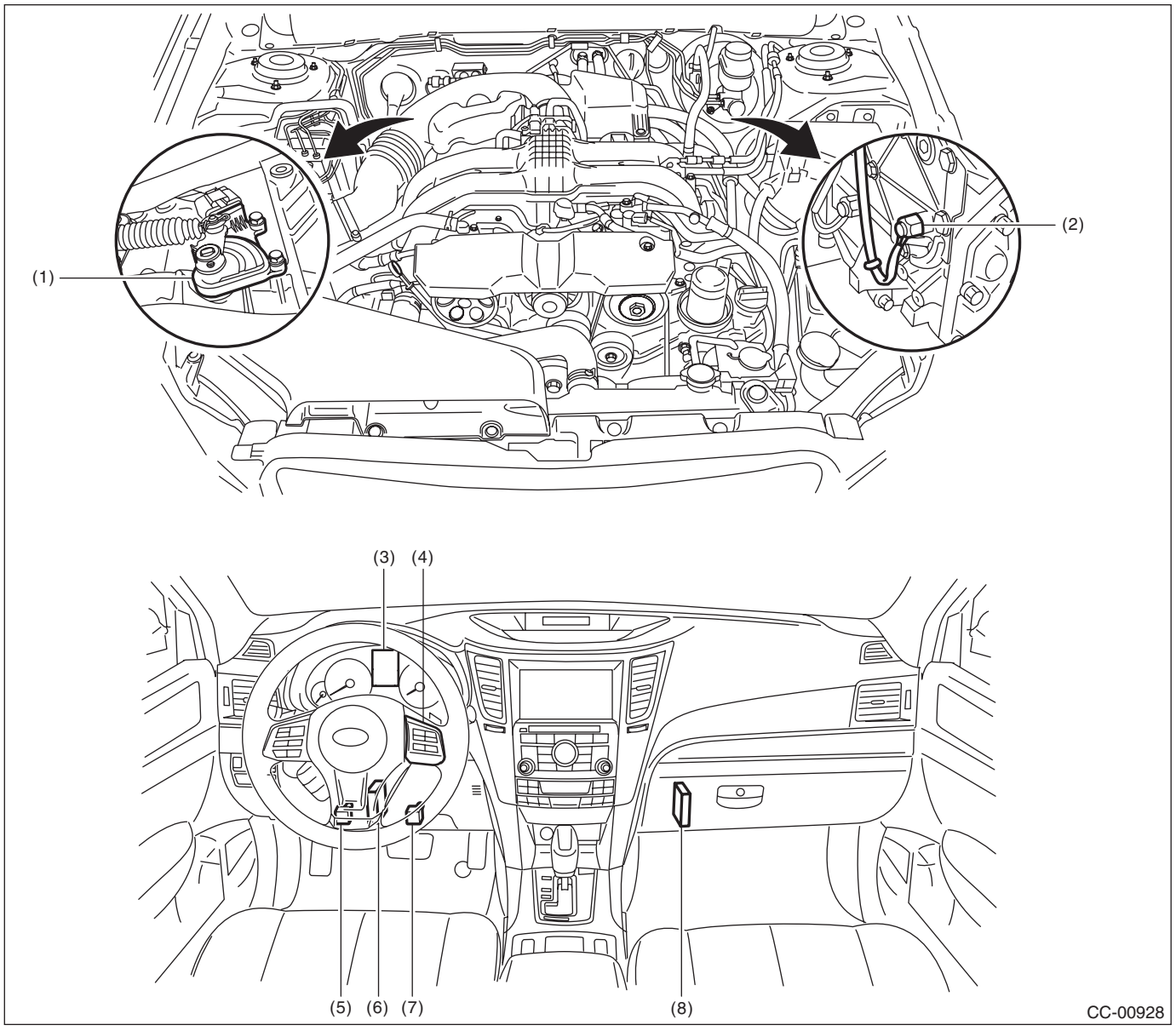
Measure the battery voltage and specific gravity of electrolyte.

Standard voltage:
12 V or more

Specific gravity:
1.260 or more

3. Electrical Component Location

A: LOCATION



(1) Inhibitor switch (CVT model)
(2) Neutral position switch (MT model)
(3) Cruise indicator light and cruise set indicator light
(4) Cruise control command switch
(5) Clutch switch (MT model)
(6) Transmission control module (TCM) (AT and CVT model)
(7) Stop light and brake switch
(8) Engine control module (ECM)

4. Engine Control Module (ECM) I/O Signal

A: ELECTRICAL SPECIFICATION

For details on the input/output signals for the engine control module, refer to ENGINE (DIAGNOSTICS).
<Ref. to EN(H6DO)(diag)-22, ELECTRICAL SPECIFICATION, Engine Control Module (ECM) I/O Signal.>
<Ref. to EN(H4DO)(diag)-22, ELECTRICAL SPECIFICATION, Engine Control Module (ECM) I/O Signal.>

B: WIRING DIAGRAM

<Ref. to WI-108, WIRING DIAGRAM, Cruise Control System.>

5. Subaru Select Monitor

A: OPERATION

1. GENERAL DESCRIPTION

The on-board diagnosis function of the cruise control system uses Subaru Select Monitor.
The on-board diagnosis function operates in two categories, which are used depending on the type of problems;
1) Cruise Control Cancel Conditions Diagnosis:
(1) This category of diagnosis requires actual vehicle driving in order to determine the cause, as when cruise speed is cancelled during driving although cruise cancel condition is not entered.
(2) Cruise control memory in ECM stores the cancel code which occurred during driving. When there are multiple cancel code, they are shown on the Subaru Select Monitor.

CAUTION:
• The cruise control memory stores not only the cruise "cancel" which occurred (although "cancel" operation is not entered by the driver), but also the "cancel" condition input by the driver.
• The content of the latest memory (the latest code) is cleared when the ignition switch is turned to OFF. However, memory contents set by the diagnosis of faulty switches related to the system and cruise control will remain as trouble history (memory code) after the ignition switch is turned to OFF.
2) Real-time Diagnosis:
Real-time diagnosis function is used to determine whether or not the input signal system is in good order, according to signal emitted from switches, sensors, etc.
(1) Vehicle cannot be driven at cruise speed when the problem occurs in the cruise control system or relevant circuits.
(2) Monitor the signal conditions from switches and sensors.

2. BASIC OPERATION

For the operation procedure, refer to the "PC application help for Subaru Select Monitor".

6. Read Cancel Code

A: OPERATION

1) On «Main Menu» display, select {Each System Check}.
On «System Selection Menu» display, select {Engine Control System} and select the [OK]. Select [OK] after the engine type information is displayed.
2) Drive vehicle at 40 km/h (25 MPH) or more and set the cruise control.

CAUTION:
• When performing diagnosis, observe the legal speed limit on the road.
• The cancel code will also appear when the cruise control is cancelled by the driver's operation. Do not confuse them.
• Be sure to get an assistant to support the diagnosis while driving, and have him/her operate the select monitor.
3) When the set speed is cancelled by itself (without any cancel operations such as applying brake) or when the cruise control could not be set by performing the setting operation, selecting the {Cancel Code(s) Display} on the engine malfunction diagnosis screen will display the cancel code on the select monitor display.

NOTE:
The {Latest Diagnostic Code(s)} and {Memorized Diagnostic Code(s)} are contained in the cancel code. The latest code recognized during current test drive is displayed in {Latest Diagnostic Code(s)}. Cancel codes resulting from fault diagnosis of switches relating to the system and cruise control are also displayed in {Memorized Diagnostic Code(s)}.
4) Perform Engine DTC Clear Memory operation. <Ref. to EN(H6DO)(diag)-64, OPERATION, Clear Memory Mode.> <Ref. to EN(H4DO)(diag)-59, OPERATION, Clear Memory Mode.>
Cancel codes for switches relating to the system and cruise control are deleted by clearing memory on the engine side.

NOTE:
• The latest code will be cleared by turning ignition switch to OFF.
• For detailed operation procedures, refer to "PC application help for Subaru Select Monitor".
• For details on cancel codes, refer to List of Cancel Code. <Ref. to CC(diag)-13, List of Cancel Code.>

7. Real-time Diagnosis

A: OPERATION

1) Select {Current Data Display & Save} in «Engine Diagnosis» display screen.
2) Make sure that normal display is shown when operated as follows:
- Depress and release the brake pedal. (Stop light switch and brake switch are turned ON.)
- Turn the “CRUISE” switch to ON.
- Turn the “CANCEL” switch to ON.
- Turn the “SET/–” switch to ON.
- Turn the “RES/+” switch to ON.
- Depress or release the clutch switch.
- Place the shift lever in any position other than neutral.

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

8. Diagnostics with Phenomenon

A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

Phenomenon		Check item	Reference
1	CRUISE switch is not turned ON. (CRUISE indicator does not illuminate.) Or the cruise control is cancelled without CRUISE switch operation.	(1) Perform cruise cancel conditions diagnosis.	Perform the diagnosis according to displayed cancel code.
		(2) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(3) Check the cruise control command switch.	<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>
		(4) Check the CRUISE indicator.	<Ref. to CC(diag)-12, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
2	Cruise control cannot be set. Or the cruise control is cancelled without canceling operation.	(1) Perform cruise cancel conditions diagnosis.	Perform the diagnosis according to displayed cancel code.
		(2) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(3) Check the cruise control command switch.	<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>
		(4) Check stop light switch and brake switch.	<Ref. to BR-63, Stop Light Switch.> <Ref. to CC(diag)-18, 12, Diagnostic Procedure with Cancel Code.>
		(5) Check clutch switch.	<Ref. to CL-30, Clutch Switch.> <Ref. to CC(diag)-20, 13, Diagnostic Procedure with Cancel Code.>
		(6) Check the neutral position switch.	<Ref. to CC(diag)-21, 14, Diagnostic Procedure with Cancel Code.> <Ref. to CC(diag)-27, 62, Diagnostic Procedure with Cancel Code.>
		(7) Check vehicle speed sensor.	<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>
3	SET indicator does not illuminate.	Check the SET indicator.	<Ref. to CC(diag)-12, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
4	Vehicle speed is not held within set speed ±3 km/h (±2 MPH).	Check the vehicle speed sensor.	<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>
5	Vehicle speed does not increase or does not return to set speed after RES/+ switch has been pressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the RES/+ switch.	<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>
6	Vehicle speed does not decrease after SET/– switch has been pressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the SET/– switch.	<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>
7	Cruise control is not released after CANCEL switch has been pressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the CANCEL switch.	<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>
8	Cruise control is not released after brake pedal has been depressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check stop light switch and brake switch.	<Ref. to CC(diag)-18, 12, Diagnostic Procedure with Cancel Code.> <Ref. to BR-65, INSTALLATION, Stop Light Switch.>
9	Cruise control is not released after shifting to the neutral position.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check the neutral position switch.	<Ref. to CC(diag)-21, 14, Diagnostic Procedure with Cancel Code.> <Ref. to CC-17, Neutral Position Switch.>

Phenomenon		Check item	Reference
10	Cruise control is not released after clutch pedal has been depressed.	(1) Perform the real-time diagnosis.	Check the input signal of cruise control system.
		(2) Check clutch switch.	<Ref. to CC(diag)-20, 13, Diagnostic Procedure with Cancel Code.> <Ref. to CL-30, CLUTCH SWITCH, INSTALLATION, Clutch Switch.>

B: CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT

TROUBLE SYMPTOM:

Cruise control can be set, but the CRUISE indicator and SET indicator do not illuminate.

Step		Check	Yes	No
1	**CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT.** Check the combination meter. <Ref. to IDI-8, OPERATION, Combination Meter System.>	Do the CRUISE & SET indicators illuminate?	Go to step **2**.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>
2	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Is a DTC of the LAN system detected?	Perform the diagnosis according to DTC for LAN system.	Replace the ECM.

9. List of Cancel Code

A: LIST

NOTE:
- The cancel code is registered even when cancel is performed intentionally by the driver.
- Cancel codes are cleared if the ignition switch is turned to OFF.
- If a different cancel code is input after a cancel code (latest code) has been input, the latest code is overwritten.
- If the cruise indicator light is flashing, a malfunction is occurring in the system or cruise control related switch. The cancel code at this time is saved even after ignition switch is OFF as a memory code of a past malfunction.
- To display a cancel code, use the Subaru Select Monitor to read the code after the cruise control is deactivated during a driving test.

Cancel code	Item	Contents of diagnosis	Note
11	Main switch	CRUISE switch of cruise control command switch is turned to OFF, and then the cruise control is released.	This code is displayed without operating the CRUISE switch. <Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>
12	Stop & brake switch	Stop light switch or brake switch is turned to ON, and then the cruise control is released.	This code is displayed without depressing the brake pedal. <Ref. to CC(diag)-18, 12, Diagnostic Procedure with Cancel Code.>
13	Clutch switch	Clutch switch is turned to ON, and then the cruise control is released.	This code is displayed without depressing the clutch pedal. <Ref. to CC(diag)-20, 13, Diagnostic Procedure with Cancel Code.>
14	Neutral switch	Neutral position switch is turned to ON, and then the cruise control is released.	This code is displayed without shifting to neutral position. <Ref. to CC(diag)-21, 14, Diagnostic Procedure with Cancel Code.>
15	Cancel switch	Cancel switch is turned to ON, and then the cruise control is released.	This code is displayed without operating the cancel switch. <Ref. to CC(diag)-23, 15, Diagnostic Procedure with Cancel Code.>
16	Ignition switch	Ignition switch is turned to OFF, and then the cruise control is released.	This code is displayed without operating the ignition switch. <Ref. to CC(diag)-24, 16, Diagnostic Procedure with Cancel Code.>
21	Cruise control switch malfunction when the ignition switch is ON	When the ignition switch is turned to ON, each switch of cruise control command switch is already turned to ON.	This code is displayed when the ignition switch is turned to ON without operating the cruise control command switch. <Ref. to CC(diag)-25, 21, Diagnostic Procedure with Cancel Code.>
22	Abnormality of change in vehicle speed	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>
24	Abnormality of switches related to cruise control	Open circuit of the cruise control switch is detected during cruise driving. (The system is judged as model without cruise control.)	This code is displayed with normal operation. <Ref. to CC(diag)-26, 24, Diagnostic Procedure with Cancel Code.>

List of Cancel Code

Cancel code	Item	Contents of diagnosis	Note
31	Abnormal engine speed Signal	• Abnormal increase of engine speed is detected. • Gear is placed in Neutral, 1st or Reverse position.	Cruise in 2nd shift position or more. <Ref. to CC(diag)-26, 31, Diagnostic Procedure with Cancel Code.>
32	Cruse Control out of Range	• Controlled vehicle speed decreased under the limit during cruising. • Set operation was performed at vehicle speed unavailable for setting. • RESUME operation was performed without memorized vehicle speed.	This code is displayed, though the vehicle speed is increased to the speed available for cruise set and set operation was performed again. <Ref. to CC(diag)-26, 32, Diagnostic Procedure with Cancel Code.>
34	Prohibition of cruise control at continuing big Accel. angle	The vehicle has been driven at higher speed than set vehicle speed for an abnormally long time (approximately 10 minutes) during cruise driving.	This code is displayed when driving for a long period of time at higher speed than appropriate cruise set vehicle speed by operating accelerator pedal. In this case, the cruise setting is deactivated. <Ref. to CC(diag)-26, 34, Diagnostic Procedure with Cancel Code.>
35	Prohibition of cruise control at vehicle speed F/B malfunction	Set vehicle speed cannot be kept because of some reasons (steep uphill, parking brake, abnormal decrease of engine output, etc.) during cruise driving.	This code is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause. <Ref. to CC(diag)-27, 35, Diagnostic Procedure with Cancel Code.>
41	VDC/TCS/EPB Operating	Vehicle dynamics control (VDC), TCS or EPB is operated during cruise driving or cruise setting.	This code is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause. <Ref. to CC(diag)-27, 41, Diagnostic Procedure with Cancel Code.>
43	ABS/VDC Failure	ABS or Vehicle dynamics control (VDC) system malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-27, 43, Diagnostic Procedure with Cancel Code.>
44	Body Integrated unit Failure	Body integrated unit system malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-27, 44, Diagnostic Procedure with Cancel Code.>
45	Meter Failure	Combination meter malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-27, 45, Diagnostic Procedure with Cancel Code.>
49	TCM Failure	Transmission control module (TCM) malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-27, 49, Diagnostic Procedure with Cancel Code.>
61	Brake switch abnormal	Malfunction in the stop light & brake switch is detected.	<Ref. to CC(diag)-27, 61, Diagnostic Procedure with Cancel Code.>
62	Neutral switch abnormal	Neutral position switch malfunction is detected.	<Ref. to CC(diag)-27, 62, Diagnostic Procedure with Cancel Code.>
63	Abnormality 1 of change in vehicle speed	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-27, 63, Diagnostic Procedure with Cancel Code.>

List of Cancel Code

Cancel code	Item	Contents of diagnosis	Note
64	Engine Sensor Failure 1	Malfunction related to engine is detected.	<Ref. to CC(diag)-28, 64, Diagnostic Procedure with Cancel Code.>
65	Abnormality of switches related to cruise control 1	Cruise control command switch malfunction is detected. (When the switch is pressed ON for a long time (approximately two minutes), stuck ON condition is detected.)	<Ref. to CC(diag)-28, 65, Diagnostic Procedure with Cancel Code.>
66	Cruise Control Calculation Error	Cruise control calculation (microcomputer) malfunction is detected.	<Ref. to CC(diag)-28, 66, Diagnostic Procedure with Cancel Code.>

10.Diagnostic Procedure with Cancel Code

A: 11

When CRUISE switch is pressed, or a malfunction related to CRUISE switch occurs, this is detected.

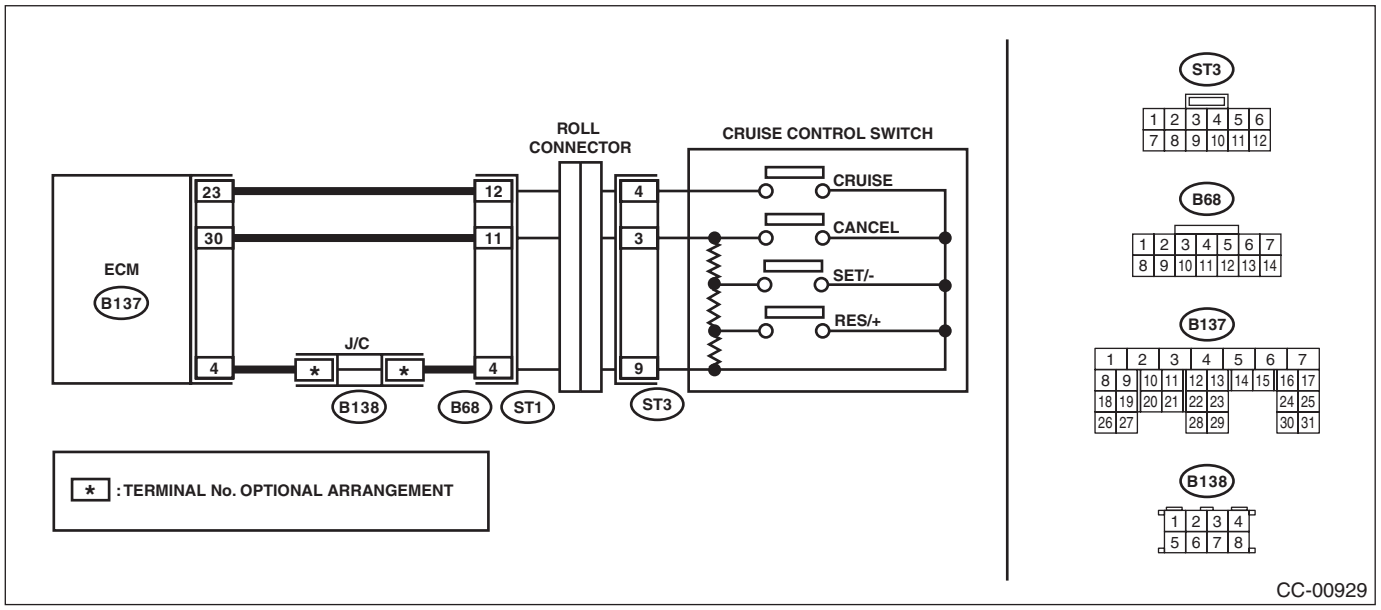
TROUBLE SYMPTOM:

- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

WIRING DIAGRAM:

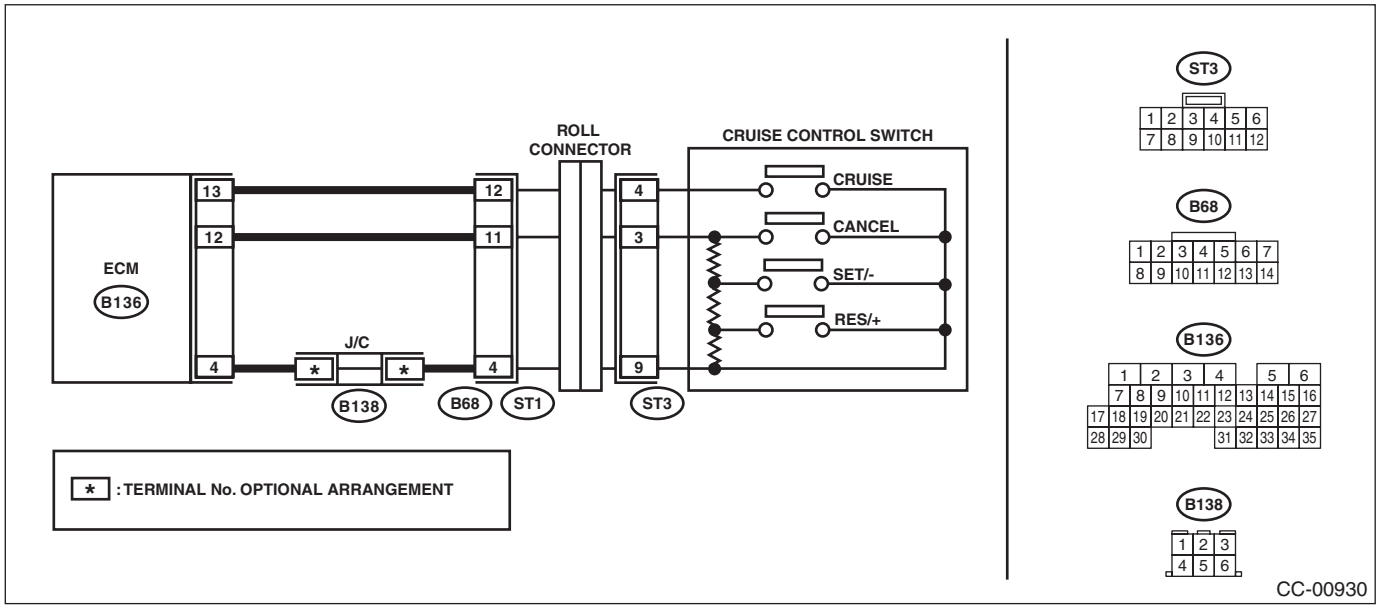
- 2.5 L model

Cruise control system <Ref. to WI-108, 2.5 L MODEL, WIRING DIAGRAM, Cruise Control System.>



- 3.6 L model

Cruise control system <Ref. to WI-111, 3.6 L MODEL, WIRING DIAGRAM, Cruise Control System.>



	Step	Check	Yes	No
1	**CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT.** 1) Remove the driver's airbag module. <Ref. to AB-37, REMOVAL, Driver's Airbag Module.> 2) Disconnect the harness connector of cruise control command switch. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(ST3) No. 4 (+) — Chassis ground (–):*** ***(ST3) No. 3 (+) — Chassis ground (–):***	Is the voltage 5 V or more?	Go to step **2**.	Check the harness between cruise control command switch and ECM, and the steering roll connector for open or short circuit, or for poor contact.
2	**CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-7, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(ST3) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check for open circuit between cruise control command switch, ECM, and chassis ground and check the ECM.
3	**CHECK CRUISE CONTROL COMMAND SWITCH.** Measure the resistance between switch terminals when the cruise control command switch is not depressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 4 kΩ?	Go to step **4**.	Replace the cruise control command switch. <Ref. to CC-7, Cruise Control Command Switch.>
4	**CHECK CANCEL SWITCH.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-7, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between switch terminals with the CANCEL switch pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. less than 1 Ω when the CANCEL switch is pressed?	Go to step **5**.	Replace the cruise control command switch. <Ref. to CC-7, Cruise Control Command Switch.>
5	**CHECK SET/– SWITCH.** Measure the resistance between the switch terminals with the SET/– switch pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 250 Ω when the SET/– switch is pressed?	Go to step **6**.	Replace the cruise control command switch. <Ref. to CC-7, Cruise Control Command Switch.>
6	**CHECK RES/+ SWITCH.** Measure the resistance between the switch terminals with the RES/+ switch pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 1,500 Ω when the RES/+ switch is pressed?	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).> <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	Replace the cruise control command switch. <Ref. to CC-7, Cruise Control Command Switch.>

B: 12

Detected when brake pedal is depressed or malfunction related to stop light & brake switch occurs.

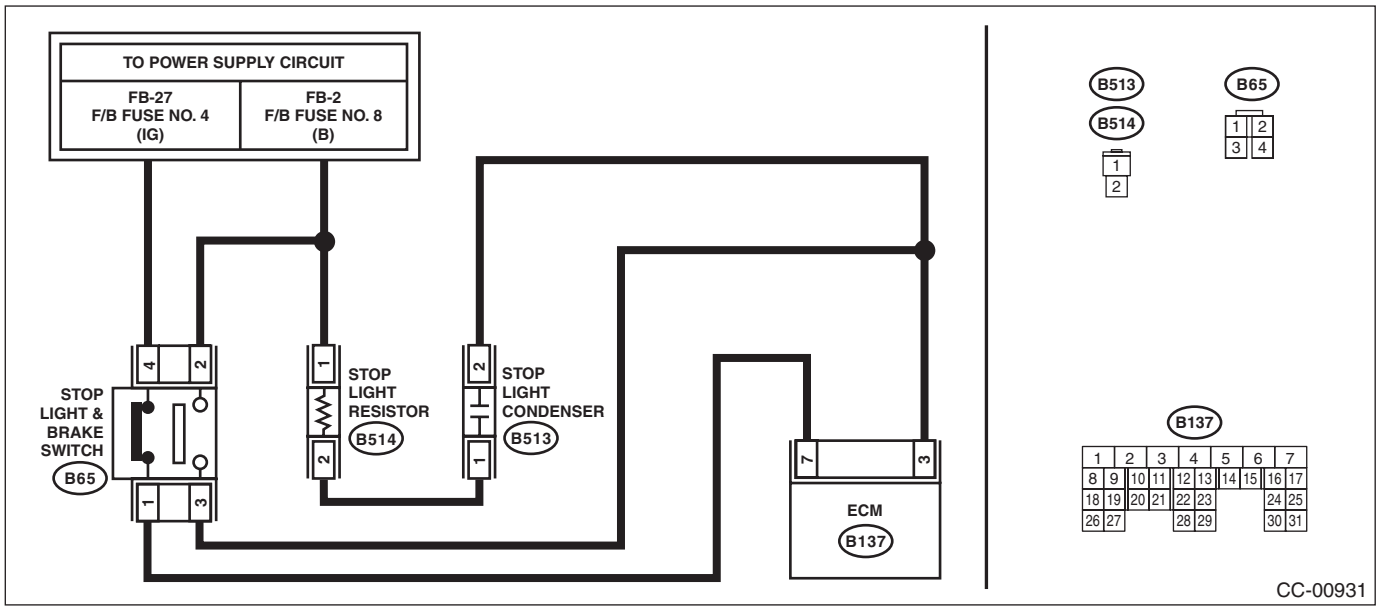
TROUBLE SYMPTOM:

- Cruise control cannot be set.
- Cruise control cannot be released.

WIRING DIAGRAM:

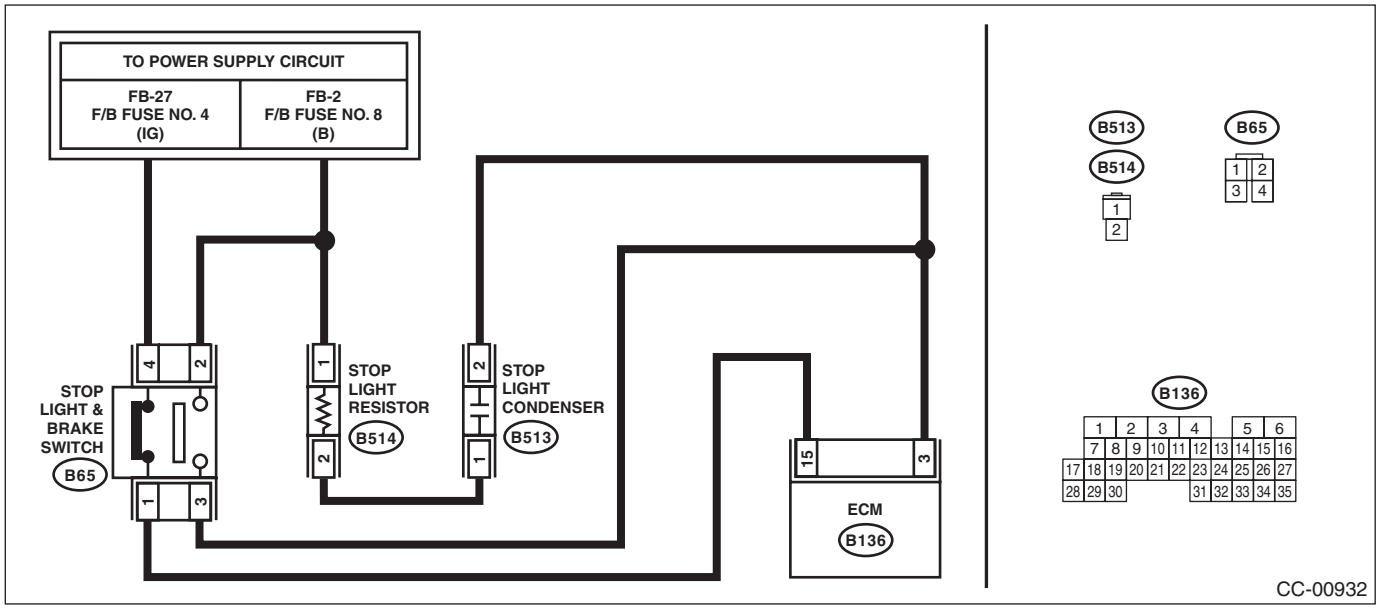
- 2.5 L model

Cruise control system <Ref. to WI-108, 2.5 L MODEL, WIRING DIAGRAM, Cruise Control System.>



- 3.6 L model

Cruise control system <Ref. to WI-111, 3.6 L MODEL, WIRING DIAGRAM, Cruise Control System.>



	Step	Check	Yes	No
1	**CHECK STOP LIGHT & BRAKE SWITCH.** Check the stop light & brake switch. <Ref. to CC-13, Stop Light & Brake Switch.>	Is the stop light & brake switch and installation position OK?	Go to step **2**.	Replace the stop light & brake switch. Or adjust the installation position.

	Step	Check	Yes	No
2	**CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the stop light & brake switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	• Check fuse No. 8 (in fuse & relay box). • Check for open or short in the harness between stop light & brake switch and fuse & relay box.
3	**CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT.** Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	• Check fuse No. 4 (in fuse & relay box). • Check for open or short in the harness between stop light & brake switch and fuse & relay box.
4	**CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of ECM. 3) Measure the resistance between ECM harness connector terminal and stop light & brake switch harness connector terminal. ***Connector & terminal*** ***2.5 L model*** ***(B137) No. 3 — (B65) No. 3:*** ***(B137) No. 7 — (B65) No. 1:*** ***3.6 L model*** ***(B136) No. 3 — (B65) No. 3:*** ***(B136) No. 15 — (B65) No. 1:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).> <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	Repair the harness.

C: 13

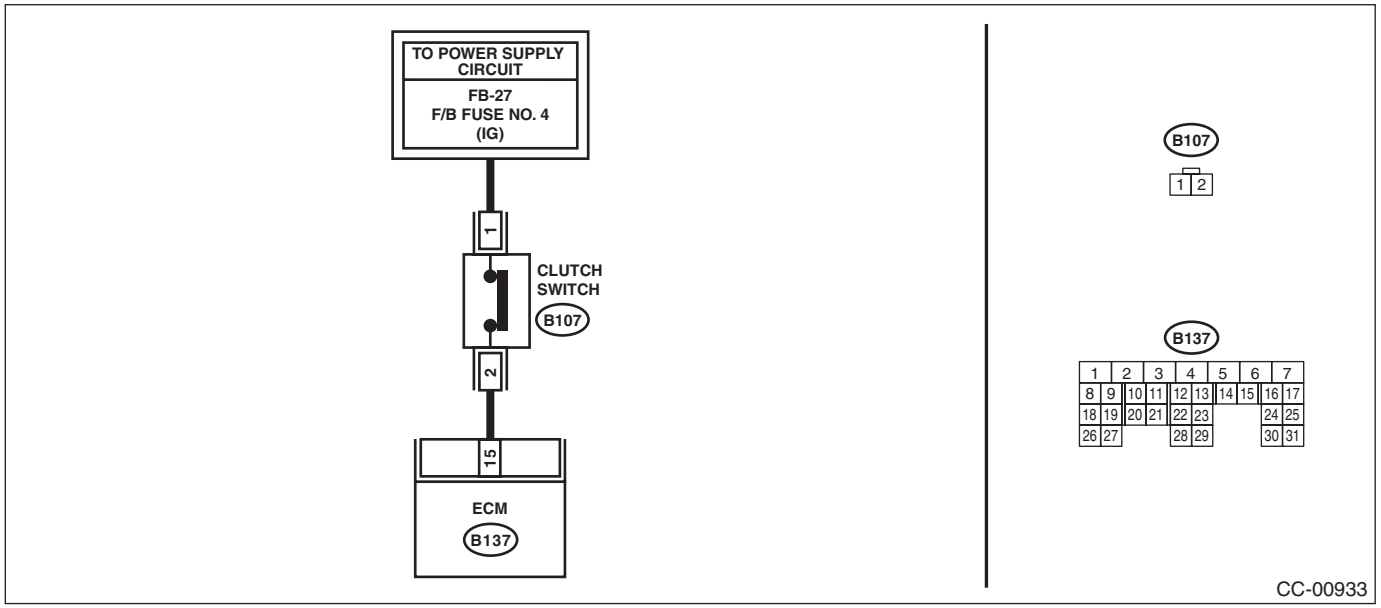
Detected when clutch pedal is depressed or malfunction related to clutch switch occurs.

TROUBLE SYMPTOM:

- Cruise control cannot be set.
- Cruise control cannot be released.

WIRING DIAGRAM:

Cruise Control System <Ref. to WI-108, WIRING DIAGRAM, Cruise Control System.>



Step		Check	Yes	No
1	**CHECK CLUTCH SWITCH.** Check the clutch switch. <Ref. to CC-14, Clutch Switch.>	Is the clutch switch and installation position OK?	Go to step **2**.	Replace the clutch switch. Or adjust the installation position.
2	**CHECK CLUTCH SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the clutch switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B107) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	• Check fuse No. 4 (in fuse & relay box). • Check open or shorted circuit of harness between clutch switch and fuse & relay box.
3	**CHECK CLUTCH SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of ECM. 3) Measure the resistance between clutch switch harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B107) No. 2 — (B137) No. 15:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).> <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	Repair the harness.

D: 14

Detected when select lever is set in the neutral position, or when malfunction related to neutral position switch occurs.

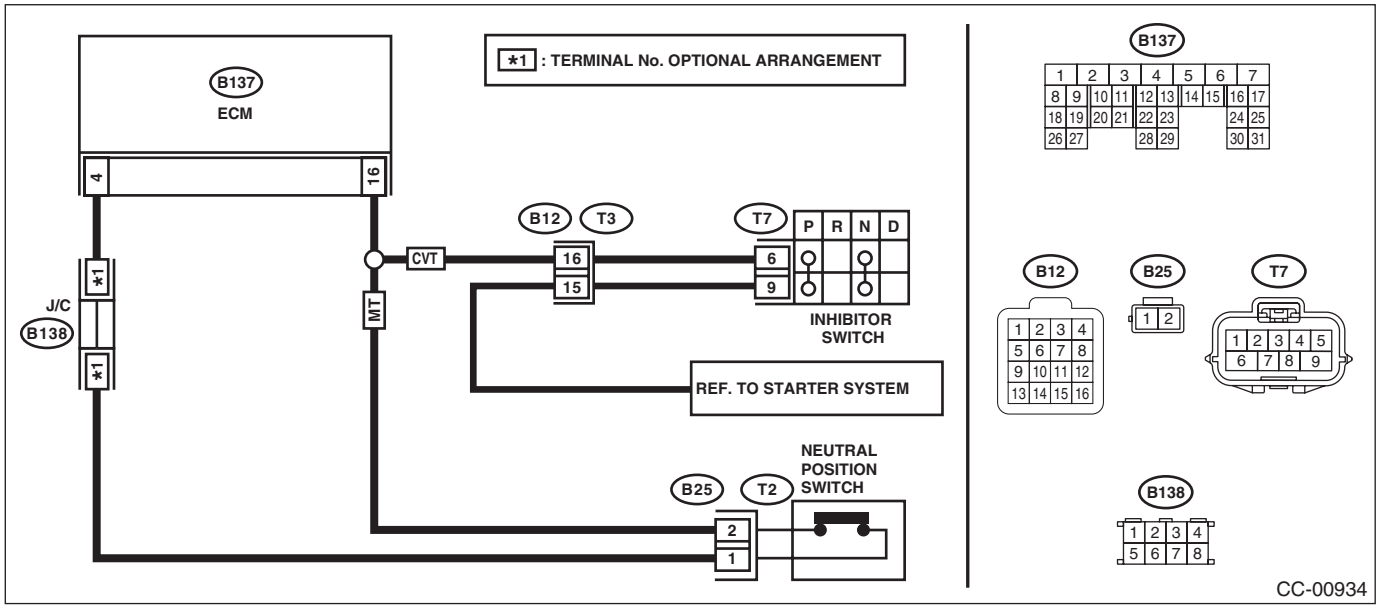
TROUBLE SYMPTOM:

Cruise control cannot be set.

WIRING DIAGRAM:

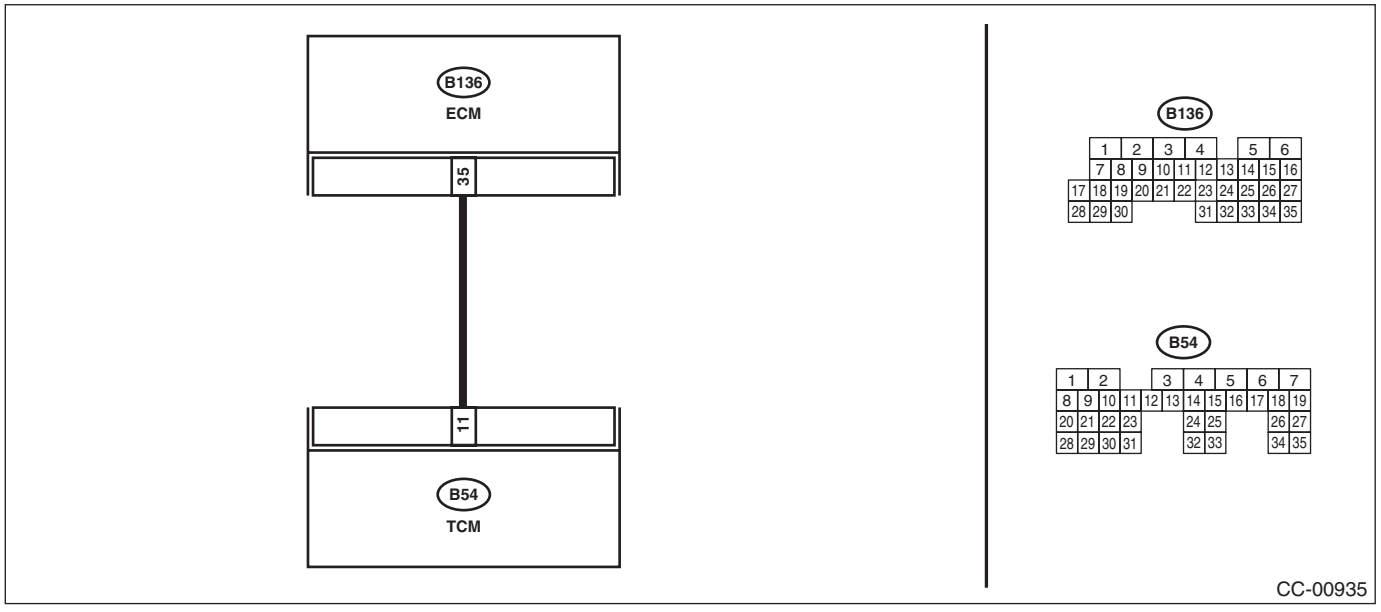
- 2.5 L model

Cruise control system <Ref. to WI-108, 2.5 L MODEL, WIRING DIAGRAM, Cruise Control System.>



- 3.6 L model

Cruise control system <Ref. to WI-111, 3.6 L MODEL, WIRING DIAGRAM, Cruise Control System.>



Step		Check	Yes	No
1	**CHECK SPECIFICATIONS OF CHECKED VEHICLE.** Check the vehicle destination and specification.	Is the vehicle 3.6 L model?	Go to step **2**.	Go to step **5**.

	Step	Check	Yes	No
2	**CHECK NEUTRAL POSITION SWITCH SIGNAL.** 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON and run the Subaru Select Monitor. 3) Select {Engine Control System} from the main menu. 4) Then, select the {Current Data Display & Save}. 5) Shift the select lever to "P" or "N" range, and check the signal of the neutral position switch.	If the select lever is in the "P" or the "N" range, is the Subaru Select Monitor Display ON? Or, if in a range other than "P" or "N", is the Subaru Select Monitor display OFF?	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).>	Go to step **3**.
3	**CHECK TCM OUTPUT VOLTAGE.** 1) Turn the ignition switch to ON. 2) Measure the voltage between TCM harness connector terminal and chassis ground. ***Connector & terminal*** ***(B54) No. 11 (+) — Chassis ground (–):***	If the select lever is in a range other than "P" or "N" ranges, is the voltage 10 V or more? Or, if in "P" or "N", is the voltage less than 1 V?	Go to step **4**.	Check the TCM. <Ref. to 5AT(diag)-2, Basic Diagnostic Procedure.>
4	**CHECK HARNESS BETWEEN TCM AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from TCM and ECM. 3) Measure the resistance between TCM harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B136) No. 35 — (B54) No. 11:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).>	Repair the wiring harness.
5	**CHECK TRANSMISSION TYPE.**	Is the transmission type CVT?	Go to step **6**.	Go to step **9**. (MT model)
6	**CHECK INHIBITOR SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the inhibitor switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(T7) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **7**.	Check for open or short in the harness between inhibitor switch and ECM.
7	**CHECK INHIBITOR SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the starter motor harness connector. 3) Measure the resistance between inhibitor switch harness connector terminal and starter motor. ***Connector & terminal*** ***(T7) No. 9 — Starter motor:***	Is the resistance less than 10 Ω?	Go to step **8**.	Repair the harness.
8	**CHECK INHIBITOR SWITCH.** Remove and check the inhibitor switch. <Ref. to CC-15, Inhibitor Switch.>	Is the inhibitor switch working normal?	Replace the ECM. <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	Replace the inhibitor switch.

	Step	Check	Yes	No
9	**CHECK NEUTRAL POSITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the neutral position switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B25) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **10**.	Check for open or short in the harness between neutral position switch and ECM.
10	**CHECK NEUTRAL POSITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure resistance between harness connector terminal of neutral position switch and chassis ground. ***Connector & terminal*** ***(B25) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **11**.	Repair the harness.
11	**CHECK NEUTRAL POSITION SWITCH.** Remove and check the neutral position switch. <Ref. to CC-17, Neutral Position Switch.>	Is the neutral position switch OK?	Replace the ECM. <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	Replace the neutral position switch.

E: 15

Detected when CANCEL switch is pressed or malfunction related to CRUISE switch occurs.

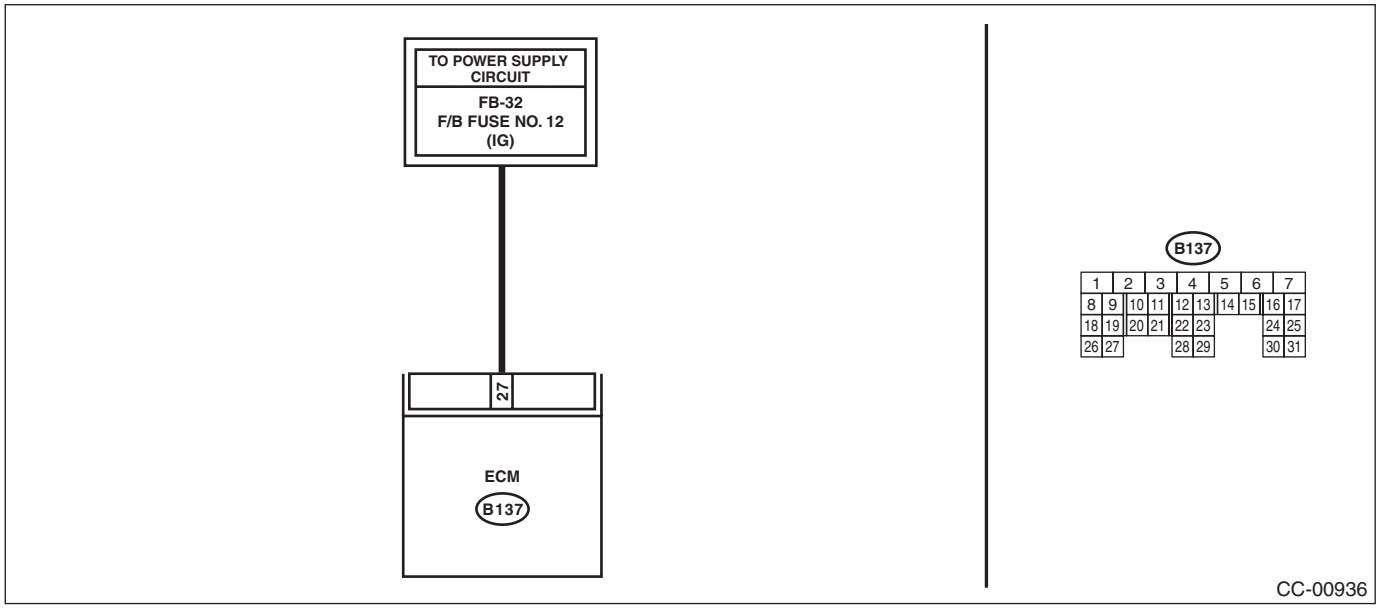
TROUBLE SYMPTOM:

- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

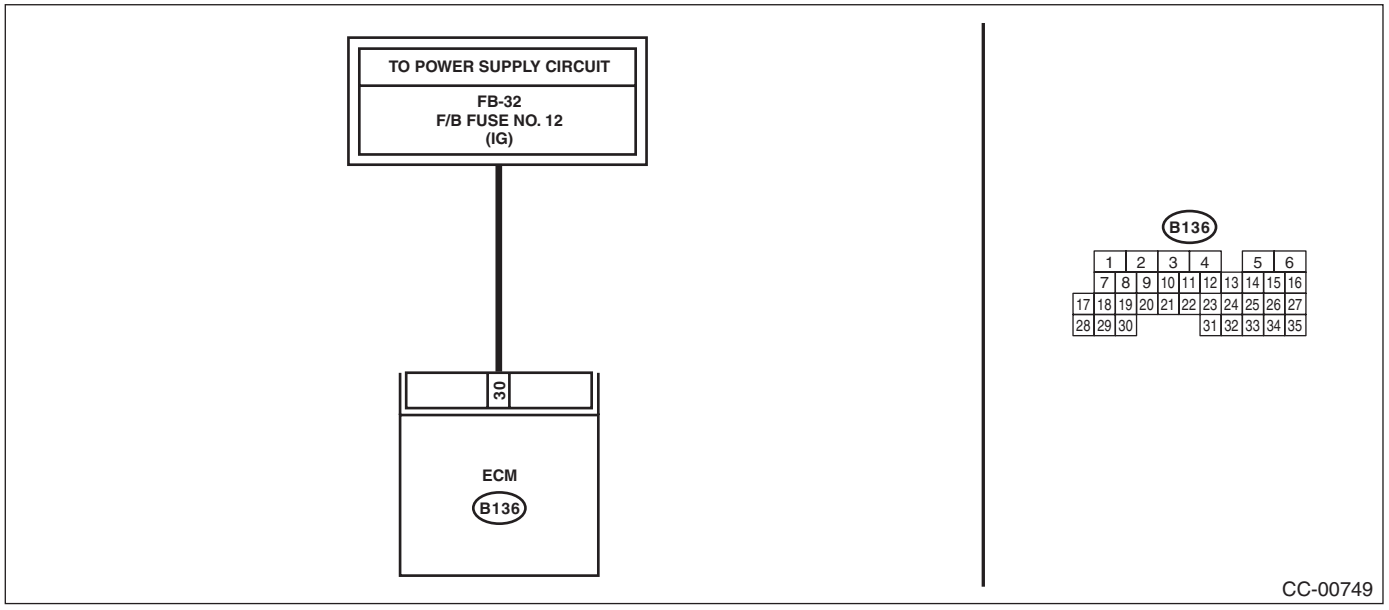
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>

F: 16

Detected when ignition switch is turned to OFF or malfunction related to the ignition switch occurs.
TROUBLE SYMPTOM:
Cruise control cannot be set.
WIRING DIAGRAM:
• 2.5 L model
Cruise control system <Ref. to WI-108, 2.5 L MODEL, WIRING DIAGRAM, Cruise Control System.>



• 3.6 L model
Cruise control system <Ref. to WI-108, 2.5 L MODEL, WIRING DIAGRAM, Cruise Control System.>



	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***2.5 L model*** ***(B137) No. 27 (+) — Chassis ground (–):*** ***3.6 L model*** ***(B136) No. 30 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check for poor contact of ECM connector.	• Check fuse No. 12 (in fuse & relay box). • Check the harness for open or short circuit between ignition switch and ECM.

G: 21

Cruise control command switch malfunction is detected.
TROUBLE SYMPTOM:
- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>

H: 22

Malfunction related to vehicle speed sensor is detected.
DIAGNOSIS:
Open or shorted circuit in vehicle speed sensor system.
TROUBLE SYMPTOM:
Cruise control cannot be set. (Cancelled immediately.)

	Step	Check	Yes	No
1	**CHECK ABS OR VDC WARNING LIGHT.** 1) Turn the ignition switch to ON. 2) After the initial operation of combination meter is completed, check if ABS or VDC warning light continues to illuminate.	Does the warning light continue to illuminate?	Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **2**.
2	**CHECK DTC OF LAN COMMUNICATION CIRCUIT.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC displayed?	Perform inspection according to DTC.	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).> <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>

I: 24

Malfunction in cruise control-related switch is detected.
TROUBLE SYMPTOM:
- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>

J: 31

Engine speed signal malfunction is detected.
Abnormal increase of engine speed is detected.
Gear is placed in 1st or Reverse position.
After driving at the 2nd gear position or higher, perform the cruise setting again. If a cancel code is not detected, it is normal.

K: 32

This DTC is detected out of vehicle speed range.
Increase vehicle speed high enough to allow the cruise control to function, and then perform setting operation again.
If cancel code is still detected after setting cruise again, perform the diagnosis for DTC 22.
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>

L: 34

The vehicle has been driven at a speed higher than set speed for a long time (approximately 10 minutes) during cruise driving.
This cancel code is detected when driving for a long period of time at a speed higher than appropriate for cruise control setting by operating the accelerator pedal.
Perform the cruise control setting operation again. If the cancel code is not detected, it is normal.

M: 35

Detected when it is impossible to perform the vehicle speed feedback.
Set vehicle speed cannot be kept for some reasons (steep uphill, unreleased parking brake, etc.) during cruise driving.
Cancel code is detected when driving conditions are not suitable for cruise control.
Perform cruise set operation again after clearing the possible cause.

N: 41

VDC/TCS/EPB is operated.
Vehicle dynamics control (VDC) or TCS/EPB is operated during cruise driving or cruise setting.
<Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

O: 43

Malfunction of ABS/VDC is detected.
VDC malfunction is detected during cruise driving or cruise setting.
<Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

P: 44

Body integrated unit malfunction is detected.
Body integrated unit system malfunction is detected during cruise driving or cruise setting.
<Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Q: 45

Malfunction of the combination meter is detected.
Combination meter malfunction is detected during cruise driving or cruise setting.
<Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

R: 49

Automatic transmission malfunction is detected.
Automatic transmission malfunction is detected during cruise driving or cruise setting. <Ref. to 5AT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to CVT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

S: 61

Malfunction in the stop light & brake switch is detected.
TROUBLE SYMPTOM:
- Cruise control cannot be set.
- Cruise control cannot be released.

Refer to DTC 12 for diagnostic procedure.
<Ref. to CC(diag)-18, 12, Diagnostic Procedure with Cancel Code.>

T: 62

Neutral position switch malfunction is detected.
TROUBLE SYMPTOM:
Cruise control cannot be set.
Refer to DTC 14 for diagnostic procedure.
<Ref. to CC(diag)-21, 14, Diagnostic Procedure with Cancel Code.>

U: 63

Malfunction of vehicle speed signal variation is detected.
TROUBLE SYMPTOM:
Cruise control cannot be set. (Cancelled immediately.)
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>

V: 64

Malfunction related to engine is detected.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H4DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

W: 65

Cruise control command switch malfunction is detected.
While the command switch is pressed ON for a long time (approximately two minutes), stuck ON condition is detected.
TROUBLE SYMPTOM:
- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>

X: 66

Cruise control calculation malfunction is detected.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H4DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

IMMOBILIZER (DIAGNOSTICS)

IM(diag)

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1. General Description

A: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Adjust parts to the given specifications.
• Connect the connectors securely during reassembly.
• After reassembly, make sure functional parts operate smoothly.
• Yellow connectors and harnesses with yellow tapes around them are the connectors and harnesses for the airbag system. Using a tester above such circuits may cause malfunction of airbag system. Follow the cautions for the airbag system in this case. <Ref. to AB-10, CAUTION, General Description.>
• Be careful not to damage the airbag system wiring harness when servicing electrical parts and switches.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM& H/U).>

B: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Steering wheel puller	Used for removing the steering wheel.

2. Audio System

A: WIRING DIAGRAM

1. AUDIO

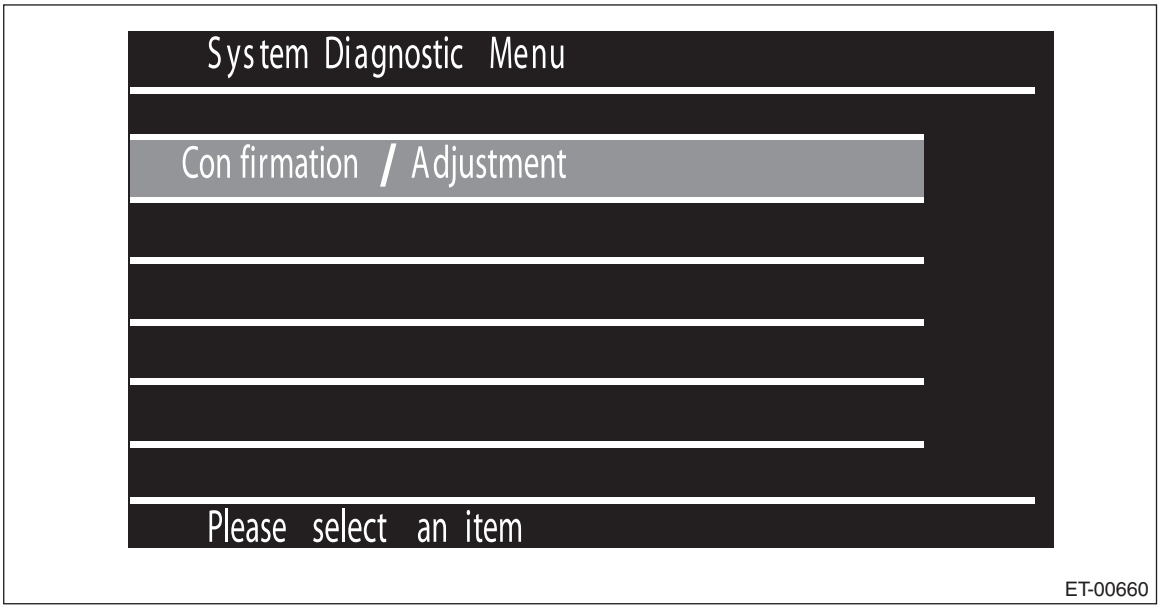
Refer to “Audio System” in the wiring diagram. <Ref. to WI-67, WIRING DIAGRAM, Audio System.>

B: INSPECTION

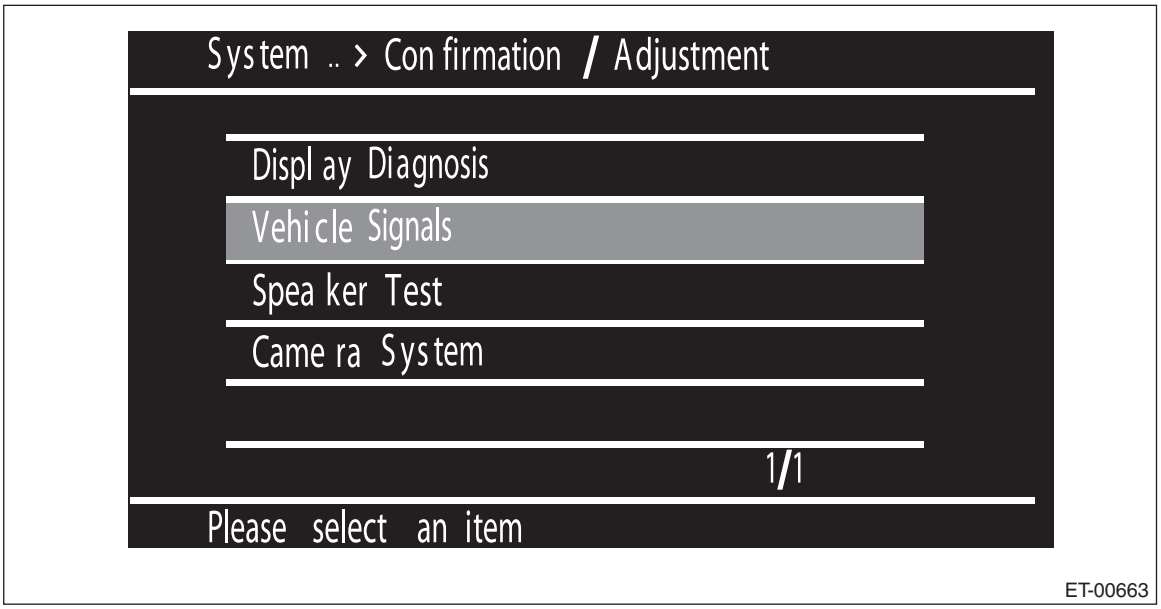
Symptoms	Repair order
No power coming in. (No display and no sound from speakers)	1. Check the fuse and power supply for audio. 2. Check the audio ground. 3. Remove the audio and repair them.
A specific speaker does not operate.	1. Check the speaker. 2. Check the output circuit between audio and speaker.
Audio generates noise with engine running.	1. Check the audio ground. 2. Check the generator. 3. Check the ignition coil. 4. Remove the audio and repair them.
Volume is low in AM and FM modes or interference noise occurs.	1. Check the antenna. 2. Check the antenna amplifier. 3. Check the rear window defogger. 4. Check the noise suppressor. 5. Check the audio ground. 6. Remove the audio and repair them.
Rear window defogger generates noise when it operate.	1. Check the rear window defogger.

1. CHECK EACH VEHICLE SIGNAL

1) With the ignition switch ON and audio OFF, turn the VOLUME dial by 40 clicks while pressing the preset 1 key.
2) When «System Diagnostic Menu» is displayed, select {Confirmation/Adjustment} by SCROLL/TUNE dial, then press ENTER/SETTING key (SCROLL/TUNE dial).

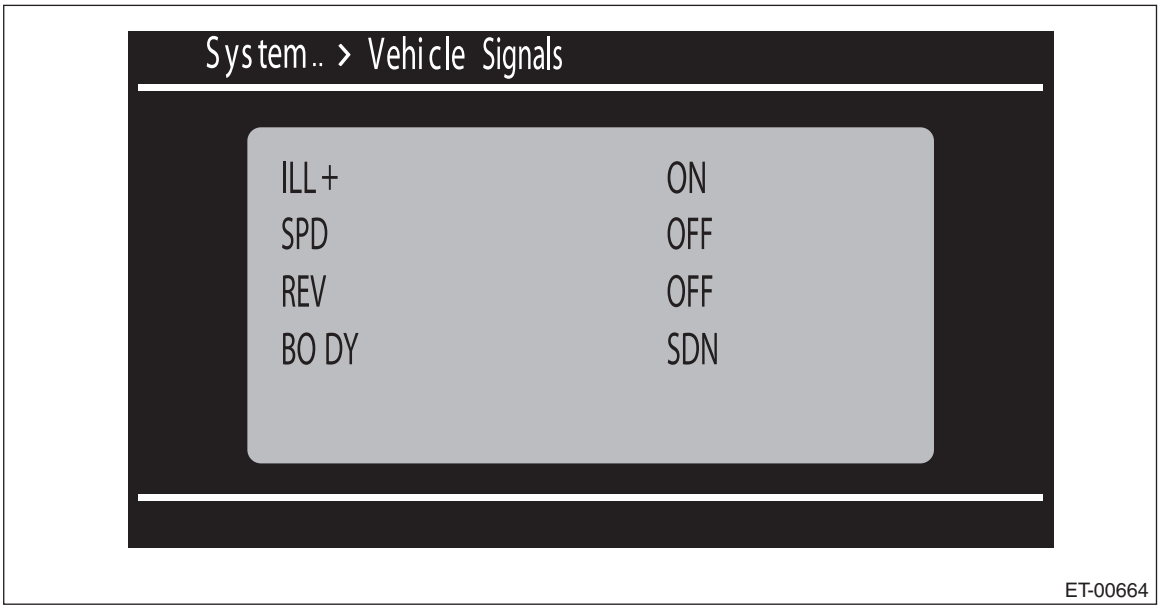


3) When «System.. > Confirmation/Adjustment» is displayed, select {Vehicle Signals} by SCROLL/TUNE dial, then press ENTER/SETTING key (SCROLL/TUNE dial).



- **Check illumination**

When the light switch is turned ON, make sure that “ON” lights in ILL+ and then the screen becomes dim.

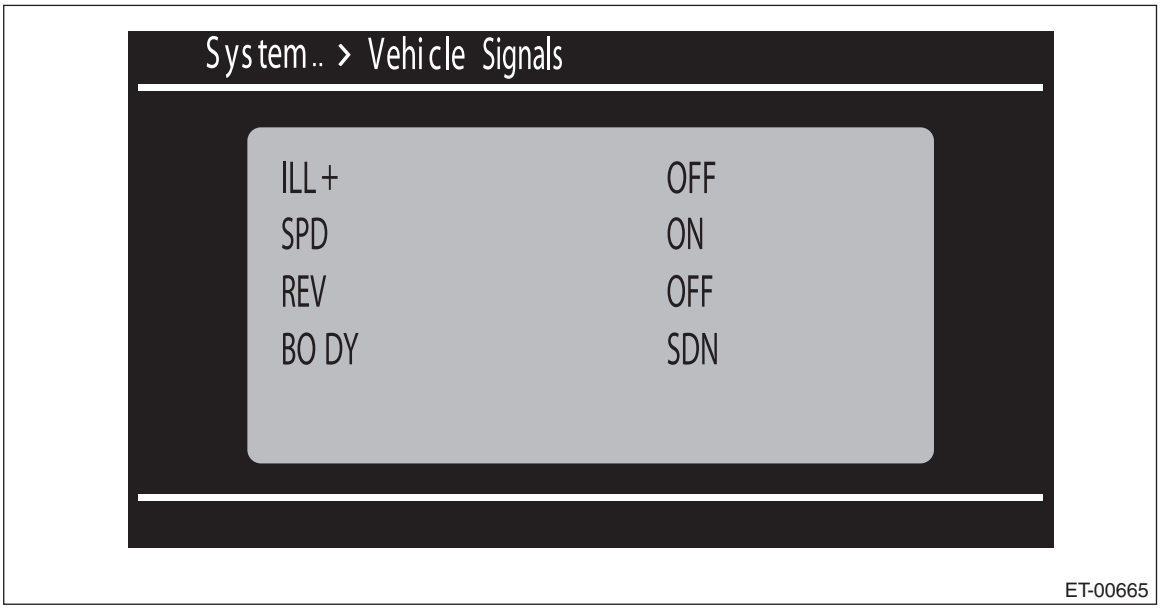


ON: Normal.
OFF: Abnormal. Check the signal line connector. If there are no problems, the unit could be faulty.

- **Check speed sensor**

NOTE:
- Before starting inspections, check the safety around the vehicle.
- Lift up the vehicle as necessary.
- When the diagnostic trouble code is input in the VDCCM, perform the Clear Memory operation.

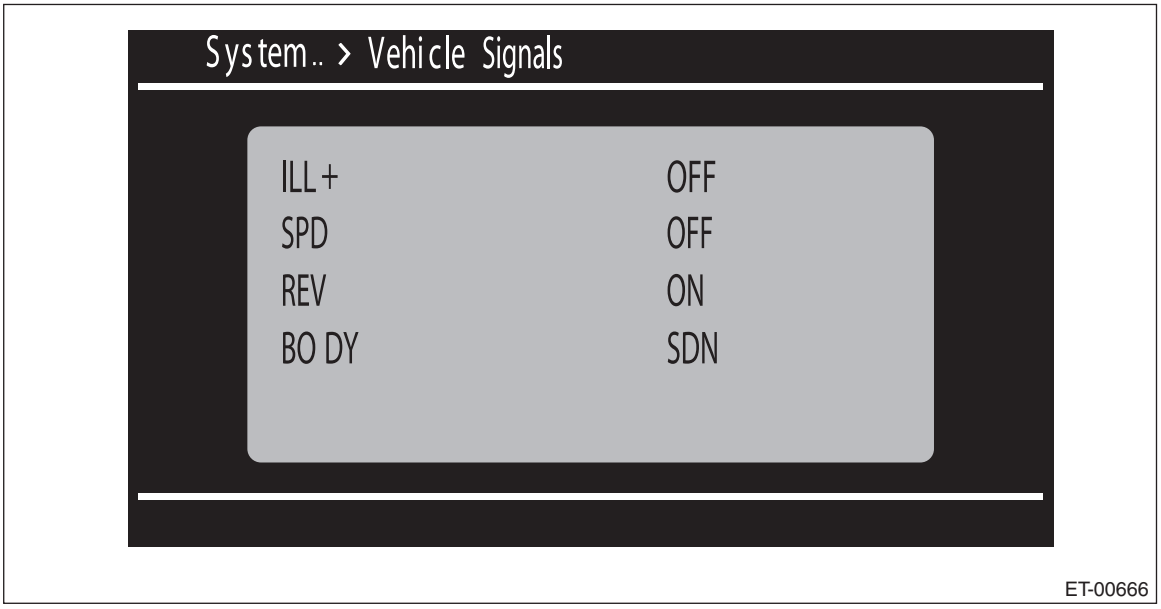
1) Move the vehicle slowly 2 to 3 meters (6.6 to 9.8 ft).
2) Check that “ON” is displayed in SPD.



ON: Normal.
OFF: Abnormal. Check the signal line connector. If there are no problems, the unit could be faulty.

- **Check back sensor**

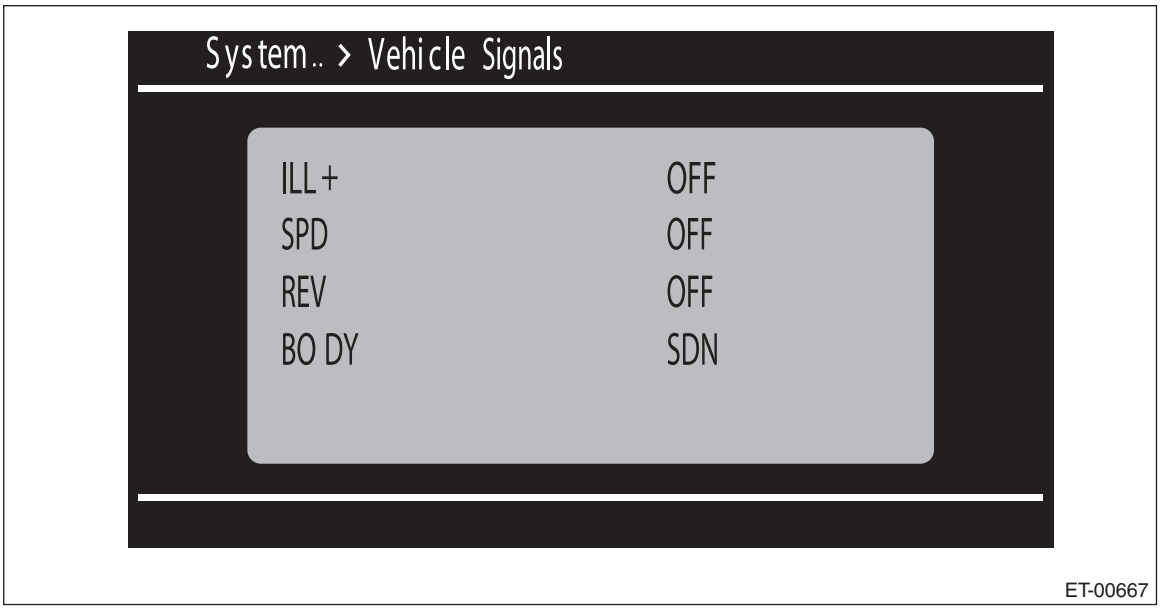
1) Turn the parking brake switch to ON and depress the brake pedal, then put the gear in reverse.
2) Make sure that “ON” is displayed in REV.



ON: Normal.
OFF: Abnormal. Check the signal line connector. If there are no problems, the unit could be faulty.

- **Check vehicle setting**

1) Check that “SDN” or “WGN” is displayed in BODY.



SDN: sedan model
WGN: OUTBACK model

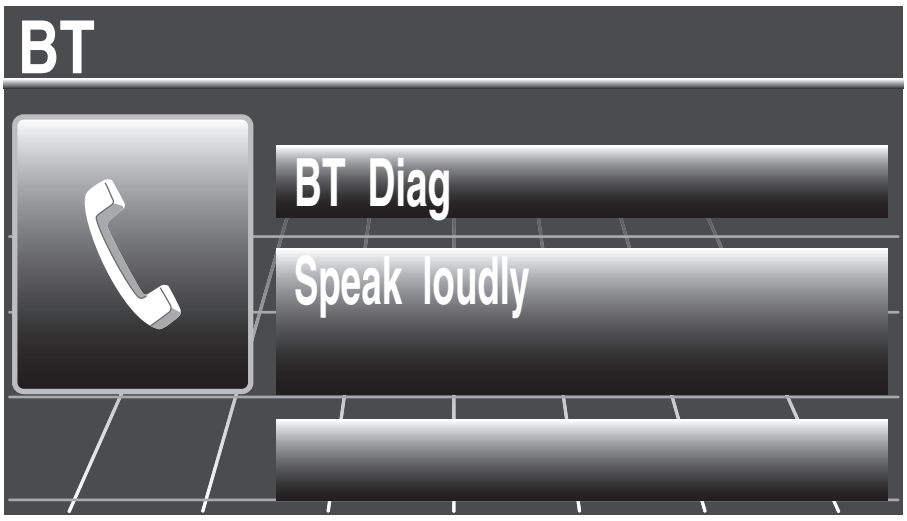
2. CHECK MICROPHONE CONNECTION

Perform the inspection mode of the microphone connection.
1) When “HOOK OFF” button of the satellite switch is pressed with telephone unregistered, the screen switches to «BT» and “Welcome” is displayed.



2) While “Welcome” is displayed, press “+” → “HOOK OFF” → “+” → “HOOK OFF” → “+” continuously in 5 seconds.

3) After “Speak loudly” is displayed, the inspection mode of the microphone connection is started.



ET-00679

4) When the inspection mode of the microphone connection is completed, the inspection result is displayed.
MIC: good: normal
MIC: CHECK: There is something wrong with the connection status of the microphone. Check the following items.
- Connection status of the microphone
- Change the microphone or audio unit and check the microphone connection again then replace the faulty part.

C: NOTE

For procedure of each component in the audio system, refer to the respective sections.
- Audio unit: <Ref. to ET-11, Audio.>
- Power amplifier: <Ref. to ET-20, Power Amplifier.>
- Front side speaker: <Ref. to ET-13, FRONT SIDE SPEAKER, REMOVAL, Front Speaker.>
- Front door speaker: <Ref. to ET-14, FRONT DOOR SPEAKER, REMOVAL, Front Speaker.>
- Rear door speaker: <Ref. to ET-16, Rear Speaker.>
- Woofer: <Ref. to ET-18, Woofer.>
- Antenna: <Ref. to ET-21, Antenna.>
- Noise suppressor: <Ref. to ET-35, Noise Suppressor.>
- Steering satellite switch: <Ref. to ET-37, Steering Satellite Switch.>
- XM satellite radio antenna: <Ref. to ET-27, XM SATELLITE RADIO ANTENNA, REMOVAL, Antenna.>

3. Navigation System

A: WIRING DIAGRAM

Refer to “Navigation System” in the wiring diagram. <Ref. to WI-219, WIRING DIAGRAM, Navigation System.>

B: INSPECTION

NOTE:
If no problems are found in “CHECK NAVIGATION OPERATION”, “CHECK EACH CONNECTION” and “CHECK EACH VEHICLE SIGNAL” as described below, check the navigation system circuit. <Ref. to WI-219, WIRING DIAGRAM, Navigation System.>

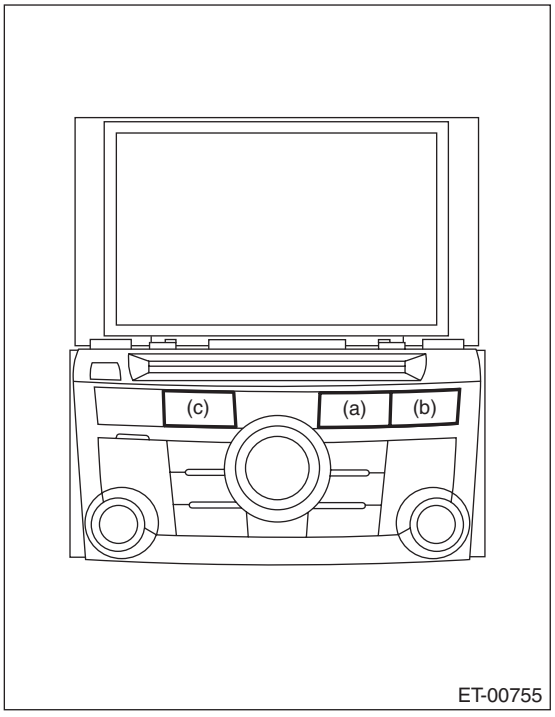
1. CHECK NAVIGATION OPERATION

Start the engine and check that the opening screen is displayed.
Standard: Opening screen is displayed.
OK: Normal
NG: If the screen is not displayed, check the following items.
- The map data (SD card) is set in the navigation system unit.
- Check the connection of the power supply connector at the backside of the navigation unit. If wire connection is correct or has got repaired, check again that the opening screen is displayed.

If it is not displayed at this time, it indicates the navigation unit trouble.

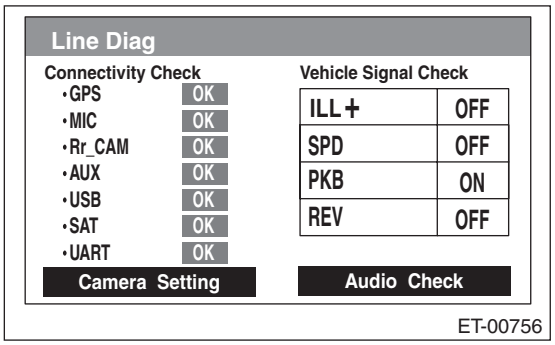
2. CHECK EACH CONNECTION

1) With the main power OFF, press and hold the button (c) for 3 seconds or more while pressing the buttons (a) and (b) simultaneously.



NOTE:
Pressing the button (a) for 3 seconds or more, or turning the ignition switch from ACC OFF to ON position can exit the diagnostic mode.
2) Line Diag screen is displayed.

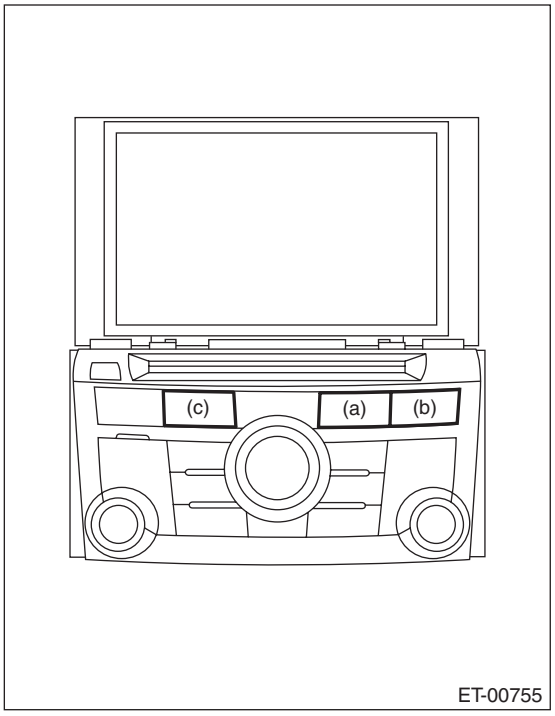
3) Check the connection status for each item listed in “Connectivity Check” displayed on the left of the screen.



OK: Each connection device is connected properly.
NG: No connection or abnormal connection is detected.
4) Check the connection status of the connector. If there are no problems, the connection device or unit could be faulty.

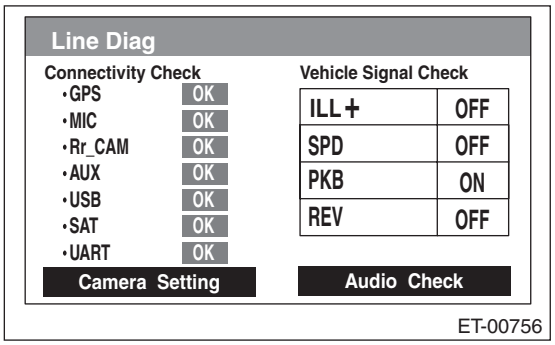
3. CHECK EACH VEHICLE SIGNAL

1) With the main power OFF, press and hold the button (c) for 3 seconds or more while pressing the buttons (a) and (b) simultaneously.



NOTE:
Pressing the button (a) for 3 seconds or more, or turning the ignition switch from ACC OFF to ON position can exit the diagnostic mode.
2) Line Diag screen is displayed.

3) Check the connection status for each item listed in “Vehicle Signal Check” displayed on the right of the screen.



• Check illumination

NOTE:
Before starting inspections, turn the ignition switch to ON.
1) Turn the lighting switch to level 1.
Make sure that the bright switch is not turned ON at this time.
2) Make sure that “ON” lights in ILL+ and then the screen becomes dim.
ON: Normal
OFF: Abnormal Check the signal line connector. If there are no problems, the unit could be faulty.

• Check speed sensor

NOTE:
- Before starting inspections, check the safety around the vehicle.
- Lift up the vehicle as necessary.
- When the diagnostic trouble code is input in the VDC CM, perform the Clear Memory operation.

1) Drive the vehicle at 9 km/h (6 MPH) or more.
2) Check that “ON” is displayed in SPD.
ON: Normal
OFF: Vehicle speed is less than 7 km/h (4 MPH), or malfunction is detected in the signal line. Check the signal line connector. If there are no problems, the unit could be faulty.

• Check parking brake signal

1) Pull parking brake lever.
2) Check that “ON” is displayed in PKB.
ON: Normal
OFF: Abnormal Check the signal line connector. If there are no problems, the unit could be faulty.

• Check back sensor

NOTE:
Before starting inspections, check the safety around the rear end of the vehicle and then turn the ignition switch to ON.
1) Pull the parking brake and depress the brake, then put the gear in reverse.
2) Make sure that “ON” is displayed in REV.
ON: Normal
OFF: Abnormal Check the signal line connector. If there are no problems, the unit could be faulty.

4. MESSAGE LIST

Refer to the owner’s manual for the navigation system.

C: NOTE

For procedure of each component in the navigation system, refer to the respective section.
- Navigation unit: <Ref. to ET-45, Navigation Body.>
- GPS antenna: <Ref. to ET-47, GPS Antenna.>

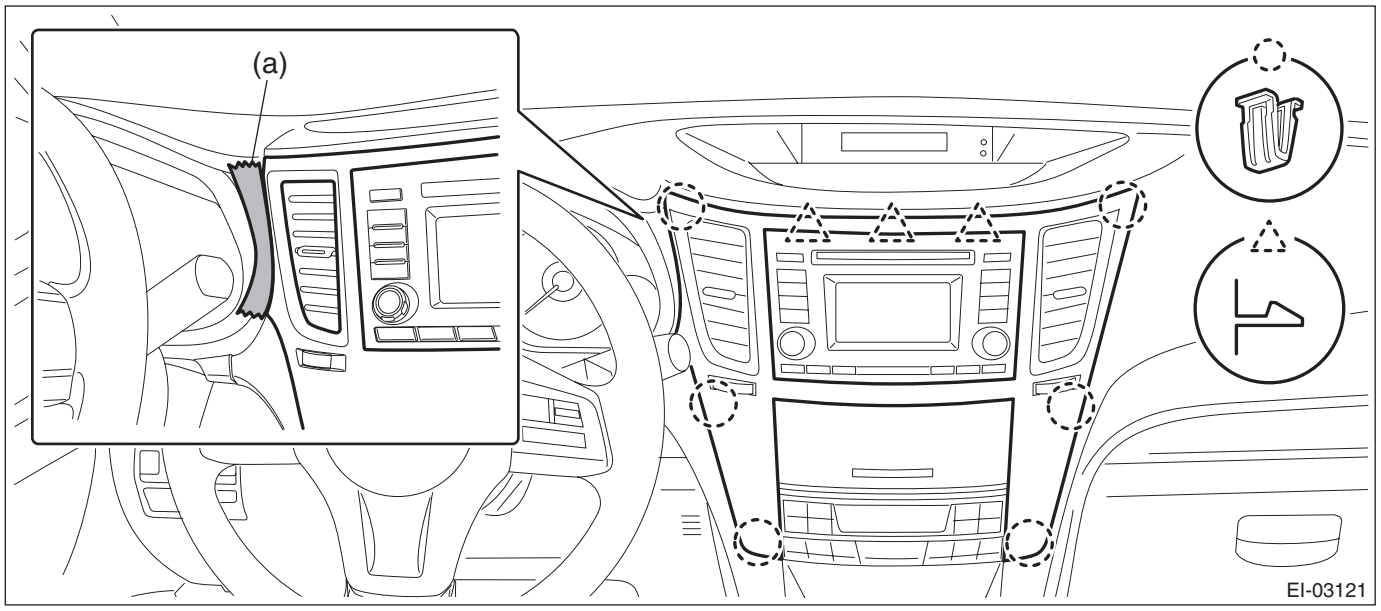
4. Audio

A: REMOVAL

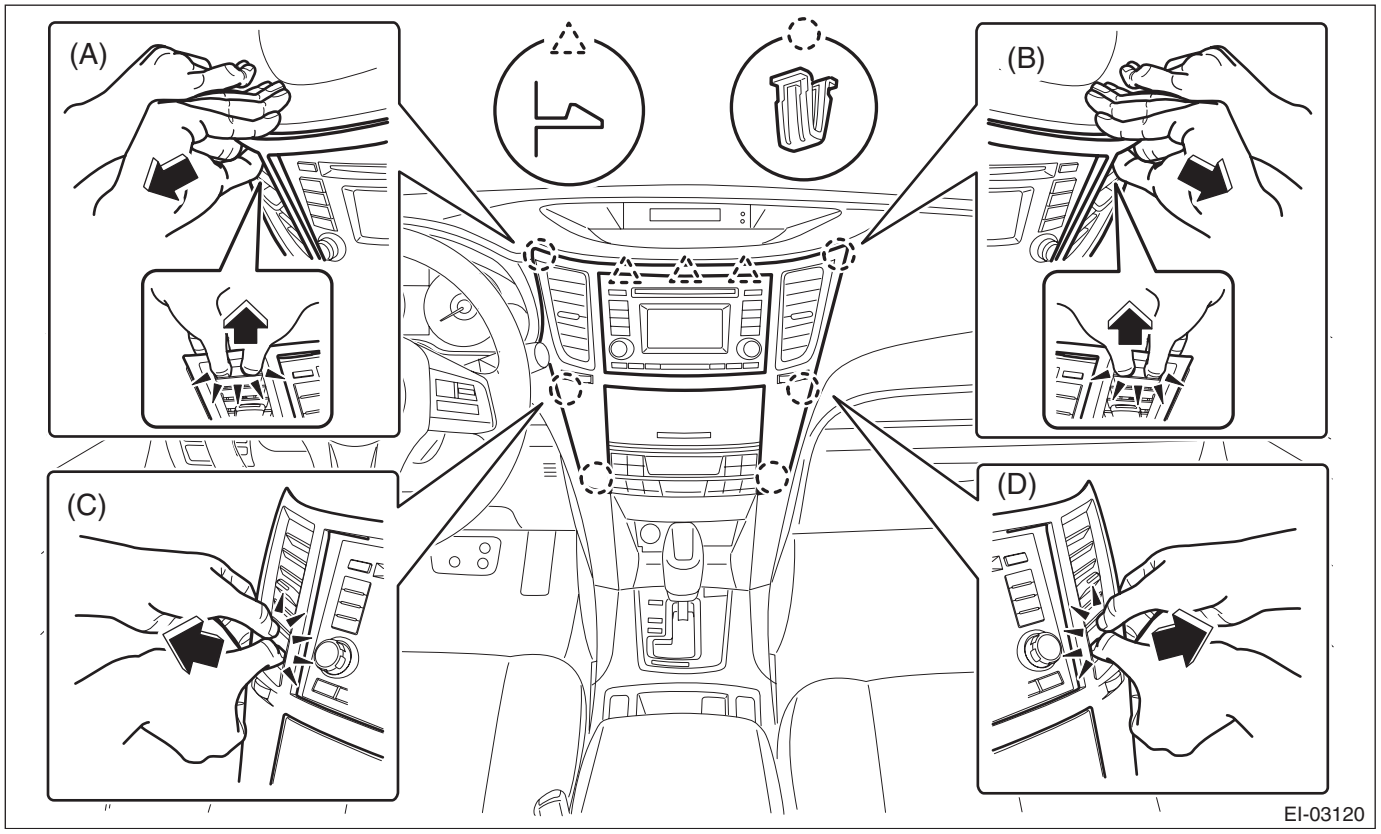
1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

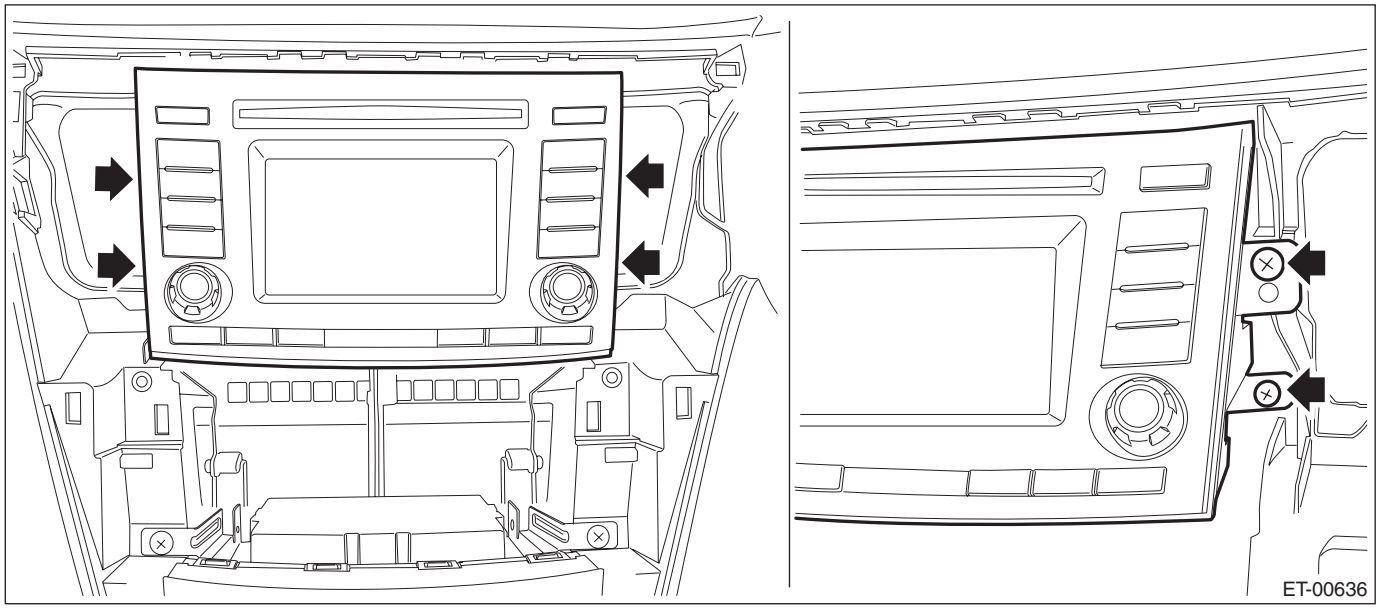
(1) Attach the protective tape (a) to the meter visor.



(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



3) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

5. Front Speaker

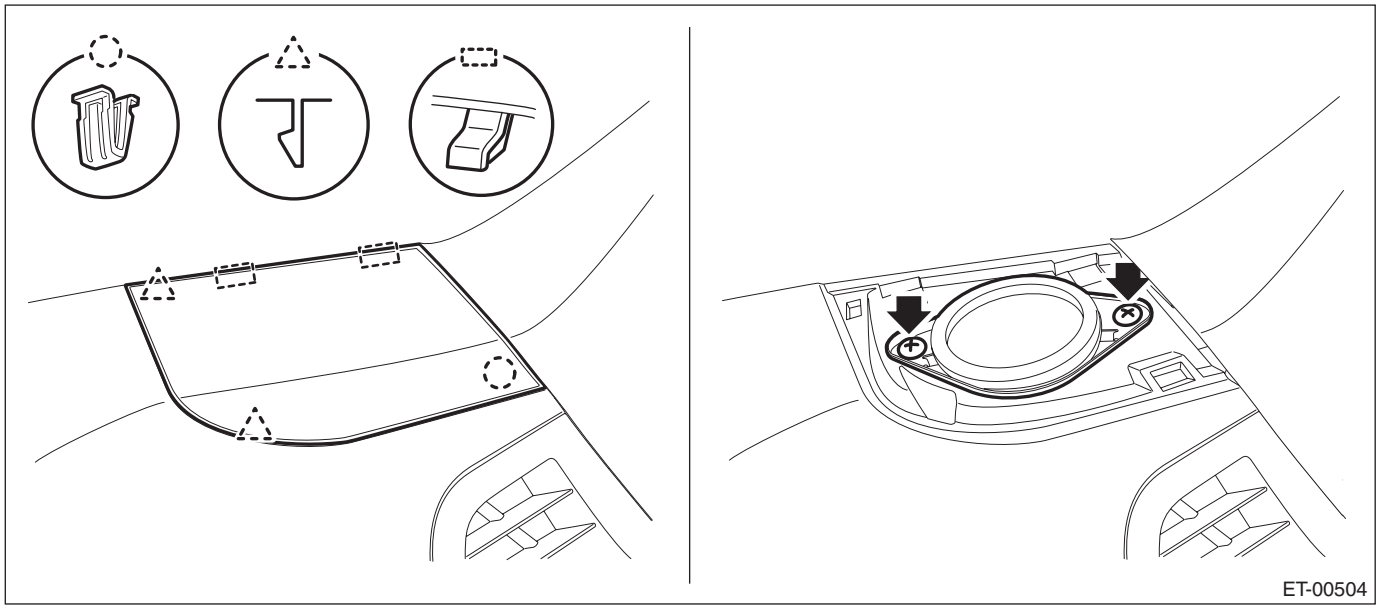
A: REMOVAL

1. FRONT SIDE SPEAKER

1) Disconnect the ground cable from battery.
2) Remove the front side speaker.
   (1) Release the clips and claws, then detach the speaker cover.

CAUTION:
Use a plastic clip remover for removal.
   (2) Remove the screws.

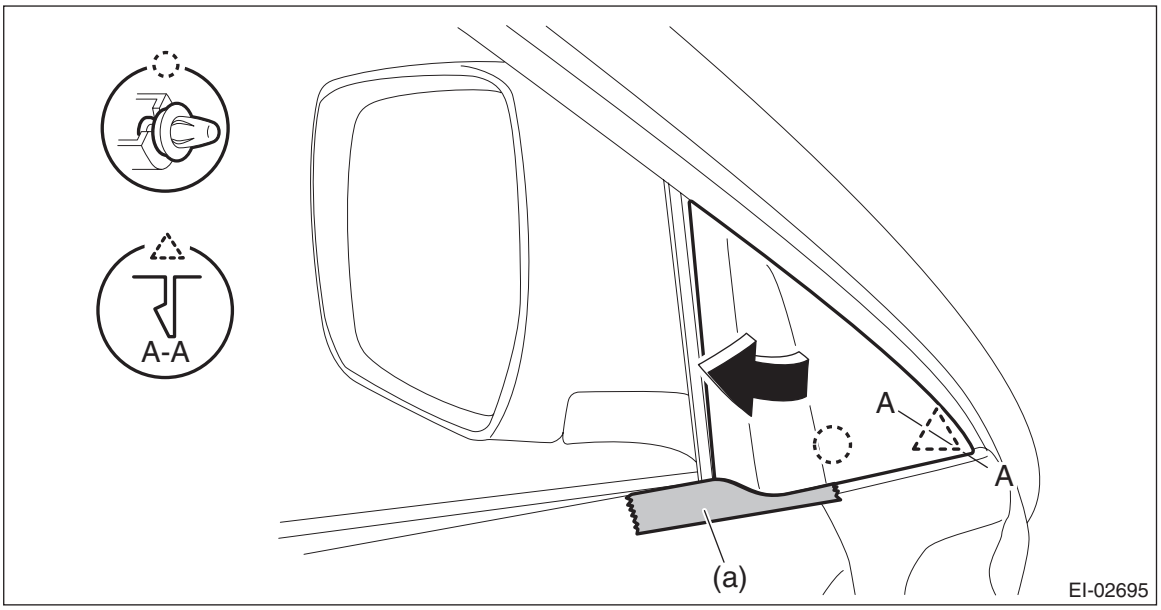
Preparation tool:
Stubby screwdriver
   (3) Disconnect the connector and remove the front side speaker assembly.



NOTE:
On the passenger's side, also disconnect the sunload sensor connector.

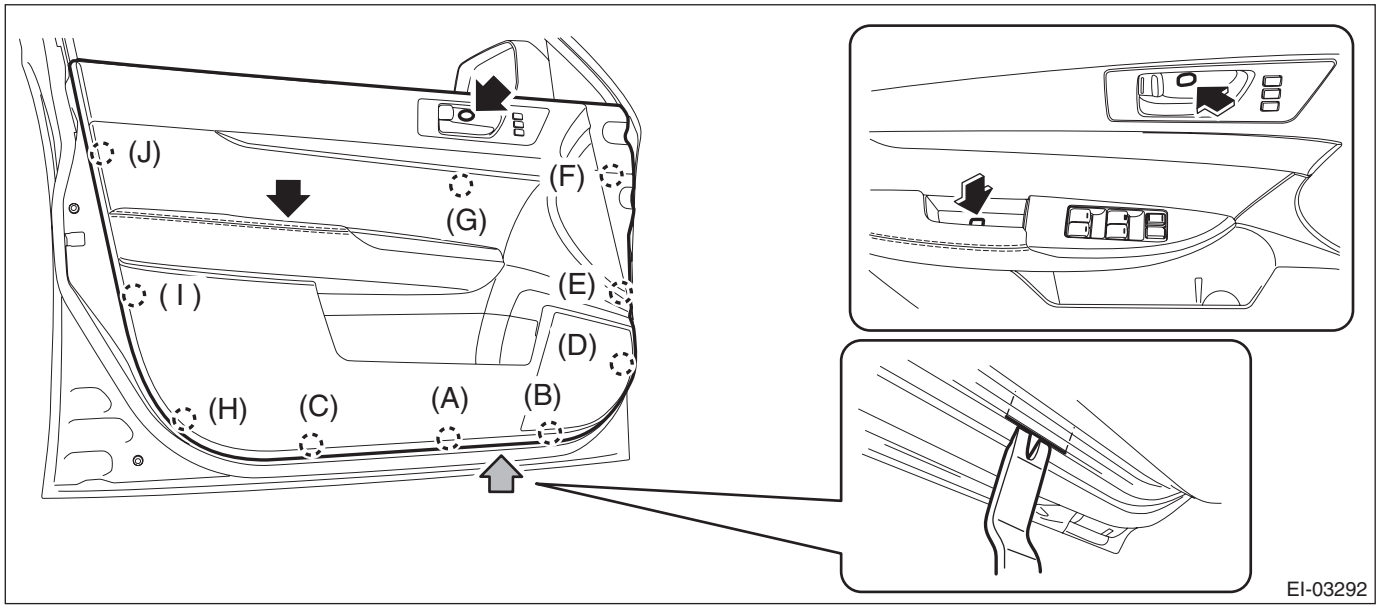
2. FRONT DOOR SPEAKER

1) Disconnect the ground cable from battery.
2) Remove the gusset cover.
   (1) Attach the protective tape (a) to the door trim.
   (2) Release the clips and claws, then detach the gusset cover.



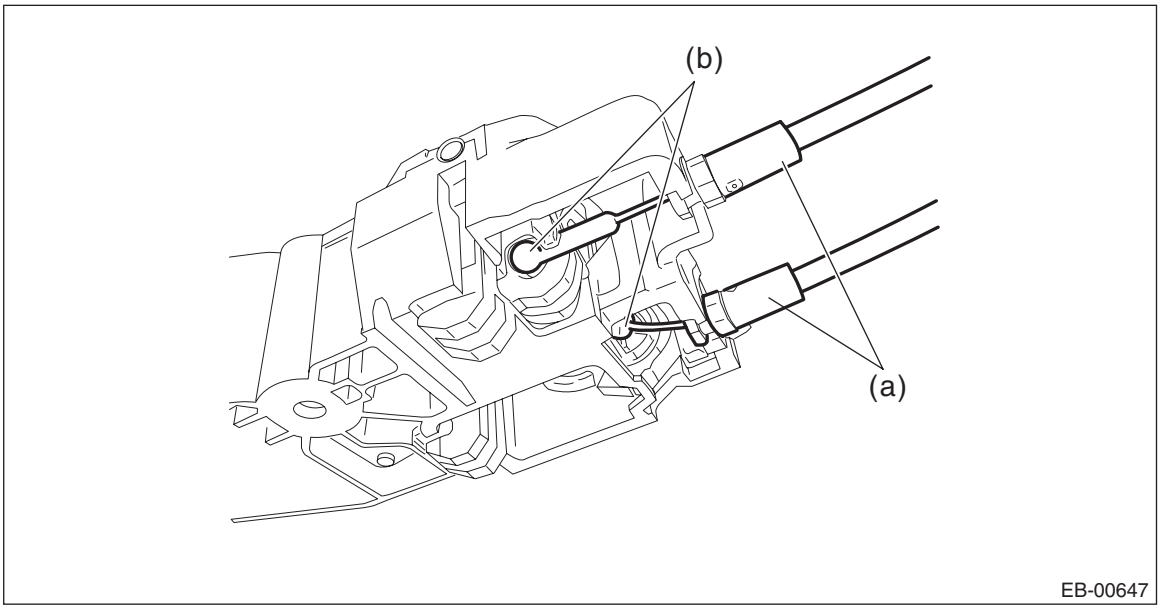
3) Remove the door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (J) and remove the door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.

(3) Remove the cables (a) and (b) from the cable holder of inner remote.

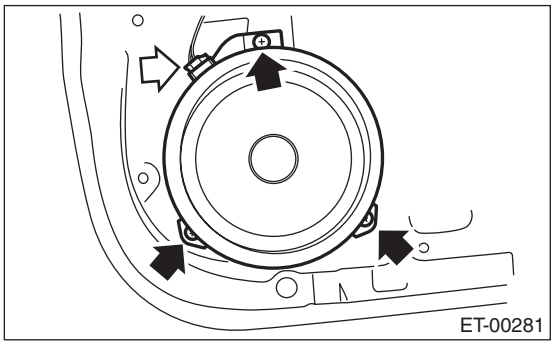


(4) Disconnect the harness connector and remove the door trim assembly.

4) Remove the front door speaker assembly.

(1) Remove the screws.

(2) Disconnect the harness connector and remove the front door speaker assembly.



B: INSTALLATION

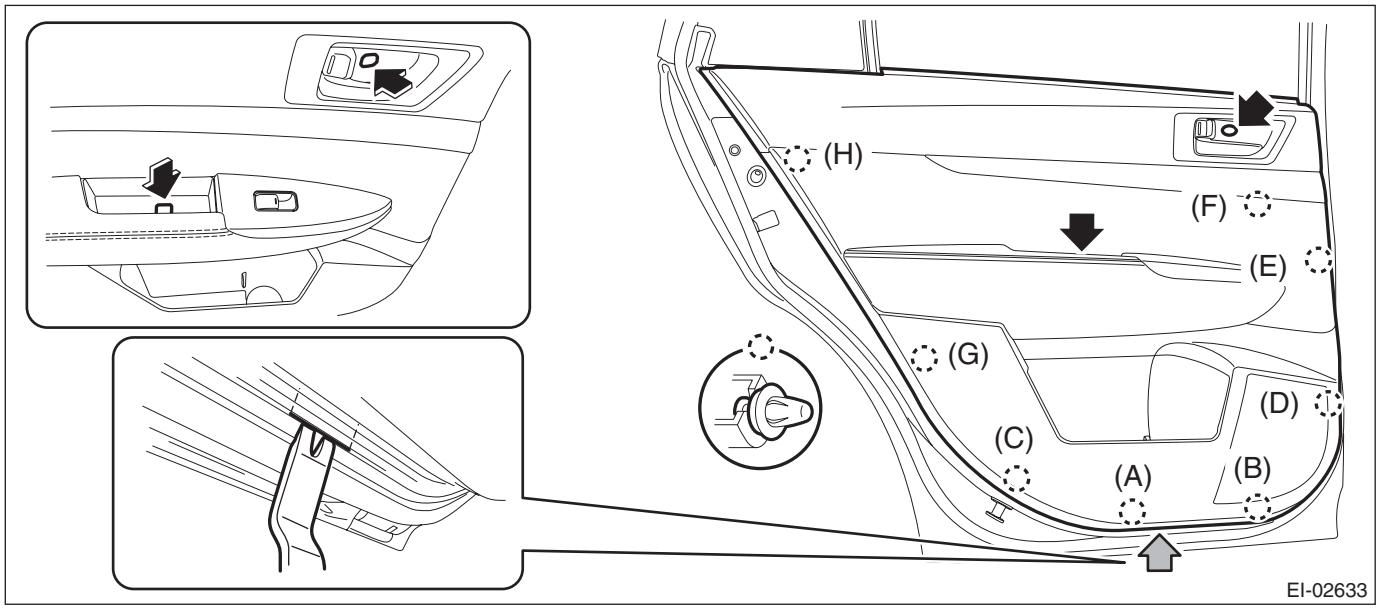
Install each part in the reverse order of removal.

6. Rear Speaker

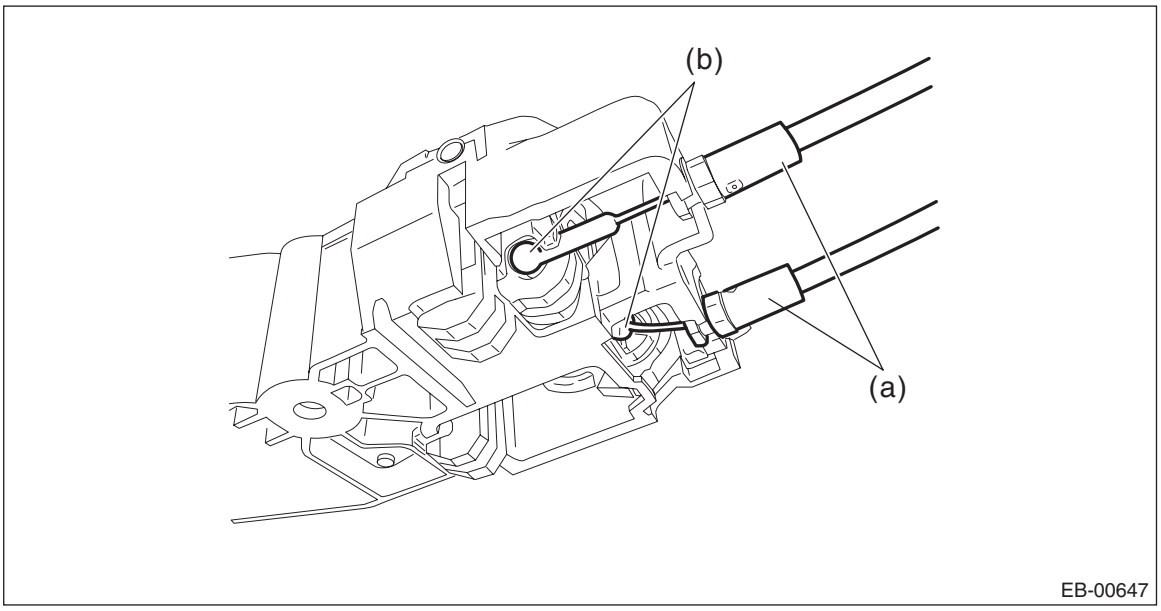
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (H) and remove the door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.

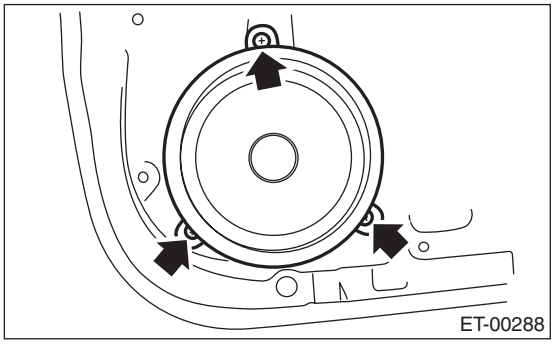


NOTE:
Insert a plastic clip remover into the slit at the bottom edge of the door trim and lift the door trim.
   (3) Remove the cables (a) and (b) from the cable holder of inner remote.



   (4) Disconnect the harness connector and remove the door trim.

3) Remove the rear speaker assembly.
   (1) Remove the screws.
   (2) Disconnect the harness connector and remove the rear speaker assembly.



B: INSTALLATION

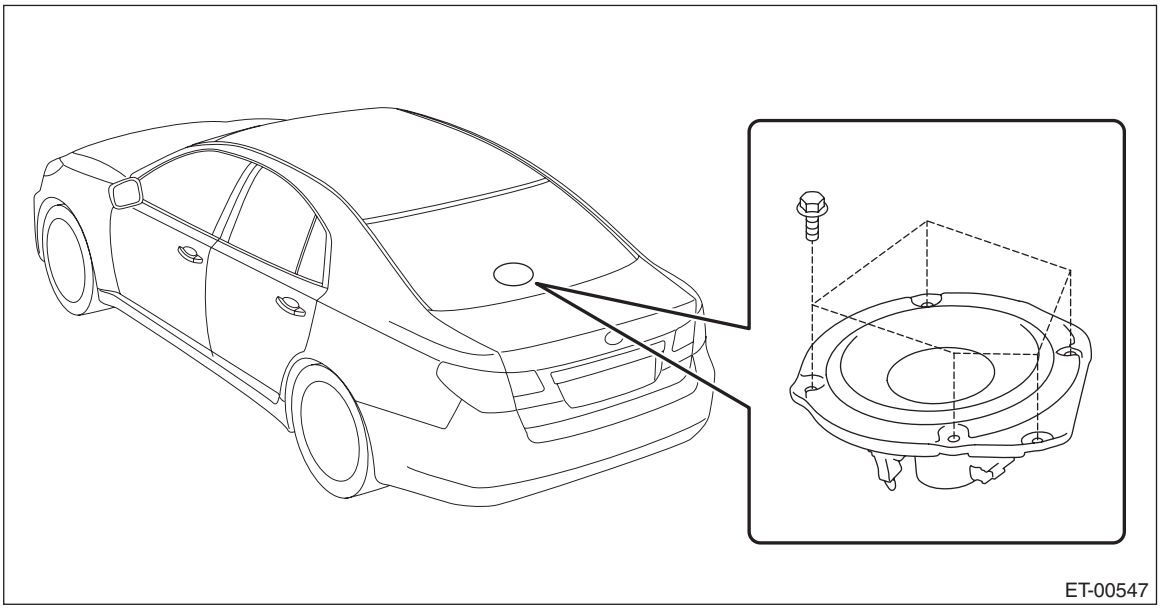
Install each part in the reverse order of removal.

7. Woofer

A: REMOVAL

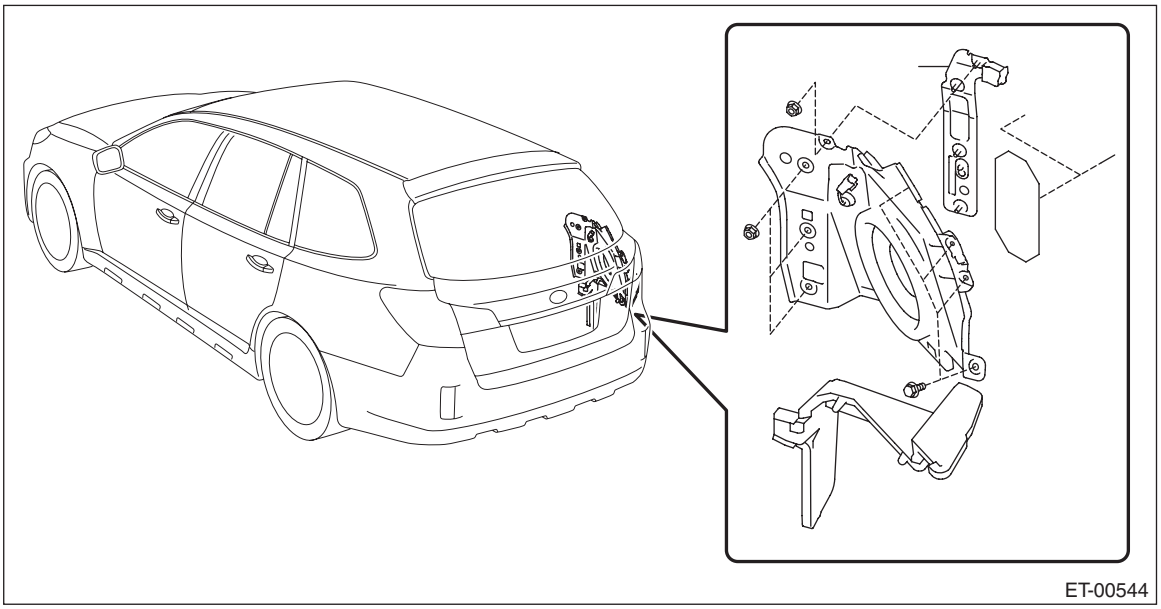
1. SEDAN MODEL

NOTE:
harman/kardon® audio system only.
1) Disconnect the ground cable from battery.
2) Remove the rear shelf trim. <Ref. to EI-123, REMOVAL, Rear Shelf Trim.>
3) Remove the woofer.
   (1) Remove the screws.
   (2) Disconnect the harness connector and remove the woofer assembly.



2. OUTBACK MODEL

NOTE:
harman/kardon® audio system only.
1) Disconnect the ground cable from battery.
2) Remove the rear quarter trim LWR. <Ref. to EI-115, OUTBACK MODEL, REMOVAL, Rear Quarter Trim.>
3) Remove the woofer.
   (1) Remove the woofer bracket mounting bolts and nuts, then remove the woofer bracket.
   (2) Disconnect the harness connector and remove the woofer assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

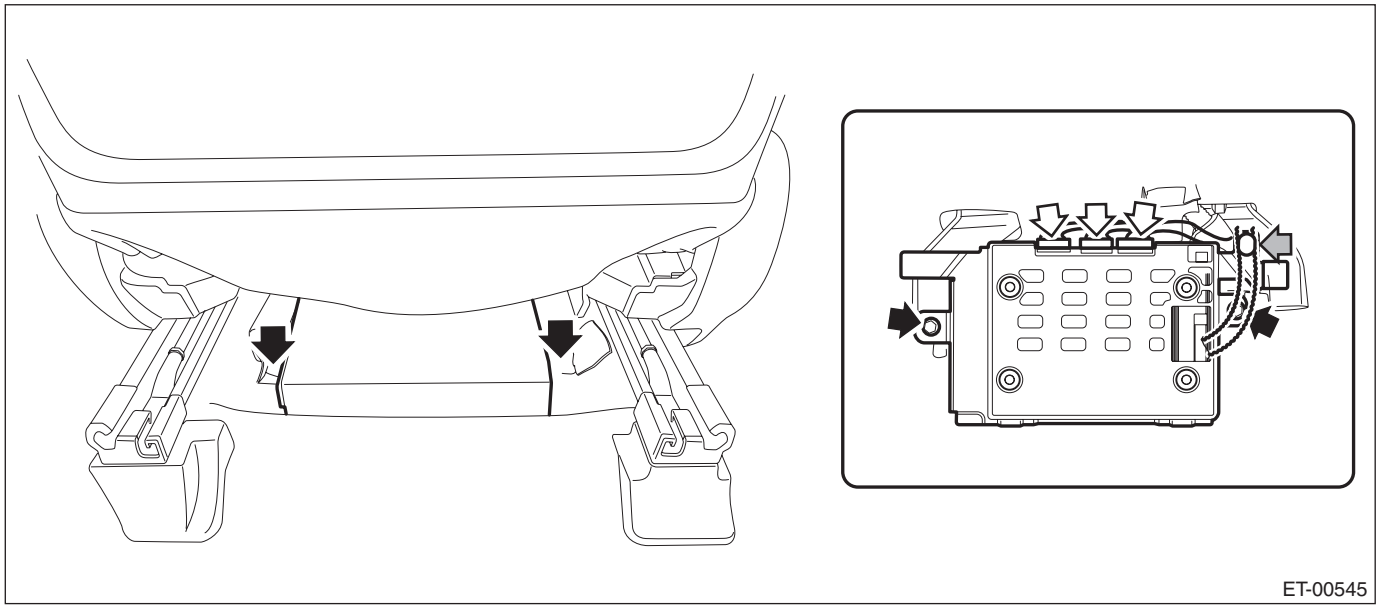
Tightening torque:
Woofer (OUTBACK model): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

8. Power Amplifier

A: REMOVAL

NOTE:
harman/kardon® audio system only.
1) Disconnect the ground cable from battery.

NOTE:
For the power seat, move the seat before removing the battery ground terminal.
2) Move the passenger's seat to the front-most position.
3) Remove the power amplifier.
   (1) Disconnect the harness connector.
   (2) Remove the nut and remove the power amplifier.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Power amplifier: 4.5 N·m (0.46 kgf-m, 3.32 ft-lb)

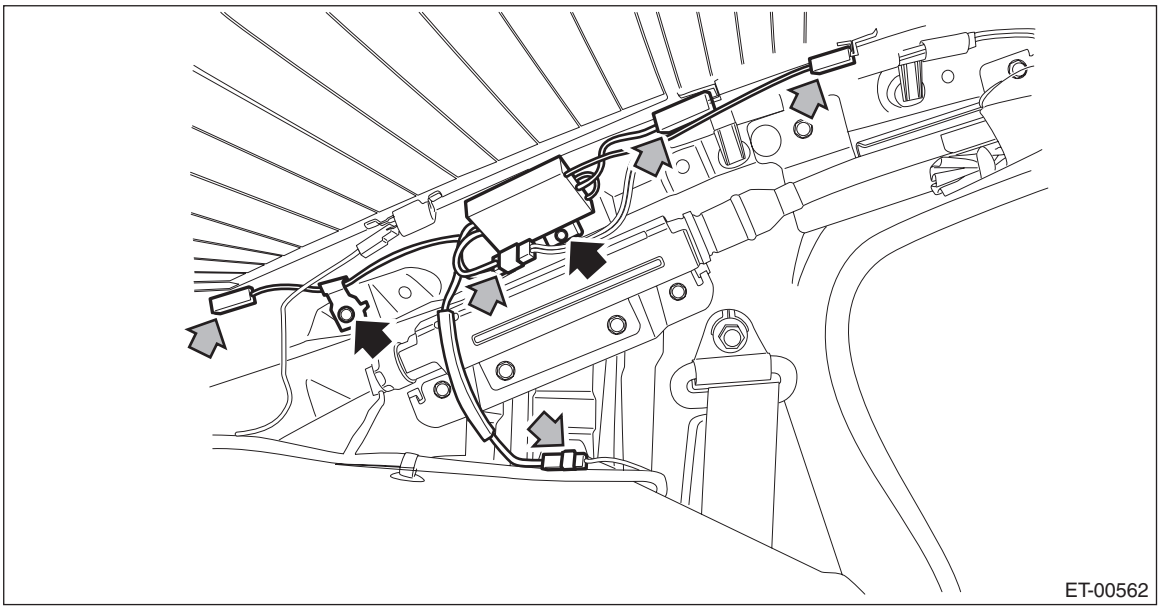
9. Antenna

A: REMOVAL

1. RADIO ANTENNA AMPLIFIER

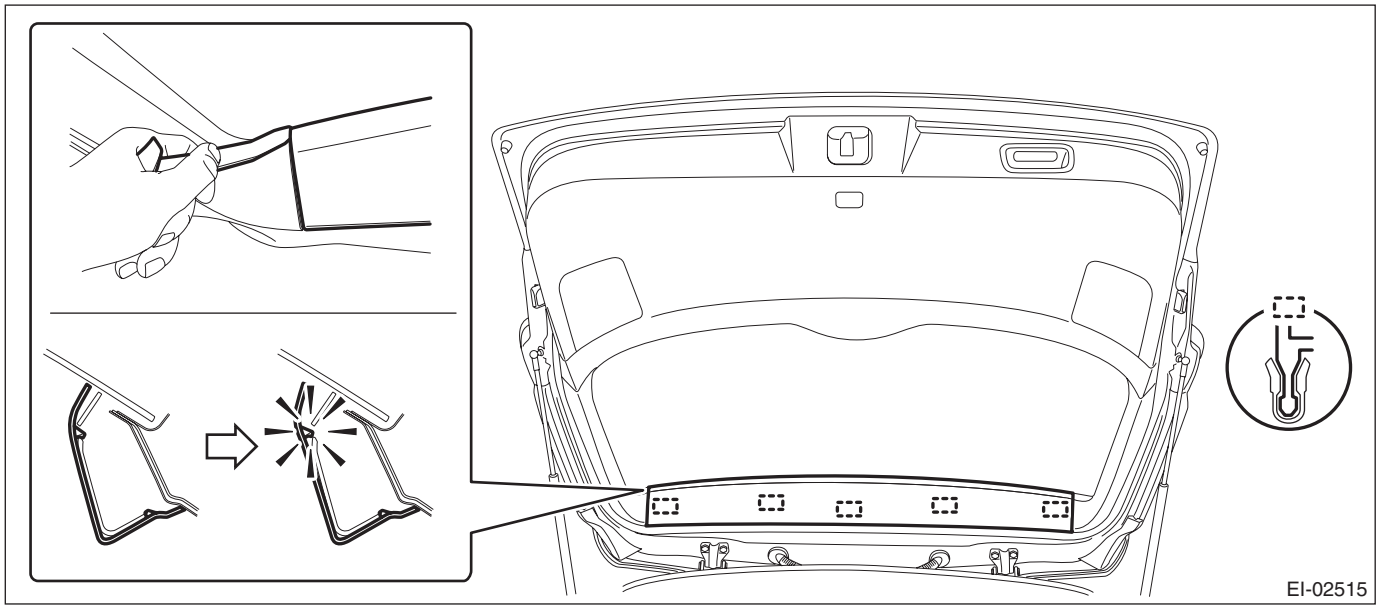
• Sedan model

1) Remove the rear quarter trim LH. <Ref. to EI-111, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
2) Remove the radio antenna amplifier assembly.
   (1) Disconnect the connector.
   (2) Remove the bolts, and then remove the radio antenna amplifier assembly.

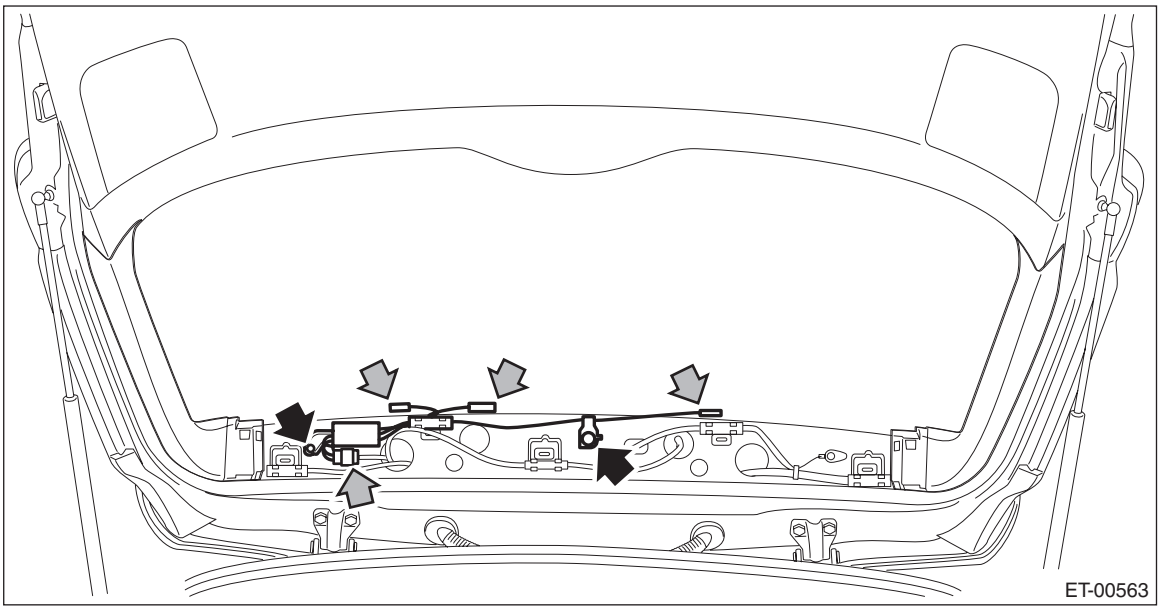


• OUTBACK model

1) Remove the rear gate upper trim.
   (1) Remove the claws on the trim edge.
   (2) Disconnect the claws in the center of trim, and remove the rear gate upper trim.



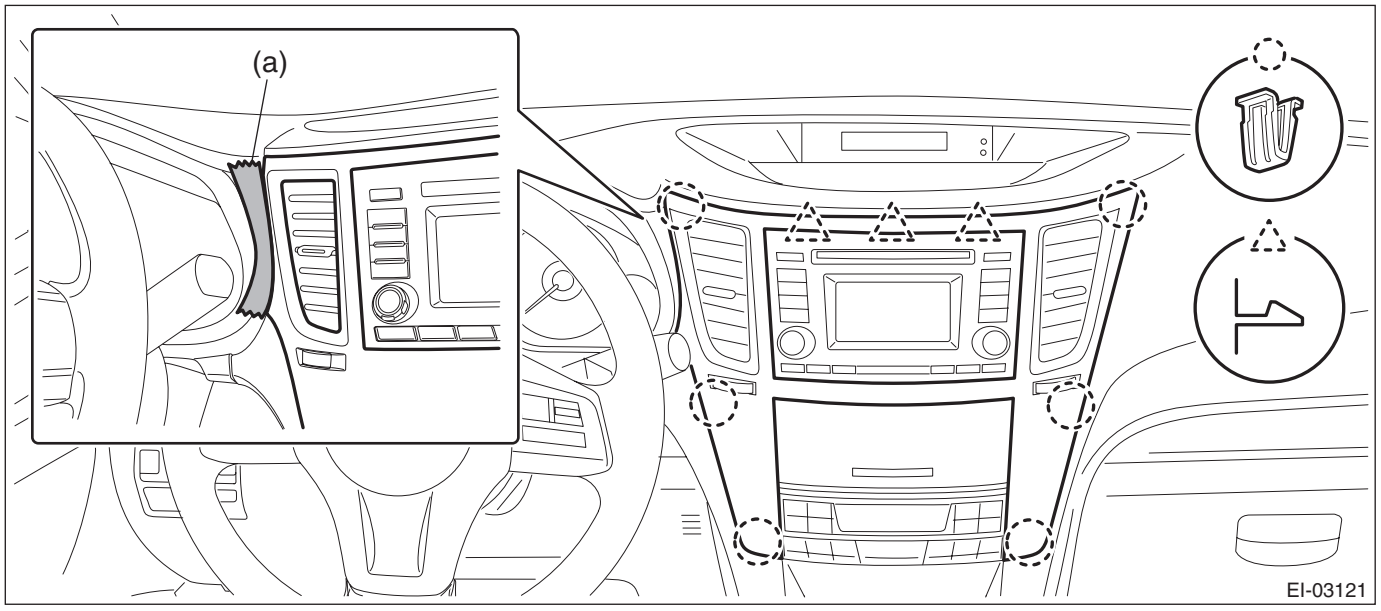
2) Remove the radio antenna amplifier assembly.
(1) Disconnect the connector.
(2) Remove the bolts, and then remove the radio antenna amplifier assembly.



2. ANTENNA FEEDER CORD

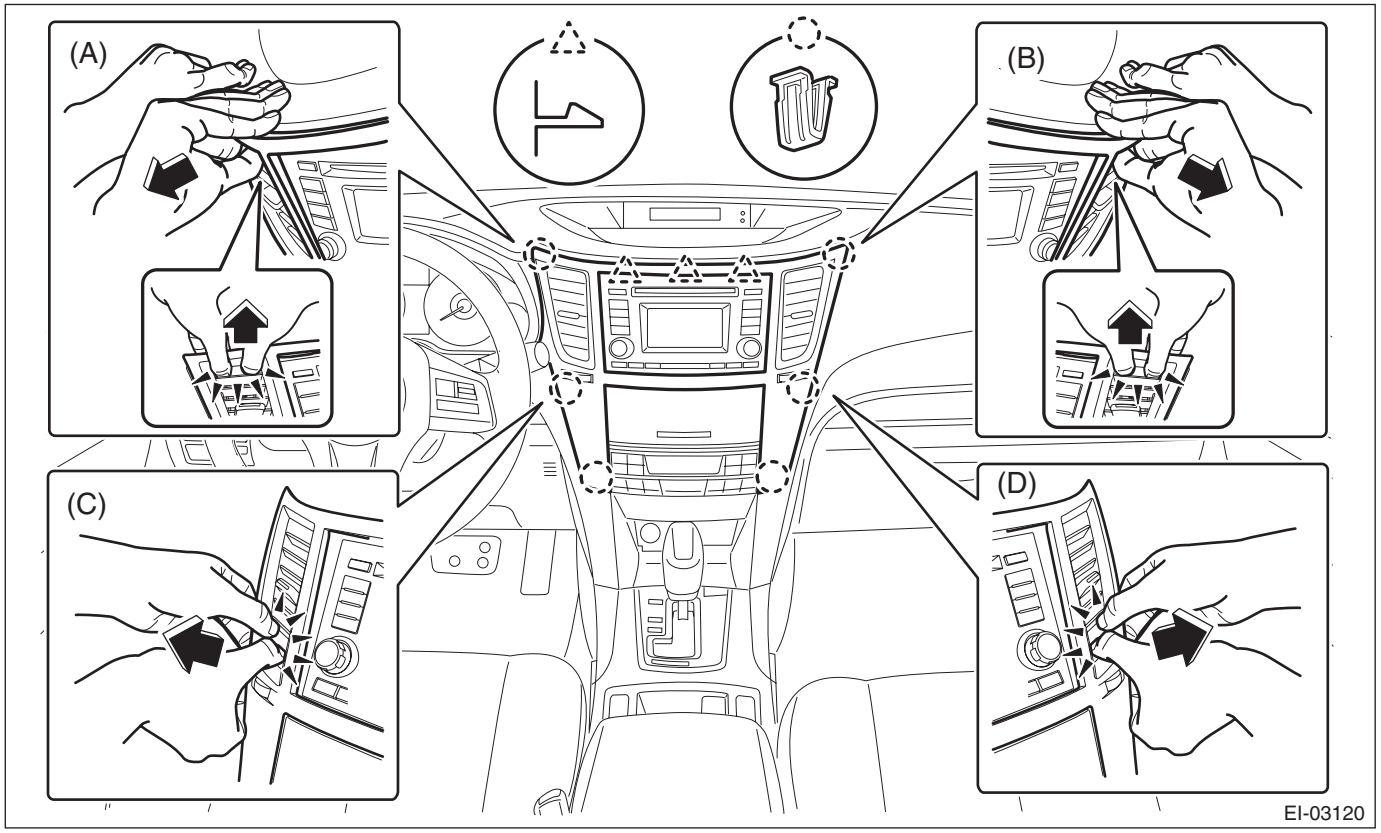
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.
(1) Attach the protective tape (a) to the meter visor.

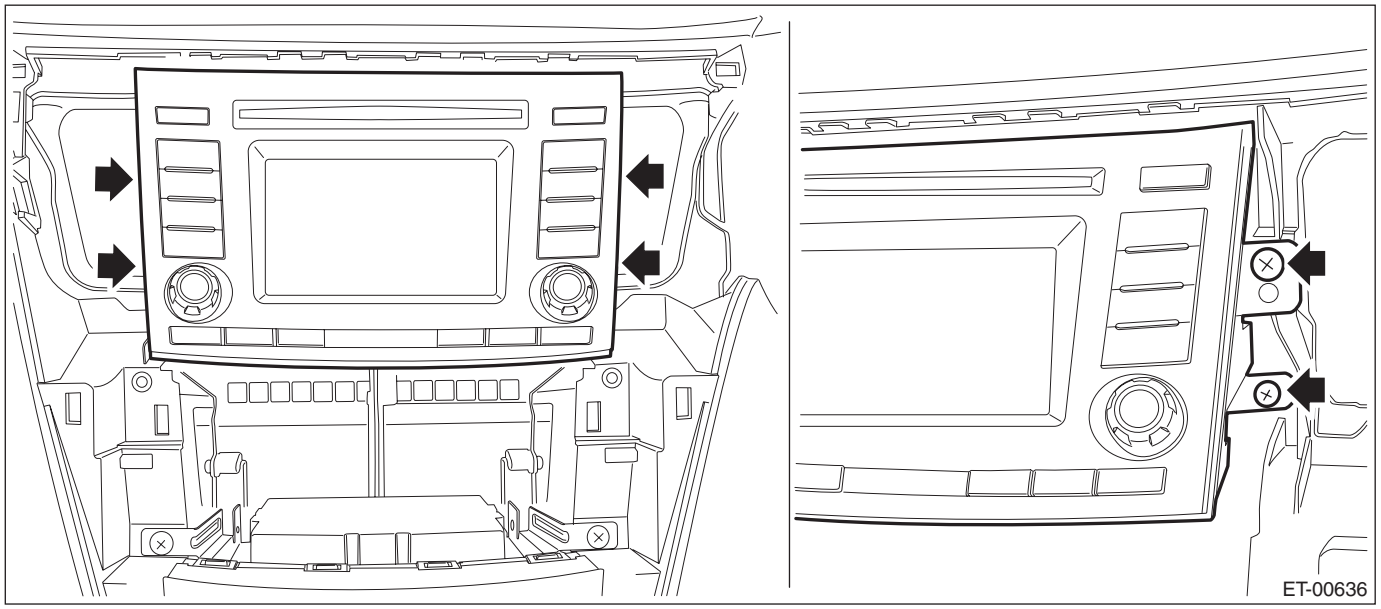


(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)

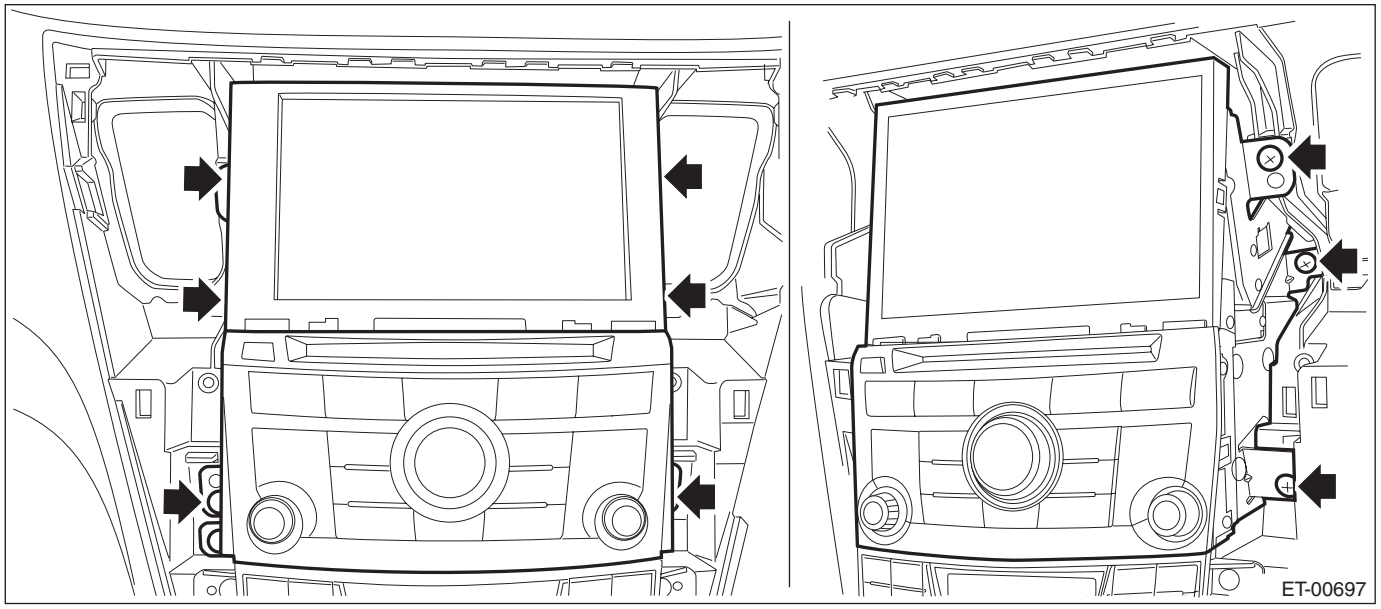
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



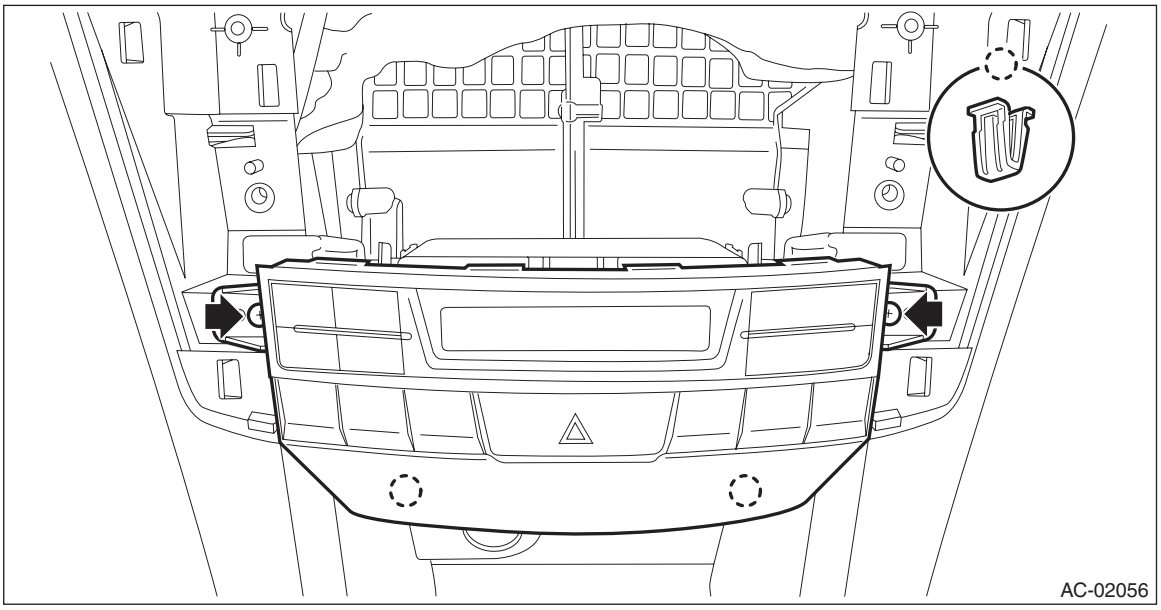
3) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



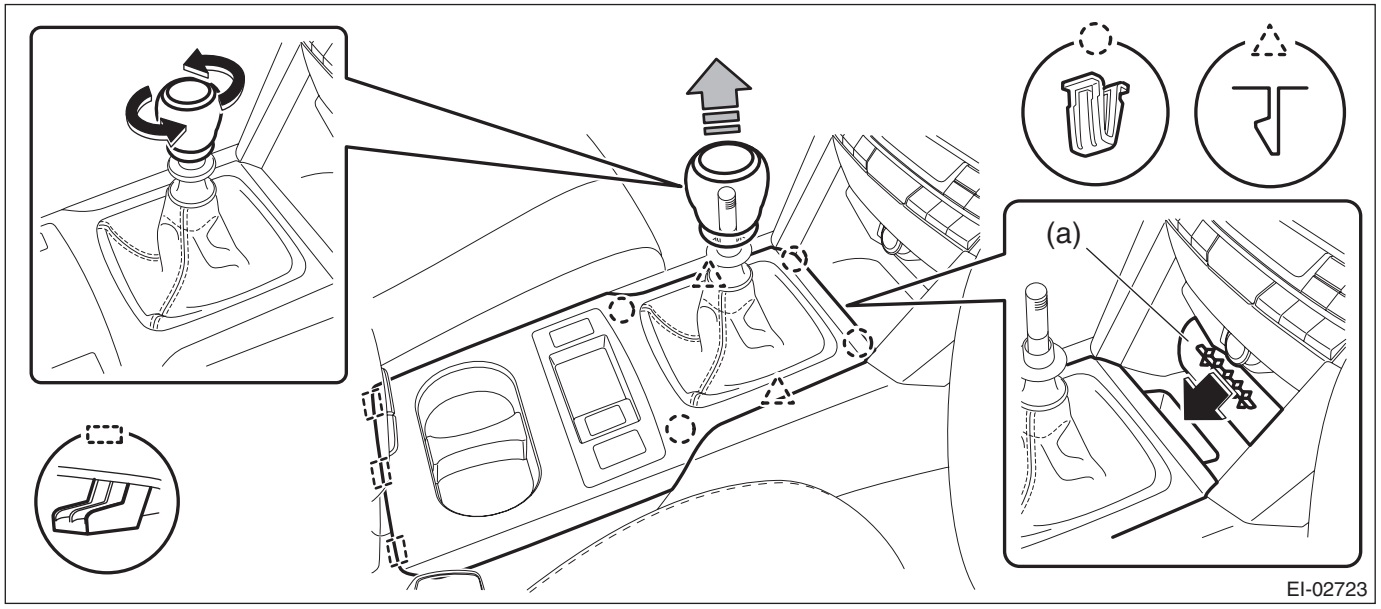
4) Remove the navigation assembly. (model with navigation)
   (1) Remove the left and right screws.
   (2) Disconnect the connectors, and remove the navigation assembly.



5) Remove the control panel assembly.
   (1) Remove the screws, and pull out the control panel assembly toward you.
   (2) Disconnect the connector, and remove the control panel assembly.

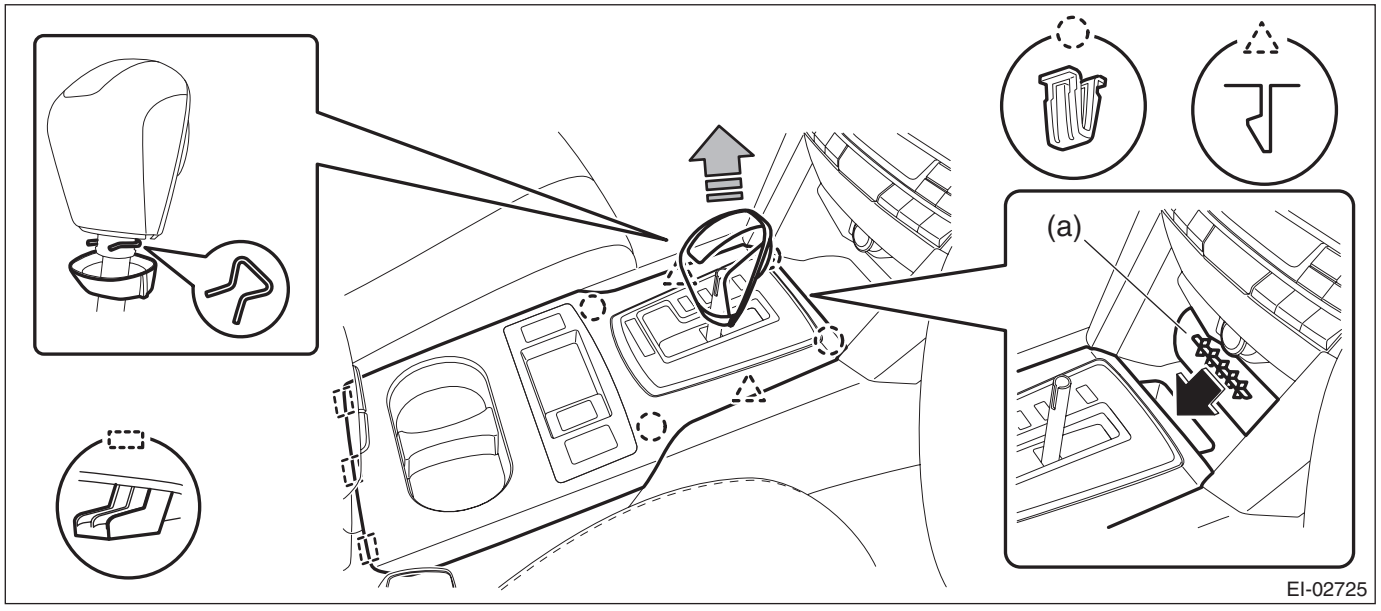


6) Remove the console front cover assembly.
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

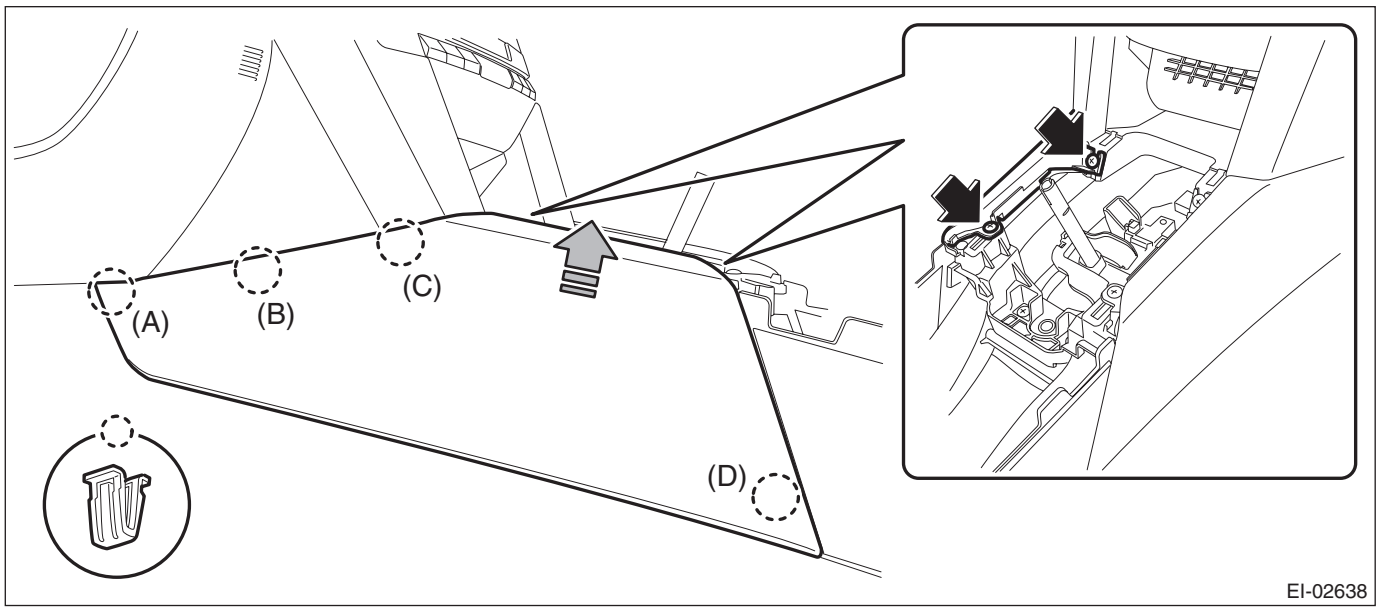
  3. Disconnect the harness connector and remove the console front cover assembly.
- AT/CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

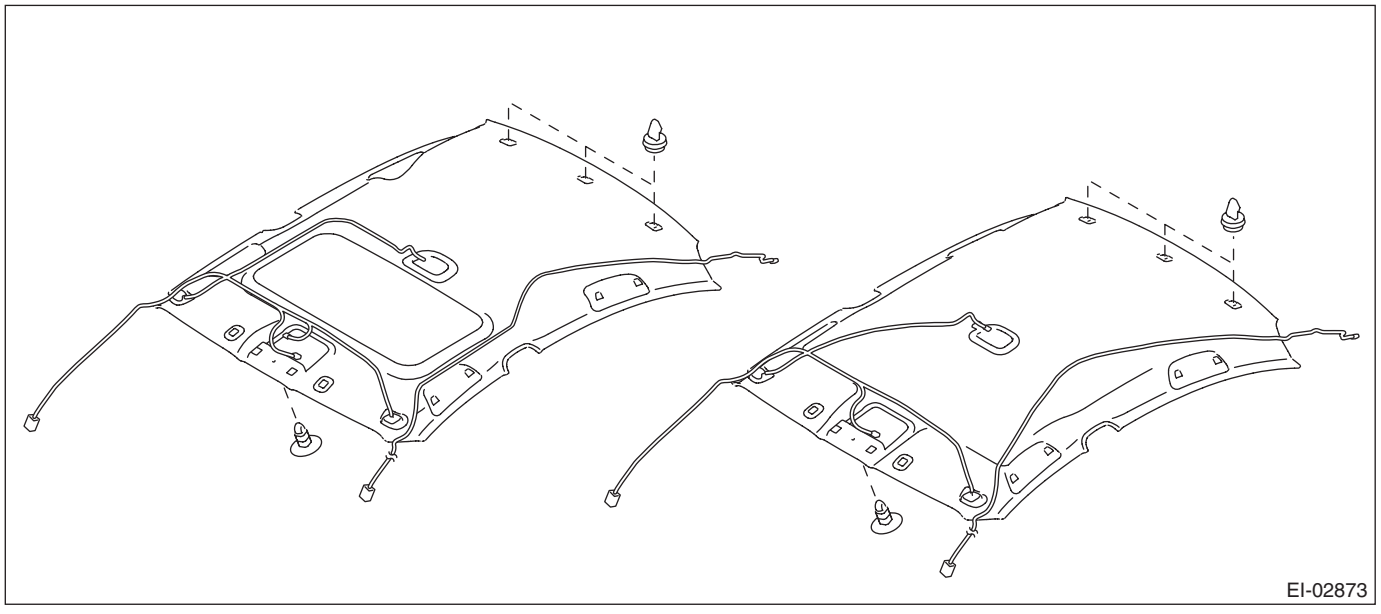
  3. Disconnect the harness connector and remove the console front cover assembly.

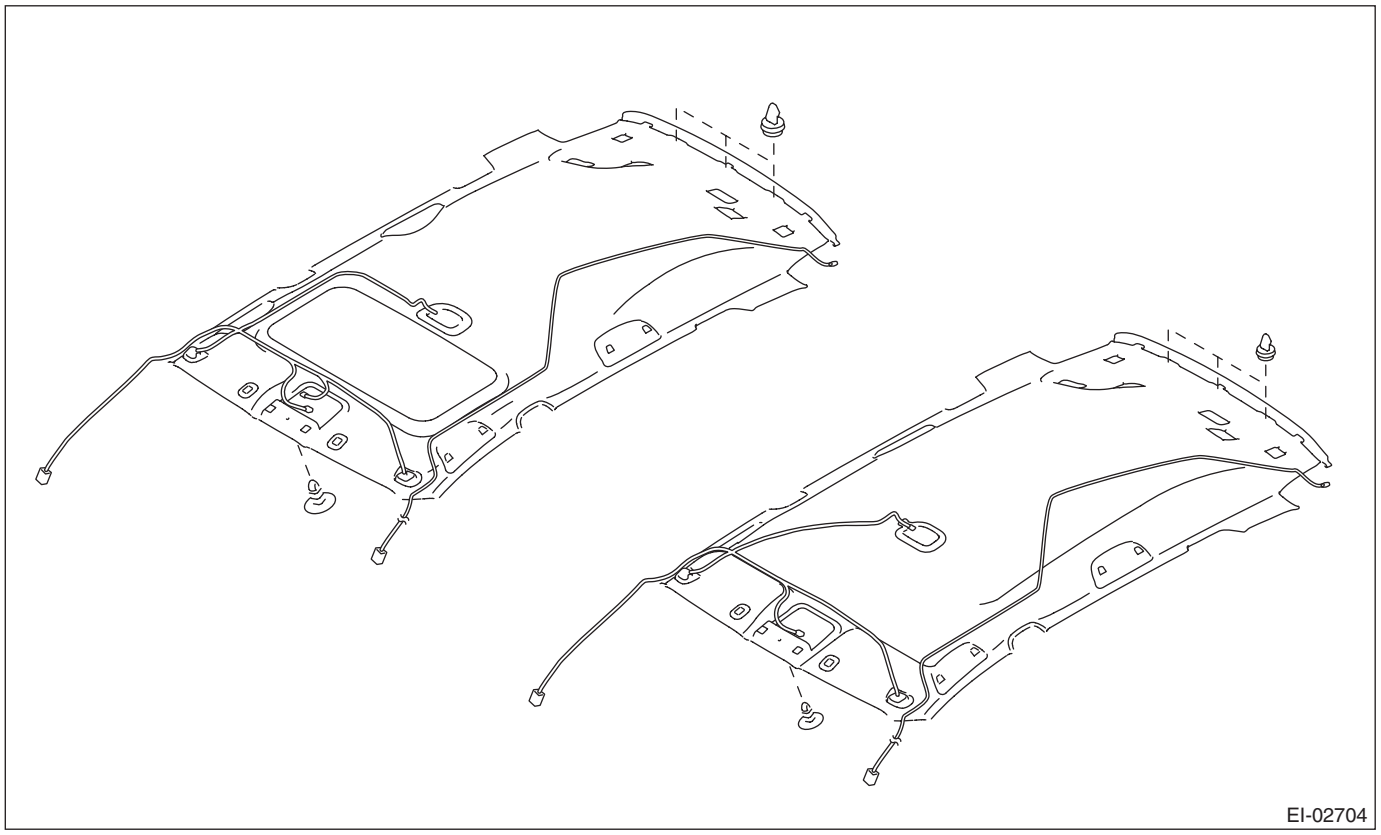
7) Remove the console front side cover assembly LH.
   (1) Remove the screws and release the clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.



8) Turn over the floor mat and remove the harness clamp of the feeder cord.
9) Remove each pillar trim and quarter trim, and lower the roof trim. <Ref. to EI-134, REMOVAL, Roof Trim.>

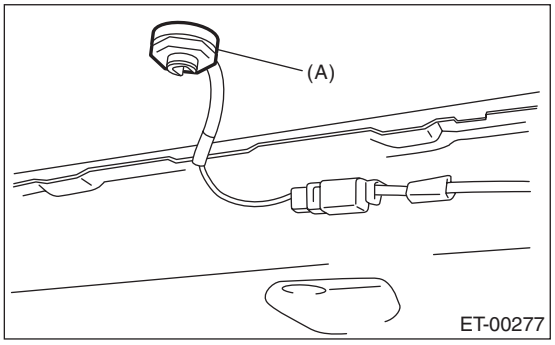
NOTE:
It is not necessary to take the roof trim out of the vehicle.
   (1) Disconnect the connector of the cord assembly - antenna feeder.
   (2) Remove the clips and the Velcro tape behind the room light.
   (3) Detach the connector of the cord assembly - antenna feeder from the trim panel - roof assembly.





3. XM SATELLITE RADIO ANTENNA

1) Remove the roof trim. <Ref. to EI-134, REMOVAL, Roof Trim.>
2) Disconnect the harness connector and terminal, and remove the mounting nut (A).



3) Pull out the antenna from the roof top.

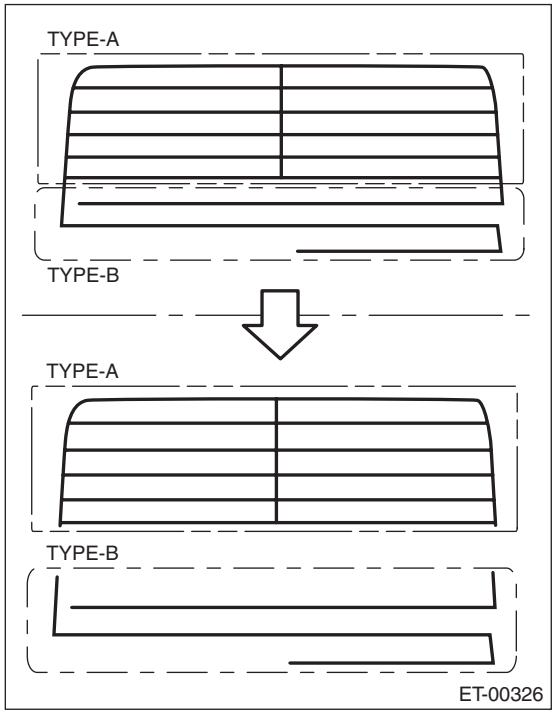
B: INSTALLATION

CAUTION:
• For installation of the stereo camera cover, refer to "INSTALLATION", "Stereo Camera Cover" in the "EyeSight" section and observe the precautions for installation. <Ref. to ES-12, INSTALLATION, Stereo Camera.>
• Do not reuse the tether clips on the upper part of the front pillar trim. Always replace with a new part.
Once the tether clip is removed from the pillar trim, the retention power deteriorates and the front pillar trim may come off.
• Do not reuse the clips in the upper section of the center pillar trim. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.
• Before installing the front pillar trim, check the condition of (white) protective unwoven cloth of curtain airbag. If it is damaged (airbag module cloth is exposed), replace the curtain airbag module assembly with a new part.
Install each part in the reverse order of removal.

Tightening torque:
Radio antenna amplifier: 12 N·m (1.22 kgf-m, 8.9 ft-lb)
XM satellite radio antenna: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

C: INSPECTION

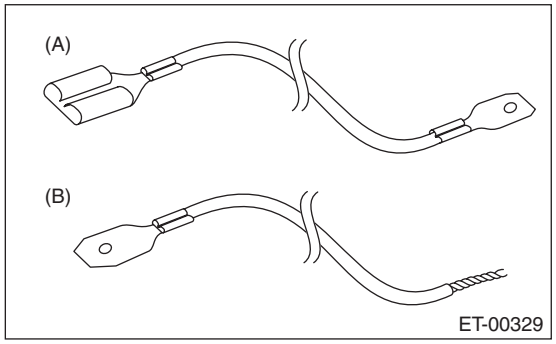
CAUTION:
When wiping dirt off of the glass to avoid heat wire damage, be careful of the following.
• Use a dry and soft cloth.
• Move the cloth along the heat wire.
Inspection method of antenna, it is different from printing pattern of antenna.



TYPE-A Printing pattern of grid
TYPE-B Printing pattern of straight

1. TYPE-A

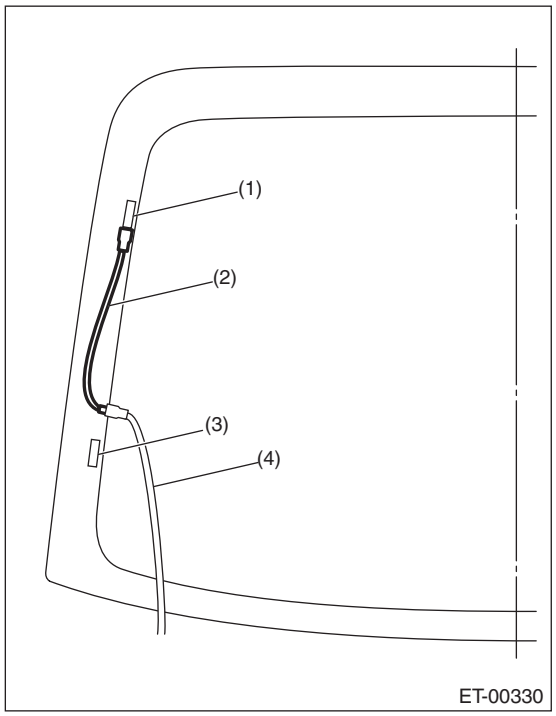
1) Disconnect the ground cable from battery.
2) Remove the trim.
Sedan model: Remove the rear quarter trim rear on both sides. <Ref. to EI-111, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
OUTBACK model: Remove the rear gate trim. <Ref. to EI-166, REMOVAL, Rear Gate Trim.>
3) Disconnect the antenna harness connector and antenna terminals.
4) Prepare the extension harness (A), (B).



(A) Attach the flat terminals (male and female) to both ends of the harness of 2,000 mm (78.7 in) length (electrical wire unit dimensions approx. 2.0 mm^2 (0.0032 sq in)).

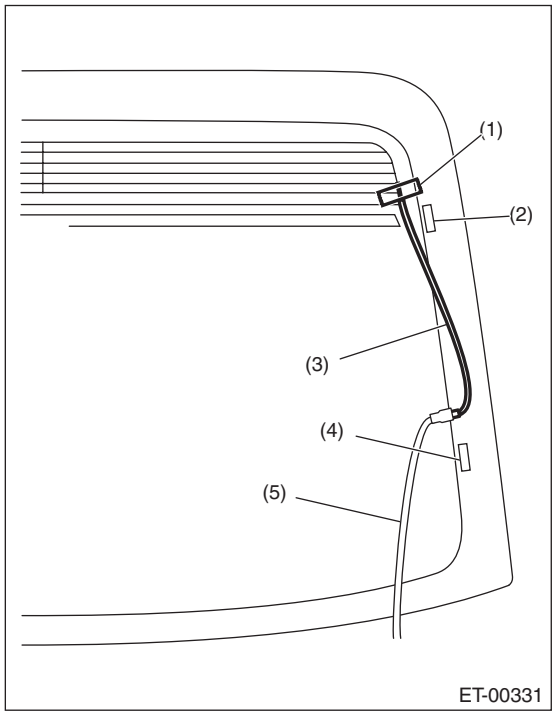
(B) Attach the flat terminal (female) to one side of the harness, another side to twist the harness of 2,000 mm (78.7 in) length (electrical wire unit dimensions approx. 2.0 mm^2 (0.0032 sq in)).

5) Connect the extension harness (A) to rear defogger harness (power supply side) terminal and antenna terminal.



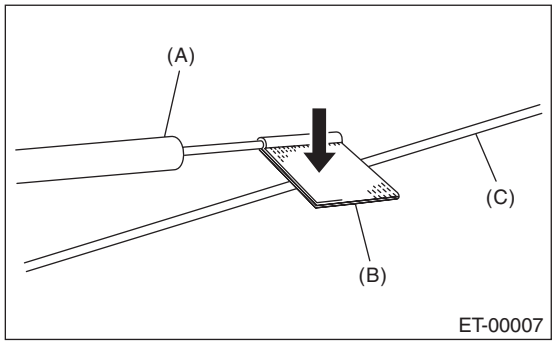
(1) Antenna terminal
(2) Extension harness (A)
(3) Rear defogger terminal
(4) Rear defogger harness (power supply side - red blue)

6) Connect the extension harness (B) to rear defogger harness (ground side) terminal.
7) Fasten the another side of extension harness (B) to end of antenna pattern of grid with tape.



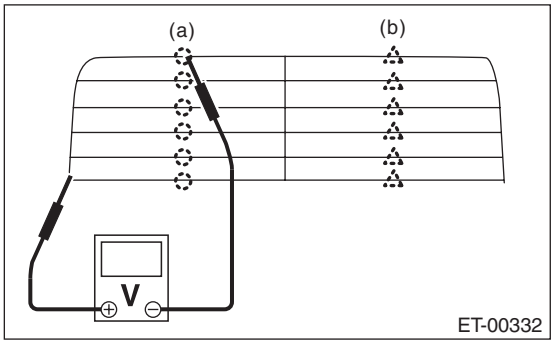
(1) Tape
(2) Antenna terminal
(3) Extension harness (B)
(4) Rear defogger terminal
(5) Rear defogger harness (ground side - black)

8) Connect the ground cable to battery.
9) Turn the ignition switch to ON.
10) Turn the rear defogger switch to ON.
11) Wrap a piece of aluminum foil around the tip of tester probe and press foil against antenna wire with your finger.



(A) Tester probe
(B) Aluminum foil
(C) Antenna wire

12) Measure the voltage around an antenna wire (a) and (b).

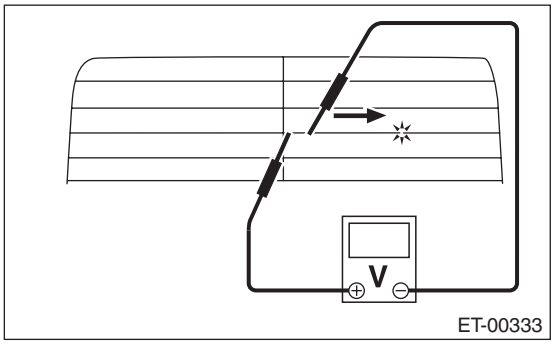


	Measured voltage value	Criteria
(a)	Approx. 3V (standard value)	Normal
	Approx. 6 V or 0 V	Open
(b)	Approx. 9V (standard value)	Normal
	Approx. 12 V or 6 V	Open

NOTE:
Measuring point (a)
• If the measured value is 6 V, heat wire is open between antenna wire center and positive (+) terminal of probe.
• If it is 0 V, the circuit is open between antenna wire center and ground.
Measuring point (b)
• If the measured value is 12 V, heat wire is open between antenna wire center and positive (+) terminal of probe.
• If it is 6 V, the circuit is open between antenna wire center and ground.

13) Fasten the voltmeter positive (+) side and negative (–) side to end of open harness positive side of step 12).

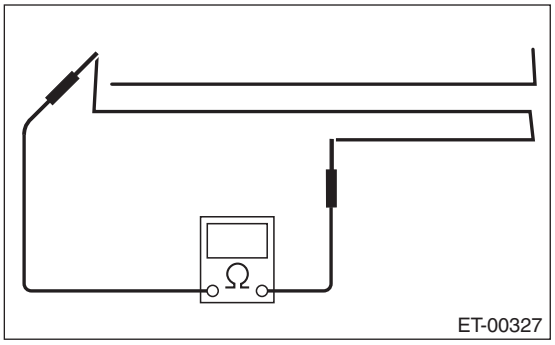
14) Search a point the voltage changes from 0 V, and move the negative (–) probe along antenna wire slowly.



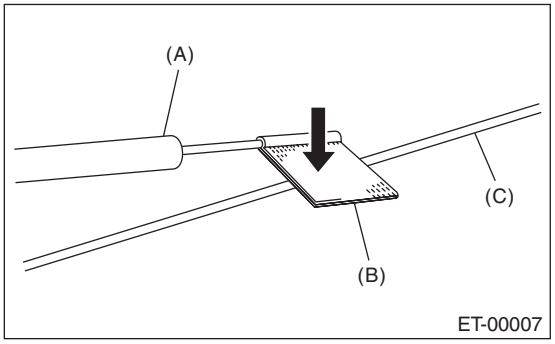
15) Repair the antenna wire if the place of the open circuit is identified. <Ref. to ET-34, REPAIR, Antenna.>

2. TYPE-B

Measure the resistance between the antenna terminal and each antenna wire.

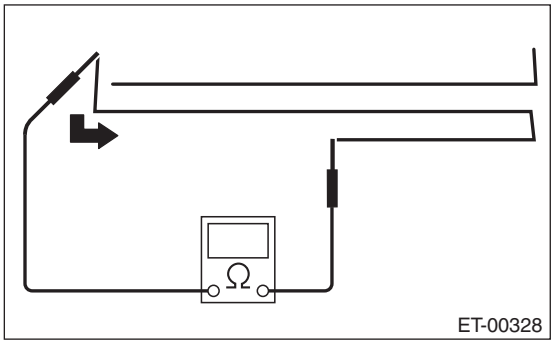


1) Disconnect the ground cable from battery.
2) Wrap a piece of aluminum foil around the tip of probe and press foil against antenna wire with your finger.



(A) Tester probe
(B) Aluminum foil
(C) Antenna wire

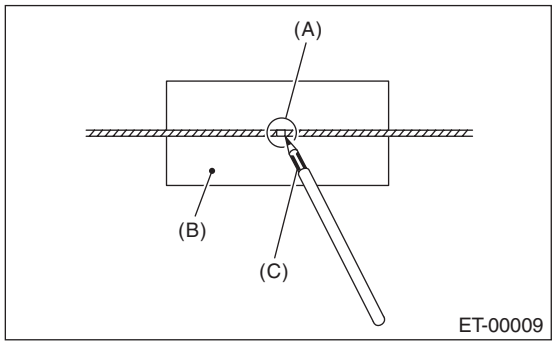
3) To locate the broken point, move the probe along antenna wire.



NOTE:
If an antenna wire is OK, resistance will be less than 20 Ω.
If an antenna wire is broken, resistance will be more than 1 MΩ.
4) Repair the antenna wire if the place of the open circuit is identified. <Ref. to ET-34, REPAIR, Antenna.>

D: REPAIR

1) Clean the external circumference of antenna wire and around with alcohol or appropriate cleaning solvent.
2) Paste a thin masking film on the glass along broken wire.
3) Apply the conductive silver composition (DUPONT No. 4817) on the broken portion with a drawing pen.



(A) Broken portion
(B) Masking film
(C) Conductive silver composition

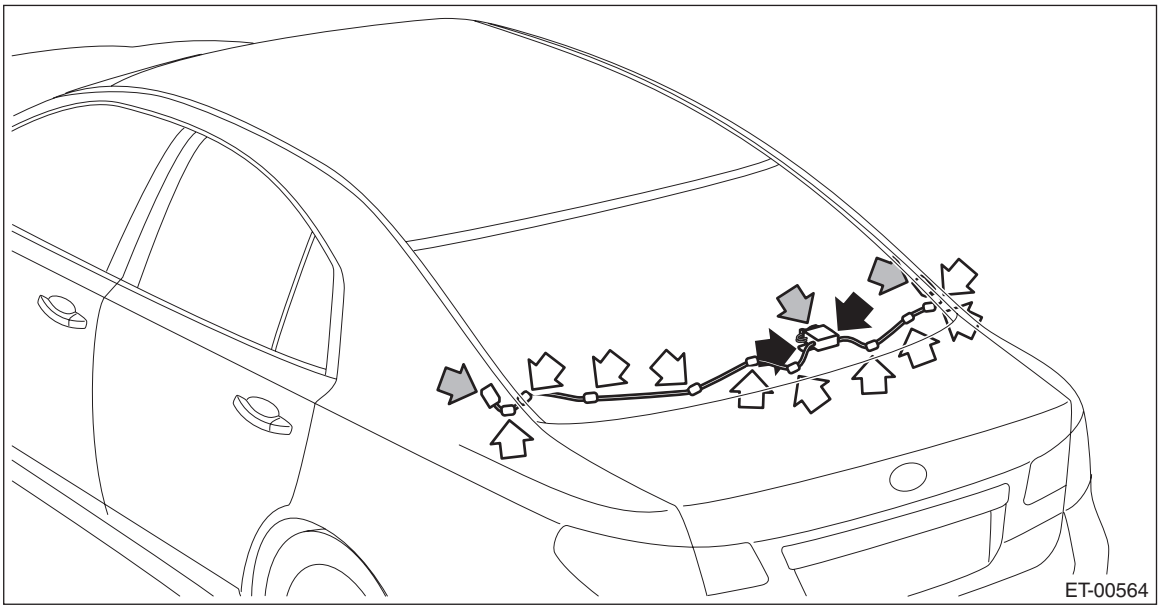
4) Dry out the deposited portion.
5) After repair has been completed, measure the resistance in repaired wire.

10.Noise Suppressor

A: REMOVAL

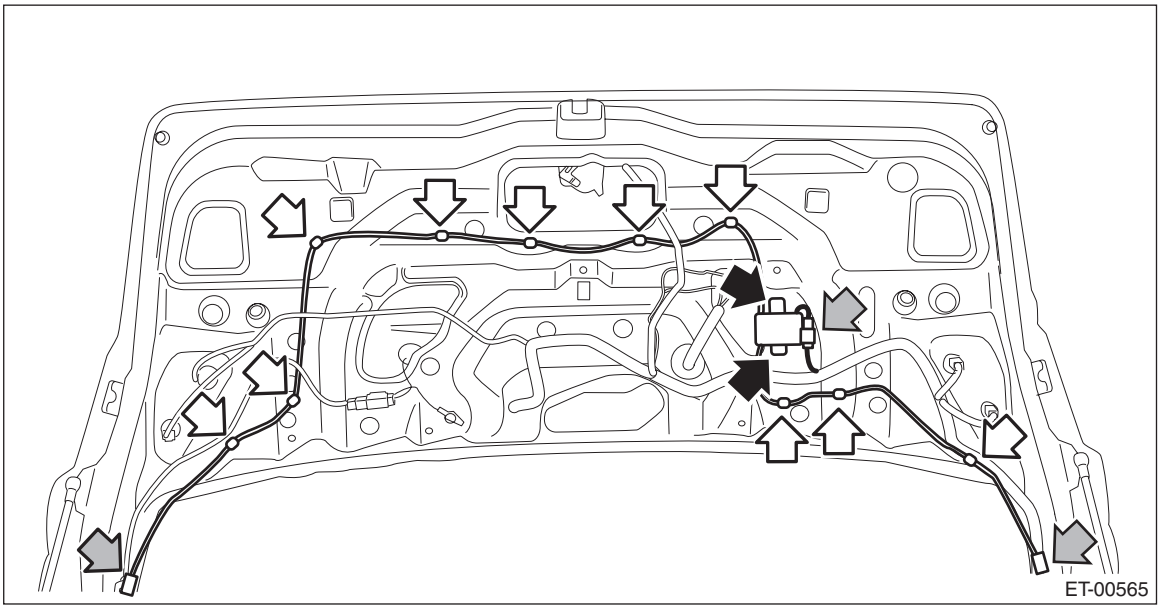
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear shelf trim. <Ref. to EI-123, REMOVAL, Rear Shelf Trim.>
3) Remove the noise suppressor.
   (1) Disconnect harness connector from noise suppressor.
   (2) Remove the harness clamps and bolts and detach the noise suppressor.



2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-166, REMOVAL, Rear Gate Trim.>
3) Remove the noise suppressor.
   (1) Disconnect harness connector from noise suppressor.
   (2) Remove the harness clamps and bolts and detach the noise suppressor.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Noise suppressor: 12 N·m (1.22 kgf-m, 8.9 ft-lb)

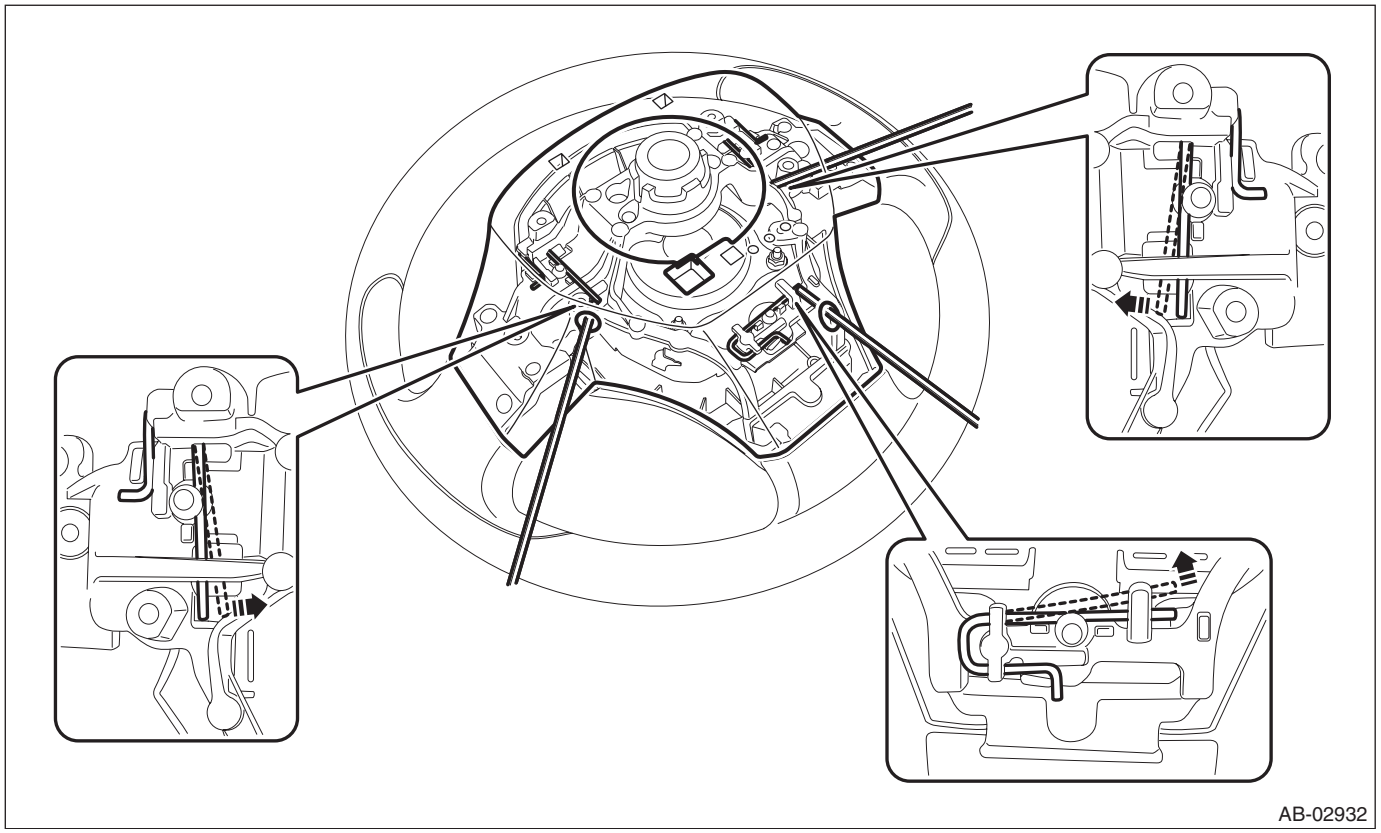
11.Steering Satellite Switch

A: REMOVAL

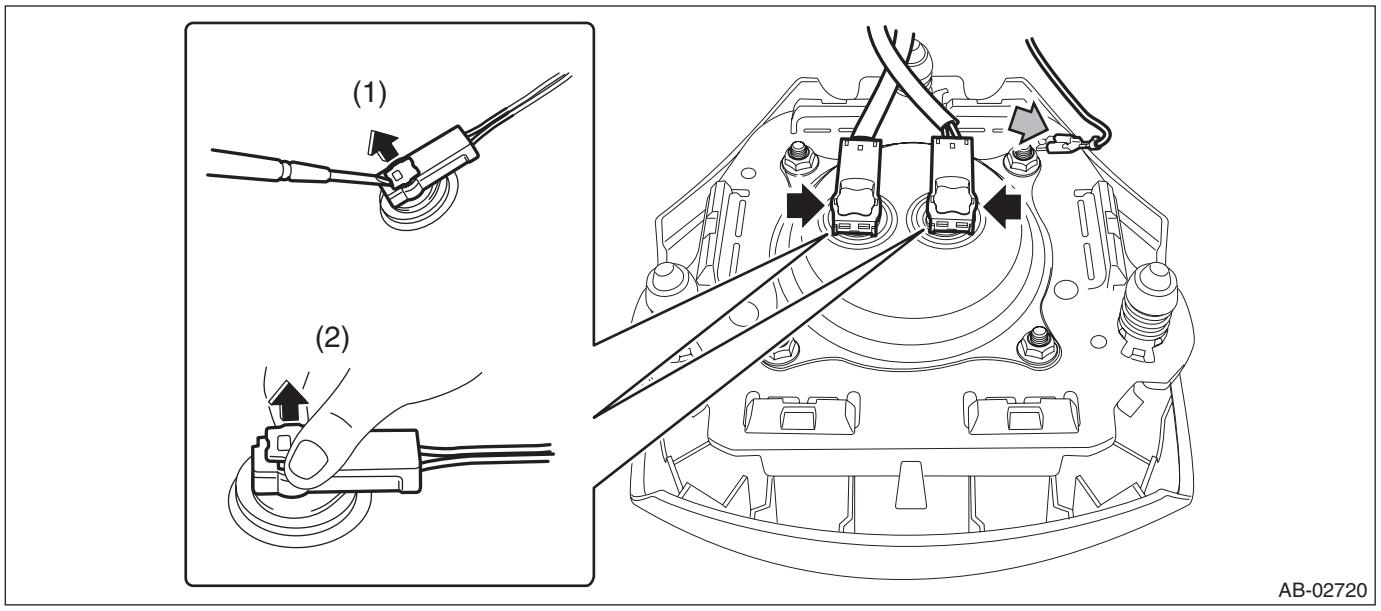
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.

CAUTION:
Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>

(1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



(2) Disconnect the horn harness and airbag connector and remove the airbag module assembly. <Ref. to AB-22, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER, PROCEDURE, Airbag Connector.>

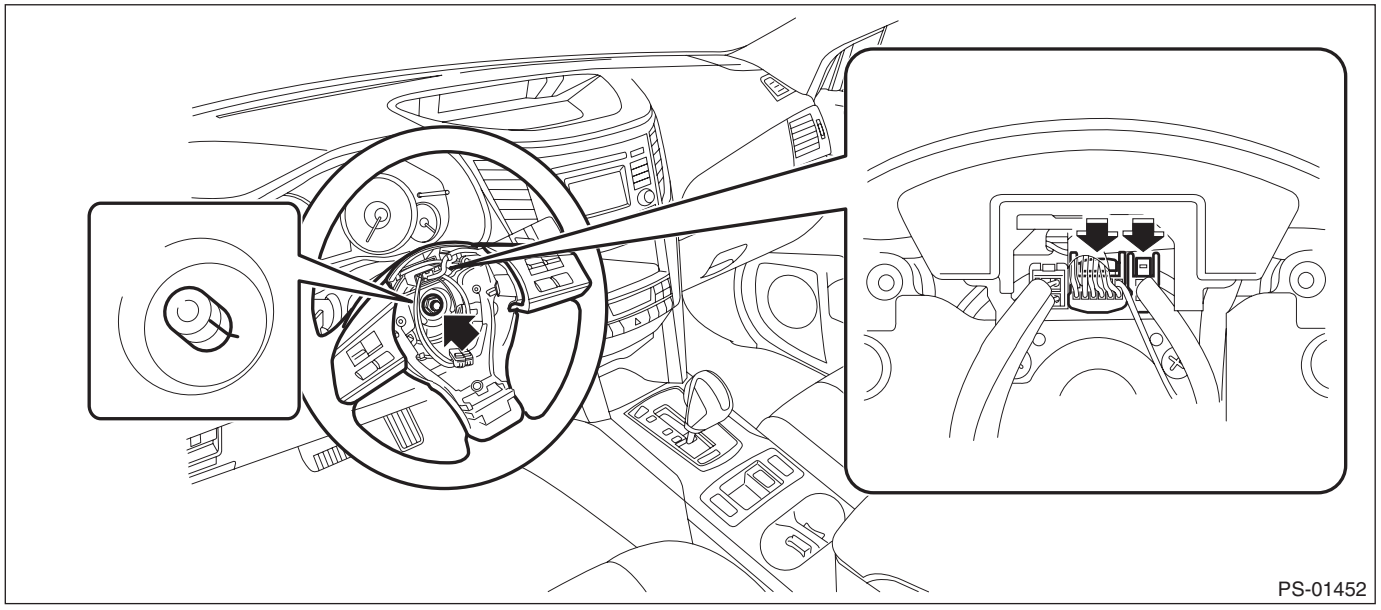


5) Remove the steering wheel.

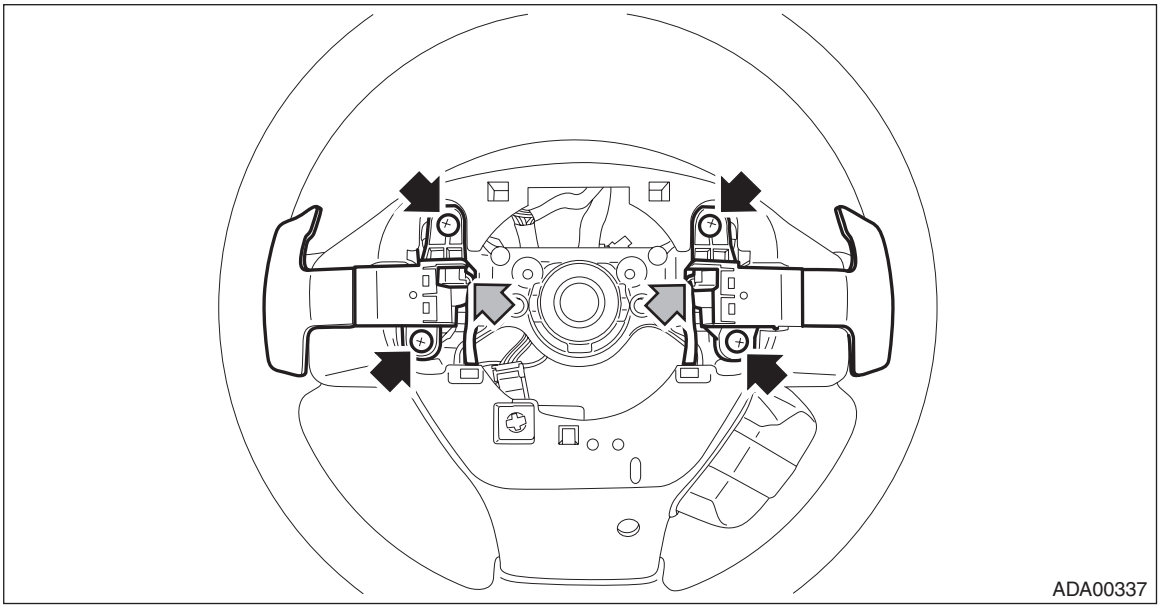
CAUTION:
• Always use the steering wheel puller for removal to avoid deforming the steering wheel.
• If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.

(1) Disconnect the connector and remove the nut.
(2) Put alignment marks, and remove the steering wheel using a steering wheel puller.

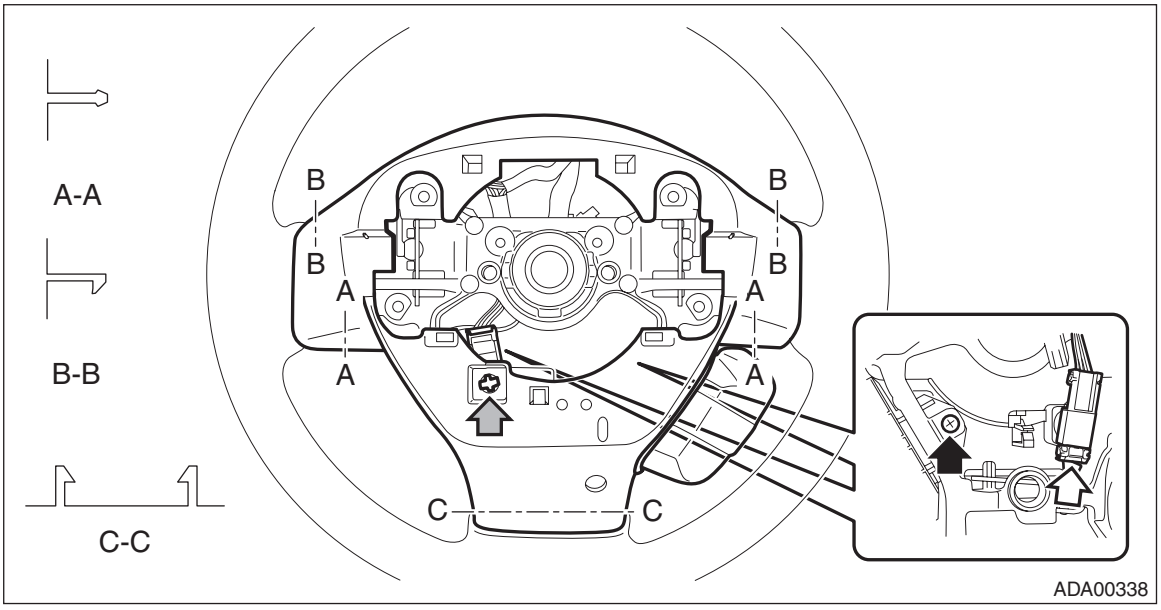
Preparation tool:
Steering wheel puller



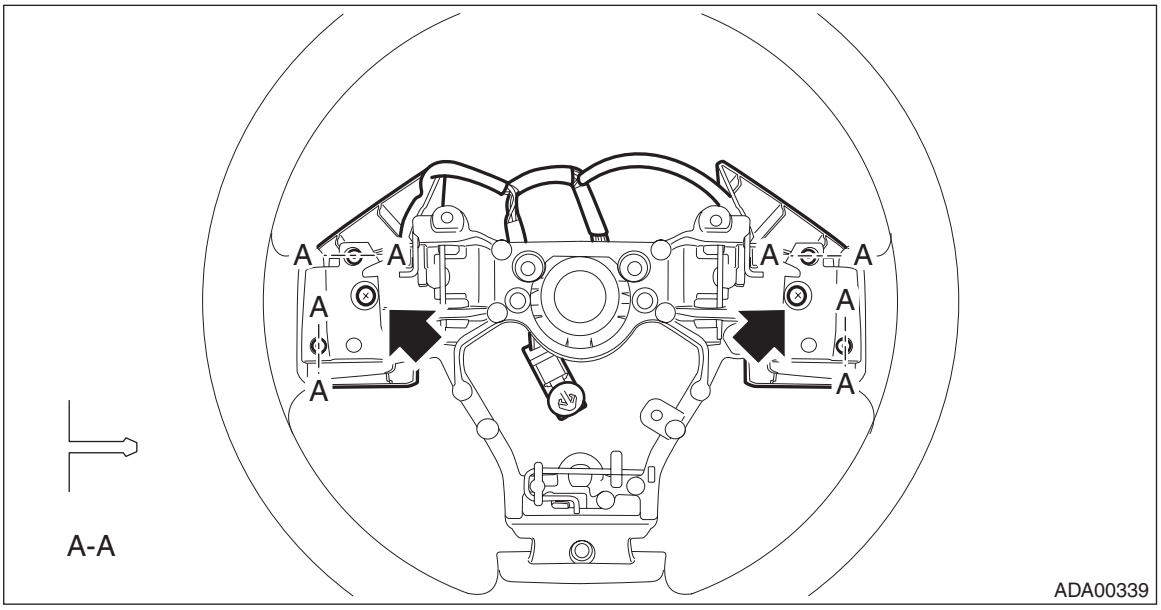
6) Remove the satellite switch.
(1) Remove the screw, disconnect the connector and remove the paddle shift switch. (Model with paddle shift)



(2) Remove the steering switch connector and screw. (luminescent meter model)
(3) Release the claws and clips, detach the cover - steering wheel LWR.



(4) Remove the screws and then remove the satellite switch assembly.



B: INSTALLATION

CAUTION:
• Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
1) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and steering column.

Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

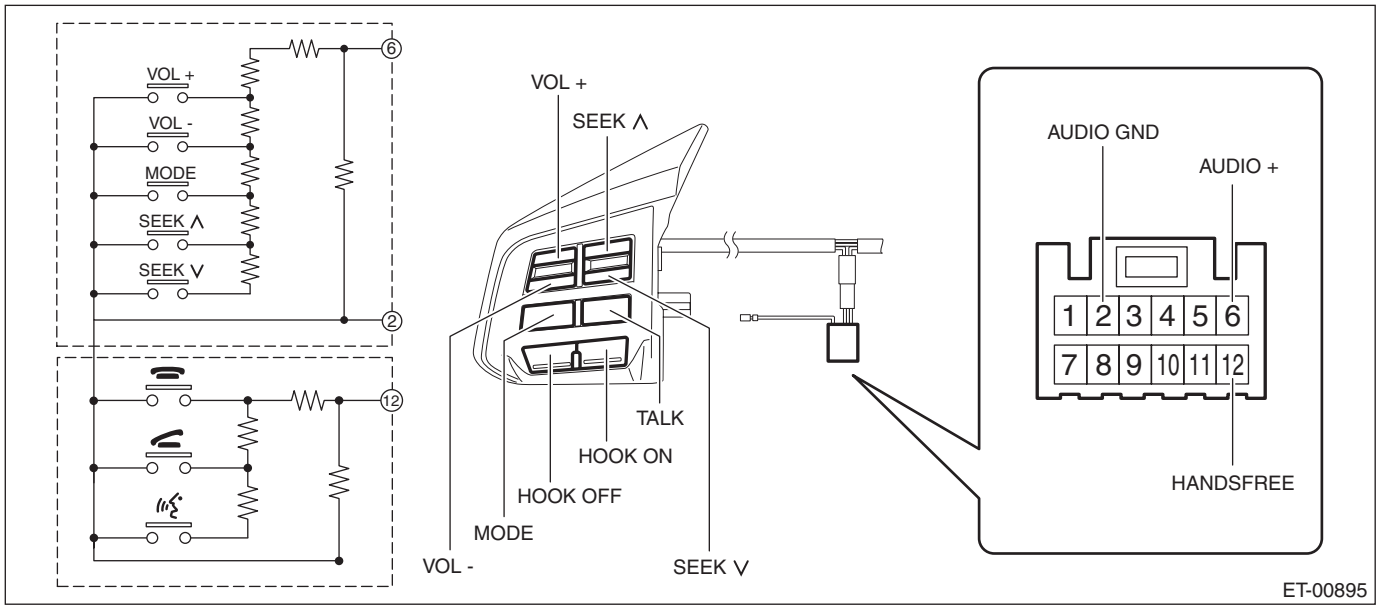
Clearance:
Between column cover and steering wheel: 4 — 6 mm (0.16 — 0.24 in)

C: INSPECTION

1. SATELLITE SWITCH

1) Measure the resistance between satellite switch connector terminals during switch operation.

- TYPE 1

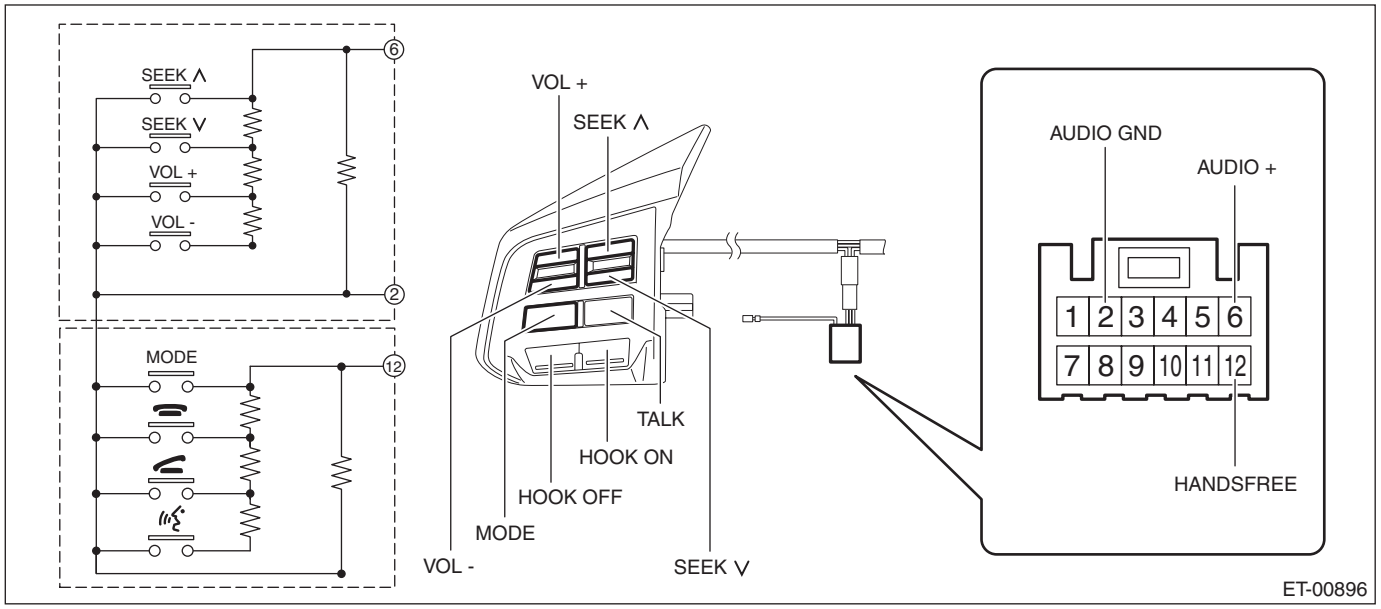


Switch	Switch operation	Terminal No.	Standard
VOL (+) VOL (–) MODE SEEK (∧) SEEK (∨)	All OFF	6 and 2	Approx. 4,700 Ω
VOL (+)	ON	6 and 2	Approx. 90 Ω
VOL (–)	ON	6 and 2	Approx. 192 Ω
MODE	ON	6 and 2	Approx. 334 Ω
Preset CH UP/SEEK (∧)	ON	6 and 2	Approx. 602 Ω
Preset CH DOWN/SEEK (∨)	ON	6 and 2	Approx. 1,143 Ω

Switch	Switch operation	Terminal No.	Standard
HOOK ON HOOK OFF TALK	All OFF	12 and 2	Approx. 100 kΩ
HOOK ON	ON	12 and 2	Approx. 329 Ω
HOOK OFF	ON	12 and 2	Approx. 1,000 Ω
TALK	ON	12 and 2	Approx. 3,110 Ω

Replace the satellite switch if the inspection result is not within the standard value.

- TYPE 2

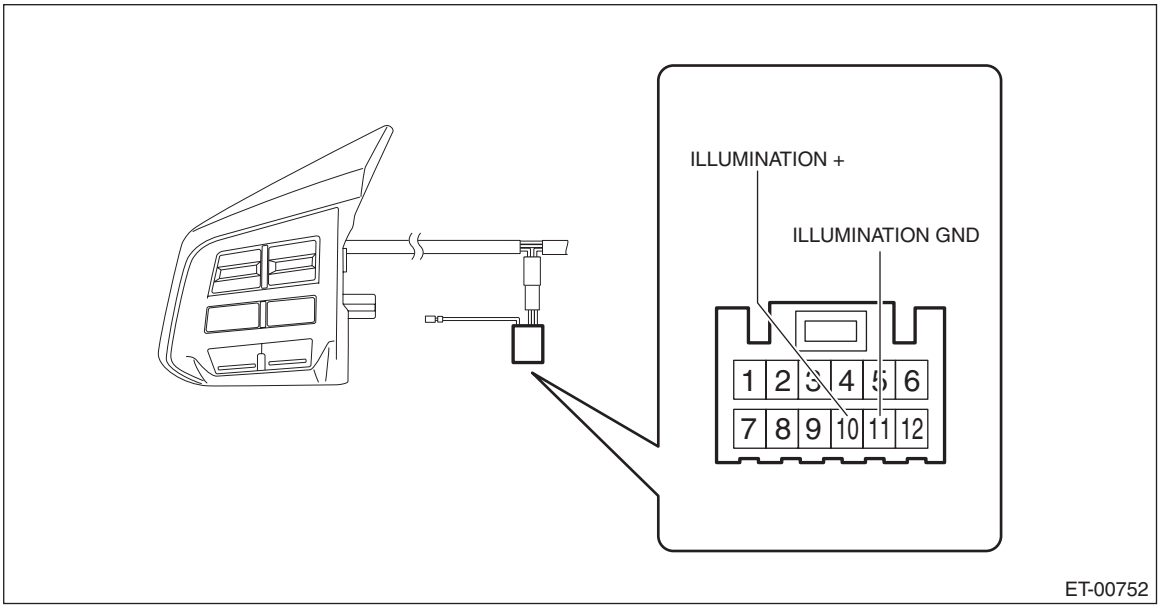


Switch	Switch operation	Terminal No.	Standard
SEEK (∧) SEEK (∨) VOL (+) VOL (–)	All OFF	6 and 2	Approx. 100 kΩ
Preset CH UP/SEEK (∧)	ON	6 and 2	Approx. less than 1 Ω
Preset CH DOWN/SEEK (∨)	ON	6 and 2	Approx. 330 Ω
VOL (+)	ON	6 and 2	Approx. 1,000 Ω
VOL (–)	ON	6 and 2	Approx. 3,110 Ω

Switch	Switch operation	Terminal No.	Standard
MODE HOOK ON HOOK OFF TALK	All OFF	12 and 2	Approx. 100 kΩ
MODE	ON	12 and 2	Approx. less than 1 Ω
HOOK ON	ON	12 and 2	Approx. 330 Ω
HOOK OFF	ON	12 and 2	Approx. 1,000 Ω
TALK	ON	12 and 2	Approx. 3,110 Ω

Replace the satellite switch if the inspection result is not within the standard value.

2) Check the satellite switch illumination.
(1) Connect the battery (12 V) to the satellite switch connector.



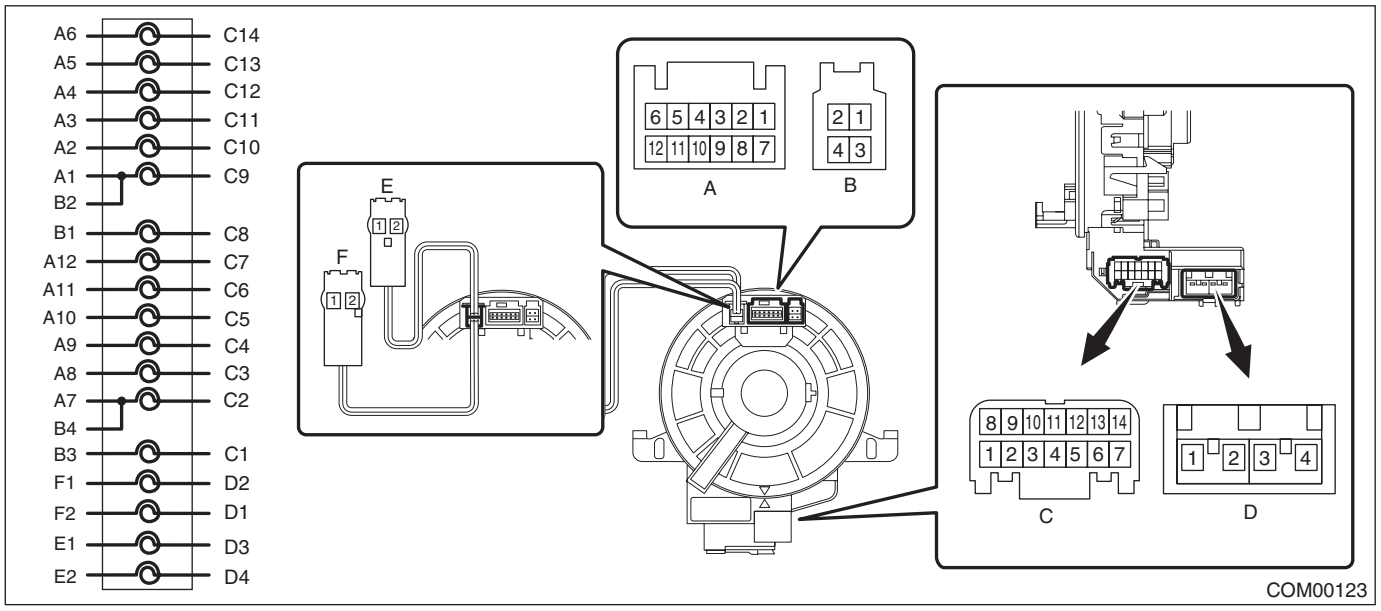
(2) If illumination does not turn on, replace the satellite switch assembly.

2. STEERING ROLL CONNECTOR

CAUTION:
• Do not rotate the roll connector to more than the specified number of turns. Otherwise, the roll connector internal wire may be broken.
• When determining the end stop, rotate the connector slowly without applying excessive force. Applying excessive force at the end stop may break the internal wire.

1) Adjust the roll connector. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>
2) Set the roll connector to the central position.
3) Check the resistance between each connector under the following conditions:
• Measure the resistance with the roll connector at the center position (the front wheels in straight-ahead position).
• Turn the roll connector counterclockwise from the center position (with the front wheels in straight-ahead position) until it stops, and then measure the resistance while turning the connector clockwise by approximately 2.5 turns.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions	Standard
A6 — C14	Always	Less than 1 Ω
A12 — C7	Always	Less than 1 Ω
A11 — C6	Always	Less than 1 Ω
A10 — C5	Always	Less than 1 Ω
A9 — C4	Always	Less than 1 Ω

4) Replace the roll connector with a new part if the inspection result is not within the standard value.

12.Navigation Body

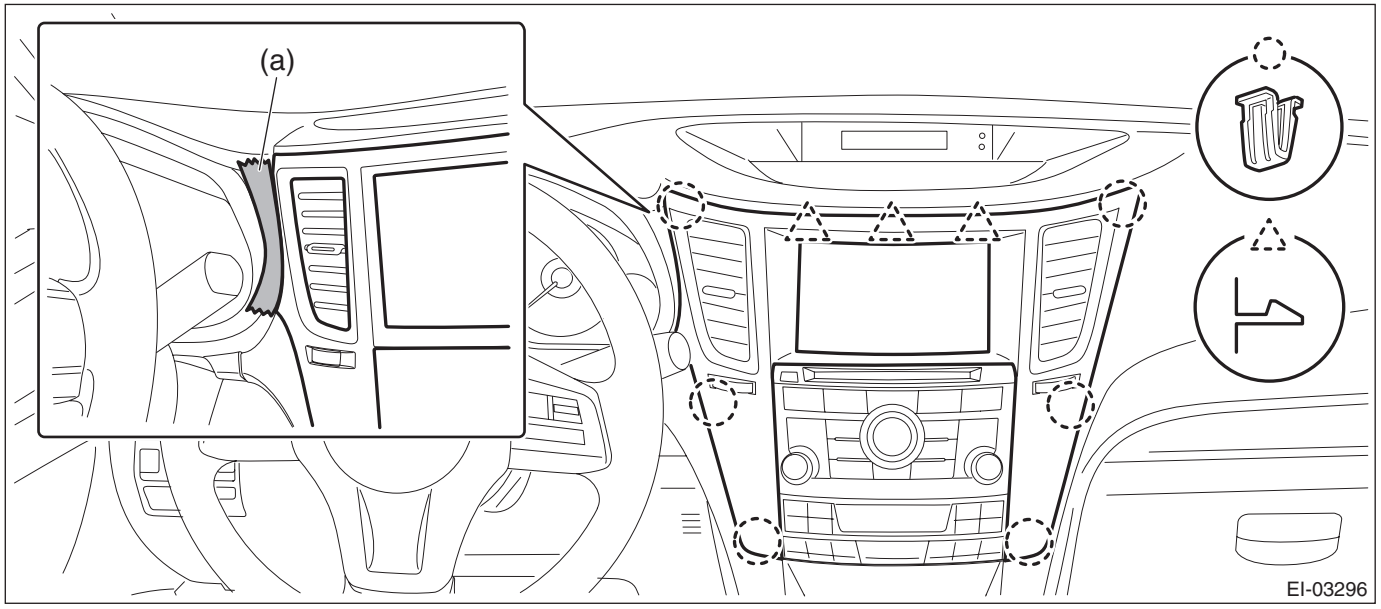
A: REMOVAL

CAUTION:
• When replacing the navigation unit, be sure to replace with specified navigation unit. The marker adjustment can not be performed correctly if replacing with unspecified navigation unit.
• After replacing the navigation unit, be sure to check that the rearview camera images and the marker line are displayed.

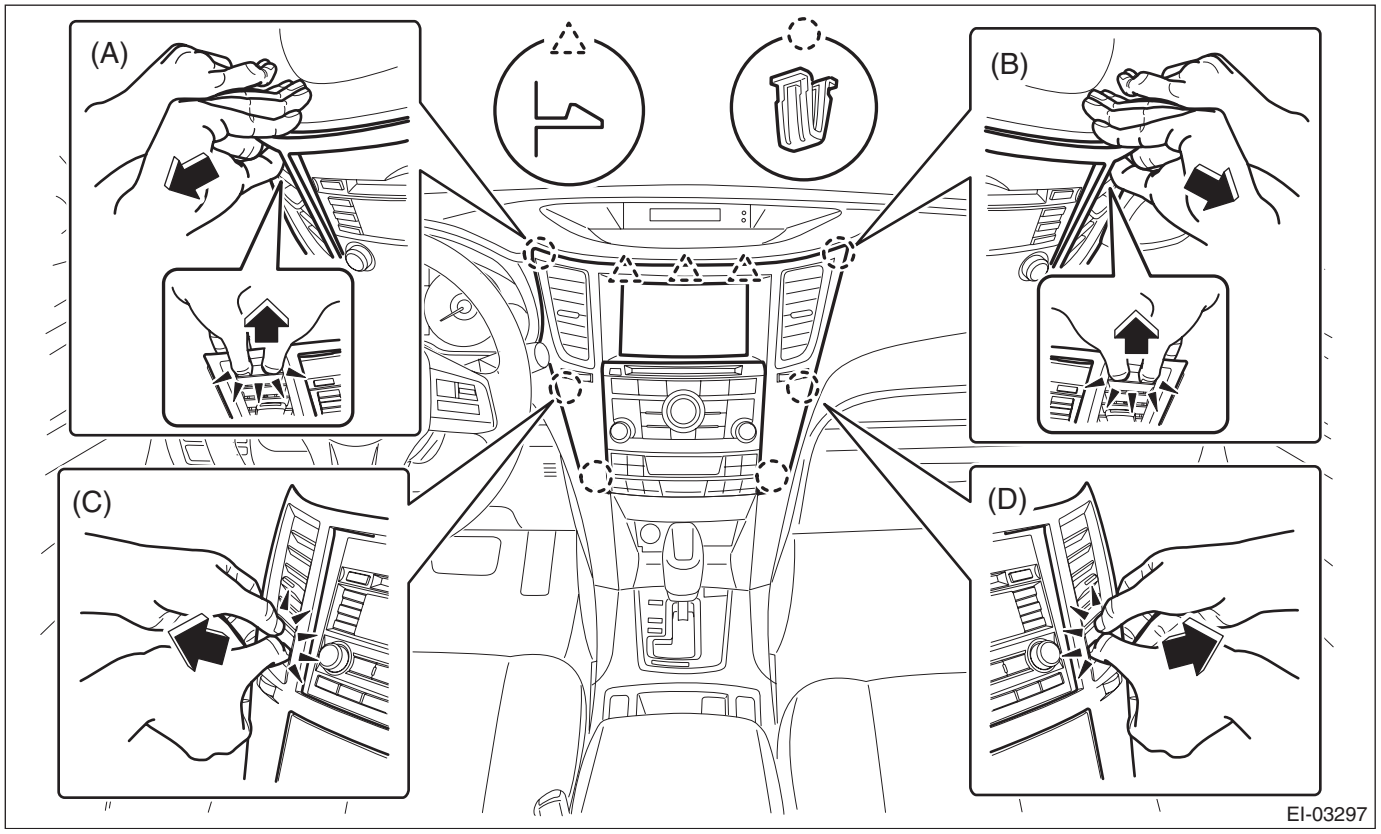
1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

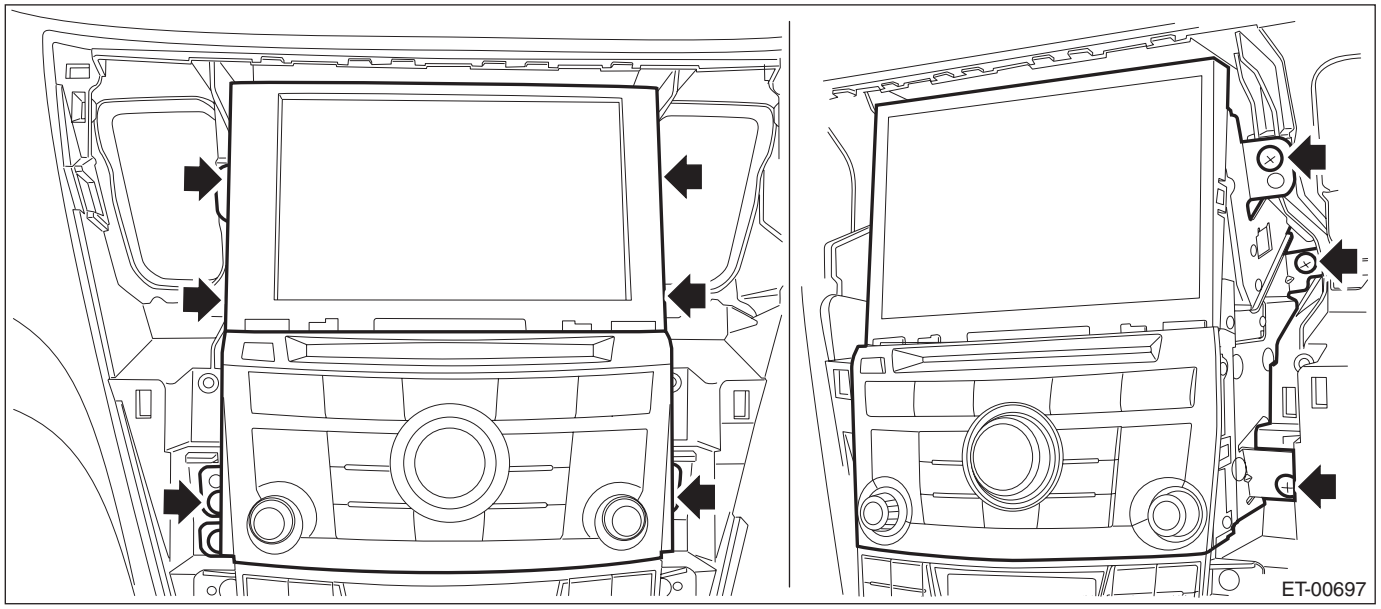
(1) Attach the protective tape (a) to the meter visor.



(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



3) Remove the navigation assembly.
(1) Remove the left and right screws.
(2) Disconnect the connector and remove the navigation assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

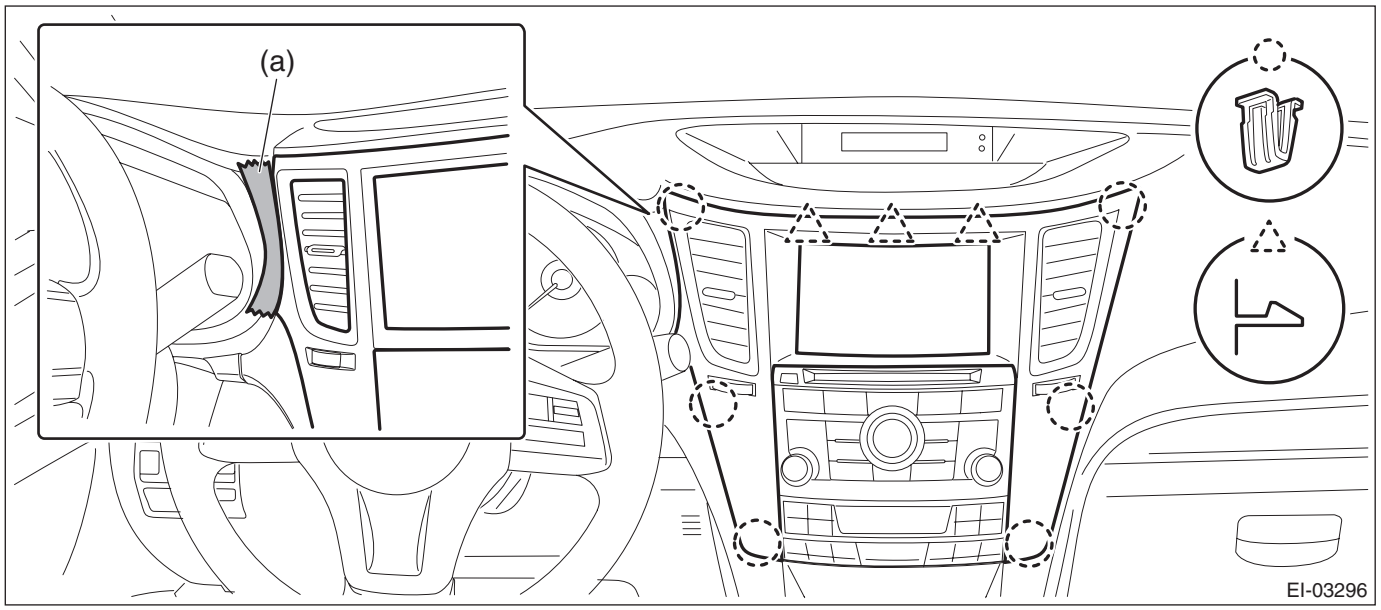
13.GPS Antenna

A: REMOVAL

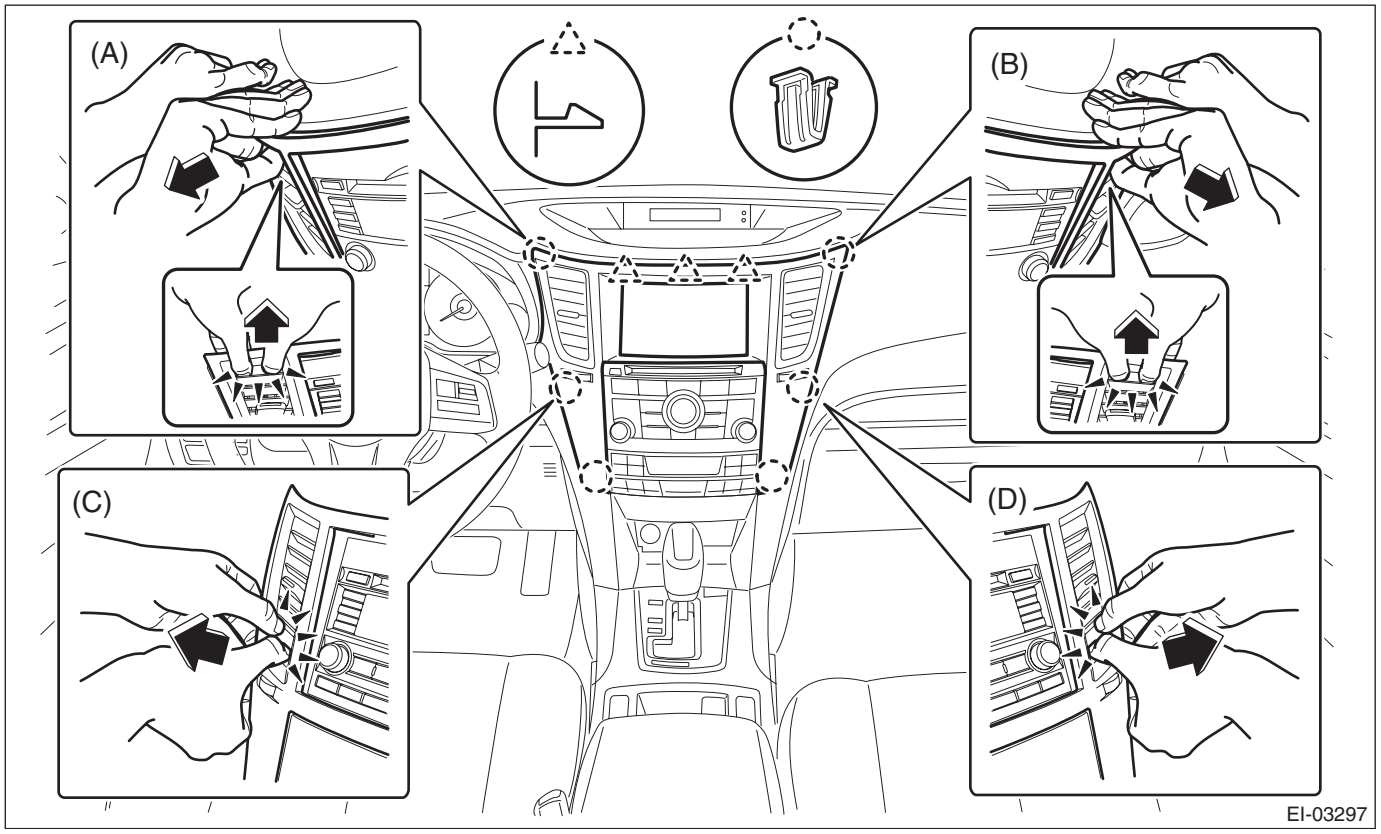
1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

(1) Attach the protective tape (a) to the meter visor.



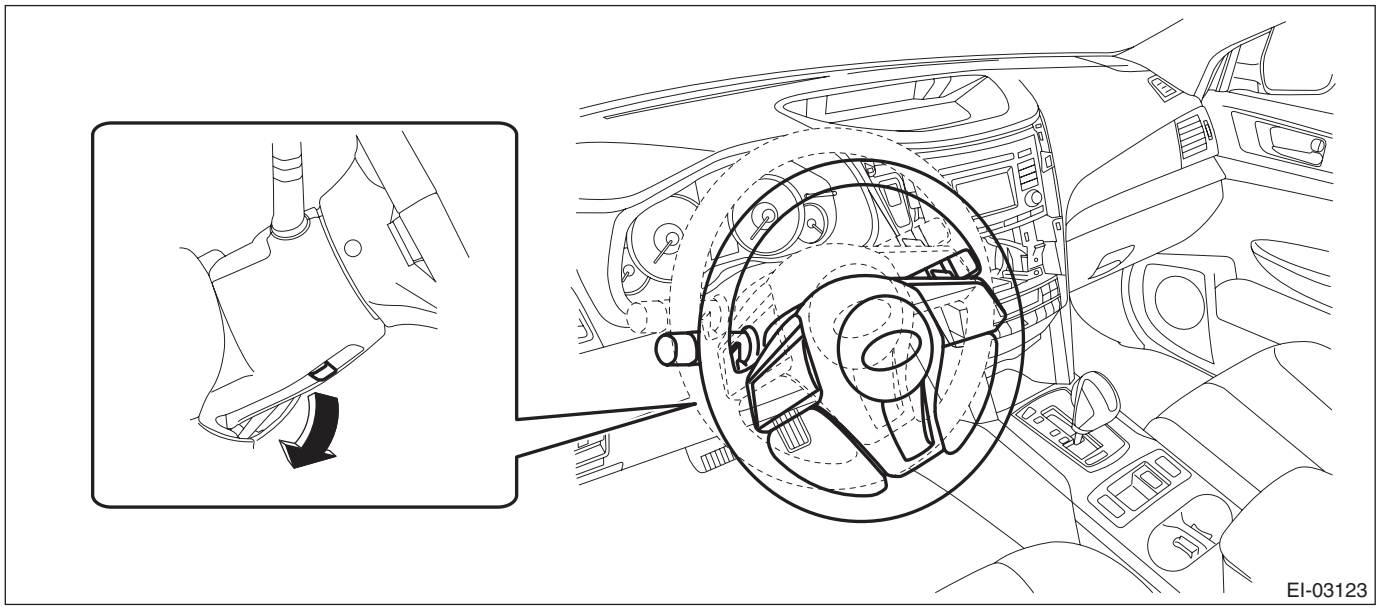
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



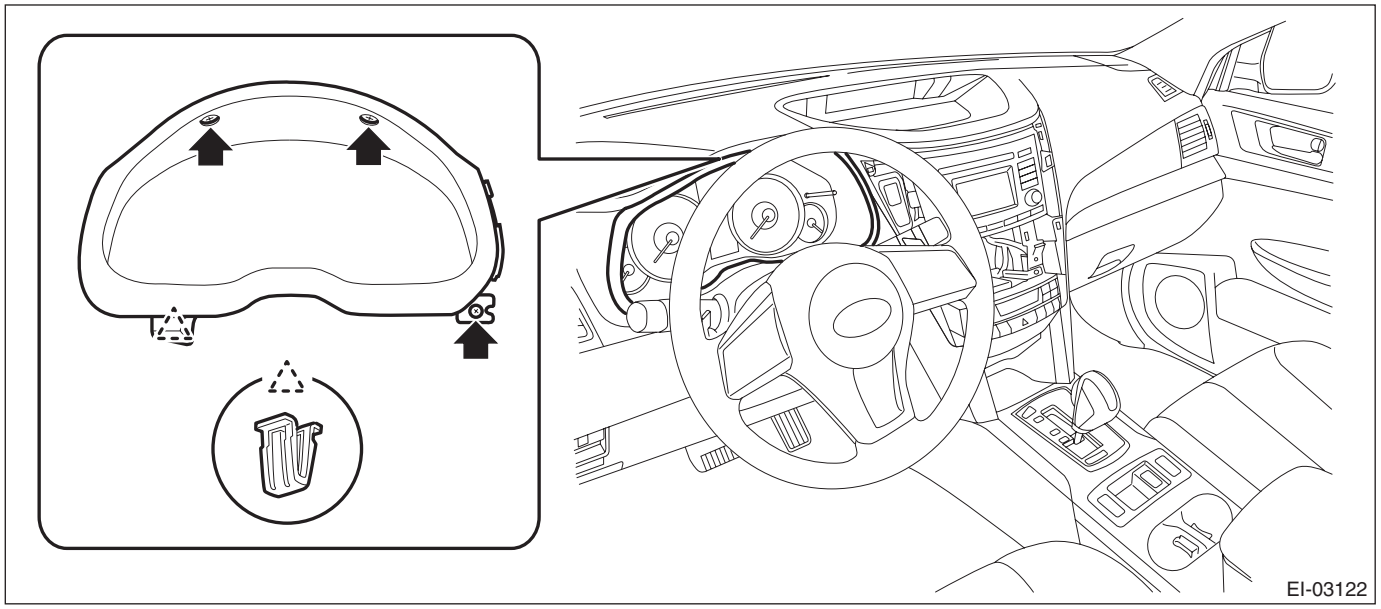
3) Remove the combination meter assembly.

CAUTION:
- **Be careful not to damage the meter or instrument panel.**
- **Pay particular attention to avoid damaging the meter glass.**

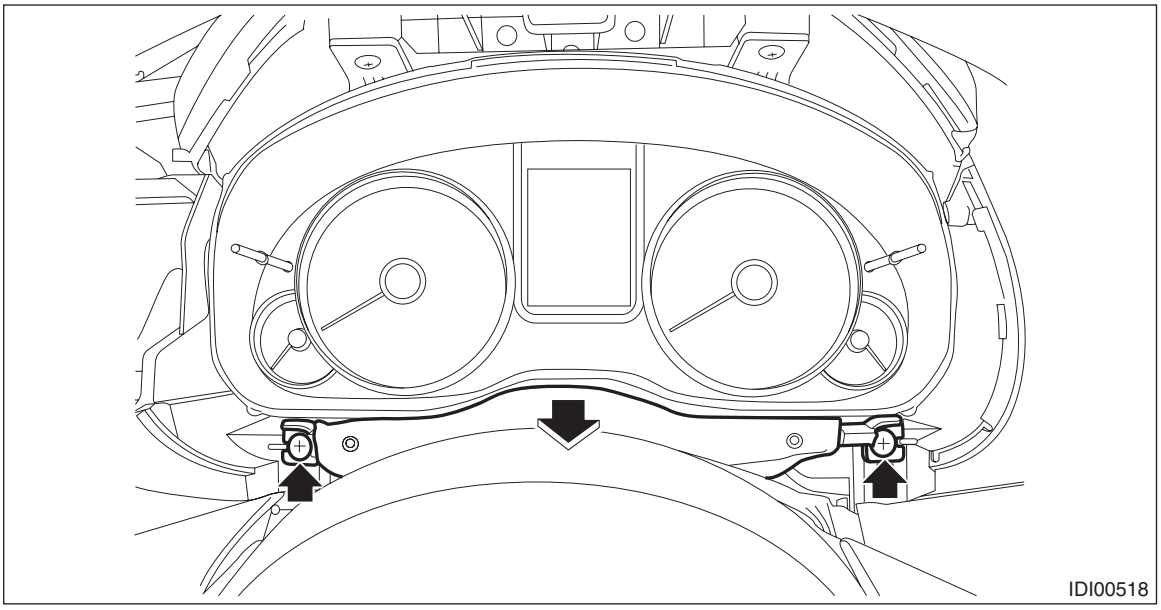
(1) Release the lock, tilt the steering column to the lowest end and fully extend the column by the telescopic system.



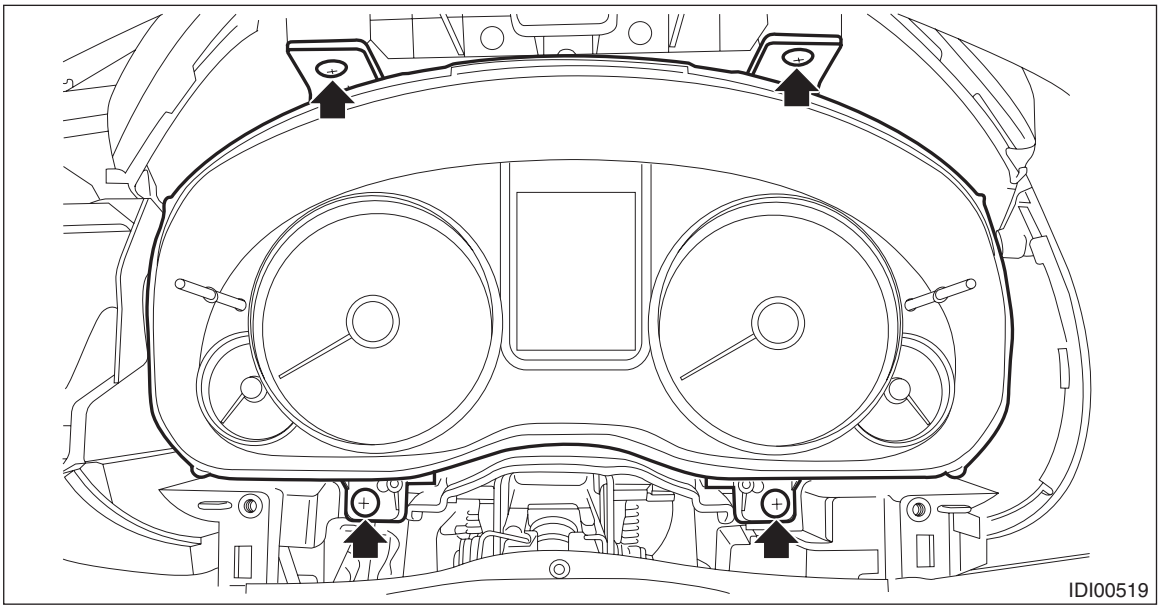
(2) Release the screws and clips, then detach the meter visor assembly.



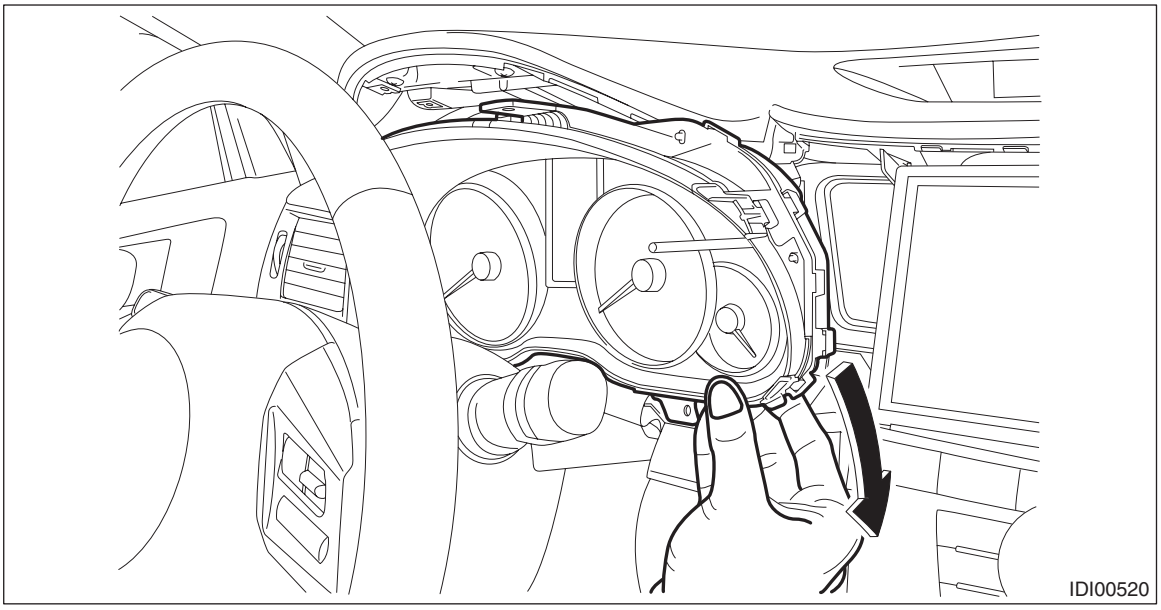
(3) Remove the screws and pull the steering COMPL upper cover toward you.



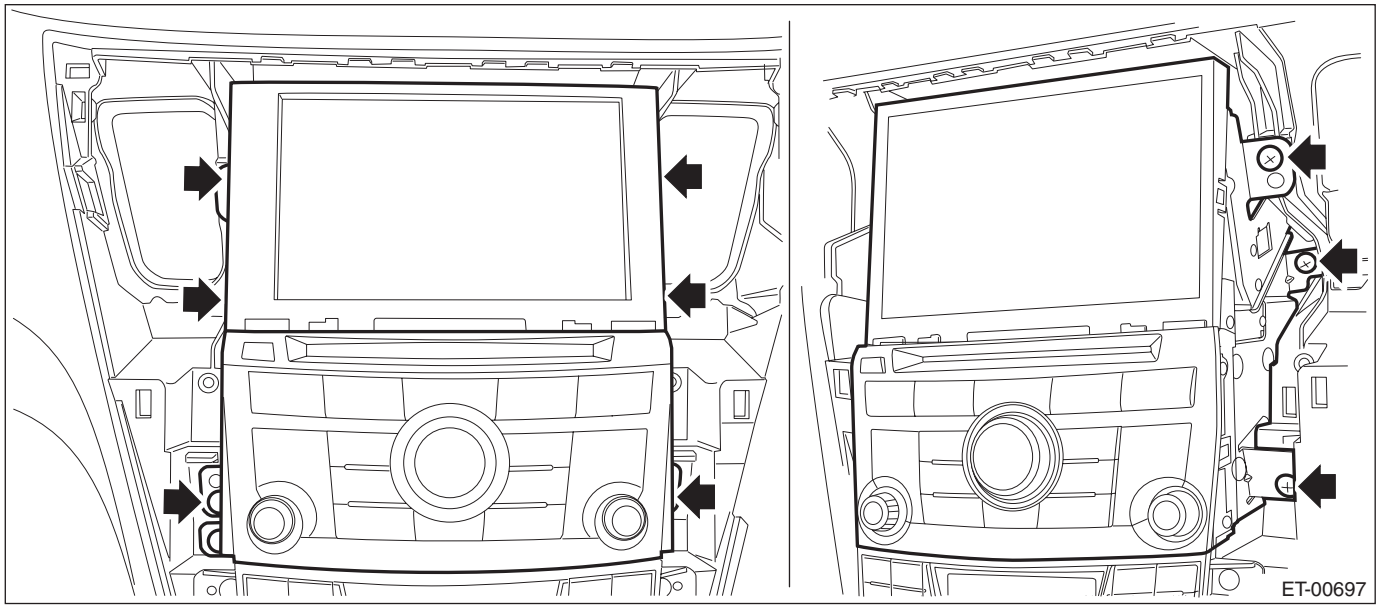
(4) Remove the screws and pull out the combination meter toward you to disconnect the connectors.



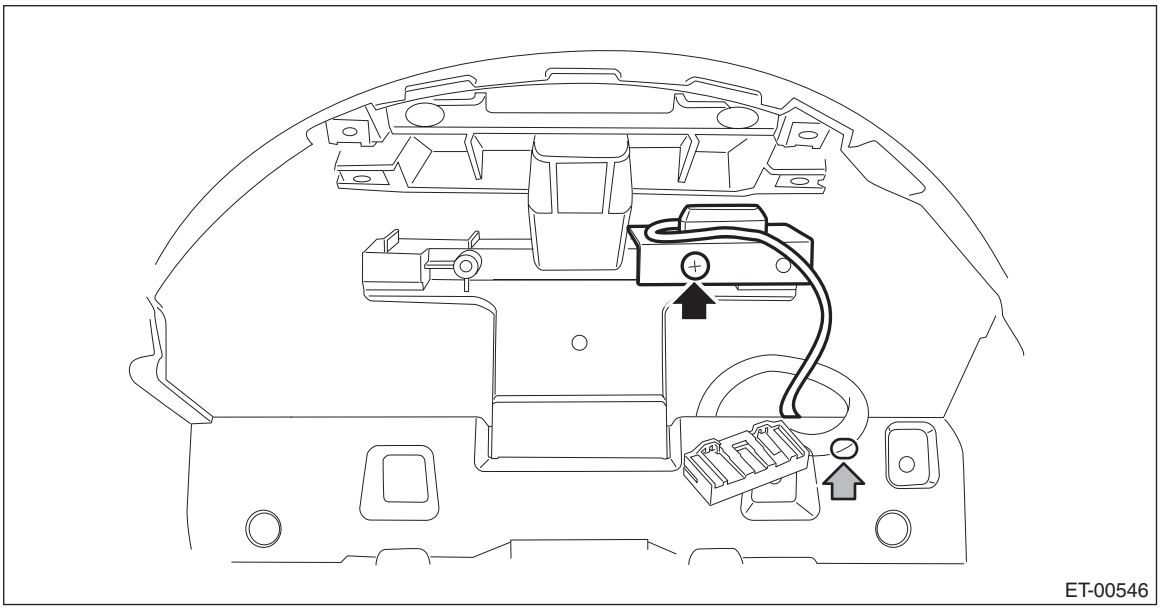
(5) Remove the combination meter assembly as shown in the figure.



4) Remove the navigation assembly.
(1) Remove the left and right screws.
(2) Disconnect the connectors, and remove the navigation assembly.



5) Remove the GPS antenna.



(1) Tie a string to the GPS antenna harness connector on the navigation assembly side.

NOTE:
A string makes operation easier during installation.

(2) Remove the screw and harness clamp to remove the GPS antenna.
(3) When the GPS antenna is pulled out, remove the string attached to the connector in step (1).

B: INSTALLATION

Install each part in the reverse order of removal.

14.Rearview Camera System

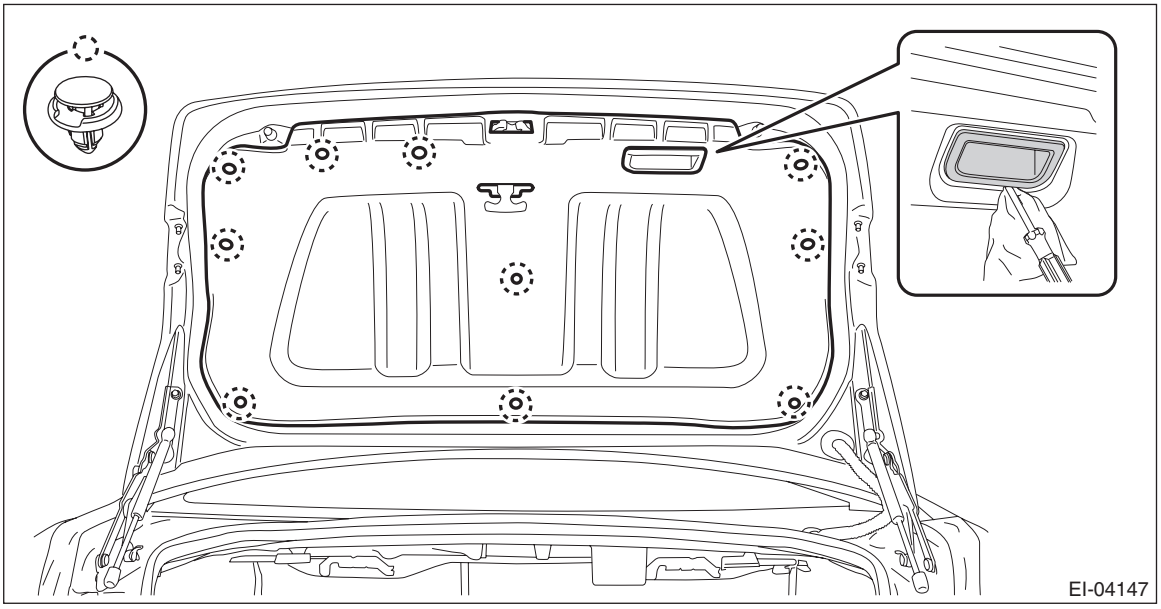
A: WIRING DIAGRAM

Refer to “Rearview Camera System” in the wiring diagram. <Ref. to WI-253, WIRING DIAGRAM, Rearview Camera System.>

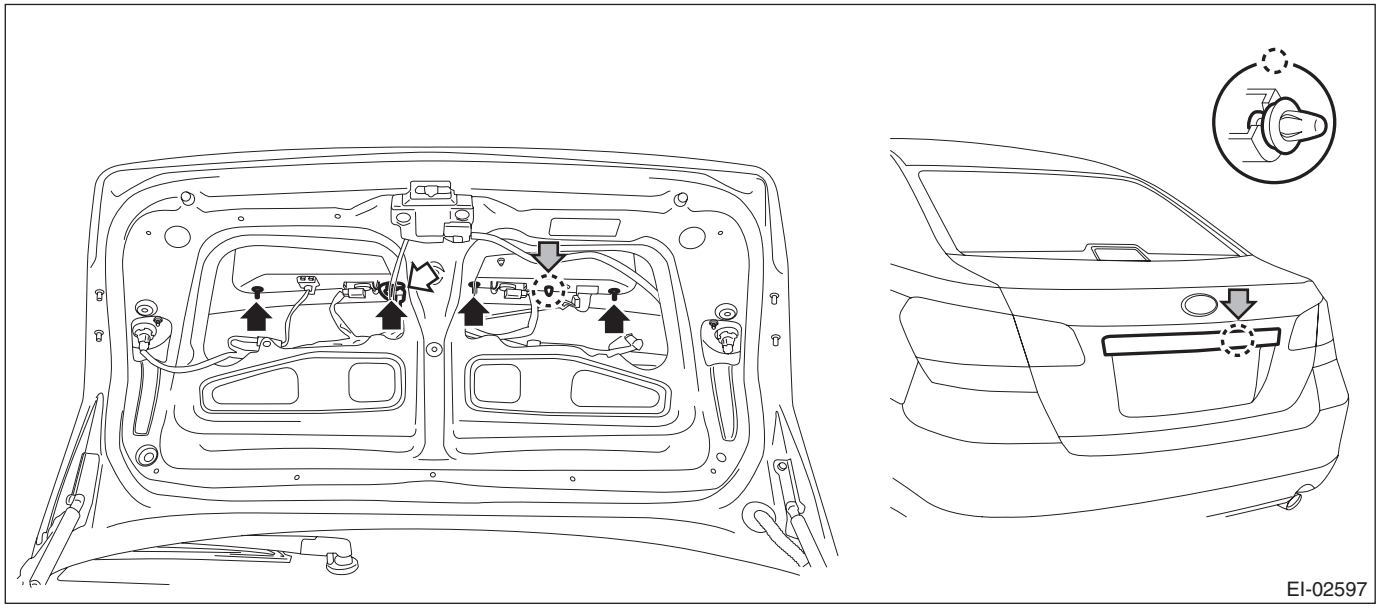
B: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the trunk lid trim.
   (1) Remove the trunk handle.
   (2) Remove the clips and the trunk lid trim.



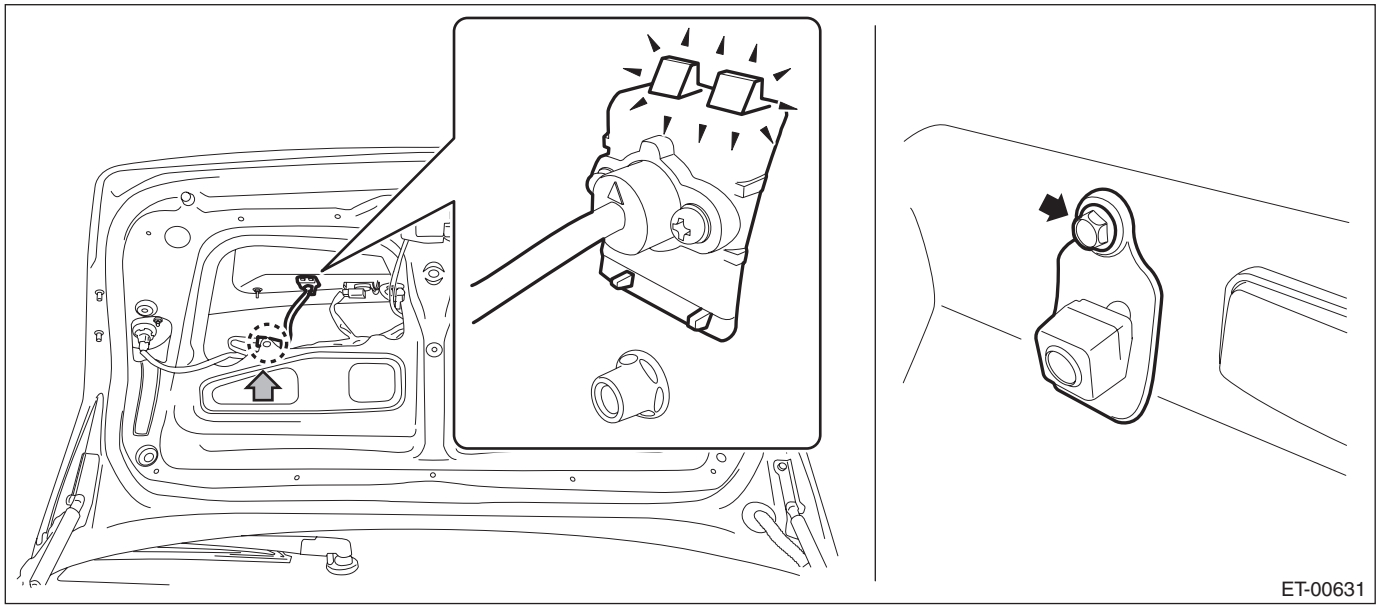
3) Remove the trunk lid garnish.
   (1) Remove the nut.
   (2) Remove the clips and the trunk lid garnish.



4) Remove the rearview camera.

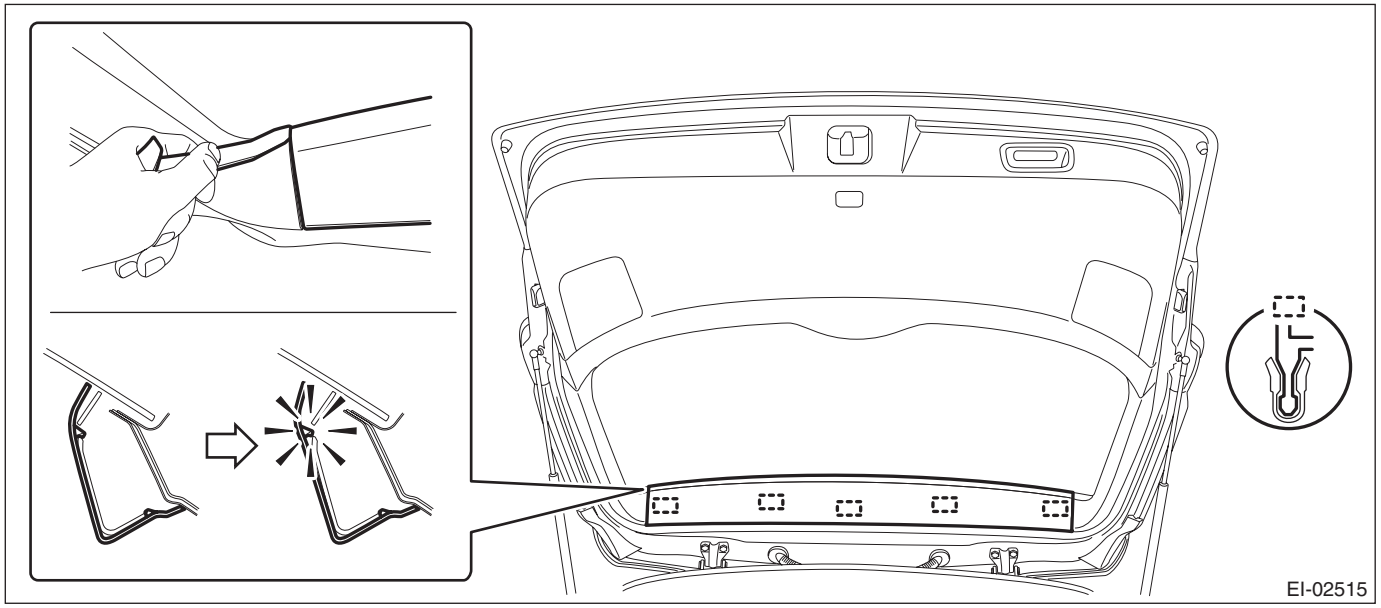
CAUTION:
Do not drop or apply any impact to the rearview camera because it is a precision equipment.

(1) Disconnect the rearview camera connector.
(2) Remove the bolt from the face of trunk.
(3) Disconnect the claws and then remove the rearview camera assembly.

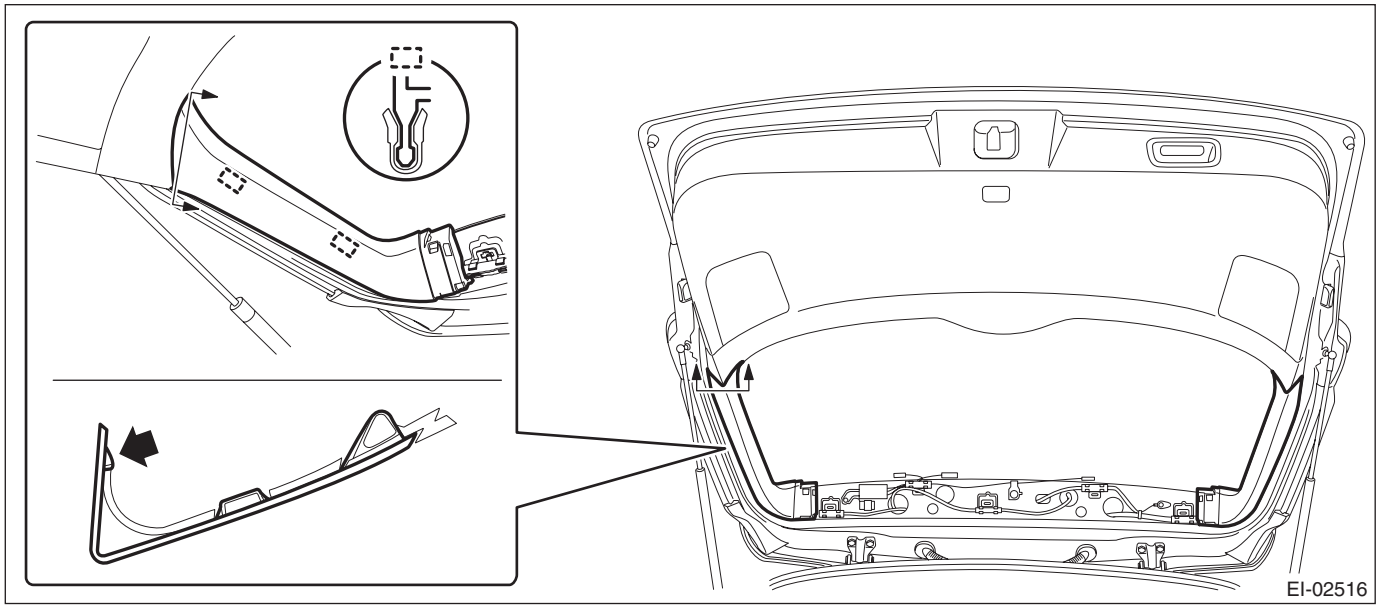


2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim.
   (1) Remove the rear gate upper trim.
      a) Remove the claws on the trim edge.
      b) Disconnect the claws in the center of trim, and remove the rear gate upper trim.



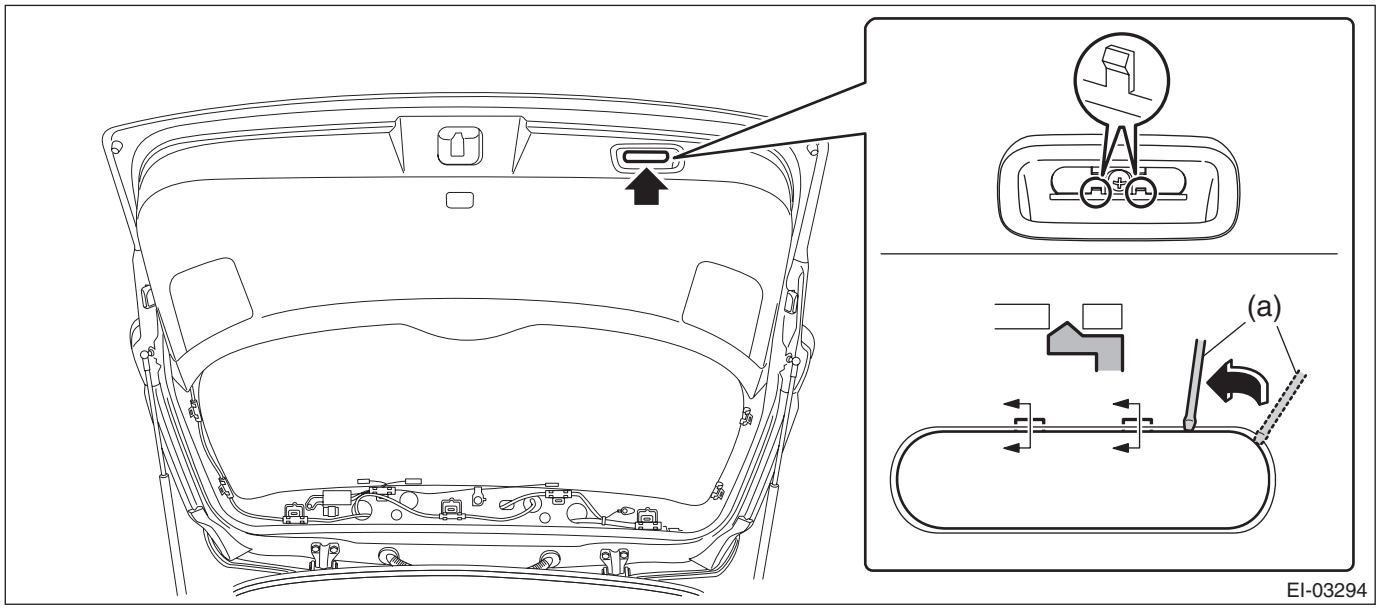
(2) Remove the rear gate pillar trim.
a) Release the claws.
b) Remove the claws on the bottom of trim, and remove the rear gate pillar trim.



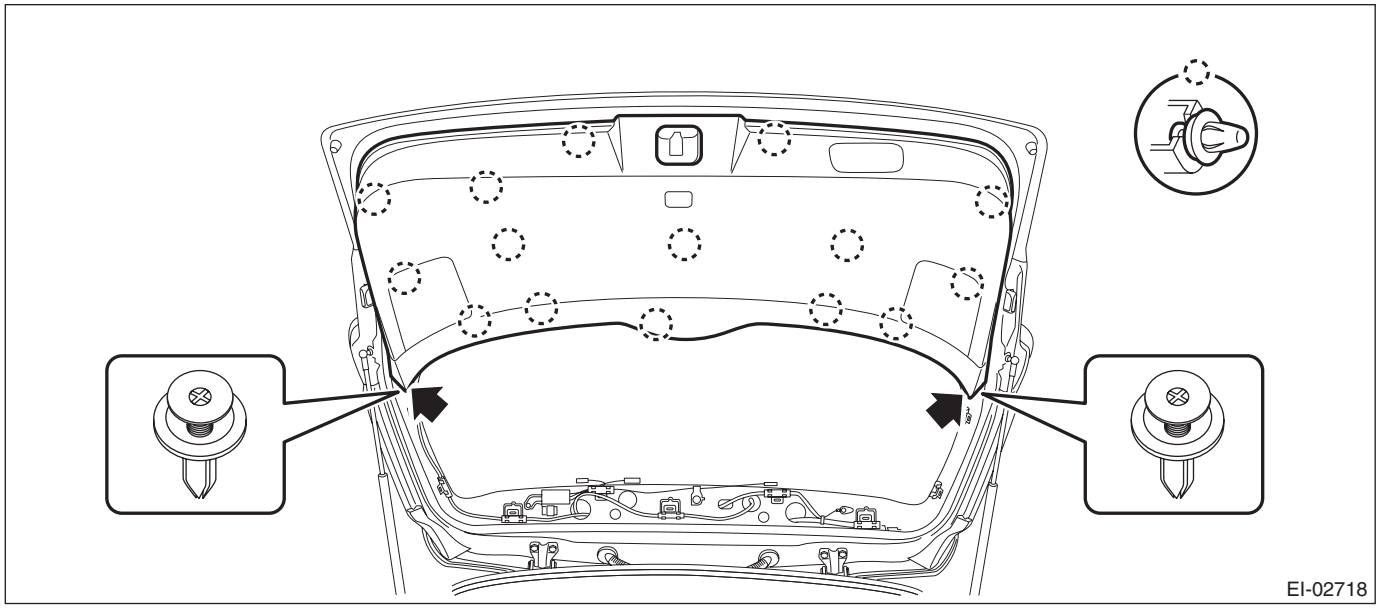
(3) Remove the hand grip of rear gate.

CAUTION:
- **Be careful not to scratch the trim.**
- **To protect the trim from damage, attach a protective tape to the tool in use.**

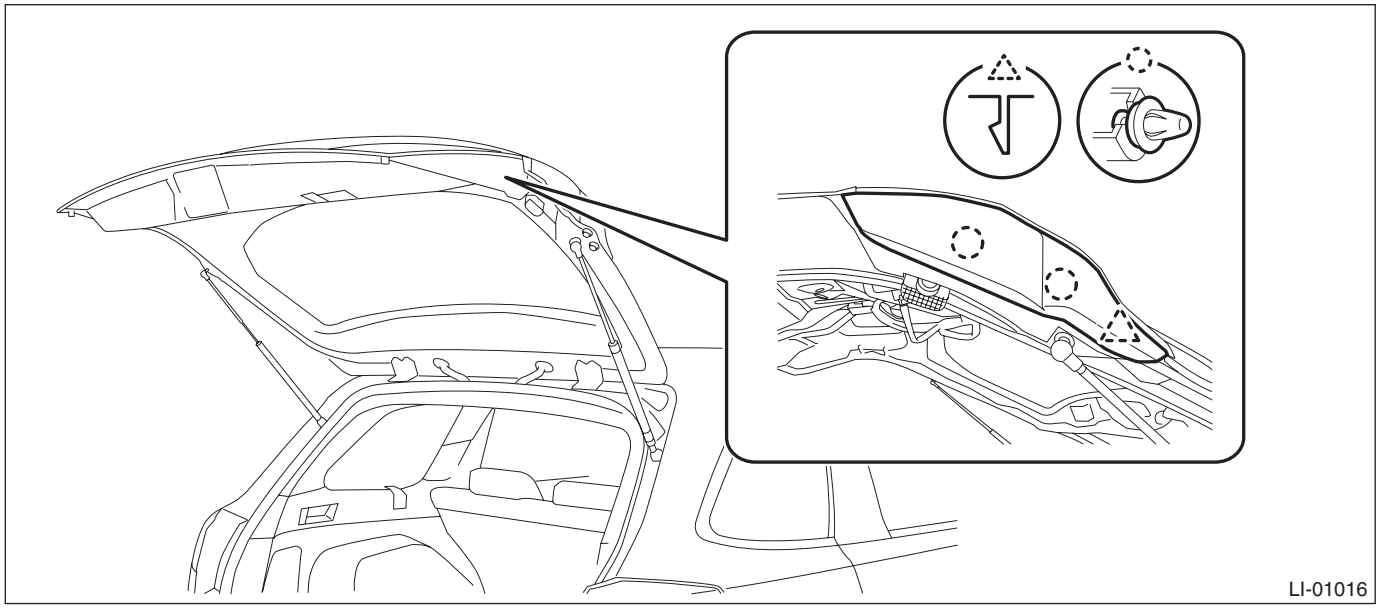
a) Insert a precision screwdriver (a).
b) With the screwdriver inserted, move the precision screwdriver toward the claw and open the cap.
c) Remove the screws and detach the hand grip.



(4) Remove the rear gate lower trim.
a) Remove the clips on both ends.
b) Release the clips and remove the rear gate lower trim.

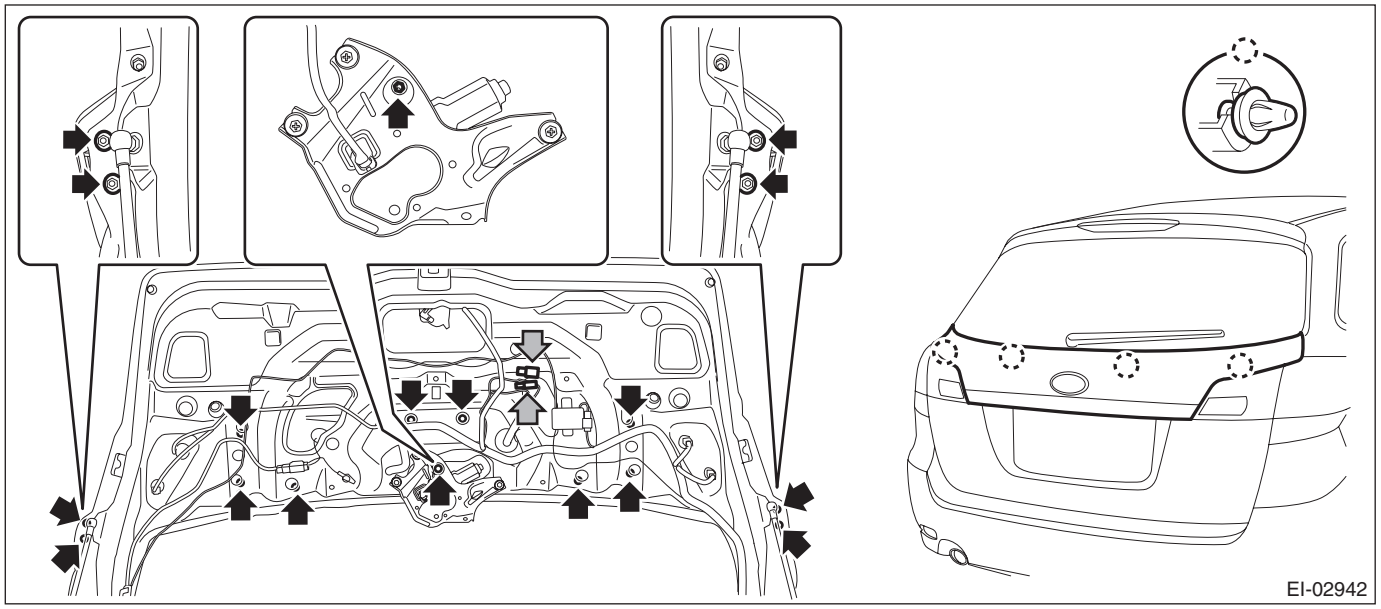


3) Remove the rear gate garnish.
(1) Release the clips and claws, then detach the rear finisher light side cover.



(2) Disconnect the harness connector of license plate light assembly.
(3) Remove the nuts.

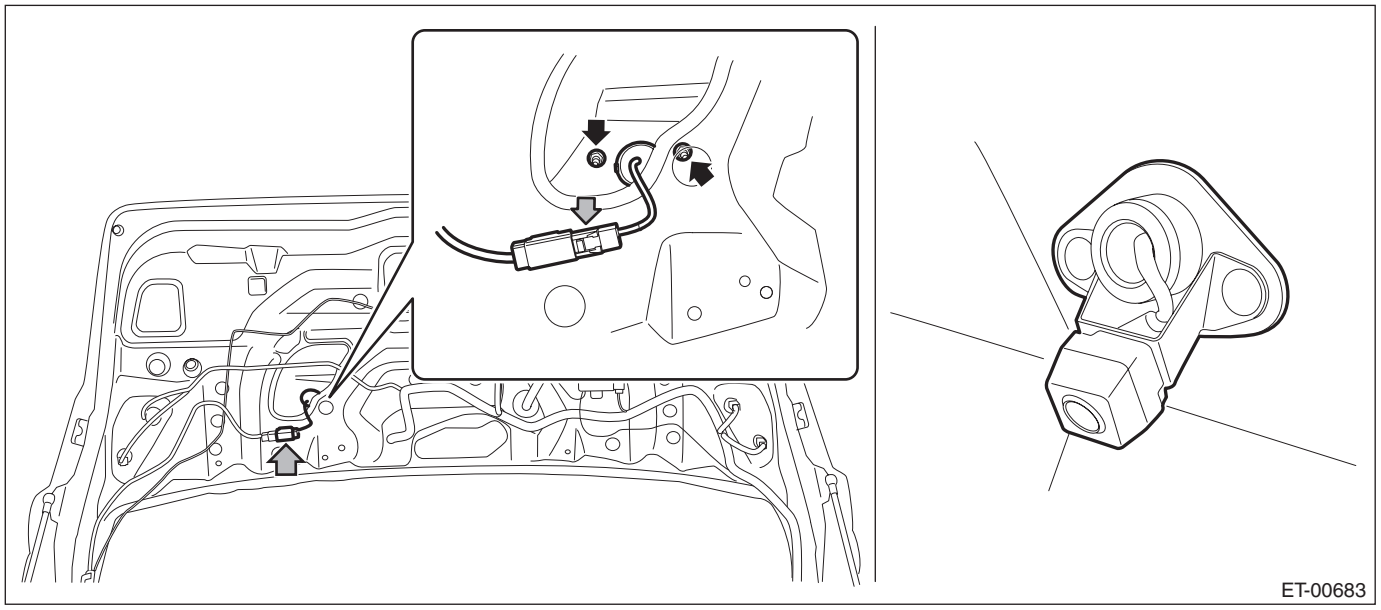
(4) Remove the clips, and remove the rear gate garnish.



4) Remove the rearview camera assembly.

CAUTION:
Do not drop or apply any impact to the rearview camera because it is a precision equipment.

(1) Disconnect the rearview camera connector.
(2) Remove the nut and bolt on the back side of rear gate.
(3) Disconnect the claws (for temporary fastening) and remove the rearview camera assembly.



C: INSTALLATION

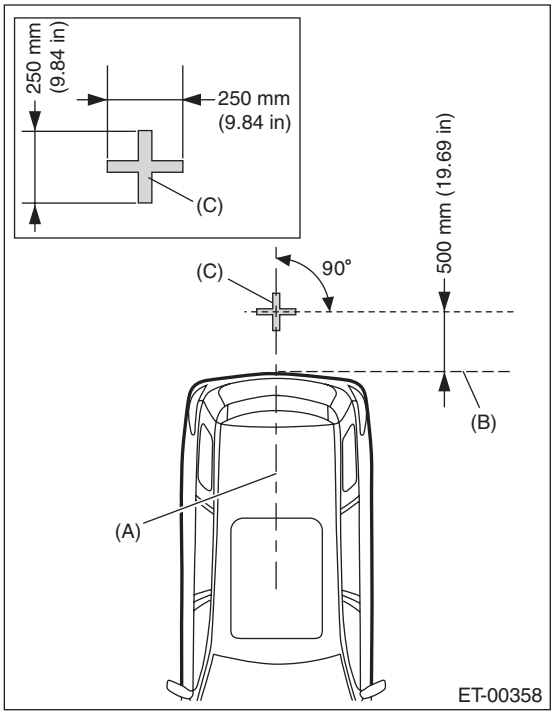
CAUTION:
Be sure to confirm the marker position, whenever the rearview camera is removed/installed/replaced.
Install each part in the reverse order of removal.

Tightening torque:
Sedan model
Rearview camera (bracket): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Trunk lid garnish: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)
OUTBACK model
Rearview camera (bracket (nut)): 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)
Rear gate garnish: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)
Rear wiper motor & wiper arm: <Ref. to WW-4, REAR WIPER, COMPONENT, General Description.>

D: INSPECTION

1) Park the vehicle at the level place where there are enough area at the rear of the vehicle.
2) Attach the tape as the target point for standard at the floor rearward of the vehicle as shown in the figure below.

NOTE:
Standard tape width is about 30 — 50 mm (1.18 — 1.97 in) and brilliant color shall be used.



(A) Vehicle body center line
(B) Rear edge of bumper
(C) Target point

3) Confirm the following before checking the corresponding items.
- Navigation
  - If the display is blank.

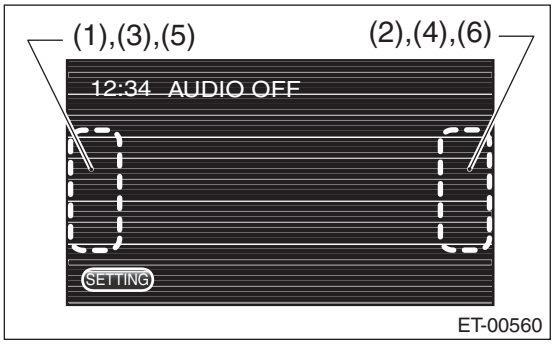
  Rearview camera image is not displayed. (Navigation screen is displayed normally.)
    1. Check the condition of back sensor connection. <Ref. to ET-9, CHECK EACH VEHICLE SIGNAL, INSPECTION, Navigation System.>
    2. Check the condition of rearview camera connection. <Ref. to ET-8, CHECK EACH CONNECTION, INSPECTION, Navigation System.>
  - If the marker is not displayed.
    1. Check the UART communication. <Ref. to ET-8, CHECK EACH CONNECTION, INSPECTION, Navigation System.>
  - If the marker position is not aligned.
    1. Adjust the marker position according to the MARKER ADJUSTMENT MODE. <Ref. to ET-58, MARKER ADJUSTMENT MODE, ADJUSTMENT, Rearview Camera System.>
- Rearview mirror (RCD model)
  - If the rearview camera display is blank.
    1. Check the condition of back sensor connection. <Ref. to ET-9, CHECK EACH VEHICLE SIGNAL, INSPECTION, Navigation System.>
    2. Check the condition of rearview camera connection. <Ref. to ET-8, CHECK EACH CONNECTION, INSPECTION, Navigation System.>

E: ADJUSTMENT

1. MARKER ADJUSTMENT MODE

Navigation

1) Prepare the target point. <Ref. to ET-57, INSPECTION, Rearview Camera System.>
2) Display the audio OFF screen by turning the ignition switch to ON, then touch the screen in the order of (1) — (6).

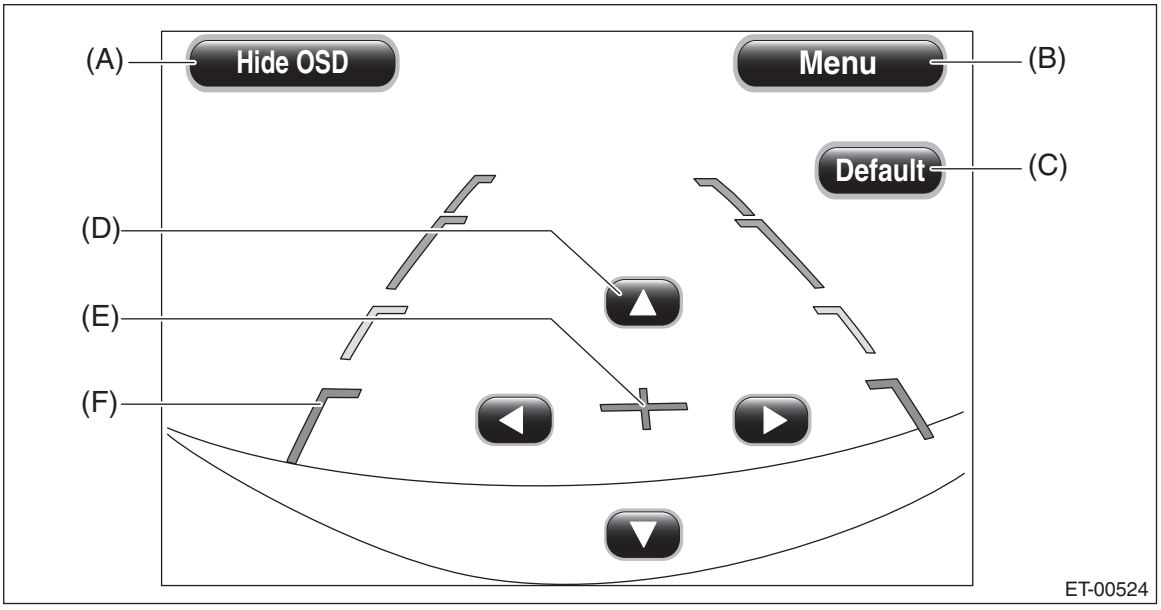


3) When the Dealer Diag menu screen is displayed, touch the “Rear Camera Setup” from the items.

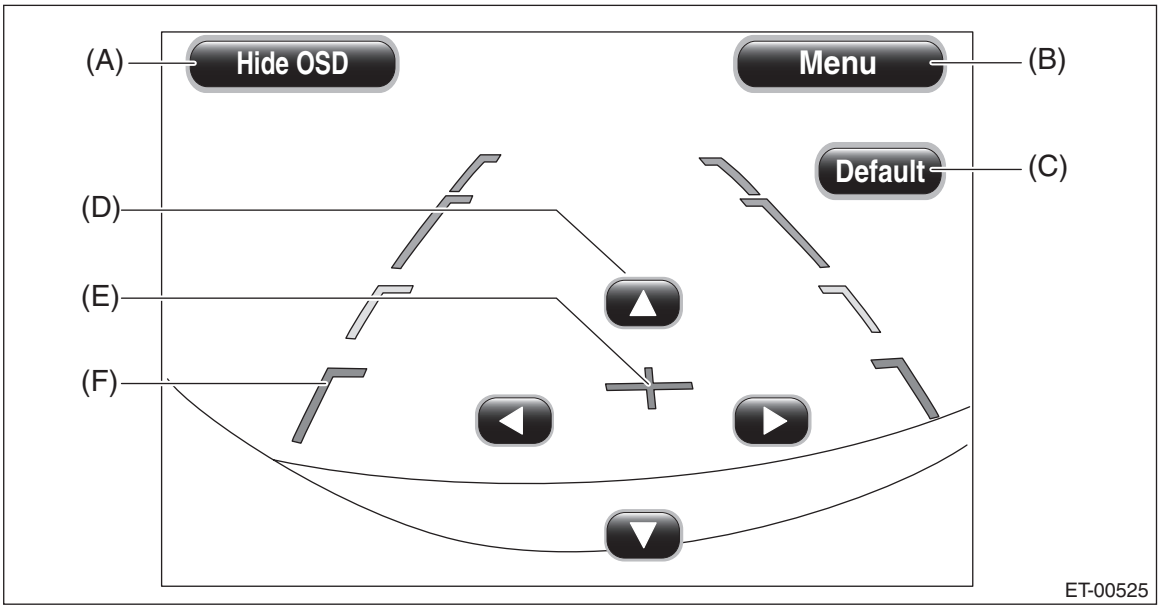


CAUTION:
Do not select the item other than “Rear Camera Setup”. The navigation system can not operate normally.
4) Shift the select lever to the “R” position to display the image of the rearview camera.

5) Touch the adjustment keys on the display screen to adjust the marker line.
- Sedan model



- OUTBACK model



(A) Hide OSD key
(B) Menu key
(C) Default key
(D) Adjustment keys
(E) Cross line
(F) Vehicle width and distance reference line

(1) Confirm that the target point position in the display screen is identified.
(2) Adjust by touching the adjustment keys so that the cross line (E) and target point join together.

NOTE:
- Hide OSD key: Touching the Hide OSD key hides the operation keys. When the operation keys are not displayed, touching the display screen displays the operation keys again.
- Menu key: Touching this key shifts to the Dealer Diag Menu screen.
- Default key: Touching this key resets the adjustment values to the default condition.

6) Turn the ignition switch to OFF and wait for 60 seconds or more before turning the ignition switch to ON again.

CAUTION:
If the ignition switch is turned to OFF, be sure to wait for 60 seconds or more before turning the ignition switch to ON again.
If turning the ignition switch to ON again or disconnecting the ground cable from battery within 60 seconds after turning the ignition switch to OFF, the navigation unit data updating can not be performed correctly.

7) Shift the select lever to the “R” position to display the image of the rearview camera.
8) Confirm that the marker line position is correctly adjusted before turning the ignition switch to OFF, then finish the procedures.

15.Front Accessory Power Supply Socket

A: WIRING DIAGRAM

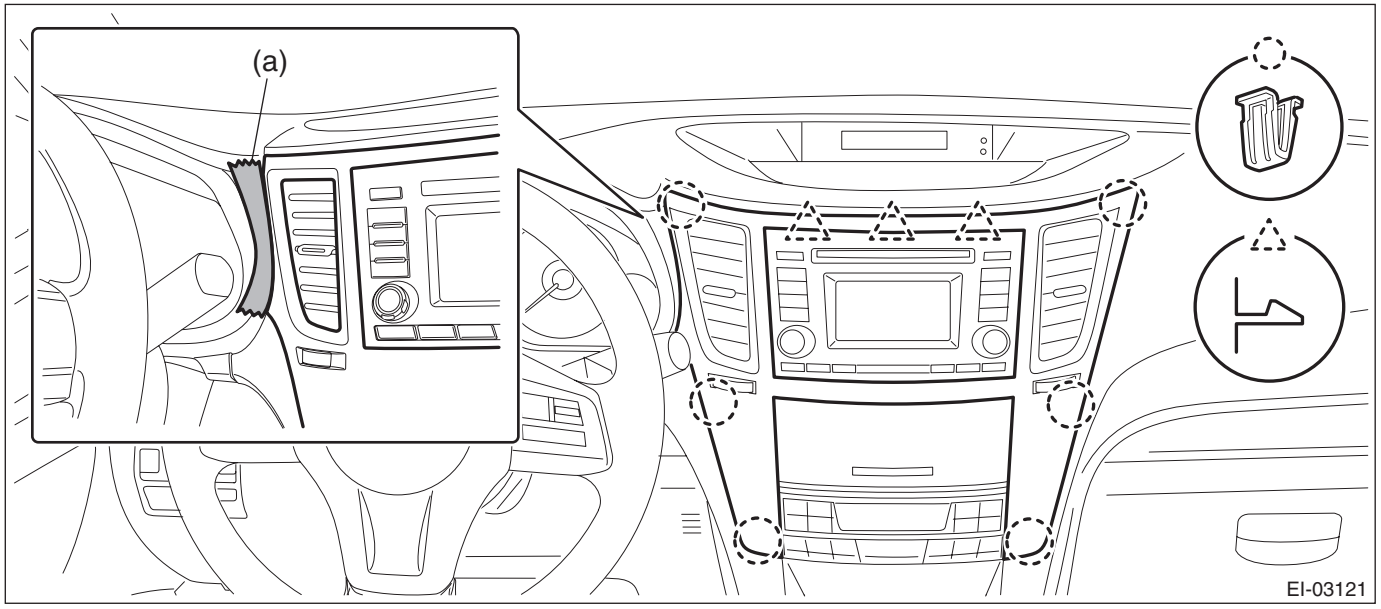
Refer to “Front Accessory Power Supply Socket System” in the wiring diagram. <Ref. to WI-190, WIRING DIAGRAM, Front Accessory Power Supply Socket System.>

B: REMOVAL

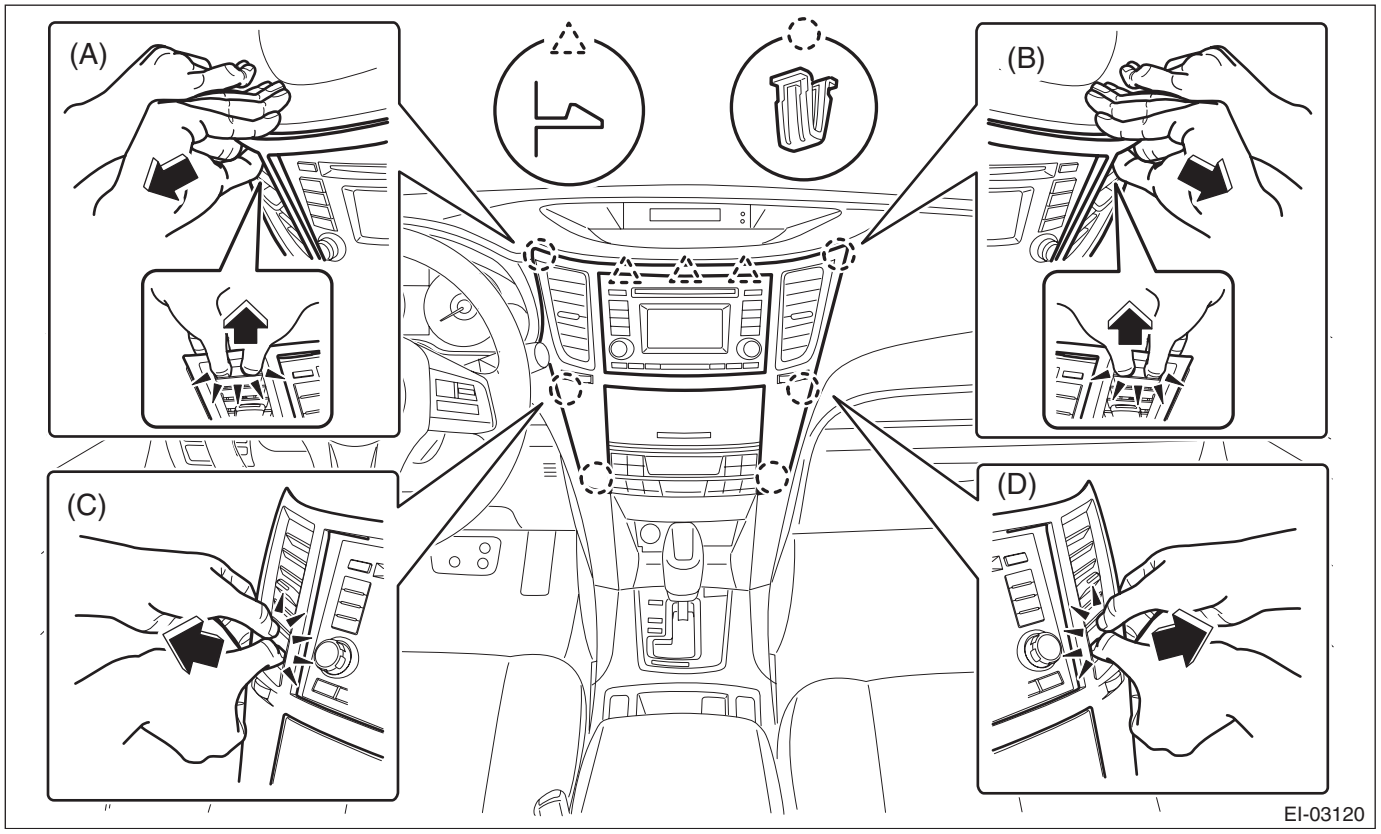
1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

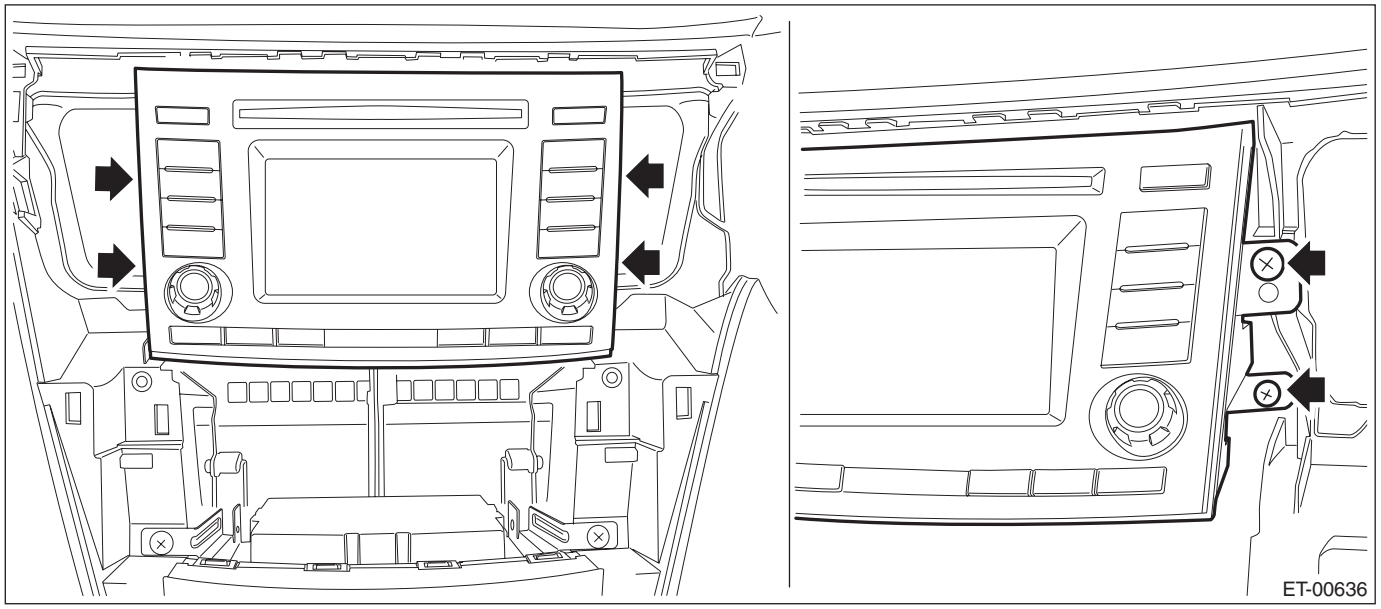
(1) Attach the protective tape (a) to the meter visor.



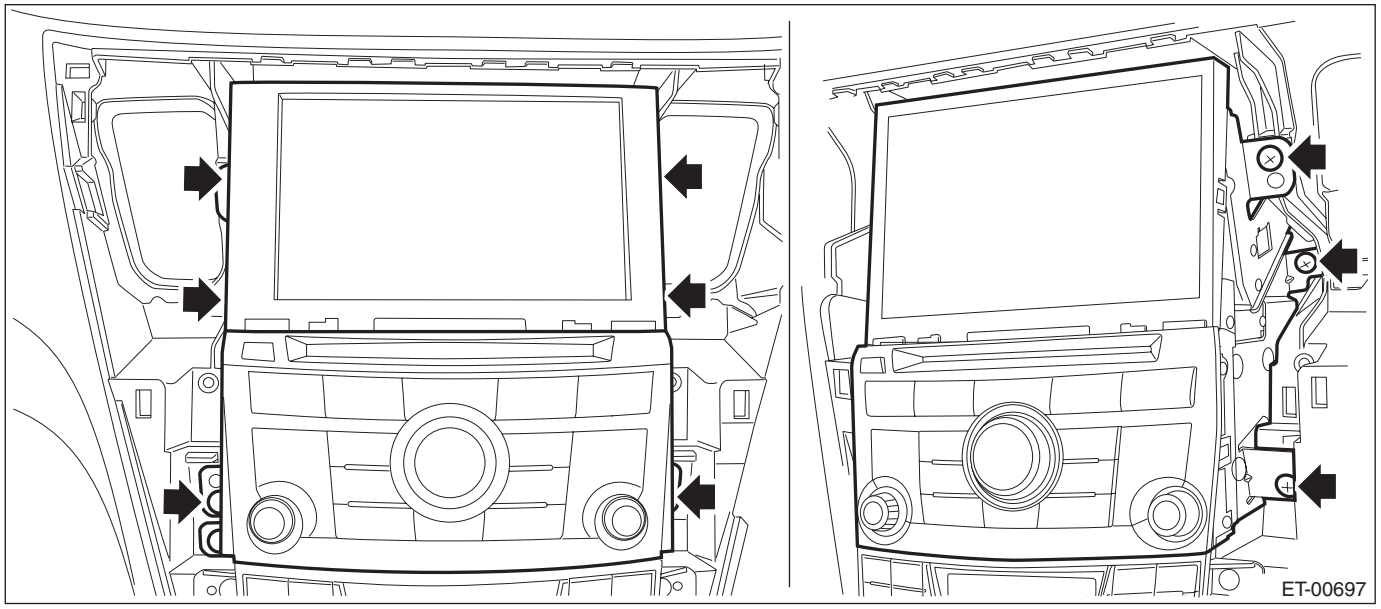
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



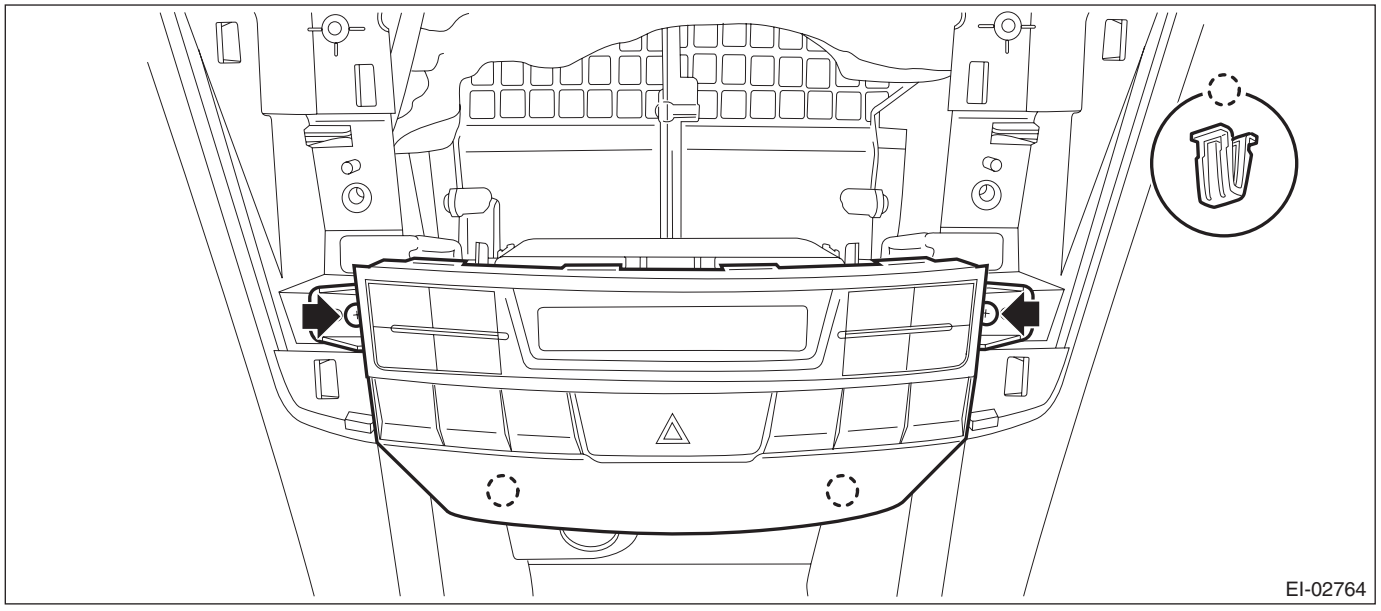
3) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



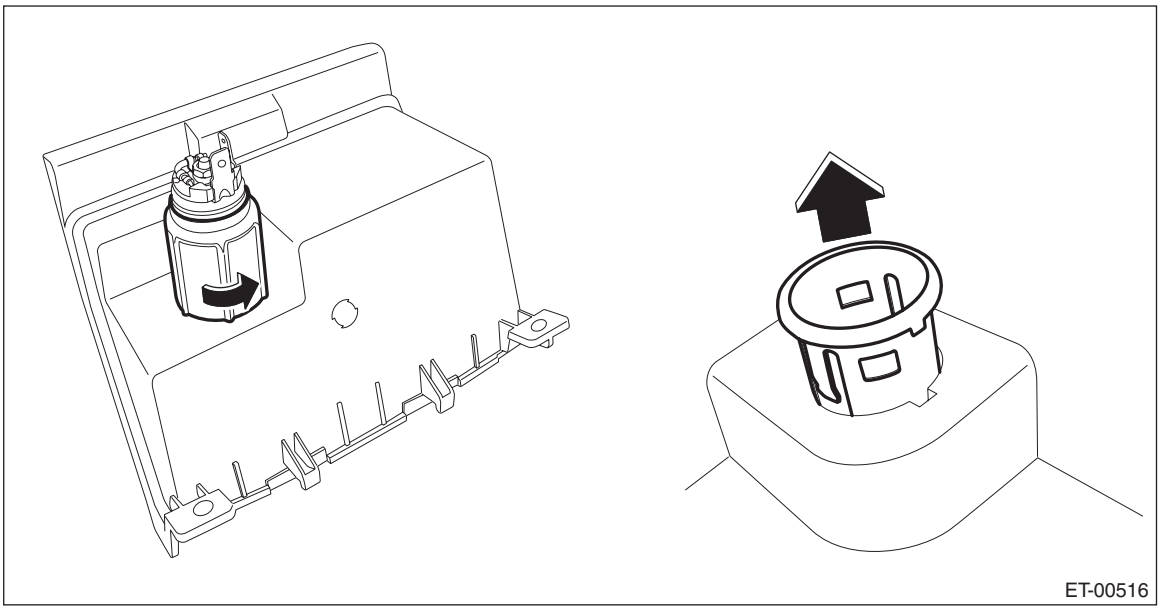
4) Remove the navigation assembly. (model with navigation)
   (1) Remove the left and right screws.
   (2) Disconnect the connectors, and remove the navigation assembly.



5) Remove the control panel assembly.
   (1) Remove the screws, and pull out the control panel assembly toward you.
   (2) Disconnect the connector, and remove the control panel assembly.



6) Remove the front accessory power supply socket.
   (1) Disconnect the connector and turn the securing cover to remove it.
   (2) Pull the accessory power supply socket out to remove.



C: INSTALLATION

Install each part in the reverse order of removal.

16.Rear Accessory Power Supply Socket

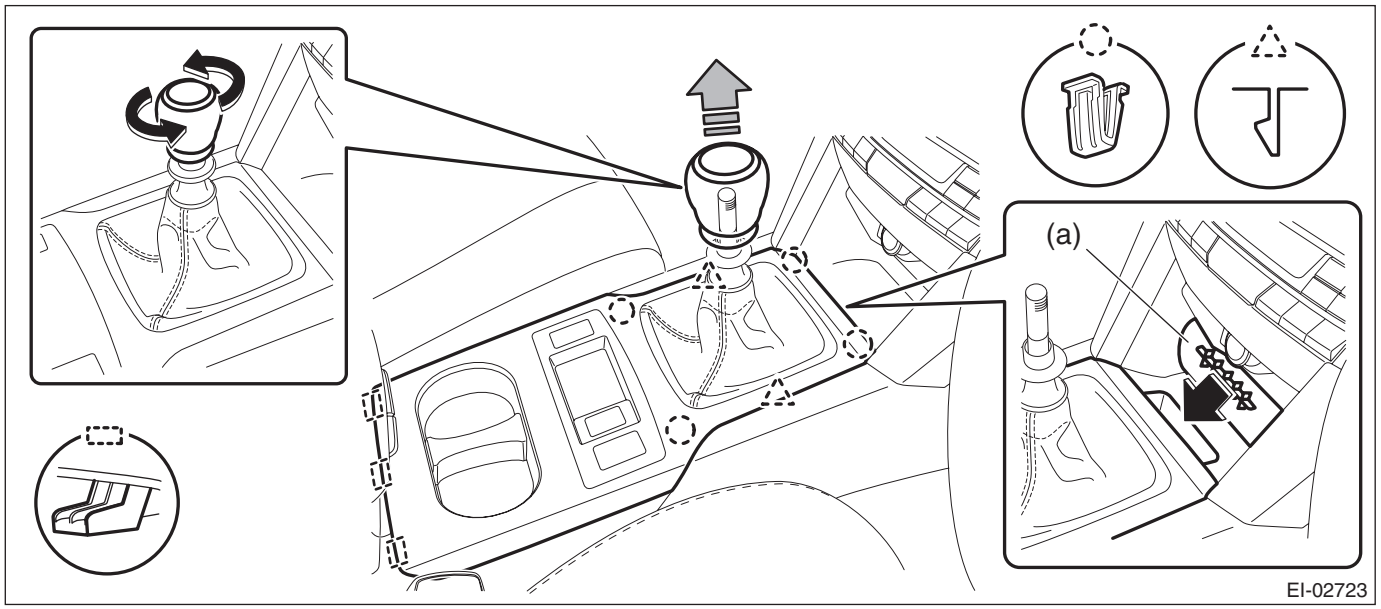
A: WIRING DIAGRAM

Refer to “Rear Accessory Power Supply Socket System” in the wiring diagram. <Ref. to WI-251, WIRING DIAGRAM, Rear Accessory Power Supply Socket System.>

B: REMOVAL

1) Remove the console front cover assembly.

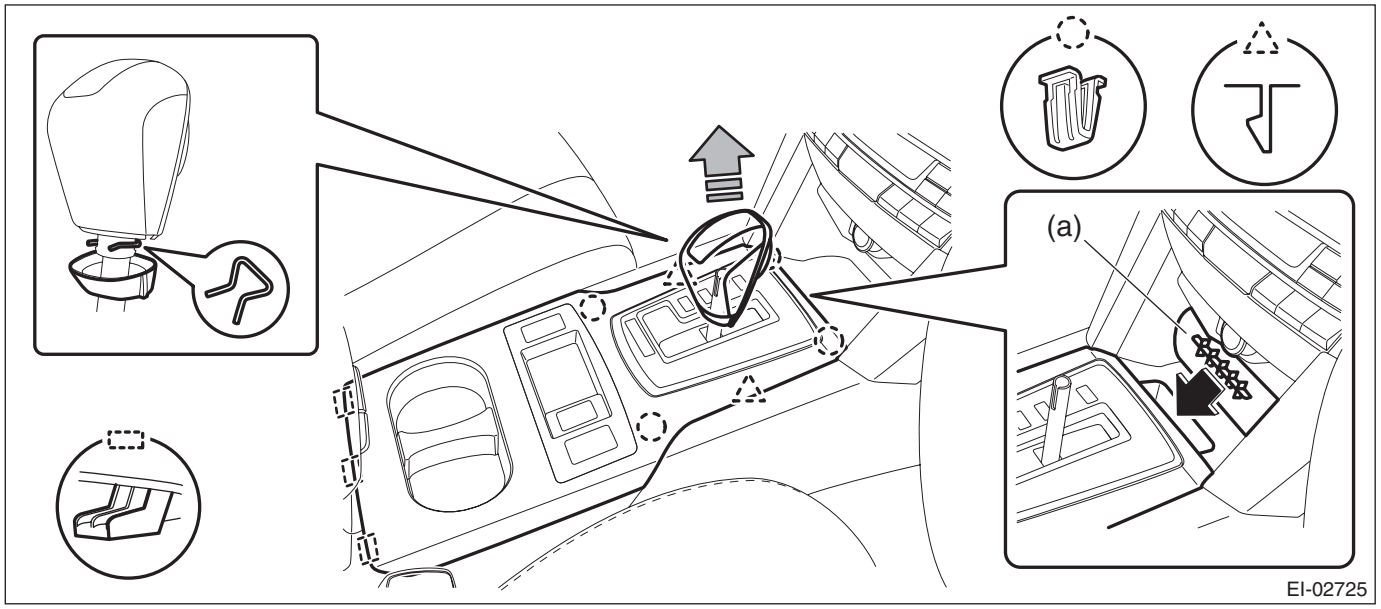
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

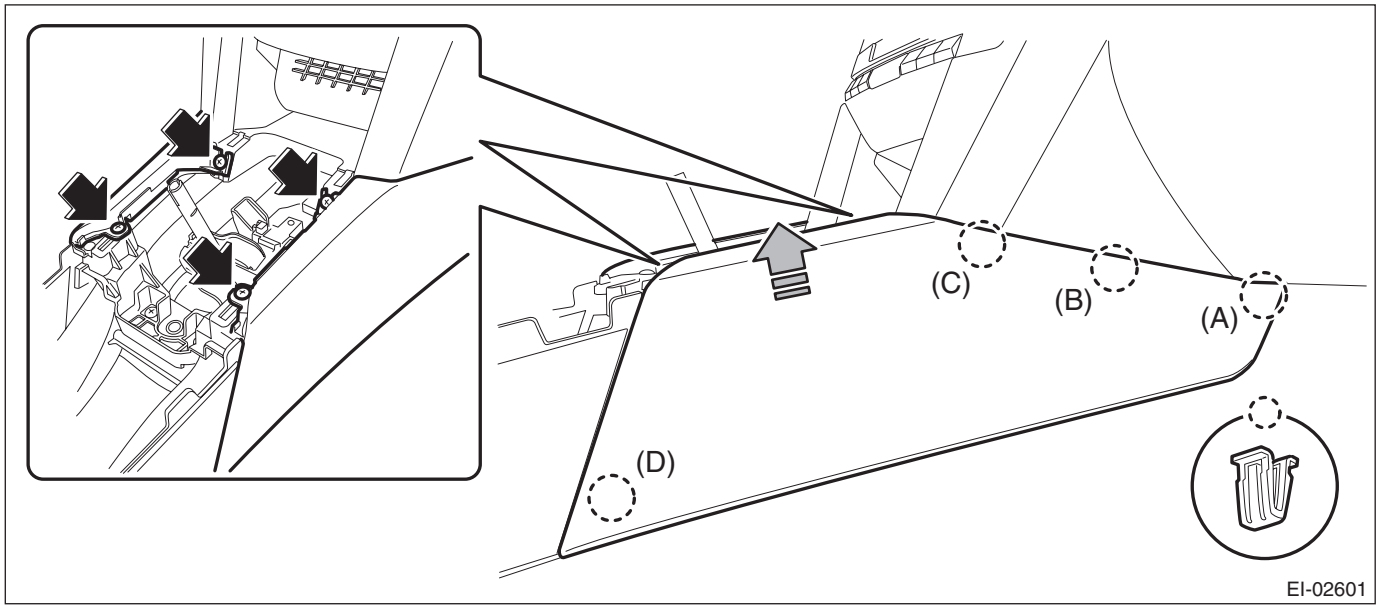
- AT/CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

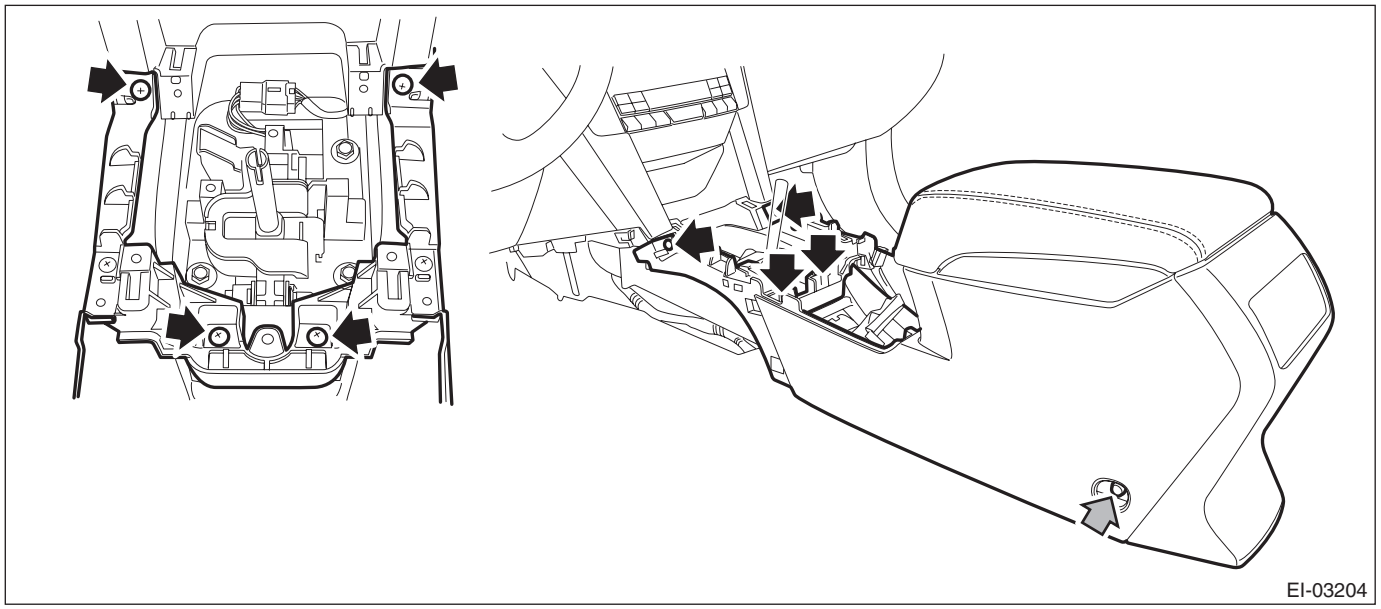
2) Remove the console front side cover assembly.
   (1) Remove the screws and release the clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.



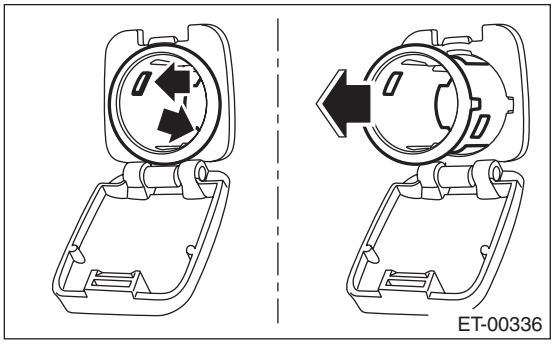
3) Remove the console box assembly.
(1) Move the seat forward, and remove the bolts after detaching the left and right caps.

NOTE:
For a model with power seat, connect the battery ground cable and move the seat. Then, disconnect the battery ground cable again and wait for 60 seconds at least before restarting the work.

(2) Remove the screws, disconnect the harness connector and remove the console box assembly.



4) Remove the front accessory power supply socket.
(1) Remove the claws (two) in accessory power supply socket.
(2) Pull the accessory power supply socket out to remove.



C: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Center console: 6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

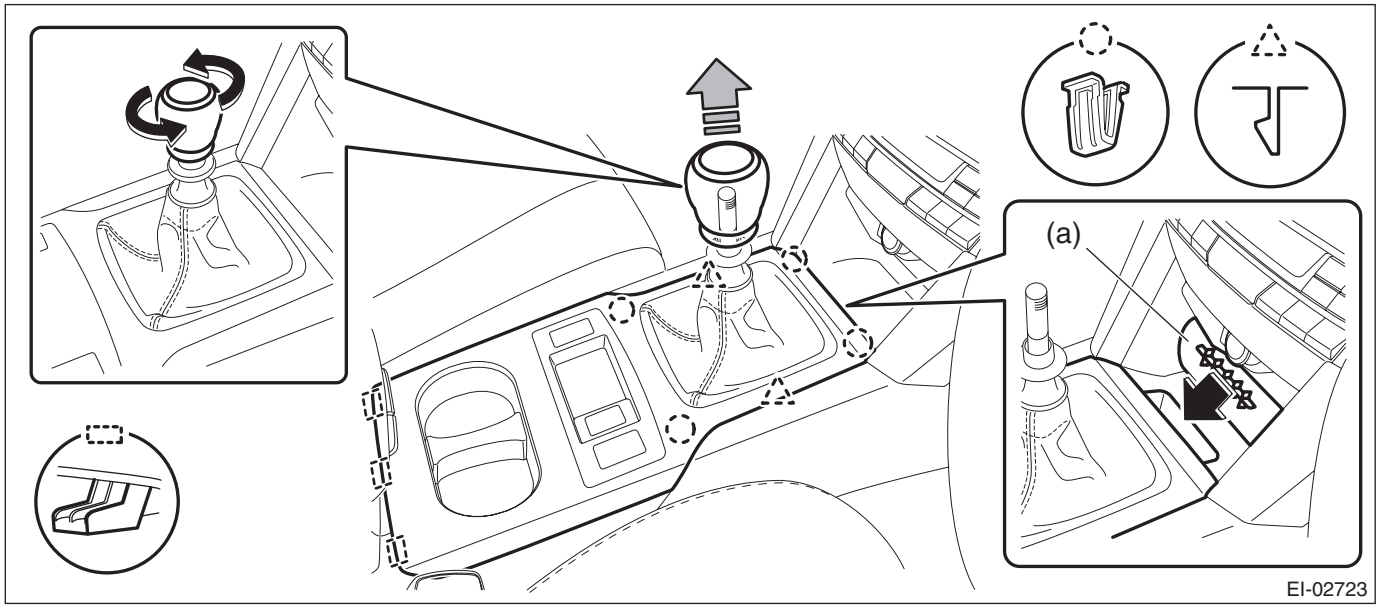
17.AUX Input Terminal

A: REMOVAL

1. AUX INPUT TERMINAL

1) Disconnect the ground cable from battery.
2) Remove the console front cover assembly.

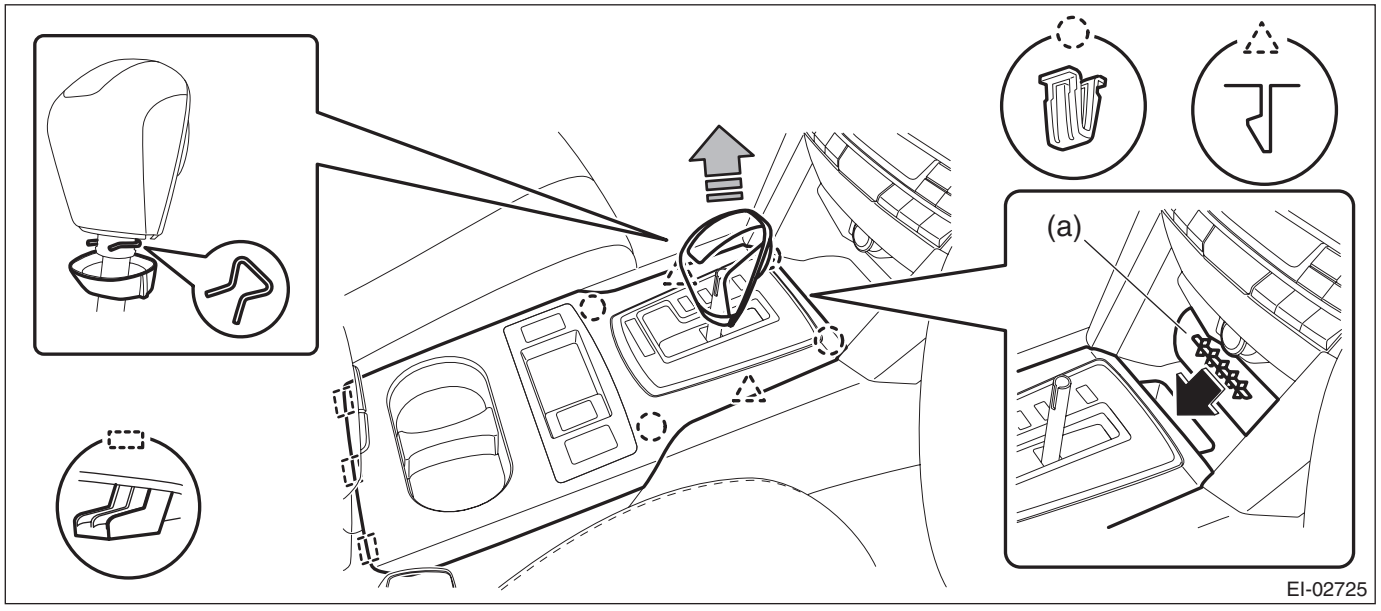
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

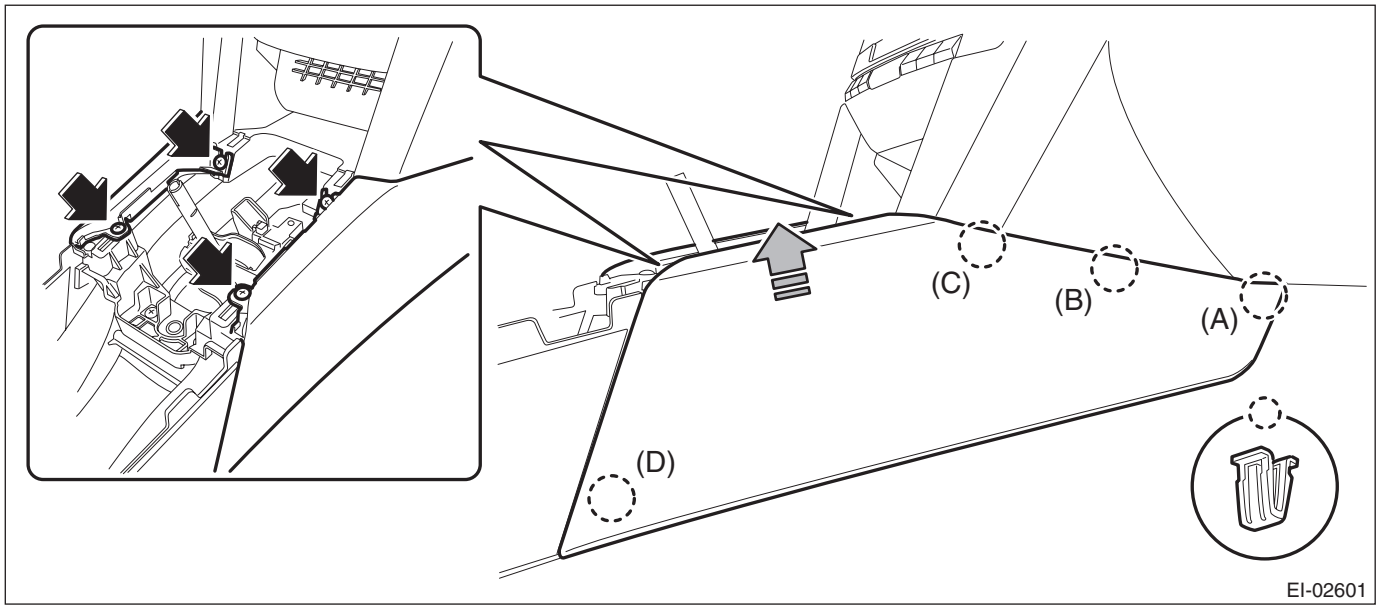
- AT/CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

3. Disconnect the harness connector and remove the console front cover assembly.

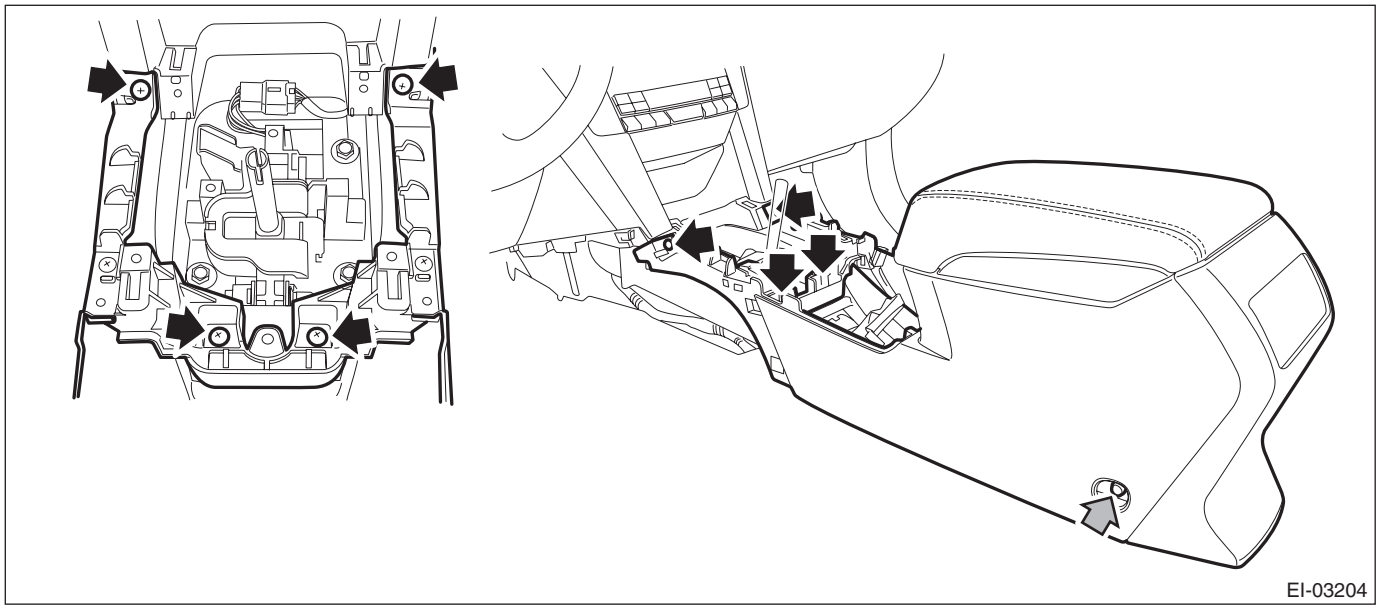
3) Remove the console front side cover assembly.
(1) Remove the screws and release the clips (A) to (D) in order.
(2) Remove the console front side cover assembly by pulling it up.



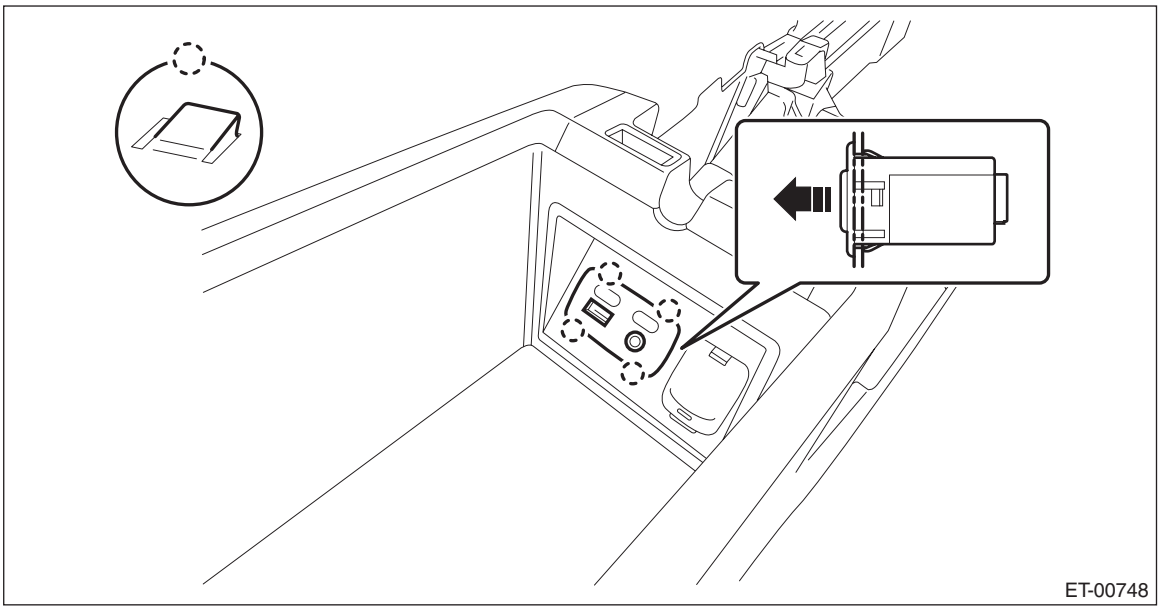
4) Remove the console box assembly.
(1) Move the seat forward, and remove the bolts after detaching the left and right caps.

NOTE:
For a model with power seat, connect the battery ground cable and move the seat. Then, disconnect the battery ground cable again and wait for 60 seconds at least before restarting the work.

(2) Remove the screws, disconnect the harness connector and remove the console box assembly.



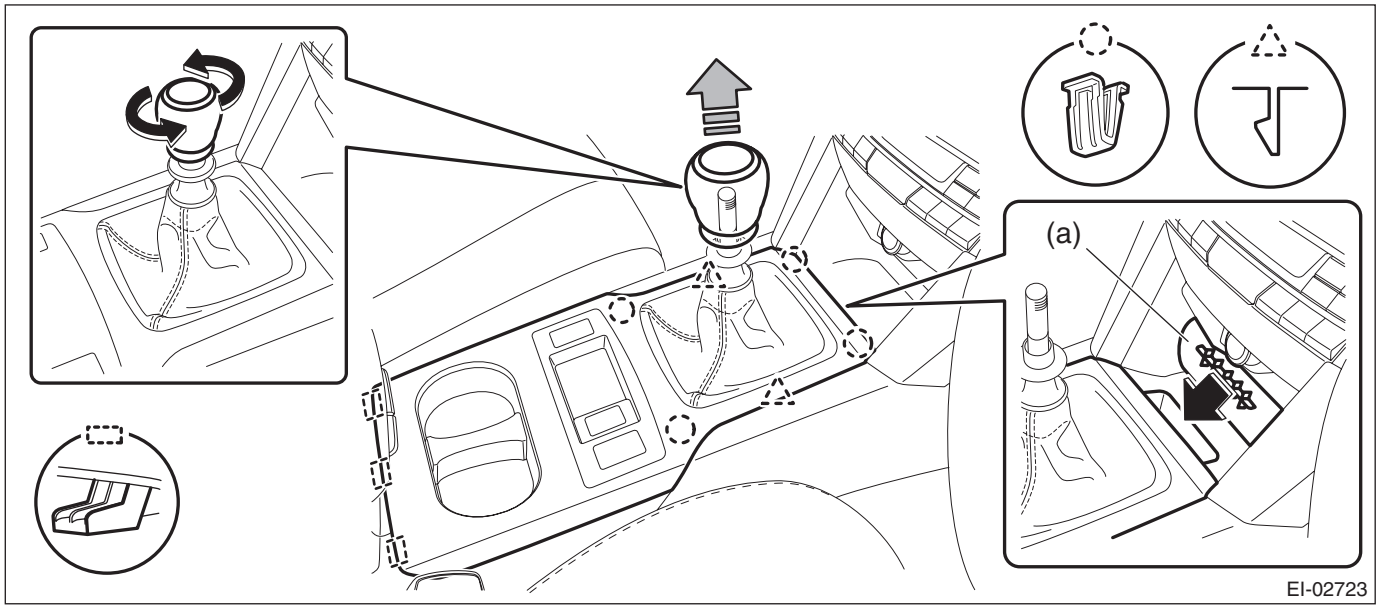
5) Remove the AUX input terminal.
   (1) Remove the claws at four locations.
   (2) Remove the AUX input terminal assembly by pushing it into the console box.



2. AUX TERMINAL HARNESS

1) Disconnect the ground cable from battery.
2) Remove the console front cover assembly.

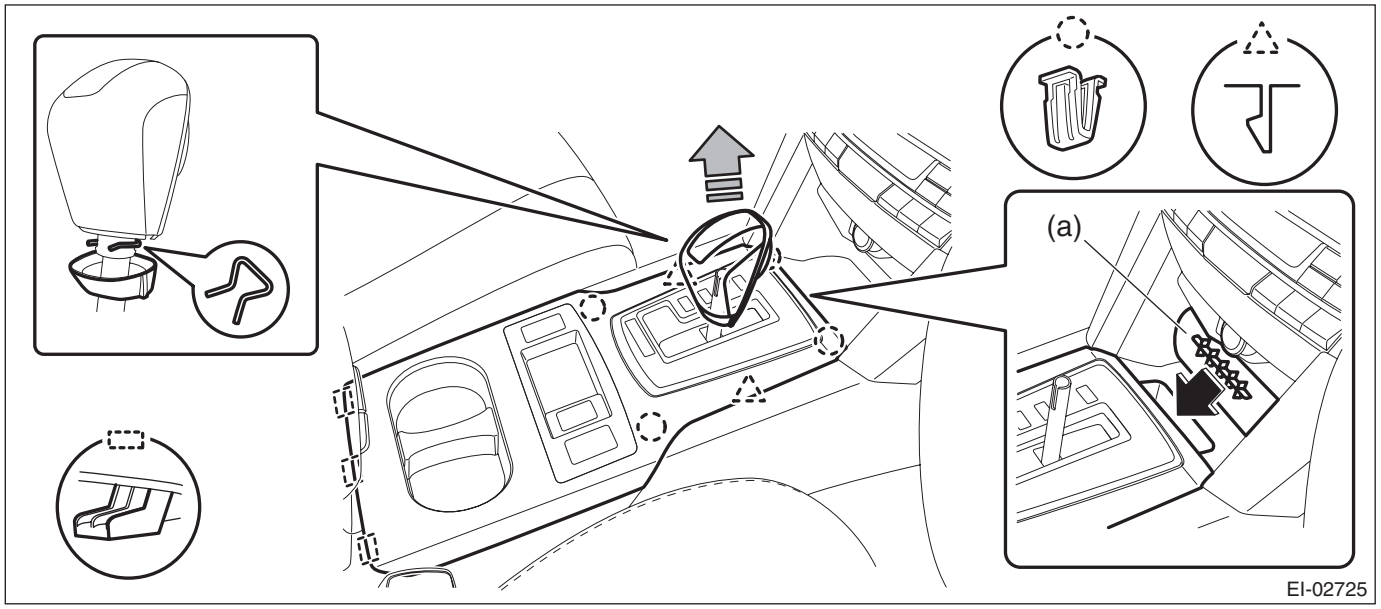
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

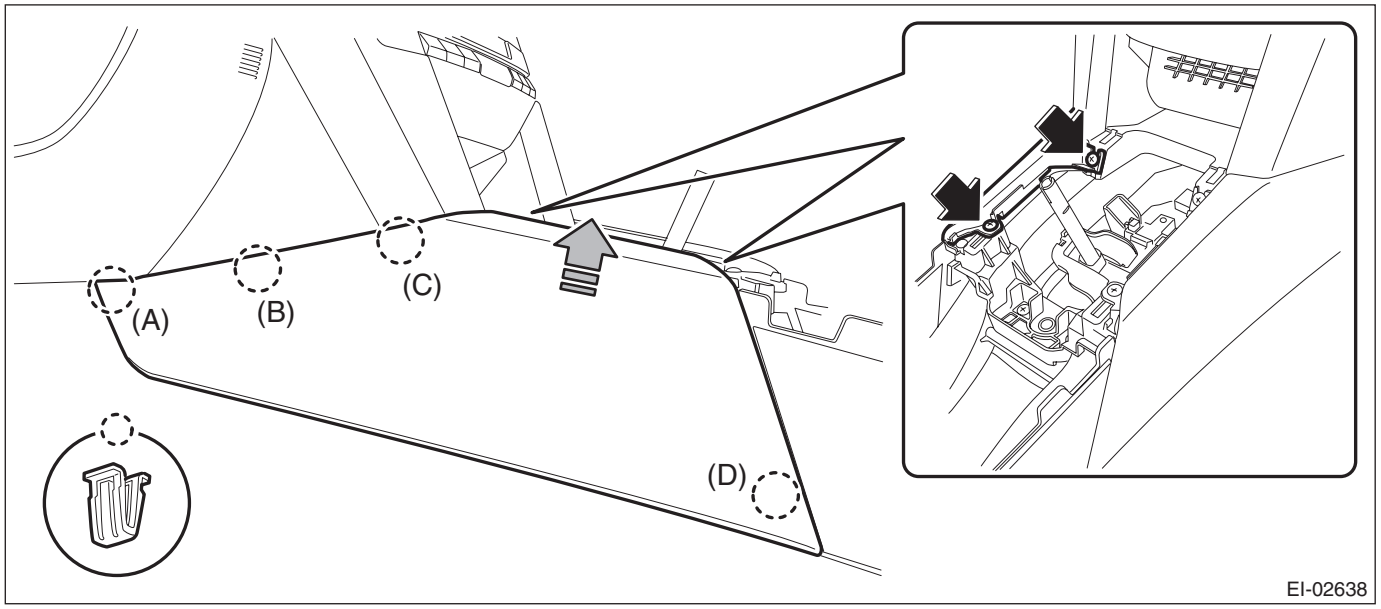
- AT/CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

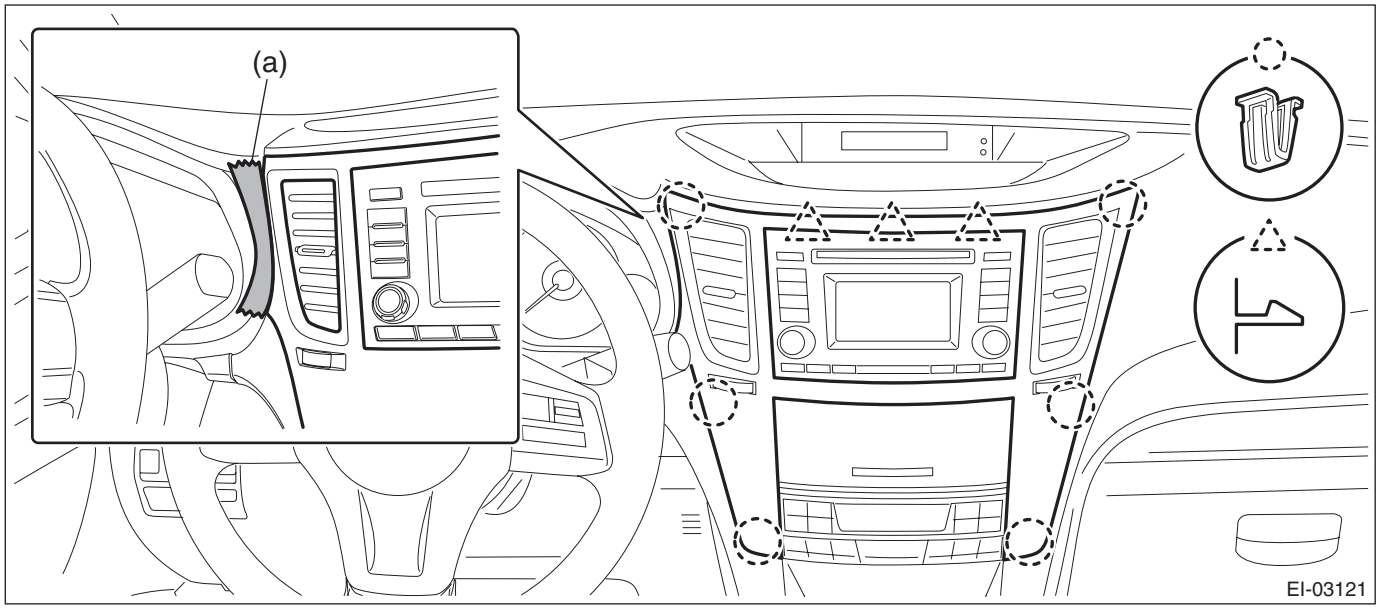
3) Remove the console front side cover assembly LH.
   (1) Remove the screws and release the clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.



4) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

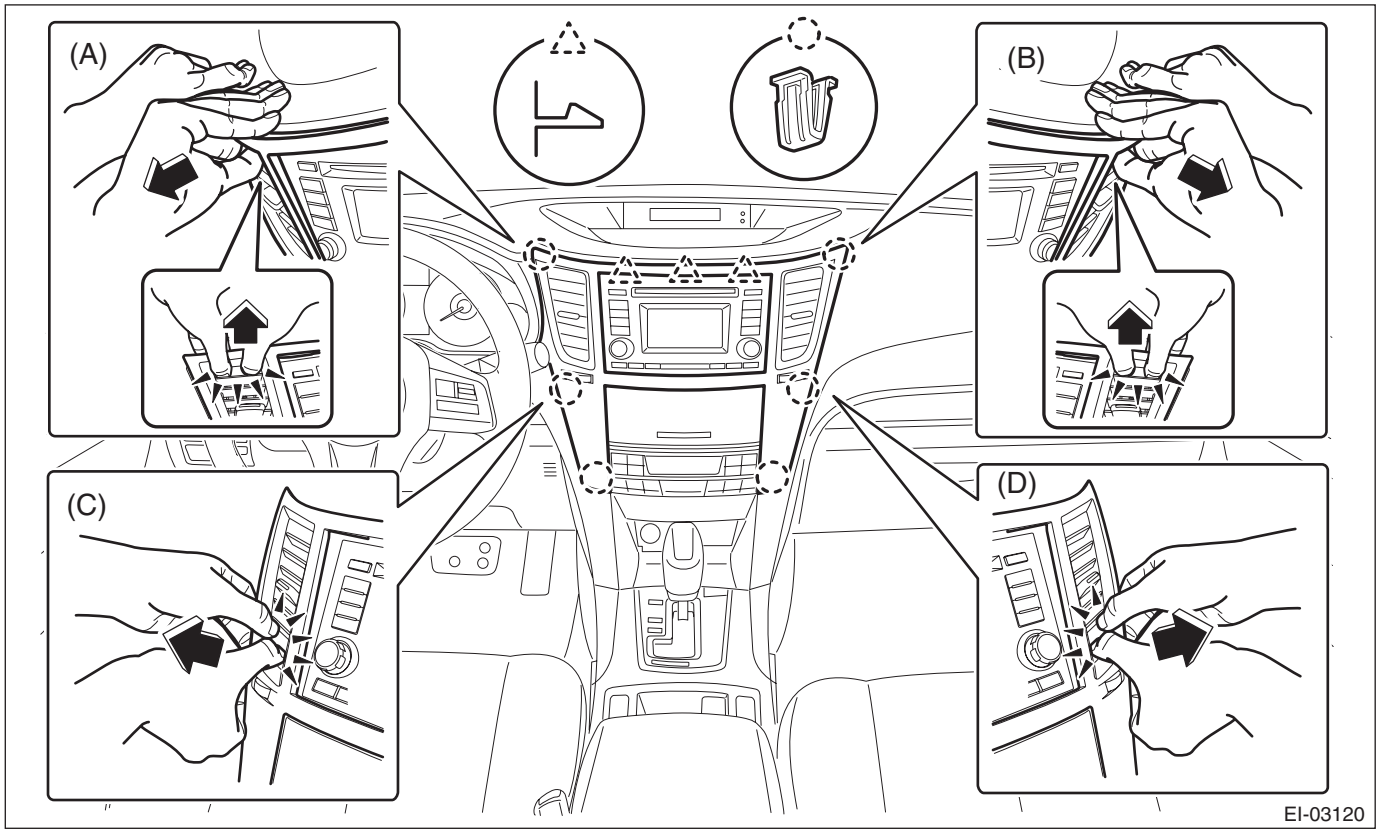
(1) Attach the protective tape (a) to the meter visor.



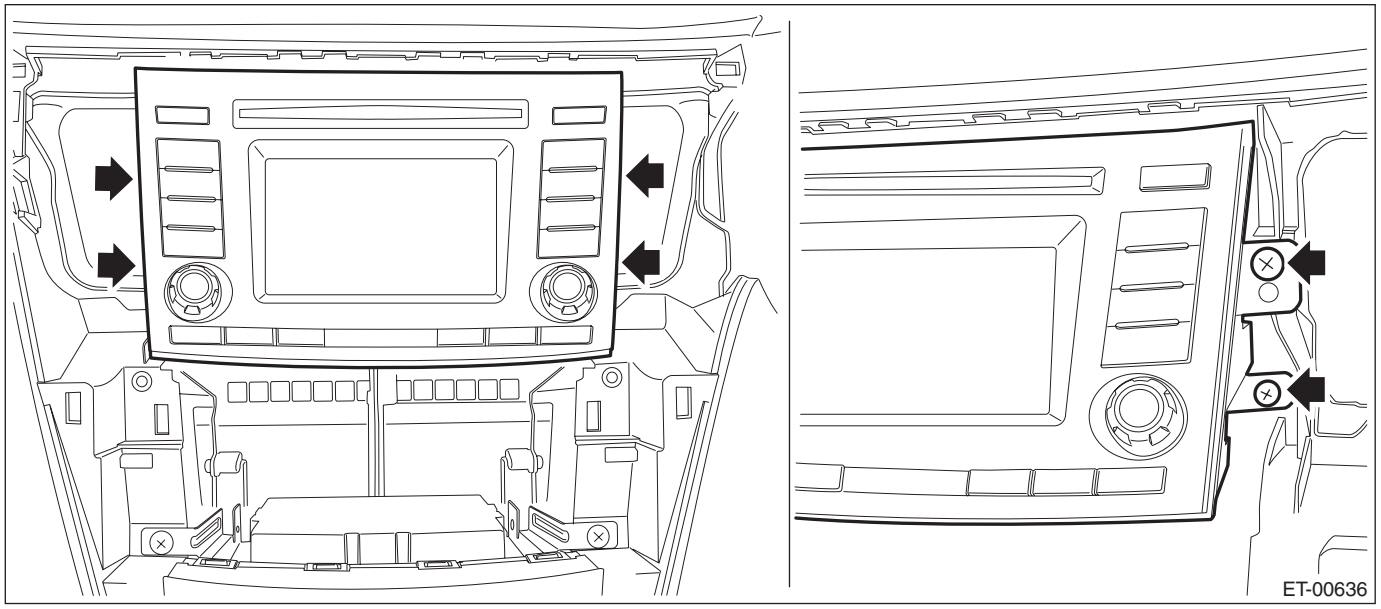
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)

(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)

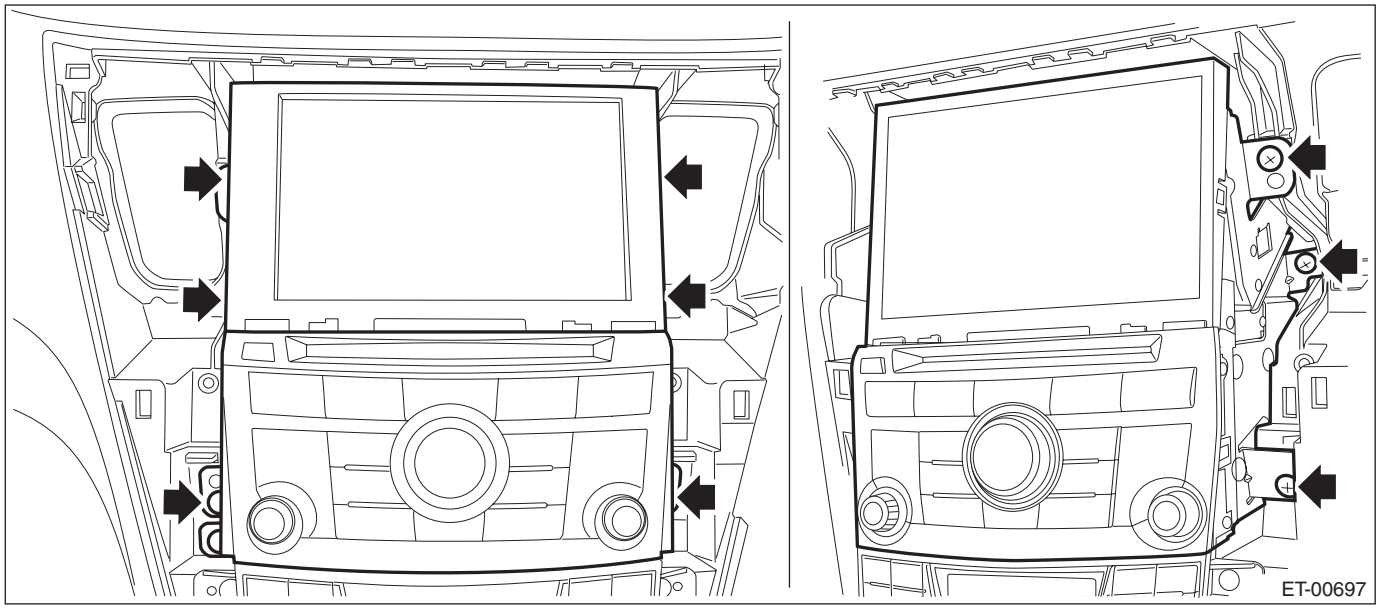
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



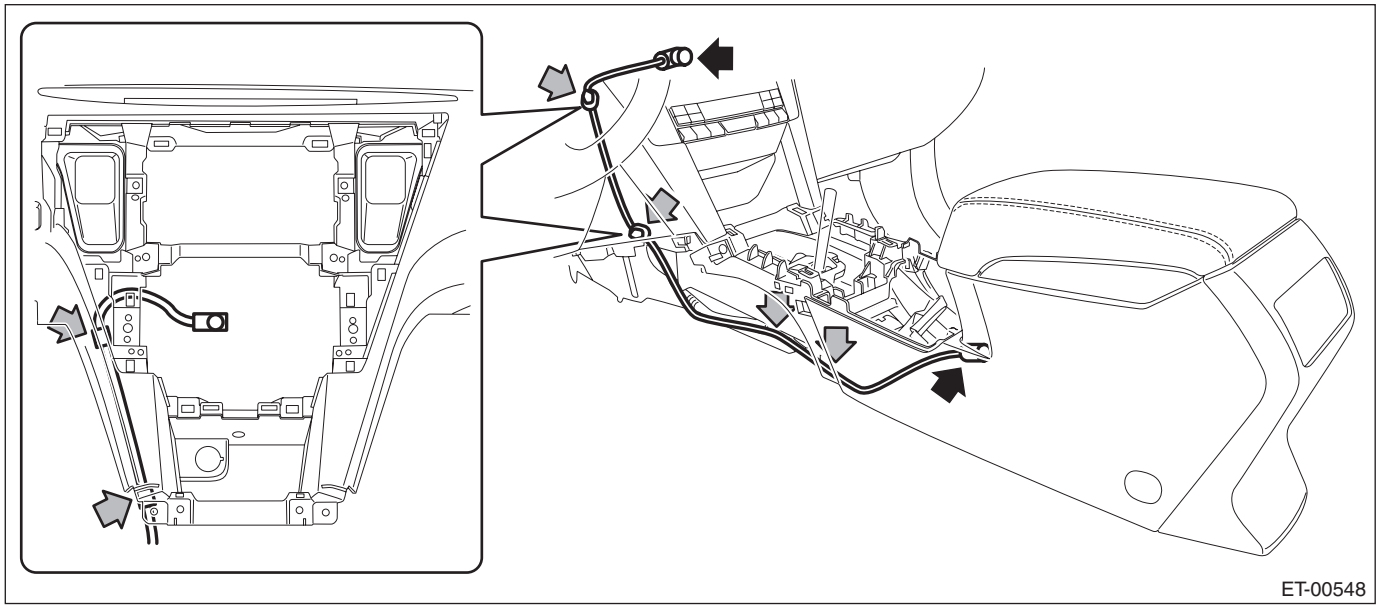
5) Remove the audio assembly.
   (1) Remove the left and right screws, and partially pull the audio out from center console.
   (2) Disconnect the connectors, and remove the audio assembly.



6) Remove the navigation assembly. (model with navigation)
   (1) Remove the left and right screws.
   (2) Disconnect the connectors, and remove the navigation assembly.



7) Remove the AUX terminal harness.
   (1) Remove the harness clamp.
   (2) Disconnect the connector from the AUX input terminal assembly, and remove the AUX terminal harness.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Center console: 6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

COMMUNICATION SYSTEM

COM

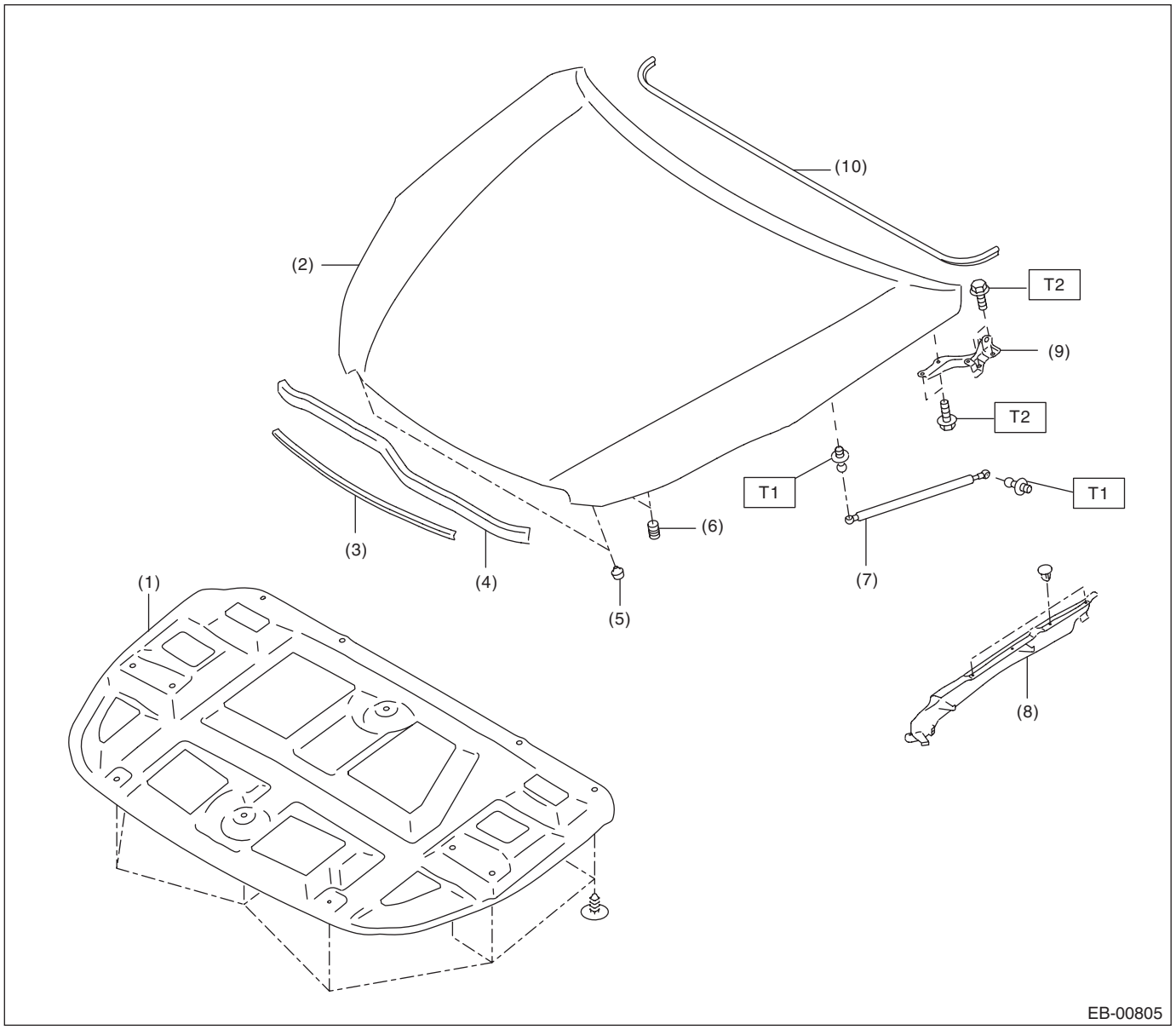
Page

1. General Description 2
2. Relay and Fuse 3
3. Horn System 4
4. Horn 5
5. Horn Switch 8

1. General Description

A: COMPONENT

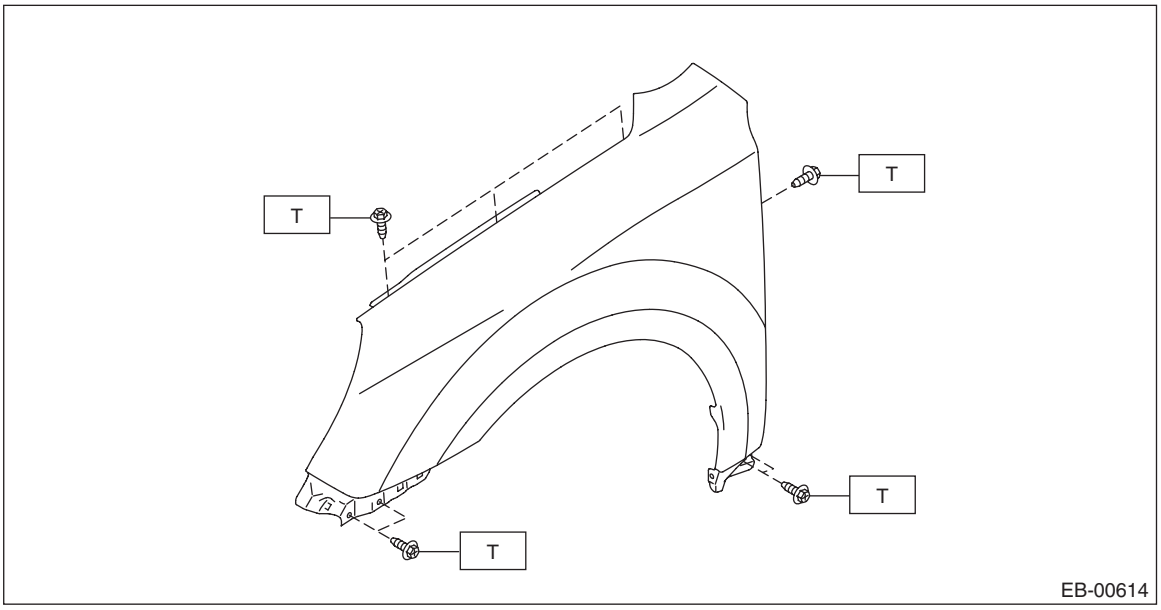
1. FRONT HOOD



(1)	Insulator	(6)	Buffer (hood side)
(2)	Front hood panel ASSY	(7)	Damper stay ASSY
(3)	Front grille seal ASSY	(8)	Fender cover ASSY UPR
(4)	Front hood seal ASSY	(9)	Hinge
(5)	Front hood stopper	(10)	Cowl panel seal

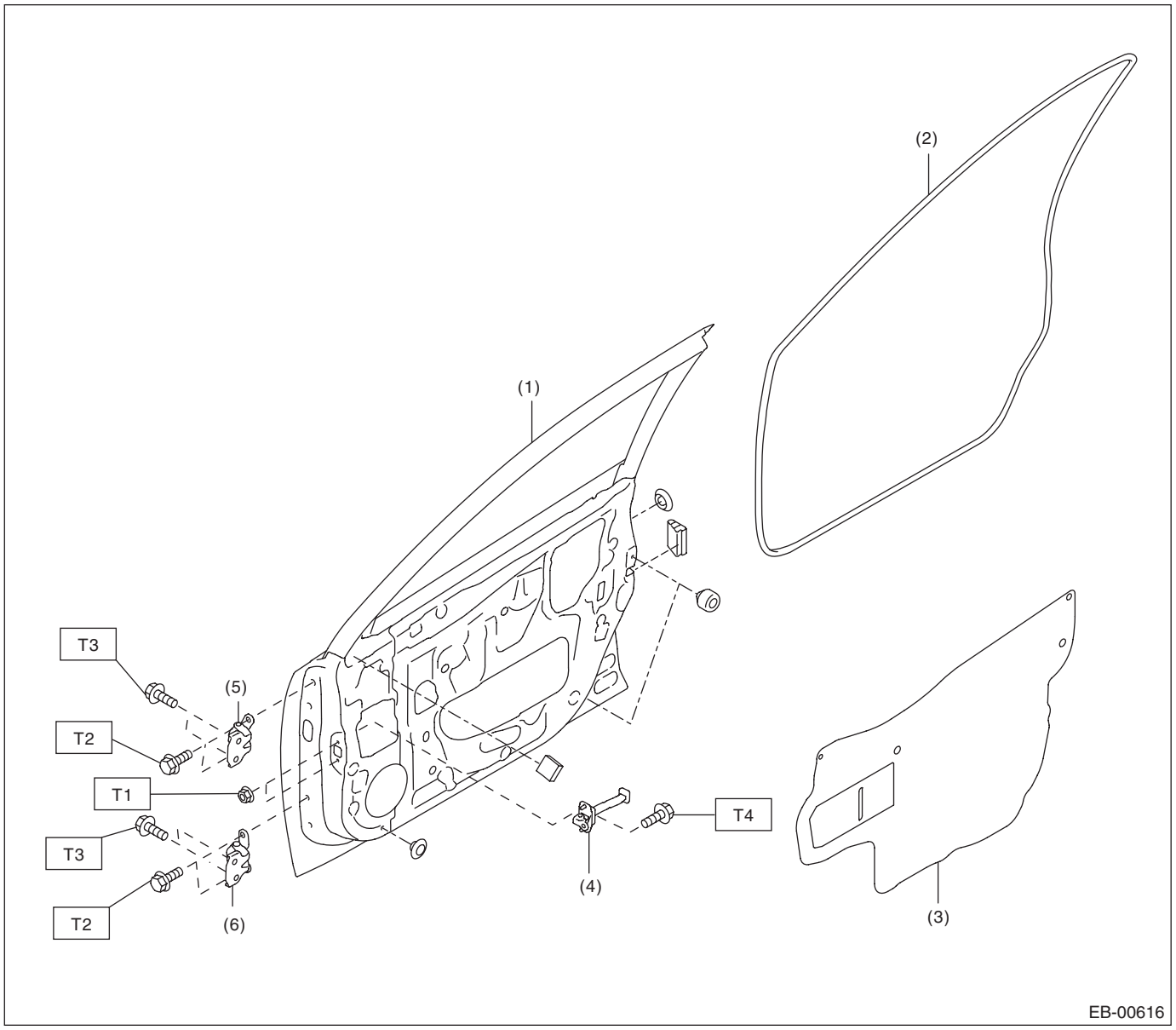
Tightening torque: N·m (kgf-m, ft-lb)
T1: 20 (2.04, 14.8)
T2: 25 (2.55, 18.4)

2. FRONT FENDER



Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

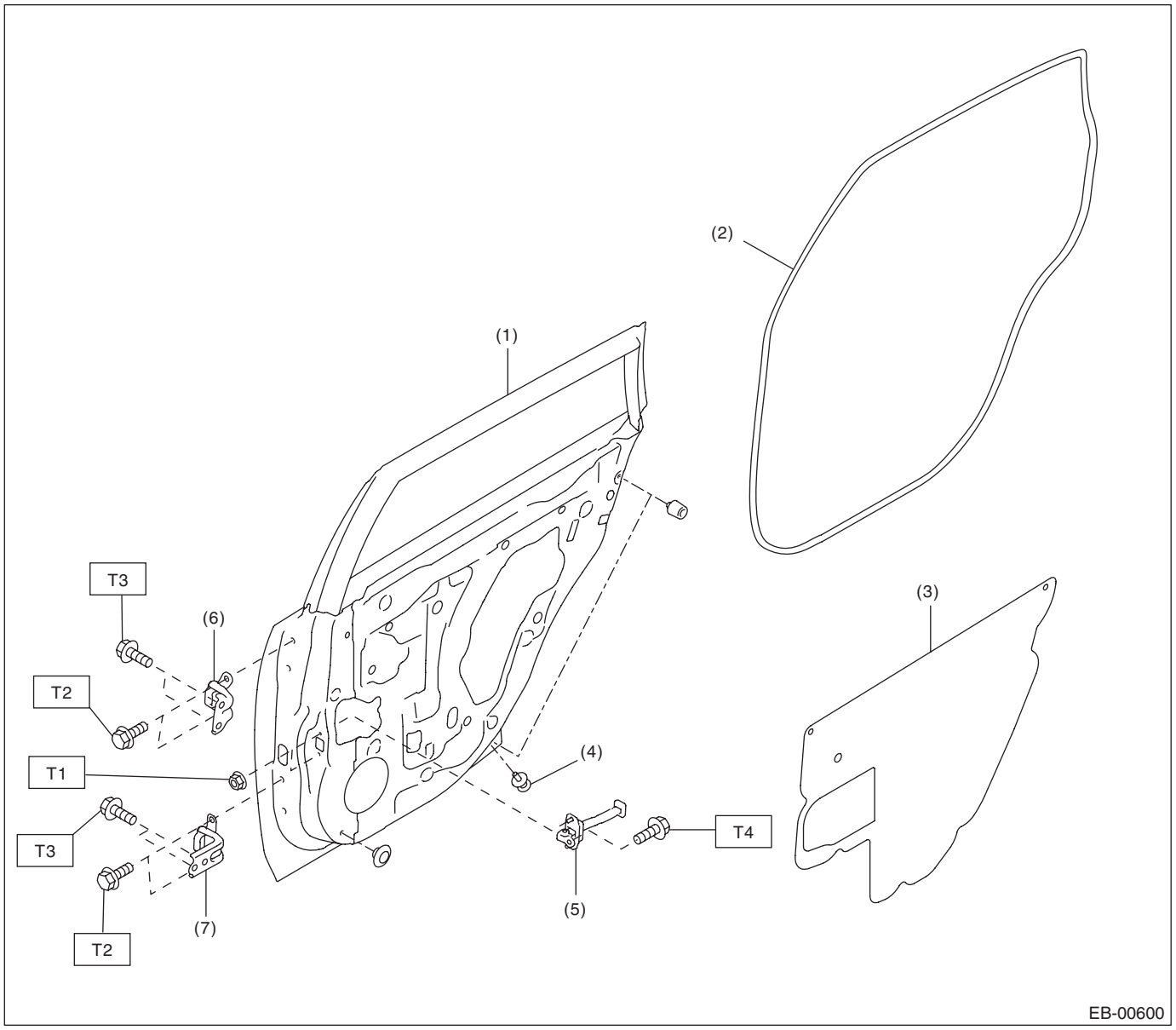
3. FRONT DOOR



(1) Front door panel
(2) Front door weather strip
(3) Sealing cover
(4) Checker
(5) Upper hinge
(6) Lower hinge

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.55, 18.4)
T3: 30 (3.06, 22.1)
T4: 33 (3.36, 24.3)

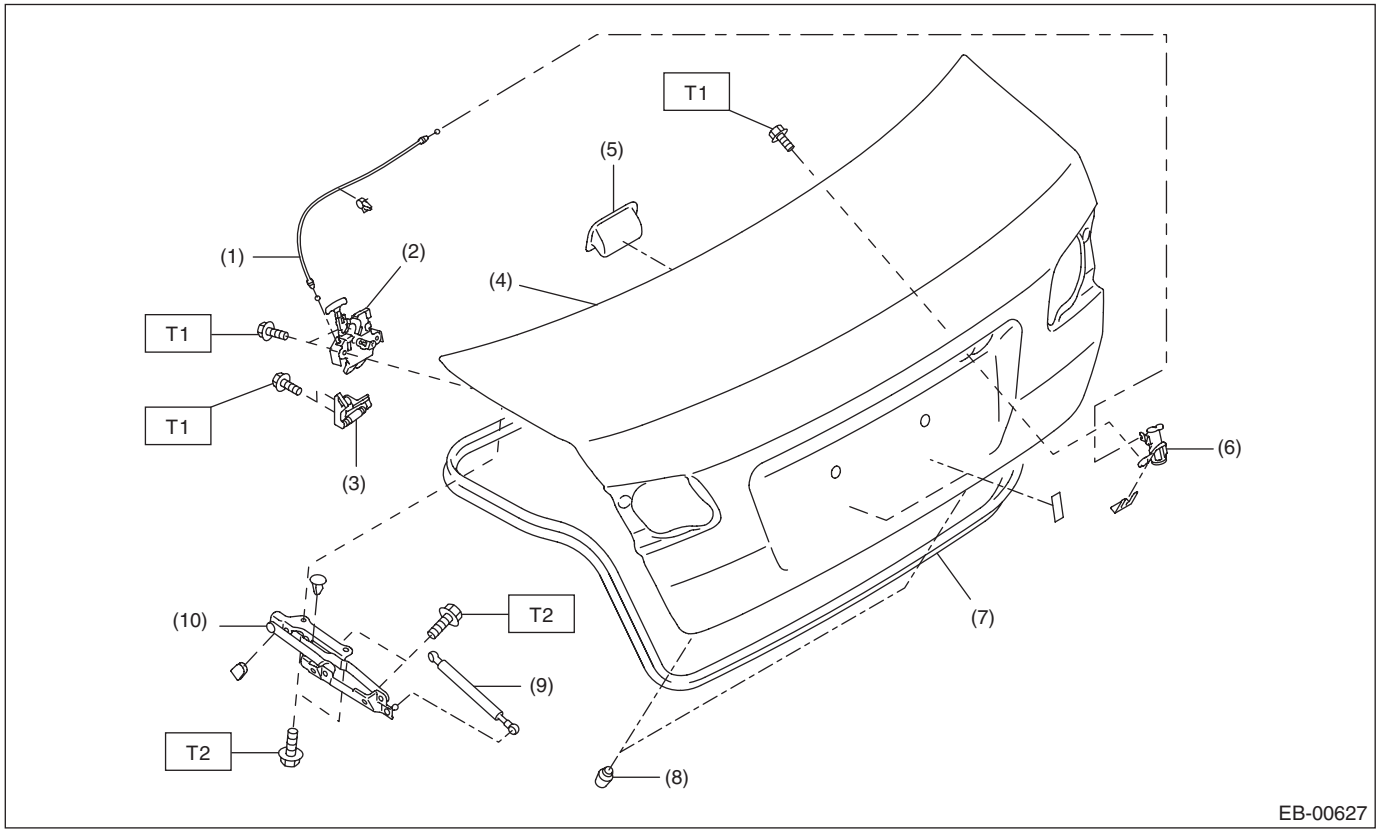
4. REAR DOOR



(1)	Rear door panel	(6)	Upper hinge
(2)	Rear door weather strip	(7)	Lower hinge
(3)	Sealing cover		
(4)	Rear door catcher		
(5)	Checker		

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.55, 18.4)
T3: 30 (3.06, 22.1)
T4: 33 (3.36, 24.3)

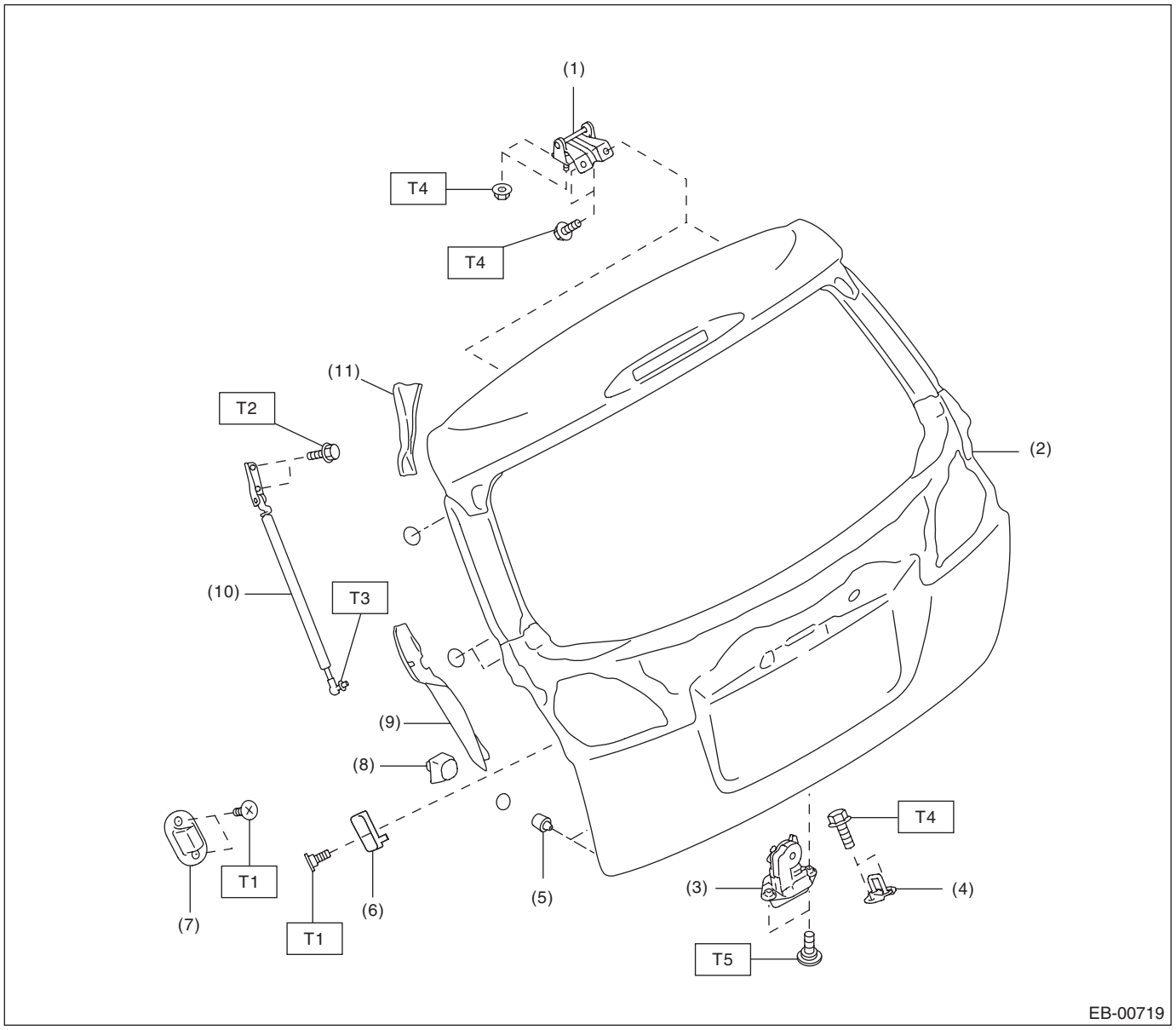
5. TRUNK LID PANEL



(1) Trunk release cable ASSY
(2) Trunk lid latch and actuator ASSY
(3) Striker
(4) Trunk lid panel ASSY
(5) Trunk lid inner handle
(6) Trunk lid key cylinder ASSY
(7) Weather strip
(8) Trunk lid stopper
(9) Trunk lid damper stay
(10) Trunk lid hinge ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.55, 18.4)

6. REAR GATE



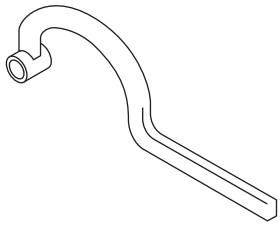
(1)	Hinge	(7)	Buffer (body side)	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Rear gate panel	(8)	Rear gate spacer (mounted to the body)	***T1: 7.5 (0.76, 5.5)***
(3)	Rear gate latch and actuator ASSY	(9)	Rear gate cover	***T2: 16 (1.63, 11.8)***
(4)	Striker	(10)	Rear gate damper stay	***T3: 20 (2.04, 14.8)***
(5)	Stopper rubber	(11)	Rear gate drip rubber	***T4: 25 (2.55, 18.4)***
(6)	Buffer (rear gate side)			***T5: 28 (2.86, 20.7)***

B: CAUTION

Exterior body panels are heavy. When removing and installing them, do not drop and damage the panels. Also, be careful not to scratch the coated surfaces of the panels.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-925610000	925610000	WRENCH	Used for removing and installing door hinge.

2. GENERAL TOOL

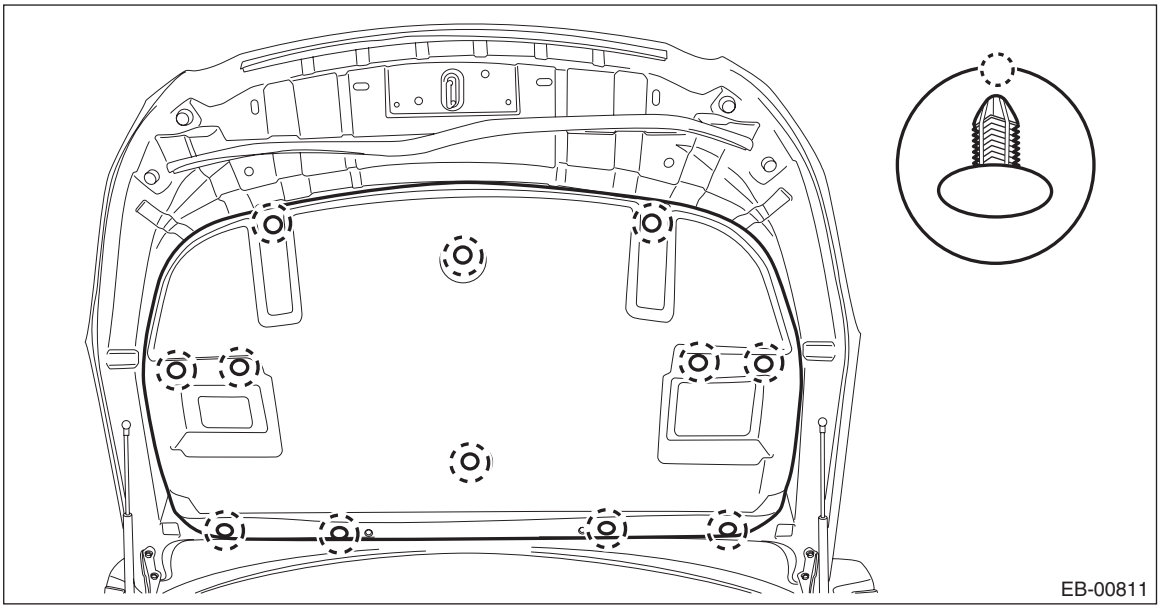
TOOL NAME	REMARKS
Support jack	Used for supporting door panel.
Clip remover	Used for removing various types of clips

2. Front Hood

A: REMOVAL

1. FRONT HOOD INSULATOR

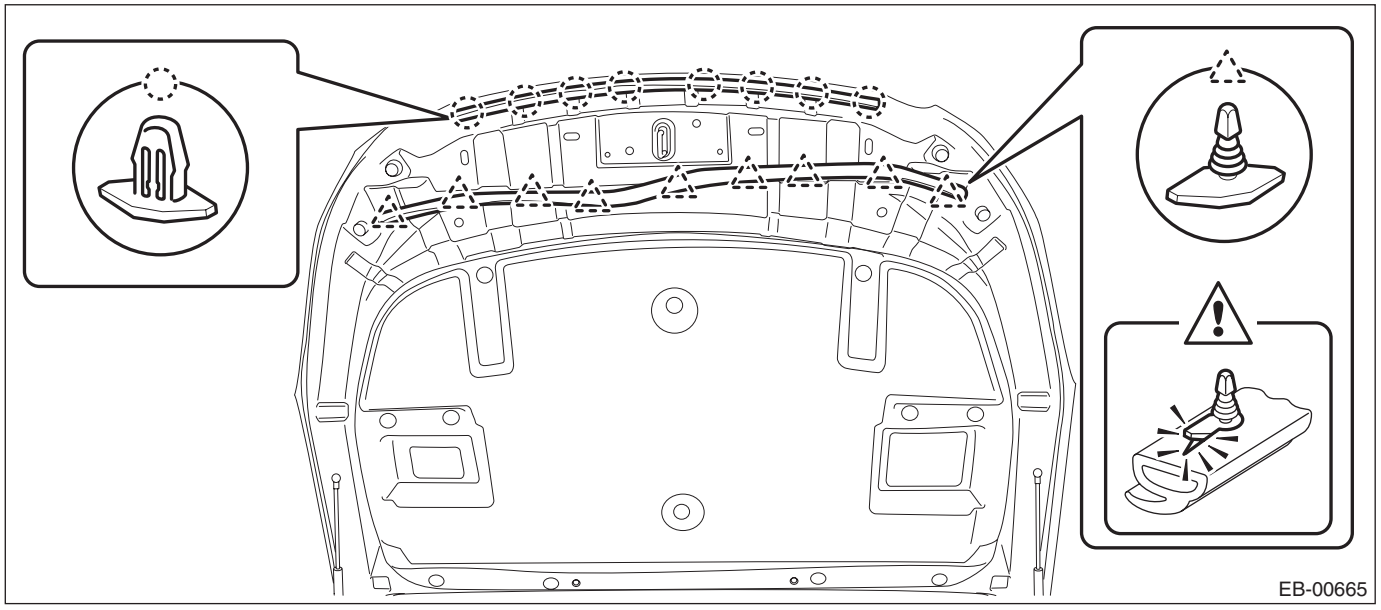
Release the clips to remove the front hood insulator.



2. FRONT HOOD SEAL

Remove the clip, and remove the seal.

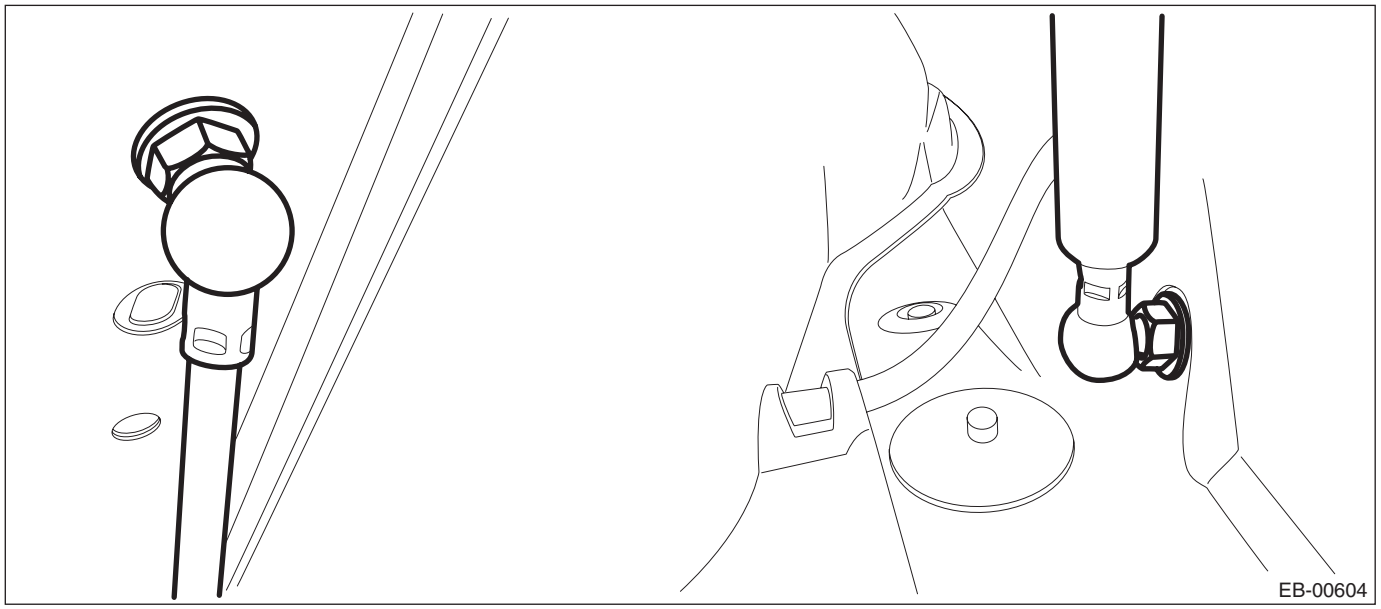
CAUTION:
If the weather strip clip is removed with excessive force, the seal may be damaged. Be sure to use clip remover, etc. to remove.



3. FRONT HOOD DAMPER

CAUTION:
- **Do not damage piston rods and oil seals.**
- **Never disassemble cylinders: They contain gas.**
- **Front hood panels are heavy. When removing and installing the damper stays and hood hinges, always work in a team of two or more persons.**

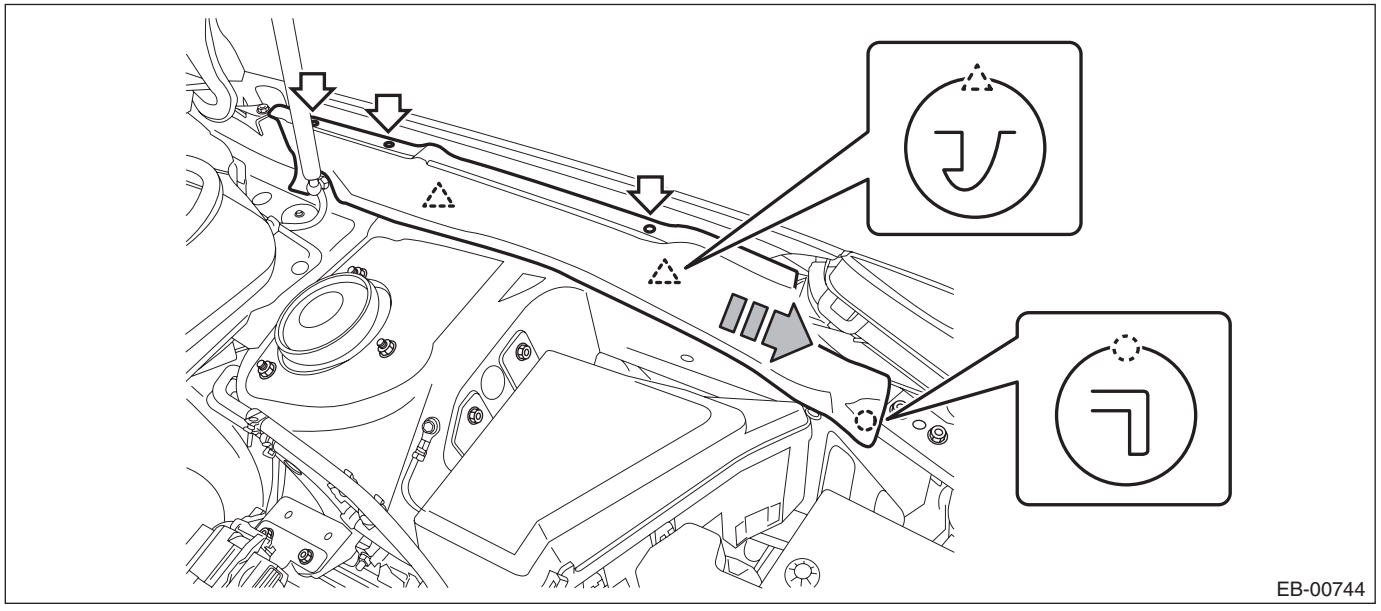
Remove the damper stay by removing mounting bolts.



4. FRONT HOOD HINGE

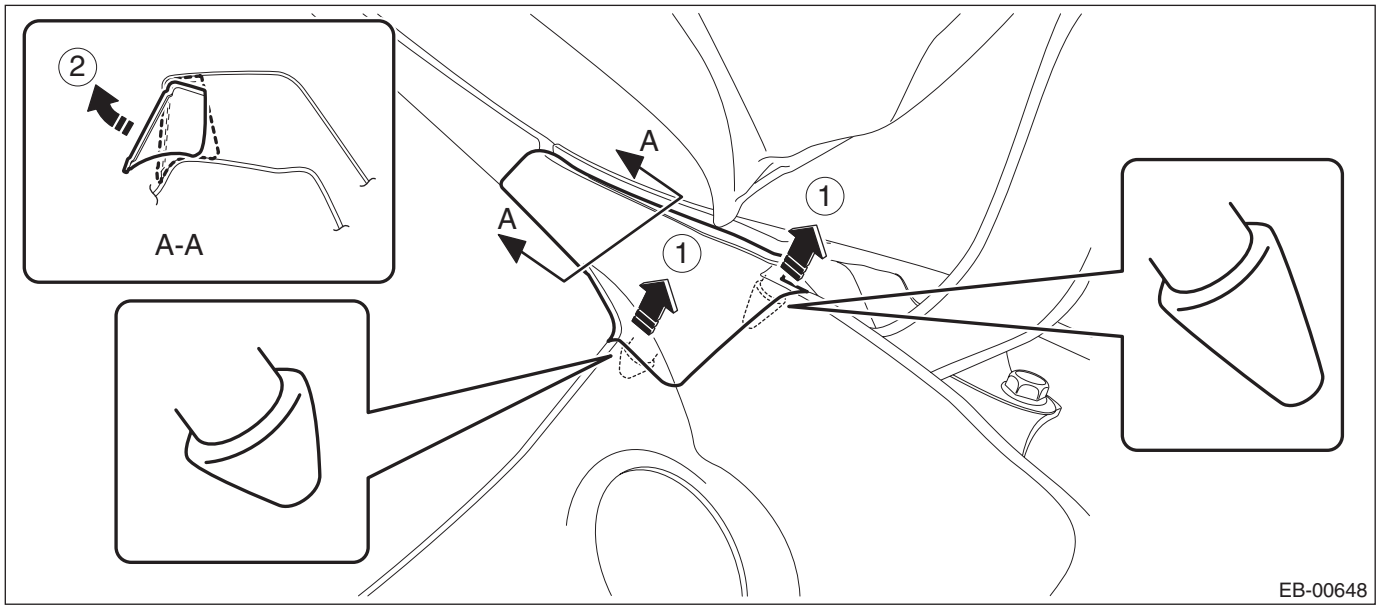
CAUTION:
The front hood panel is heavy. When removing or installing the damper stay and hood hinge, be sure to work in a group of two or more.

1) Remove the fender cover assembly UPR.
   (1) Remove the clip.
   (2) Release the claws of the fender cover assembly UPR by pulling it forward and remove the fender cover.

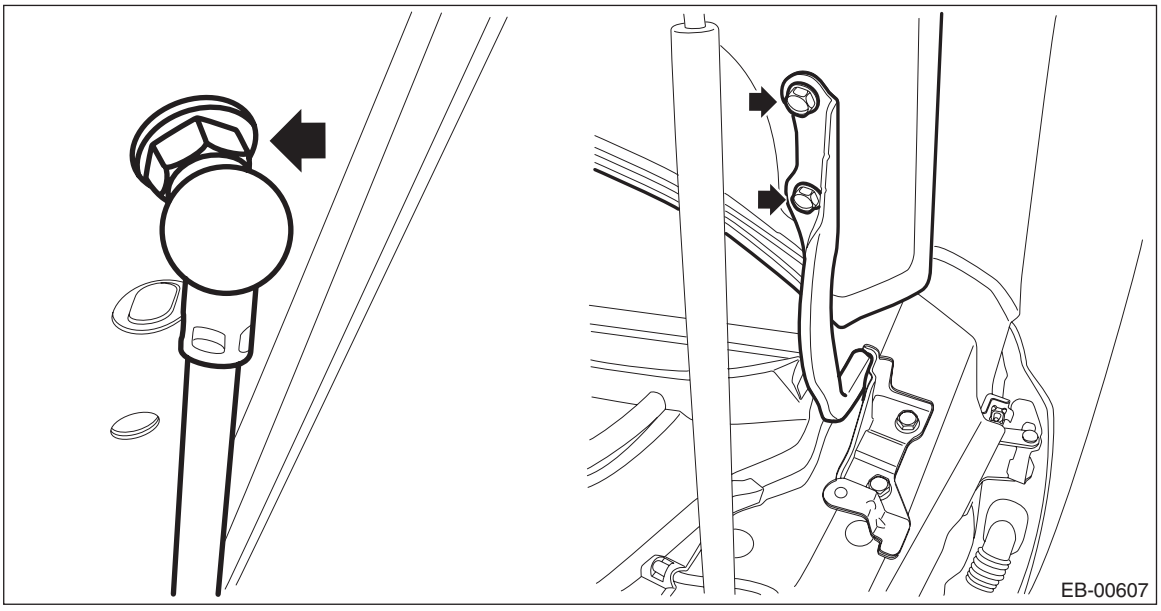


2) Remove the cowl panel side.
   (1) Detach the pins of the cowl panel side.
   (2) Remove the cowl panel side from inside the fender panel by pulling it.

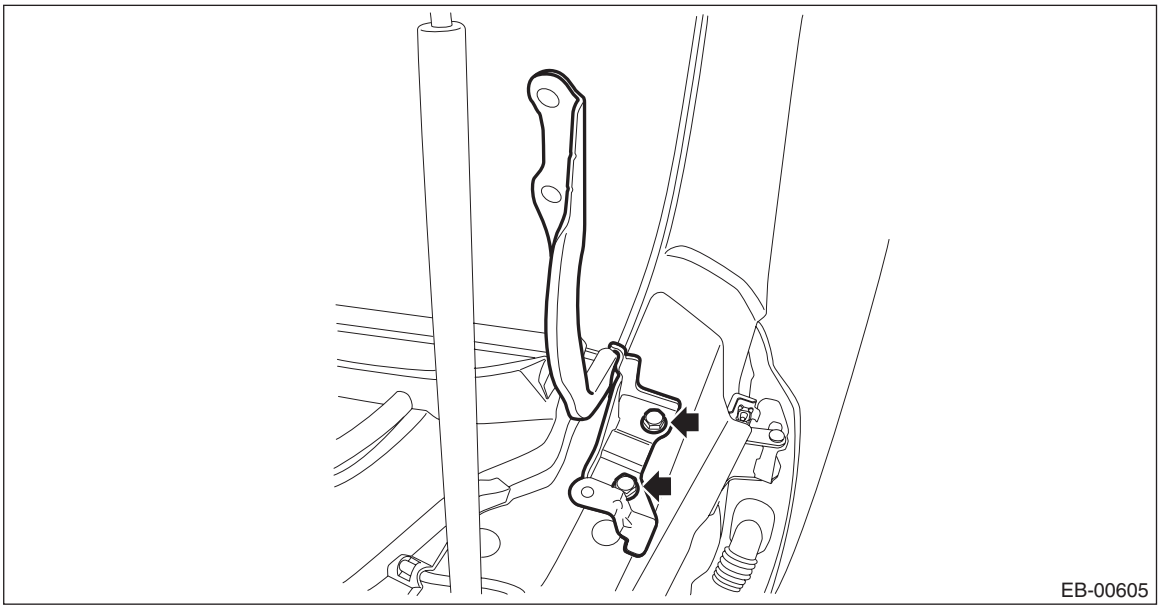
CAUTION:
Applying excessive pulling force may damage the cowl panel side. If it is difficult to remove, use a plastic remover or equivalent tool.



3) Remove the front fender panel. <Ref. to EB-16, REMOVAL, Front Fender.>
4) Remove the front hood panel.
   (1) Remove the damper stay mounting bolt on the hood panel side.
   (2) Remove the bolts on the hood panel, and remove the front hood panel.



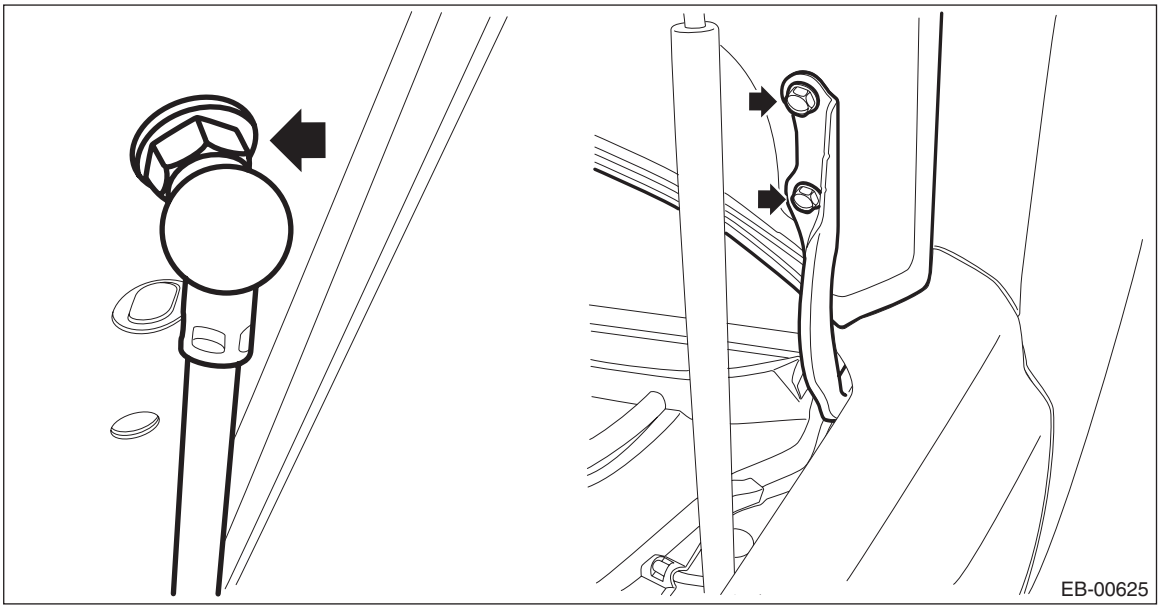
5) Remove the bolts, and remove the front hood hinge.



5. FRONT HOOD PANEL

CAUTION:
Front hood panels are heavy. When removing and installing the damper stays and hood hinges, always work in a team of two or more persons.

1) Remove the damper stay mounting bolt on the hood panel side.
2) Remove the bolts on the hood panel, and remove the front hood panel.



B: INSTALLATION

CAUTION:
The front hood panel is heavy. When removing or installing the damper stay and hood hinge, be sure to work in a group of two or more.
To install the front hood insulator, front hood seal, and front hood damper, follow the removal procedure in the reverse order.
To install the front hood hinges and front hood panel, follow the procedure below.
1) Install the front hood hinges to the vehicle body. (When front hood hinges are removed)
2) Temporarily install the front hood panel to the front hood hinges.

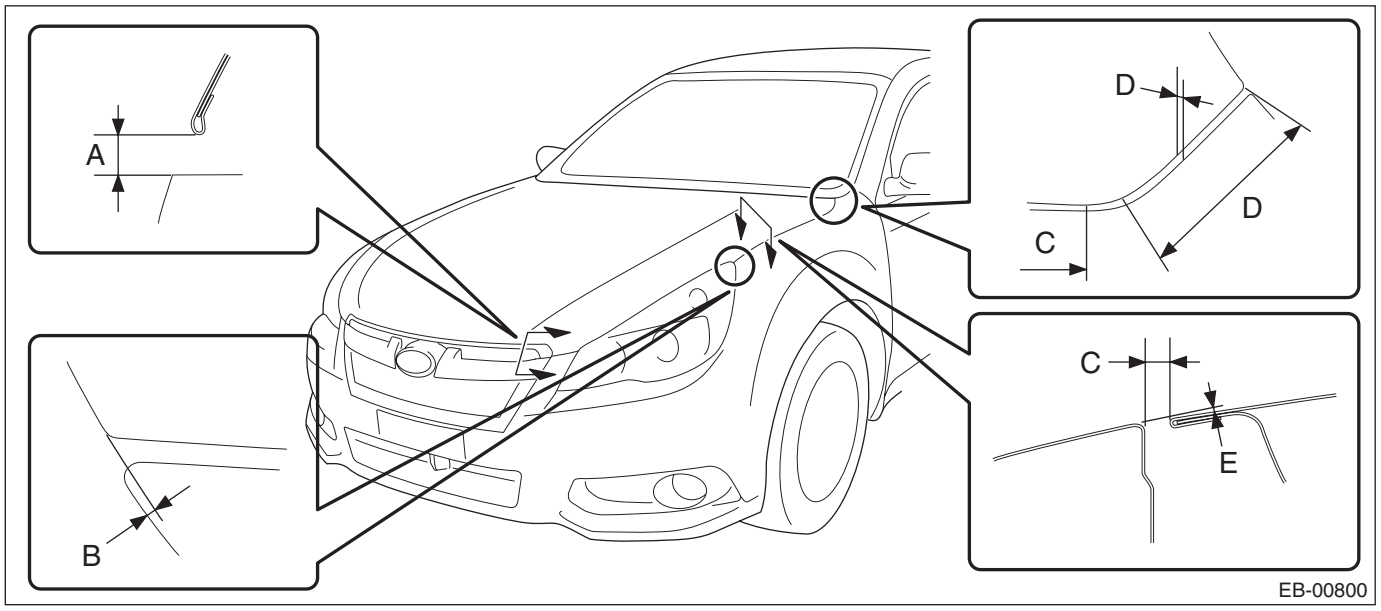
NOTE:
When installing the front hood panel, make sure that a uniform clearance is created around the panel.
3) Adjust the clearance around the front hood panel. <Ref. to EB-13, ADJUSTMENT, Front Hood.>
4) Tighten the front hood hinge bolts.

Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)
5) Install each part of the front hood in the reverse order of removal.

Tightening torque:
Front hood damper: 20 N·m (2.04 kgf-m, 14.8 ft-lb)

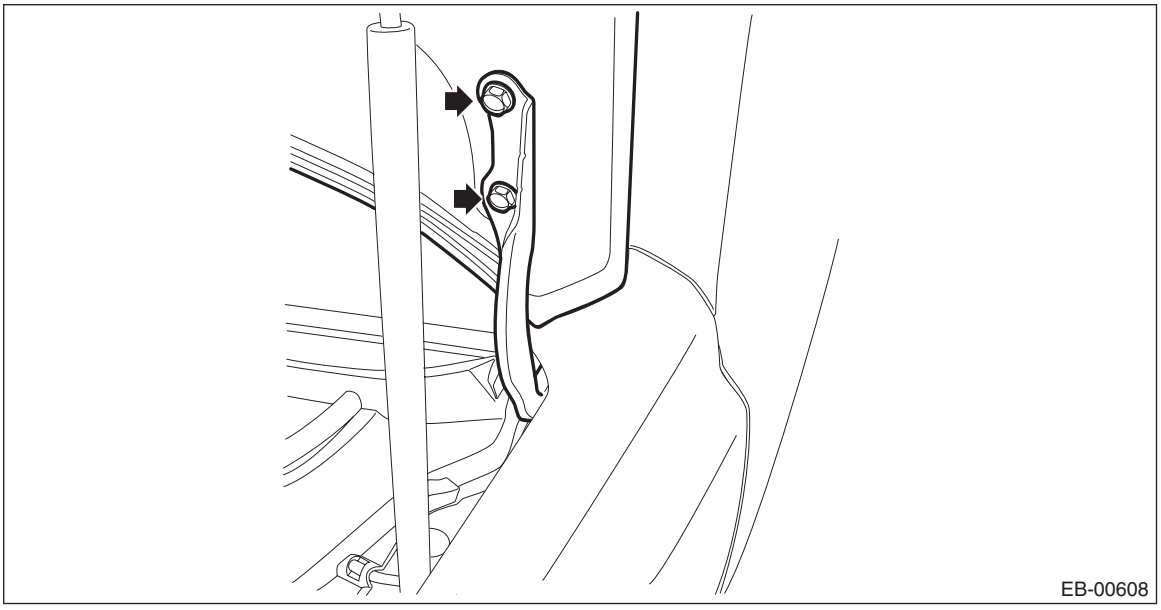
C: ADJUSTMENT

Adjust the clearance around the front hood panel as follows.



	Part	Standard
A	Front hood panel to Front bumper	6.0±1.0 mm (0.24±0.04 in)
B	Offset value between front hood panel and front fender panel tip	0+0.5, –1.0 mm (0+0.02, –0.04 in)
C	Front hood panel to Front fender panel (from front end to just before curved portion)	3.5±1.0 mm (0.14±0.04 in)
D	Front hood panel to Front fender panel (from rear end to just before curved portion)	4.1±1.0 mm (0.16±0.04 in)
E	Surface level gap between front hood panel and front fender panel	0.5+0.5, –1.0 mm (0.02+0.02, –0.04 in)

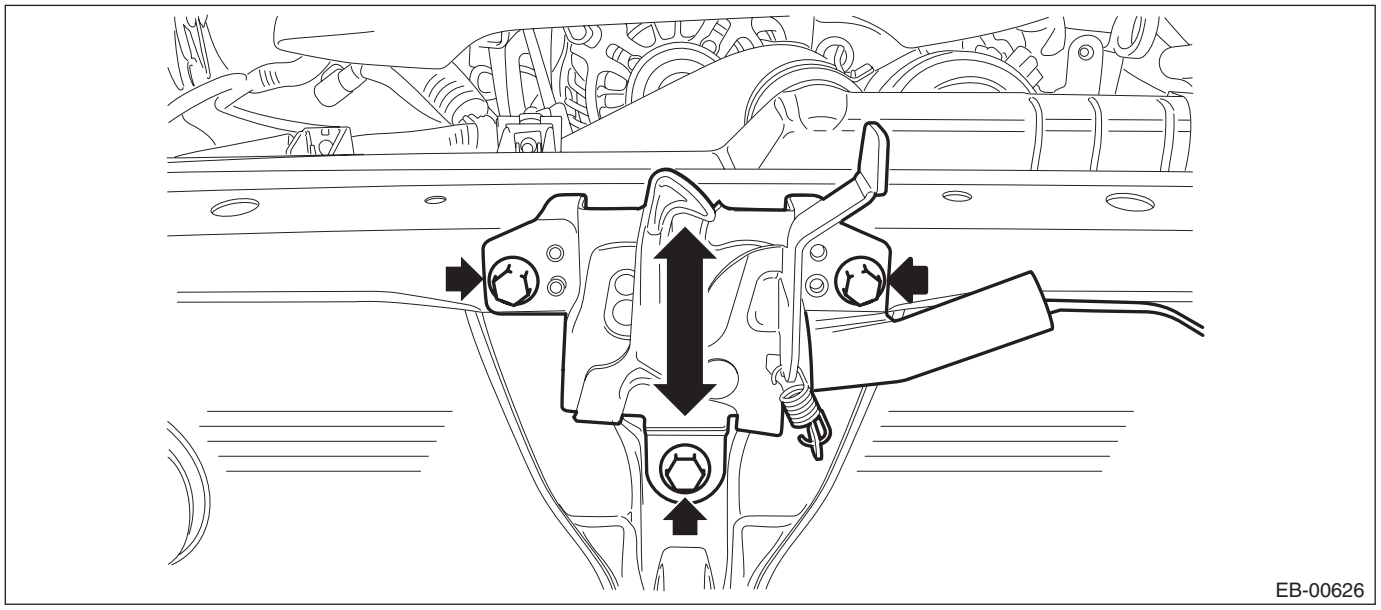
1) Adjust the horizontal position of front hood.
   (1) Loosen the left and right hinge attaching bolts.



   (2) Adjust the horizontal panel gap of the front hood and tighten the hinge attaching bolts.

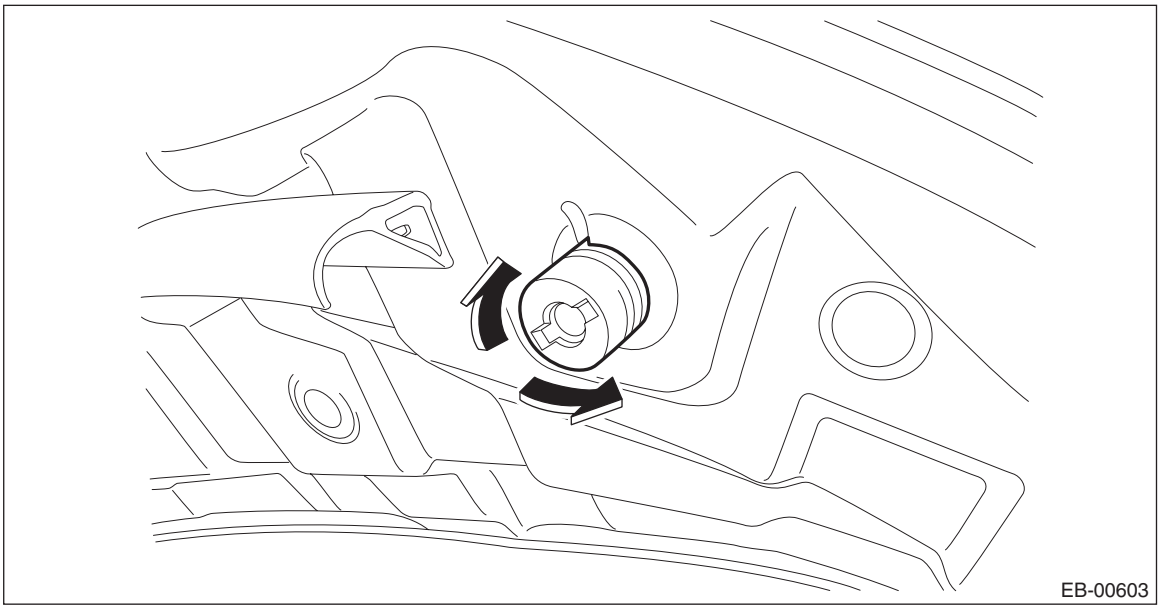
Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)

2) Adjust the height at the front end of hood.
   (1) Loosen the bolts of the front hood lock assembly.
   (2) Adjust the front hood lock assembly by moving it up and down.



Tightening torque:
33 N·m (3.36 kgf-m, 24.3 ft-lb)

3) Rotate the front hood buffer to adjust lateral height.



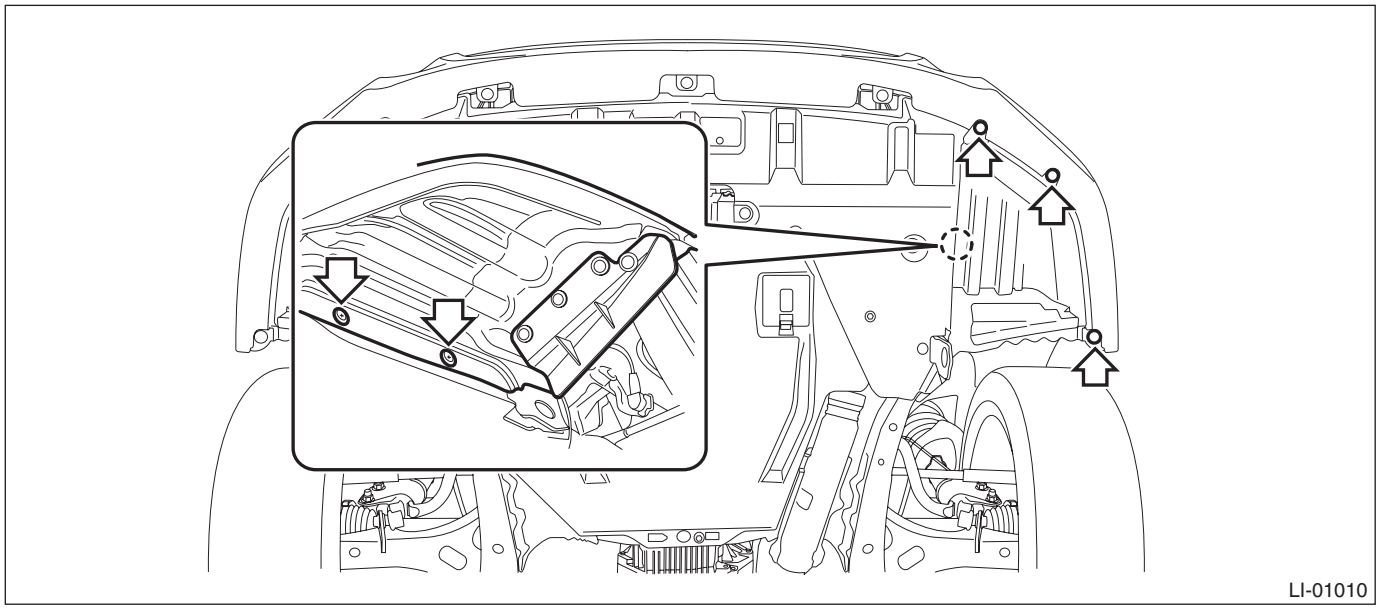
D: DISPOSAL

For the disposal procedures of front hood damper stay, refer to Disposal Procedures of “Rear Gate Damper Stay”. <Ref. to EB-53, REAR GATE DAMPER STAY, DISPOSAL, Rear Gate.>

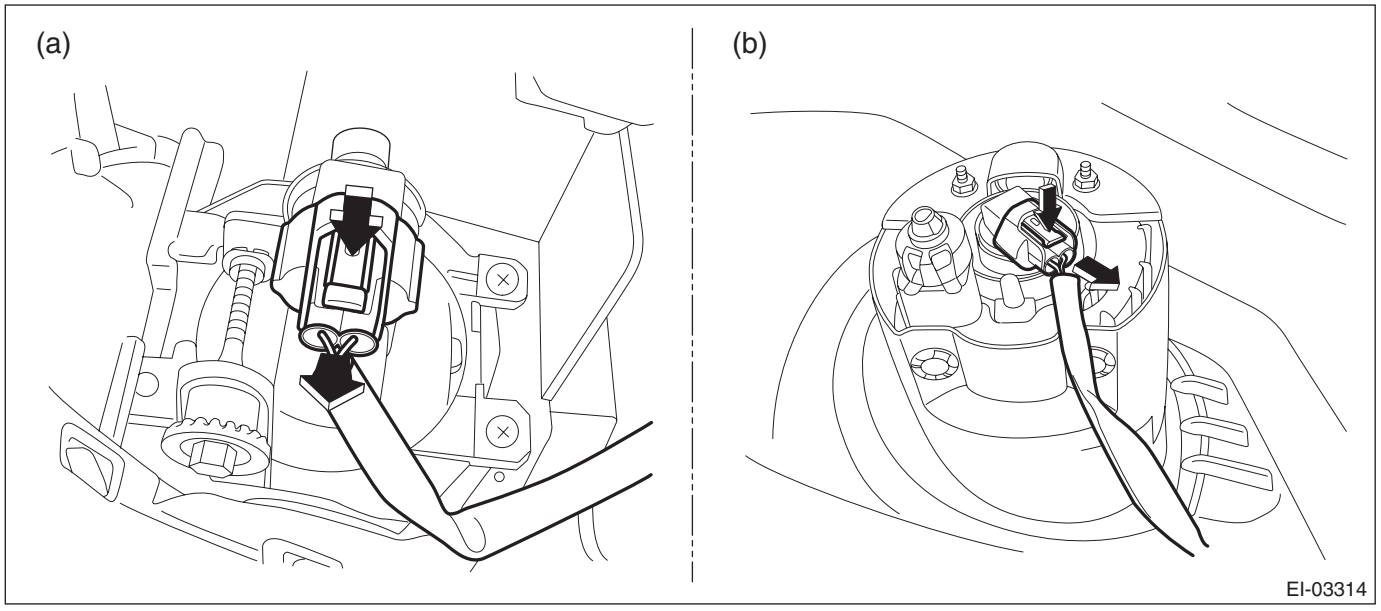
3. Front Fender

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the bumper face assembly.
   (1) Remove the clips and turn over the front end of front mud guard. (Model with fog light)



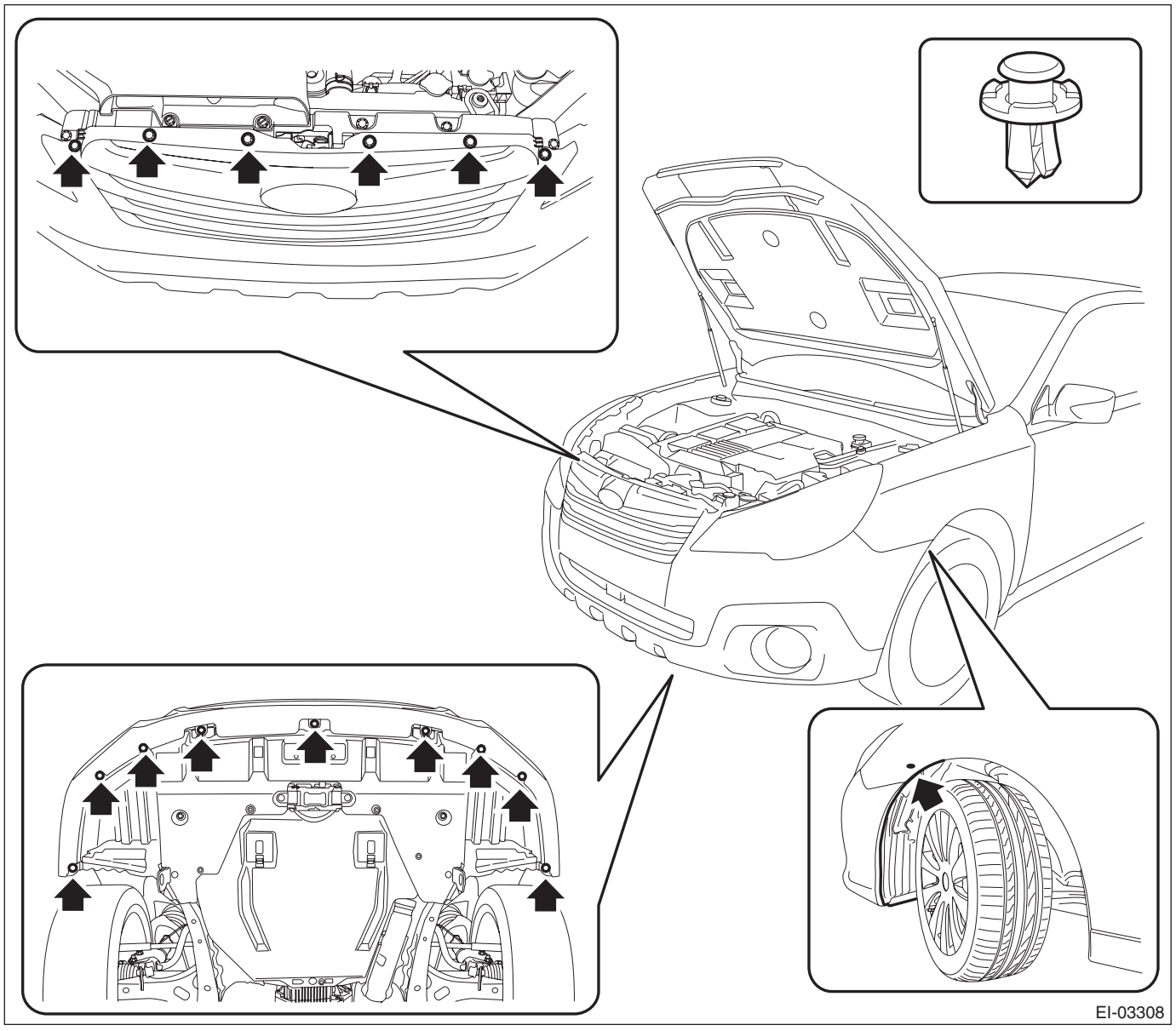
   (2) Disconnect the front fog light connector. (Model with fog light)



(a) Sedan model (b) OUTBACK model

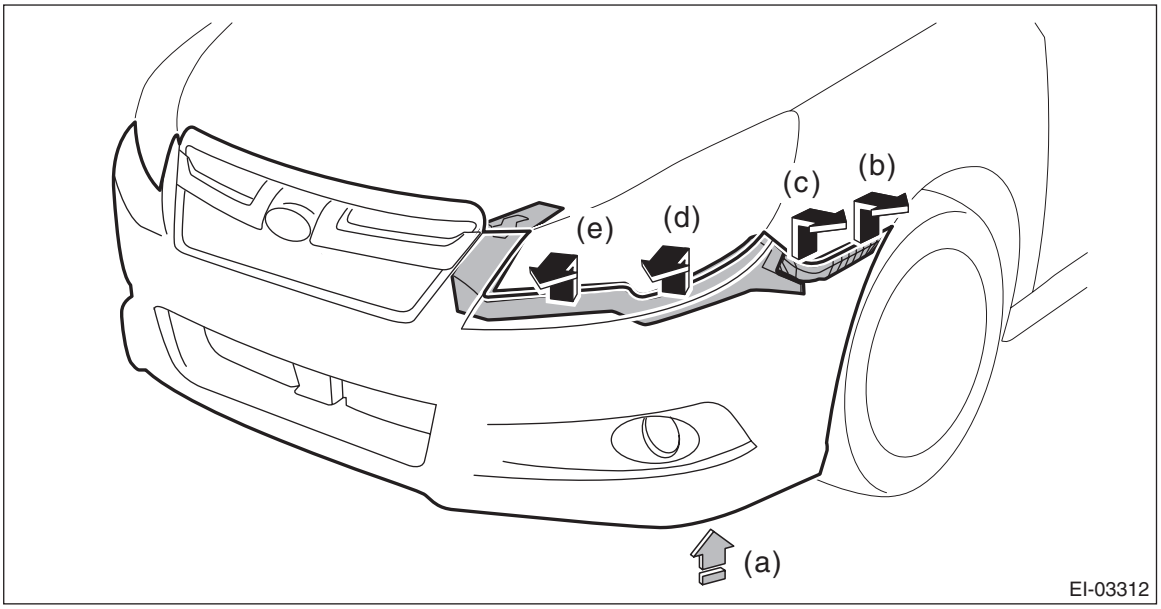
   (3) Remove the clips at the upper side of the bumper.
   (4) Remove the clips from the fender.

(5) Remove the clips at the lower side of bumper.



(6) Detach the flange section on the bumper face side from the bracket side front UPR.

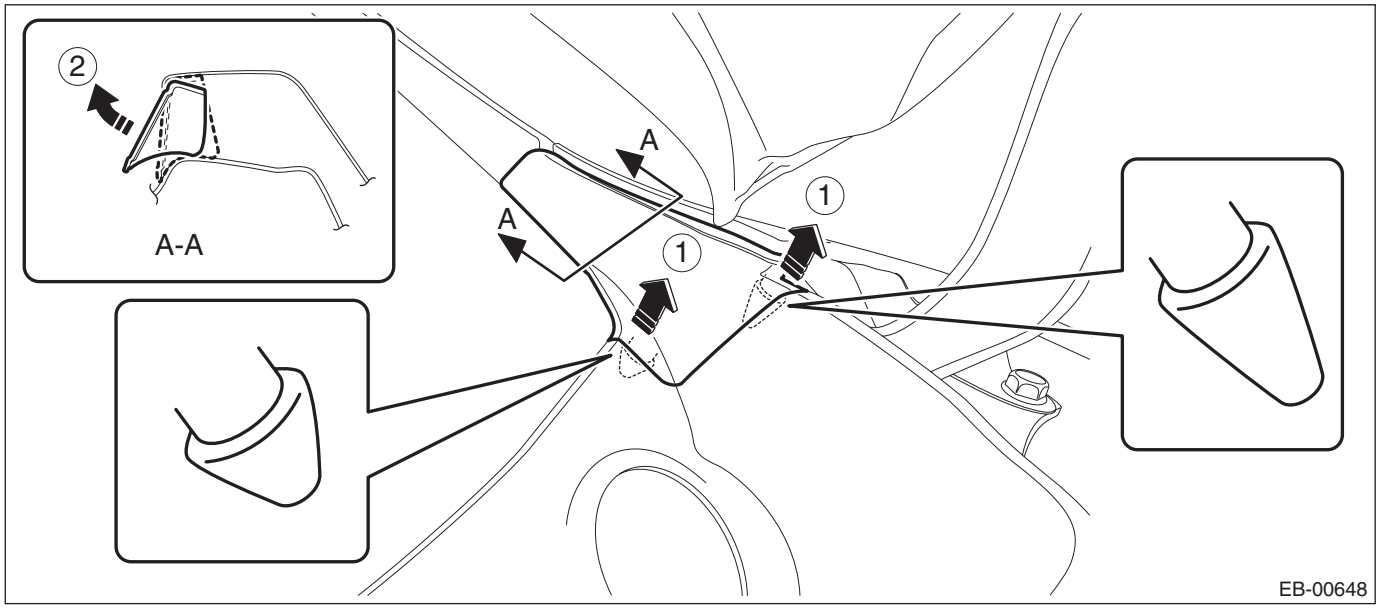
CAUTION:
Do not pull forcibly. It may damage the flange section on the bumper face - front side when it comes off from the claws of bracket side front UPR.



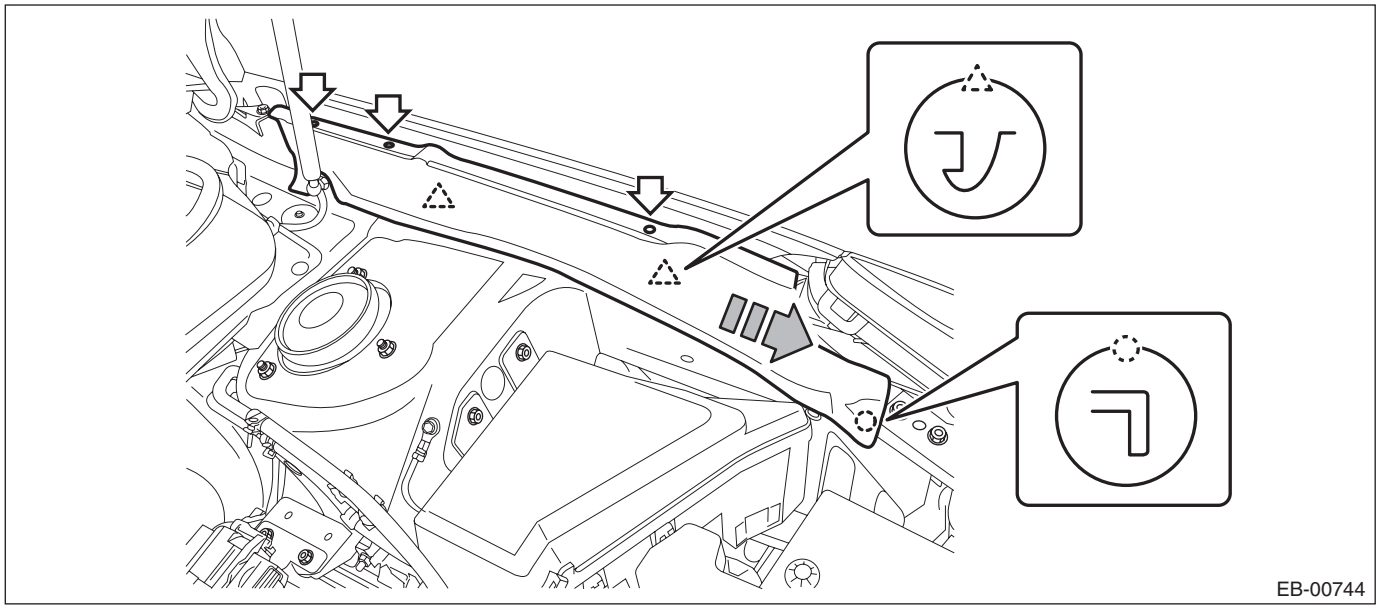
NOTE:
Pushing up the lower side (a) of the fog light, remove from (b) to (e).
Detach the opposite side in the same manner.

3) Remove the cowl panel side.
(1) Detach the pins of the cowl panel side.
(2) Remove the cowl panel side from inside the fender panel by pulling it.

CAUTION:
Applying excessive pulling force may damage the cowl panel side. If it is difficult to remove, use a plastic remover or equivalent tool.

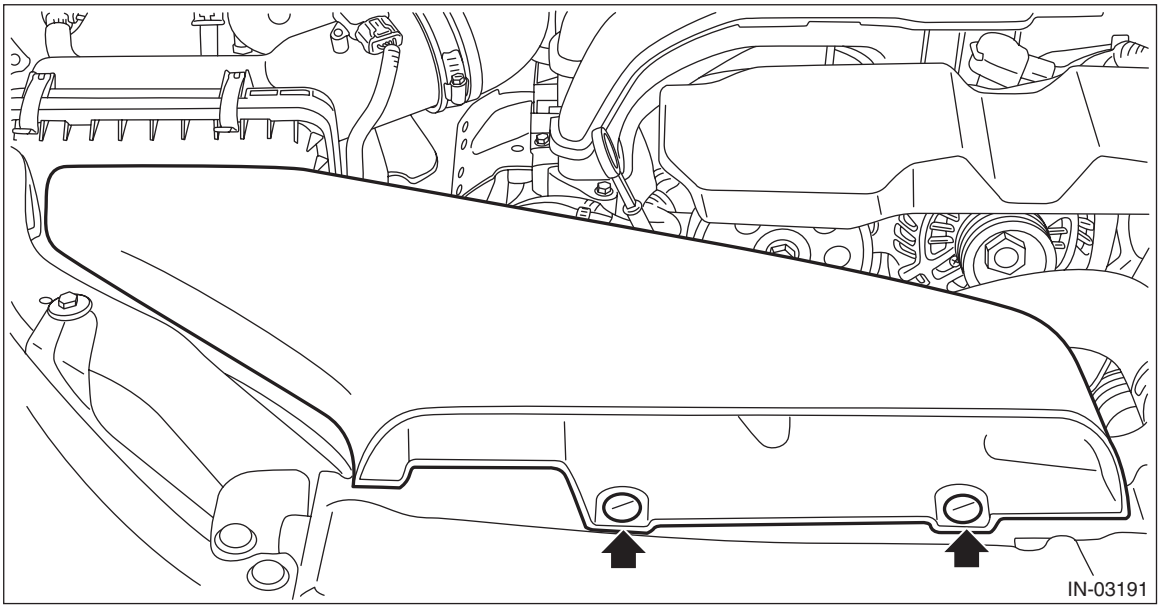


4) Remove the headlight assembly.
(1) Remove the fender cover assembly UPR.
a) Remove the clip.
b) Release the claws of the fender cover assembly UPR by pulling it forward and remove the fender cover.

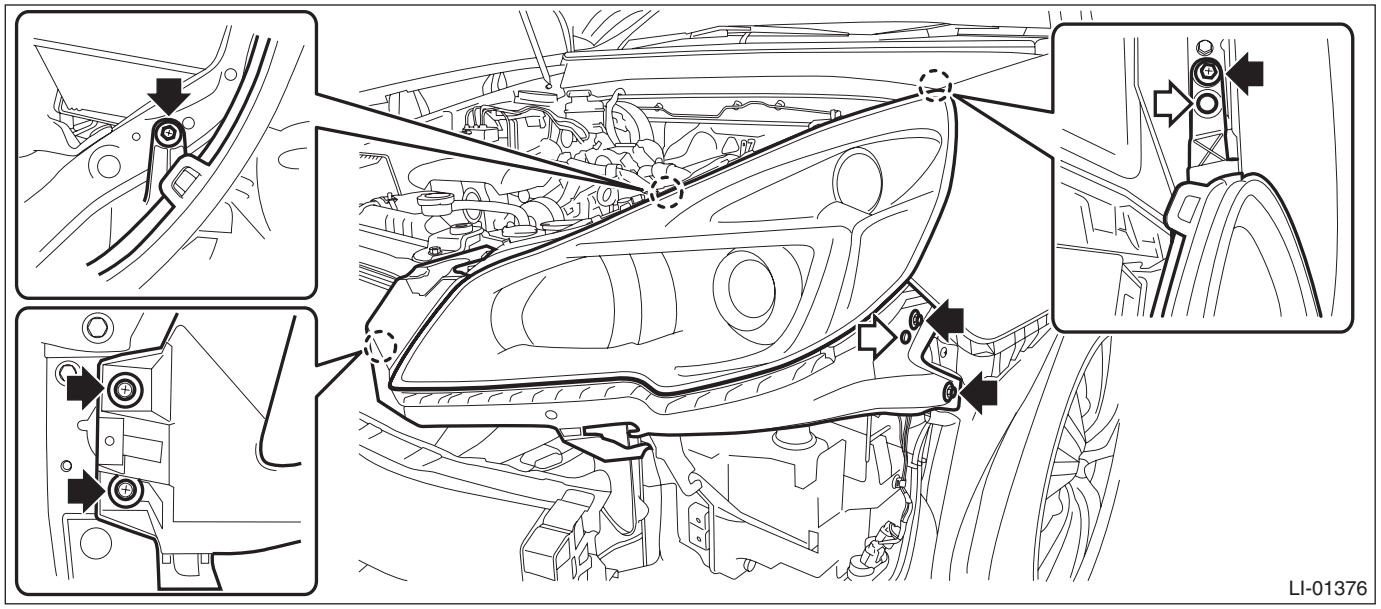


(2) Remove the headlight assembly.

NOTE:
When removing the RH headlight, remove the air intake duct.

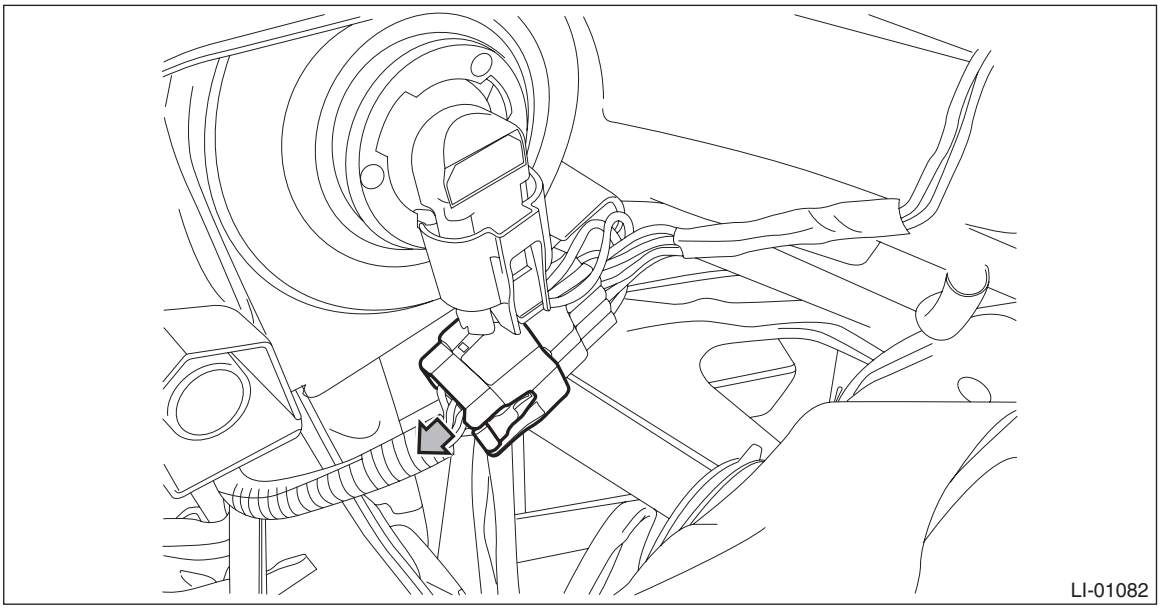


a) Remove the bolts and two clips, and pull out the headlight assembly to the front of the vehicle.

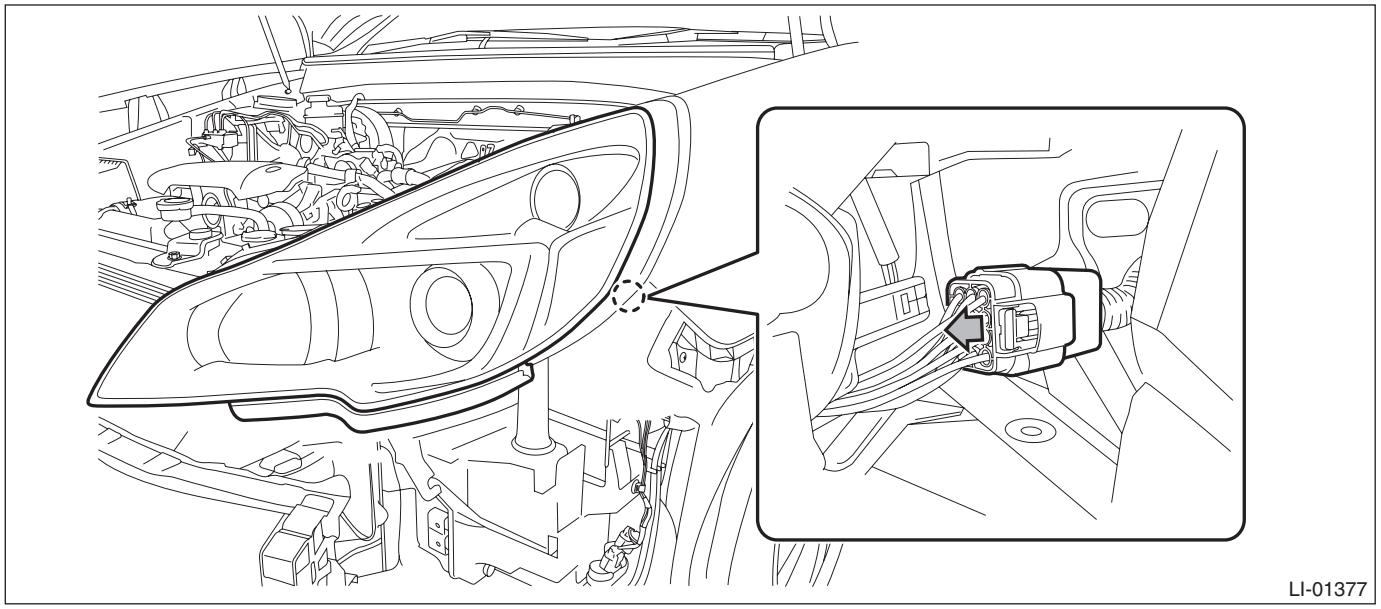


b) Disconnect the connector and remove the headlight assembly.

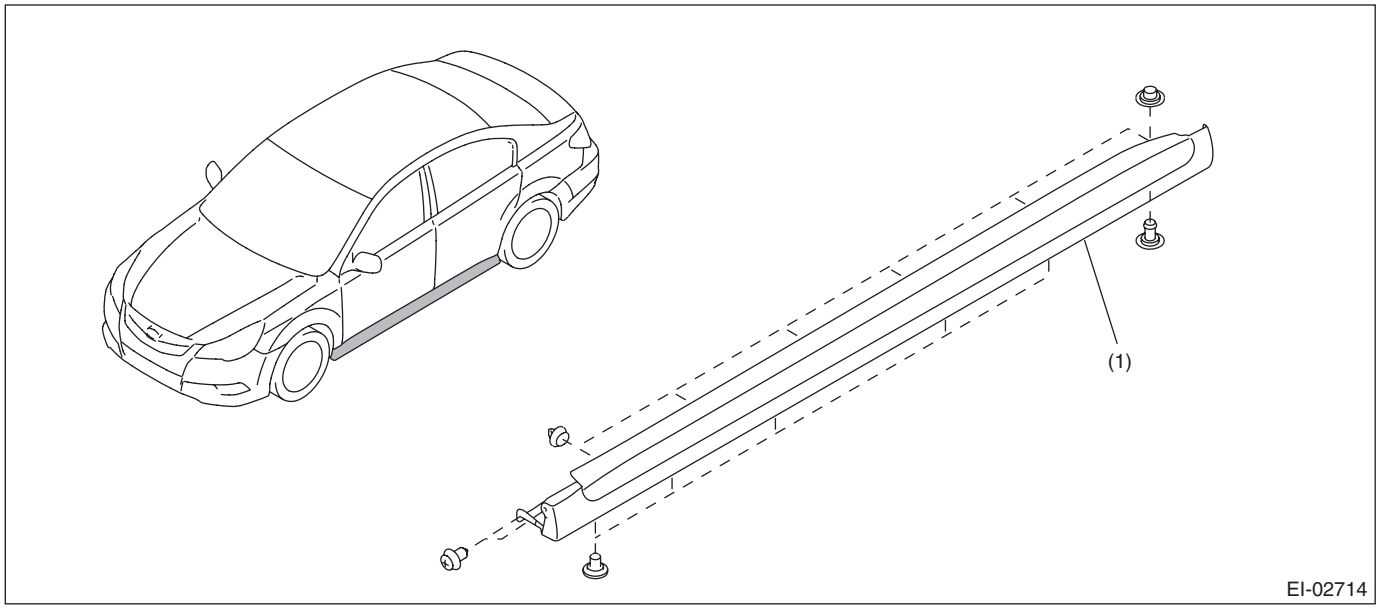
- Headlight connector RH



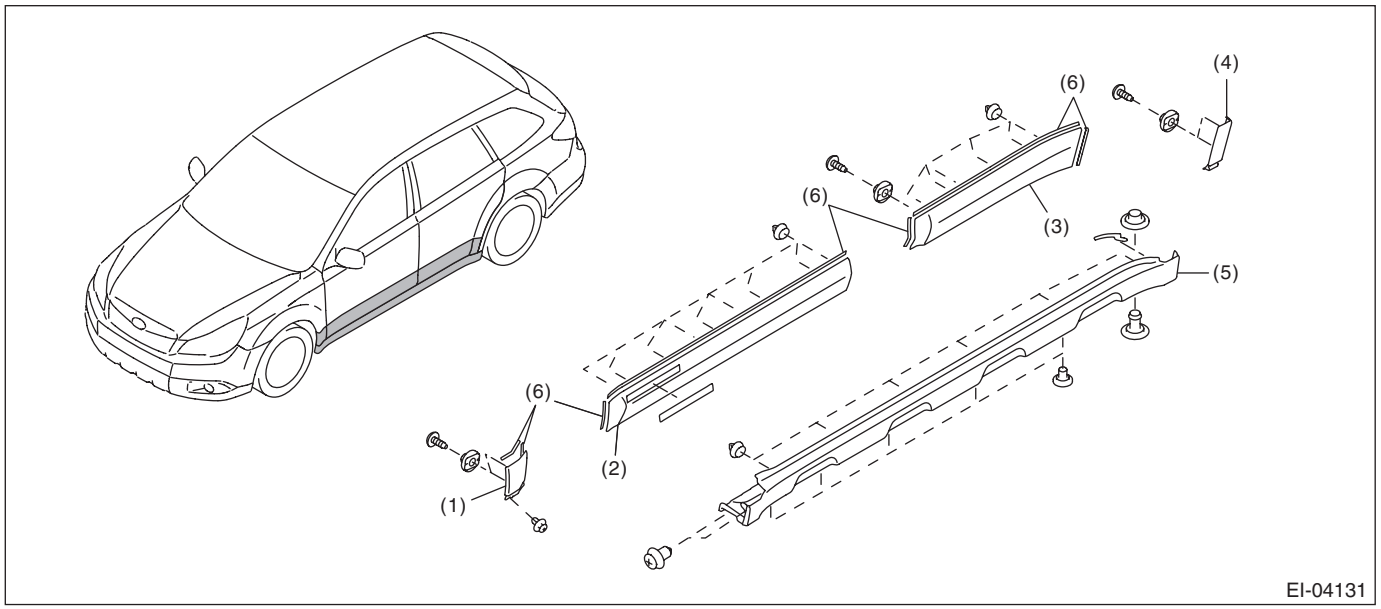
- Headlight connector LH



5) Remove the clips and detach the side sill garnish assembly.

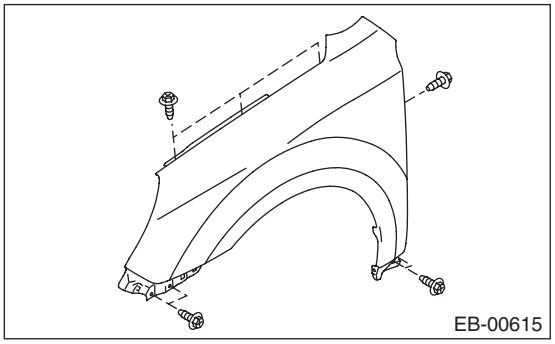


(1) Side sill garnish ASSY (sedan model)



(1) Garnish ASSY front fender (OUTBACK model)
(2) Garnish ASSY front door (OUTBACK model)
(3) Garnish ASSY rear door (OUTBACK model)
(4) Garnish ASSY rear quarter (OUTBACK model)
(5) Side sill garnish ASSY (OUTBACK model)
(6) Double-sided tape

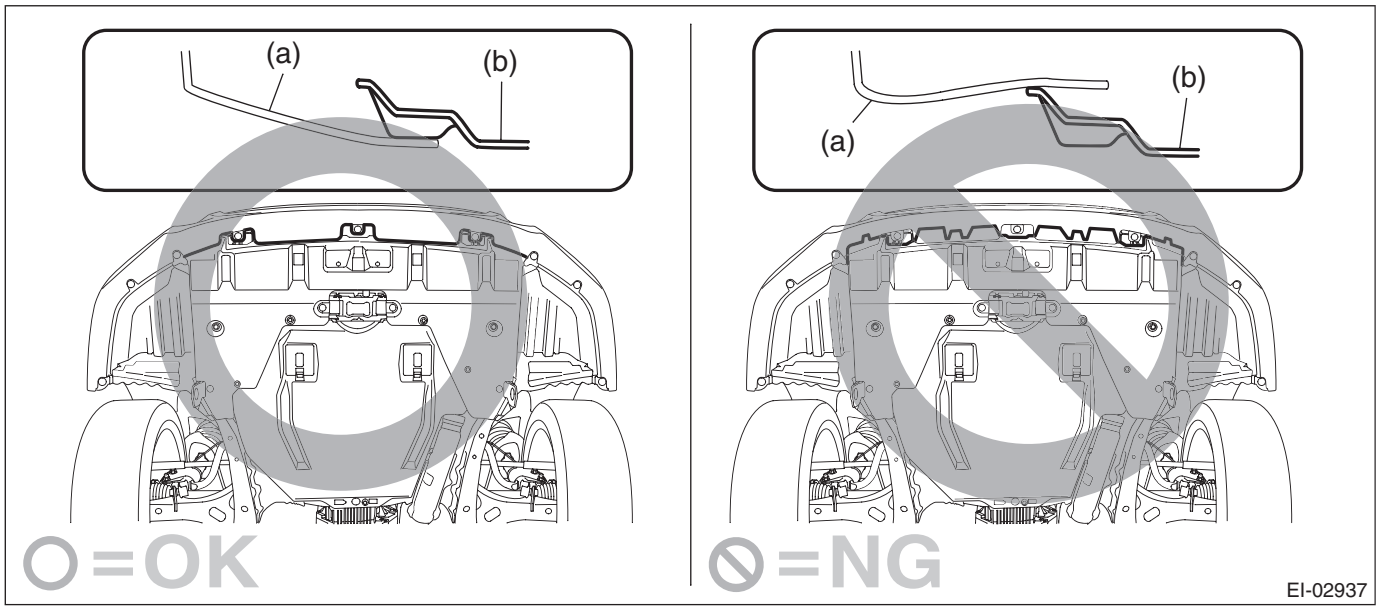
6) Remove the front fender panel.
(1) Remove the mud guard clips.
(2) Remove the bolt, and remove the front fender panel.



B: INSTALLATION

1) Install each part in the reverse order of removal.

CAUTION:
• After the installation of front fender panel, be sure to perform headlight beam adjustment. <Ref. to LI-30, HEADLIGHT BEAM ADJUSTMENT, ADJUSTMENT, Headlight Assembly.>
• Install the bumper face so that the under cover front end (b) comes inside the front bumper face (a).



• Before installing the bumper face, match the claws on the bracket - front bumper with the engaging position of flange section on the bumper face side. If the engaging position is not correct, the flange section may be broken or the clearance between fender panel and bumper face may not be uniform.

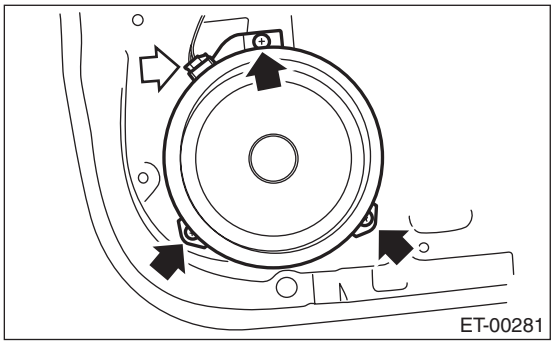
Tightening torque:
Front fender panel: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Headlight assembly: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

NOTE:
Install while paying attention to make a uniform clearance around the front fender panel.
• Front fender panel — Front hood panel:<Ref. to EB-13, ADJUSTMENT, Front Hood.>
• Front fender panel — Front door panel:<Ref. to EB-28, ADJUSTMENT, Front Door.>
2) Adjust the fog light beam. (Model with fog light)<Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

4. Front Door

A: REMOVAL

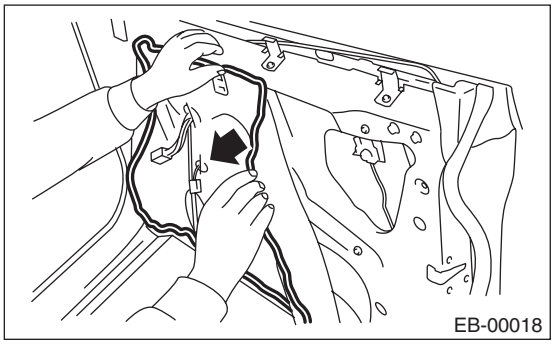
1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
3) Remove the outer mirror assembly. <Ref. to GW-24, REMOVAL, Outer Mirror Assembly.>
4) Remove the front door speaker assembly.
   (1) Remove the screws.
   (2) Disconnect the harness connector and remove the front speaker assembly.



5) Remove the front sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**

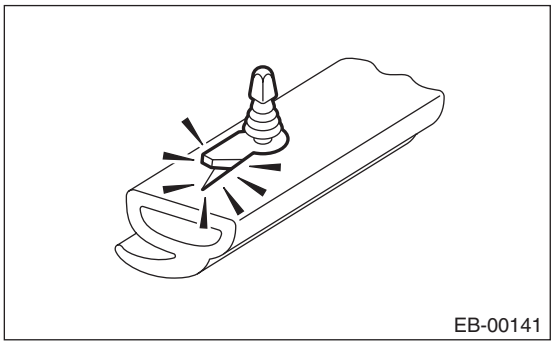
   (1) Remove the screw to remove the door trim bracket.
   (2) Carefully remove the butyl tape to remove the sealing cover.



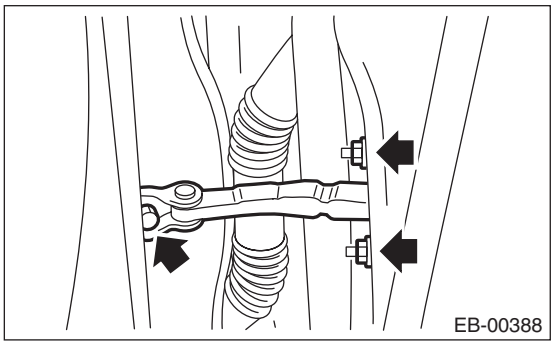
6) Remove the door sash and front door glass. <Ref. to GW-18, REMOVAL, Front Door Glass.>
7) Remove the front door regulator and motor. <Ref. to GW-20, REMOVAL, Front Regulator and Motor Assembly.>
8) Remove the front door latch assembly. <Ref. to SL-41, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
9) Remove the front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>

10) Remove the front door weather strip.

CAUTION:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.

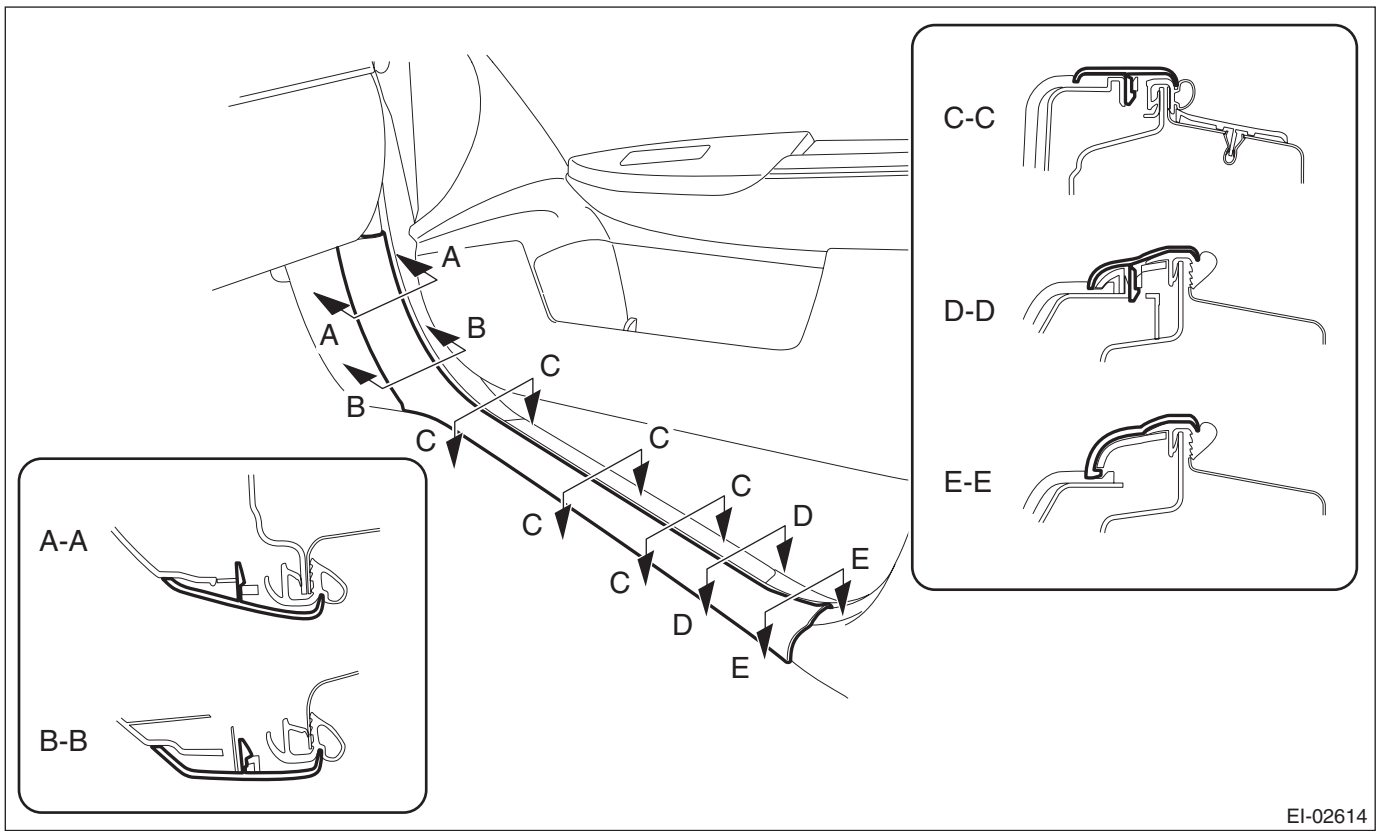


11) Remove the bolts and nuts to remove the door checker.



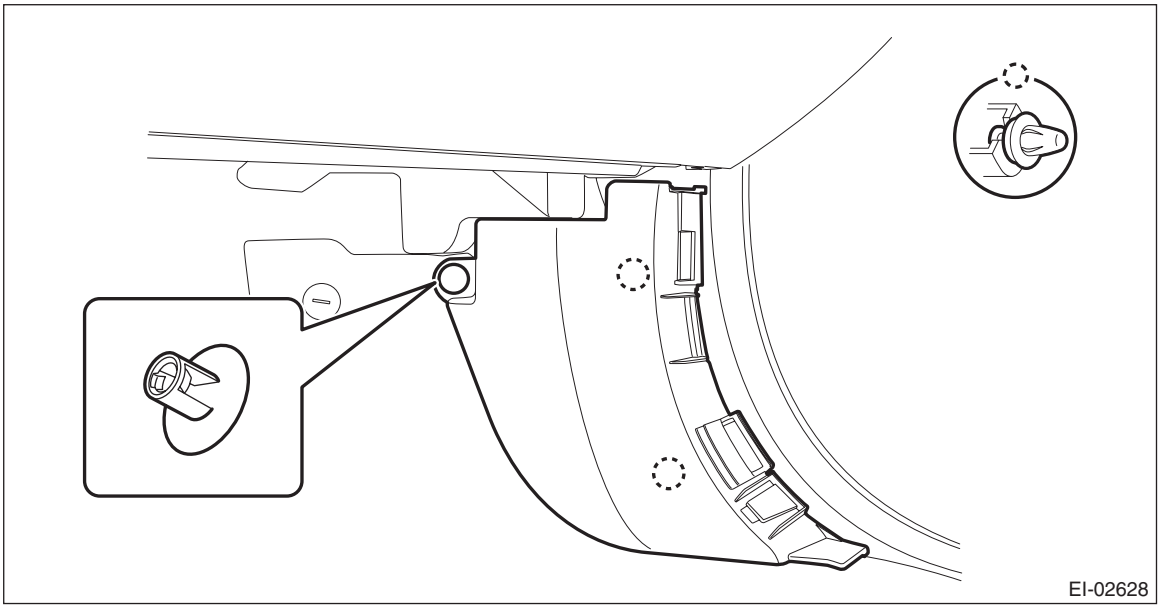
12) Release the claws, and then remove the side sill cover-front INN.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

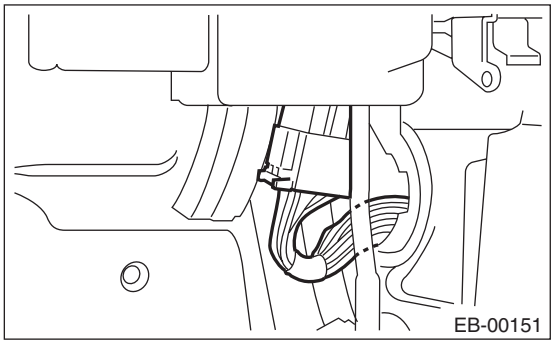


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

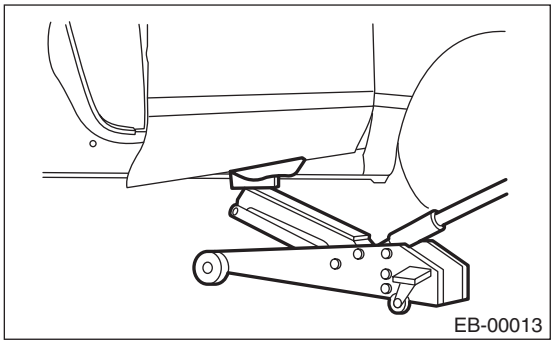
13) Remove the clip, and remove the side sill cover front.



14) Disconnect the connector of door harness from body harness.



15) Before removing the door panel, make the following preparations.

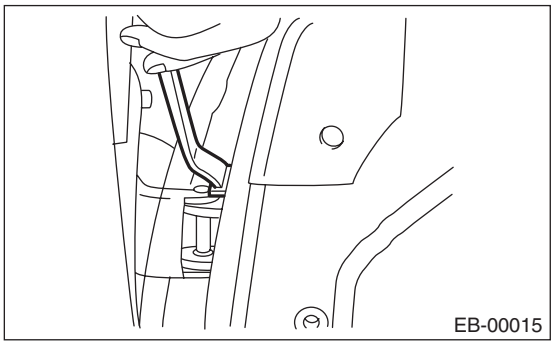


(1) Put a wooden block on a floor jack and place the jack under the front door.
(2) Support the door with a jack to protect it from damage.

CAUTION:
Do not lift the door panel with a floor jack excessively. The door hinges may be damaged.

16) Remove the door-side bolts for upper and lower hinges to remove front door panel.

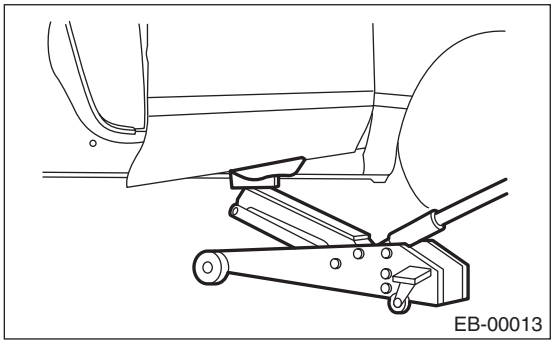
CAUTION:
Door panels are heavy. When removing and installing them, always work in a team of two or more persons.



17) Remove the door hinge from vehicle.

B: INSTALLATION

1) Remove the fender cover lower from fender panel.
2) Apply grease to the sliding area of door hinges, and install the door hinge to vehicle.
3) Put a wooden block on jack and place the front door on that.



4) Temporarily install the front door to upper hinge and lower hinge after adjusting the height by jack.

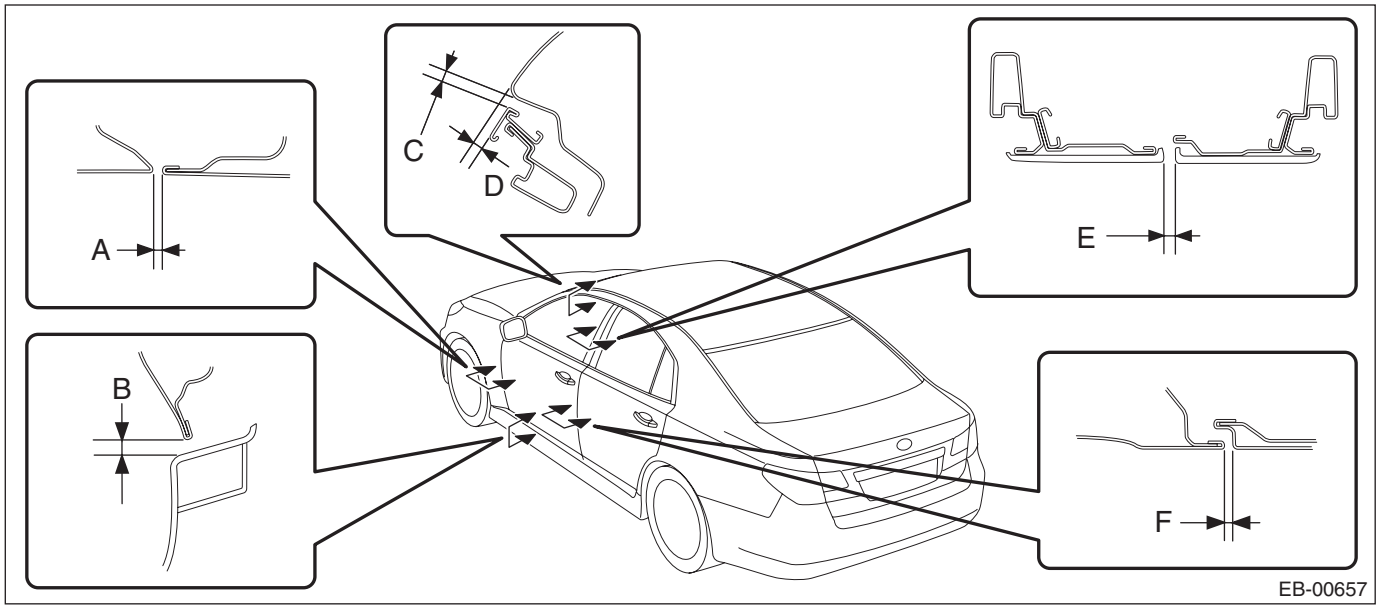
NOTE:
When installing, make sure that a uniform clearance is created around the front door panel.
5) Adjust the clearance around the front door panel. <Ref. to EB-28, ADJUSTMENT, Front Door.>
6) Install the fender cover lower.
7) Tighten the bolts and nuts of door hinges and door checker.

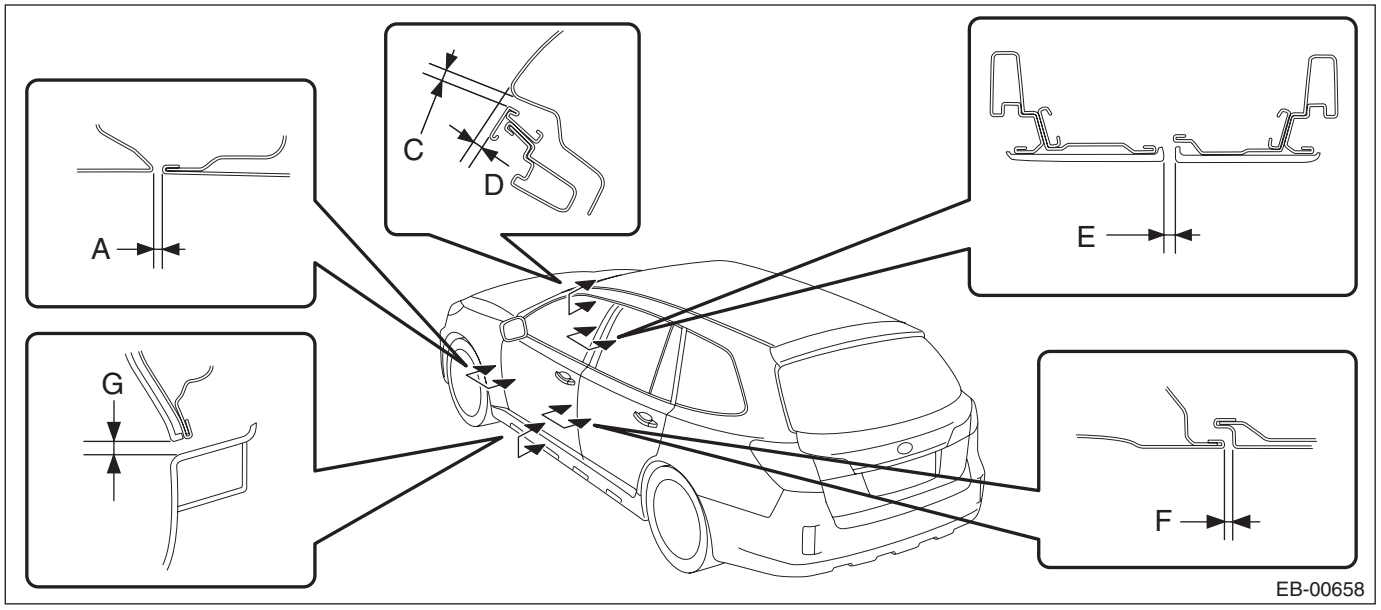
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EB-4, FRONT DOOR, COMPONENT, General Description.>

8) Install door internal parts in the reverse order of removal.
9) Connect the door harness connector, and install the front pillar lower trim.

C: ADJUSTMENT

Adjust the clearance around the front door panel as follows.



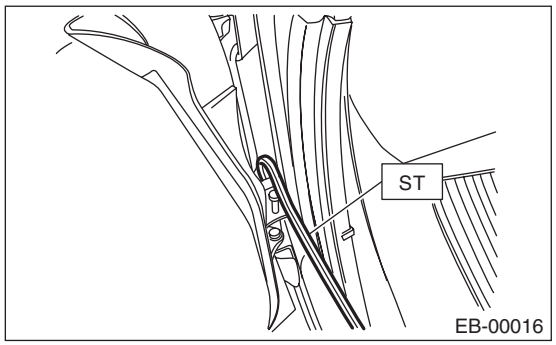


Part		Standard
A	Front fender panel to Front door panel	4.6±1.0 mm (0.18±0.04 in)
B	Front door panel to Side sill garnish (sedan model)	6.0±1.0 mm (0.24±0.04 in)
C	Outer side panel to Front door sash	5.0±1.0 mm (0.20±0.04 in)
D	Surface level gap between outer side panel and front door sash	3.5±1.0 mm (0.14±0.04 in)
E	Front door sash to Rear door sash	5.5±1.0 mm (0.22±0.04 in)
F	Front door panel to Rear door panel	4.6±1.0 mm (0.18±0.04 in)
G	Front door garnish to Side sill garnish (OUTBACK model)	8.0±1.0 mm (0.31±0.04 in)

NOTE:
Common to sedan and OUTBACK models

1) Adjust the vertical and horizontal positions of front door panel.

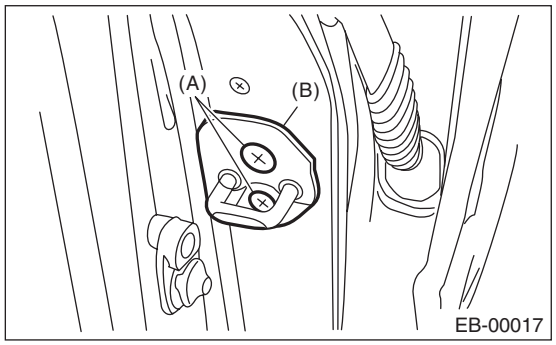
Preparation tool:
ST: WRENCH (925610000)



(1) Using ST, loosen the body side bolts of the upper and lower hinges.
(2) Adjust the vertical and horizontal clearance of front door panel.

2) Adjust the surface level gap between front door panel and rear door.

CAUTION:
Do not use an impact wrench. Welding area on the striker nut plate is easily broken.

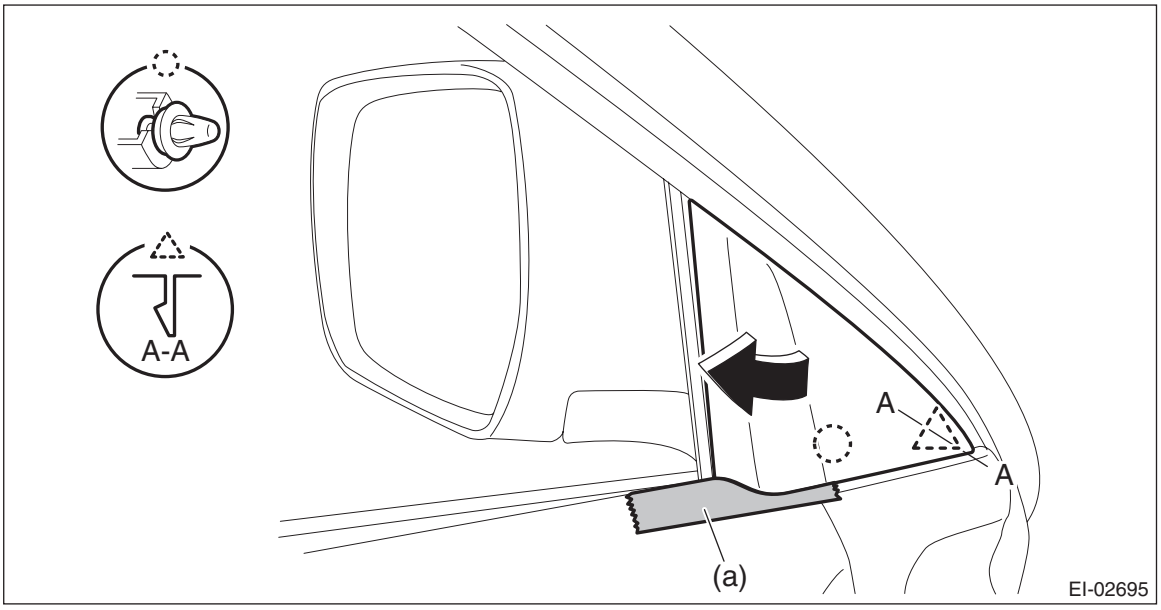


(1) Loosen the screws (A).
(2) Tap the striker (B) using a plastic hammer to adjust the surface level gap between rear end of front door panel and front end of rear door panel.

5. Front Sealing Cover

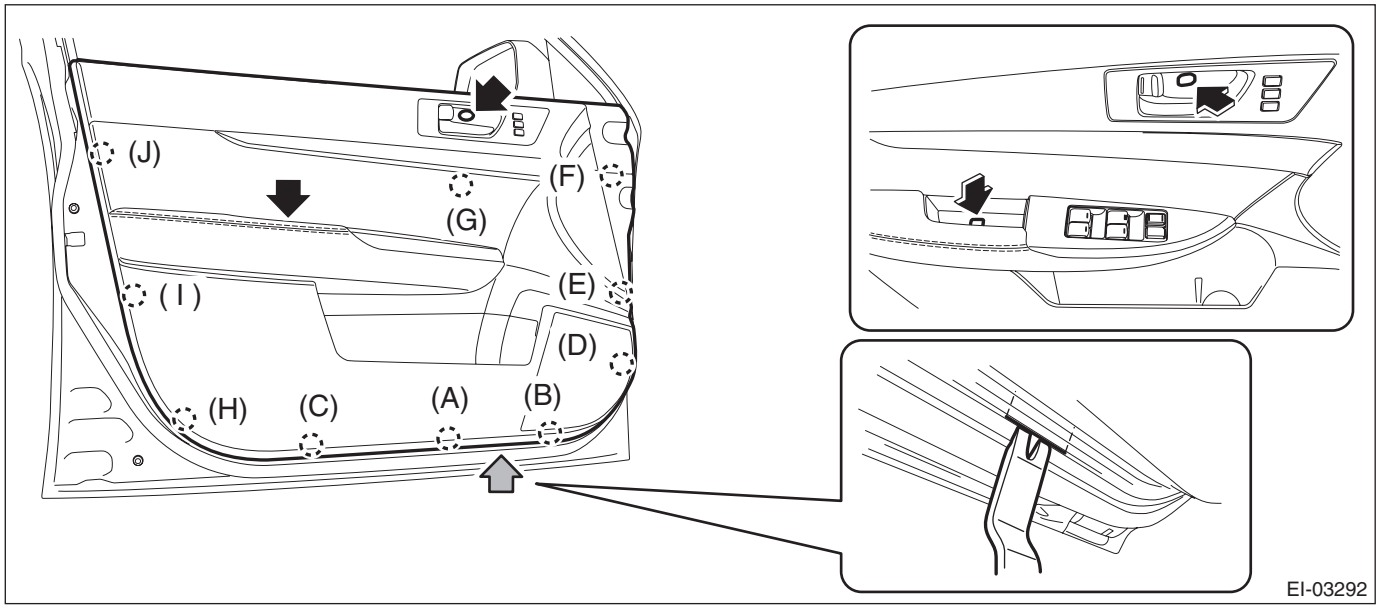
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the gusset cover.
   (1) Attach the protective tape (a) to the door trim.
   (2) Release the clips and claws, then detach the gusset cover.



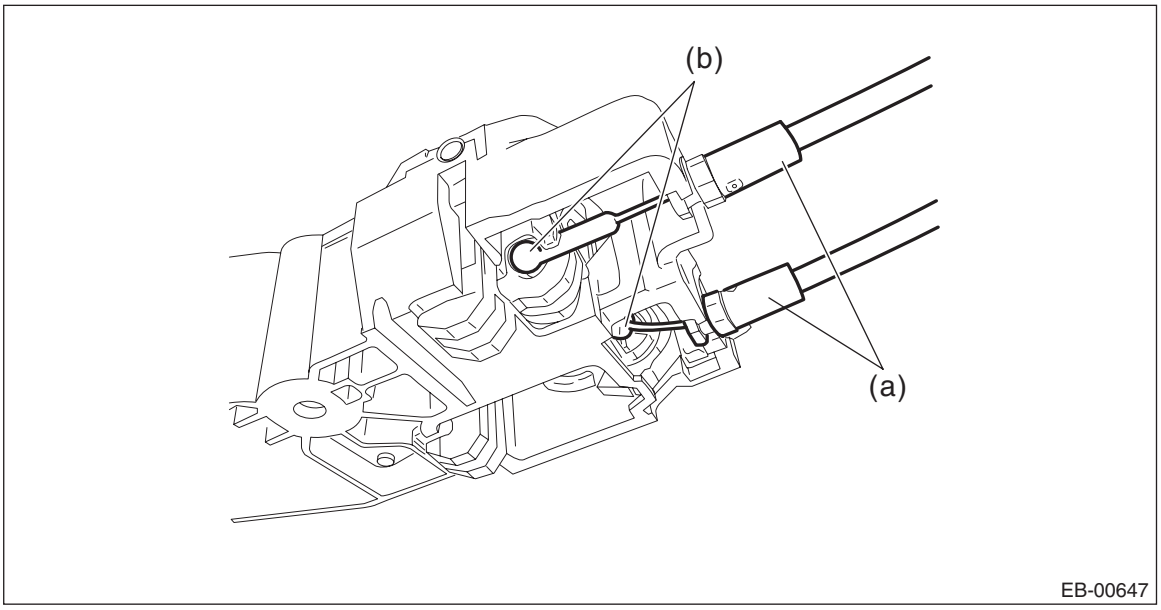
3) Remove the door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (J) and remove the door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.

(3) Remove the cables (a) and (b) from the cable holder of inner remote.

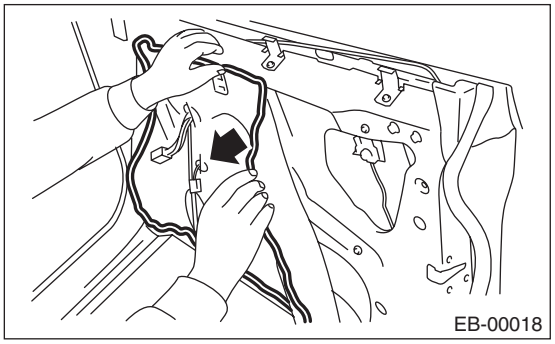


(4) Disconnect the harness connector and remove the door trim assembly.

4) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**

(1) Remove the screw to remove the door trim bracket.
(2) Carefully remove the butyl tape to remove the sealing cover.



B: INSTALLATION

CAUTION:
- **If the sealing cover gets broken, replace it with a new part.**
- **Apply a uniform bead of butyl tape.**
- **Attach the sealing cover, keeping it from becoming wrinkled.**
- **Breaks in the bead will allow water leakage and contamination.**

1) Install each part in the reverse order of removal.
2) When replacing the sealing cover, use the butyl tape.
3) Press the butyl tape-applied area firmly to prevent any floating on surface.

Butyl tape:
3M8626 or equivalent

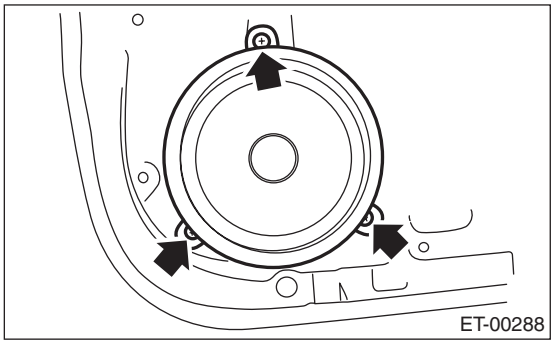
C: INSPECTION

If the sealing cover gets damaged, replace it with a new part.

6. Rear Door

A: REMOVAL

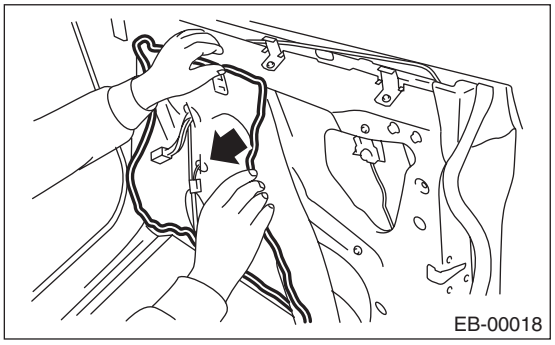
1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>
3) Remove the rear door speaker assembly.
   (1) Remove the screws.
   (2) Disconnect the harness connector and remove the rear speaker assembly.



4) Remove the rear sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**

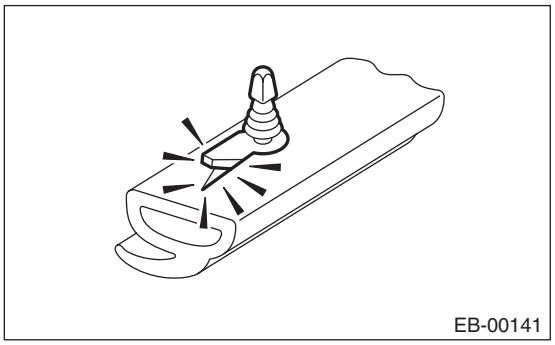
   (1) Remove the screw to remove the door trim bracket.
   (2) Carefully remove the butyl tape to remove the sealing cover.



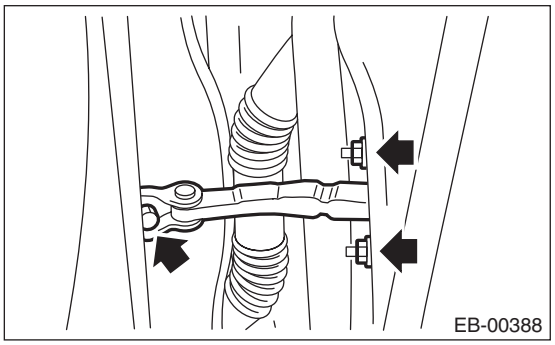
5) Remove the door sash and rear door glass. <Ref. to GW-30, REMOVAL, Rear Door Glass.>
6) Remove the rear door regulator and motor assembly. <Ref. to GW-32, REMOVAL, Rear Regulator and Motor Assembly.>
7) Remove the rear door latch. <Ref. to SL-49, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
8) Remove the rear outer handle. <Ref. to SL-46, REMOVAL, Rear Outer Handle.>

9) Remove the rear door weather strip.

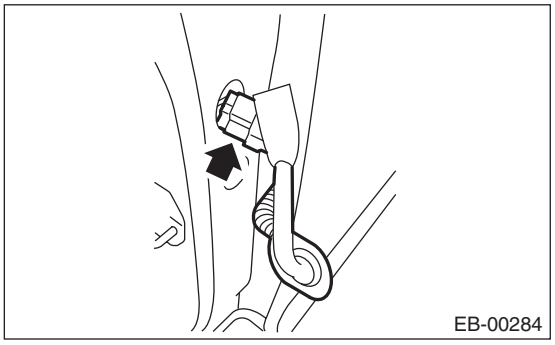
CAUTION:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.


EB-00141

10) Remove the bolts and nuts to remove the door checker.

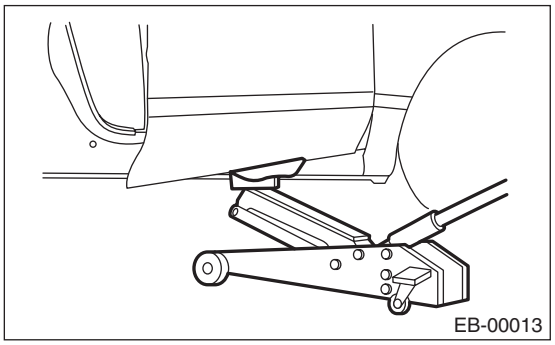

EB-00388

11) Disconnect the rear door harness connectors.


EB-00284

(1) Remove the grommet and pull out the rear door harness connector from inside the center pillar.
(2) Disconnect the rear door harness connectors.

12) Before removing the door panel, make the following preparations.


EB-00013

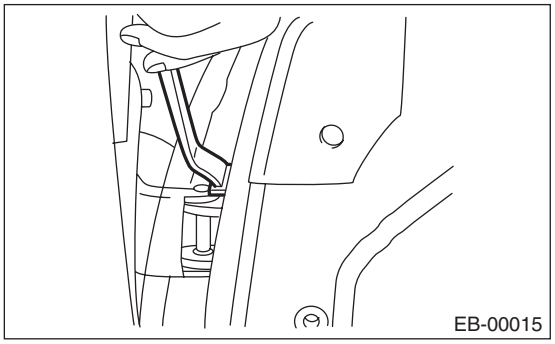
(1) Put a wooden block on a floor jack and place the jack under the rear door.

(2) Support the rear door with the jack to protect it from damage.

CAUTION:
Do not lift the door panel with a floor jack excessively. The door hinges may be damaged.

13) Remove the door-side bolts for upper and lower hinges to remove the rear door panel.

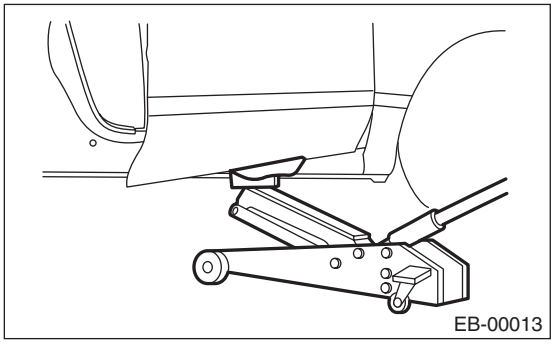
CAUTION:
Door panels are heavy. When removing and installing them, always work in a team of two or more persons.



14) Remove the door hinge from vehicle.

B: INSTALLATION

1) Apply grease to the moving part of door hinges.
2) Put a wooden block on jack and place the rear door on that.



3) Temporarily install the rear door to upper hinge and lower hinge after adjusting the height by jack.

NOTE:
When installing, make sure that a uniform clearance is created around the rear door panel.

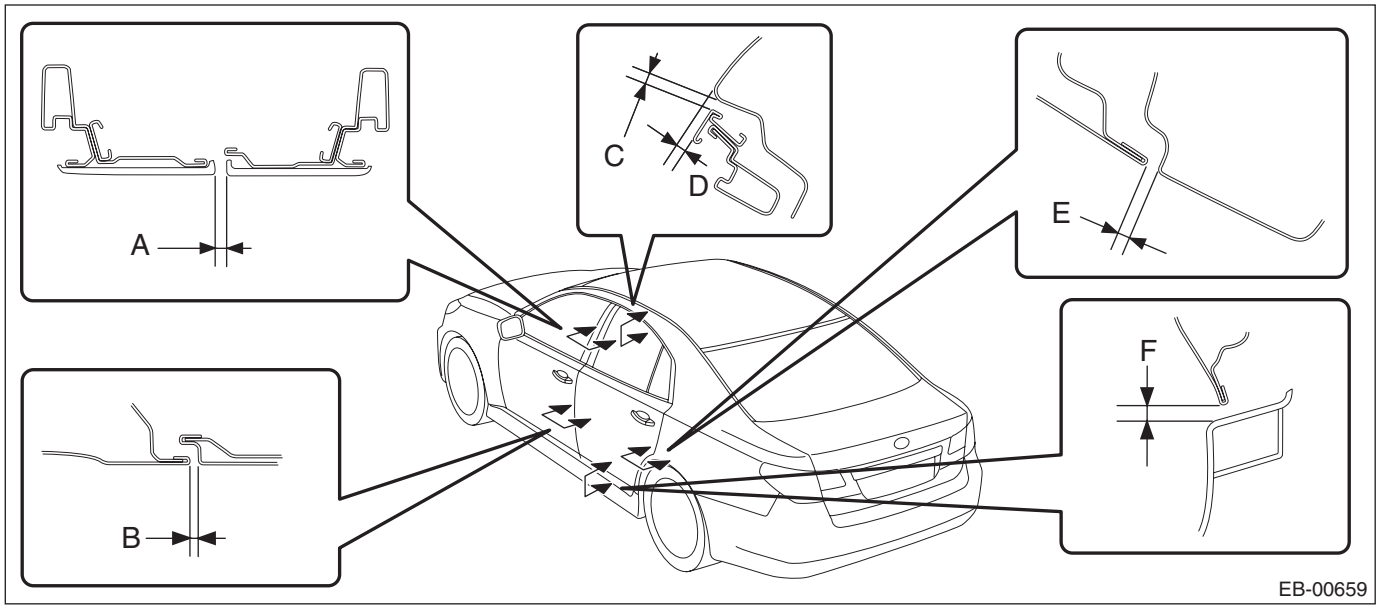
4) Adjust the clearance around the rear door panel. <Ref. to EB-35, ADJUSTMENT, Rear Door.>
5) Tighten the bolts and nuts of door hinges and door checker.

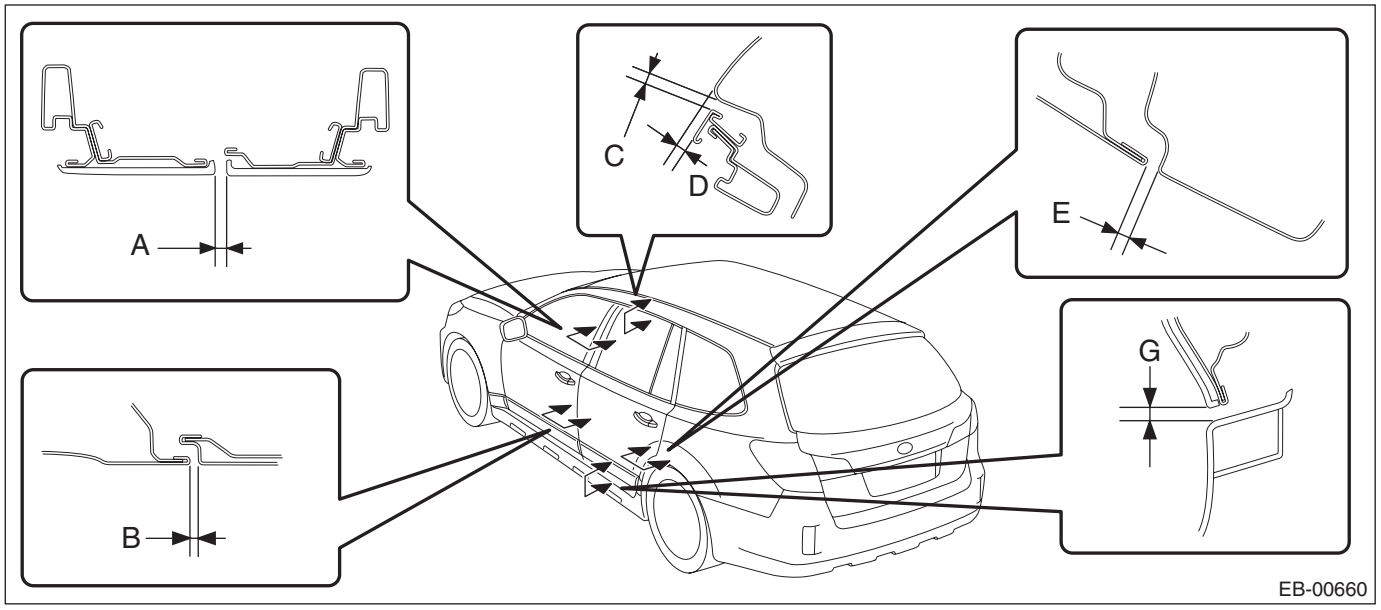
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EB-5, REAR DOOR, COMPONENT, General Description.>

6) Install door internal parts in the reverse order of removal.
7) Connect the door harness connector, and install the center pillar lower trim.

C: ADJUSTMENT

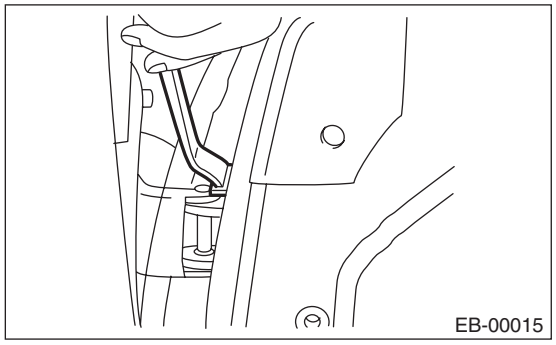
Adjust the clearance around the rear door panel as follows.





Part		Standard
A	Front door sash to Rear door sash	5.5±1.0 mm (0.22±0.04 in)
B	Front door panel to Rear door panel	4.6±1.0 mm (0.18±0.04 in)
C	Outer side panel to Rear door sash	5.0±1.0 mm (0.20±0.04 in)
D	Surface level gap between outer side panel and rear door sash	3.5±1.0 mm (0.14±0.04 in)
E	Rear door panel to Outer side panel	4.0±1.0 mm (0.16±0.04 in)
F	Rear door panel to Side sill garnish (sedan model)	6.0±1.0 mm (0.24±0.04 in)
G	Rear door garnish to Side sill garnish (OUTBACK model)	8.0±1.0 mm (0.31±0.04 in)

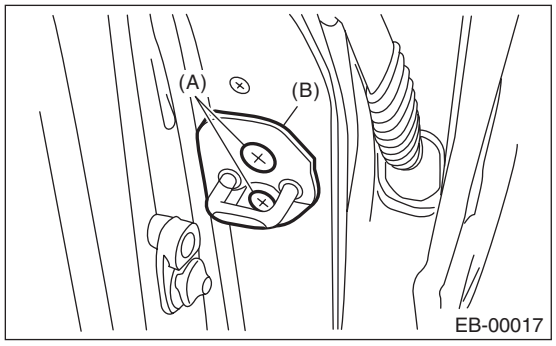
1) Adjust the vertical and horizontal positions of rear door panel.



(1) Loosen the body side bolts of upper and lower hinges.
(2) Adjust the vertical and horizontal clearance of rear door panel.

2) Adjust the surface level gap between rear door panel and body.

CAUTION:
Do not use an impact wrench. Welding area on the striker nut plate is easily broken.



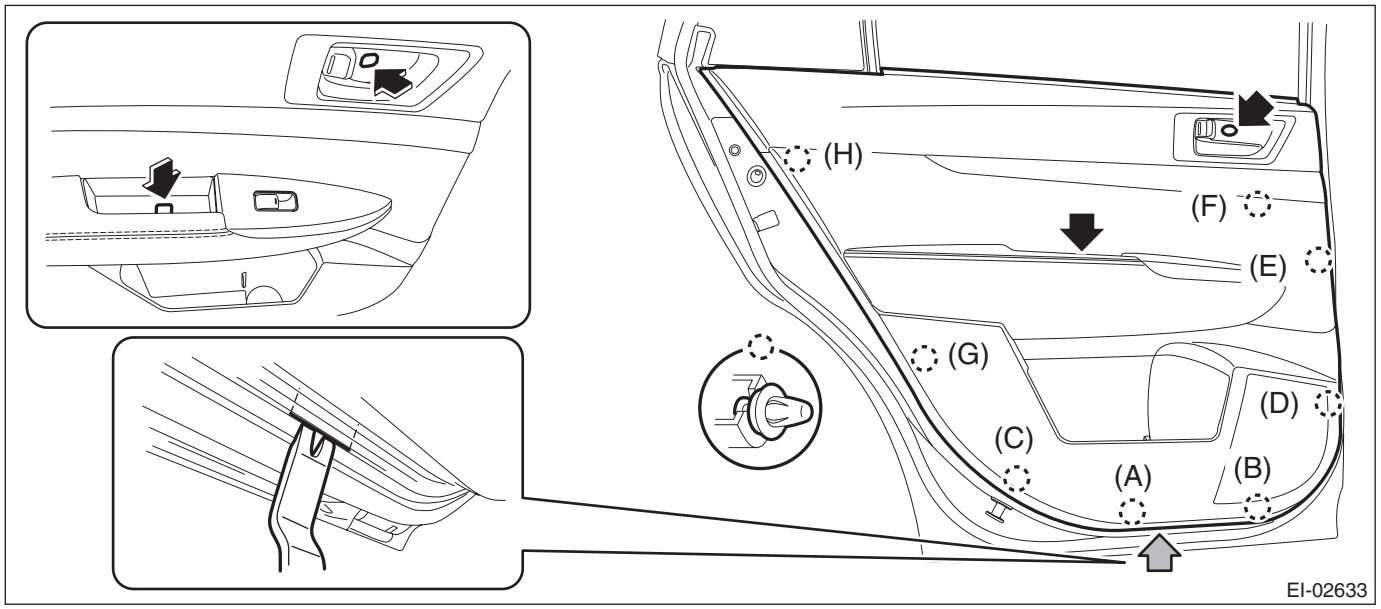
(1) Loosen the screws (A).
(2) Tap the striker (B) using a plastic hammer to adjust the surface level gap between rear end of rear door panel and rear quarter.

7. Rear Sealing Cover

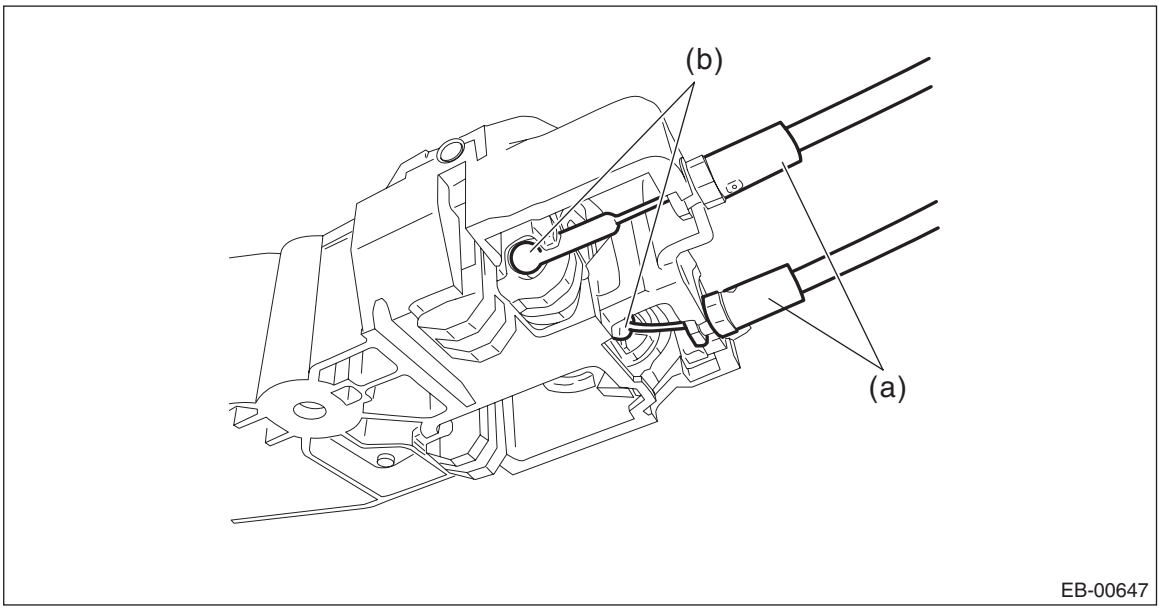
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (H) and remove the door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.
   (3) Remove the cables (a) and (b) from the cable holder of inner remote.

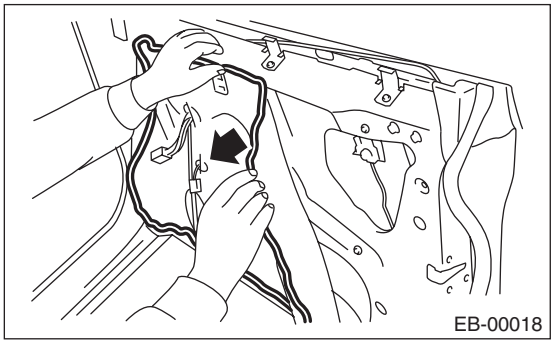


   (4) Disconnect the harness connector and remove the door trim.

3) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**

(1) Remove the screw to remove the door trim bracket.
(2) Carefully remove the butyl tape to remove the sealing cover.



B: INSTALLATION

CAUTION:
- **If the sealing cover gets broken, replace it with a new part.**
- **Apply a butyl tape evenly.**
- **Attach the sealing cover, keeping it from becoming wrinkled.**
- **Breaks in the bead will allow water leakage and contamination.**

1) Install each part in the reverse order of removal.
2) When replacing the sealing cover, use the butyl tape.
3) Press the butyl tape-applied area firmly to prevent any floating on surface.

Butyl tape:
3M8626 or equivalent

C: INSPECTION

If the sealing cover gets damaged, replace it with a new part.

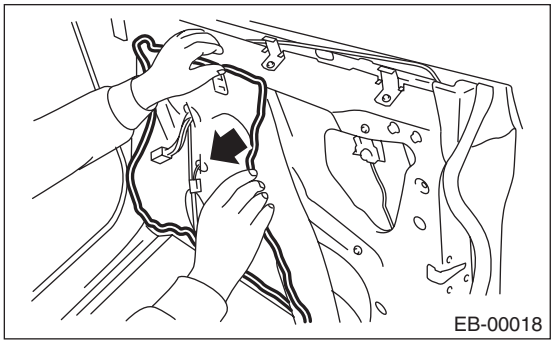
8. Door Sash Tape

A: REMOVAL

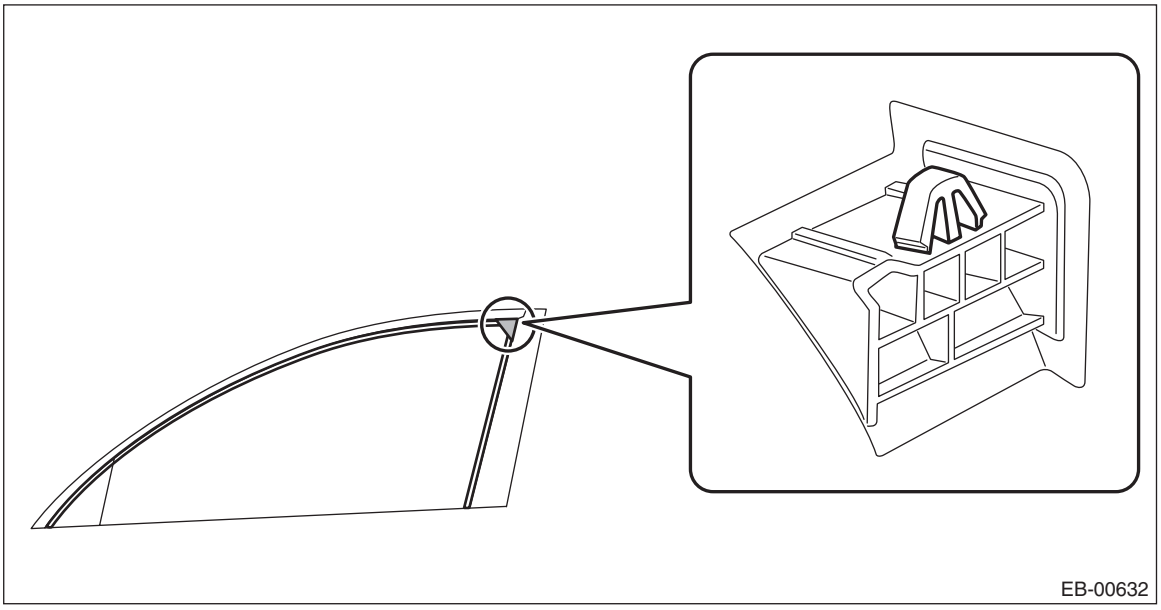
1. FRONT DOOR

1) Disconnect the ground cable from battery.
2) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
3) Remove the outer mirror assembly. <Ref. to GW-24, REMOVAL, Outer Mirror Assembly.>
4) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**


EB-00018

5) Remove the front door glass. <Ref. to GW-18, REMOVAL, Front Door Glass.>
6) Remove the glass run rubber.
7) Release the clips, and remove the inner cover.


EB-00632

8) Detach the inner tape.

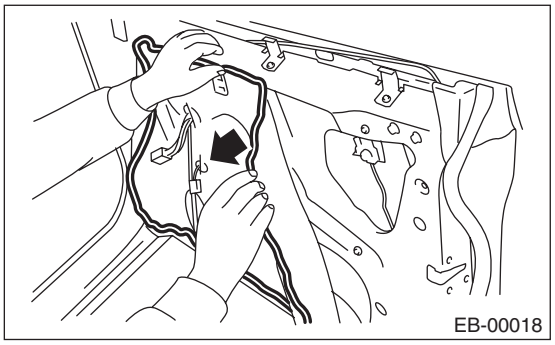
NOTE:
- If the tape is difficult to detach, warm it by a hot air drier.

Make sure to use a home use drier. Do not use an industrial use drier.
- Wipe away any trace of tape adhesive from the door sash.

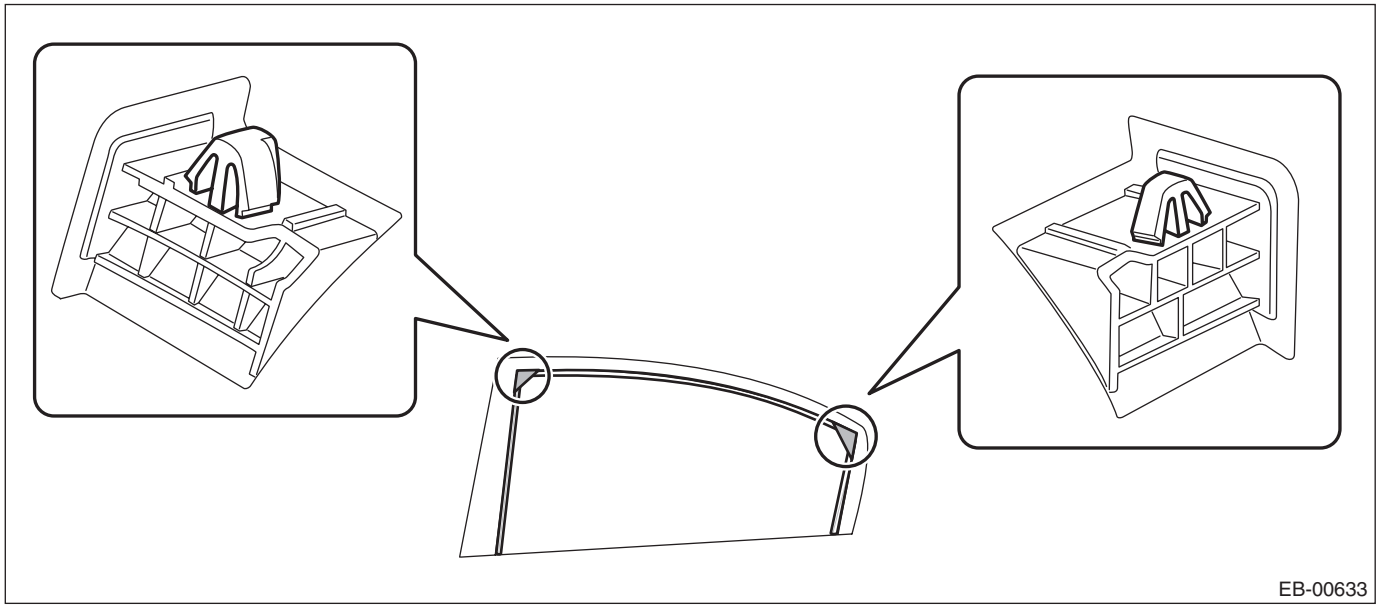
2. REAR DOOR

1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>
3) Remove the sealing cover.

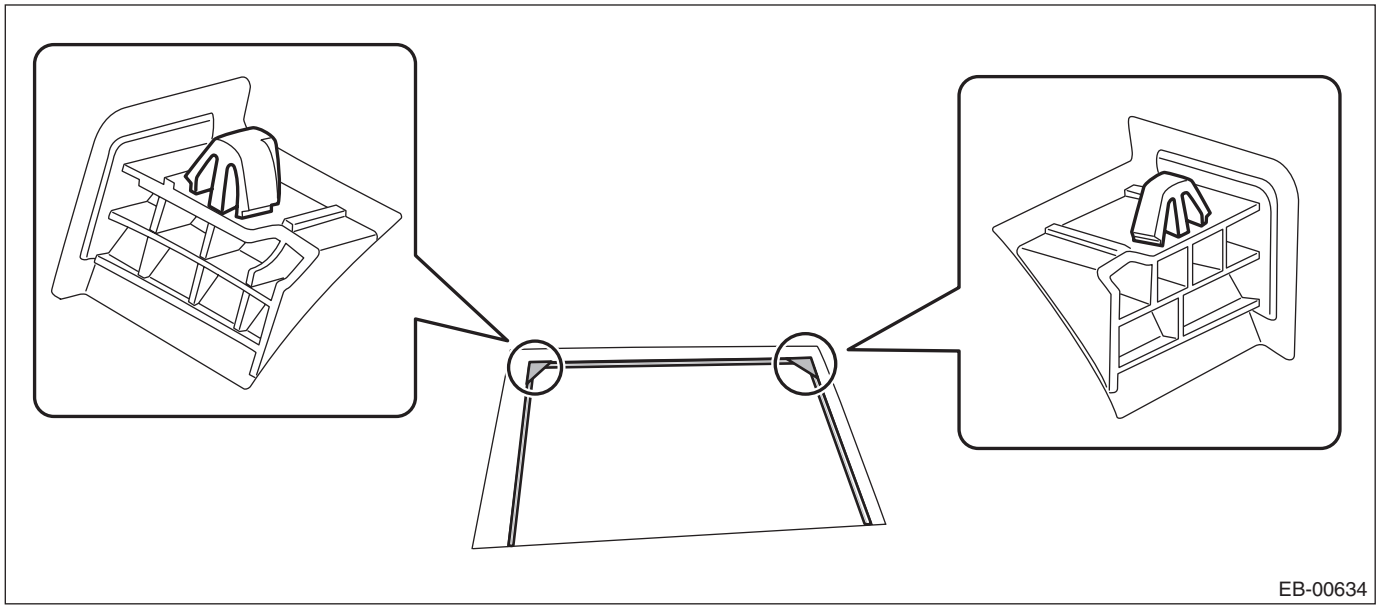
CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**



4) Remove the door sash and rear door glass. <Ref. to GW-30, REMOVAL, Rear Door Glass.>
5) Remove the glass run rubber.
6) Release the clips, and remove the inner cover.
- Sedan model



• OUTBACK model

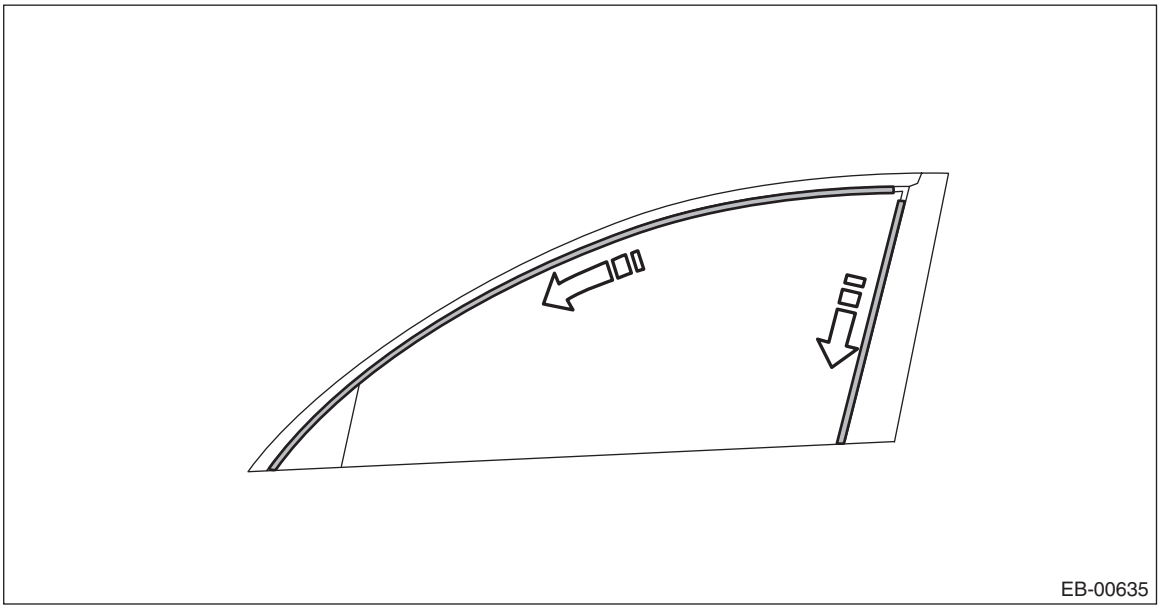


7) Detach the inner tape.

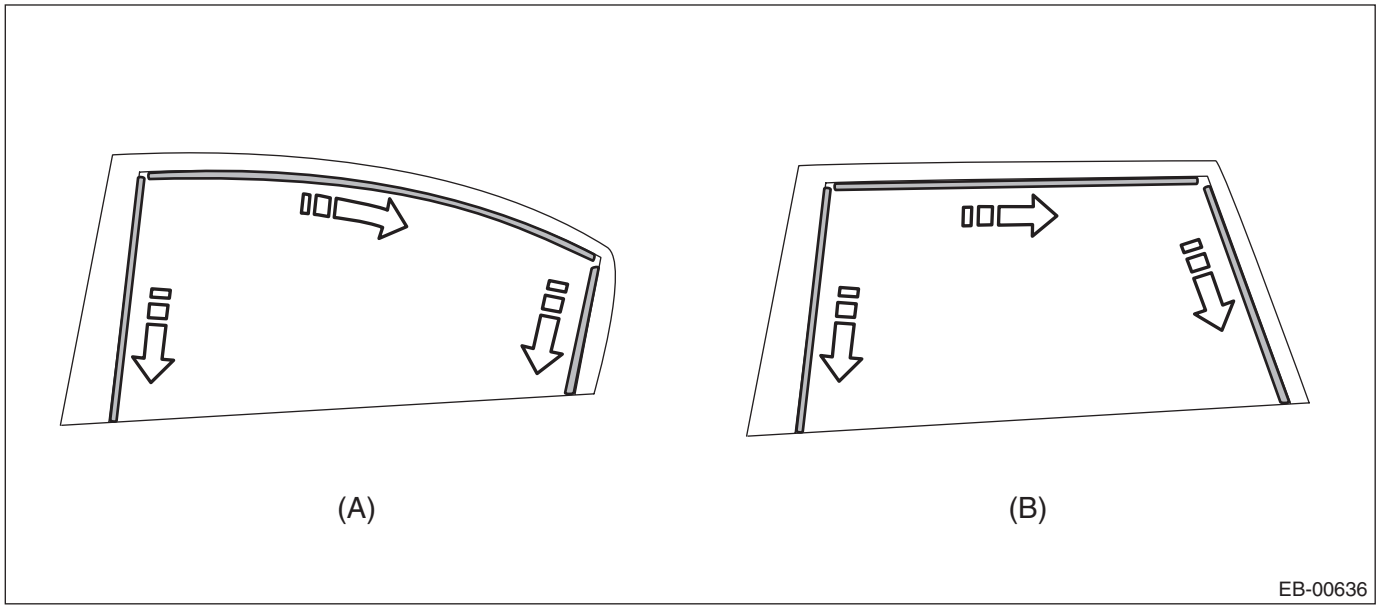
NOTE:
• If the tape is difficult to detach, warm it by a hot air drier.
Make sure to use a home use drier. Do not use an industrial use drier.
• Wipe away any trace of tape adhesive from the door sash.

B: INSTALLATION

CAUTION:
• Press evenly along the sash when applying the tape using a spatula or similar object to make sure no bubbles are formed.
If any bubbles are formed, replace the tape.
• If any wrinkles form in the tape while applying, replace the tape with new tape.
• Be sure to press the ends of the tape firmly to adhere securely. If the tape comes off at the ends or where folded, the adhesive strength is weakened and the tape may peel off.
1) Apply the inner tape along the arrow directions.
• Front



- Rear



(A) Sedan model (B) OUTBACK model

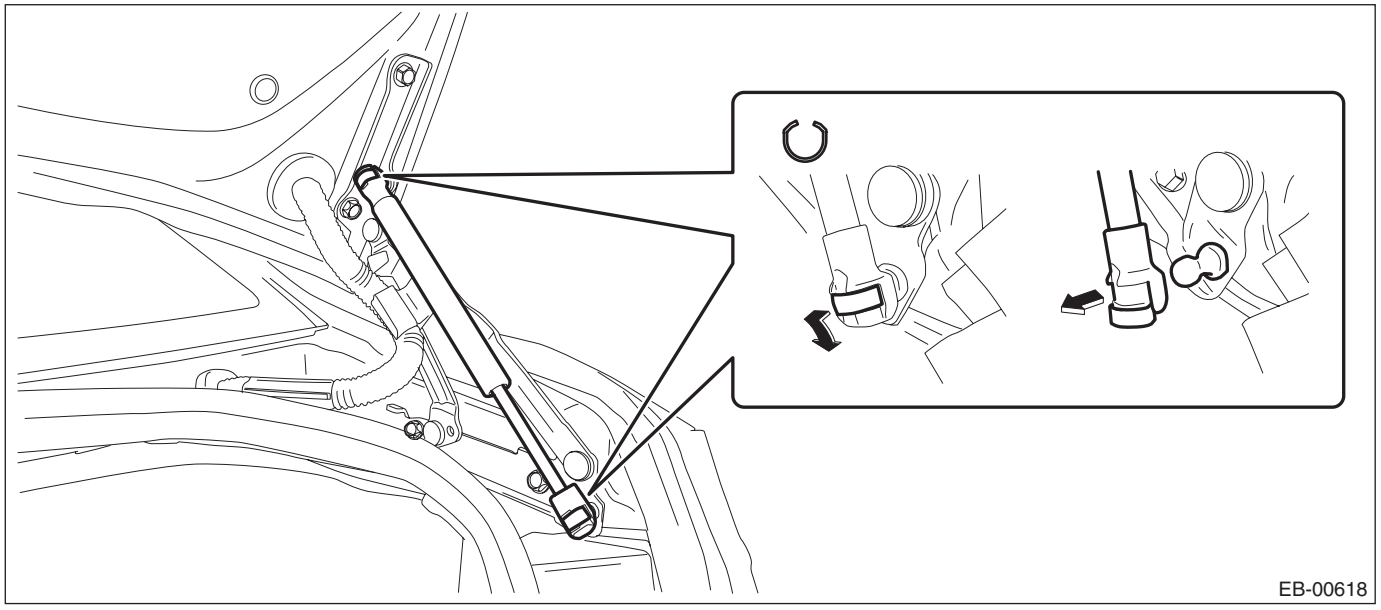
2) Install the remaining parts in the reverse order of removal.

9. Trunk Lid

A: REMOVAL

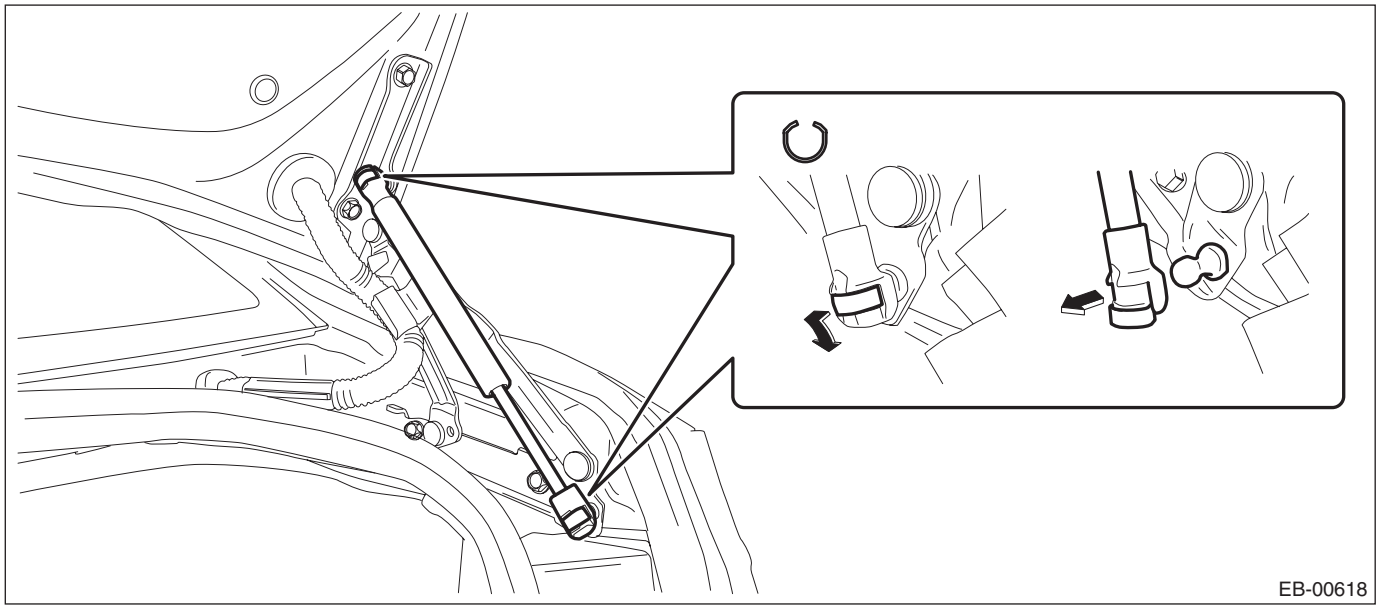
1. TRUNK LID DAMPER STAY

1) Open the trunk lid.
2) Remove the trunk lid damper stay.
   (1) Float the lock pin using a flat tip screwdriver, etc. and slide it.
   (2) Remove the trunk lid damper stay by pulling the damper stay mounting point.

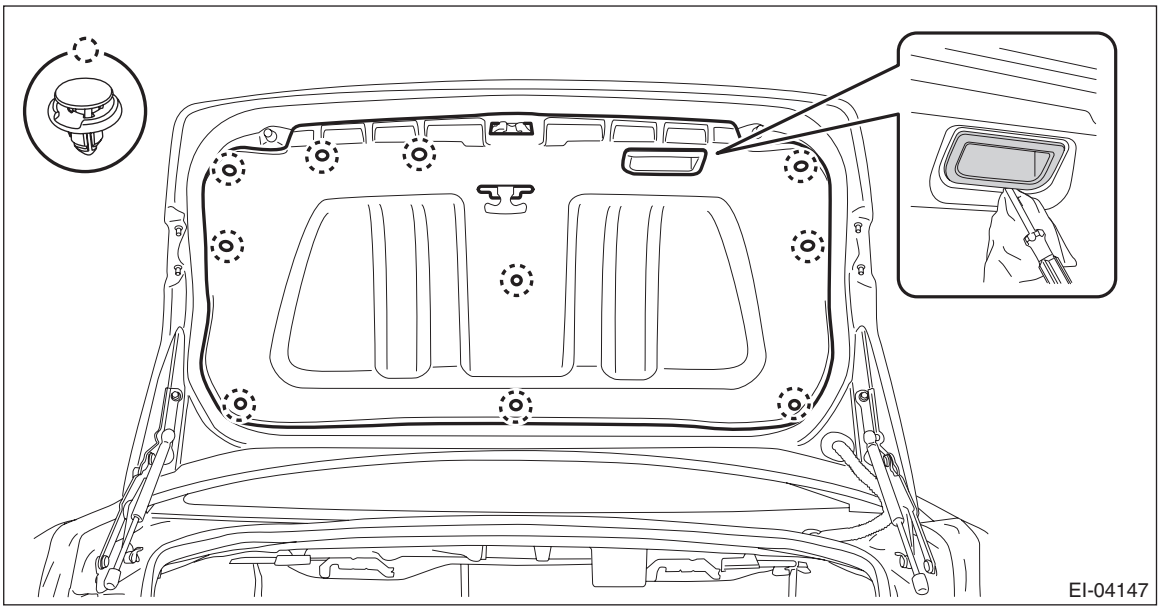


2. TRUNK LID HINGE

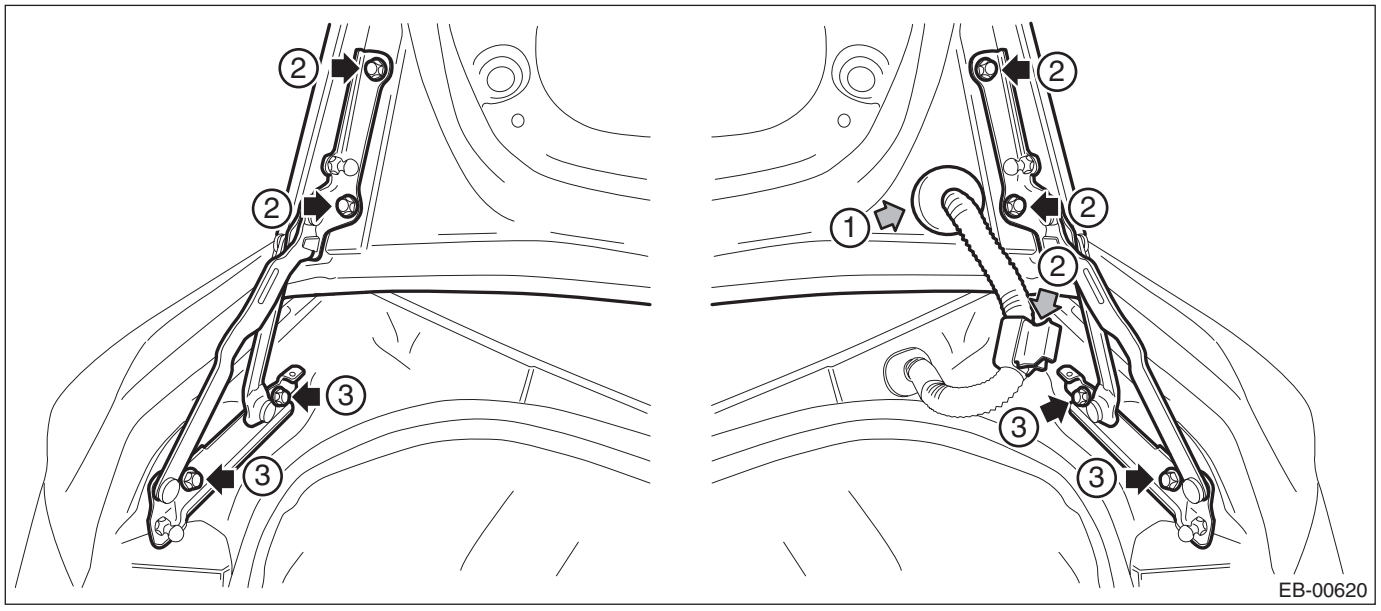
1) Open the trunk lid.
2) Remove the trunk lid damper stay.
   (1) Float the lock pin using a flat tip screwdriver, etc. and slide it.
   (2) Remove the trunk lid damper stay by pulling the damper stay mounting point.



3) Remove the trunk lid trim.
   (1) Remove the trunk handle.
   (2) Remove the clips and the trunk lid trim.

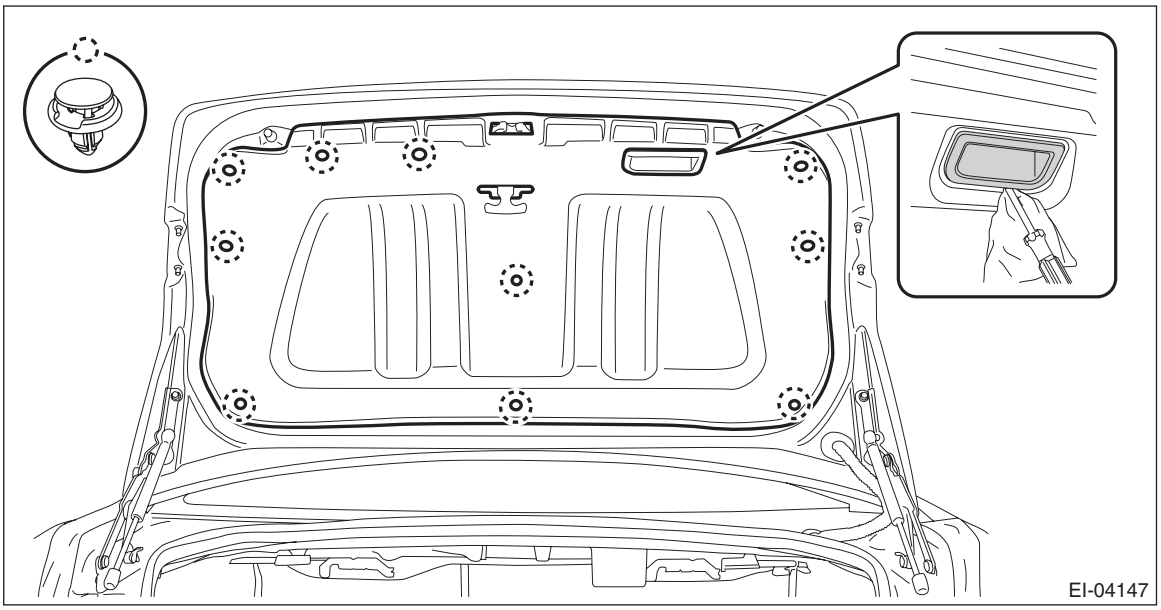


4) Remove the trunk lid hinges.
   (1) Disconnect the trunk lid harness connector and remove the grommet, and pull out the trunk lid harness.
   (2) Remove the harness clamps and bolts, and remove the trunk lid panel.
   (3) Remove the bolts, then remove the trunk lid hinge.

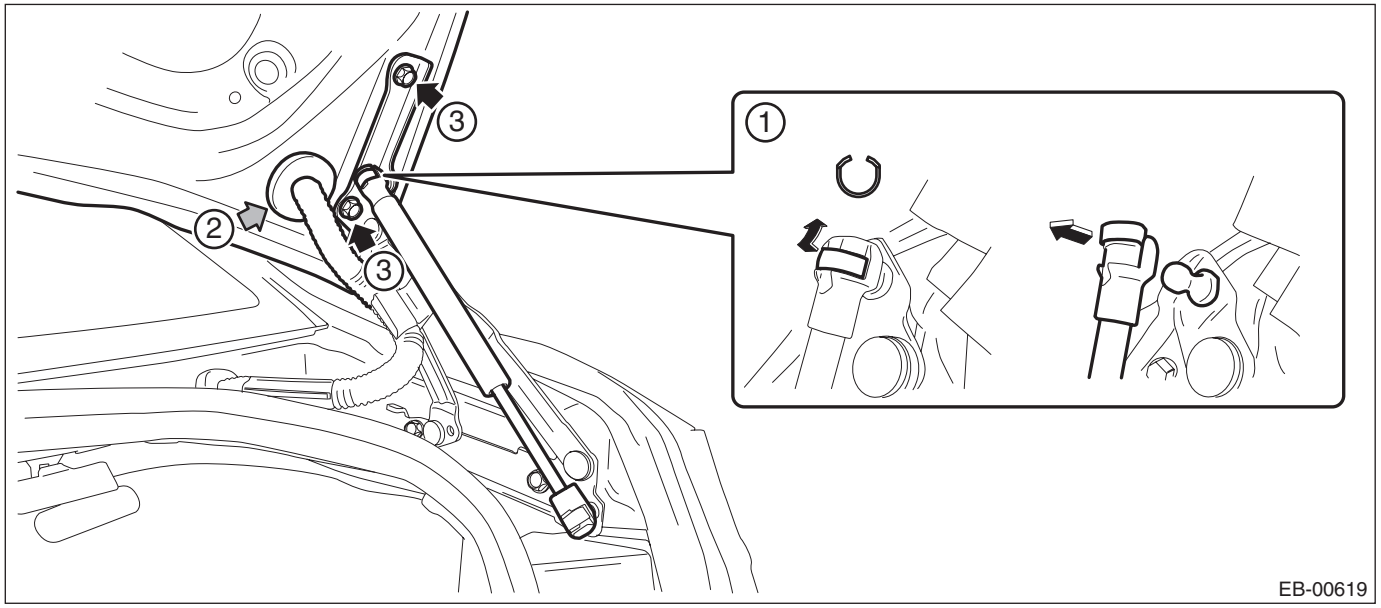


3. TRUNK LID PANEL

1) Disconnect the ground cable from battery.
2) Remove the trunk lid trim.
   (1) Remove the trunk handle.
   (2) Remove the clips and the trunk lid trim.



3) Disconnect the connector to remove the trunk lid harness.
4) Remove the trunk lid latch and actuator assembly. <Ref. to SL-58, REMOVAL, Trunk Lid Latch and Actuator Assembly.>
5) Remove the trunk lid garnish. <Ref. to EI-170, REMOVAL, Trunk Lid Garnish.>
6) Remove the trunk lid panel.
   (1) Remove the left and right damper stay upper.
   (2) Remove the grommet and pull out the trunk lid harness. (RH side only)
   (3) Remove the left and right bolts, and remove the trunk lid panel.



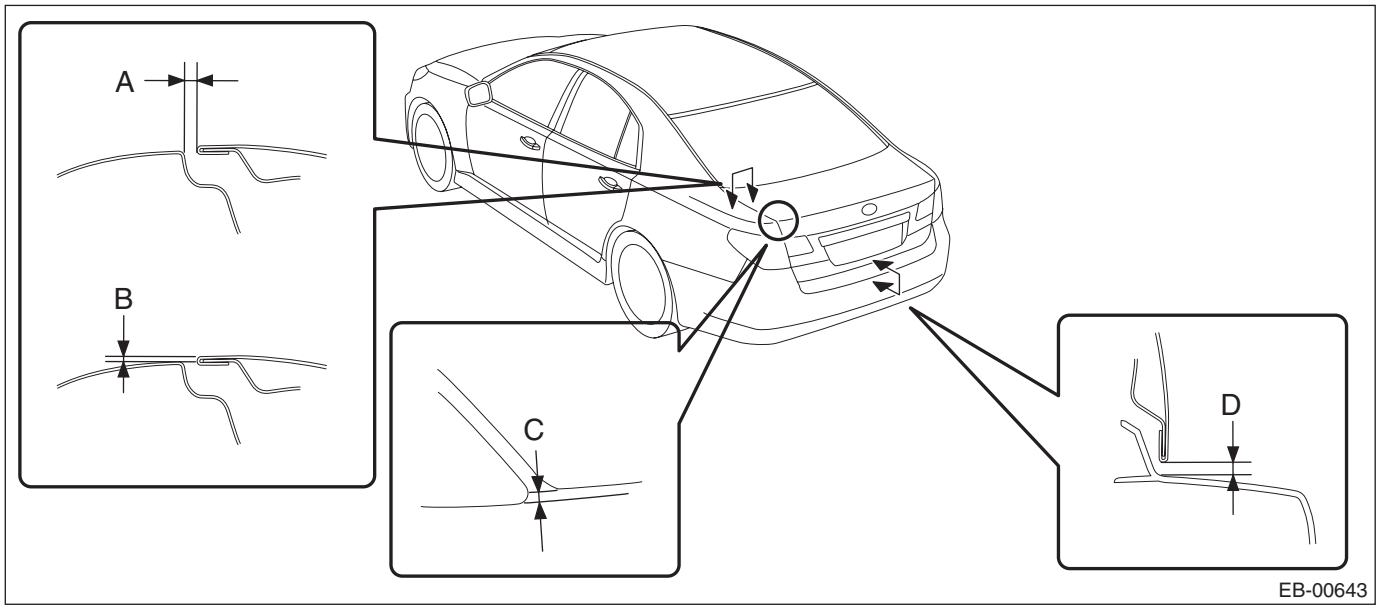
B: INSTALLATION

1) Install each part in the reverse order of removal.
2) Apply grease to the rotating area of hinges and damper stay.
3) Install while paying attention to make a uniform clearance around the trunk lid panel. <Ref. to EB-46, ADJUSTMENT, Trunk Lid.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EB-6, TRUNK LID PANEL, COMPONENT, General Description.>

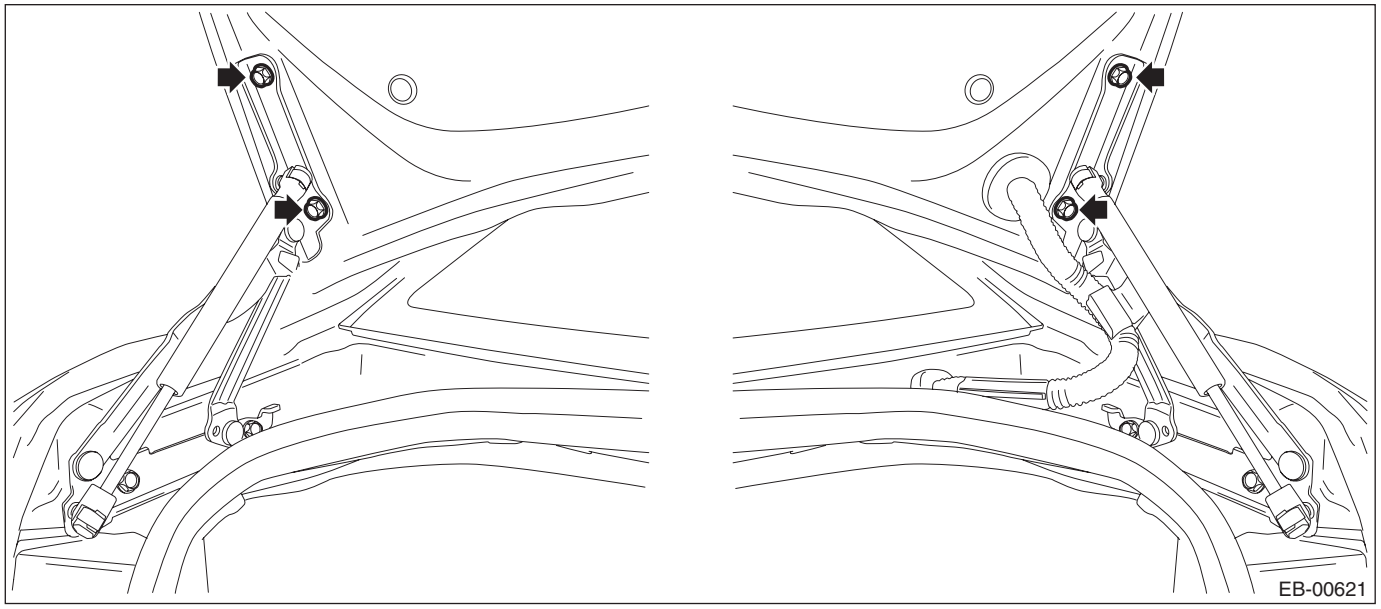
C: ADJUSTMENT

Adjust the clearance around the trunk lid panel as follows.

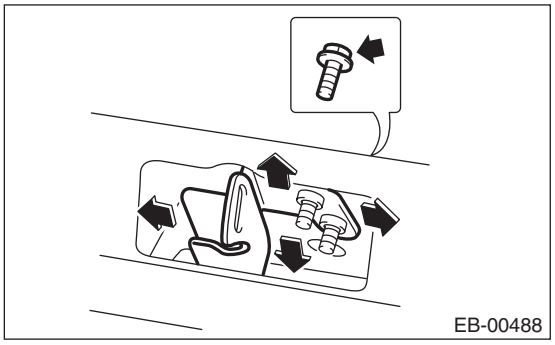


Part		Standard
A	Trunk lid panel to Outer side panel	3.5±1.0 mm (0.14±0.04 in)
B	Surface level gap between trunk lid panel and outer side panel	–0.5+1.0, –0.5 mm (–0.02+0.04, –0.02 in)
C	Offset value between trunk lid panel and outer side panel rear end	–0.5±0.7 mm (–0.02±0.03 in)
D	Trunk lid panel to Rear bumper	7.0±1.5 mm (0.28±0.06 in)

1) Adjust the trunk lid panel lateral position.
   (1) Loosen the mounting bolt.
   (2) Align the trunk lid panel lateral panel dimension.



2) Adjust the gap between trunk lid panel and body surface.
   (1) Loosen the bolt.
   (2) Tap striker using plastic hammer to adjust the gap between trunk lid panel and body surface.



10.Rear Gate

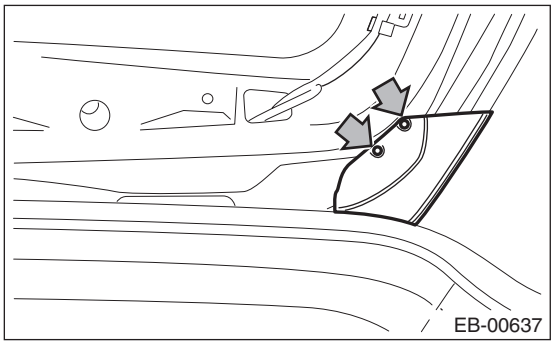
A: REMOVAL

CAUTION:
Rear gate panels are heavy. When removing and installing them, always work in a team of two or more persons.

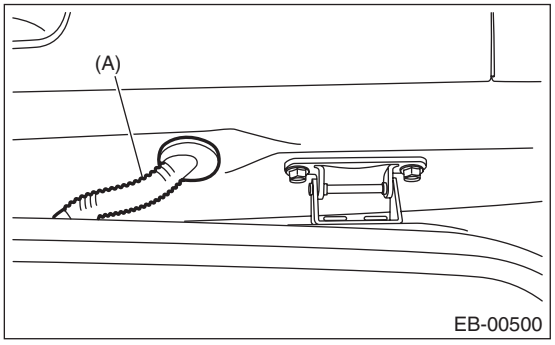
1. REAR GATE PANEL

1) Disconnect the ground cable from battery.
2) Remove the following parts. <Ref. to EI-171, REMOVAL, Rear Gate Garnish.>
- Rear gate trim
- Rear wiper arm assembly and rear wiper motor assembly
- Rear gate garnish

3) Remove the high-mounted stop light assembly and rear washer nozzle. <Ref. to WW-45, REMOVAL, Rear Washer.>
4) Remove the rear finisher light assembly. <Ref. to LI-57, OUTBACK MODEL, REMOVAL, Rear Finisher Light Assembly.>
5) Remove the rearview camera assembly. <Ref. to ET-53, OUTBACK MODEL, REMOVAL, Rearview Camera System.>
6) Remove the rear gate latch & actuator assembly. <Ref. to SL-56, REMOVAL, Rear Gate Latch and Actuator Assembly.>
7) Remove the clips, and then remove the rear gate drip rubber.



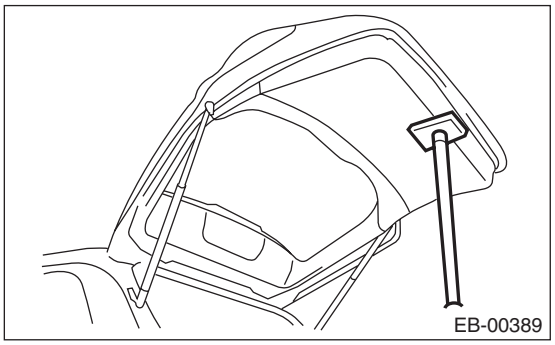
8) Disconnect the rubber duct (A) connection.



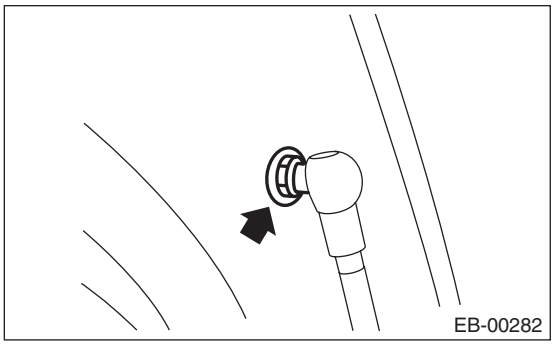
9) Pull out the harnesses and washer hose from the rear gate.
10) Remove harness clip of each connector from the rear gate panel.

11) Before removing the rear gate damper stay, prevent the rear gate from closing using prop or the like.

CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.

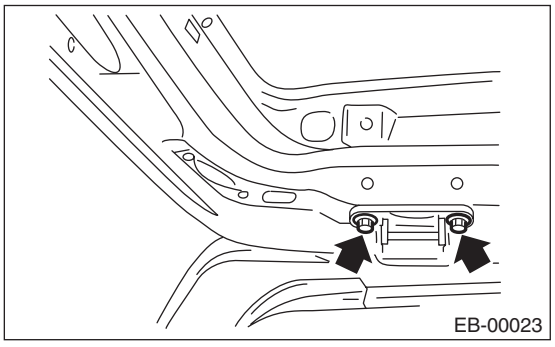


12) Remove the mounting bolt of rear gate damper stay.



13) Remove the rear gate hinge bolt, and remove the rear gate panel.

CAUTION:
Rear gate panels are heavy. When removing and installing them, always work in a team of two or more persons.



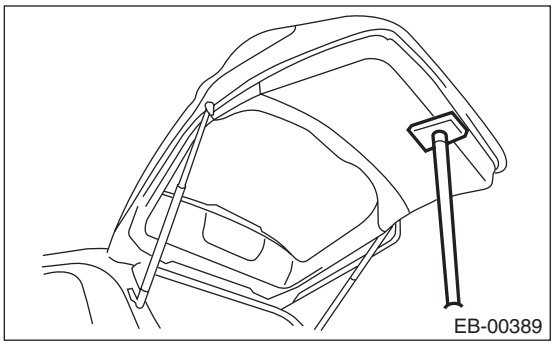
14) Remove the rear gate hinge from the vehicle.

2. REAR GATE DAMPER STAY

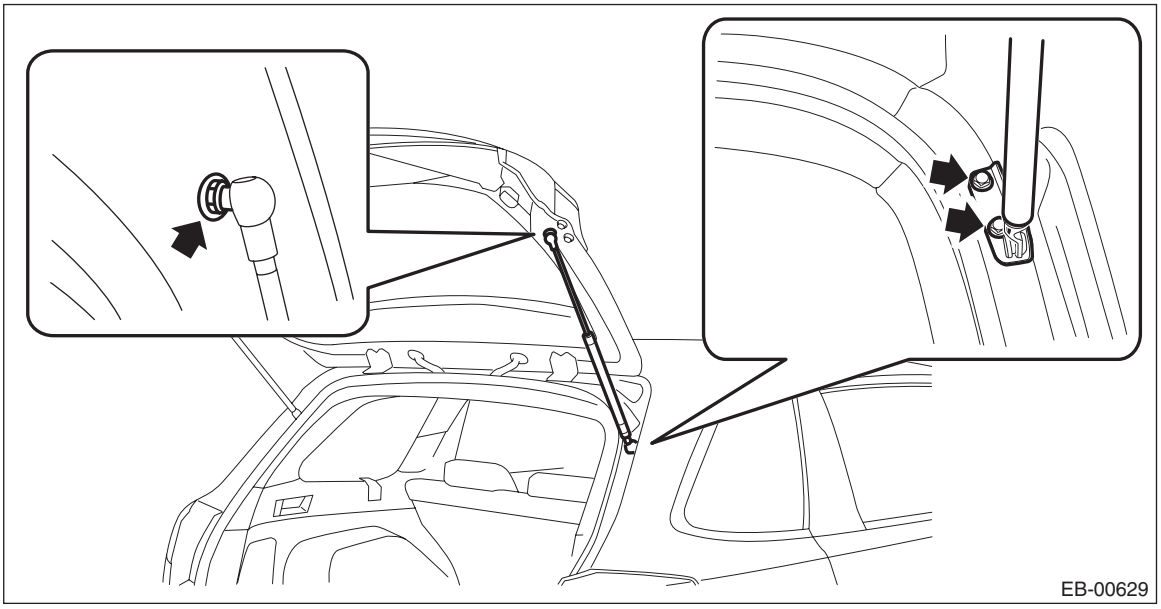
CAUTION:
- **Do not damage piston rods and oil seals.**
- **Never disassemble cylinders: They contain gas.**
- **Rear gate panels are heavy. When removing and installing them, always work in a team of two or more persons.**

1) Before removing the rear gate damper stay, prevent the rear gate from closing using prop or the like.

CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.



2) Remove the rear gate damper stay by removing mounting bolts.



B: INSTALLATION

1. REAR GATE PANEL

CAUTION:
Rear gate panels are heavy. When removing and installing them, always work in a team of two or more persons.

1) Install the rear gate hinges to the vehicle body.
2) Temporarily install the rear gate panel to the rear gate hinges.

NOTE:
When installing, make sure that a uniform clearance is created around the rear gate panel.

3) Adjust the clearance around the rear gate panel. <Ref. to EB-52, ADJUSTMENT, Rear Gate.>
4) Tighten the rear gate hinge bolts.

Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)

5) Install each part in the reverse order of removal.

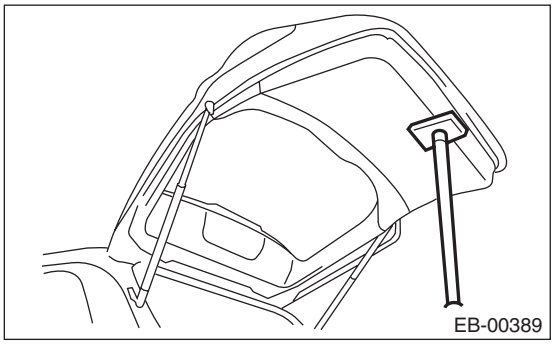
Tightening torque:
Rear gate parts: <Ref. to EB-7, REAR GATE, COMPONENT, General Description.>
Rear gate garnish: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)
Rear wiper motor & rear wiper arm: <Ref. to WW-4, REAR WIPER, COMPONENT, General Description.>

2. REAR GATE DAMPER STAY

CAUTION:
Rear gate panels are heavy. When removing and installing them, always work in a team of two or more persons.

1) Prevent the rear gate from closing using prop or the like.

CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.

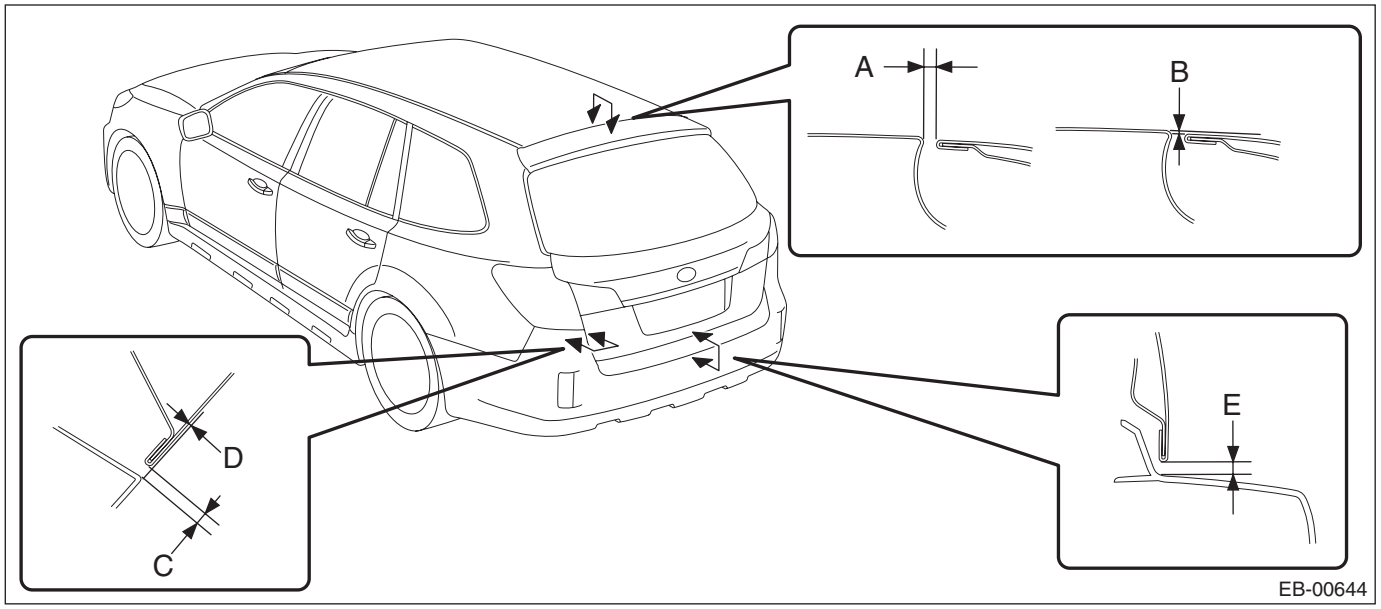


2) Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EB-7, REAR GATE, COMPONENT, General Description.>

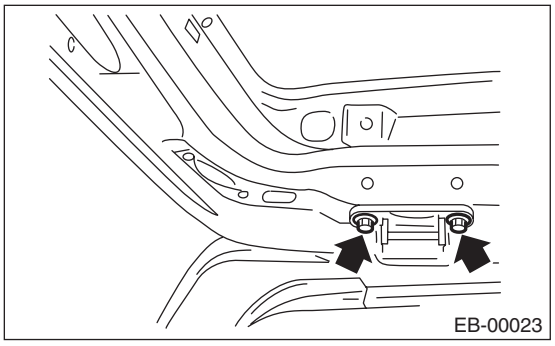
C: ADJUSTMENT

Adjust the clearance around the rear gate panel as follows.



Part		Standard
A	Rear gate panel to Roof panel	6.6+1.0, –0.5 mm (0.26+0.04, –0.02 in)
B	Surface level gap between rear gate panel and roof panel	1.0±1.0 mm (0.04±0.04 in)
C	Rear gate panel to Rear bumper	5.0±1.0 mm (0.20±0.04 in)
D	Surface level gap between rear gate panel and rear bumper	0.4±1.0 mm (0.02±0.04 in)
E	Rear gate panel to Rear bumper	8.0±1.5 mm (0.31±0.06 in)

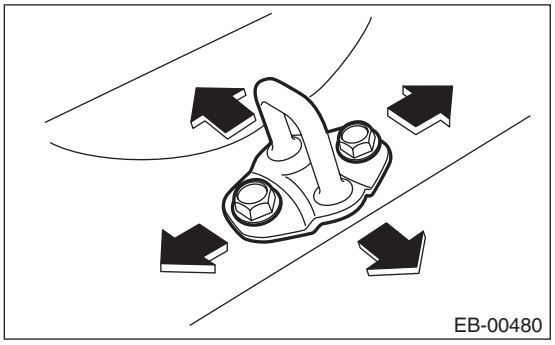
1) Align the rear gate panel longitudinal and lateral position.



(1) Loosen the hinge attaching bolts.
(2) Align the rear gate panel longitudinal and lateral panel dimension.

Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)

2) Adjust the gap between rear gate panel and body surface.



(1) Loosen the bolt.
(2) Tap striker using plastic hammer to adjust the gap between rear gate panel and body surface.

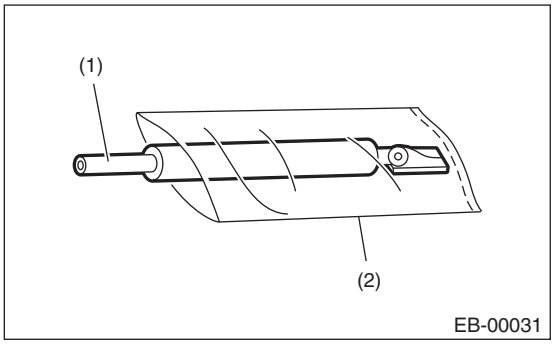
Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)

D: DISPOSAL

1. REAR GATE DAMPER STAY

CAUTION:
Gas is colorless, odorless, and harmless. However, gas pressure may spray cutting powder or oil. Be sure to wear dust-resistant goggles.

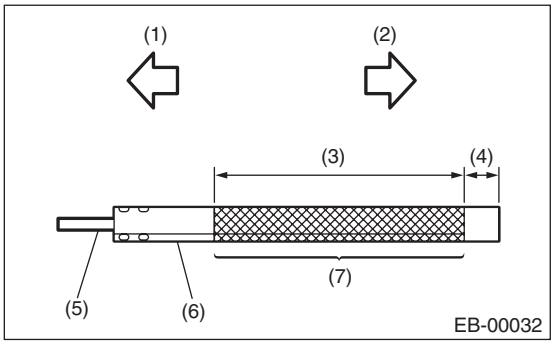
1) Cover with a vinyl sack as shown in the figure.



(1) Rear gate damper stay
(2) Vinyl sack

NOTE:
Prevent the vinyl sack from being caught by drill cutting edge.

2) Lift the body side slightly with piston rods fully extended, and secure the body side with vise.
Drill a hole of 2 to 3 mm (0.08 to 0.12 in) diameter at a point 10 to 200 mm (0.39 to 7.87 in) from the body side, and bleed the gas in the rear gate damper stay completely.



(1) Door side
(2) Body side
(3) 190 mm (7.48 in)
(4) 10 mm (0.39 in)
(5) Piston rod
(6) Cylinder
(7) Portion to be drilled

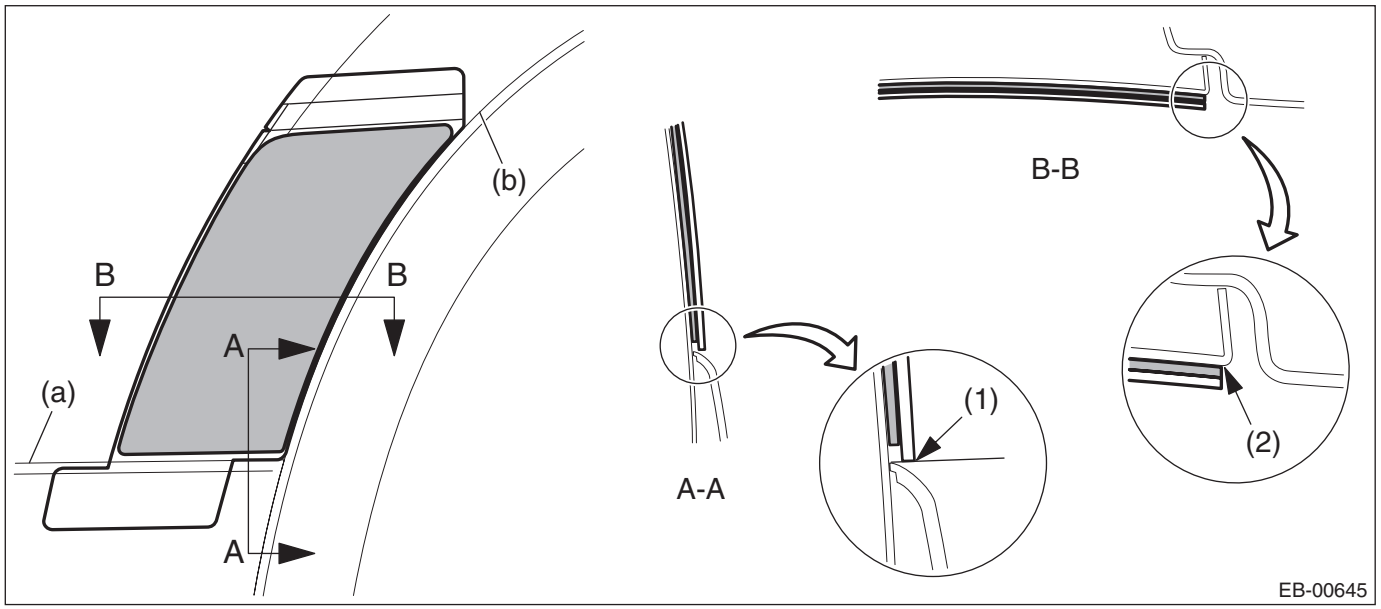
11.Protector Tape

A: INSTALLATION

Apply the protector tape by the following steps.

1. REAR DOOR PROTECTOR (OUTBACK MODEL)

- Type A



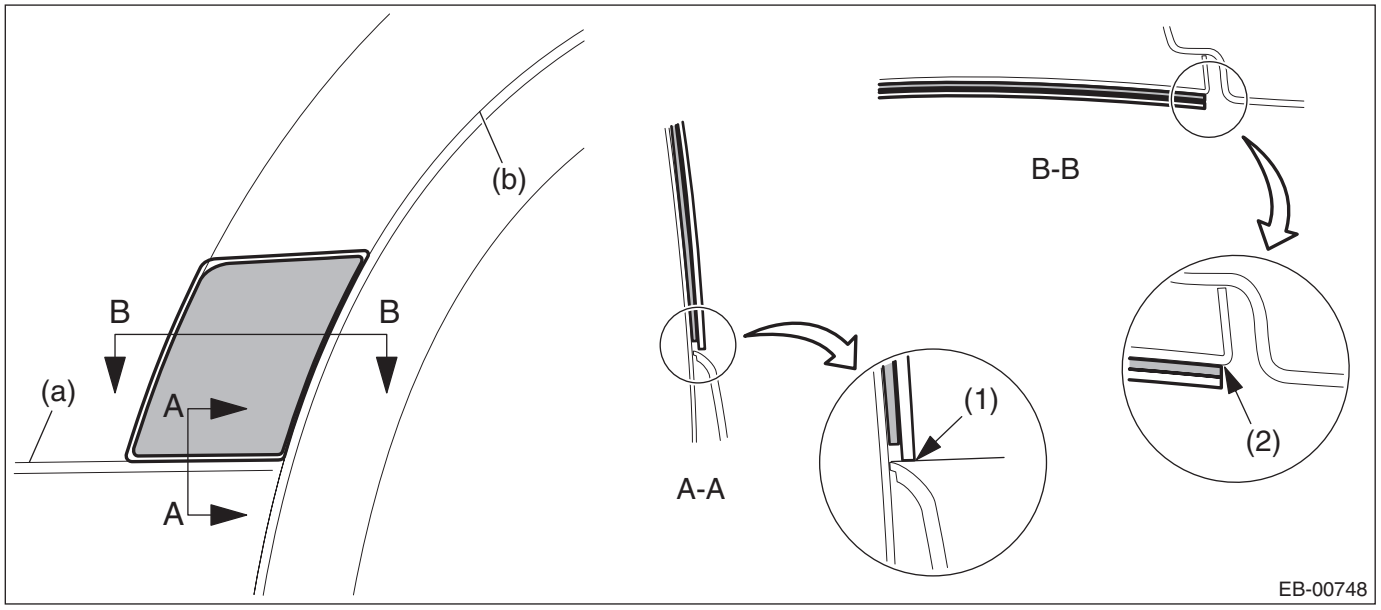
(a) Rear door garnish end

(b) Rear door panel end

(1) Align the application paper to the rear door garnish terminal.

(2) Align the protector tape to the end of rounded corner.

- Type B



(a) Rear door garnish end

(b) Rear door panel end

(1) Align the application paper to the rear door garnish terminal.

(2) Align the protector tape to the end of rounded corner.

1) Clean the area around applying position to remove any foreign objects on body.
2) Detach the backing paper and apply the protector tape after positioning it correctly.
3) Detach the backing papers, and moisten the applying area and the backside of protector tape by spraying liquid (mild detergent solution at 3% concentration).
4) Apply the protector tape to the vehicle body.

CAUTION:
Remove the water or air bubbles out of the protector tape by using the plastic or rubber spatula.
5) Detach the application tape and temporary retention tape.

CRUISE CONTROL SYSTEM

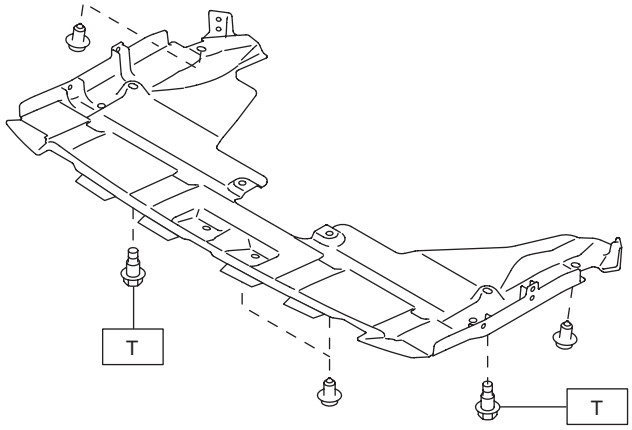
CC

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1.	General Description	2
2.	Relay and Fuse	4
3.	Cruise Control System	5
4.	Cruise Control Module	6
5.	Cruise Control Command Switch	7
6.	Combination Meter	12
7.	Stop Light & Brake Switch	13
8.	Clutch Switch	14
9.	Inhibitor Switch	15
10.	Transmission Control Module (TCM)	16
11.	Neutral Position Switch	17

1. General Description

A: COMPONENT

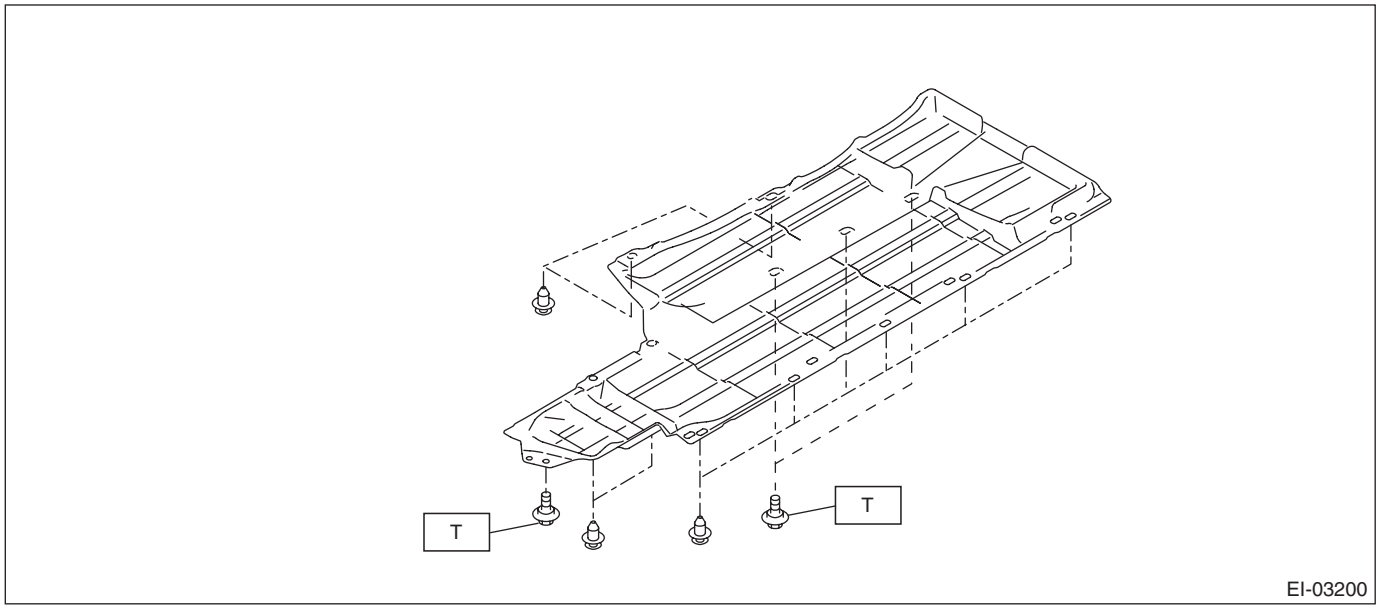
1. FRONT UNDER COVER



EI-04146

Tightening torque: N·m (kgf-m, ft-lb)
T: 17.5 (1.78, 12.9)

2. FLOOR UNDER PROTECTOR

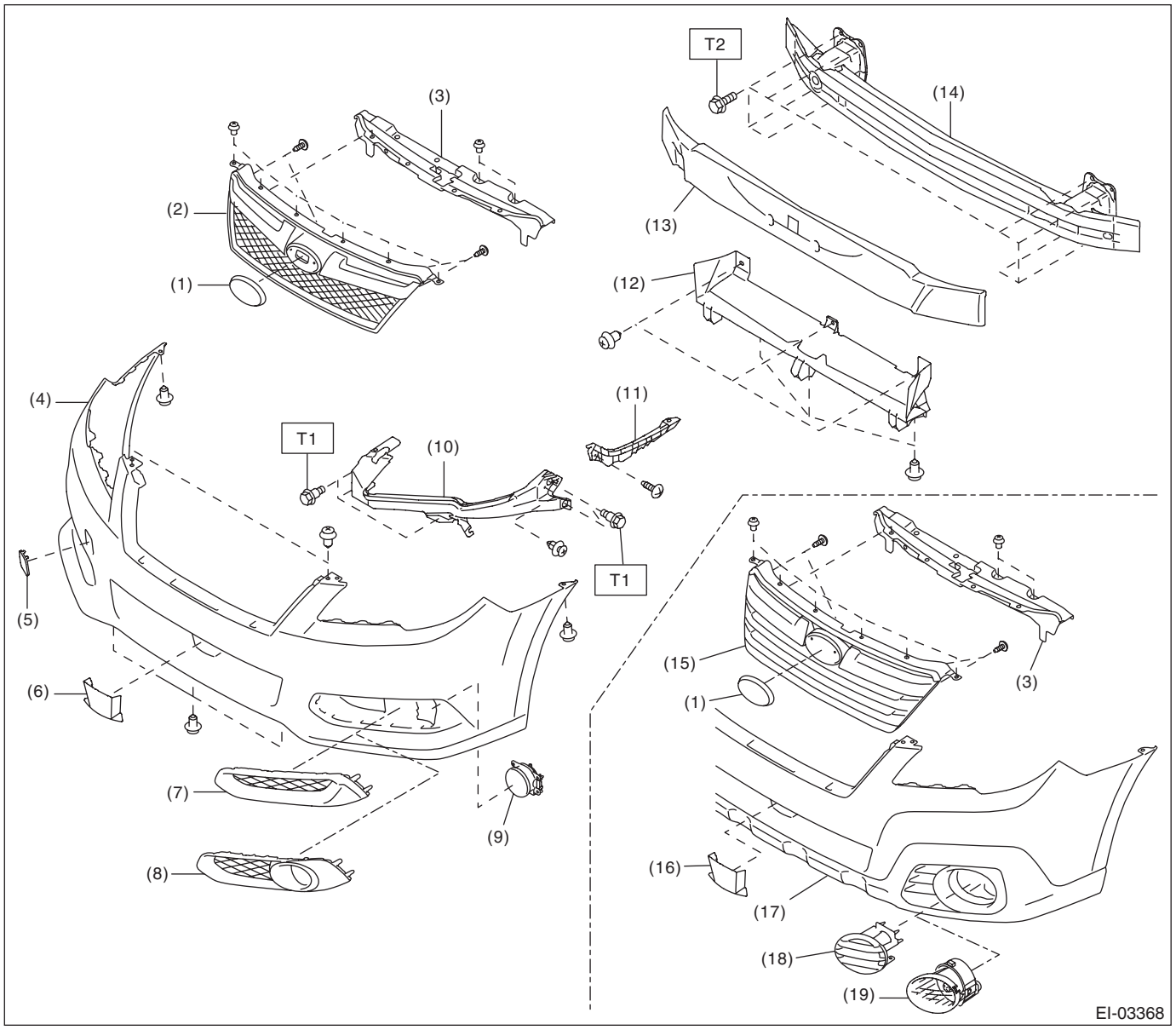


Tightening torque: N·m (kgf-m, ft-lb)	
T:	*7.5 (0.76, 5.5)*

3. FUEL TANK PROTECTOR

NOTE:
• For the fuel tank protector of H4 model, refer to “COMPONENT” of “General Description” in the “FU(H4DO)” section. <Ref. to FU(H4DO)-7, FUEL TANK, COMPONENT, General Description.>
• For the fuel tank protector of H6 model, refer to “COMPONENT” of “General Description” in the “FU(H6DO)” section. <Ref. to FU(H6DO)-11, FUEL TANK, COMPONENT, General Description.>

4. FRONT BUMPER



(1)	Front ornament	(9)	Fog light ASSY (sedan model)	(17)	Front bumper face (OUTBACK model)
(2)	Front grille ASSY (sedan model)	(10)	Bracket corner front	(18)	Bumper cover (OUTBACK model)
(3)	Grille bracket	(11)	Bracket side front UPR	(19)	Fog light ASSY (OUTBACK model)
(4)	Front bumper face (sedan model)	(12)	Bracket center LWR front		
(5)	Front hook cover	(13)	Energy absorber foam front		
(6)	Bumper cover CTR (sedan model)	(14)	Beam COMPL front		
(7)	Bumper cover (sedan model)	(15)	Front grille ASSY (OUTBACK model)		
(8)	Fog light cover (sedan model)	(16)	Bumper cover CTR (OUTBACK model)		

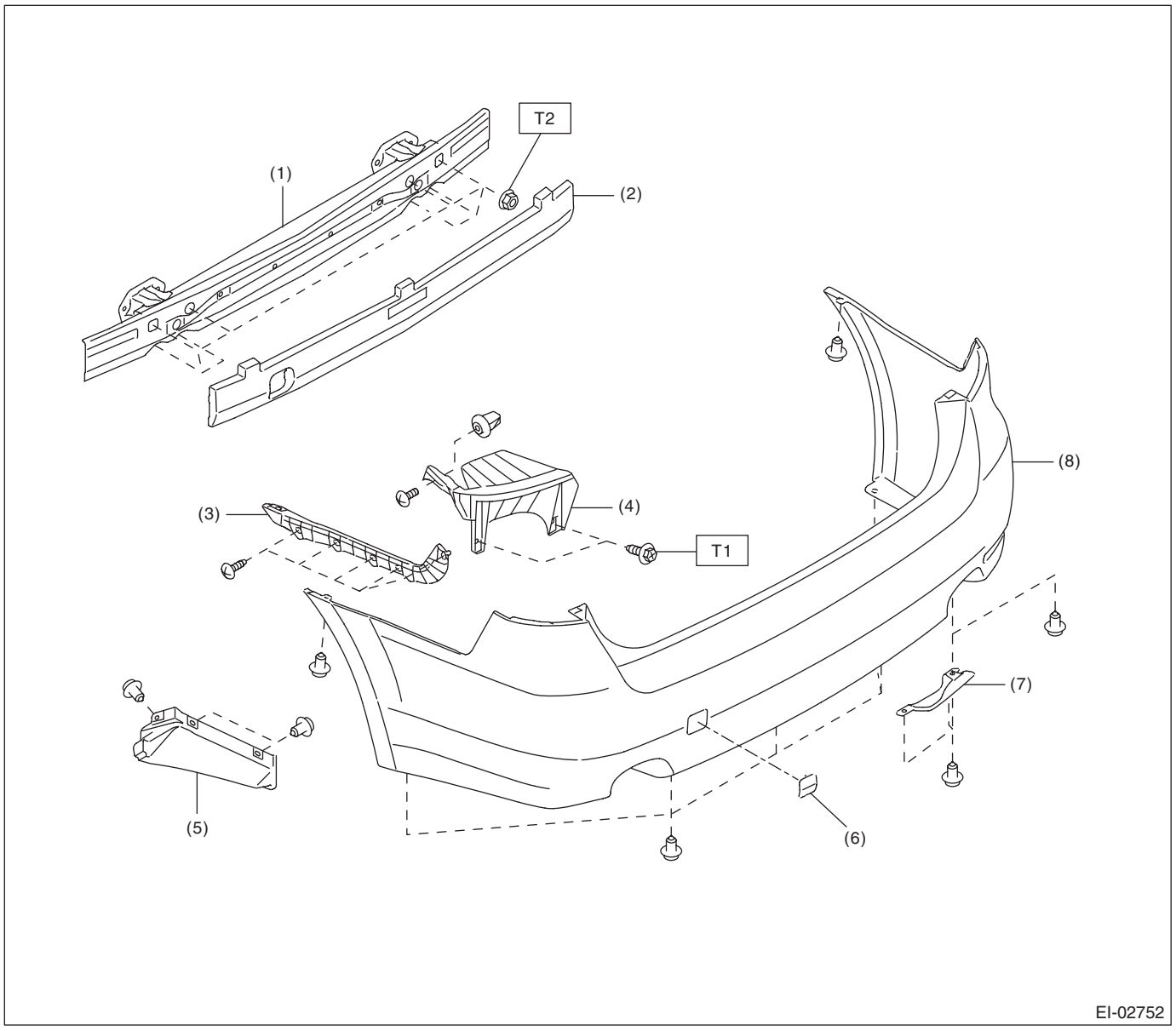
Tightening torque: N·m (kgf-m, ft-lb)

T1: 7.5 (0.76, 5.5)

T2: 32 (3.26, 23.6)

5. REAR BUMPER

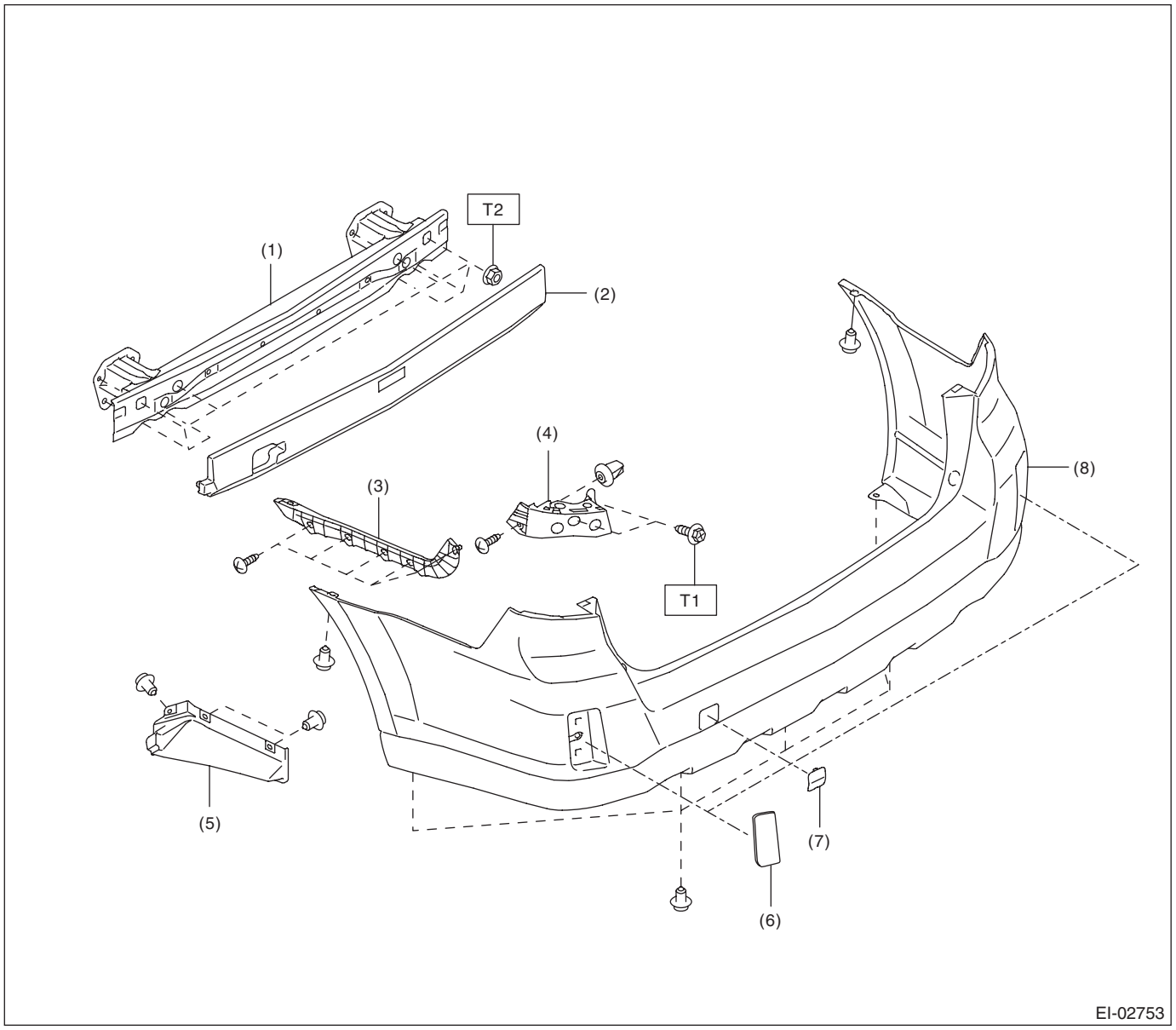
- Sedan model



(1)	Beam COMPL rear	(5)	Bracket side rear LWR
(2)	Energy absorber foam rear	(6)	Rear hook cover
(3)	Bracket side rear UPR	(7)	Bumper cover rear
(4)	Bracket corner rear	(8)	Rear bumper face

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 45 (4.59, 33.2)

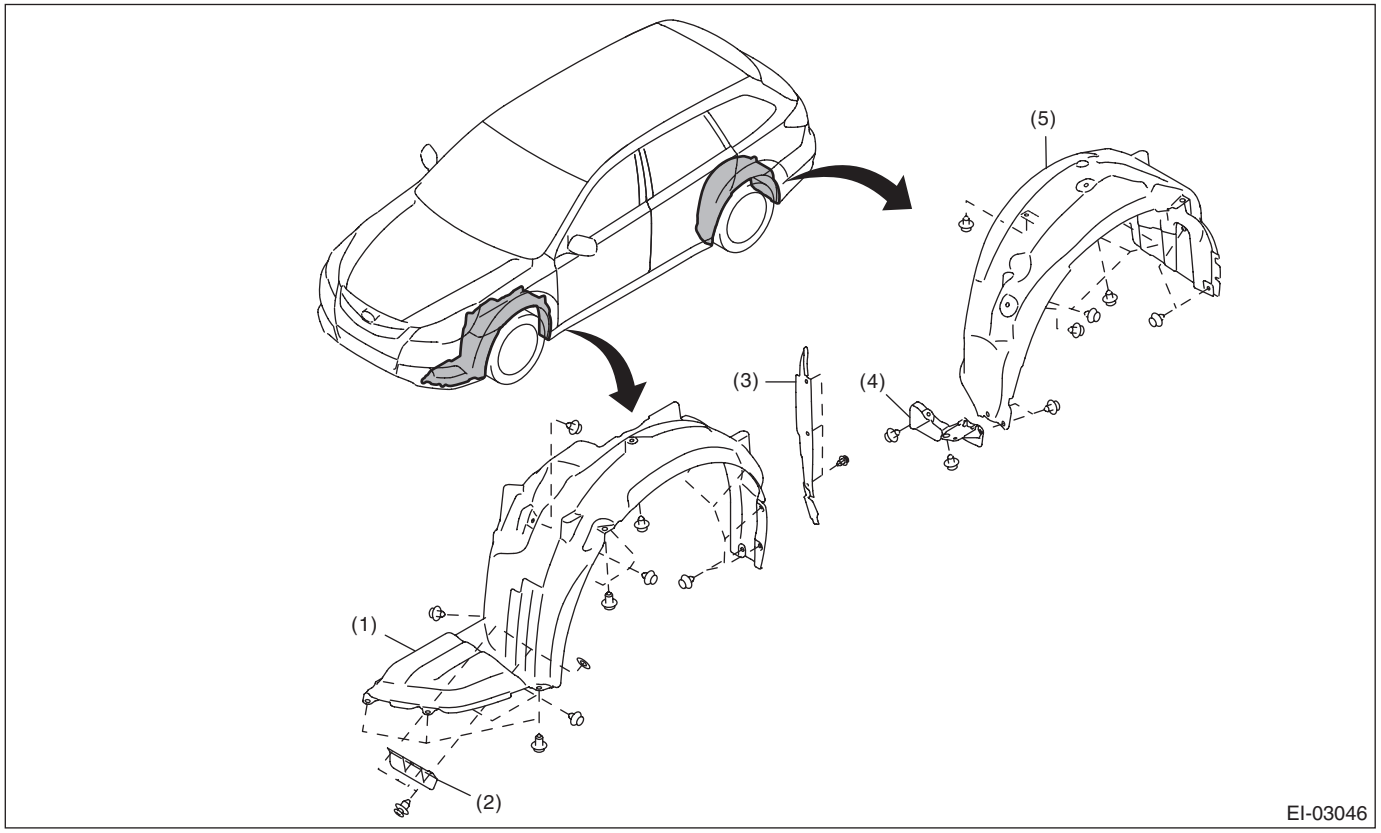
- OUTBACK model



(1) Beam COMPL rear
(2) Energy absorber foam rear
(3) Bracket side rear UPR
(4) Bracket corner rear
(5) Bracket side rear LWR
(6) Reflex reflector
(7) Rear hook cover
(8) Rear bumper face

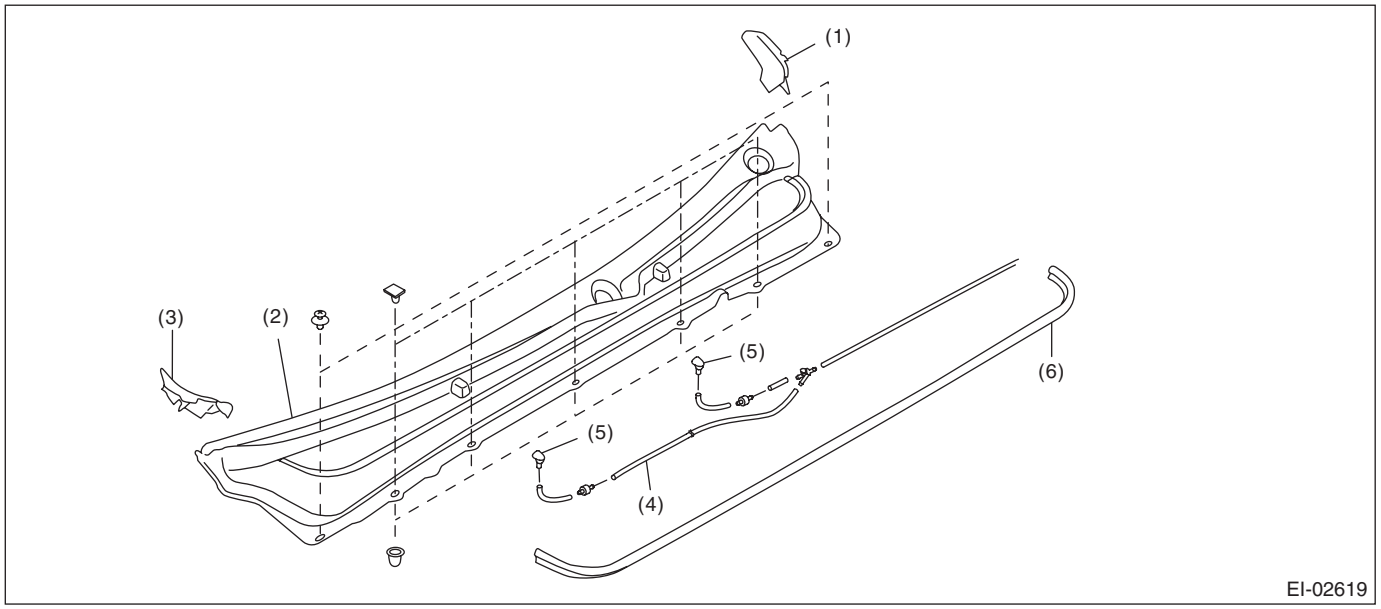
Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 45 (4.59, 33.2)

6. MUD GUARD



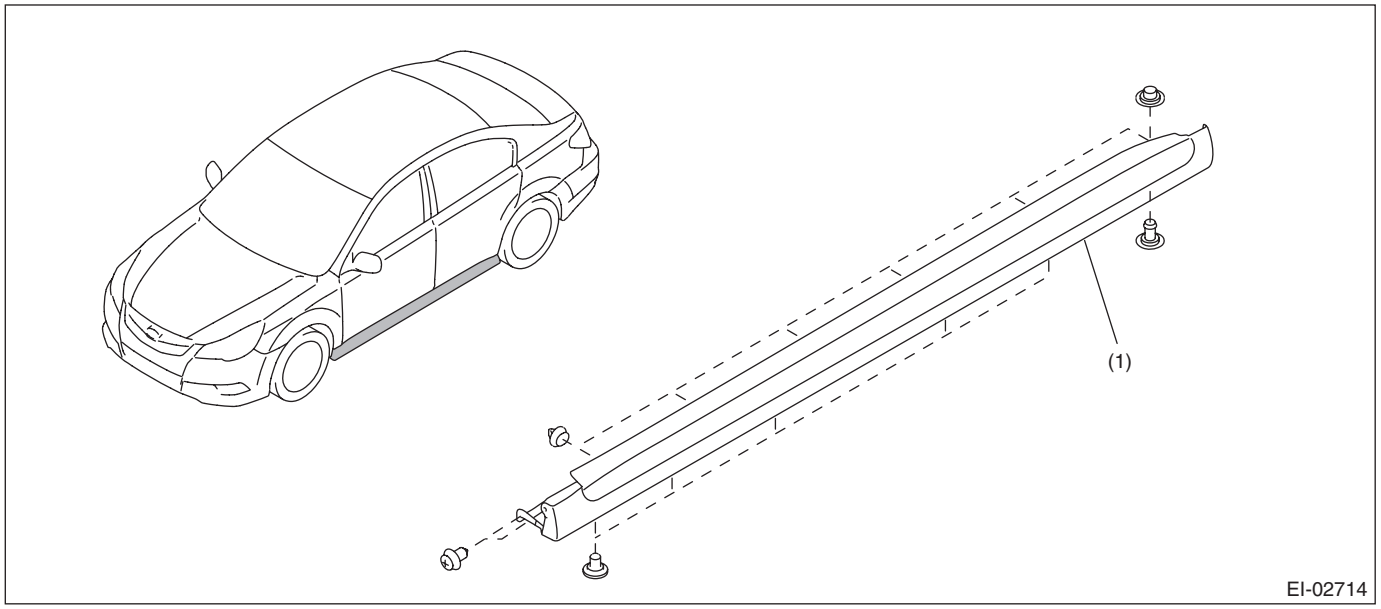
(1) Front mud guard
(2) Front air flap plate
(3) Fender cover lower
(4) Rear air flap plate
(5) Rear mud guard

7. COWL PANEL

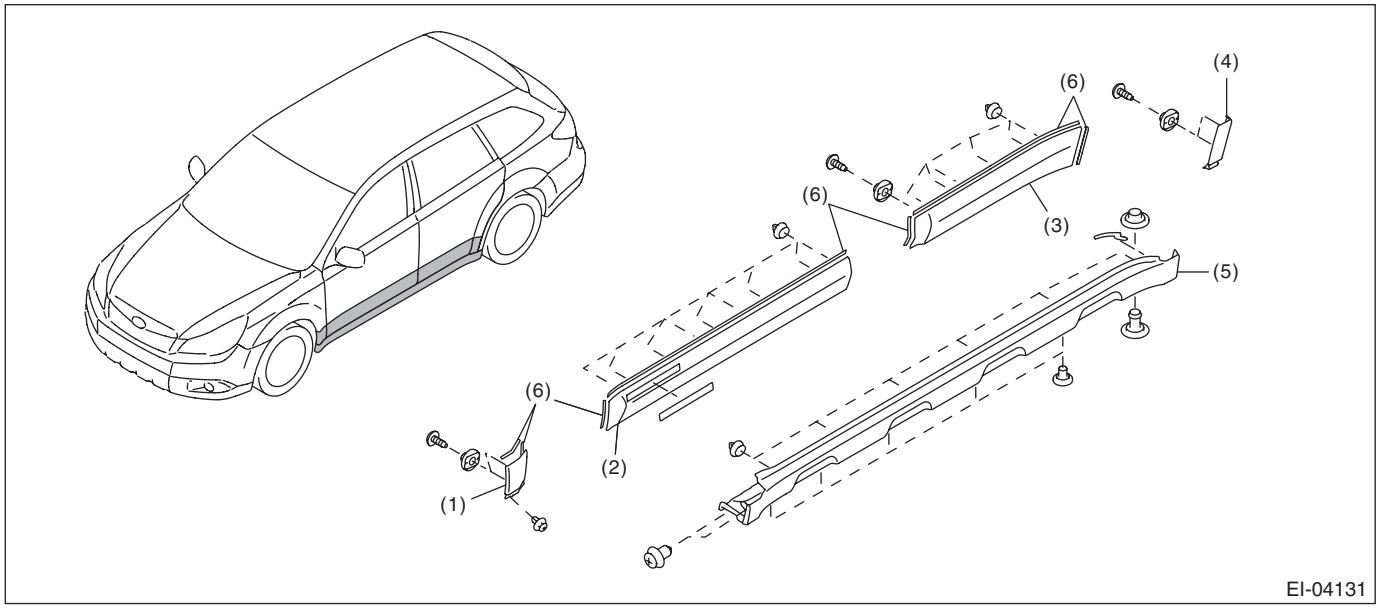


(1) Cowl panel side LH
(2) Cowl panel
(3) Cowl panel side RH
(4) Washer hose
(5) Washer nozzle
(6) Cowl panel seal

8. SIDE GARNISH

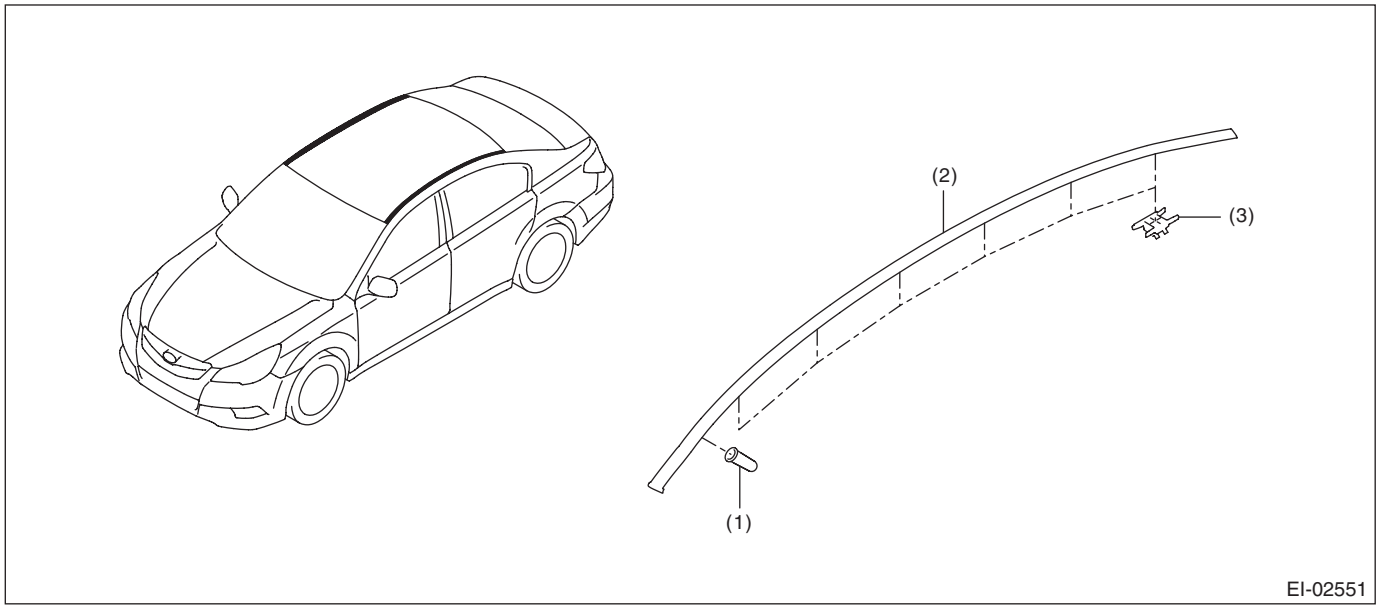


(1) Side sill garnish ASSY (sedan model)



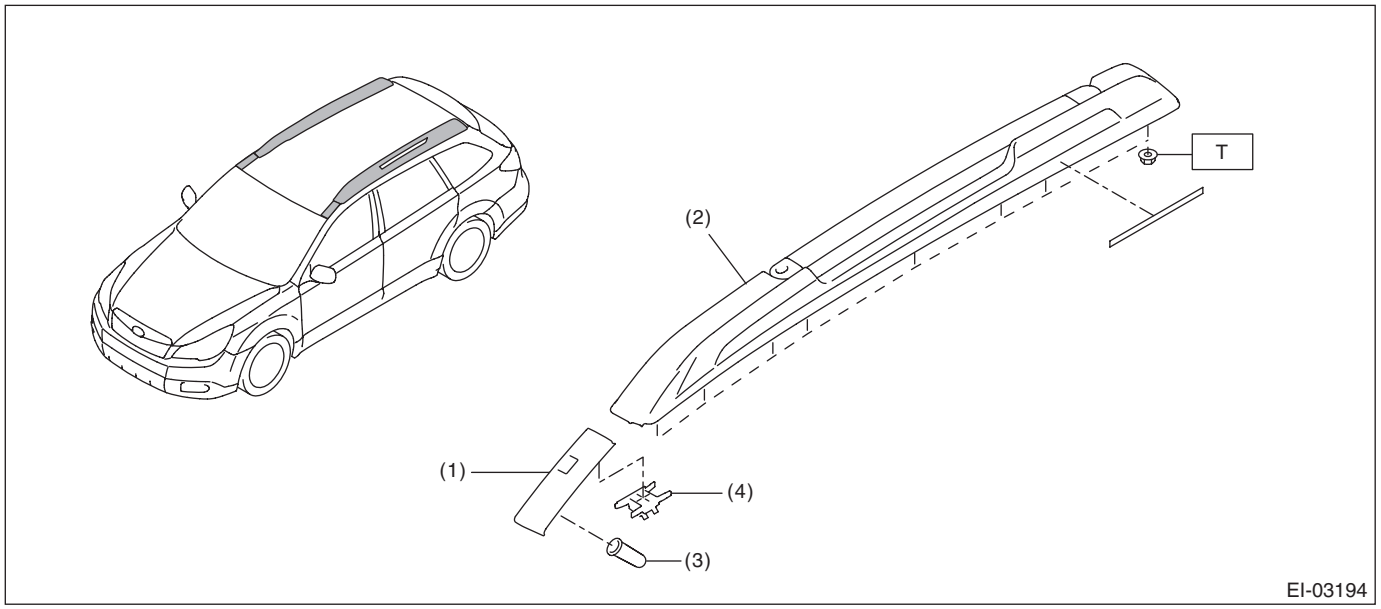
(1) Garnish ASSY front fender (OUTBACK model)
(2) Garnish ASSY front door (OUTBACK model)
(3) Garnish ASSY rear door (OUTBACK model)
(4) Garnish ASSY rear quarter (OUTBACK model)
(5) Side sill garnish ASSY (OUTBACK model)
(6) Double-sided tape

9. ROOF MOLDING



(1) Rivet
(2) Roof molding
(3) Clip

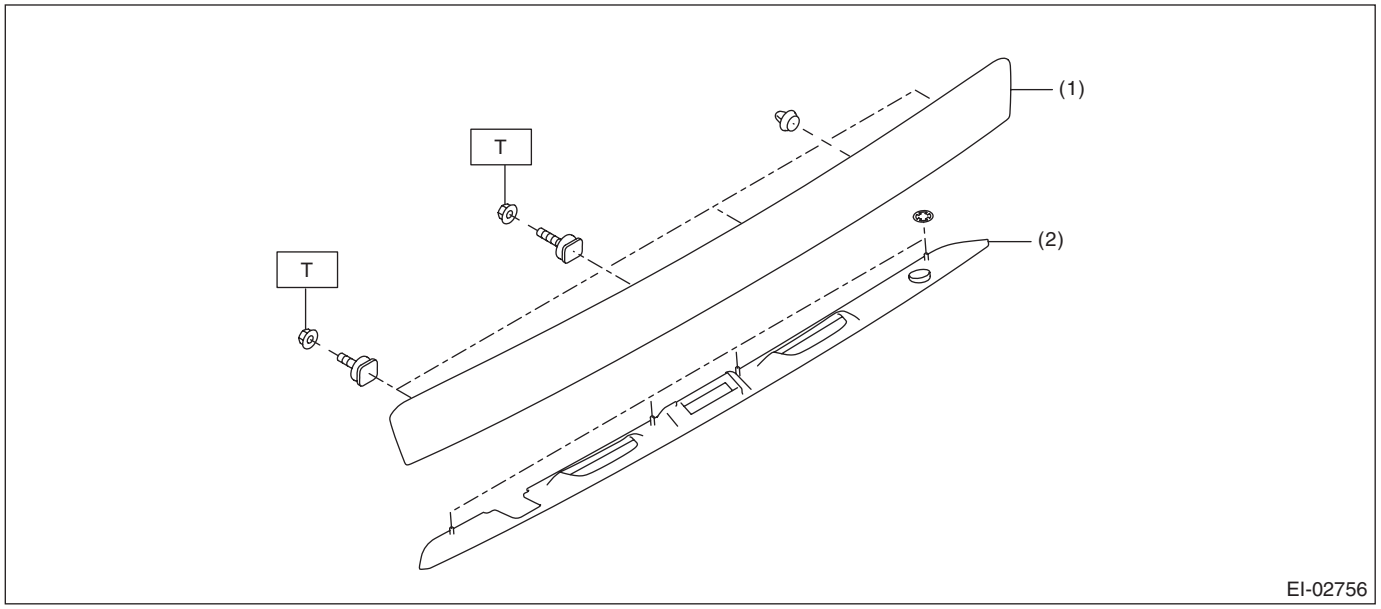
10.ROOF RAIL



(1) Roof molding
(2) Roof rail ASSY
(3) Rivet
(4) Clip

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

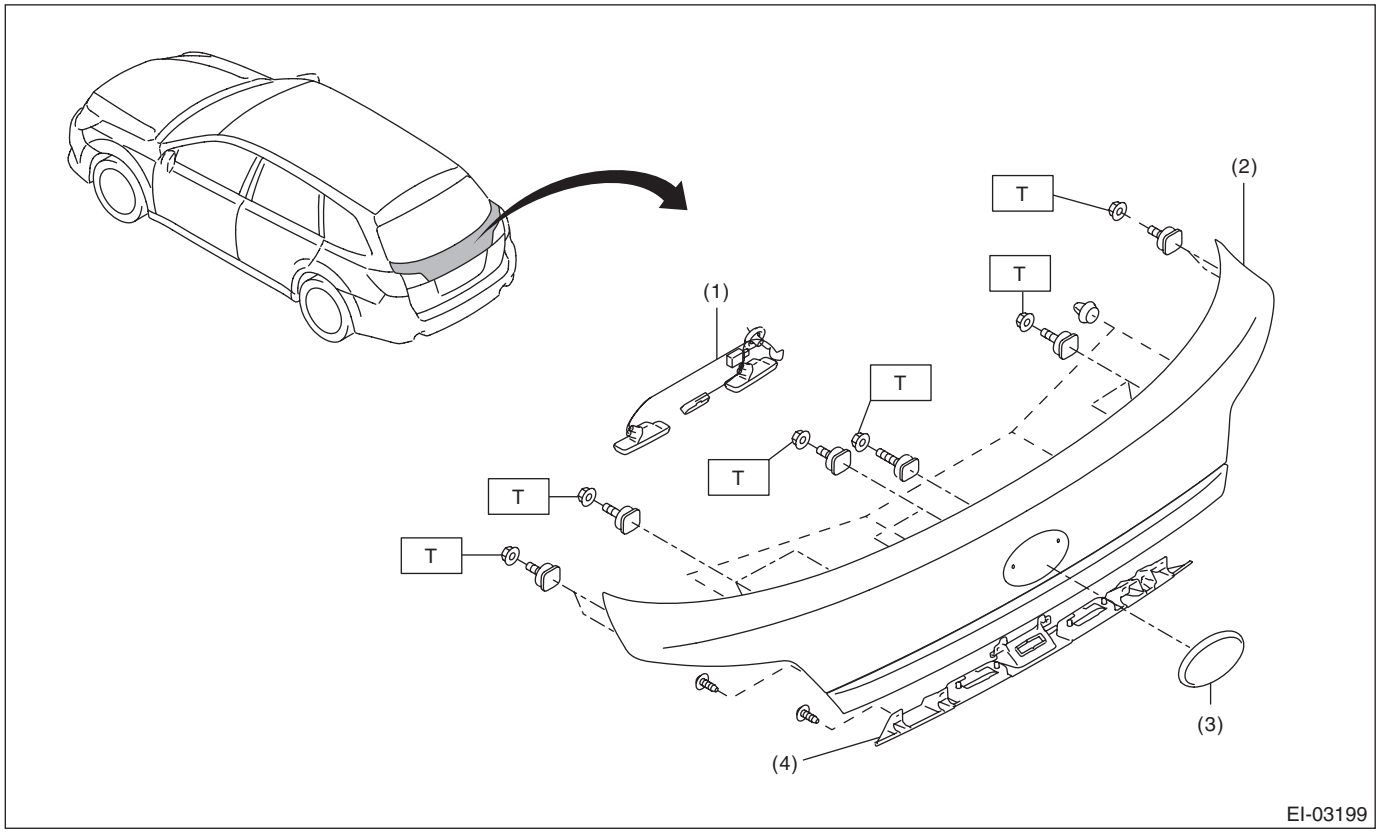
11.TRUNK LID GARNISH



(1) Trunk lid garnish
(2) Undercover-trunk lid garnish

Tightening torque: N·m (kgf-m, ft-lb)
T: 4.5 (0.46, 3.3)

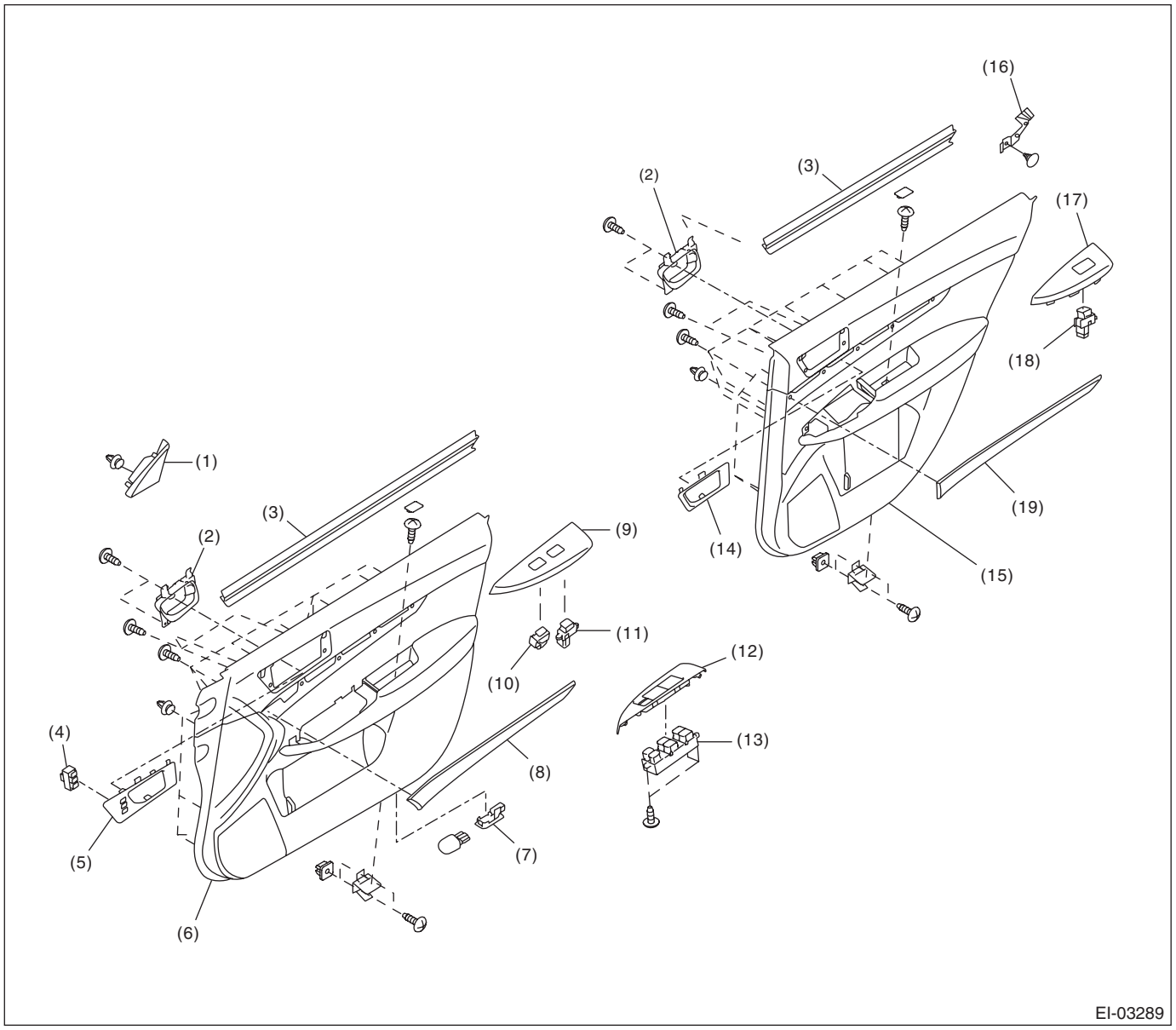
12.REAR GATE GARNISH



(1) License light ASSY and rear gate opener ASSY harness.
(2) Rear gate garnish
(3) Ornament
(4) Garnish LWR

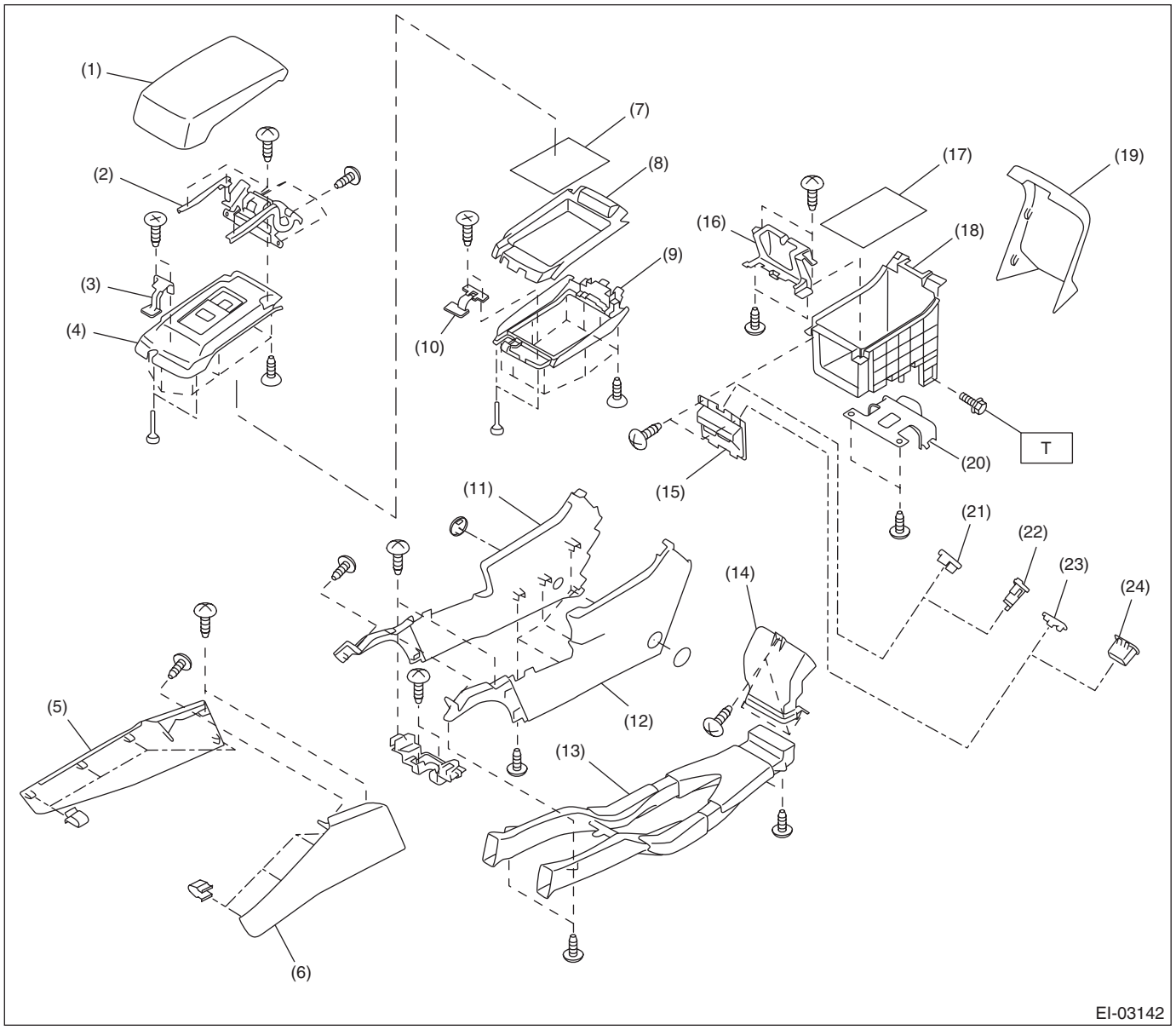
Tightening torque: N·m (kgf-m, ft-lb)
T: 4.5 (0.46, 3.3)

13.DOOR TRIM



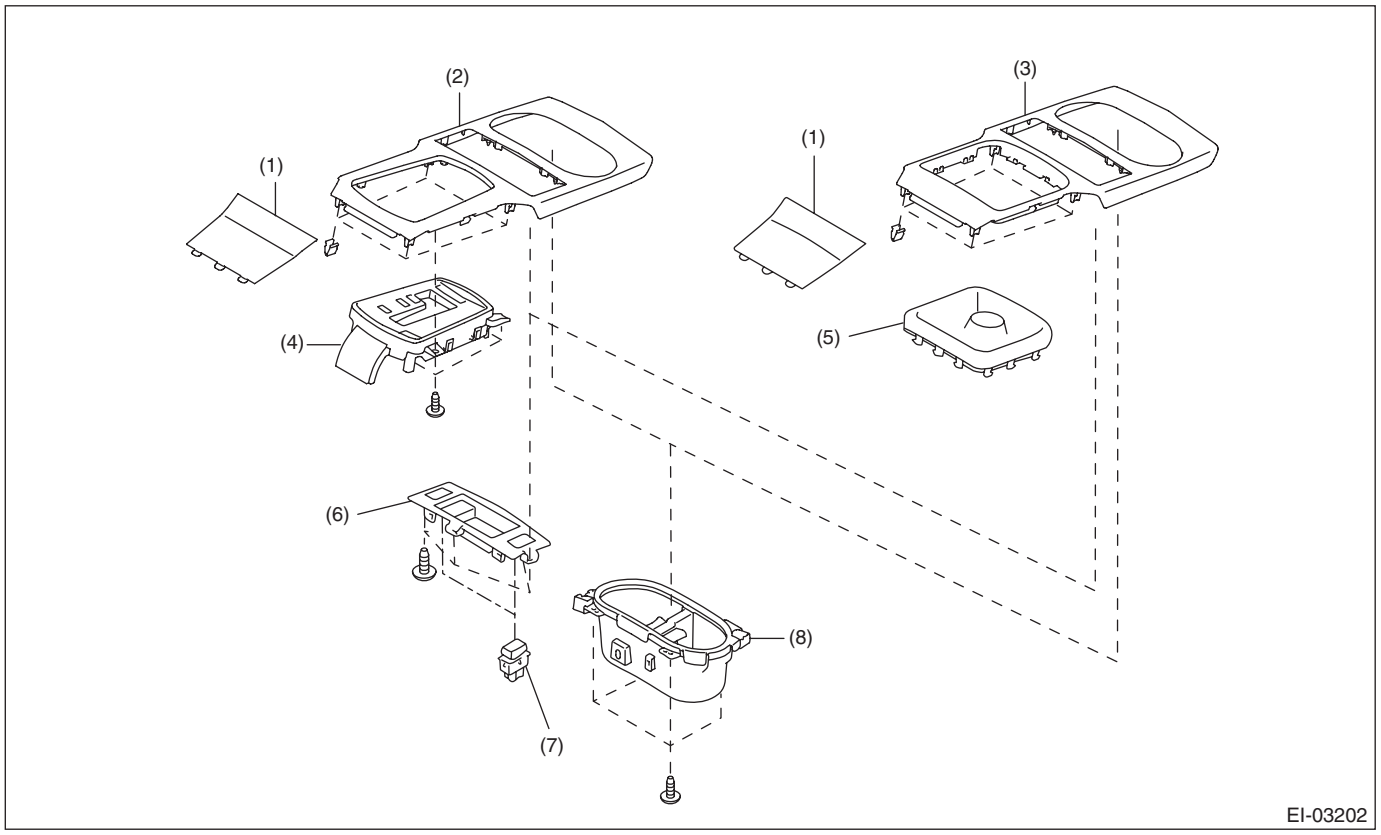
(1)	Gusset cover front	(8)	Front door ornament panel	(15)	Rear door trim
(2)	Inner remote ASSY	(9)	Power window switch panel front RH	(16)	Rear door cover upper
(3)	Weather strip inner	(10)	Door lock switch ASSY	(17)	Power window switch panel rear
(4)	Power seat memory switch ASSY (only for seat with memory function)	(11)	Power window sub-switch ASSY front	(18)	Power window sub-switch ASSY rear
(5)	Front door inner remote cover	(12)	Power window switch panel front LH	(19)	Rear door ornament panel
(6)	Front door trim ASSY	(13)	Power window main switch ASSY		
(7)	Door step light	(14)	Rear door inner remote cover		

14.CONSOLE BOX



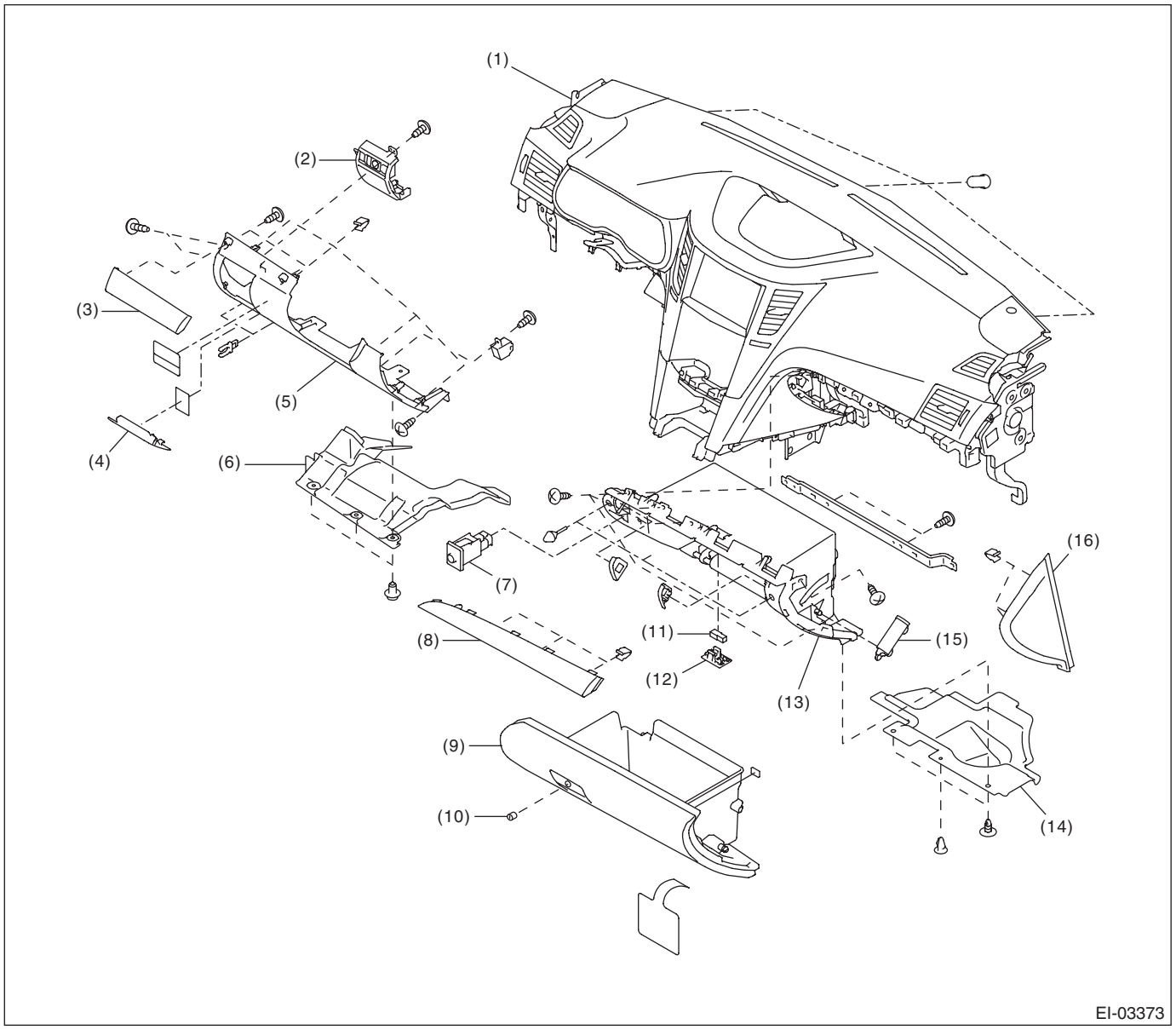
(1)	Console lid COMPL	(10)	Lid lock LWR	(19)	Console rear cover
(2)	Console lid hinge COMPL	(11)	Console box LWR RH	(20)	Console bracket
(3)	Lid lock UPR	(12)	Console box LWR LH	(21)	Cover A
(4)	Lid inner UPR	(13)	Center console duct	(22)	Accessory socket
(5)	Console front side cover ASSY RH	(14)	Rear heater grille ASSY	(23)	Cover B
(6)	Console front side cover ASSY LH	(15)	Pocket case	(24)	AUX unit
(7)	Mat (lid LWR)	(16)	Cover center		
(8)	Lid inner LWR	(17)	Mat (pocket)		
(9)	Lid outer LWR	(18)	Console pocket		

Tightening torque: N·m (kgf-m, ft-lb)
T: 6.5 (0.66, 4.8)

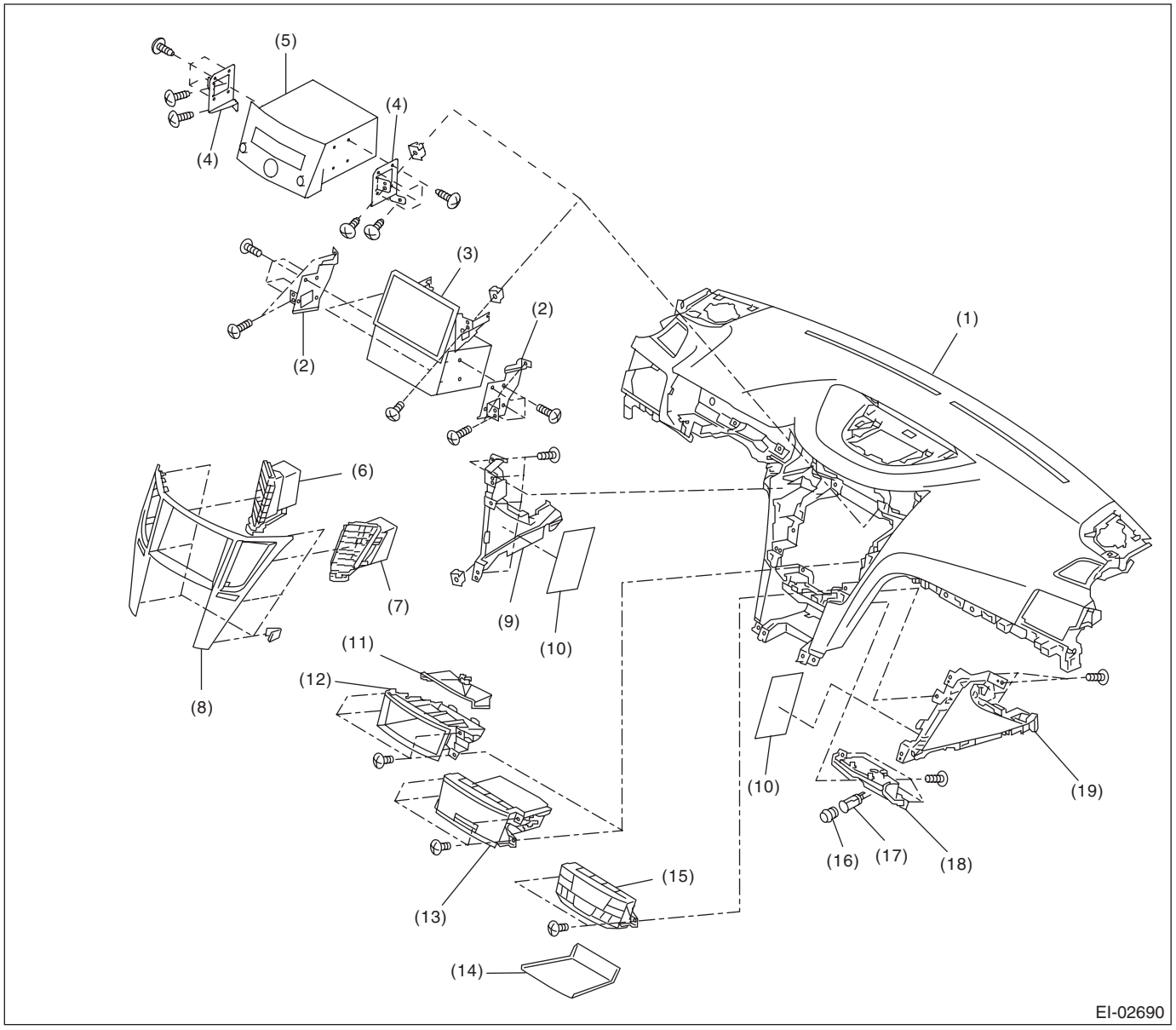


(1) Center pocket mat
(2) Front cover AT
(3) Front cover MT
(4) Indicator ASSY AT
(5) Shift boot (MT model)
(6) Switch case
(7) Seat heater switch
(8) Cup holder ASSY

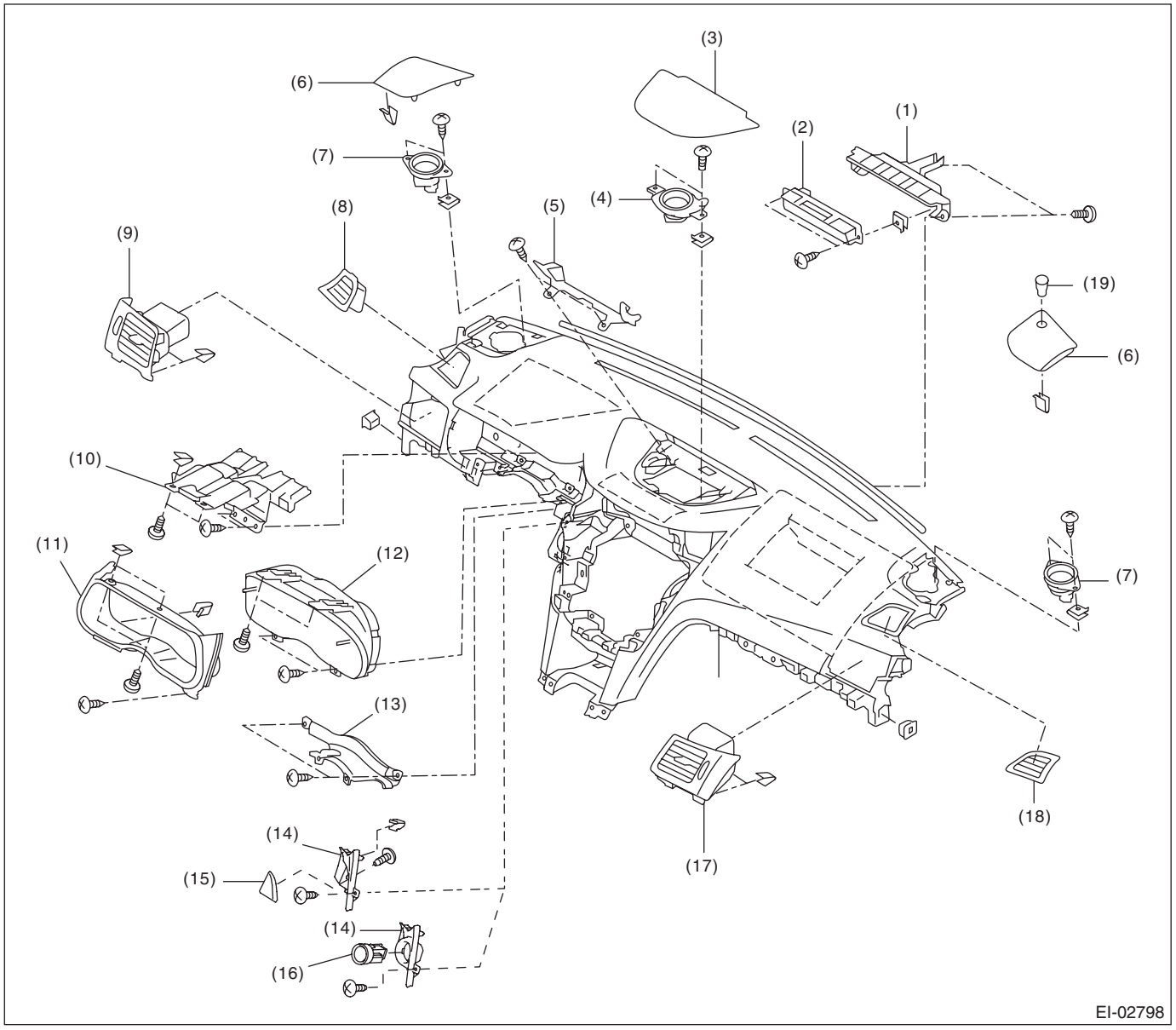
15.INSTRUMENT PANEL



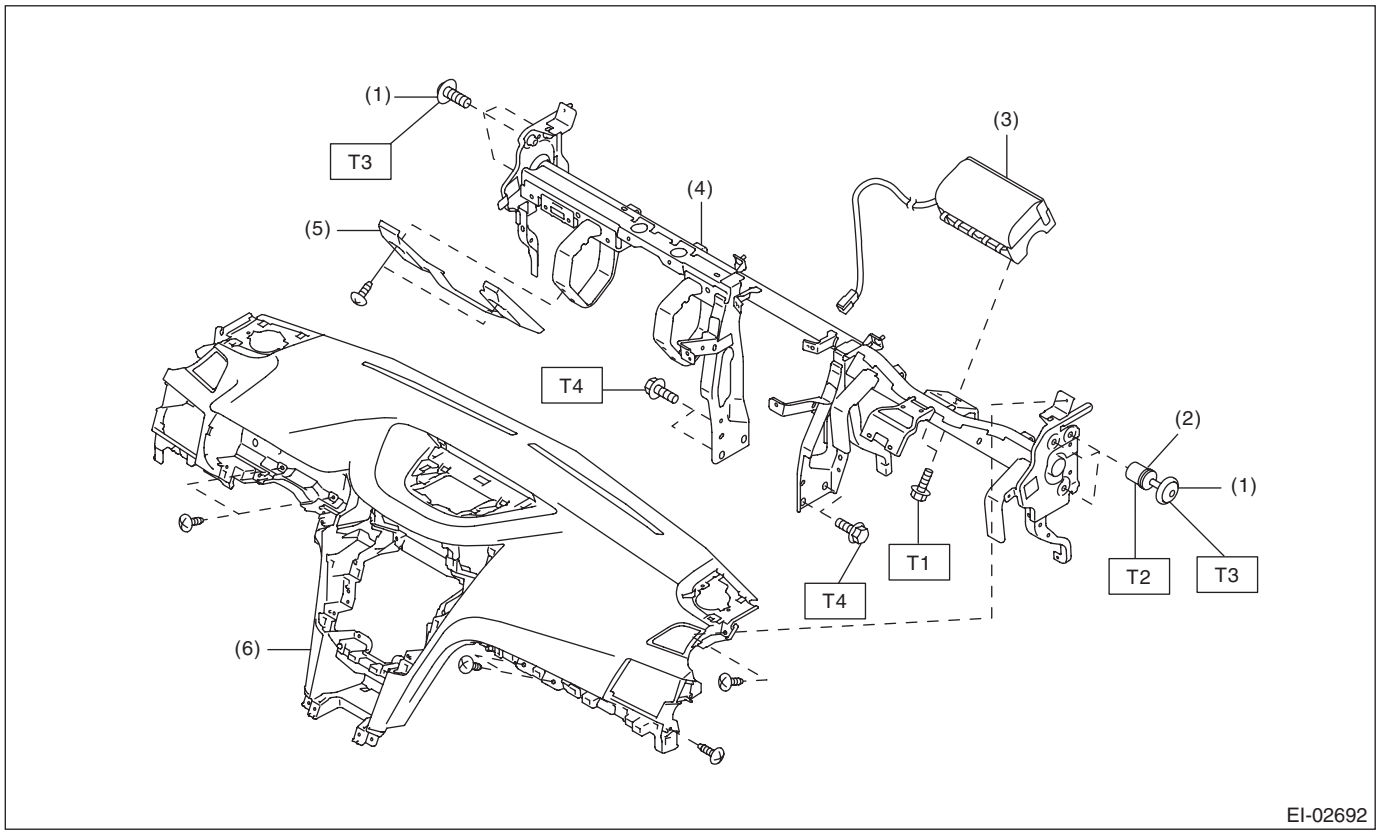
(1) Instrument panel ASSY
(2) Switch panel ASSY
(3) Ornament panel ASSY D OUT
(4) Fuse lid
(5) Instrument panel lower cover
(6) Instrument panel lower cover under
(7) Trunk opener cancel button
(8) Ornament panel ASSY P
(9) Glove box lid ASSY
(10) Key cylinder - glove box
(11) Illumination LED ASSY
(12) Illumination bracket
(13) Glove box back panel
(14) Glove box under cover
(15) Glove box damper
(16) Instrument panel side cover



(1)	Instrument panel pad and frame ASSY	(8)	Center panel ASSY	(15)	Control panel ASSY
(2)	Navigation bracket	(9)	Center cover side RH	(16)	Plug
(3)	Navigation ASSY	(10)	Insulator	(17)	Accessory socket ASSY
(4)	Audio bracket	(11)	Pocket center light	(18)	Center pocket back panel
(5)	Audio ASSY	(12)	Pocket ASSY (without lid)	(19)	Center cover side LH
(6)	Center grille ASSY LH	(13)	Pocket ASSY (with lid)		
(7)	Center grille ASSY RH	(14)	Center pocket mat		

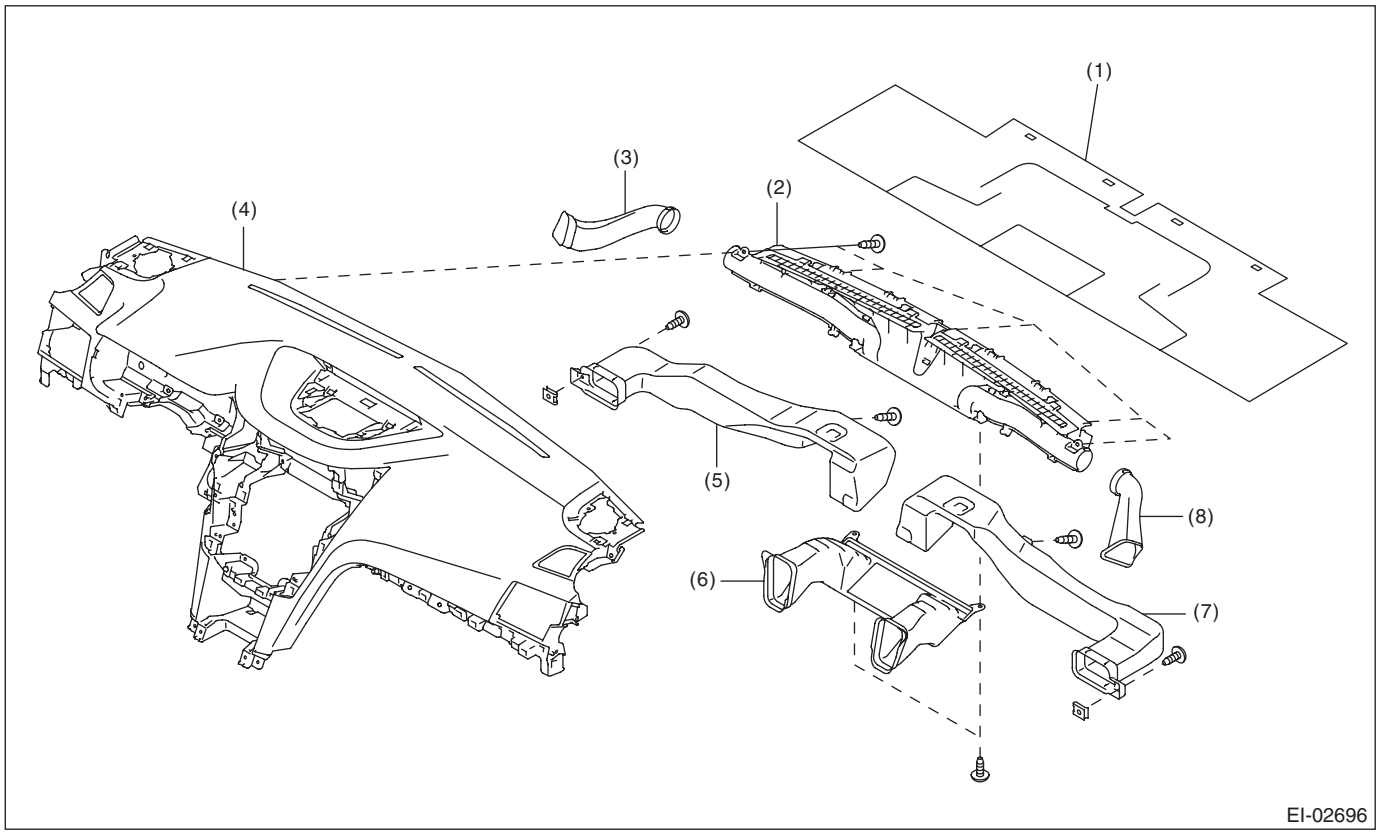


(1) Multi display panel UPR
(2) Multi display ASSY
(3) Center speaker cover
(4) Center speaker ASSY
(5) Multi display panel LWR
(6) Side speaker cover
(7) Front side speaker ASSY
(8) Defroster side grille RH
(9) Side vent grille ASSY RH
(10) Meter reinforcement panel
(11) Meter visor ASSY
(12) Combination meter ASSY
(13) Steering upper cover
(14) Starter switch cover
(15) Ornament panel ASSY D INN
(16) Starter switch ASSY (with push button start)
(17) Side vent grille ASSY LH
(18) Defroster side grille LH
(19) Sunload sensor



(1) TORX® bolt
(2) Adjuster bolt
(3) Passenger's airbag module ASSY
(4) Steering support beam ASSY
(5) Knee guard panel COMPL
(6) Instrument panel pad and frame ASSY

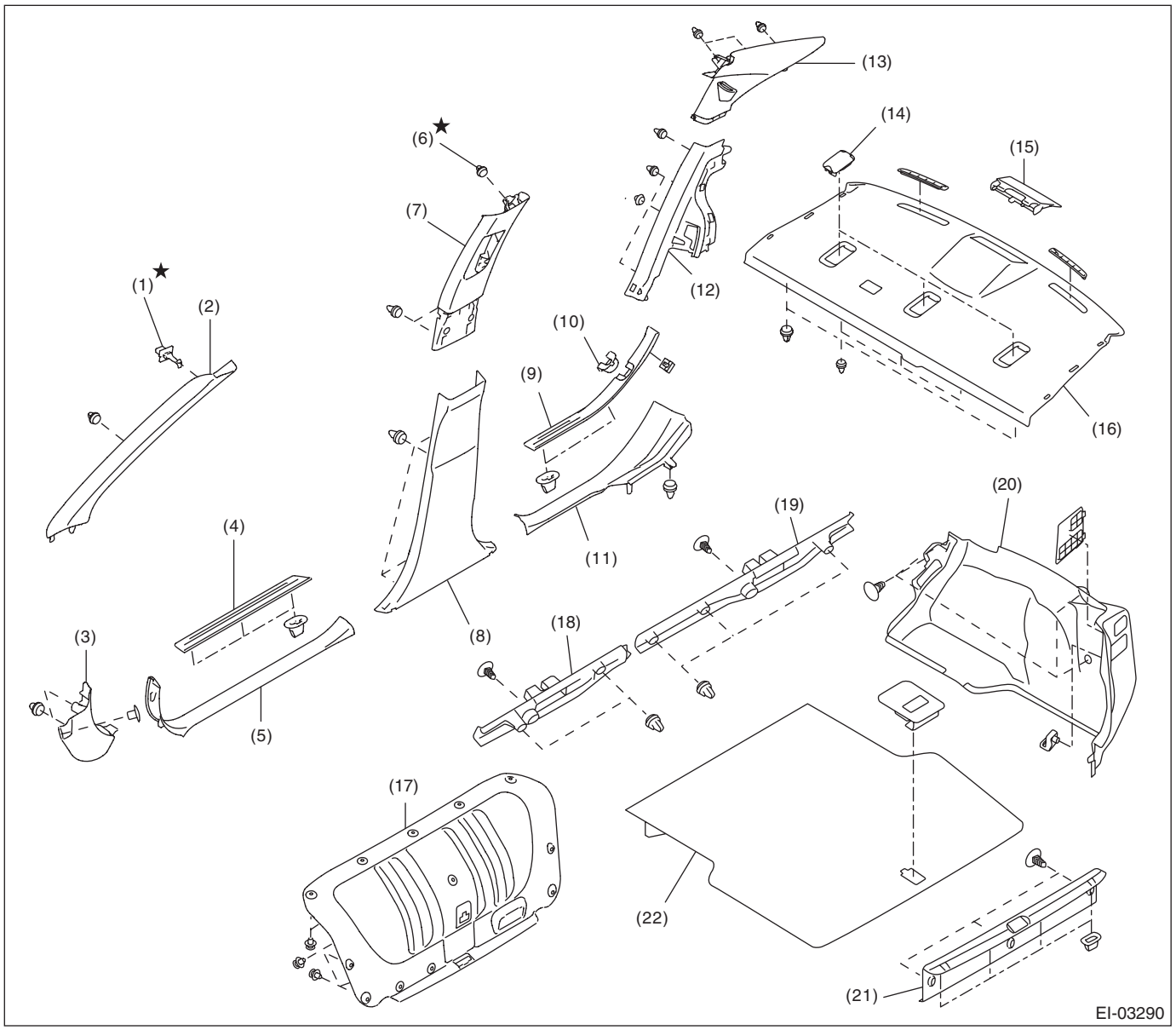
Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 3 (0.31, 2.2)
T3: 18 (1.84, 13.3)
T4: 25 (2.55, 18.4)



(1) Insulator
(2) Front defroster nozzle ASSY
(3) Side defroster duct RH
(4) Instrument panel pad and frame ASSY
(5) Side vent duct LH
(6) Center vent duct
(7) Side vent duct RH
(8) Side defroster duct LH

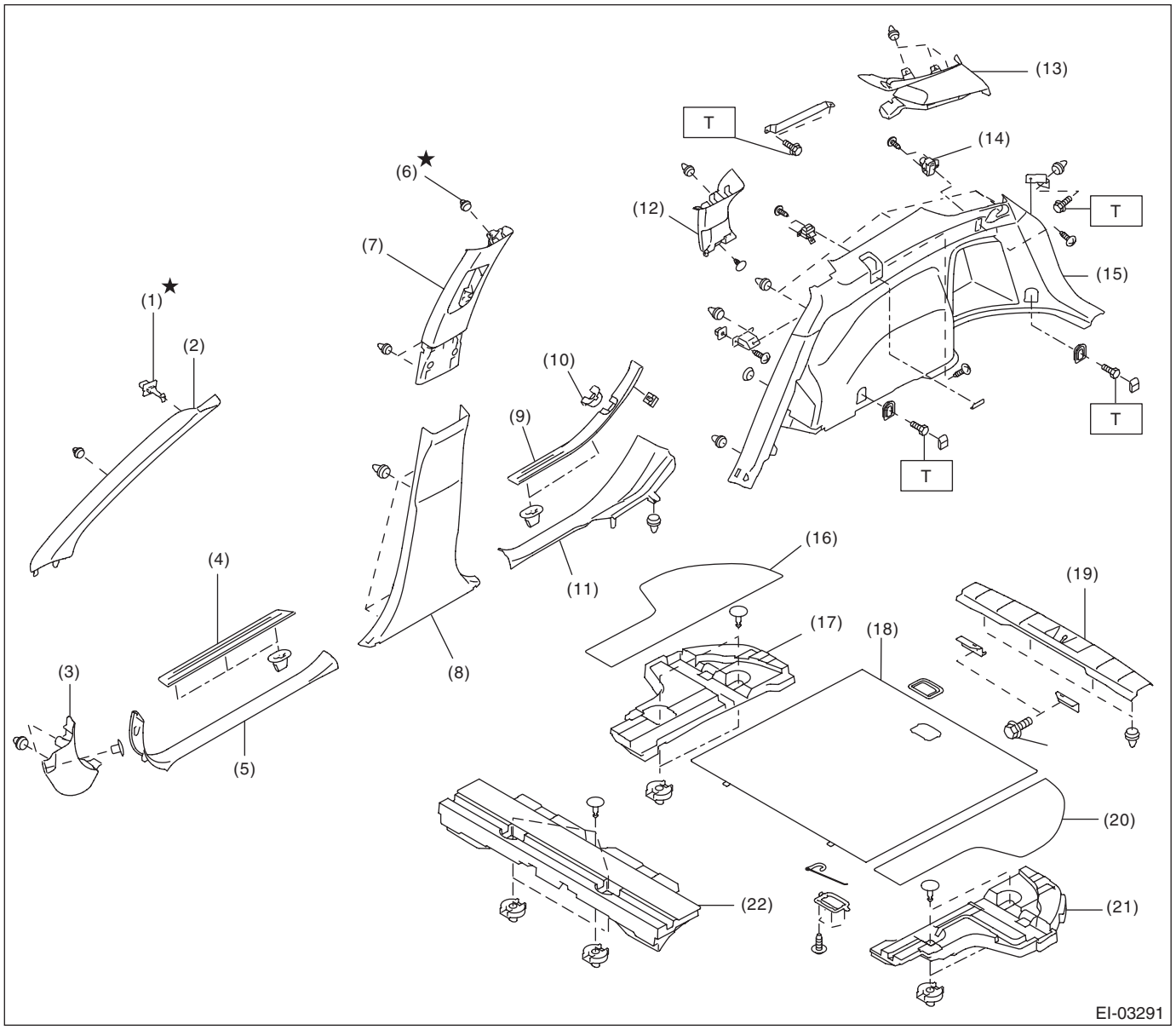
16.INNER TRIM

- Sedan model



(1) Tether clip
(2) Front pillar trim
(3) Side sill cover front
(4) Side sill cover - front OUT
(5) Side sill cover - front INN
(6) Clip
(7) Center pillar trim UPR
(8) Center pillar trim LWR
(9) Side sill cover - rear OUT
(10) Catcher cover
(11) Side sill cover - rear INN
(12) Rear quarter trim LWR
(13) Rear quarter trim UPR
(14) Child anchor cap
(15) High-mounted stop light ASSY
(16) Rear shelf panel
(17) Trunk lid trim
(18) Trunk trim panel ASSY - front LH
(19) Trunk trim panel ASSY - front RH
(20) Trunk trim panel ASSY - side
(21) Trunk trim panel ASSY - rear
(22) Trunk mat

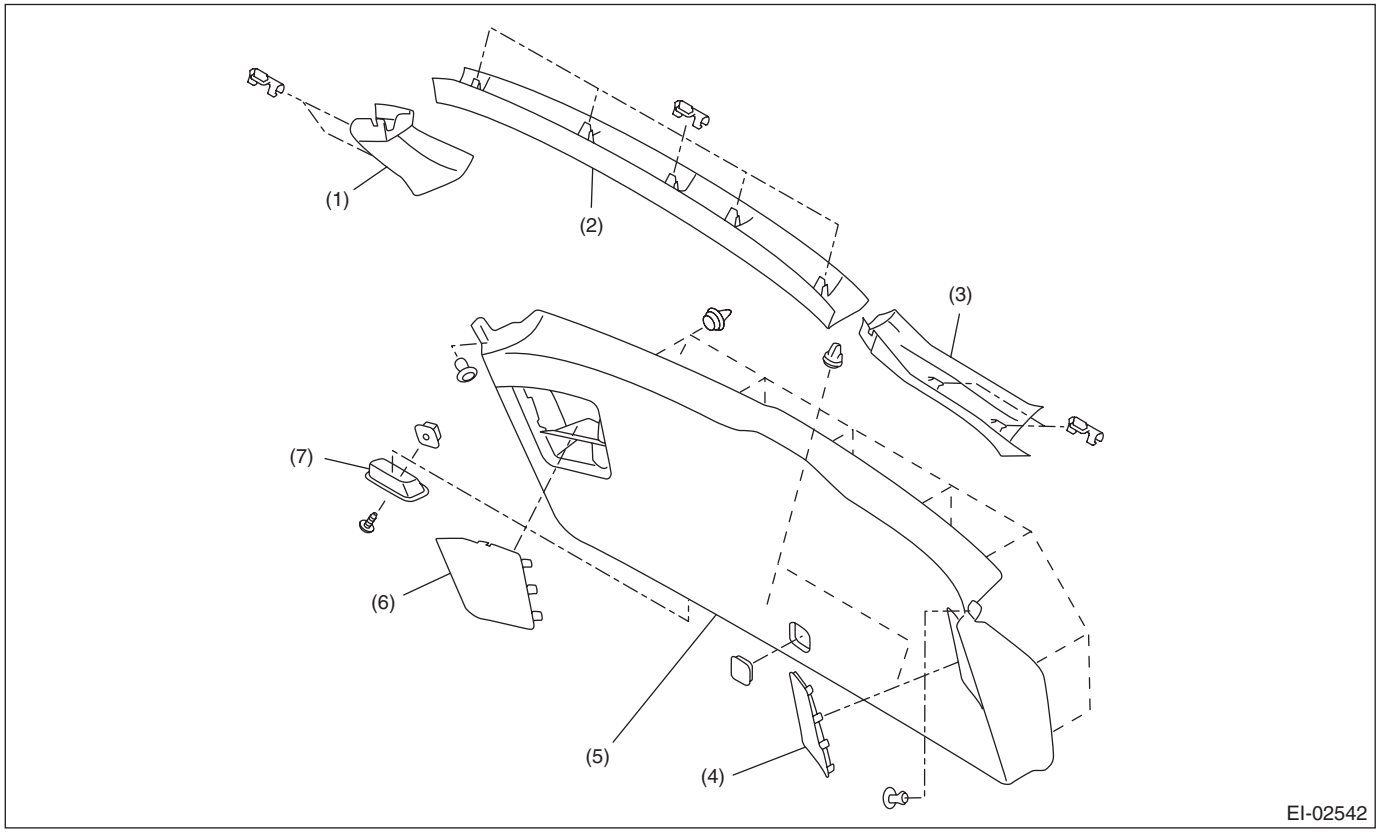
- OUTBACK model



(1) Tether clip
(2) Front pillar trim
(3) Side sill cover front
(4) Side sill cover - front OUT
(5) Side sill cover - front INN
(6) Clip
(7) Center pillar trim UPR
(8) Center pillar trim LWR
(9) Side sill cover - rear OUT
(10) Catcher cover
(11) Side sill cover - rear INN
(12) Rear quarter trim UPR - front
(13) Rear quarter trim UPR - rear
(14) Hook
(15) Rear quarter trim LWR
(16) Rear floor mat RH
(17) Rear floor spacer RH
(18) Rear floor mat CTR
(19) Rear floor edge cover
(20) Rear floor mat LH
(21) Rear floor spacer LH
(22) Rear floor spacer CTR - front

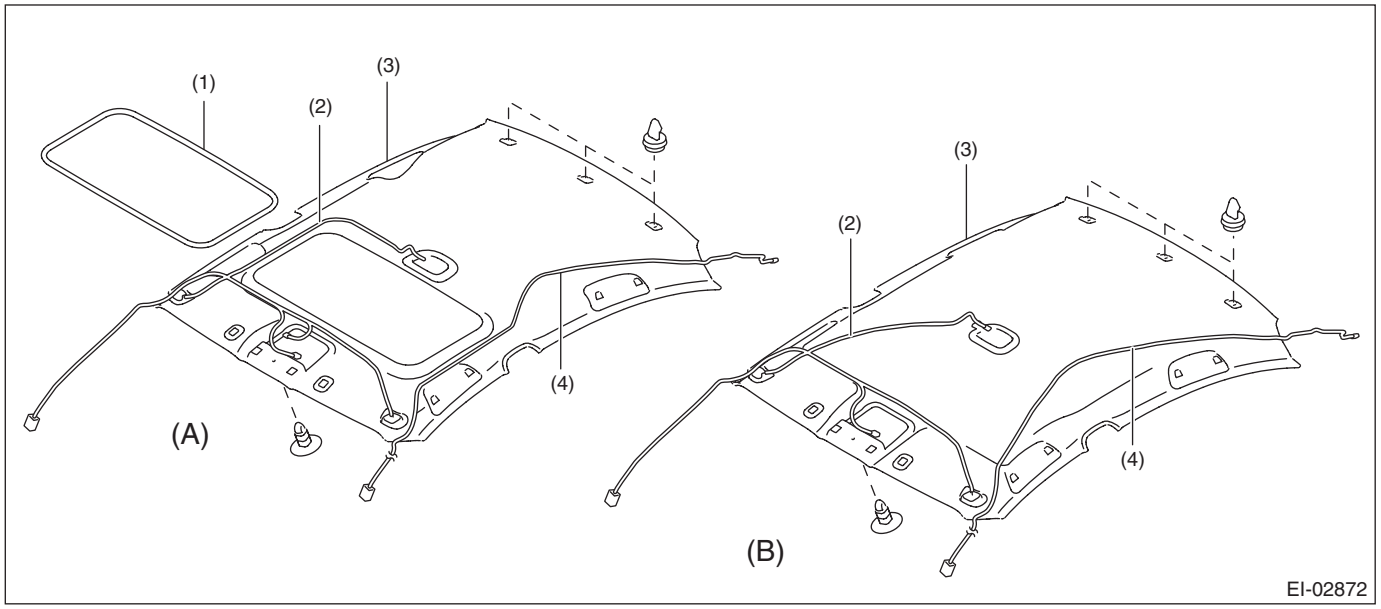
Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

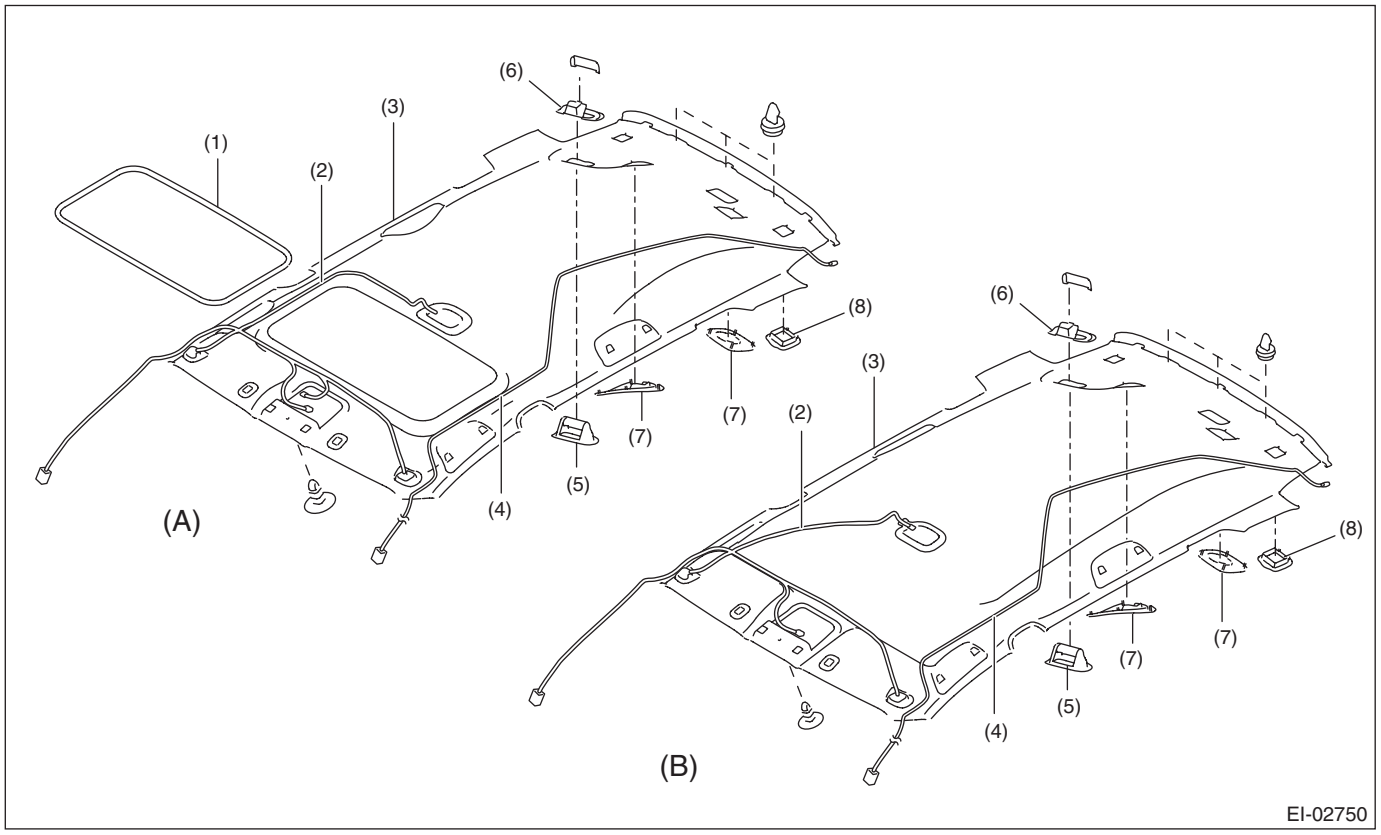
17.REAR GATE TRIM



(1) Rear gate pillar trim RH
(2) Rear gate upper trim
(3) Rear gate pillar trim LH
(4) Rear gate lower cap LH
(5) Rear gate lower trim
(6) Rear gate lower cap RH
(7) Rear gate handle

18.ROOF TRIM

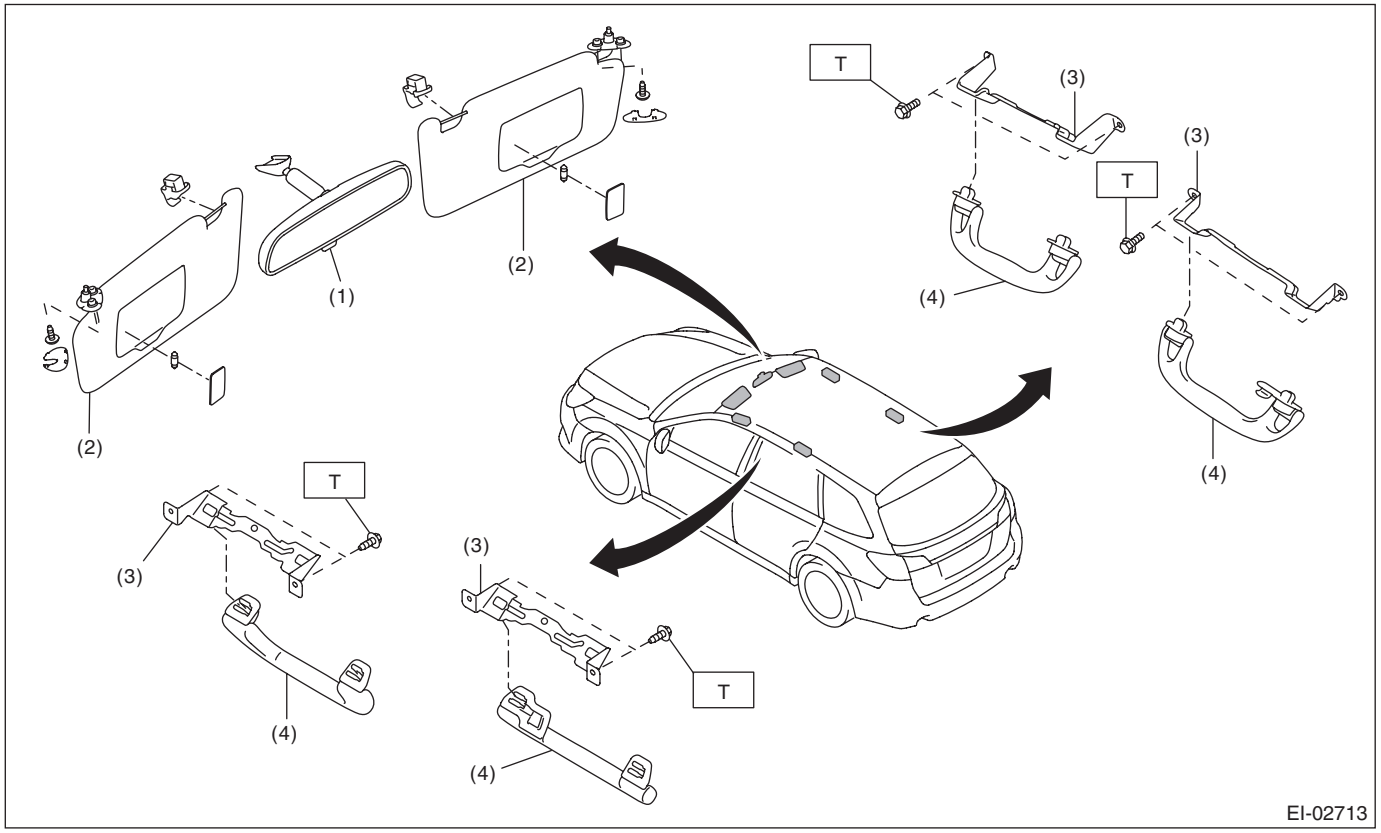




(A) Model with sunroof
(B) Normal roof model

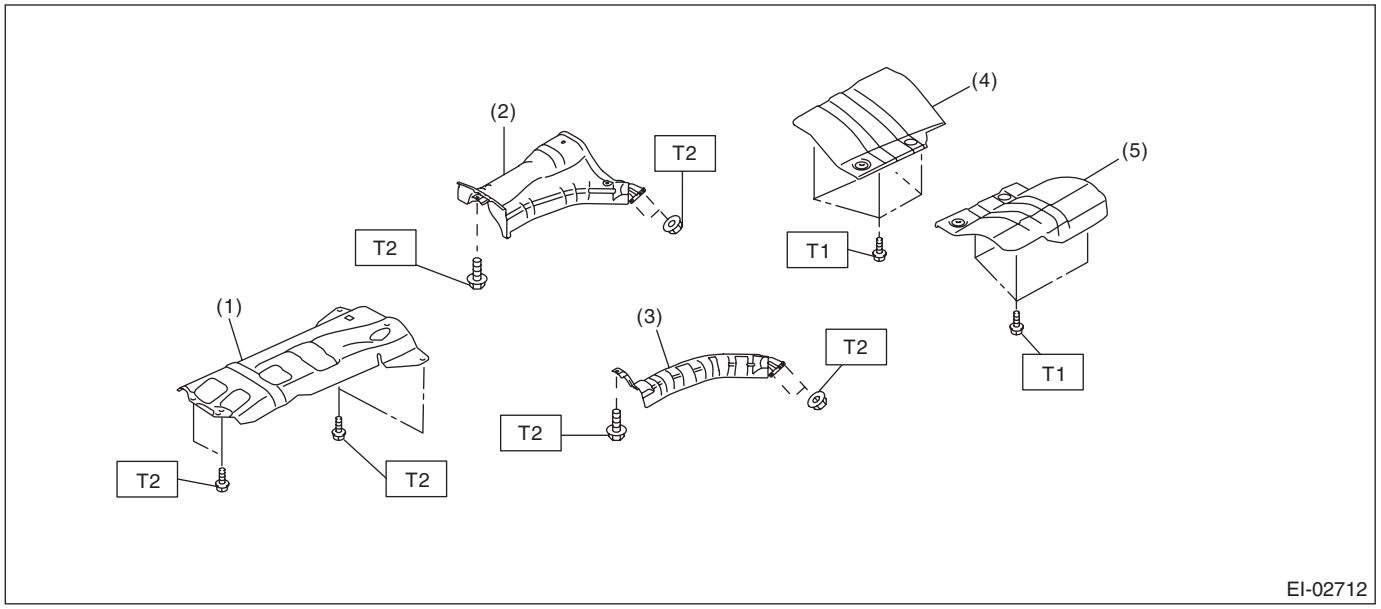
(1) Sun roof garnish
(2) Roof cord ASSY
(3) Roof trim
(4) Feeder cord ASSY
(5) Seat belt holder cover
(6) Seat belt holder base
(7) Speaker cover
(8) Child anchor cover

19.ROOM INNER PARTS



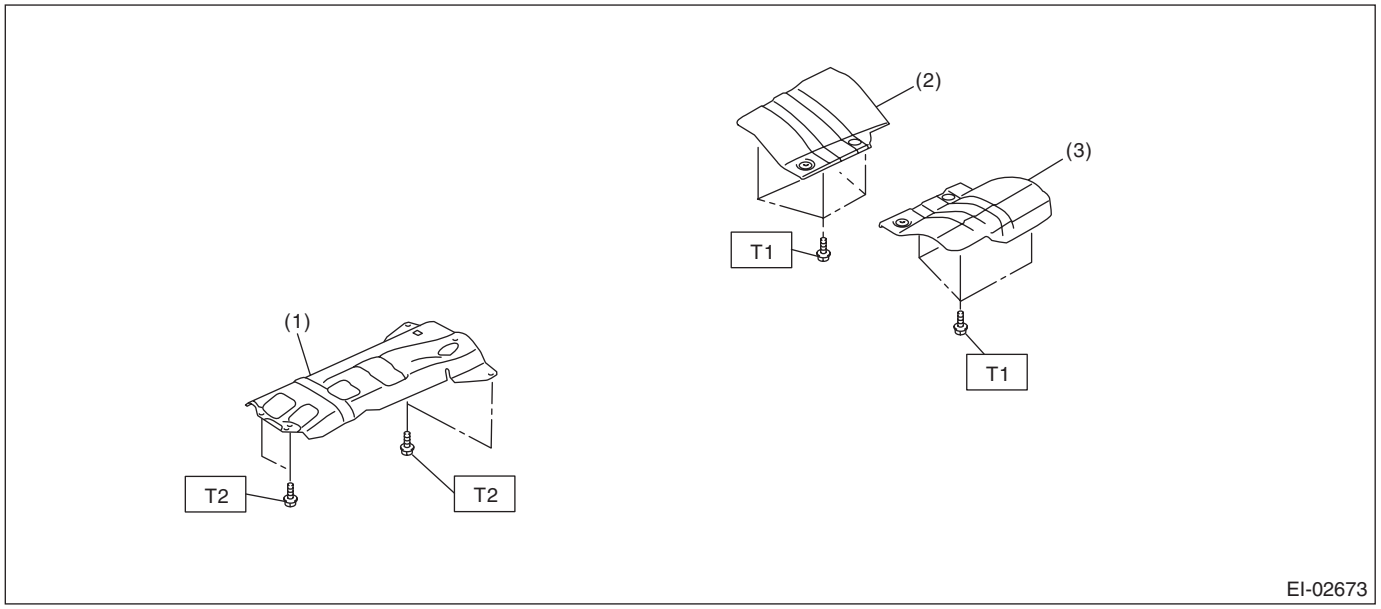
(1)	Room mirror	(3)	Assist grip bracket	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Sun visor	(4)	Assist grip	***T: 7.5 (0.76, 5.5)***

20.HEAT SHIELD COVER



(1) Front heat shield cover
(2) Center heat shield cover (H6 model)
(3) Center heat shield cover (H4 non-turbo model)
(4) Rear heat shield cover RH
(5) Rear heat shield cover LH (only H6 model)

Tightening torque: N·m (kgf-m, ft-lb)
T1: 10 (1.02, 7.4)
T2: 18 (1.84, 13.3)



(1) Front heat shield cover
(2) Rear heat shield cover RH
(3) Rear heat shield cover LH (only H6 model)

Tightening torque: N·m (kgf-m, ft-lb)
T1: 10 (1.02, 7.4)
T2: 18 (1.84, 13.3)

NOTE:
For 2.5 L non-turbo model, refer to “EXHAUST SYSTEM” section.

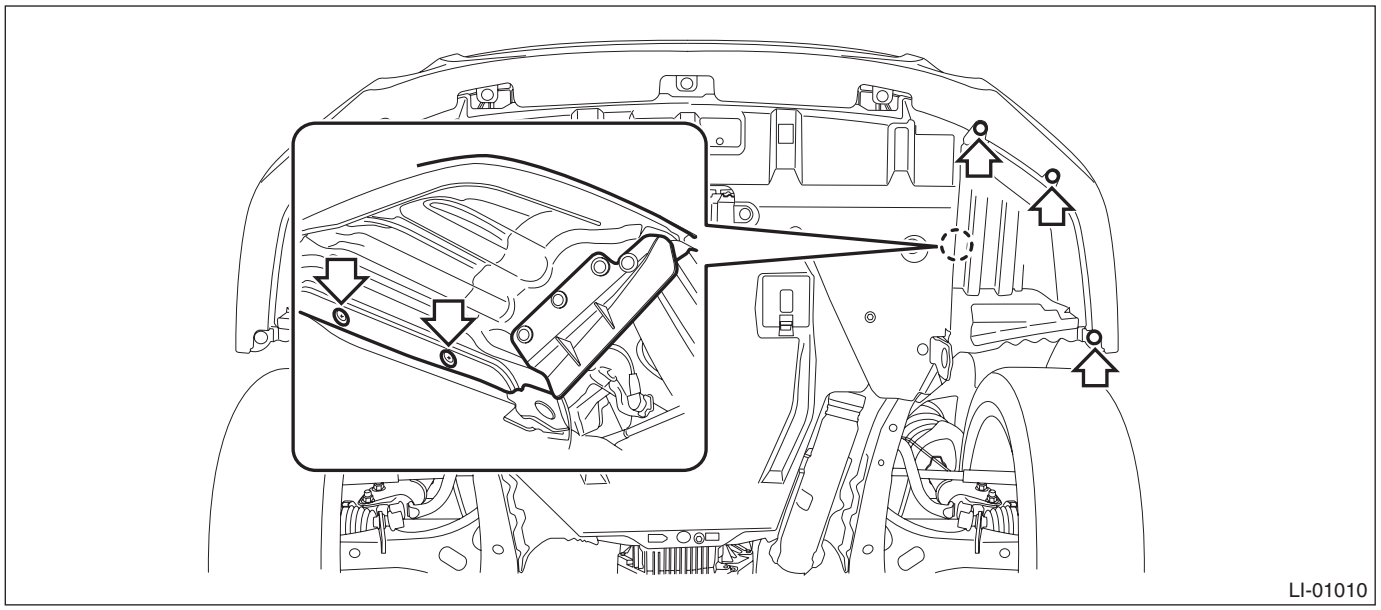
B: PREPARATION TOOL

TOOL NAME	REMARKS
Clip remover	Used for removing trim. • KTC AP201-10A • KTC AP201-N • KTC AP203-10A • KTC AP20L-10B or equivalent
Clip clamp pliers	Used for removal of various clips and clamps. • KTC CCP-190 or equivalent

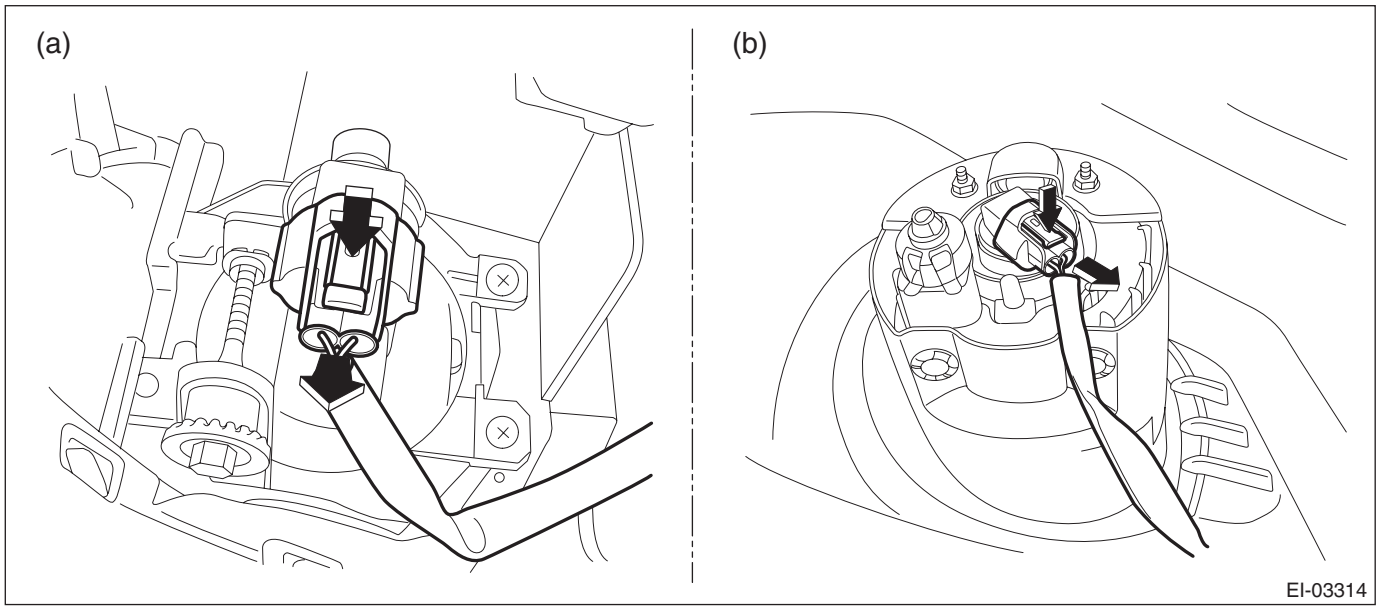
2. Front Grille

A: REMOVAL

1) Remove the front bumper face assembly.
   (1) Remove the clips and turn over the front end of front mud guard. (Model with fog light)



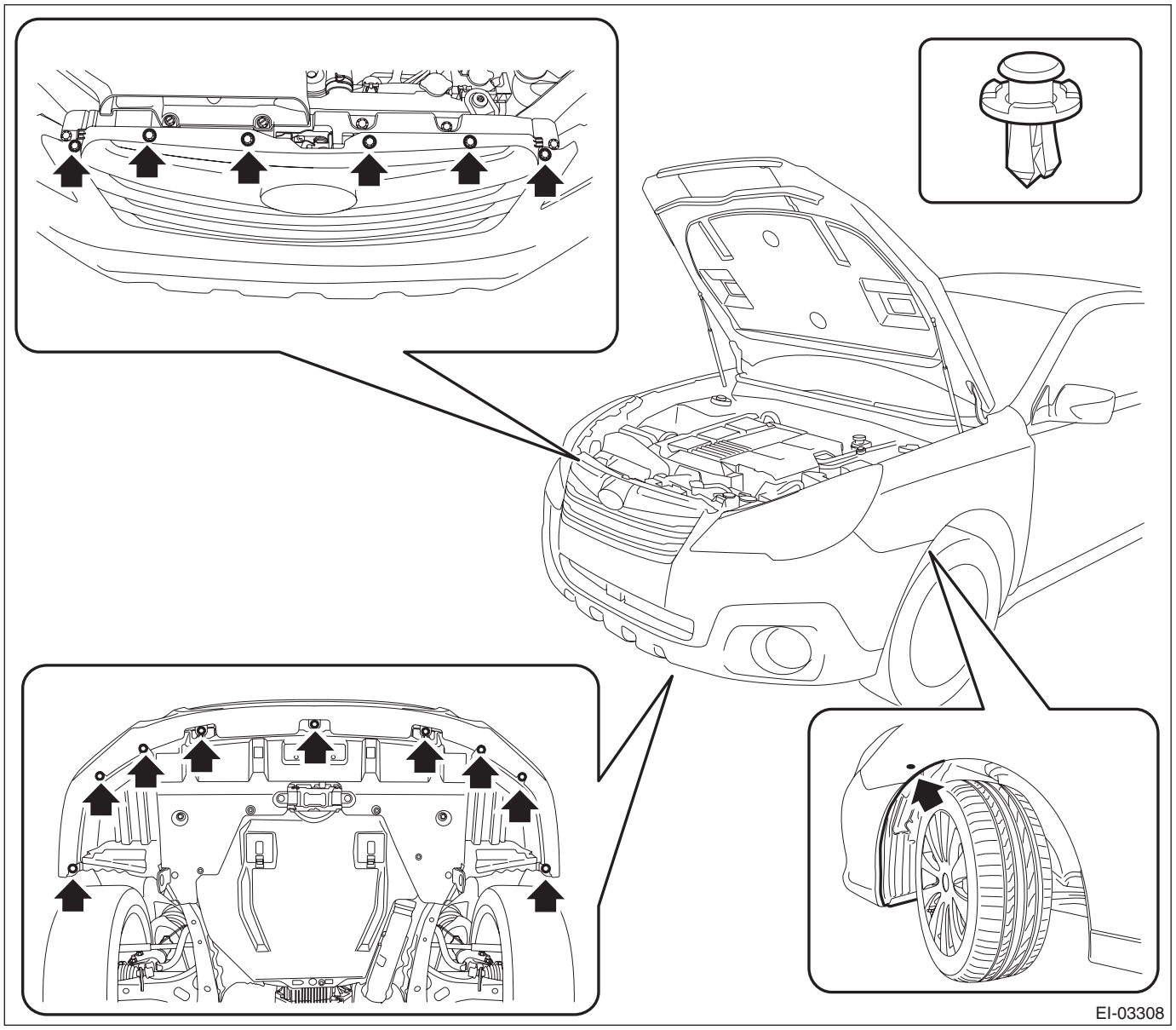
   (2) Disconnect the front fog light connector. (Model with fog light)



(a) Sedan model (b) OUTBACK model

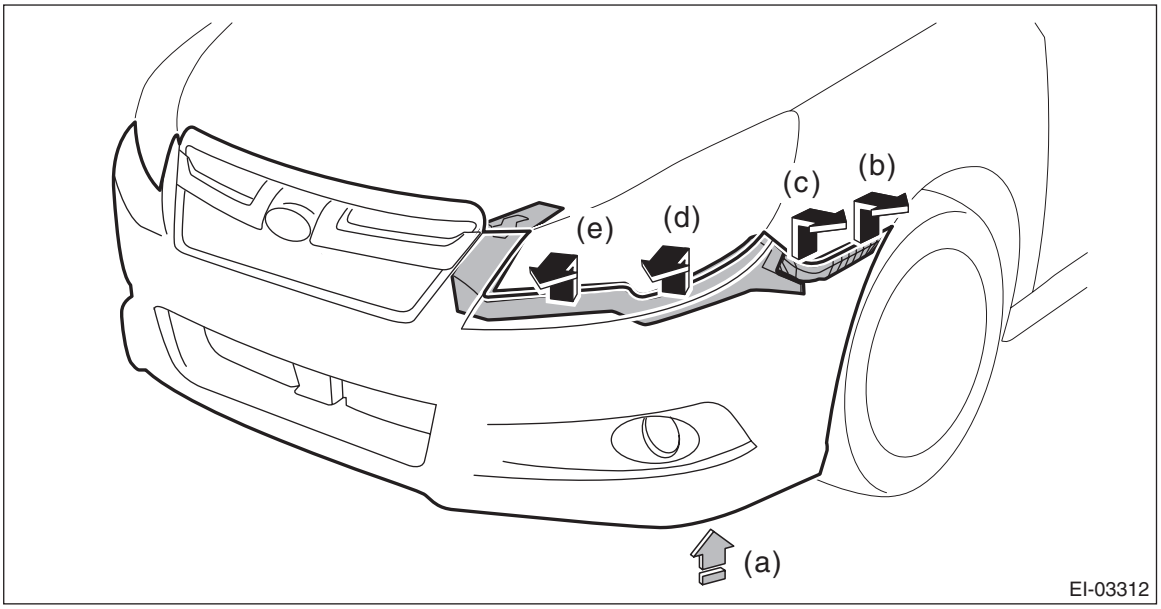
   (3) Remove the clips at the upper side of the bumper.
   (4) Remove the clips from the fender.

(5) Remove the clips at the lower side of bumper.



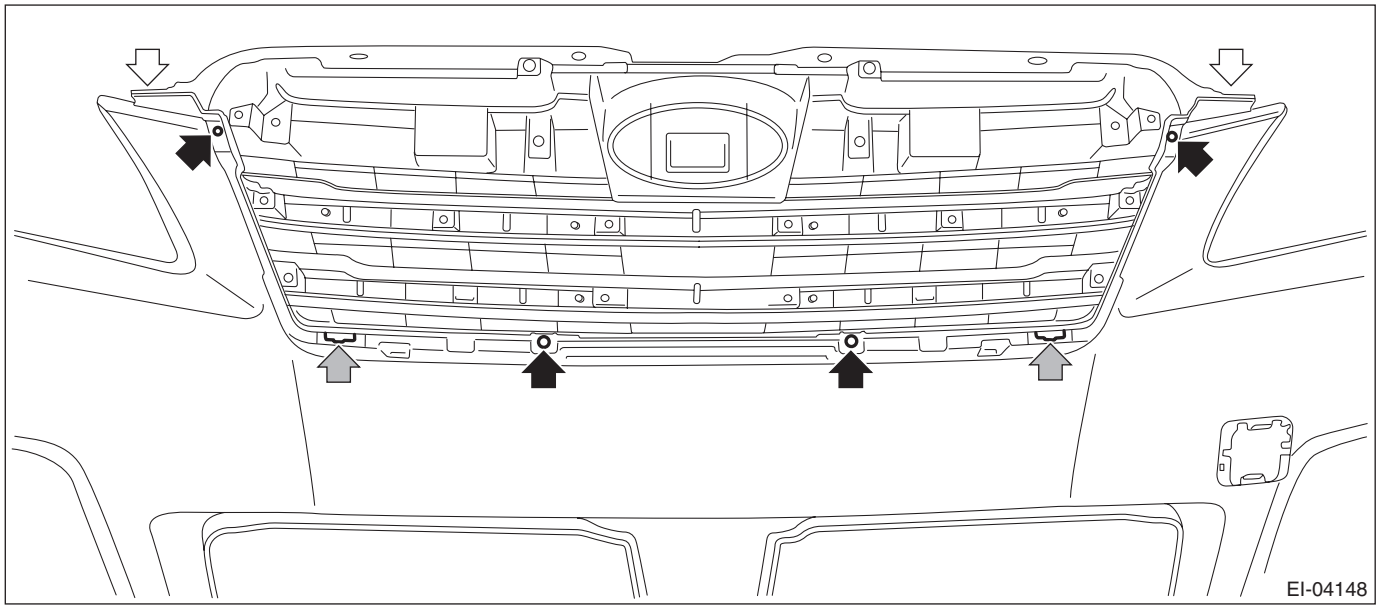
(6) Detach the flange section on the bumper face side from the bracket side front UPR.

CAUTION:
Do not pull forcibly. It may damage the flange section on the bumper face - front side when it comes off from the claws of bracket side front UPR.



NOTE:
Pushing up the lower side (a) of the fog light, remove from (b) to (e).
Detach the opposite side in the same manner.

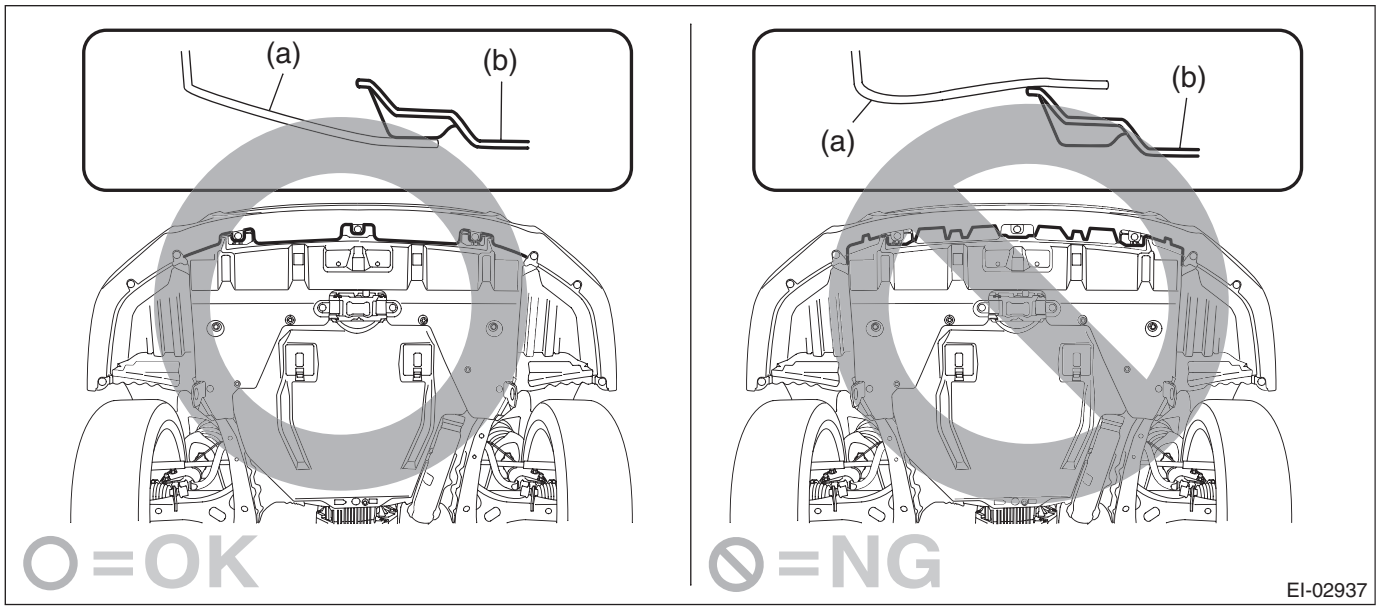
2) Remove the front grille assembly.
(1) Remove the clips and screws from the back side of bumper face.
(2) Release the claws, and remove the front grille assembly.



B: INSTALLATION

CAUTION:

- **Install the bumper face so that the under cover front end (b) comes inside the front bumper face (a).**



- **Before installing the bumper face, match the claws on the bracket - front bumper with the engaging position of flange section on the bumper face side. If the engaging position is not correct, the flange section may be broken or the clearance between fender panel and bumper face may not be uniform.**

1) Install each part in the reverse order of removal.
2) Adjust the fog light beam. (Model with fog light)<Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

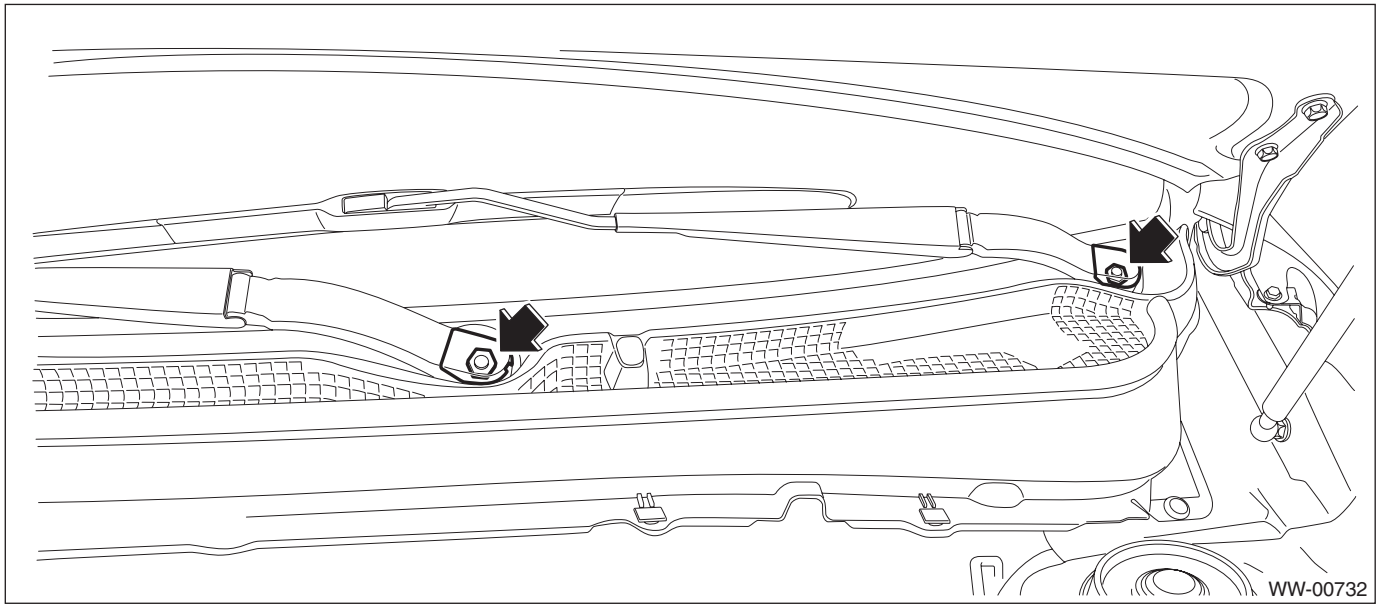
3. Cowl Panel

A: REMOVAL

1) Open the front hood.
2) Remove the front wiper arm assembly.

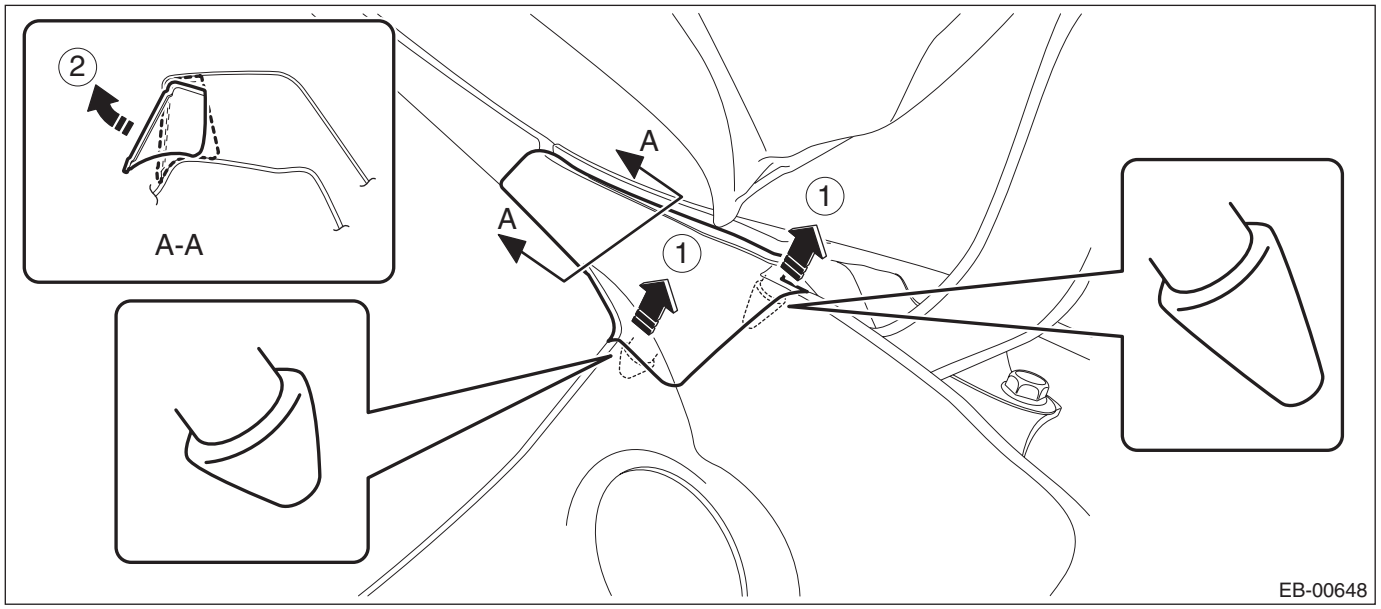
CAUTION:
Follow the steps below when standing up the wiper arm. Not following the steps may cause contacting of wiper arms and damages of wiper arms.
1. Stand up the driver's side wiper arm.
2. Stand up the passenger's side wiper arm.
Fold the wiper arms in the reverse order.

(1) Remove the cap.
(2) Remove the nuts, and remove the front wiper arm assembly.



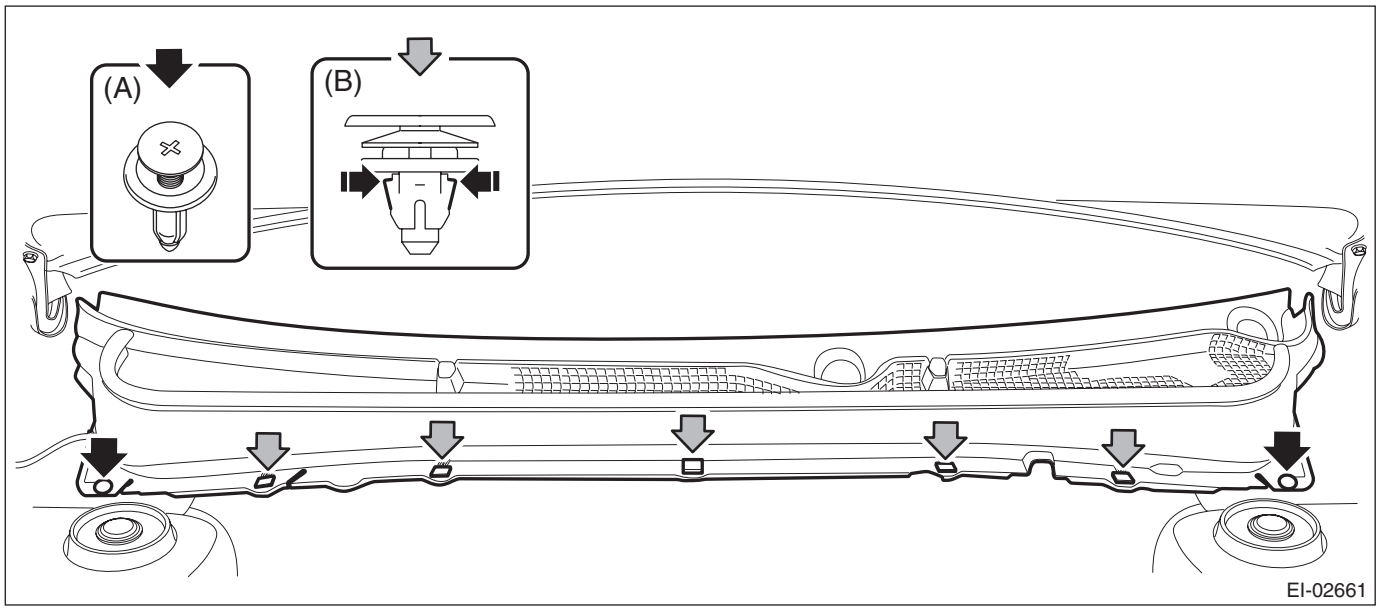
3) Remove the cowl panel side.
(1) Detach the pins of the cowl panel side.
(2) Remove the cowl panel side from inside the fender panel by pulling it.

CAUTION:
Applying excessive pulling force may damage the cowl panel side. If it is difficult to remove, use a plastic remover or equivalent tool.

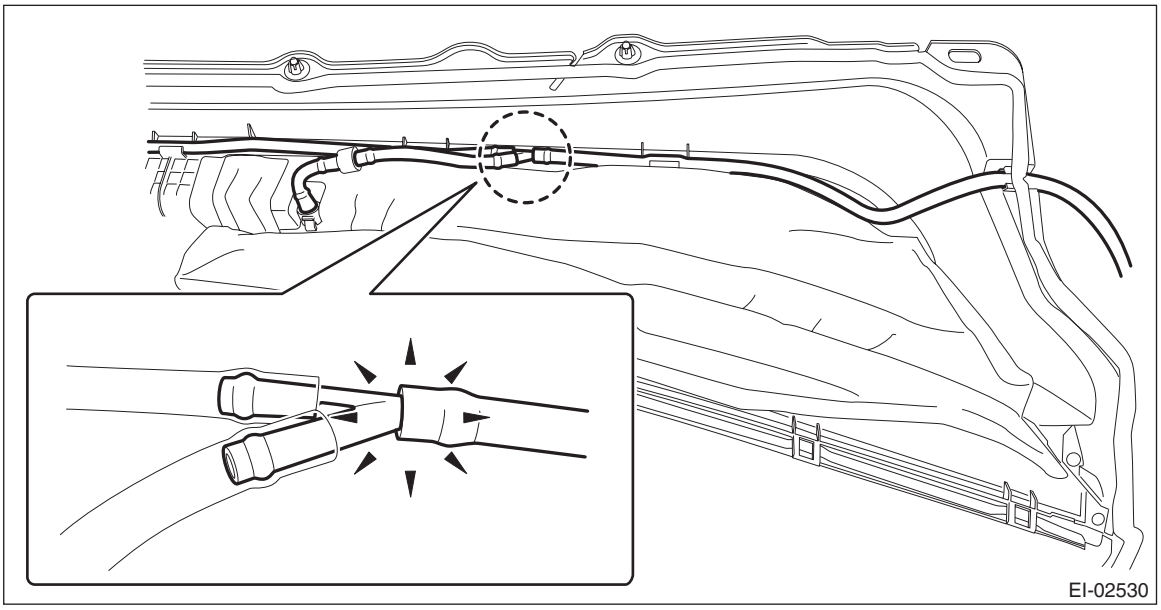


4) Remove the cowl panel.
(1) Remove clips (A).
(2) Push the claw of the clip (B) from both sides to remove it.

CAUTION:
• Before removing the cowl panel, use a air blower and nylon brush to sweep gravel from the lower area of the front side of the glass.
• When removing the clip (B), push the claw of the clip from both sides.
Be careful because the clip can be damaged if you pull unnecessarily hard on them.



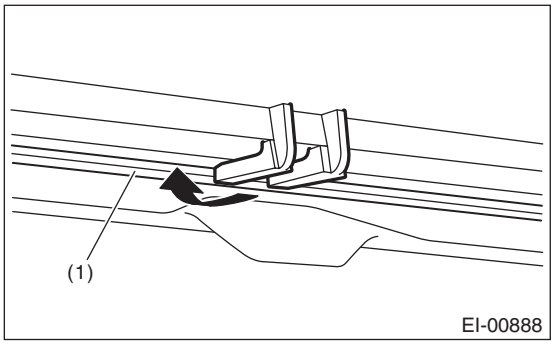
(3) Disconnect the washer hose.



B: INSTALLATION

CAUTION:
Before installing the windshield glass and cowl panel, make sure there are no gravel in the installing area.
Install each part in the reverse order of removal.

NOTE:
- Hook the claw of the cowl panel on the lower end of the windshield.



(1) Windshield cross section

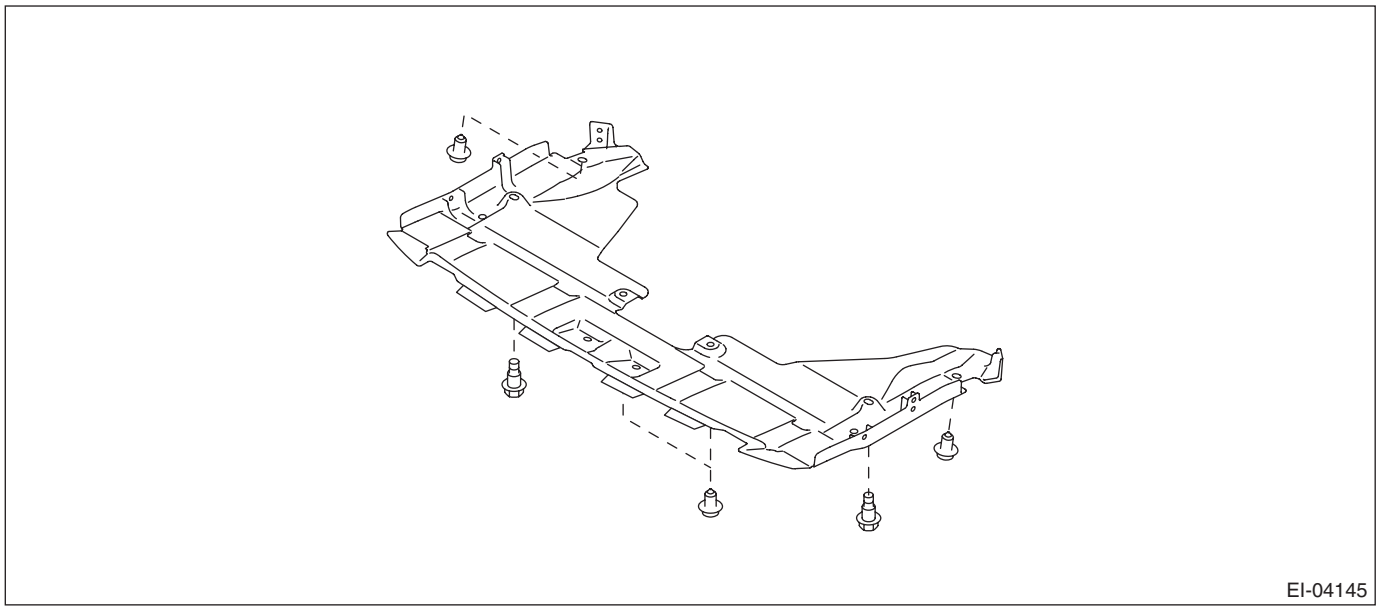
- If the washer nozzles have been removed from the cowl panel, adjust the washer spray positions. <Ref. to WW-36, ADJUSTMENT, Front Washer Nozzle.>

Tightening torque:
Front wiper arm: <Ref. to WW-3, FRONT WIPER, COMPONENT, General Description.>

4. Front Under Cover

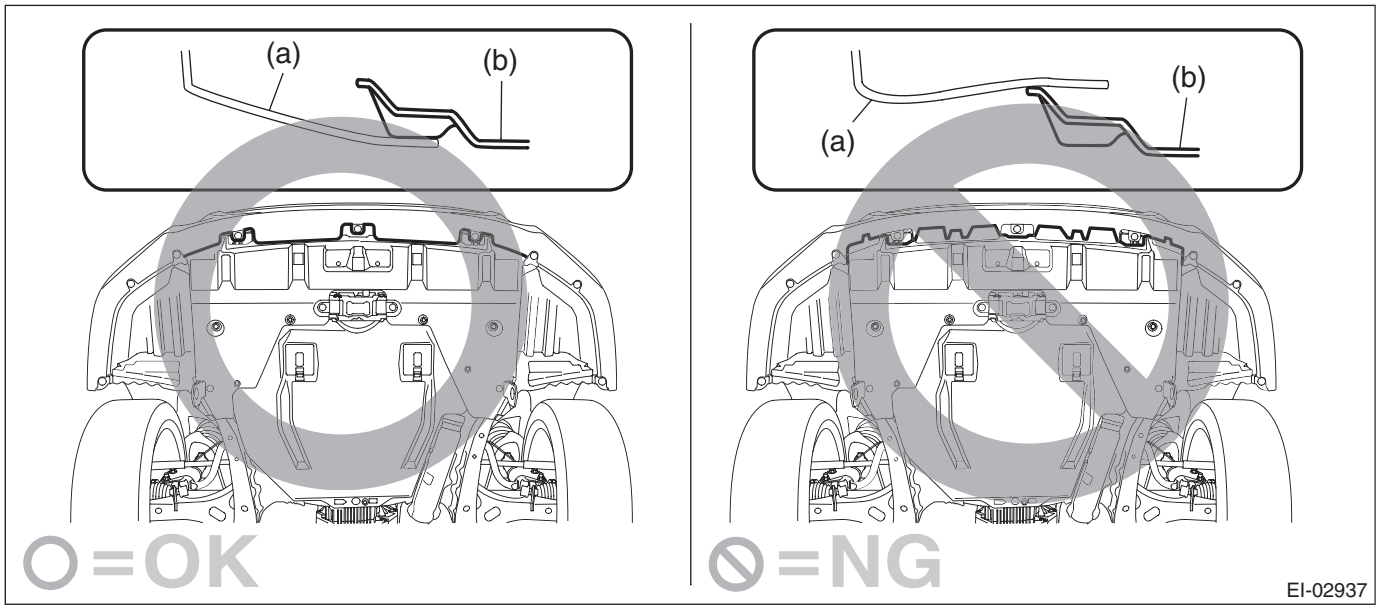
A: REMOVAL

1) Lift up the vehicle.
2) Remove the bolts and clips, and remove the front under cover.



B: INSTALLATION

CAUTION:
Install the under cover so that the under cover front end (b) comes inside of the front bumper face (a).



Install each part in the reverse order of removal.

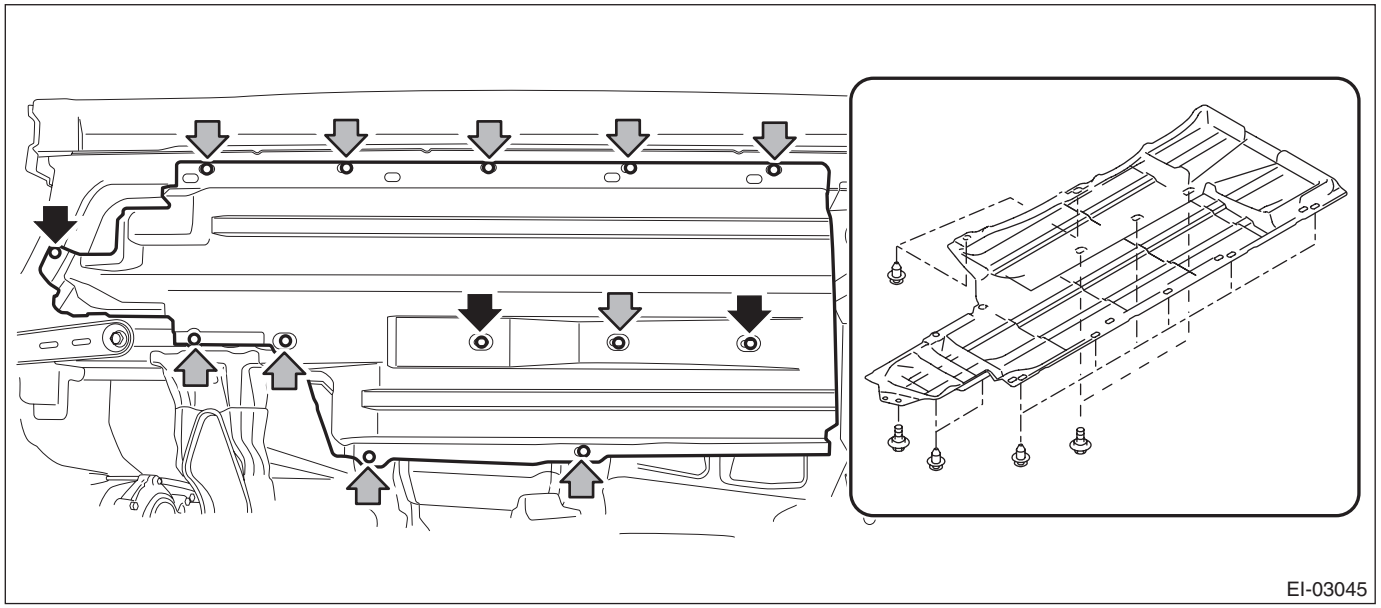
Tightening torque:
17.5 N·m (1.78 kgf-m, 12.9 ft-lb)

5. Floor Under Protector

A: REMOVAL

1) Lift up the vehicle.

NOTE:
A plate type lift cannot be used.
2) Remove the bolts and clips, and remove the front under protector.



B: INSTALLATION

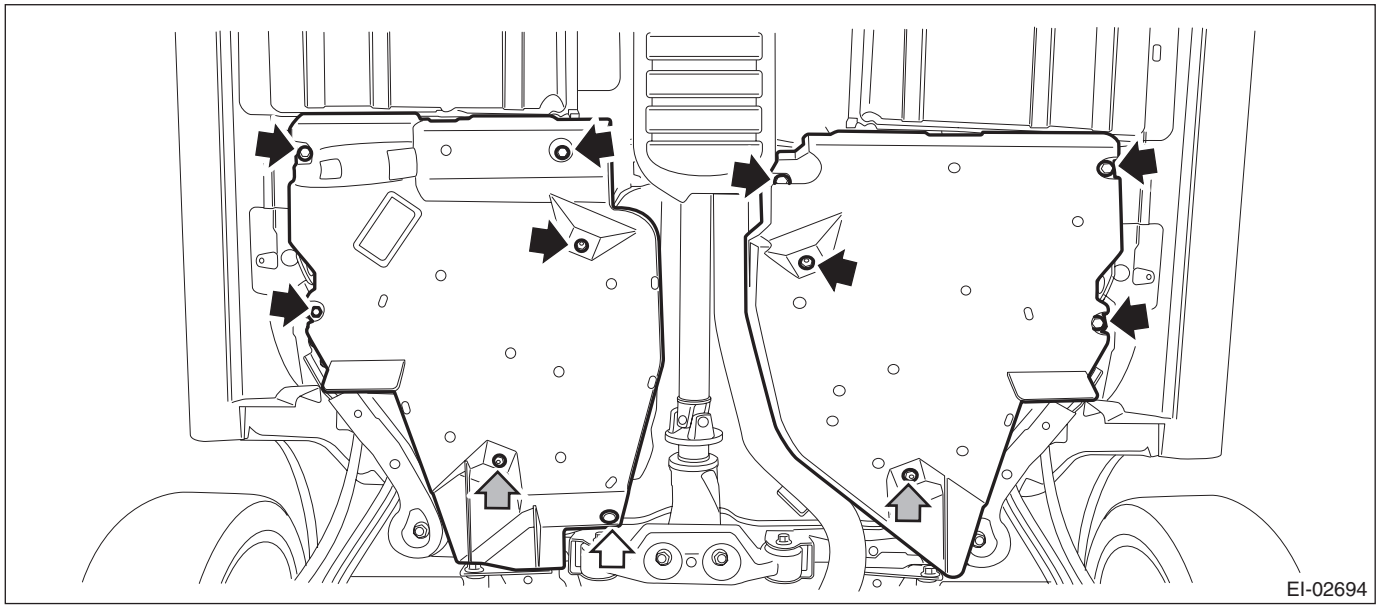
Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EI-3, FLOOR UNDER PROTECTOR, COMPONENT, General Description.>

6. Fuel Tank Protector

A: REMOVAL

1) Lift up the vehicle.
2) Remove the fuel tank protector.
   (1) Remove the bolt and nuts and remove the fuel tank protector.
   (2) Remove the clips. (H6 model only)



B: INSTALLATION

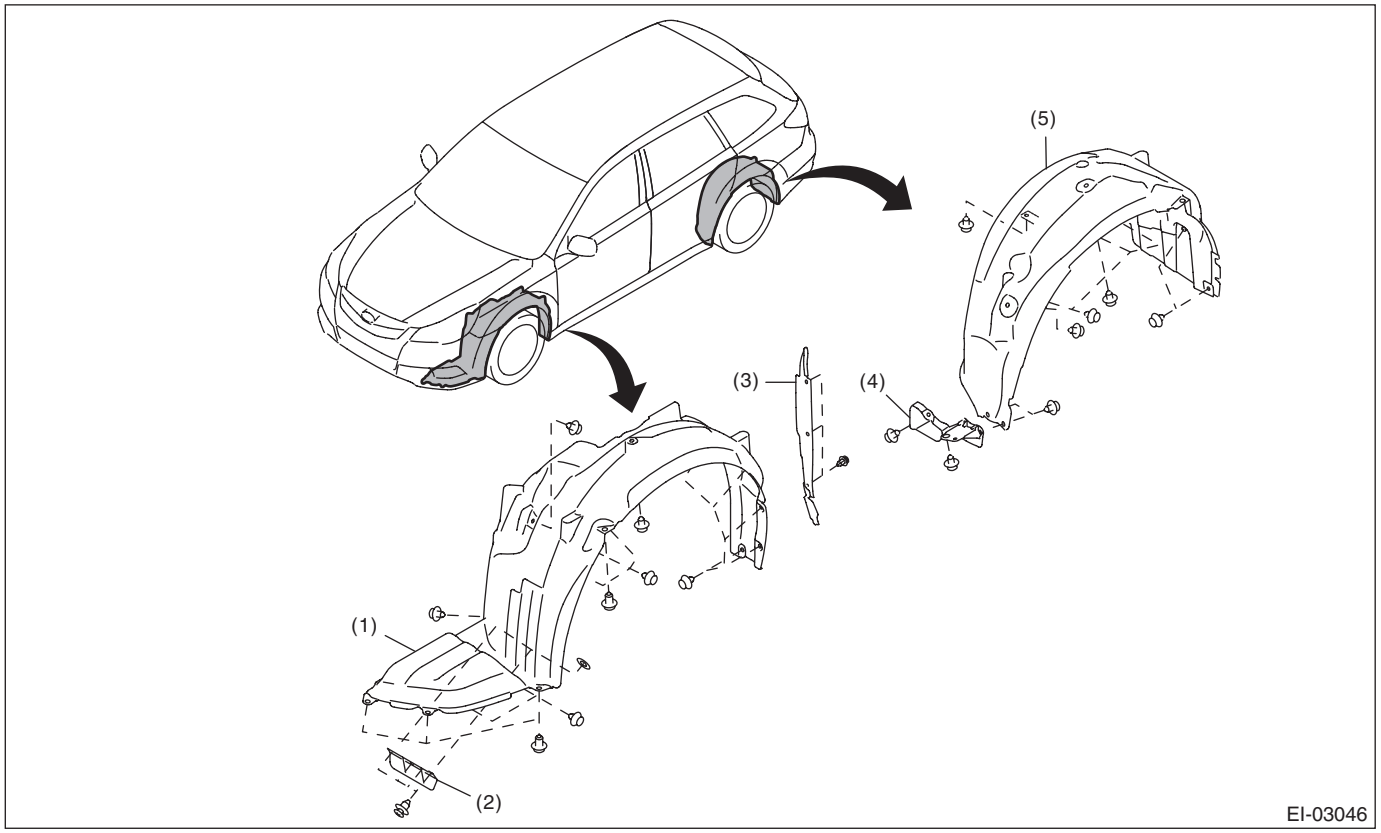
CAUTION:
Do not reuse the nut (self locking nut). Always replace with a new part.
Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description".
H4 model:<Ref. to FU(H4DO)-7, FUEL TANK, COMPONENT, General Description.>
H6 model:<Ref. to FU(H6DO)-11, FUEL TANK, COMPONENT, General Description.>

7. Mud Guard

A: REMOVAL

1) Lift up the vehicle.
2) Remove the wheels.
3) Remove the clips, then remove the mud guard.



(1) Front mud guard
(2) Front air flap plate
(3) Fender cover lower
(4) Rear air flap plate
(5) Rear mud guard

B: INSTALLATION

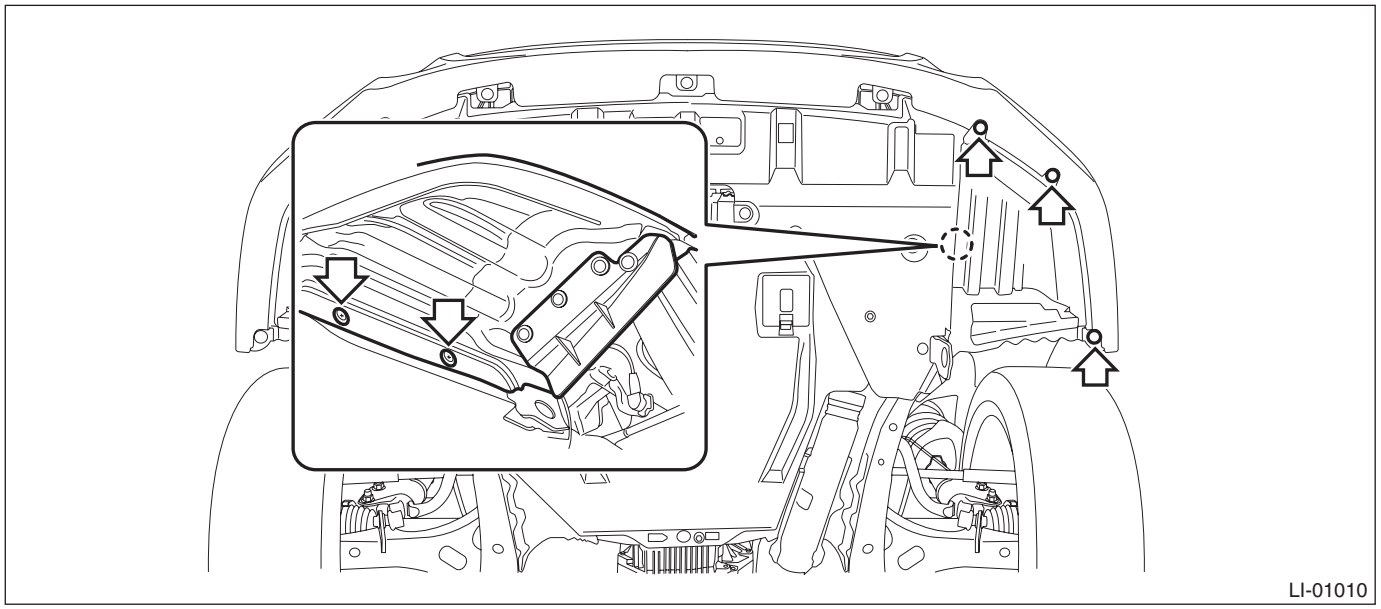
Install each part in the reverse order of removal.

Tightening torque:
Wheel nut: 120 N·m (12.24 kgf-m, 88.5 ft-lb)

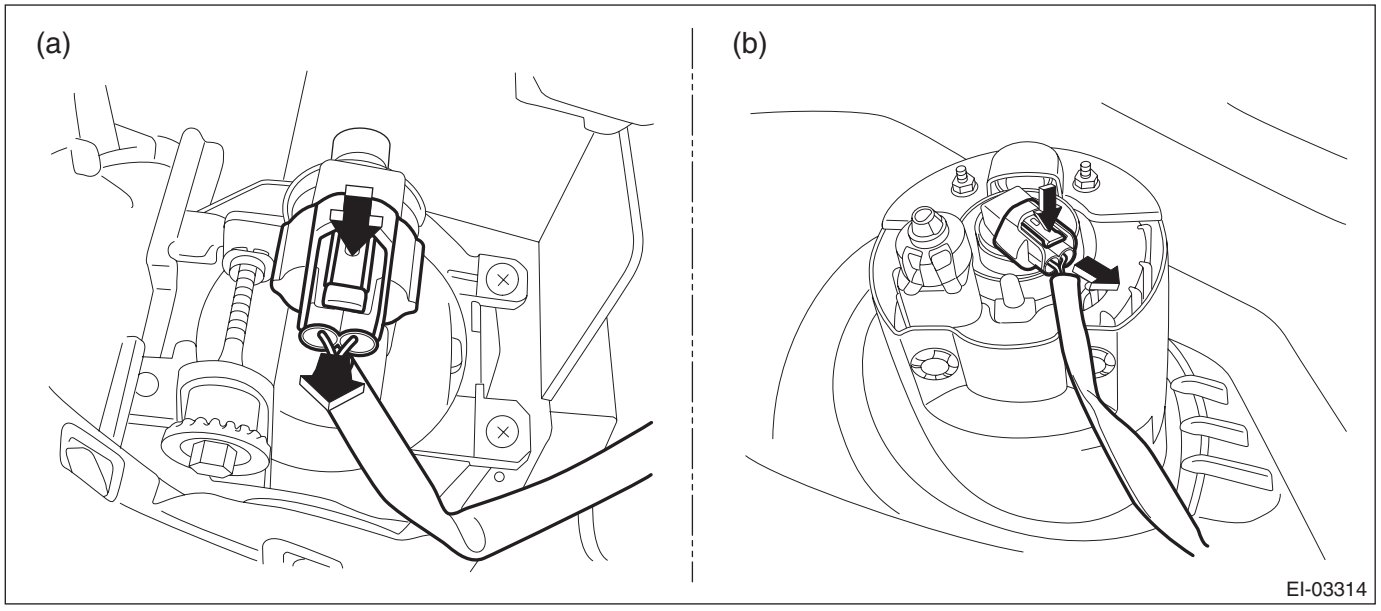
8. Front Bumper

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front bumper face assembly.
   (1) Remove the clips and turn over the front end of front mud guard. (Model with fog light)



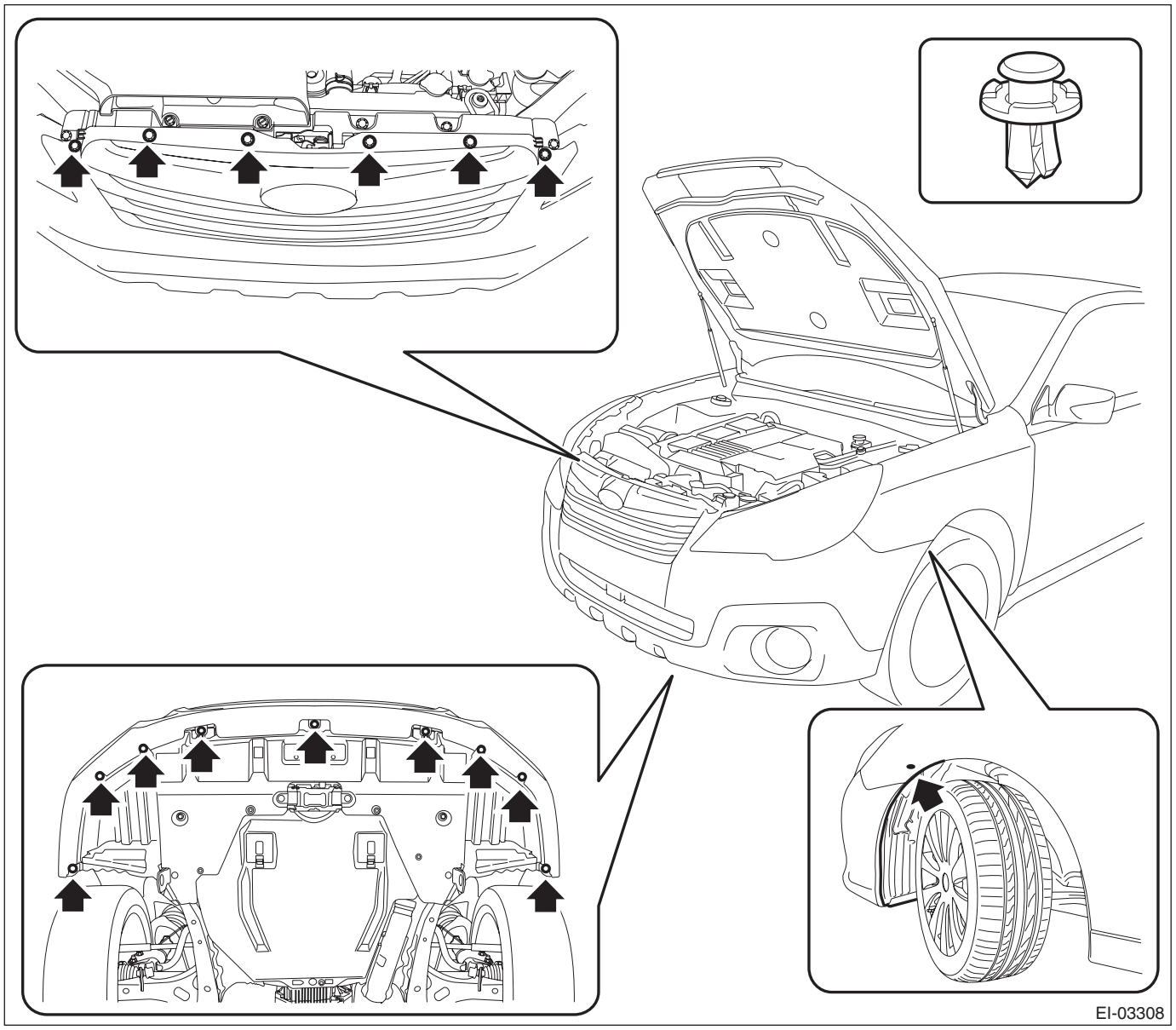
   (2) Disconnect the front fog light connector. (Model with fog light)



(a) Sedan model (b) OUTBACK model

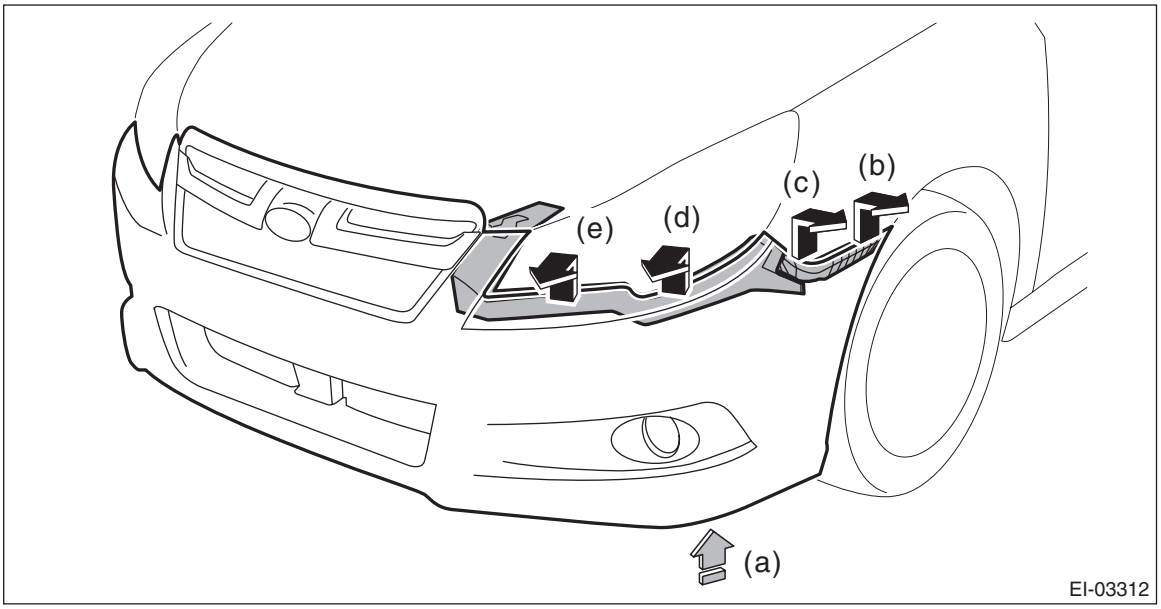
   (3) Remove the clips at the upper side of the bumper.
   (4) Remove the clips from the fender.

(5) Remove the clips at the lower side of bumper.



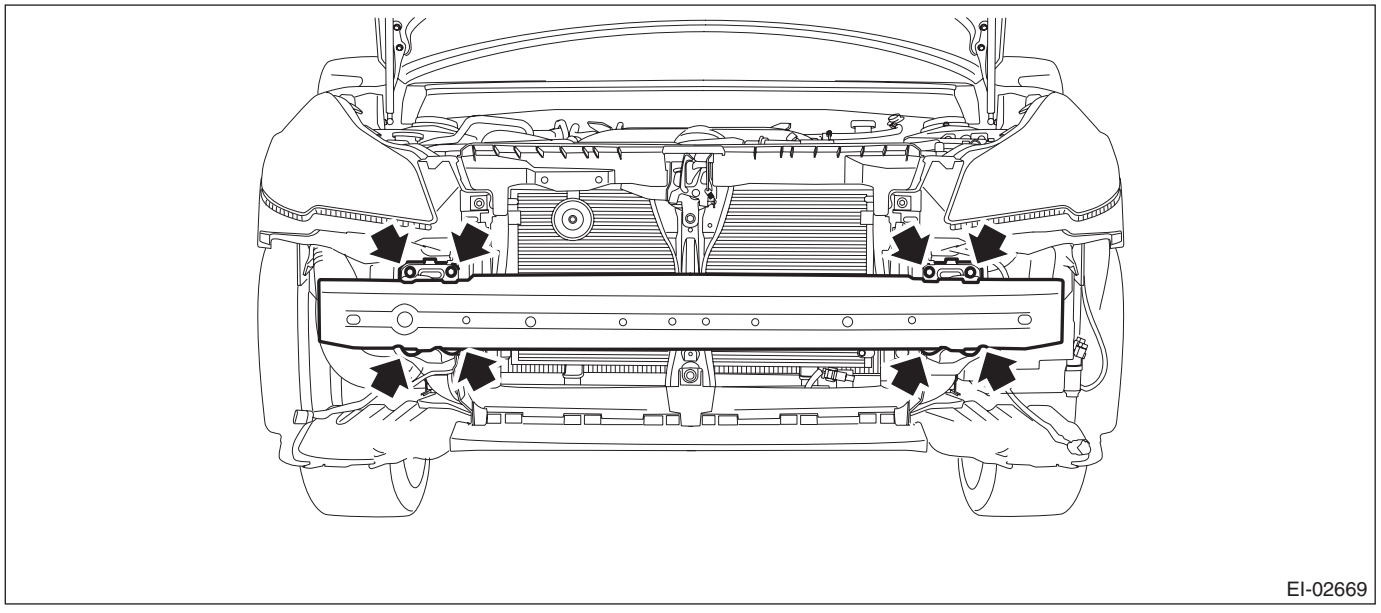
(6) Detach the flange section on the bumper face side from the bracket side front UPR.

CAUTION:
Do not pull forcibly. It may damage the flange section on the bumper face - front side when it comes off from the claws of bracket side front UPR.



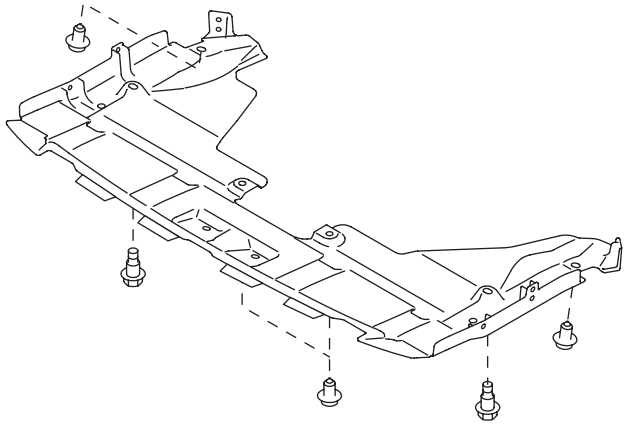
NOTE:
Pushing up the lower side (a) of the fog light, remove from (b) to (e).
Detach the opposite side in the same manner.

3) Remove the beam COMPL front assembly.
(1) Remove the energy absorber foam.
(2) Remove the bolts, and remove the beam COMPL front from vehicle body.



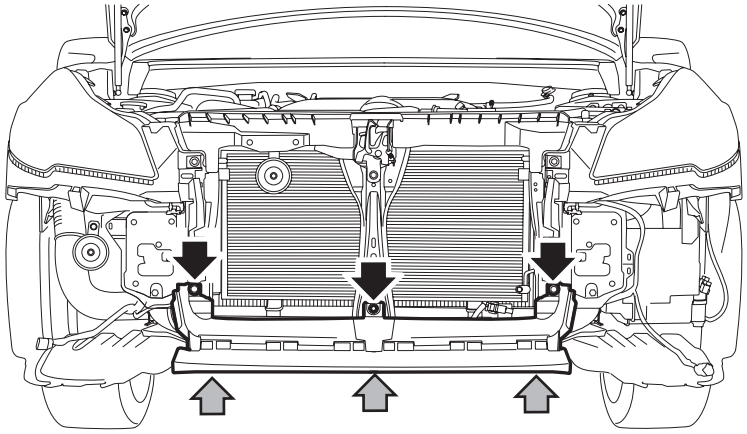
NOTE:
After all bolts are removed, raise the whole beam COMPL front a little to remove it from vehicle body.

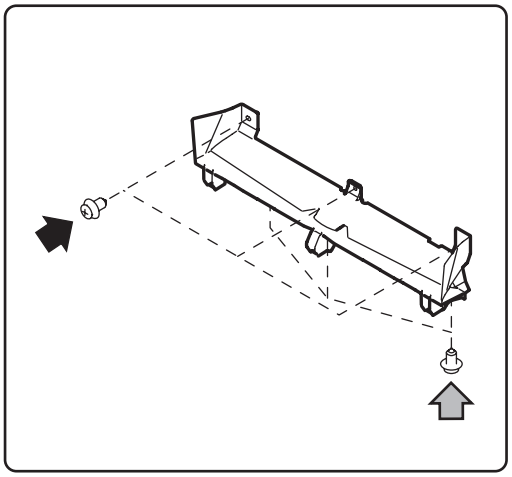
4) Remove the bracket center LWR - front.
(1) Release the clips to remove the front under cover.



EI-04145

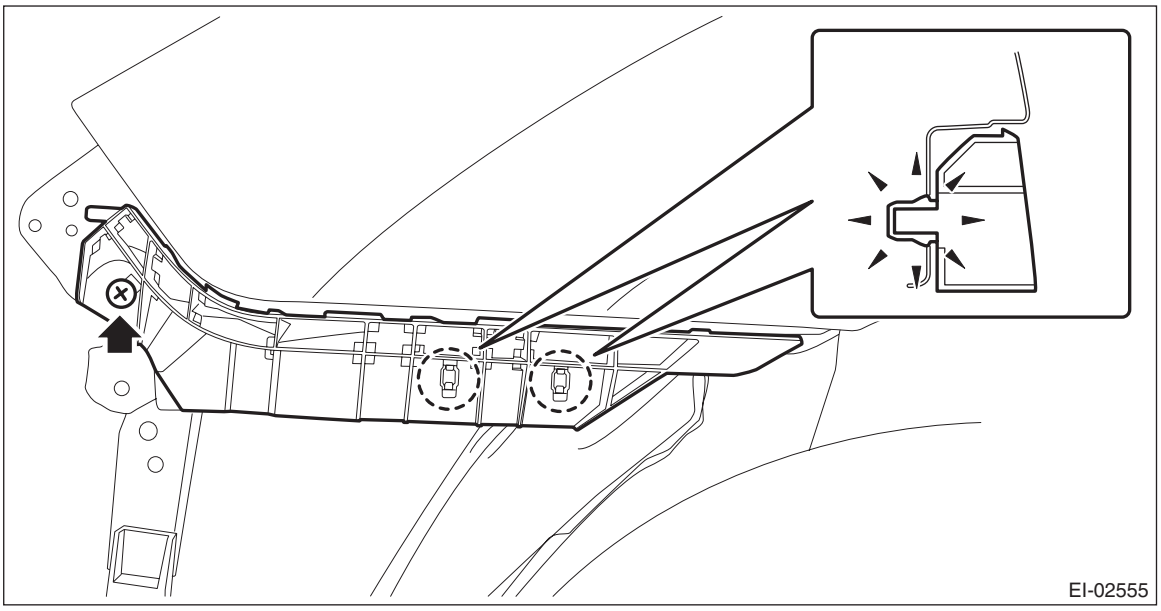
(2) Remove the clip, and remove the bracket center LWR - front.



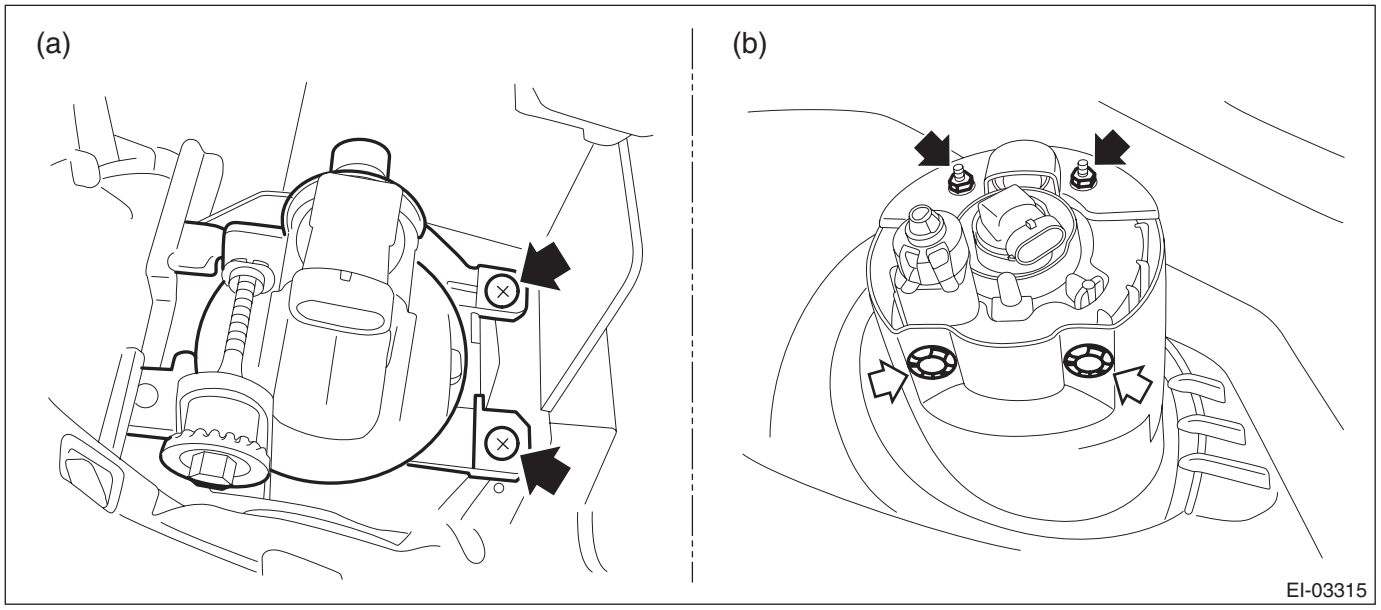


EI-02755

5) Remove the bracket side front UPR.
(1) Remove the screws.
(2) Release the claws and remove the bracket side front UPR.



6) Remove the bolts and clips, and remove the front fog light assembly.

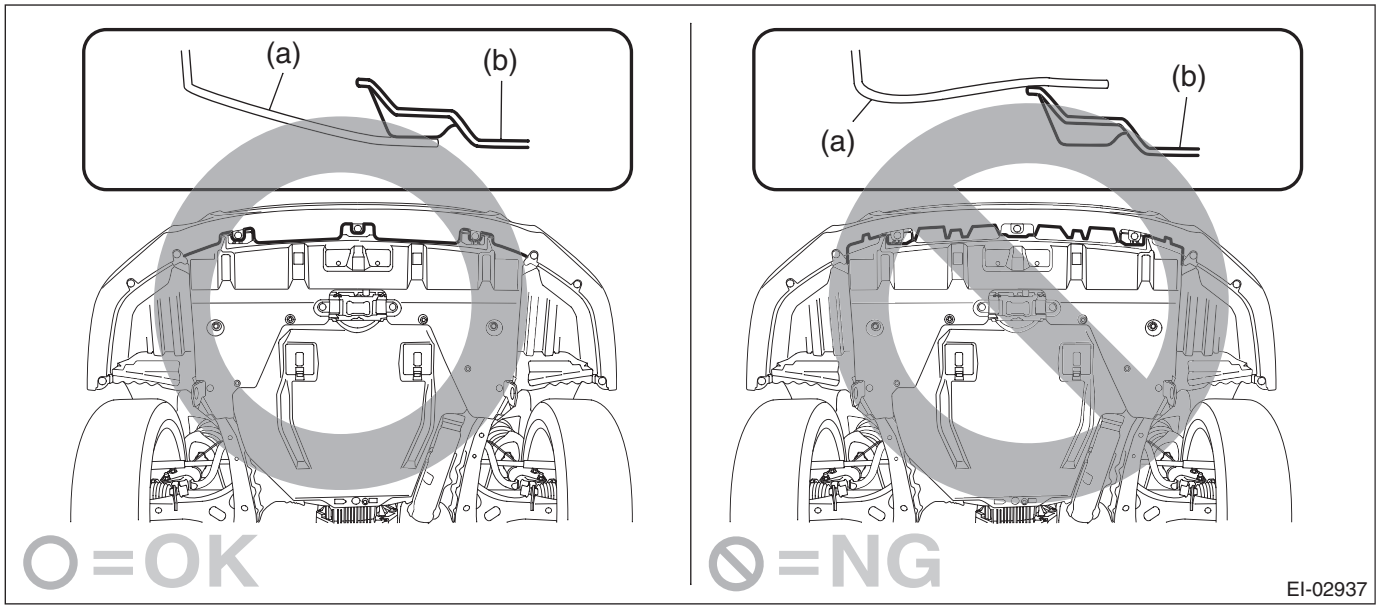


(a) Sedan model
(b) OUTBACK model

B: INSTALLATION

1) Install each part in the reverse order of removal.
2) Make sure that the bumper flanges are secured to the bracket side front UPR.

CAUTION:
- **Install the bumper face so that the under cover front end (b) comes inside the front bumper face (a).**



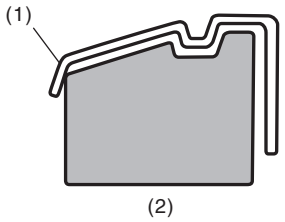
- **Before installing the bumper face, match the claws on the bracket - front bumper with the engaging position of flange section on the bumper face side. If the engaging position is not correct, the flange section may be broken or the clearance between fender panel and bumper face may not be uniform.**

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EI-4, FRONT BUMPER, COMPONENT, General Description.>

3) Adjust the fog light beam. (Model with fog light)<Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: REPAIR

1. COATING METHOD FOR PP BUMPER

Process No.	Process name	Job contents	
1	Bumper installation	Place the bumper on a paint worktable as required. Use the paint worktable conforming to inner shape of bumper if possible.	 EI-00234 (1) Bumper (2) Set bumper section
2	Masking	Mask specified part (black base) with masking tape. Use masking tape for PP.	
3	Degreasing/ cleaning	Clean all parts to be painted with appropriate cleaning solvent, normal alcohol, etc. to remove dirt, oil, grease, etc.	
4	Primer paint	Apply primer to all parts to be painted, using spray gun. Use primer (clear).	
5	Drying	Dry at normal temperature. [10 — 15 min. at 20°C (68°F)] In half-dried condition, PP primer paint is dissolved by solvent, e.g. thinner, etc. Therefore, if dust or dirt must be removed, use ordinary alcohol etc.	
6	Top coat paint (I)	Non-colored	Metallic paint
		Use section (block) paint for top coat. For paint/hardener mixture, observe the specifications recommended by the manufacturers. • Viscosity: 10 — 13 sec./20°C (68°F) • Film thickness: 35 — 45 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi)	Use section (block) paint for top coat. For paint/hardener mixture, observe the specifications recommended by the manufacturers. • Viscosity: 10 — 13 sec./20°C (68°F) • Film thickness: 15 — 20 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi)
7	Drying	Not required.	Dry at normal temperature [at least 10 min. at 20°C (68°F)]. In half-dried condition, avoid dust, dirt.
8	Top coat paint (II)	Not required.	Apply a clear coat to parts with top coat paint (I), three times at 5 — 7 minute intervals. For paint/hardener mixture, observe the specifications recommended by the manufacturers. • Viscosity: 14 — 16 sec./20°C (68°F) • Film thickness: 25 — 30 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi)
9	Drying	60°C (140°F), 60 min. or 80°C (176°F), 30 min. If the temperature is higher than 80°C (176°F), PP may be deformed. Keep maximum temperature at 80°C (176°F) or less.	
10	Inspection	Check paint.	
11	Removal of masking	Remove the masking tape applied in procedure 2.	

2. REPAIR INSTRUCTIONS FOR COLORED PP BUMPER

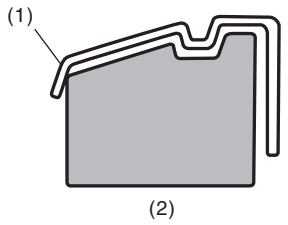
NOTE:
All PP bumpers are provided with a grained surface, and if the surface is damaged, it cannot normally be restored to its former condition. Damages limited to the shallow scratches that cause only a change in the luster of the base material or coating, can be almost fully restored. Before repairing a damaged area, explain this point to the customer and obtain an understanding about the matter.
Repair methods are outlined below, based on a classification of the extent of damage.
1) Minor damage causing only a change in the luster of the bumper due to a light touch
Almost restorable.

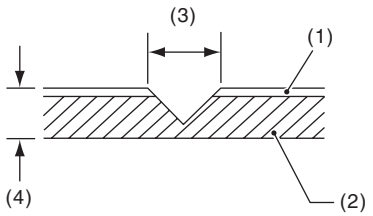
Process No.	Process name	Job contents	
1	Cleaning	Clean the area to be repaired using water.	
2	Sanding	Grind the repairing area with #500 sand paper in a “feathering” motion.	
3	Finish	Resin section	Coated section
		Repeatedly apply wax to the affected area using soft cloth (such as flannel). Recommended wax: Tire wax or equivalent	Perform either the same procedures as for the resin section or process No. 18 and subsequent in section 3), depending on the degree and nature of damage.
		Polish the waxed area with clean cloth after 5 — 10 minutes.	

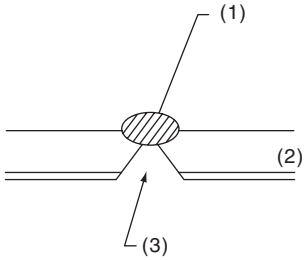
2) Deep damage caused by scratching with fences etc.
A dent cannot be repaired but a whitened or swelled part can be removed.

Process No.	Process name	Job contents	
1	Cleaning	Clean the damaged area with water.	
2	Removal of damaged area	Cut off protruding area, if any, due to collision, using a putty knife.	
3	Sanding	Grind the affected area with #100 — #500 sand paper.	
4	Finish	Resin section	Coated section
		Same as process No. 3 in section “1)”.	Perform process No. 12 and subsequent operations in section “3)”.

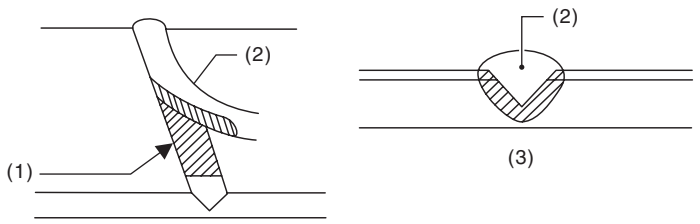
3) Deep damage such as a break or hole that requires filling
Much of the peripheral grained surface must be sacrificed for repair. The degree of restoration is not really worth the expense. (The surface, however, will become almost flush with adjacent areas.)

Process No.	Process name	Job contents	
1	Bumper removal	Remove the bumper as required.	
2	Removal of parts	Remove the parts built into bumper as required.	
3	Bumper placement	Place the bumper on a paint worktable as required. It is recommended to use the paint worktable conforming to internal shape of bumper.	 EI-00234 (1) Bumper (2) Set bumper section

<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>4</td><td>Surface preparation</td><td colspan="2">Remove dust, oil, etc. from areas to be repaired and surrounding areas, using an appropriate solvent (appropriate cleaning solvent or alcohol, etc.).</td></tr>
<tr><td>5</td><td>Cutting</td><td>If the damage is a crack or a hole, cut a guide slit of 20 to 30 mm (0.79 to 1.18 in) in length along the crack or hole up to the bumper base surface. Next, use a knife or grinder to carve a V-shaped groove in the area for repair.</td><td> 

EI-00235
(1) Paint surface
(2) PP base surface
(3) 20 — 30 mm (0.79 — 1.18 in)
(4) 3 mm (0.12 in)</td></tr>
<tr><td>6</td><td>Sanding (I)</td><td colspan="2">Grind beveled surface with sand paper (#40 — #60) to smooth finish.</td></tr>
<tr><td>7</td><td>Cleaning</td><td colspan="2">Clean the sanded surface with the same solvent as used in process No. 4.</td></tr>
<tr><td rowspan="2">8</td><td rowspan="2">Temporary welding</td><td colspan="2">Grind the side just opposite the beveled area with sand paper (#40 — #60) and clean using a solvent.
Temporarily spot-weld the side, using PP welding rod and heater gun.</td></tr>
<tr><td colspan="2"> 

EI-00236
(1) Welded point (Use heater gun and PP welding rod)
(2) PP base surface
(3) Beveled section
NOTE:
• Do not melt welding rod until it flows out. This results in reduced strength.
• Leave the welded spot unattended until it cools completely.</td></tr>
</table>

Process No.	Process name	Job contents
9	Welding	Using a heater gun and PP welding rod, weld the beveled spot while melting both the rod and damaged area.
		 EI-00237 (1) Welding rod (2) Melt hatched area (3) Section NOTE: • Melt the sections indicated by hatched area. • Do not melt the welding rod until it flows out, in order to provide strength. • Always keep the heater gun 1 to 2 cm (0.4 to 0.8 in) away from the welding spot. • Leave the welded spot unattended until it cools completely.
10	Sanding (II)	Remove excess part of weld with a putty knife. If a drill or disc wheel is used instead of the knife, operate it at a rate less than 1,500 rpm and grind the excess part little by little. A higher rpm will cause the PP substrate to melt from the heat.
		 EI-00042
		Sand the welded spot smooth with #240 sand paper.
11	Masking	Mask the black substrate section using masking tape.
12	Cleaning/degreasing	Completely clean the entire coated area, using solvent similar to that used in process No. 4.
13	Primer coating	Apply a coat of primer for bumpers to the repaired surface and its surrounding areas. Mask these areas, if necessary. NOTE: Be sure to apply a coat of primer using a spray gun at a pressure of 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi).
14	Leave unattended	Leave the repaired area unattended at 20°C (68°F) for 10 to 15 minutes until primer is half-dry. NOTE: If dirt or dust comes in contact with the coated area, wipe it off with a cloth dampened with alcohol. (Do not use thinner since the coated area tends to melt.)
15	Surfacer coating	Apply a coat of surfacer for PP bumpers to the repaired area two or three times at an interval of 3 — 5 minutes. For surfacer/hardener mixture, viscosity and paint thickness, observe the specifications of the surfacers to be used.
16	Drying	Allow the coated surface to dry for 20 minutes at 20°C (68°F) [or 30 minutes at 60°C (140°F)].
17	Sanding (III)	Sand the coated surface and its surrounding areas using #400 sand paper and water.
18	Cleaning/degreasing	Same as process No. 12.

Process No.	Process name	Job contents	
		Non-colored	Metallic paint
19	Top coat (I)	Use a “block” coating method. For paint/hardener mixture, observe the specifications recommended by the manufacturers. • Viscosity: 11 — 13 sec./20°C (68°F) • Coating film thickness: 40 — 50 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi)	Use a “block” coating method. For paint/hardener mixture, observe the specifications recommended by the manufacturers. • Viscosity: 11 — 13 sec./20°C (68°F) • Coating film thickness: 20 — 30 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi)
20	Leave unattended	Not required.	Leave unattended at 20°C (68°F) for at least 10 minutes until the topcoated area is half-dry. NOTE: Be careful to keep dust or dirt from coming in contact with the affected area.
21	Top coat (II)	Not required.	Apply a clear coat three times at an interval of 3 to 5 minutes. For paint/hardener mixture, observe the specifications recommended by the manufacturers. • Viscosity: 10 — 13 sec./20°C (68°F) • Coating film thickness: 20 — 30 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kgf/cm^2, 36 — 50 psi)
22	Drying	Allow the coated surface to dry for two hours at 20°C (68°F) or 30 minutes at 60°C (140°F). NOTE: Do not allow the temperature to exceed 80°C (176°F) since this will deform the PP substrate.	
23	Inspection	Carefully check the condition of the repaired area.	
24	Removal of masking	Remove the masking tape applied in process No. 11 and 13.	
25	Parts installation	Install parts on the bumper in reverse order of removal.	
26	Bumper installation	Install the bumper.	

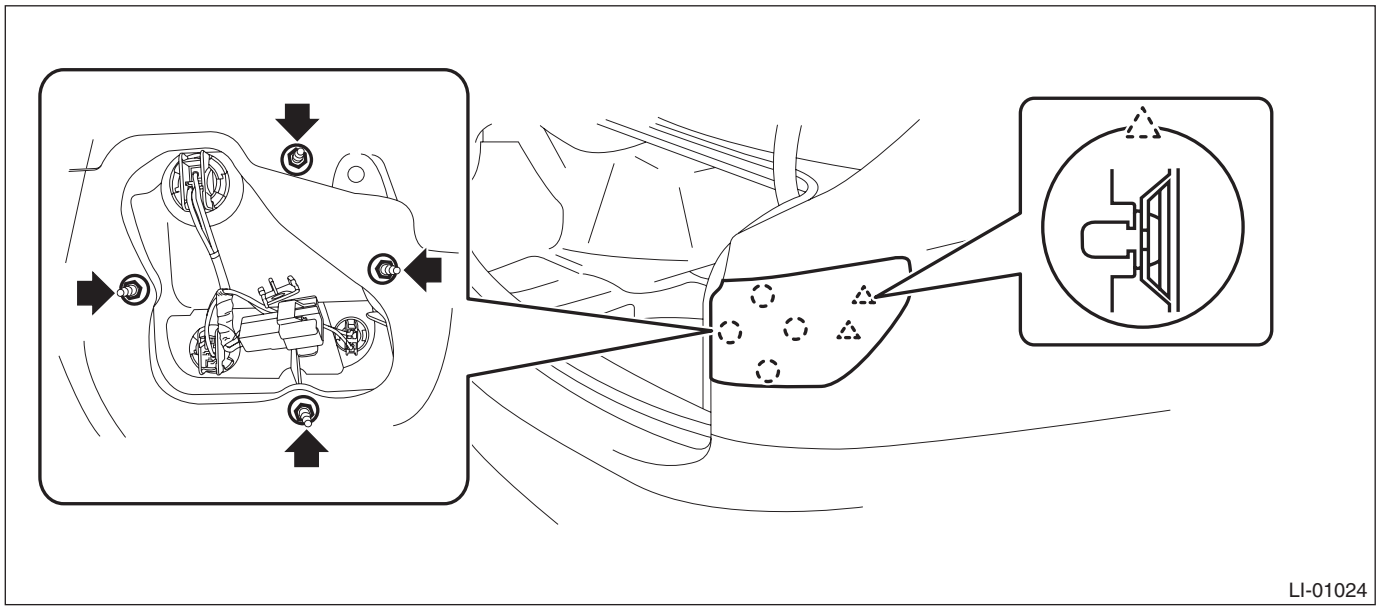
9. Rear Bumper

A: REMOVAL

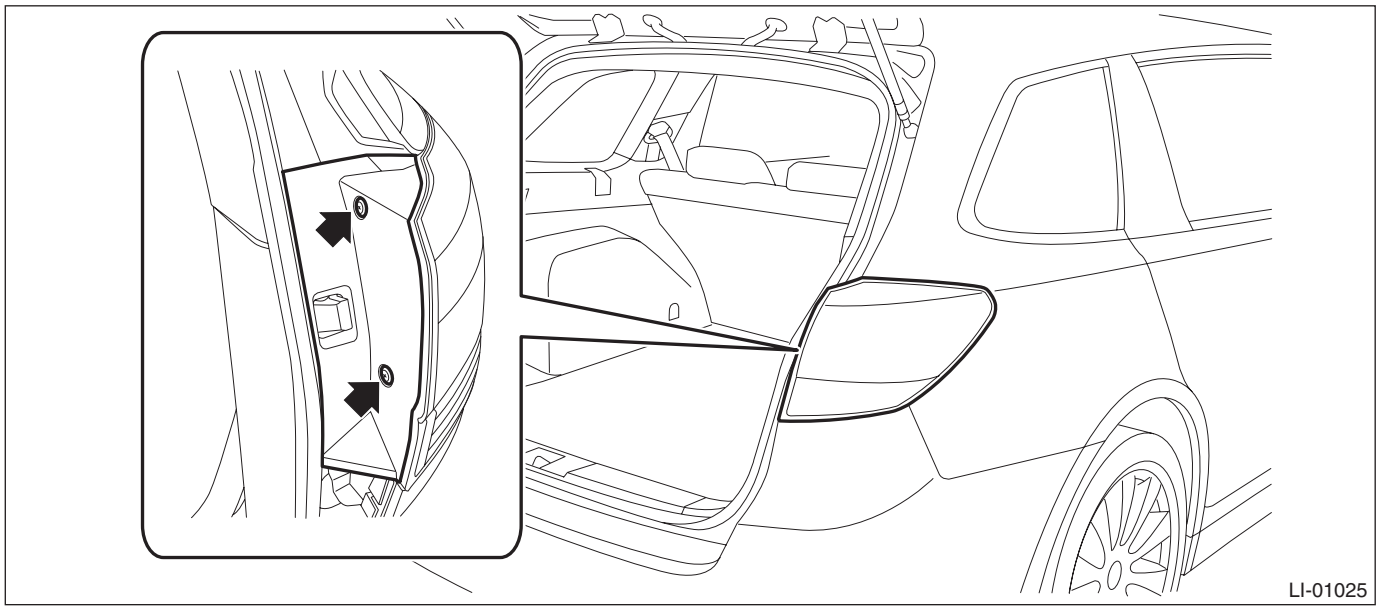
1) Remove the rear combination light assembly.

- Sedan model
  1. Remove the trunk room trim. <Ref. to EI-130, REMOVAL, Trunk Room Trim.>
  2. Disconnect the connector.
  3. Release the nuts and clips, then remove the rear combination light assembly.

CAUTION:
Be careful not to damage the clips.



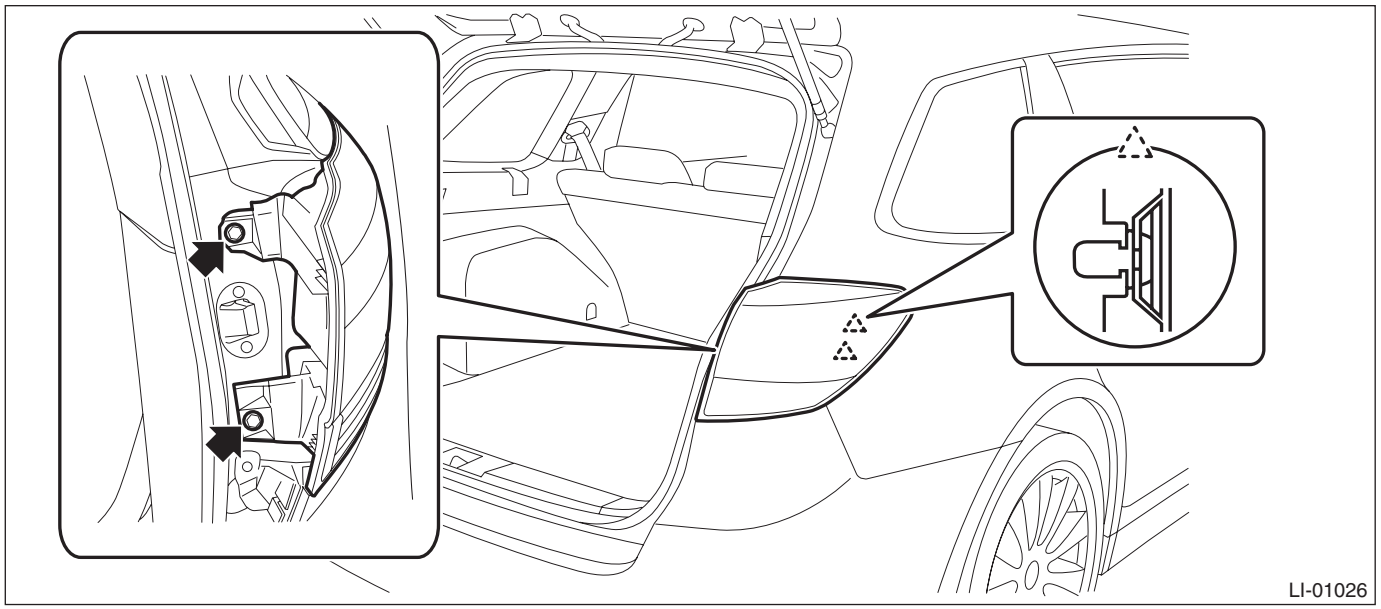
- OUTBACK model
  1. Remove the clips and detach the rear combination light covers.



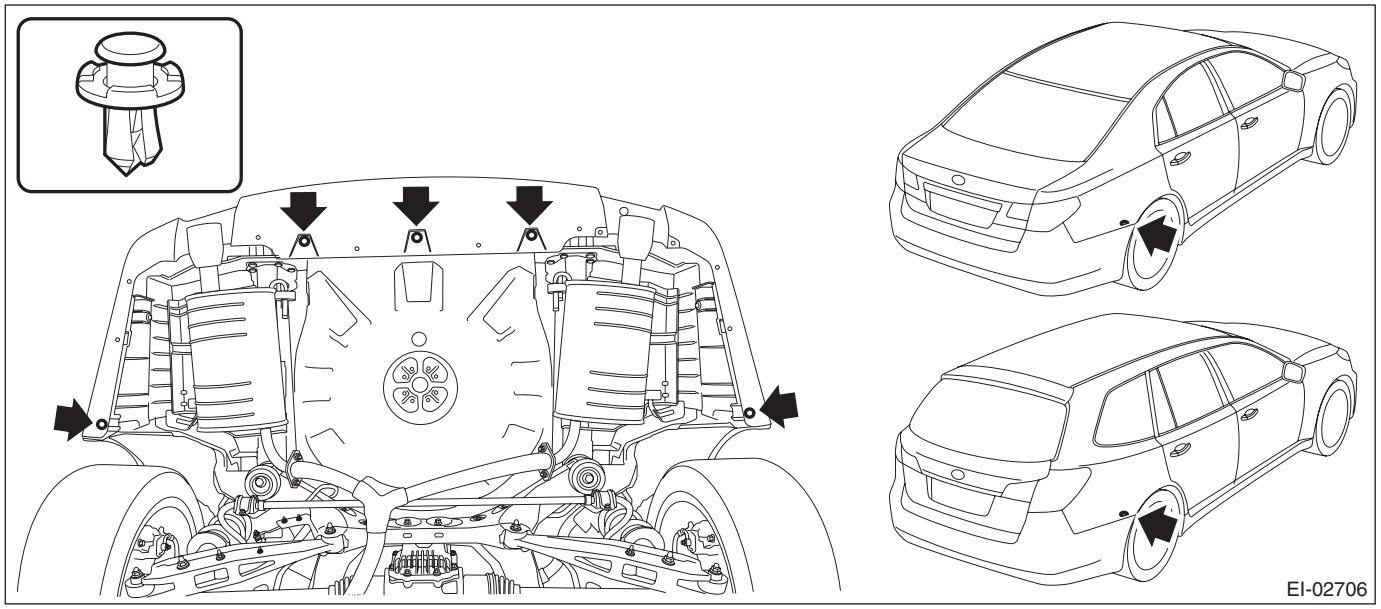
  2. Release the bolts and clips, then pull out the rear combination light assembly to the vehicle rear.

3. Disconnect the connector and remove the rear combination light assembly.

CAUTION:
Be careful not to damage the clips.



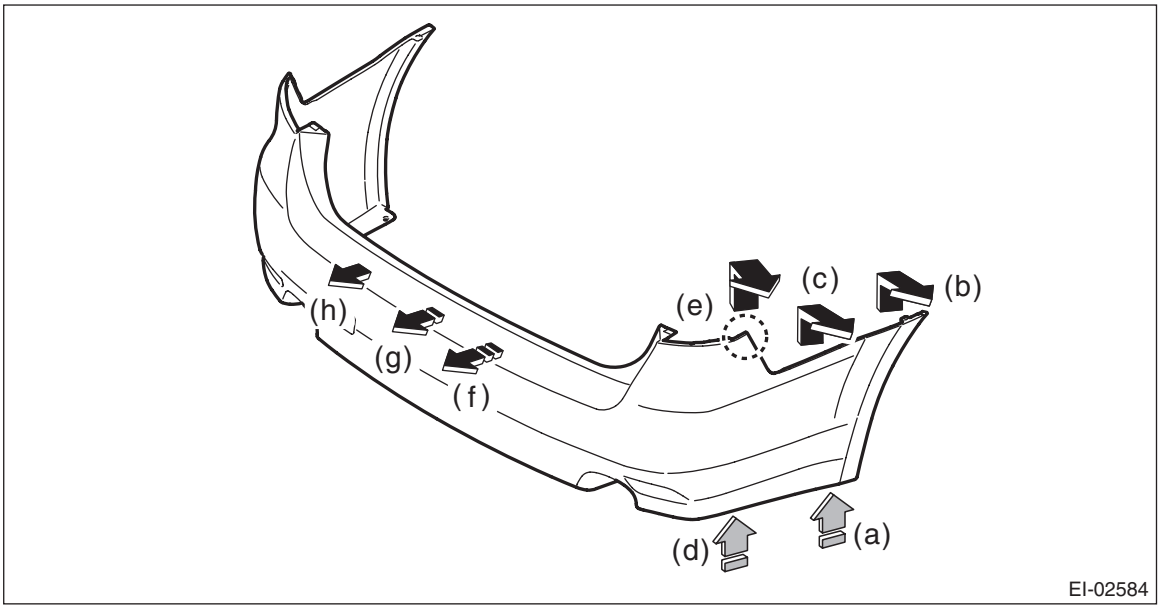
2) Remove the rear bumper face assembly.
(1) Remove the clips inside the wheel housing.
(2) Remove the clips at the lower side of rear bumper.



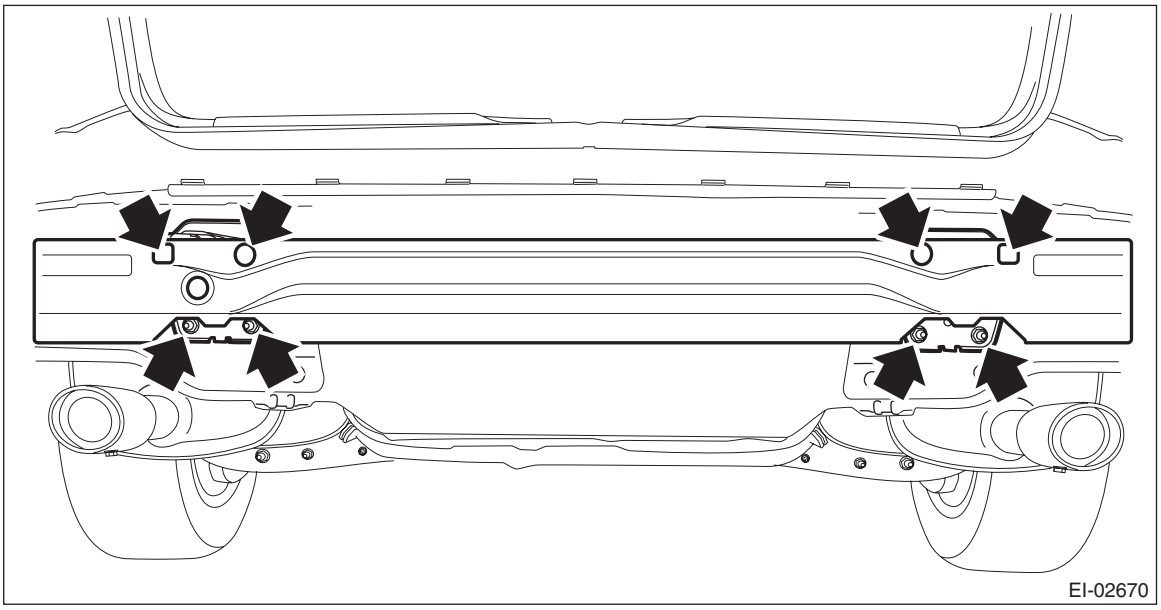
(3) Detach the (b) and (c) while pulling up (a) of the bumper.
(4) Detach (e) while pulling up the bumper (d).
(5) Detach the opposite side in the same manner.

(6) Detach in order from (f) to (h) while pulling up center part of the bumper face.

CAUTION:
Do not pull forcibly. It may damage the flange section on the bumper face - rear side when it comes off from the claws of the bracket - rear bumper.



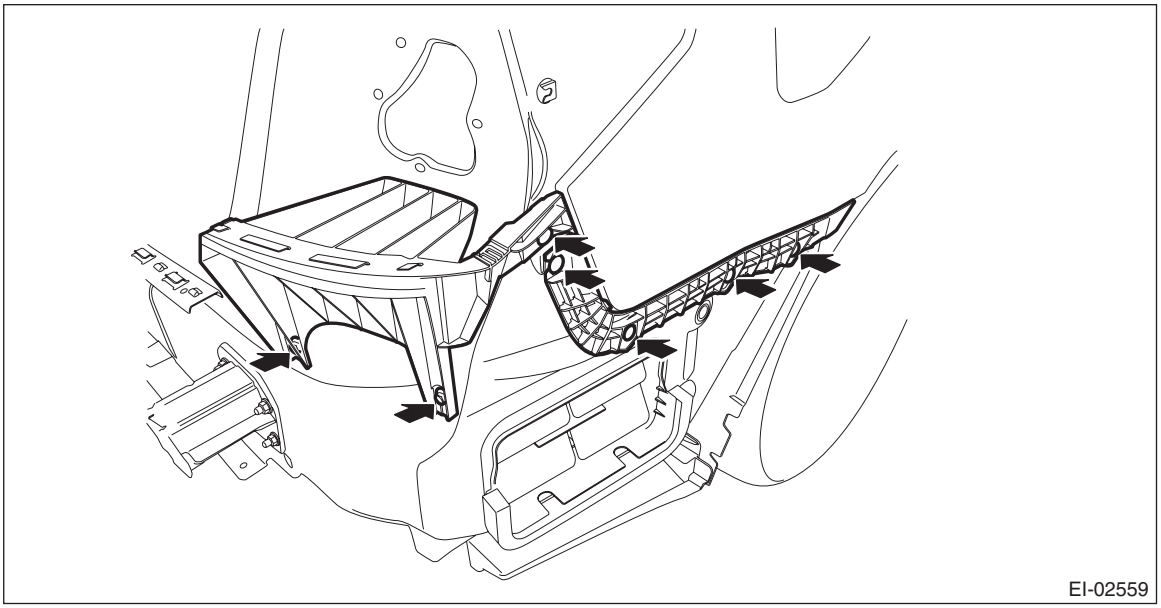
3) Remove the rear bumper beam assembly.
(1) Remove the energy absorber foam.
(2) Remove the nuts, and remove the rear bumper beam assembly from vehicle body.



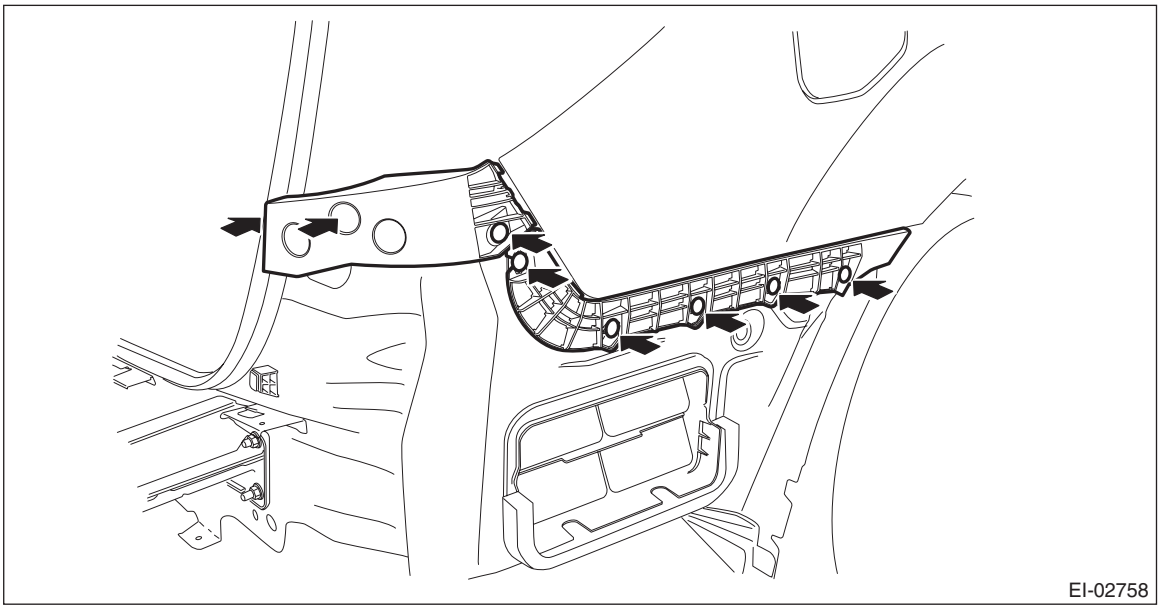
NOTE:
After all nuts are removed, raise the rear bumper beam assembly a little to remove it from vehicle body.

4) Remove bumper brackets.

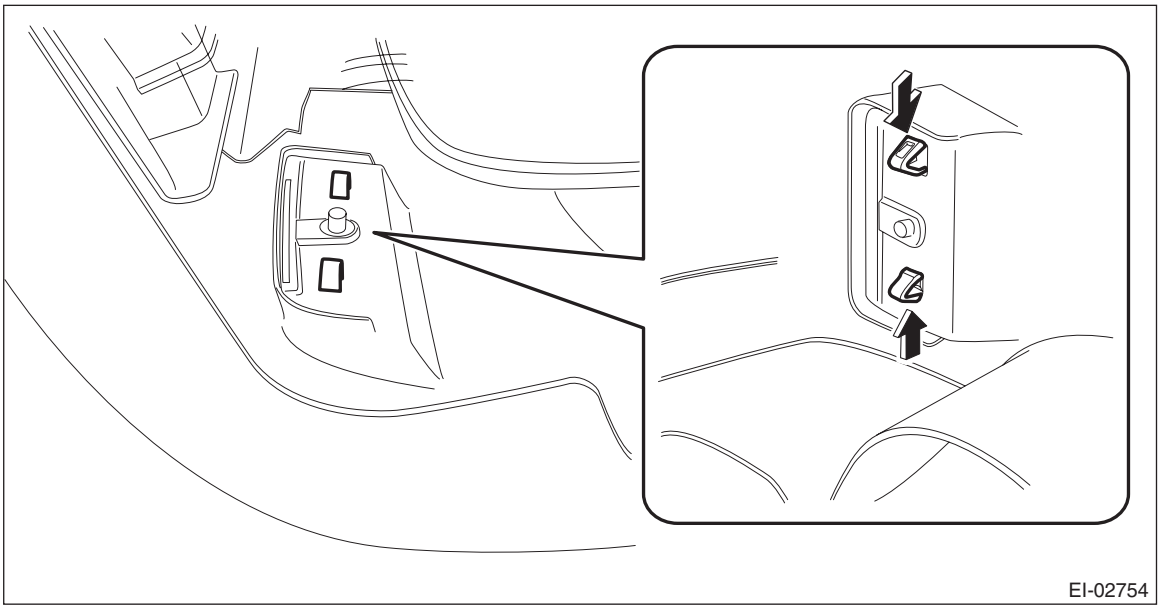
- Sedan model



- OUTBACK model



5) Remove the reflex reflector. (OUTBACK model)



(1) Press the claws of reflex reflector from the back of the bumper face.
(2) Remove the reflex reflector.

B: INSTALLATION

CAUTION:
Before installing the bumper face, match the claws on the bracket - rear bumper with the engaging position of flange section on the bumper face side. If the engaging position is not correct, the flange section may be broken or the clearance between fender panel and bumper face may not be uniform.
Install each part in the reverse order of removal.

NOTE:
If the bumper face comes off too easily, adjust the hook of the bracket side.

Tightening torque:
Beam COMPL rear ASSY:<Ref. to EI-5, REAR BUMPER, COMPONENT, General Description.>
Rear combination light assembly: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

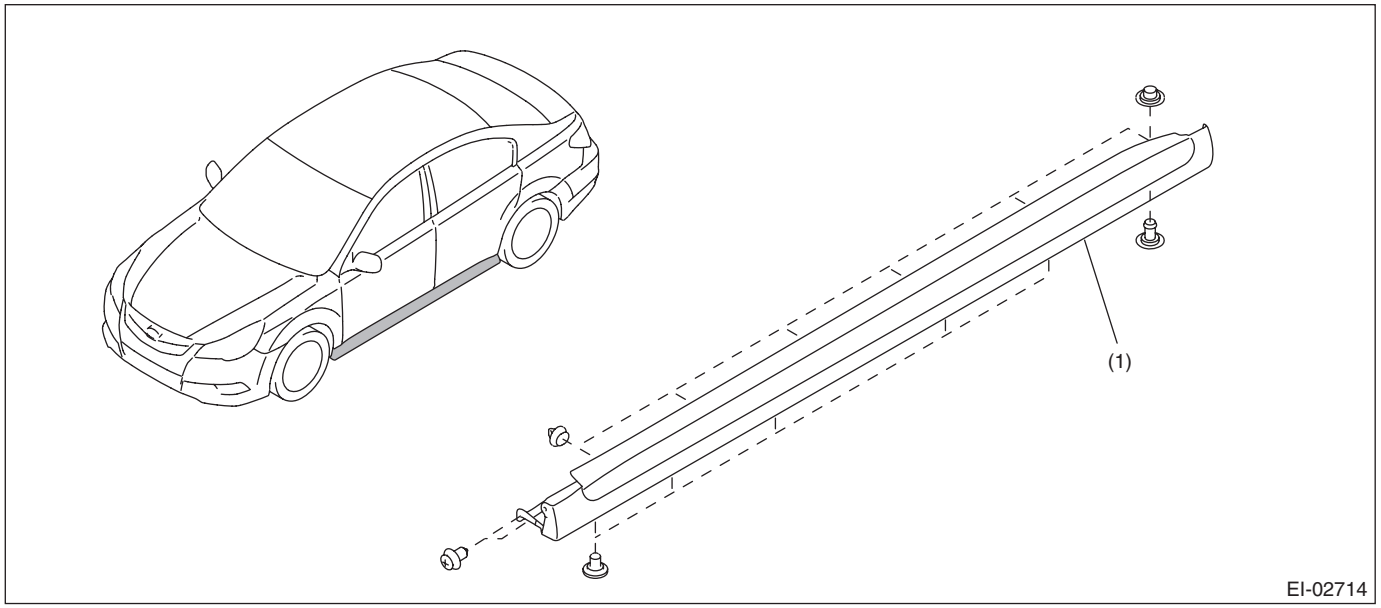
C: REPAIR

Refer to the front bumper repair. <Ref. to EI-43, REPAIR, Front Bumper.>

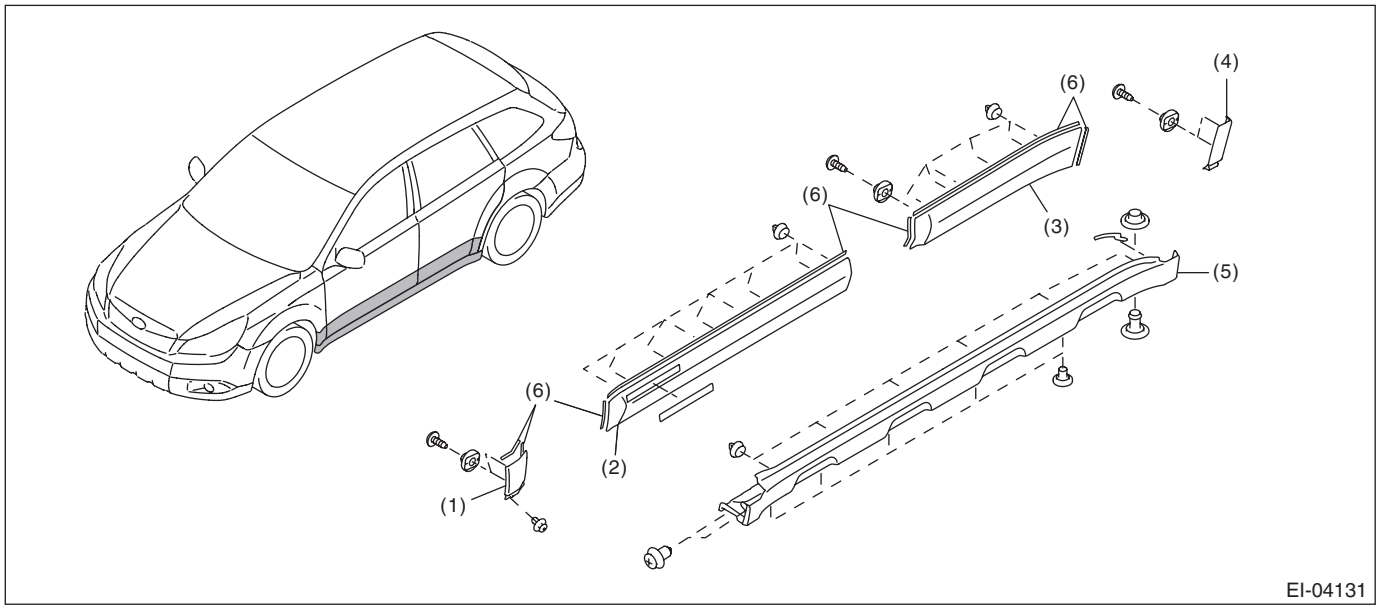
10.Side Garnish

A: REMOVAL

1) Remove the clips and detach the side sill garnish assembly.



(1) Side sill garnish ASSY (sedan model)



(1) Garnish ASSY front fender (OUTBACK model)
(2) Garnish ASSY front door (OUTBACK model)
(3) Garnish ASSY rear door (OUTBACK model)
(4) Garnish ASSY rear quarter (OUTBACK model)
(5) Side sill garnish ASSY (OUTBACK model)
(6) Double-sided tape

2) For OUTBACK model, remove garnish assembly on the door panel and on the fender panel.

CAUTION:
If you find deformation of the garnish assembly removed from the vehicle, do not reuse it because it may lead to improper adhesion.

(1) Attach the protective tape to the periphery of the garnish.
(2) Heat the garnish section for 3 — 5 minutes at 40 — 60°C using a heat light or a drier.

CAUTION:
Be careful not to burn yourself.

(3) Separate the bonded part of double sided tape with a nylon cord or equivalent.
(4) Release the clips, and remove the garnish assembly.

B: INSTALLATION

1) Install each part in the reverse order of removal.
2) For OUTBACK model, install garnish assembly on the door panel and on the fender panel.

CAUTION:
If you find deformation of the garnish assembly removed from the vehicle, do not reuse it because it may lead to improper adhesion.

(1) Remove the double-sided tape remaining on the vehicle body side and on the garnish assembly side (when reusing the garnish assembly), then clean the adhesive surface.

CAUTION:
If even a slight amount of double-sided tape remains on the adhesive surface, it may lead to improper adhesion.

(2) Heat the vehicle body and the garnish for 1 — 3 minutes using a heat light or a drier.

CAUTION:
Be careful not to burn yourself.

(3) Apply primer to the garnish installation surface, wait till the primer dries, then adhere new double-sided tape to the garnish. (When reusing the garnish assembly)
(4) Apply primer to the installation surfaces of the garnish on the body side, and wait till the primer dries.
(5) Peel off the backing papers, engage the clips, and install the garnish assembly to the vehicle body.

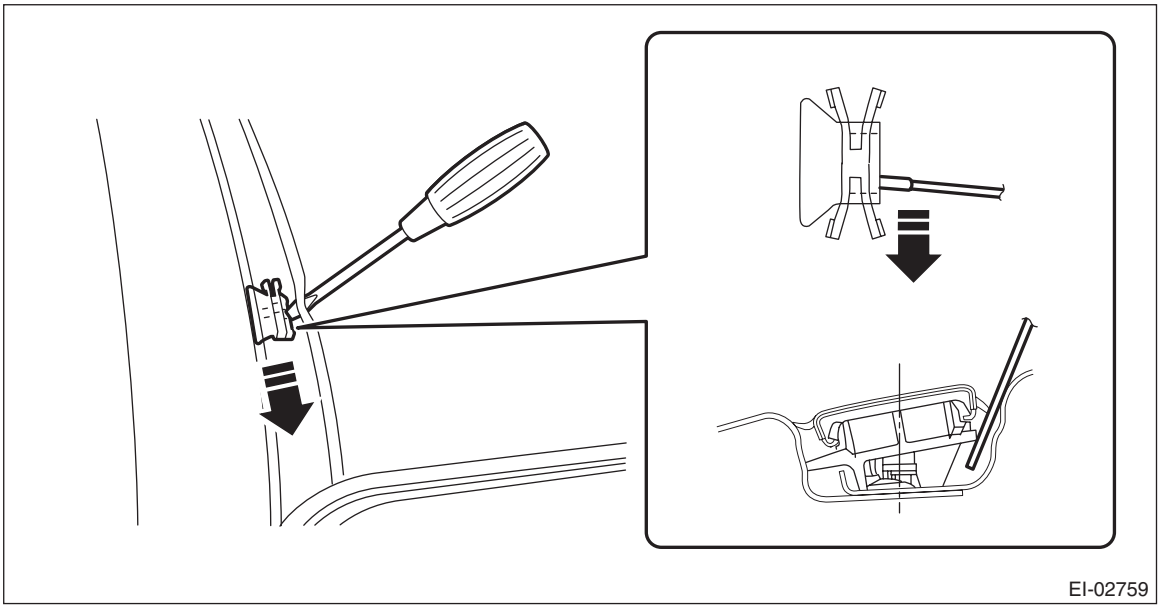
CAUTION:
Press-fit the garnish assembly to adhere securely.

11.Roof Molding

A: REMOVAL

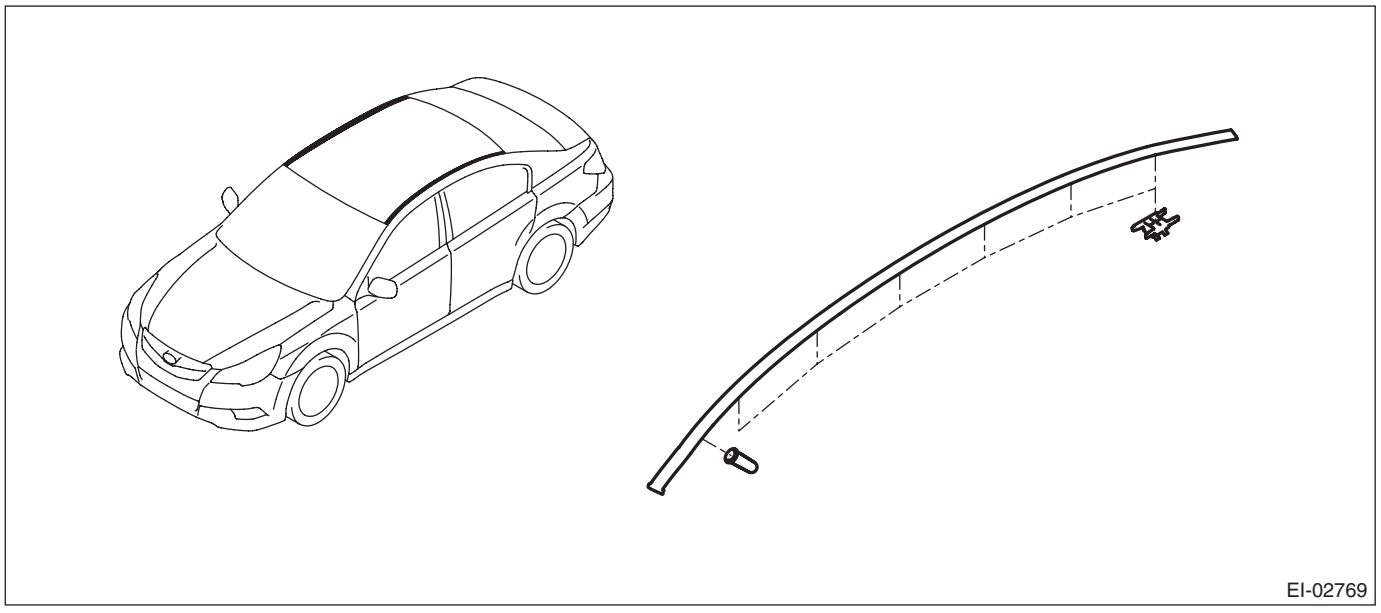
CAUTION:
Be careful not to damage the body.

1) Remove the roof rail assembly. (OUTBACK model) <Ref. to EI-58, REMOVAL, Roof Rail.>
2) Turn over the front end of roof molding.
3) Using a flat tip screwdriver, slide the internal clip in the direction of arrow.

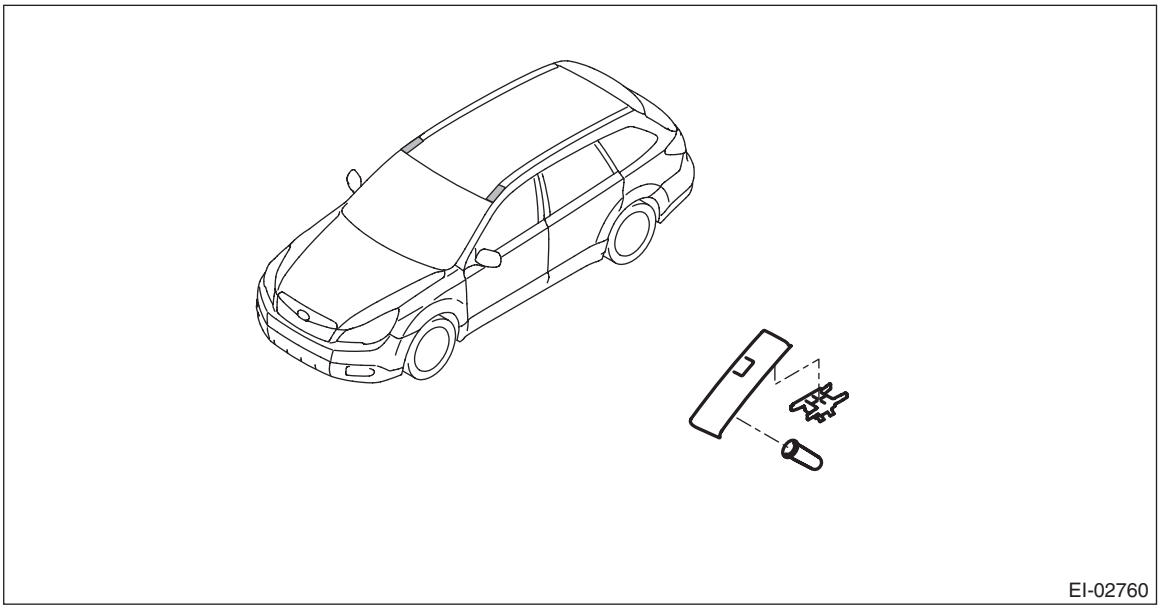

EI-02759

Right: Slide toward vehicle front.
Left: Slide toward vehicle rear.
4) Remove the clip from the stud on the body by sliding it.

- Sedan model: 6 clips per side


EI-02769

- OUTBACK model: 1 clip per side

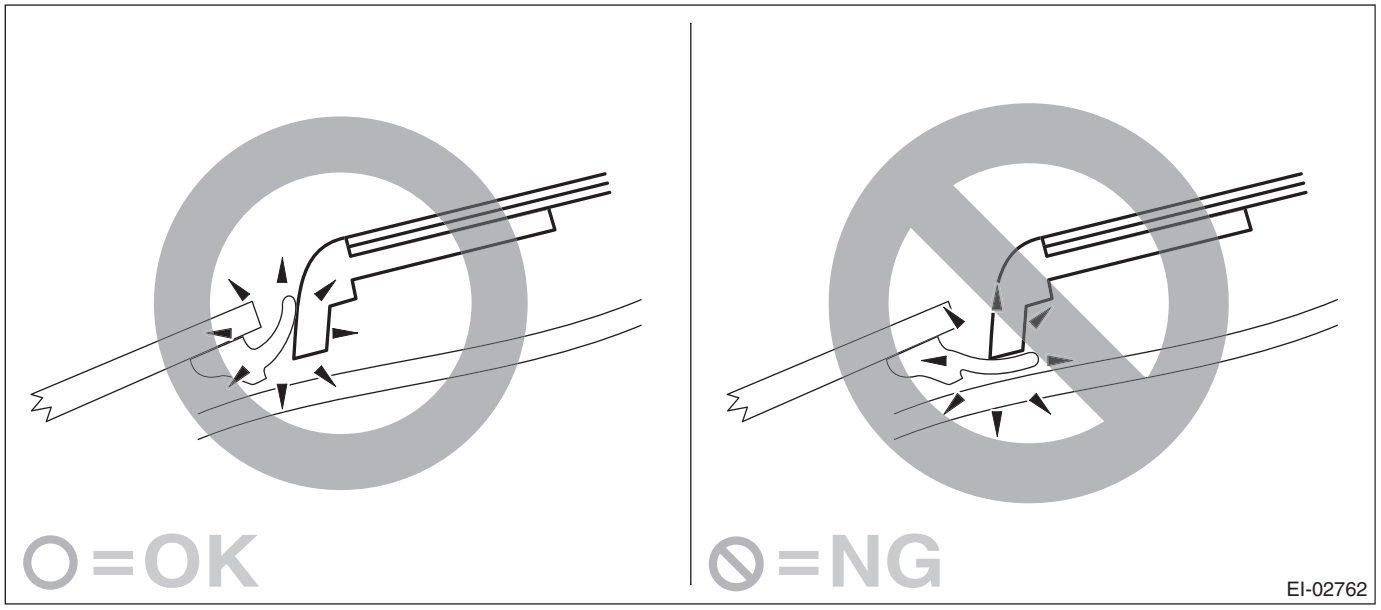


5) Remove the roof molding from the vehicle body by pulling it upward.

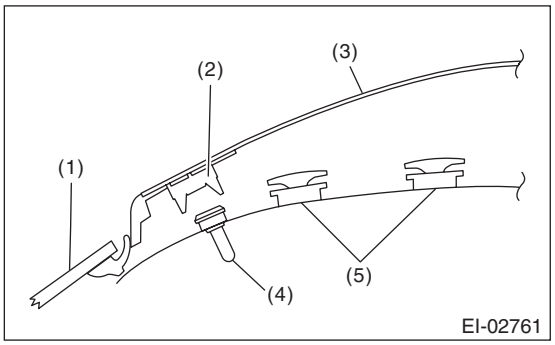
B: INSTALLATION

1) Remove the clips from the roof molding and attach them on the stud on body.

CAUTION:
- **Any clips damaged during roof molding removal must be replaced with new parts.**
- **While installing the roof molding, be careful not to catch the glass molding with the tip of the front side and rear side.**



2) Apply the front end of roof molding to the front window, and attach the front positioning clip to the rivet on body.



(1) Windshield
(2) Positioning clip
(3) Roof molding
(4) Rivet
(5) Clip

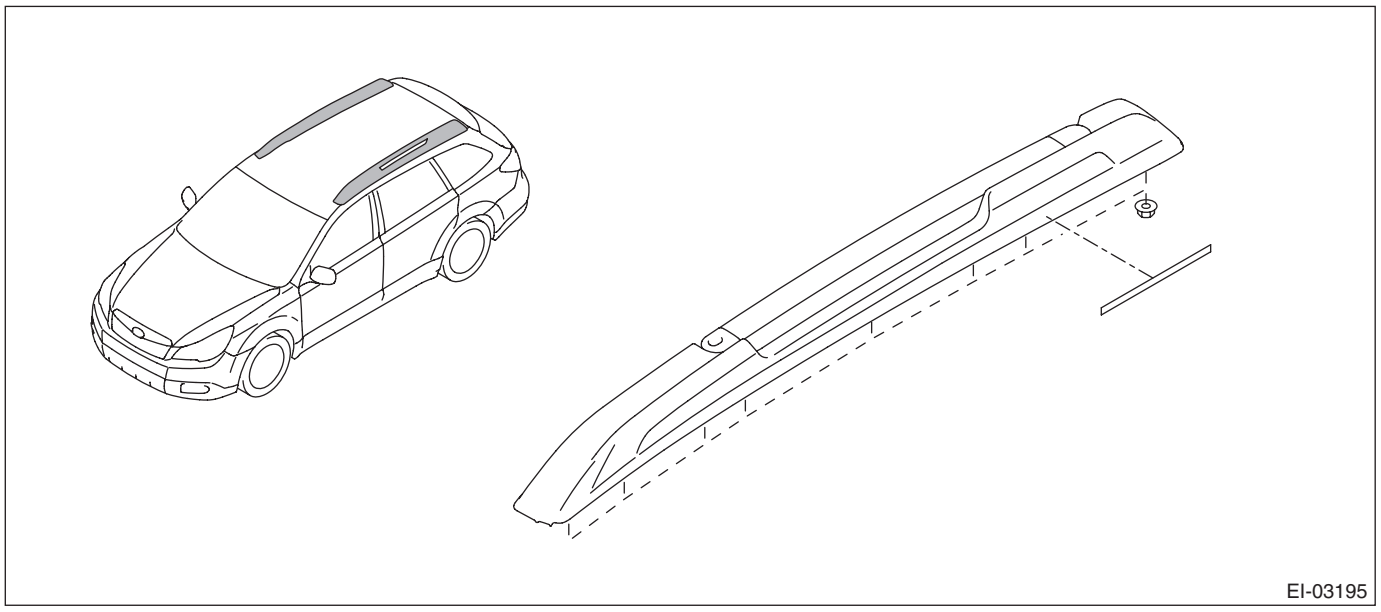
3) While pressing the roof molding from above, connect the roof molding with clips.

12.Roof Rail

A: REMOVAL

1) Remove the roof trim. <Ref. to EI-148, OUTBACK MODEL, REMOVAL, Roof Trim.>
2) Remove the curtain airbag module. <Ref. to AB-70, OUTBACK MODEL, REMOVAL, Curtain Airbag Module.>

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
• Be careful not to damage the curtain airbag module during removal.
3) Remove the eight installing nuts.



B: INSTALLATION

CAUTION:
When removing or installing the roof rail, be careful not to scratch the body panel with the stud bolt of roof rail.
Install each part in the reverse order of removal.

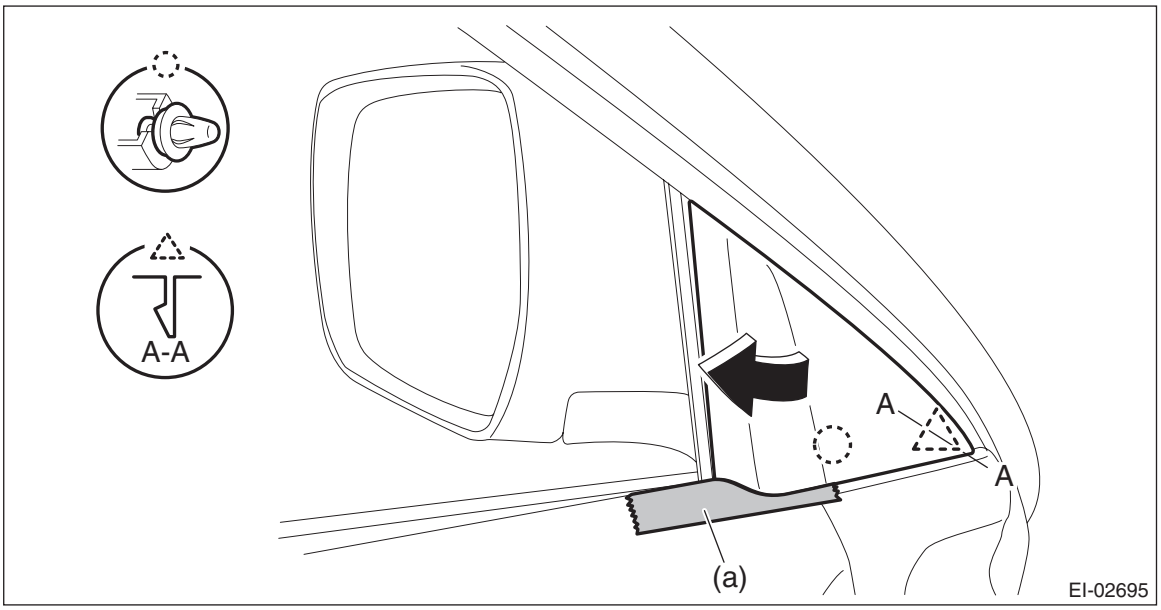
Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

13.Door Trim

A: REMOVAL

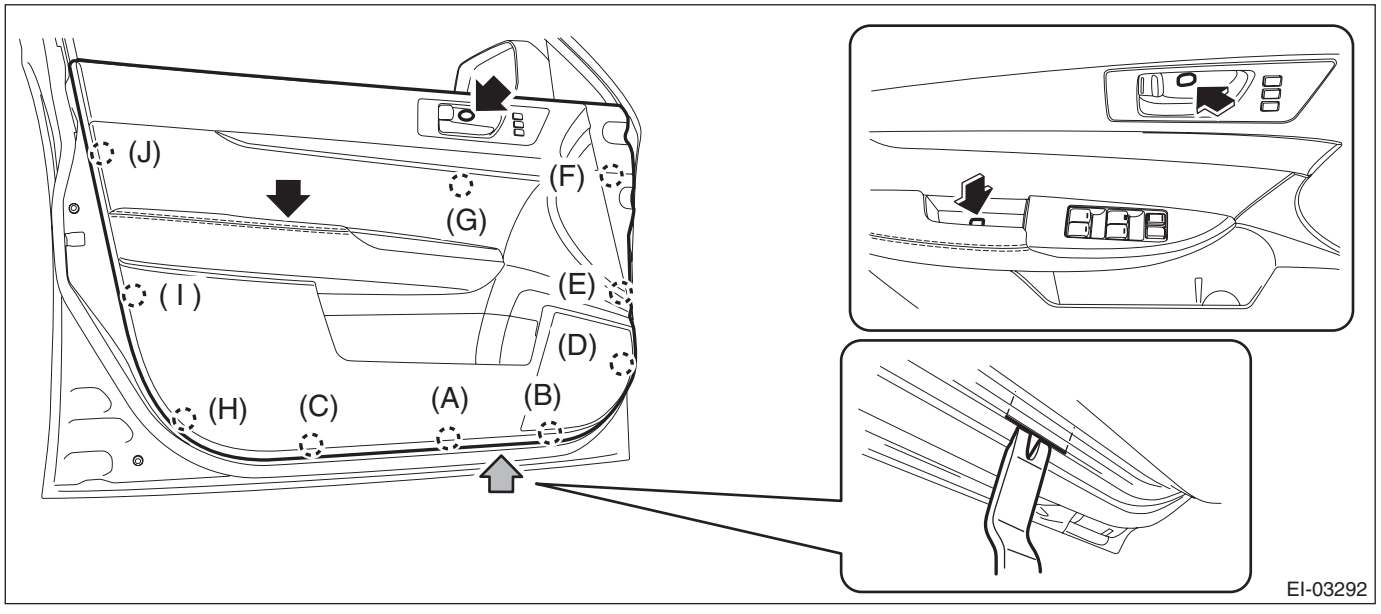
1. FRONT DOOR

1) Disconnect the ground cable from battery.
2) Remove the gusset cover.
   (1) Attach the protective tape (a) to the door trim.
   (2) Release the clips and claws, then detach the gusset cover.



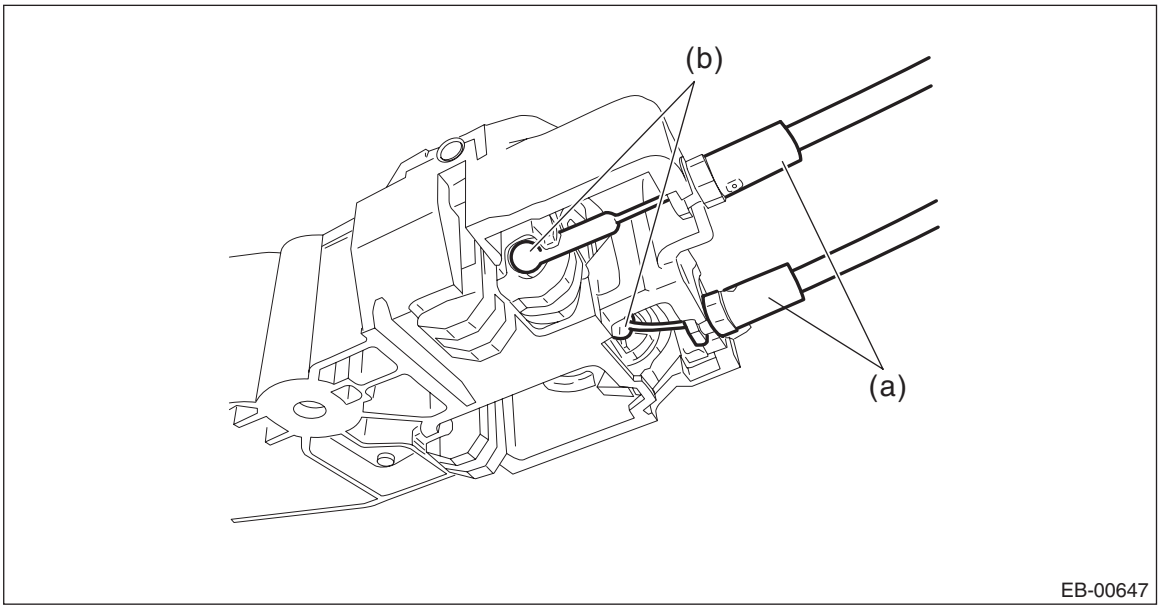
3) Remove the front door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (J) and remove the front door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.

(3) Remove the cables (a) and (b) from the cable holder of inner remote.



(4) Disconnect the harness connector and remove the door trim assembly.

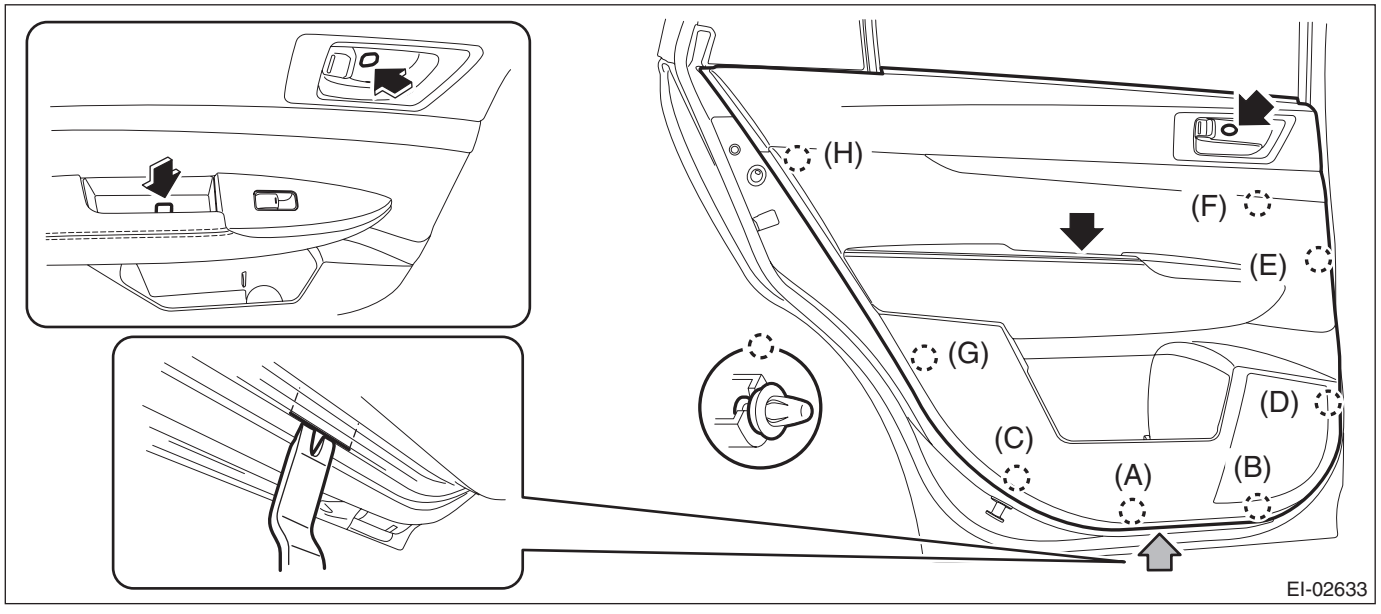
4) Remove each part as required.

- Inner remote handle: <Ref. to SL-36, REMOVAL, Front Inner Remote.>
- Power window control switch: <Ref. to GW-12, MAIN SWITCH, REMOVAL, Power Window Control Switch.>
- Weather strip inner: <Ref. to EI-61, DISASSEMBLY, Door Trim.>

2. REAR DOOR

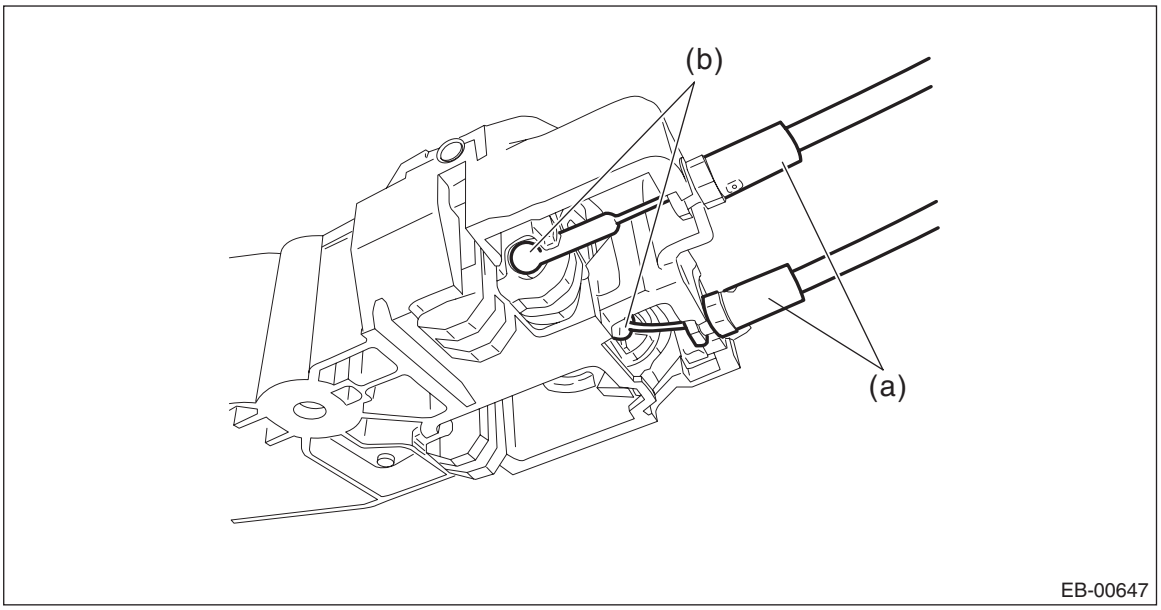
1) Disconnect the ground cable from battery.
2) Remove the rear door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (H) and remove the rear door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.

(3) Remove the cables (a) and (b) from the cable holder of inner remote.



(4) Disconnect the harness connector and remove the door trim.

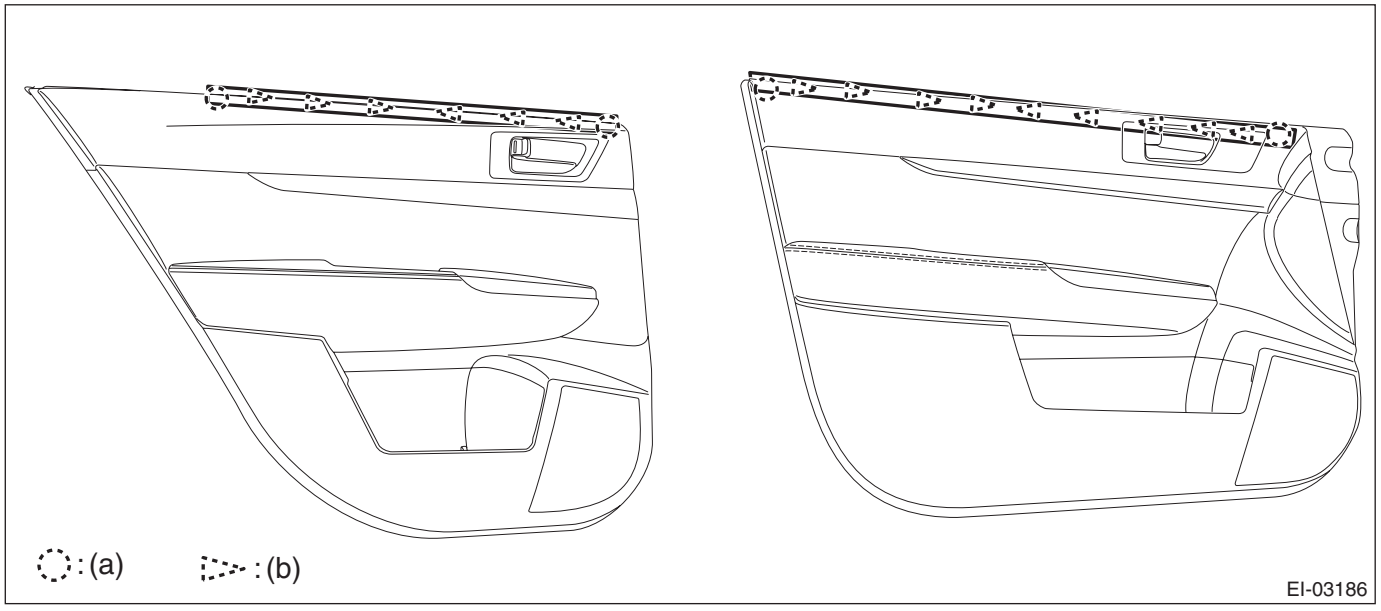
3) Remove each part as required.
- Inner remote handle: <Ref. to SL-45, REMOVAL, Rear Inner Remote.>
- Power window control switch: <Ref. to GW-12, SUB-SWITCH, REMOVAL, Power Window Control Switch.>
- Weather strip inner: <Ref. to EI-61, DISASSEMBLY, Door Trim.>

B: INSTALLATION

Install each part in the reverse order of removal.

C: DISASSEMBLY

1) Remove the door trim.
2) Remove the rivets and detach the claws, then remove the weather strip inner from the door trim.



(a) Rivet (b) Claw

NOTE:
Remove the rivets with a rivet cutter or nipper, etc.

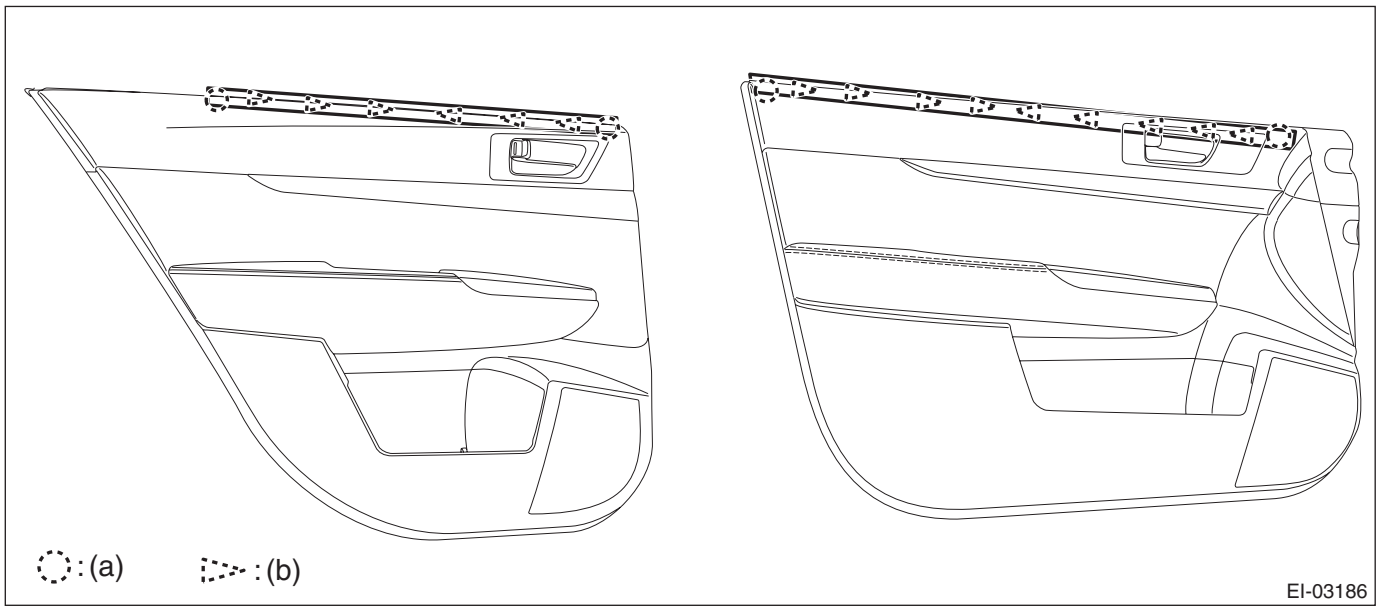
D: ASSEMBLY

1) Fold the claws while pressing the weather strip inner to the door trim.

CAUTION:
Beware of the direction of folding the claws.
2) Install the rivets and apply unwoven cloth.

CAUTION:
Set the height of rivet crimped section as 3 mm (0.12 in). If the crimp is not sufficient, press them with pliers, etc. in order not to interfere the door trim.

Preparation tool and item:
Hand riveter (corresponding to ϕ3.2 mm (0.13 in))
Rivet
Unwoven cloth (cut into 15 x 15 mm (0.59 x 0.59 in))



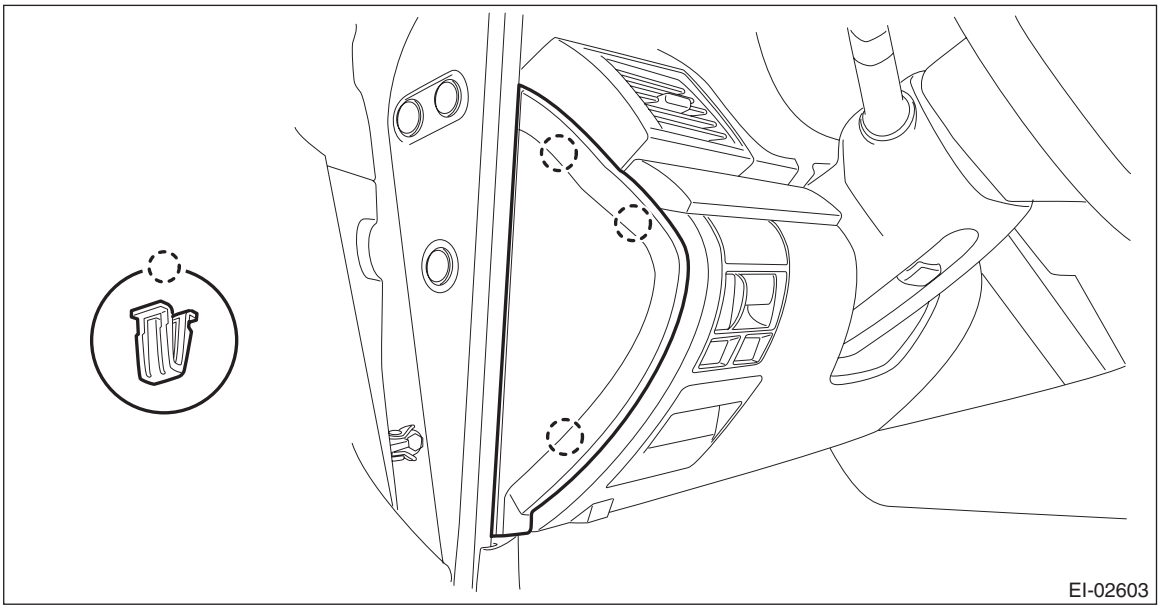
(a) Rivet (b) Direction of folding claws

3) After installing the weather strip inner, perform the following inspections.
- There is no clearance between the weather strip inner and the door trim.
- No loose fit is found when pulling the weather strip inner lightly.

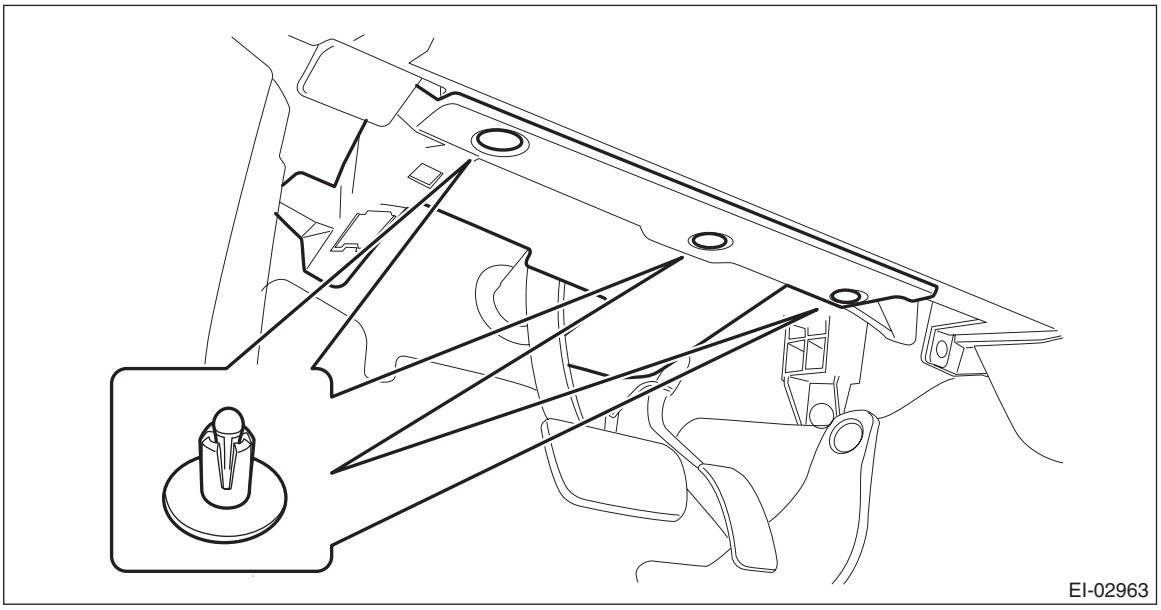
14.Instrument Panel Lower Cover

A: REMOVAL

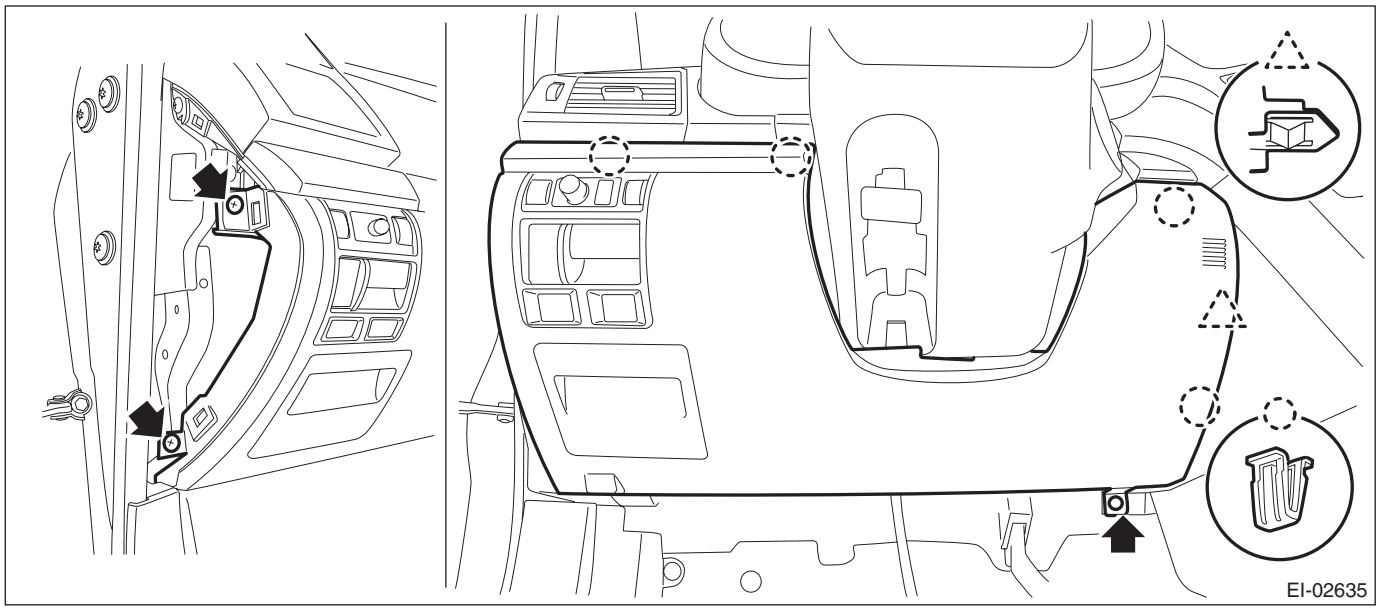
1) Disconnect the ground cable from battery.
2) Remove the clips, and remove the instrument panel side cover LH.



3) Remove the instrument panel lower cover.
   (1) Remove the clips and data link connector, and remove the instrument panel lower cover under.



(2) Remove the screws and clips and release the claws, and remove the instrument panel lower cover while disconnecting the harness connectors.



B: INSTALLATION

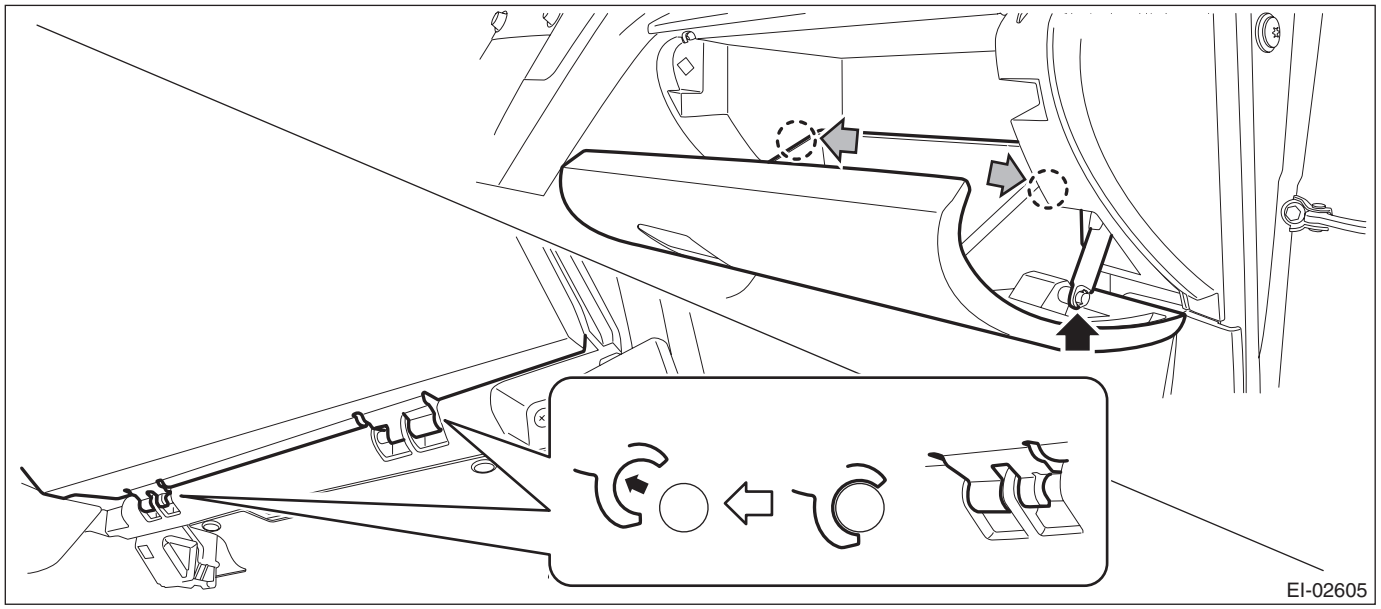
Install each part in the reverse order of removal.

15.Glove Box

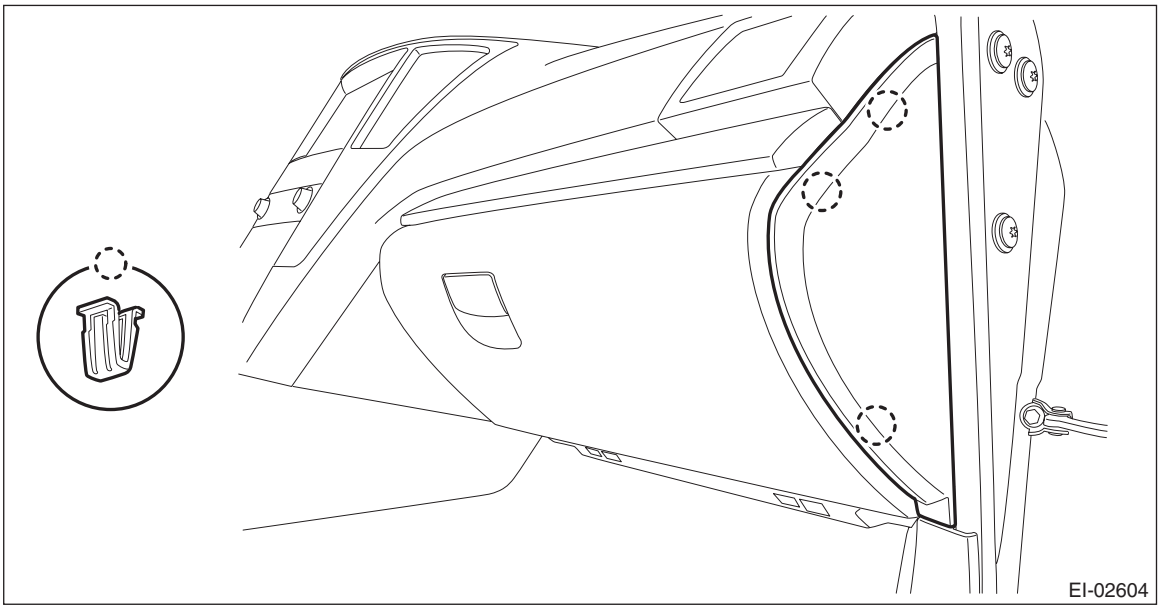
A: REMOVAL

NOTE:
Refer to “Security and Locks” section for key cylinder replacement. <Ref. to SL-72, GLOVE BOX LID, REPLACEMENT, Key Lock Cylinders.>

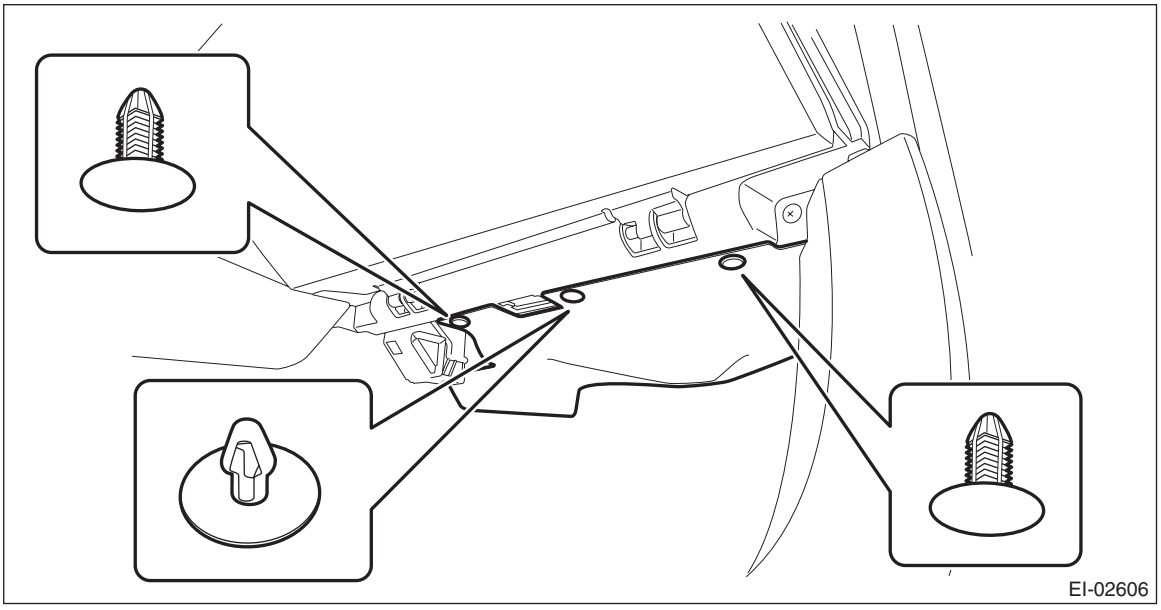
1) Remove the glove box lid assembly.
   (1) Remove the glove box damper.
   (2) Release the stoppers and remove the glove box lid assembly by pulling it toward you.



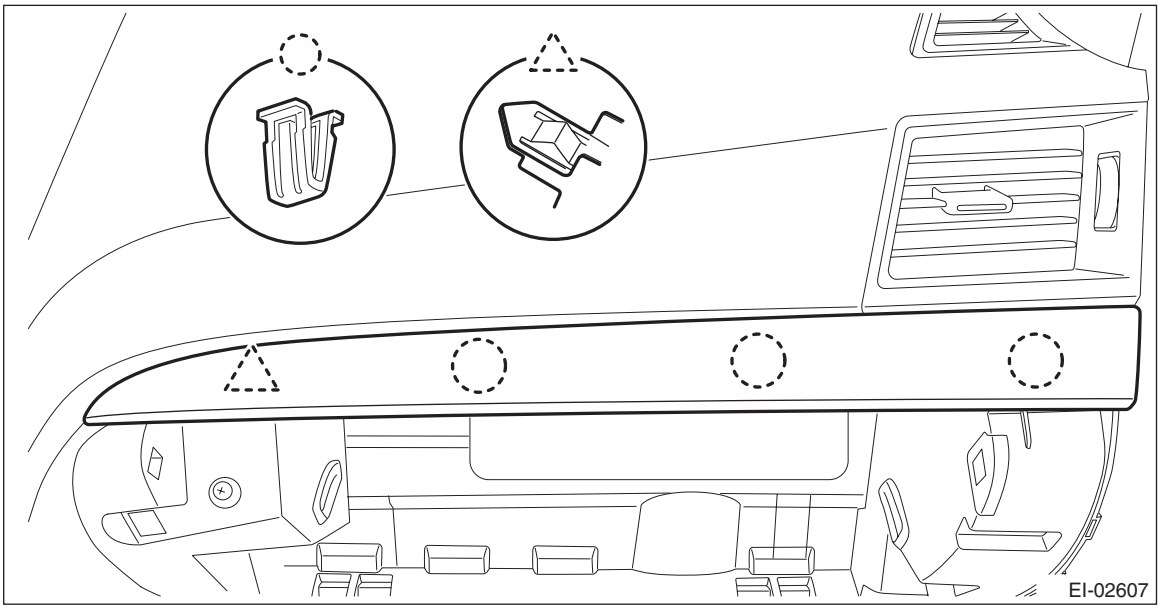
2) Release the clips, and remove the instrument panel side cover RH.



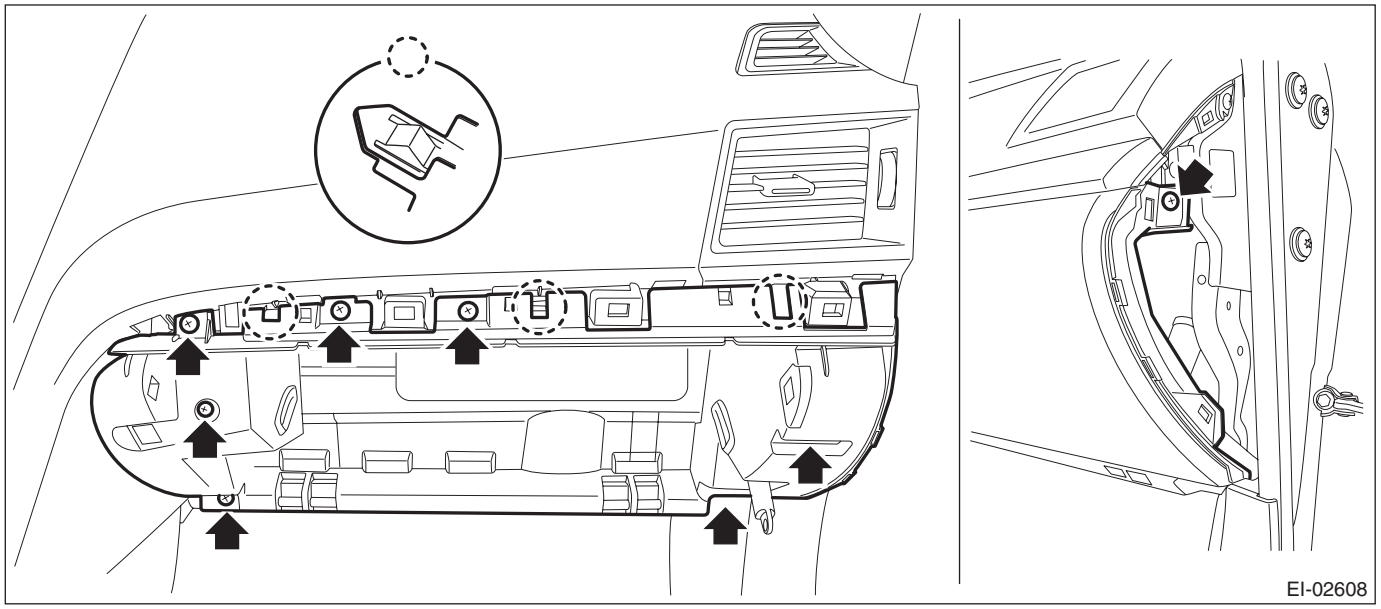
3) Remove the glove box back panel.
(1) Release the clips, and remove the glove box under cover.



(2) Release the clips and claws, and remove the ornament panel assembly P.



(3) Remove the screws and release the claws, then detach the glove box back panel.



(4) Disconnect the glove box light LED connector.

B: INSTALLATION

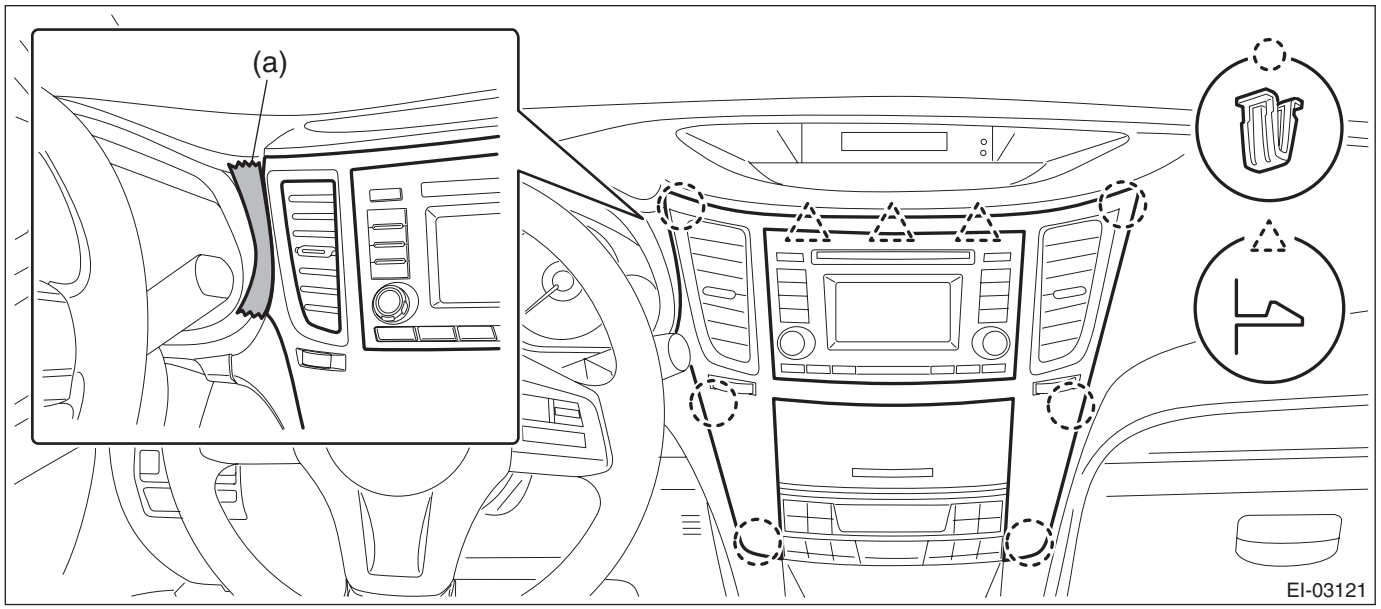
Install each part in the reverse order of removal.

16.Center Console

A: REMOVAL

1. CENTER PANEL ASSY

1) Attach the protective tape (a) to the meter visor.



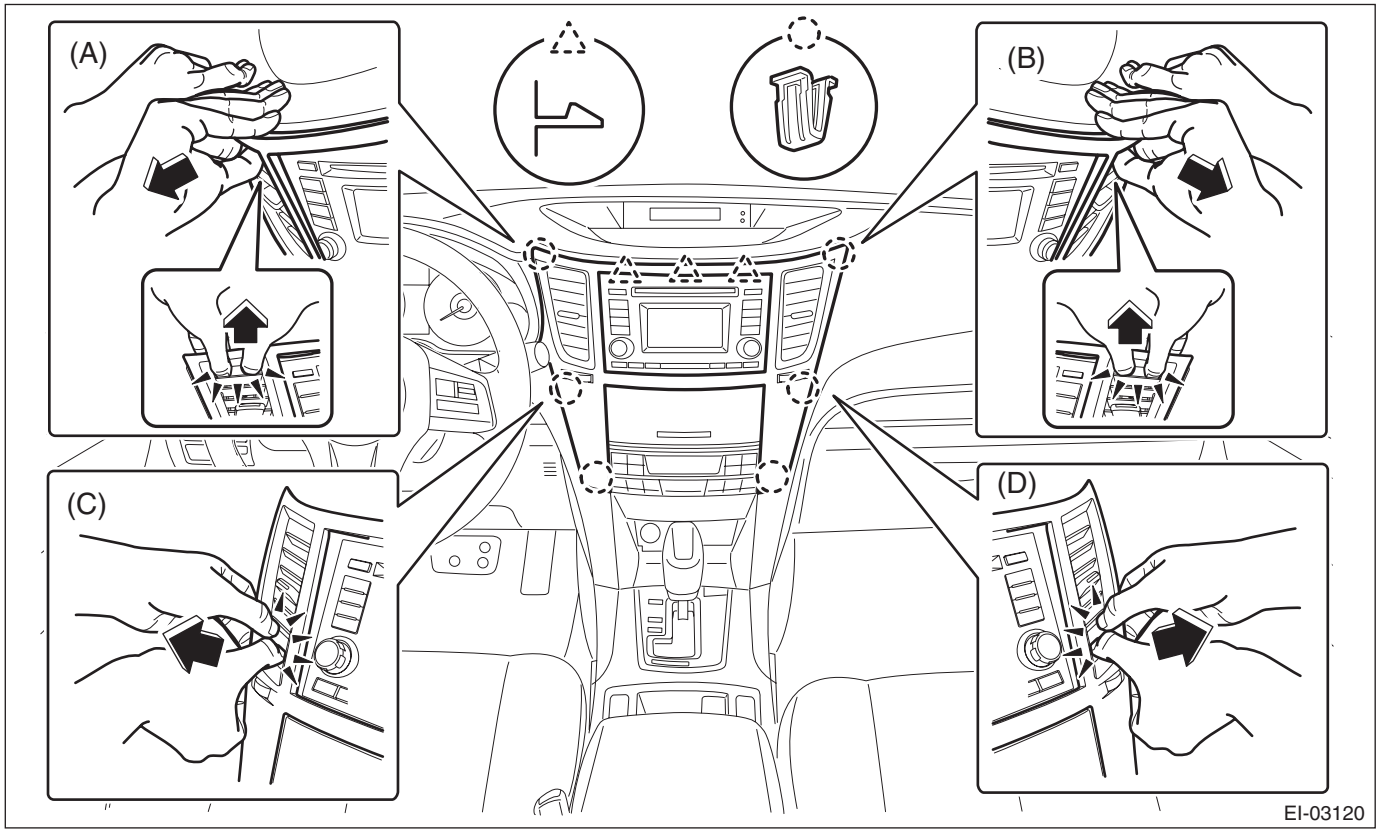
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

(1) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)

(2) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)

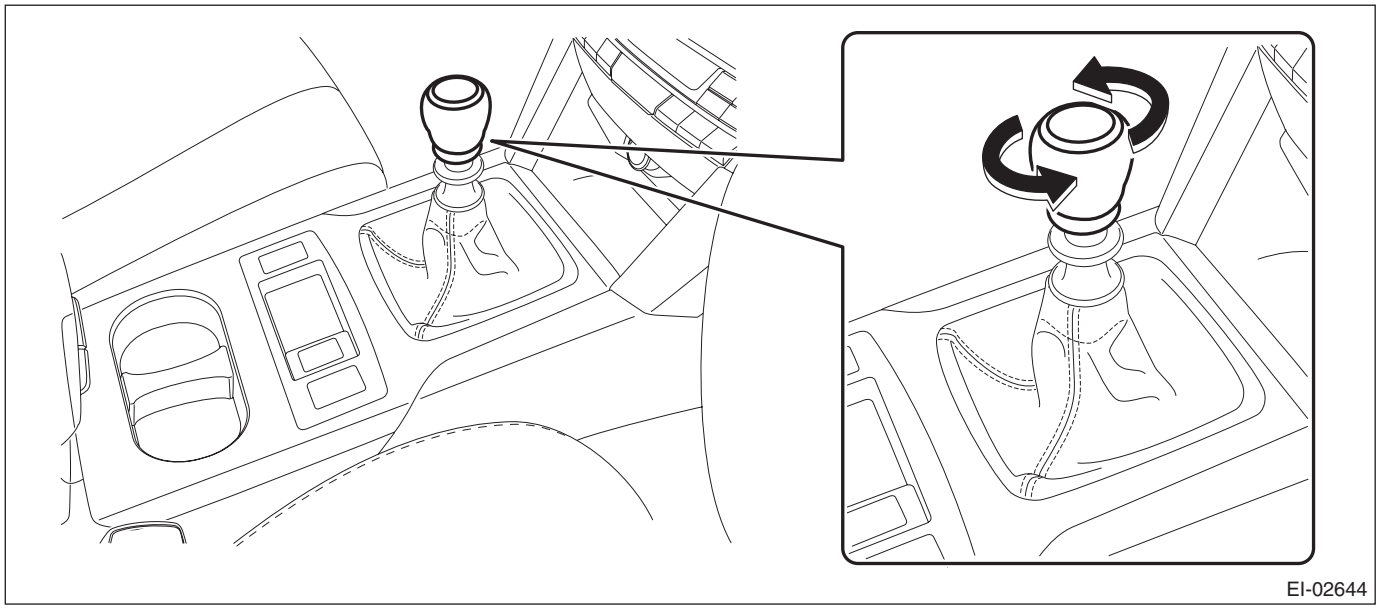
(3) Release the clips at the bottom of the center panel and remove the center panel assembly.



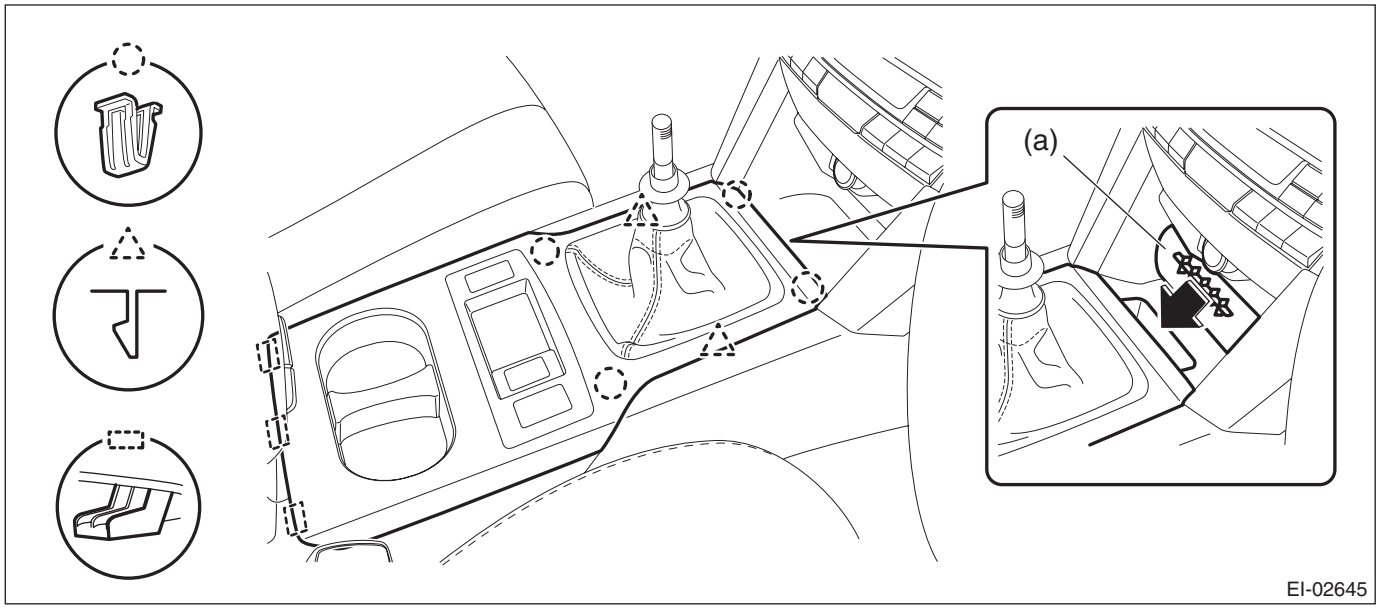
2. CONSOLE FRONT COVER

MT model

1) Remove the console front cover assembly.
(1) Remove the shift knob.



(2) Release the clips and claws, then pull up the console front cover assembly.

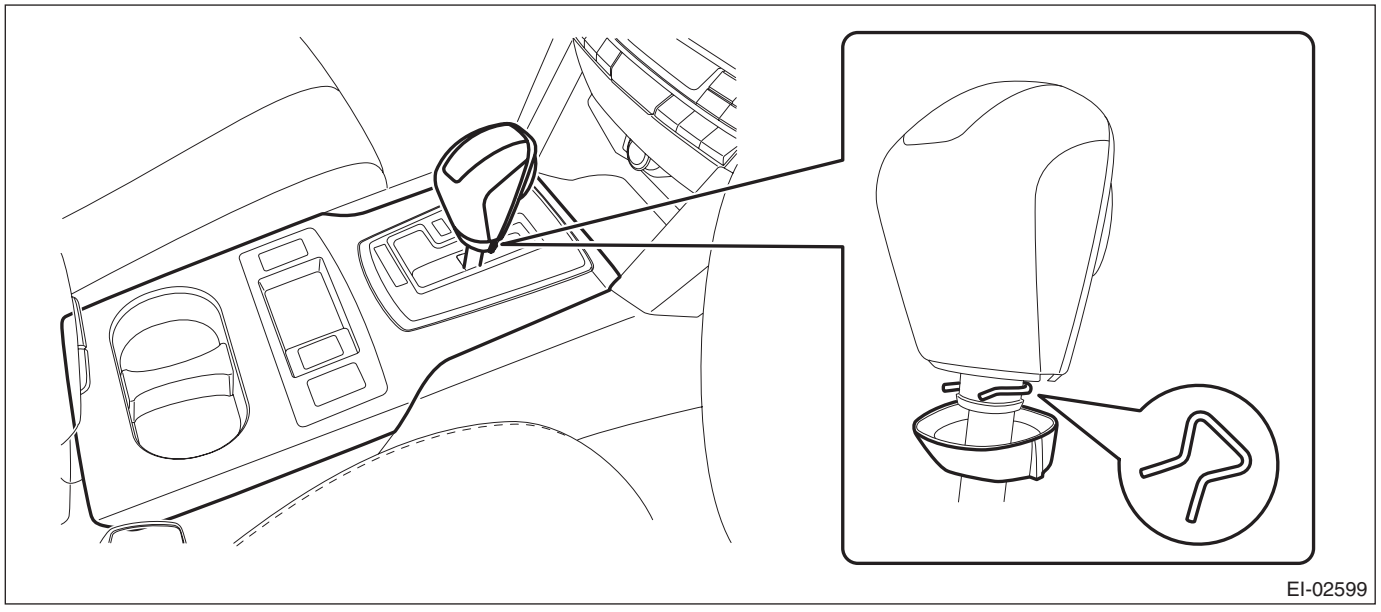


NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

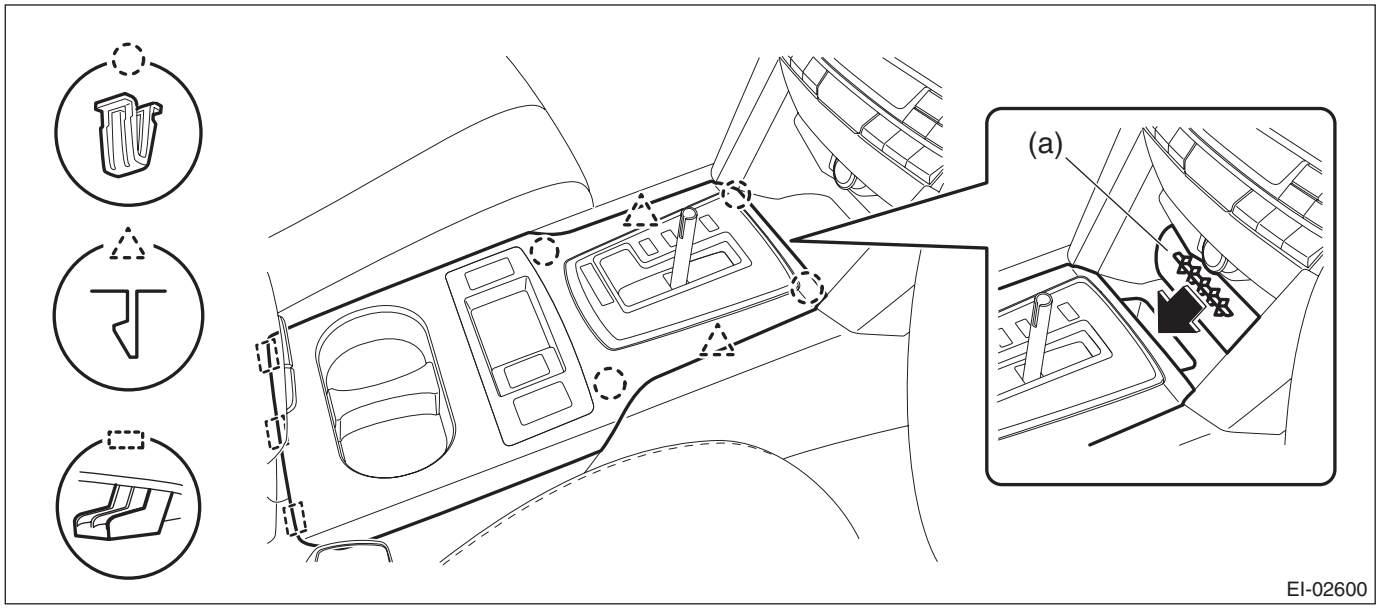
(3) Disconnect the harness connector and remove the console front cover assembly.

AT model / CVT model

1) Remove the console front cover assembly.
   (1) Remove the select lever knob.
      a) Lower the cover grip AT.
      b) Remove the clamp grip pin, then remove the select lever knob.



(2) Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

(3) Disconnect the harness connector and remove the console front cover assembly.

B: INSTALLATION

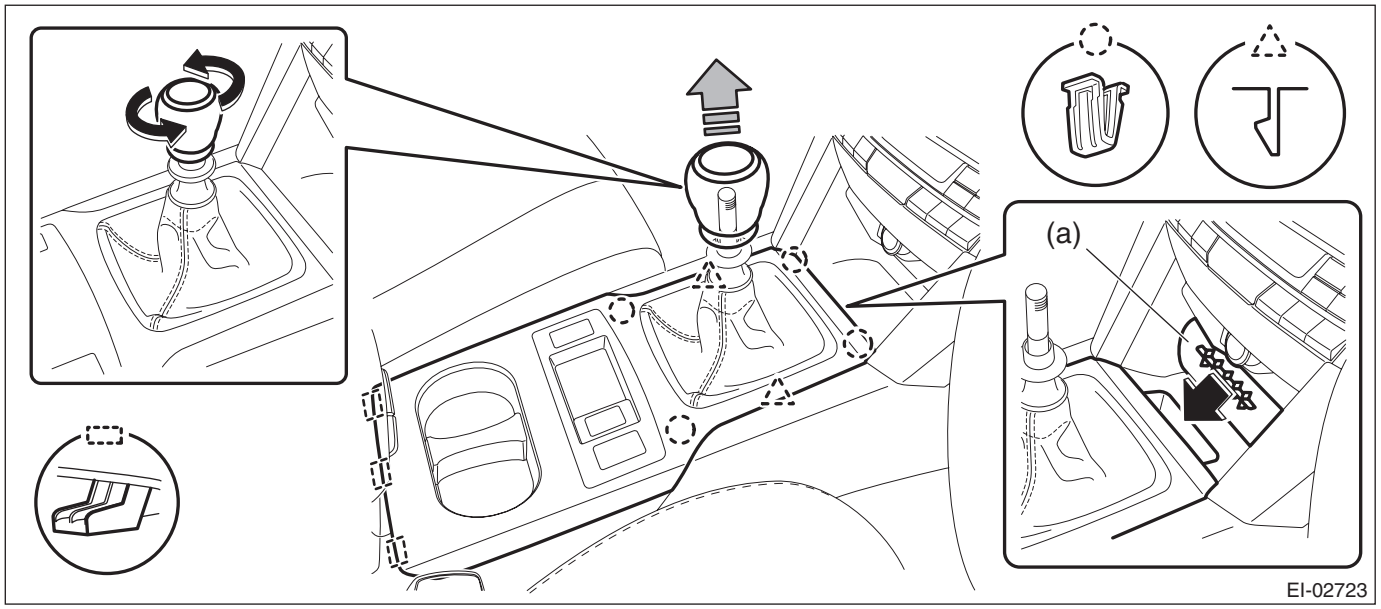
Install each part in the reverse order of removal.

17.Console Box

A: REMOVAL

1) Remove the console front cover assembly.

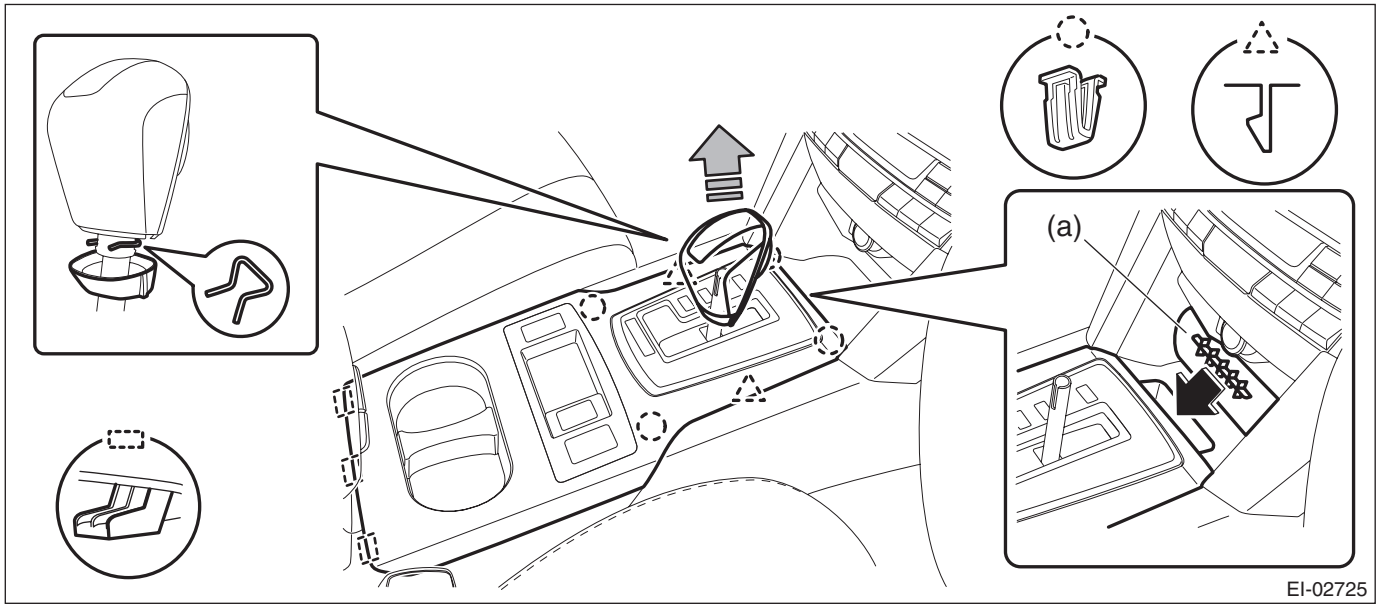
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

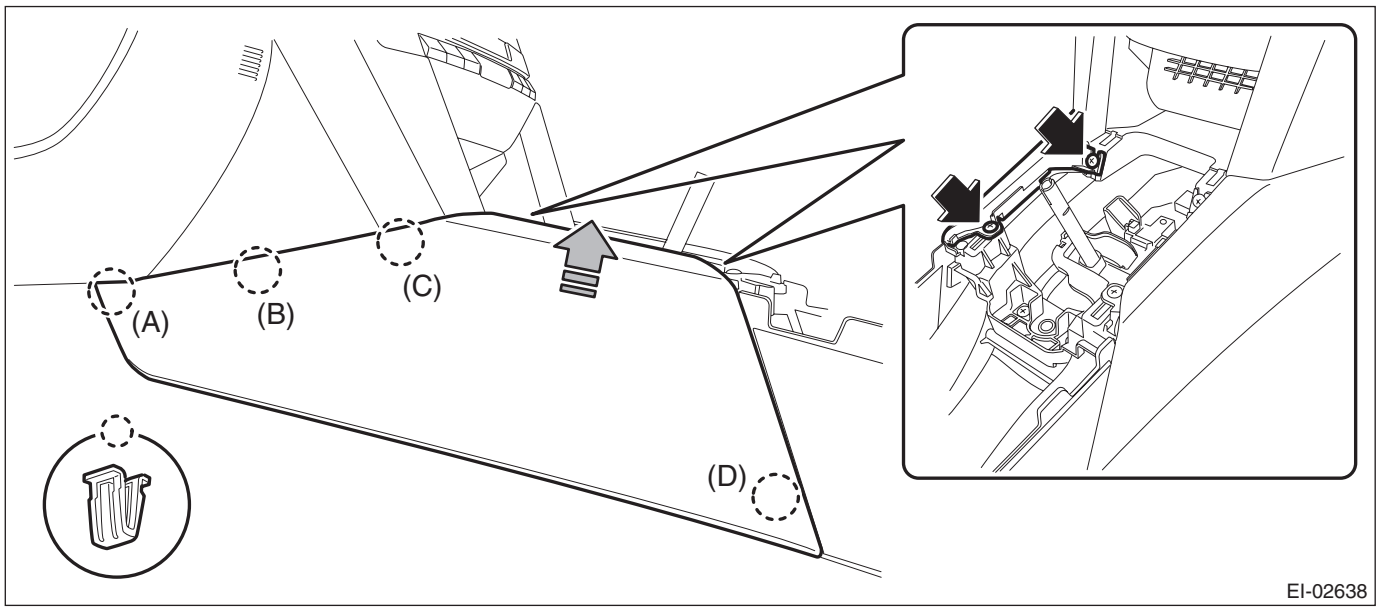
- AT model / CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.

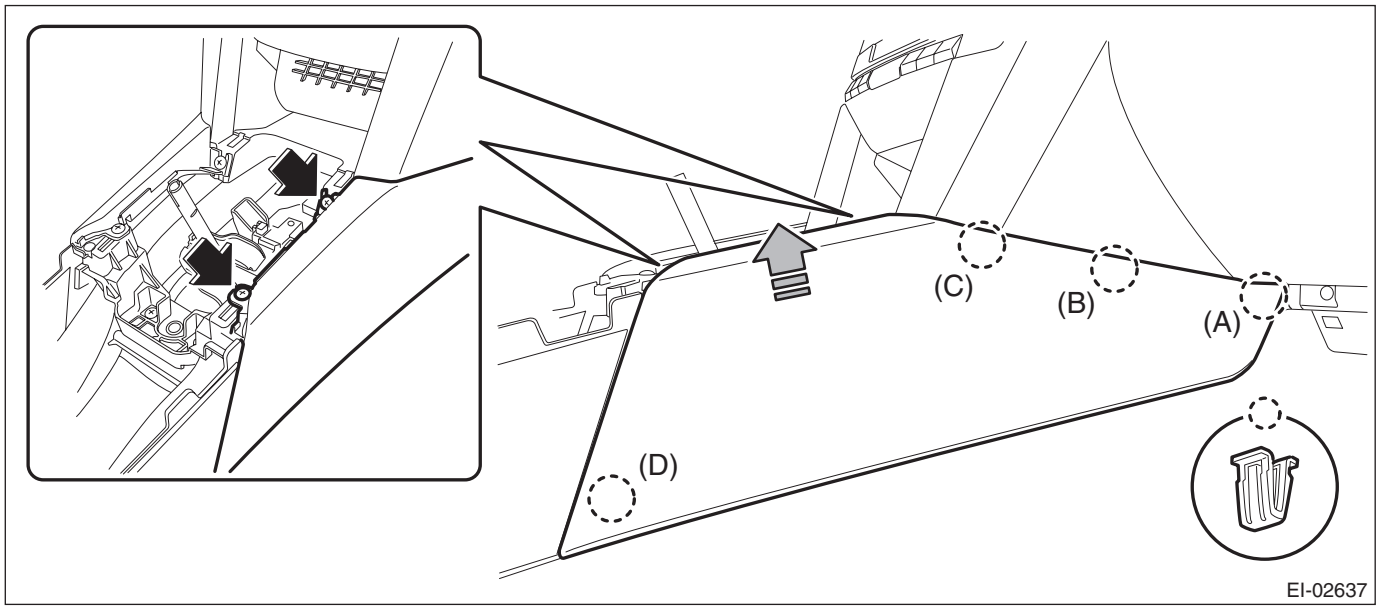


NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

3. Disconnect the harness connector and remove the console front cover assembly.

2) Remove the left and right console front side cover assembly.
   (1) Remove the screws and release the engagement of clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.

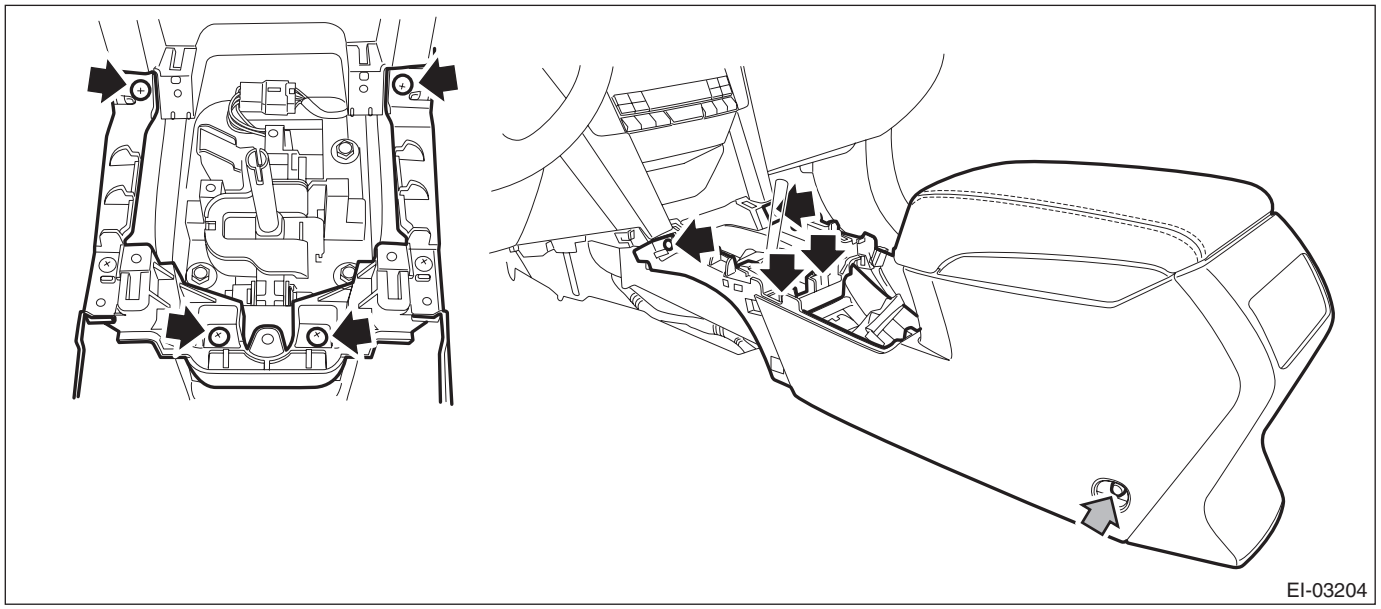




3) Remove the console box assembly.
(1) Move the seat forward, and remove the bolts after detaching the left and right caps.

NOTE:
For a model with power seat, connect the battery ground cable and move the seat. Then, disconnect the battery ground cable again and wait for 60 seconds at least before restarting the work.

(2) Remove the screws, disconnect the harness connector and remove the console box assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

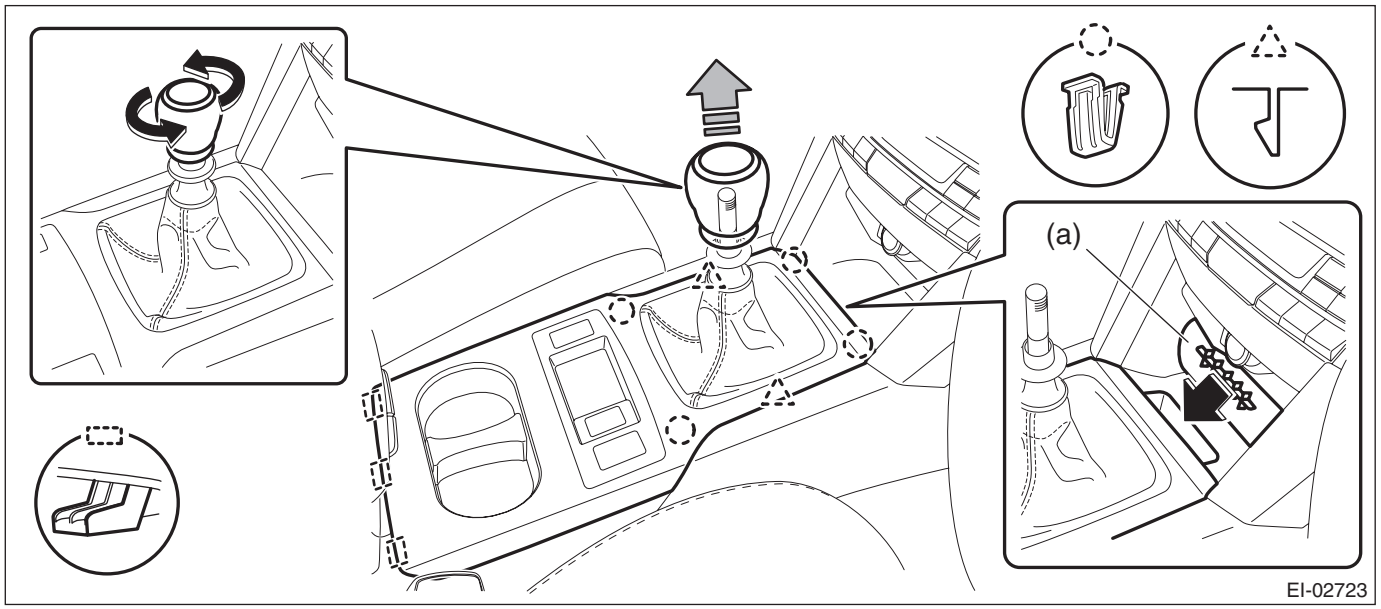
18.Instrument Panel Assembly

A: REMOVAL

CAUTION:
Be careful not to damage the airbag system harness when servicing the instrument panel. Damage may cause the system to malfunction.

1) Disconnect the ground cable from battery.
2) Remove the console front cover assembly.

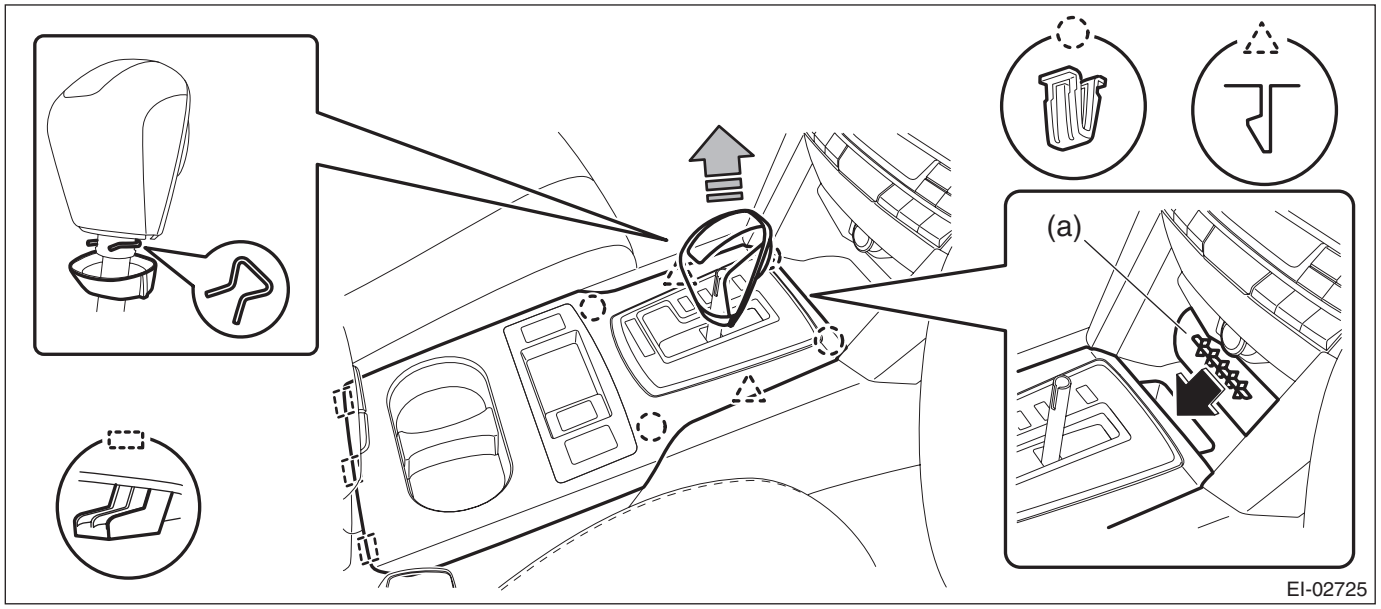
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

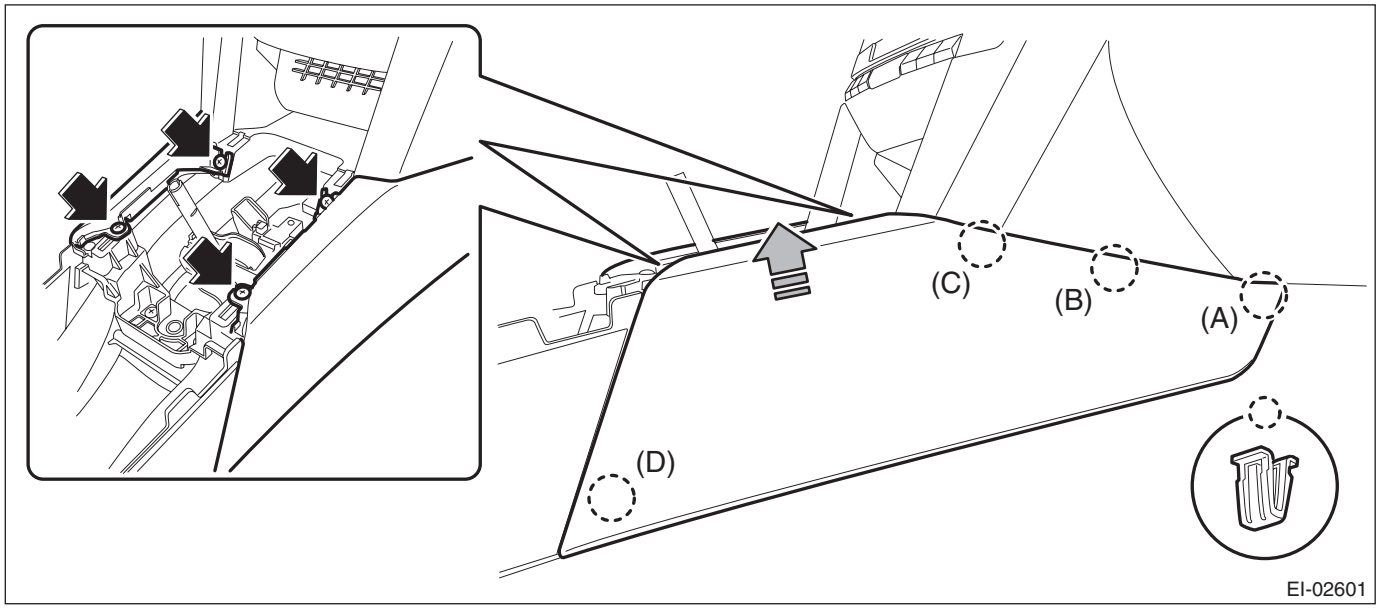
- AT model / CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

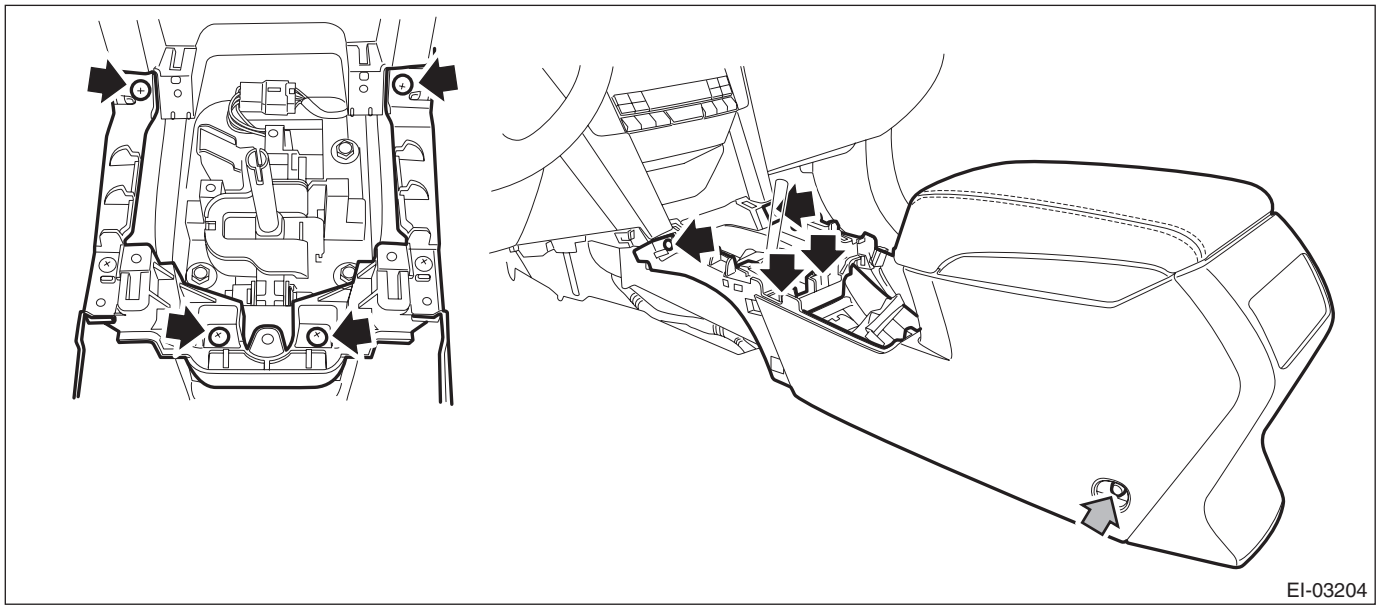
3) Remove the left and right console front side cover assembly.
   (1) Remove the screws and release the clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.



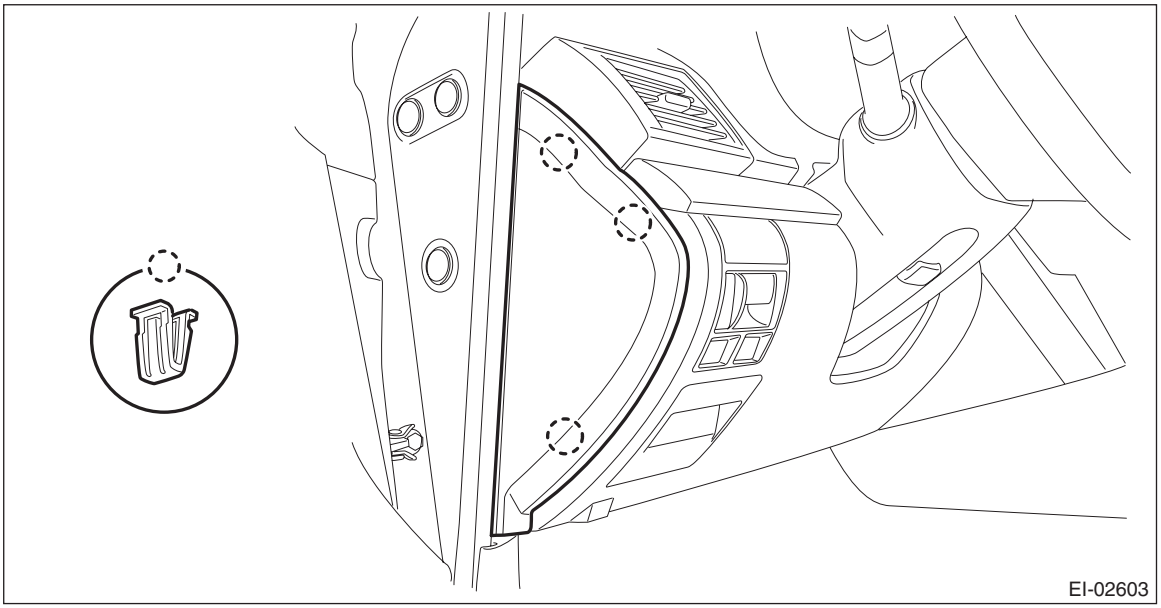
4) Remove the console box assembly.
(1) Move the seat forward, and remove the bolts after detaching the left and right caps.

NOTE:
For a model with power seat, connect the battery ground cable and move the seat. Then, disconnect the battery ground cable again and wait for 60 seconds at least before restarting the work.

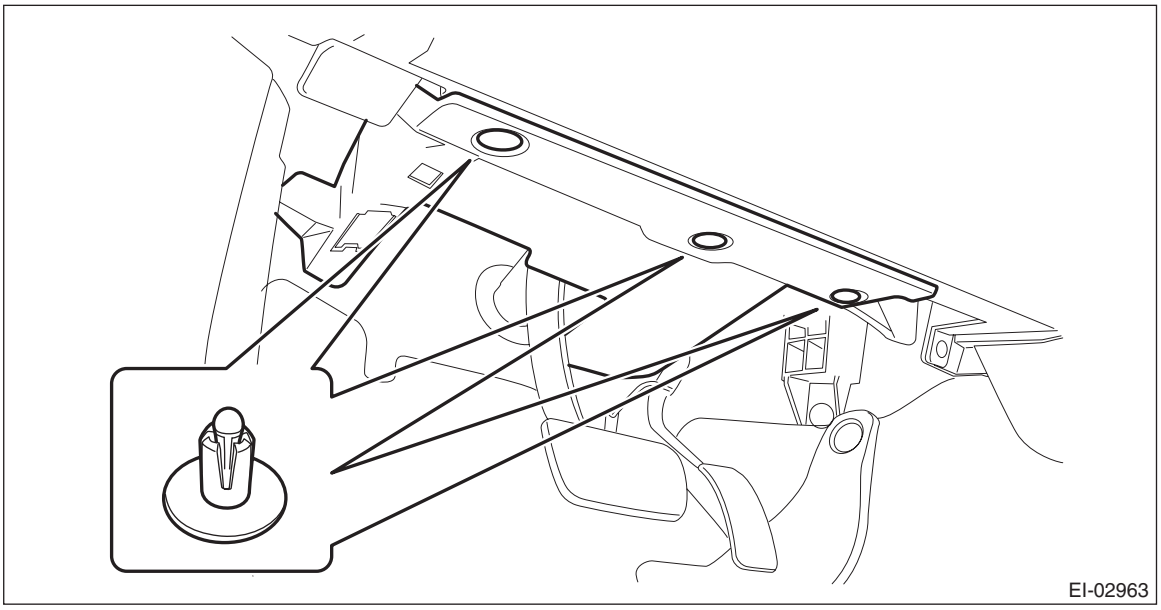
(2) Remove the screws, disconnect the harness connector and remove the console box assembly.



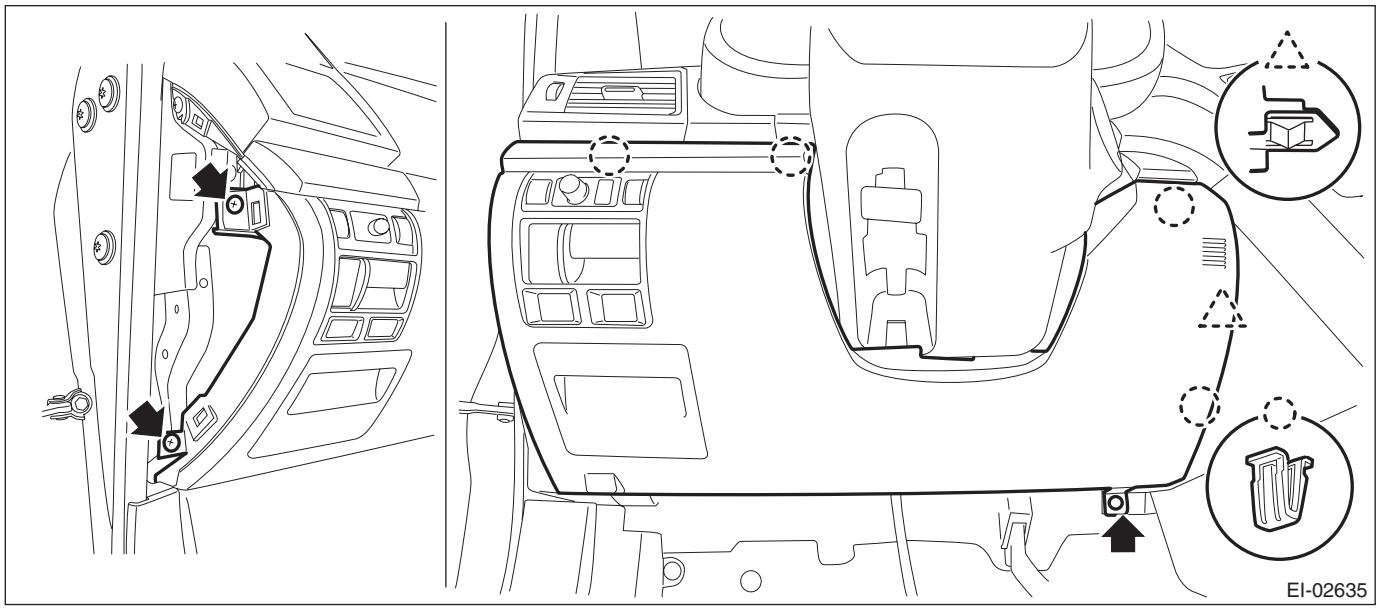
5) Remove the instrument panel lower cover.
(1) Remove the clips, and remove the instrument panel side cover LH.



(2) Remove the clips and data link connector, and remove the instrument panel lower cover under.



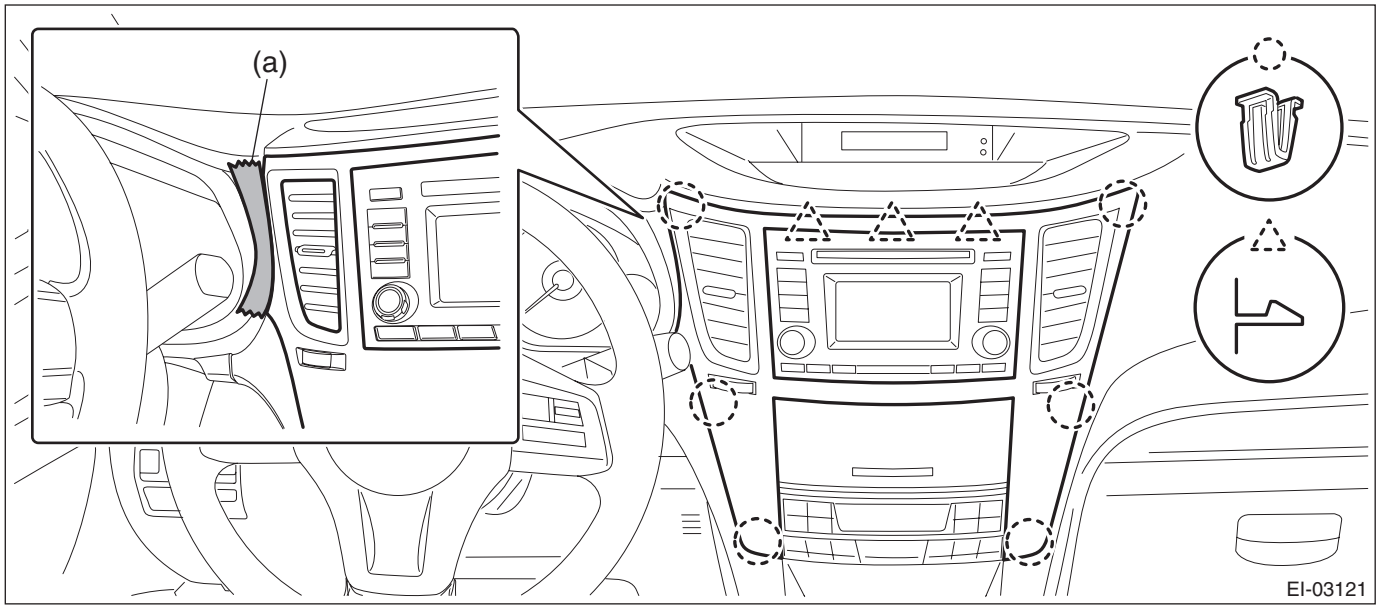
(3) Remove the screws and clips and release the claws, and remove the instrument panel lower cover while disconnecting the harness connectors.



6) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

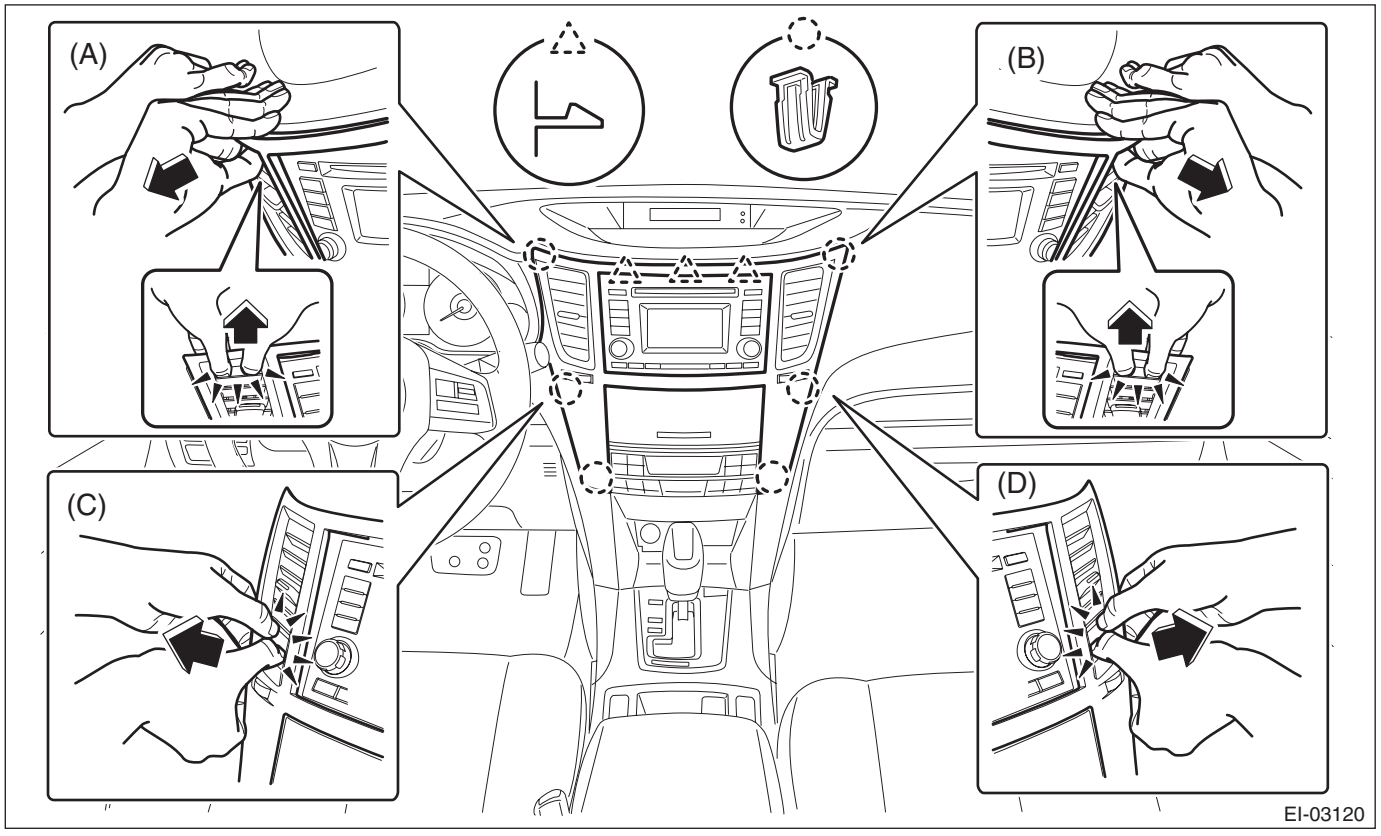
(1) Attach the protective tape (a) to the meter visor.



(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)

(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)

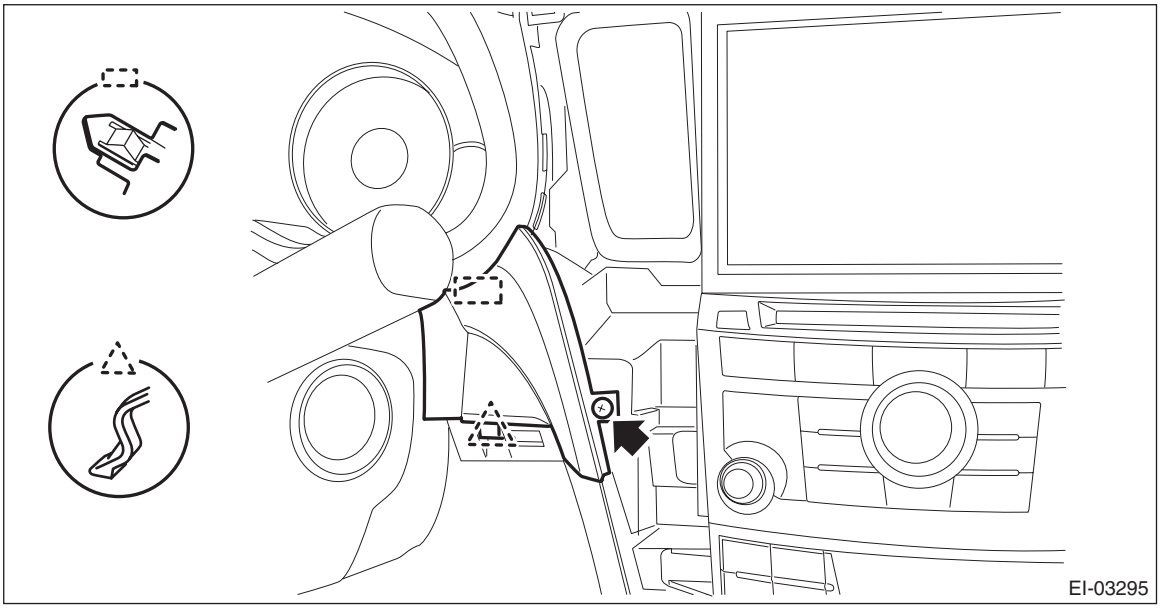
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.

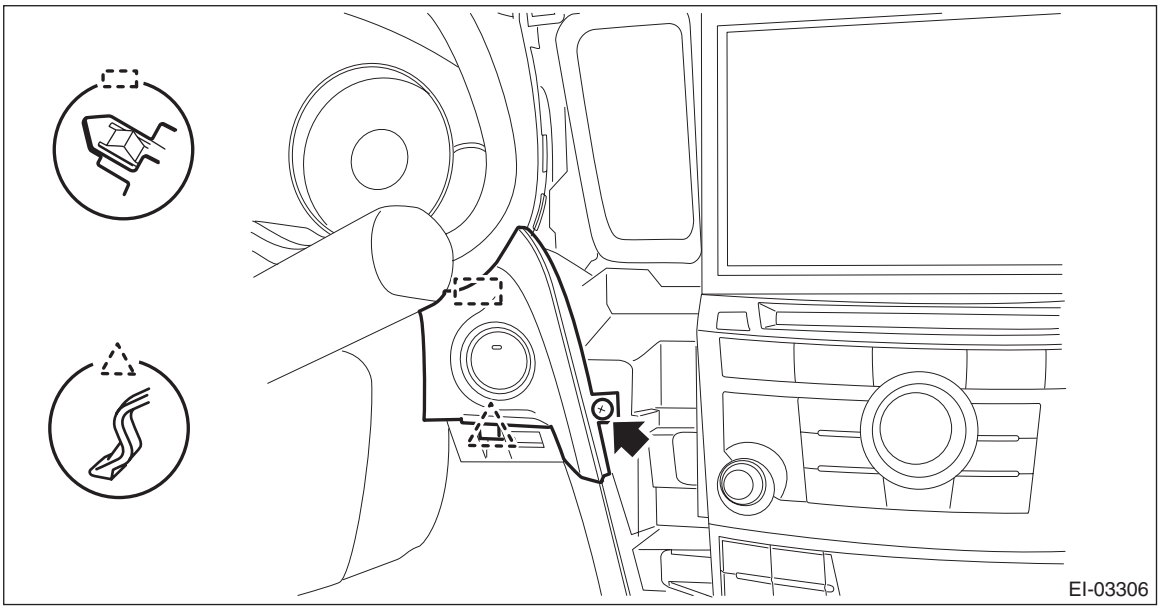


7) Remove the combination meter assembly.

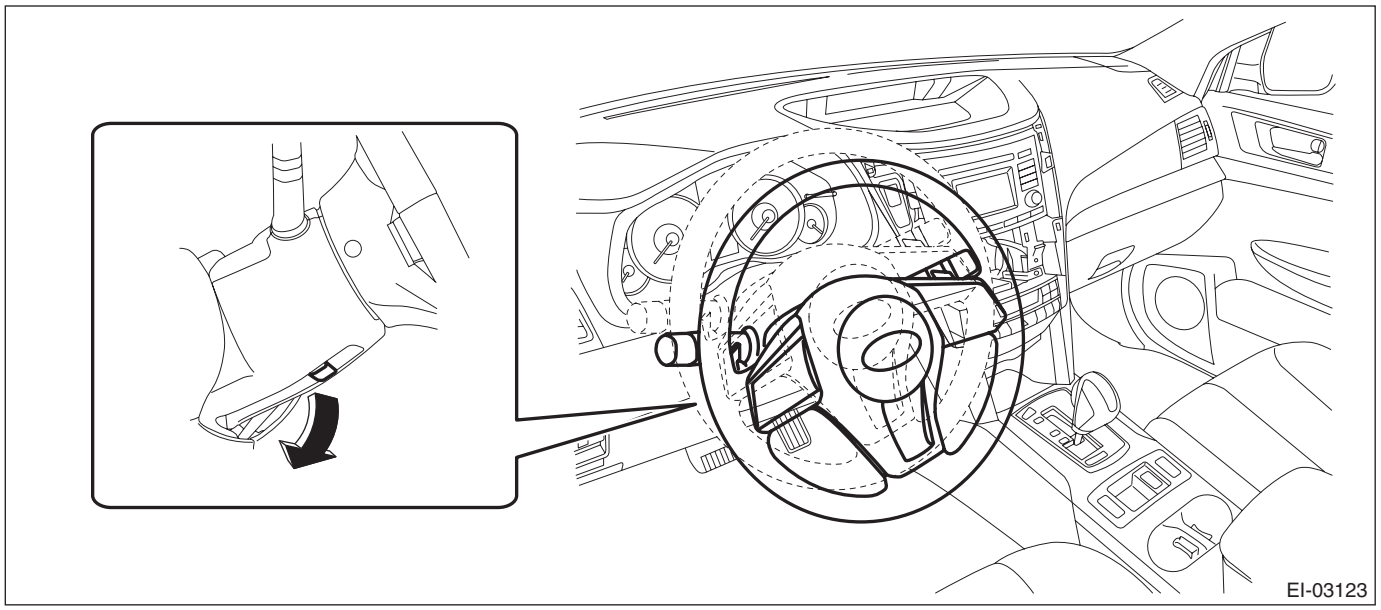
CAUTION:
- **Be careful not to damage the meter or instrument panel.**
- **Pay particular attention to avoid damaging the meter glass.**

(1) Remove the screws and release the claws, then detach the starter cover assembly.

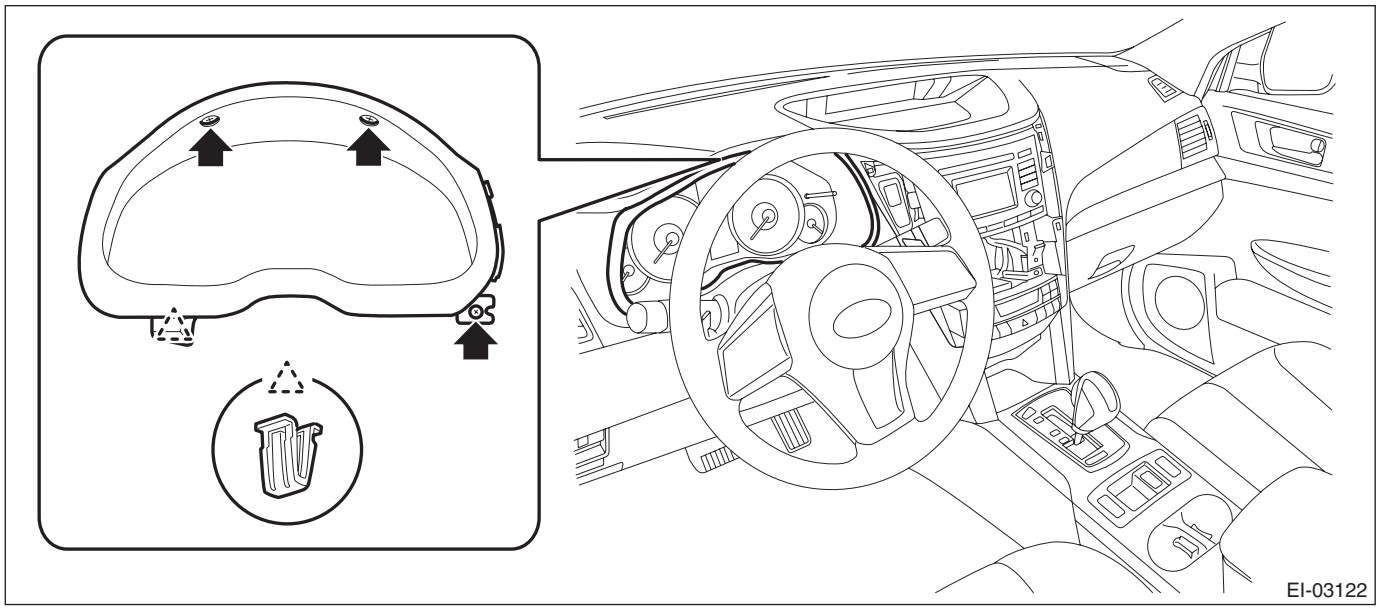




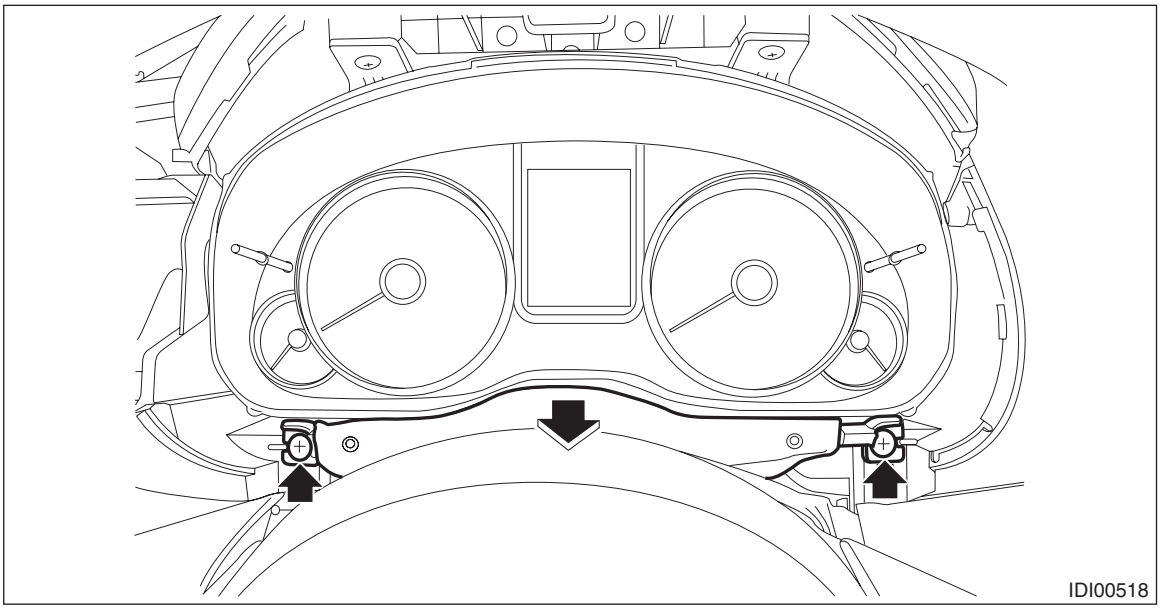
(2) Release the lock, tilt the steering column to the lowest end and fully extend the column by the telescopic system.



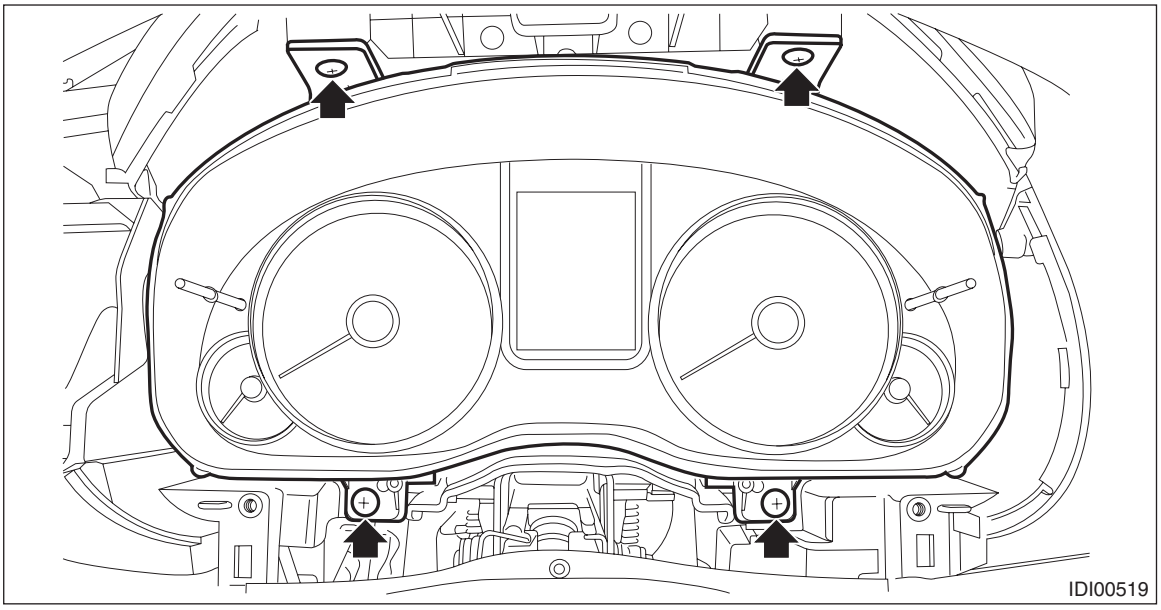
(3) Release the screws and clips, then detach the meter visor assembly.



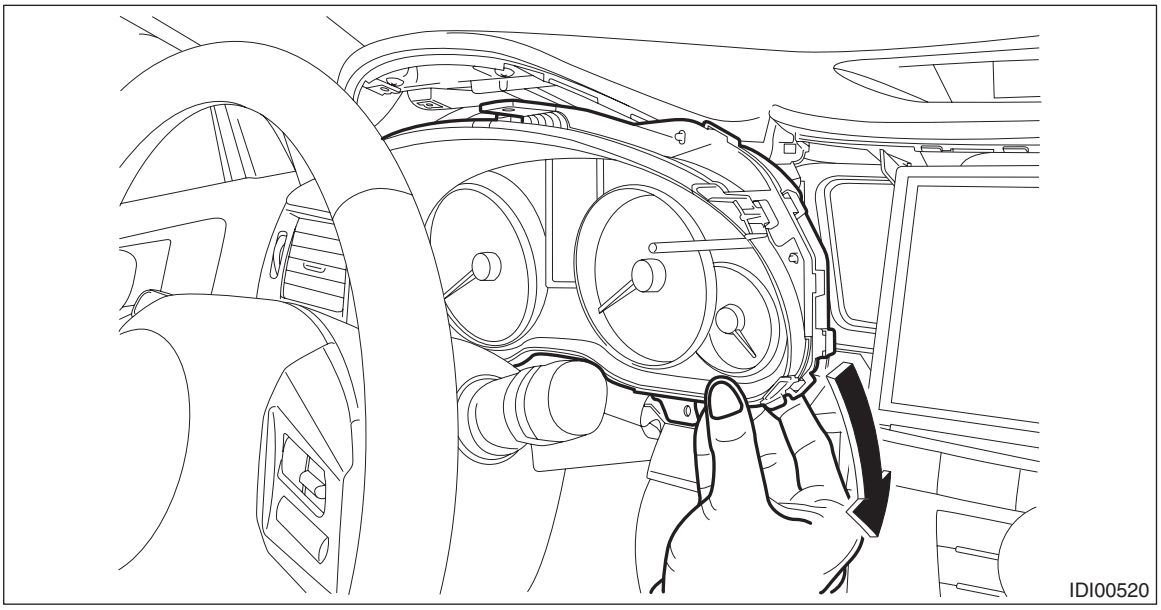
(4) Remove the screws and pull the steering COMPL upper cover toward you.



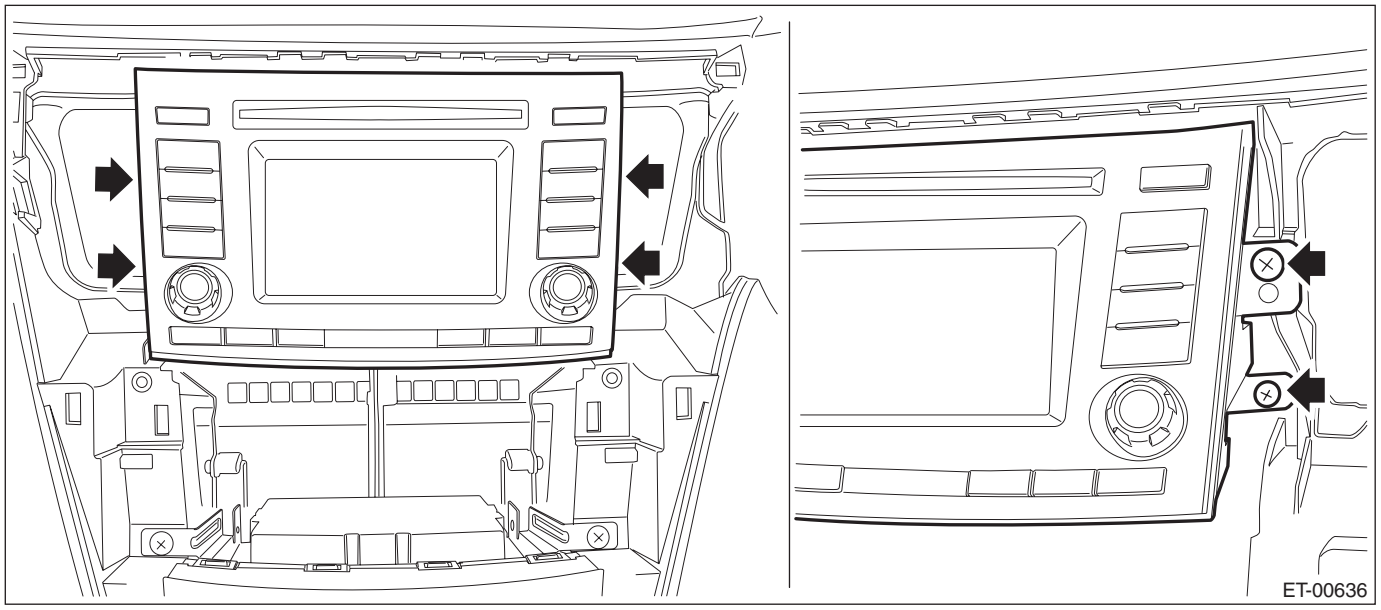
(5) Remove the four screws and pull out the combination meter toward you to disconnect the connectors.



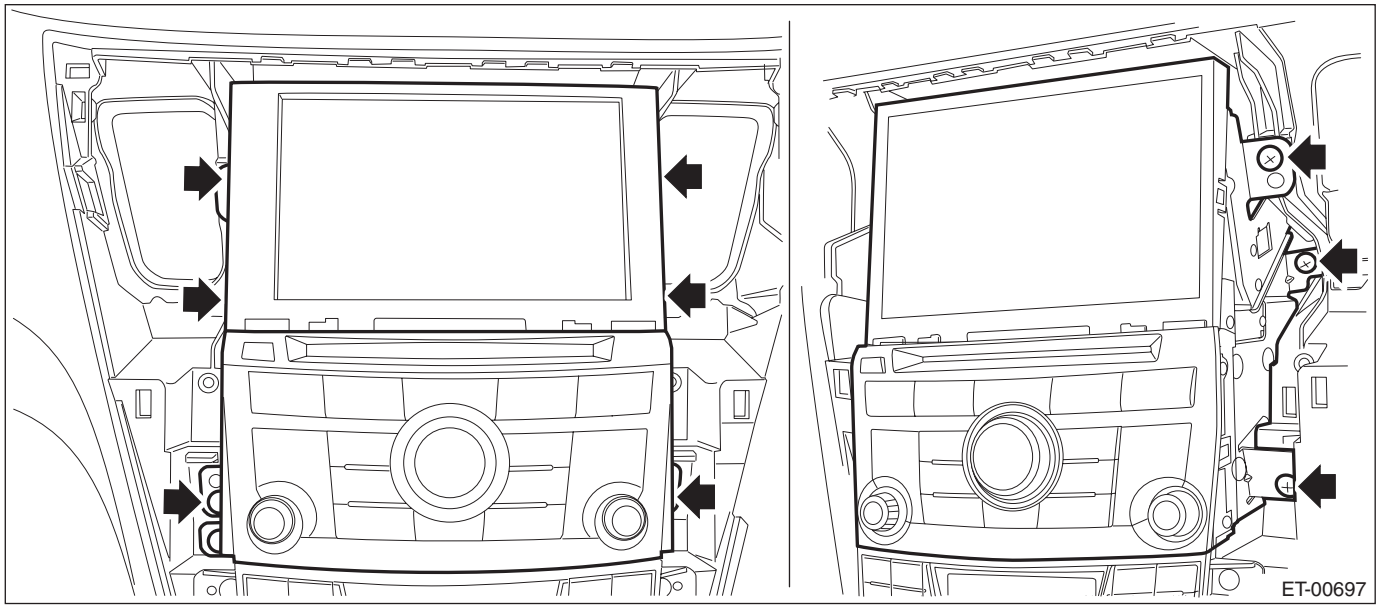
(6) Remove the combination meter assembly as shown in the figure.



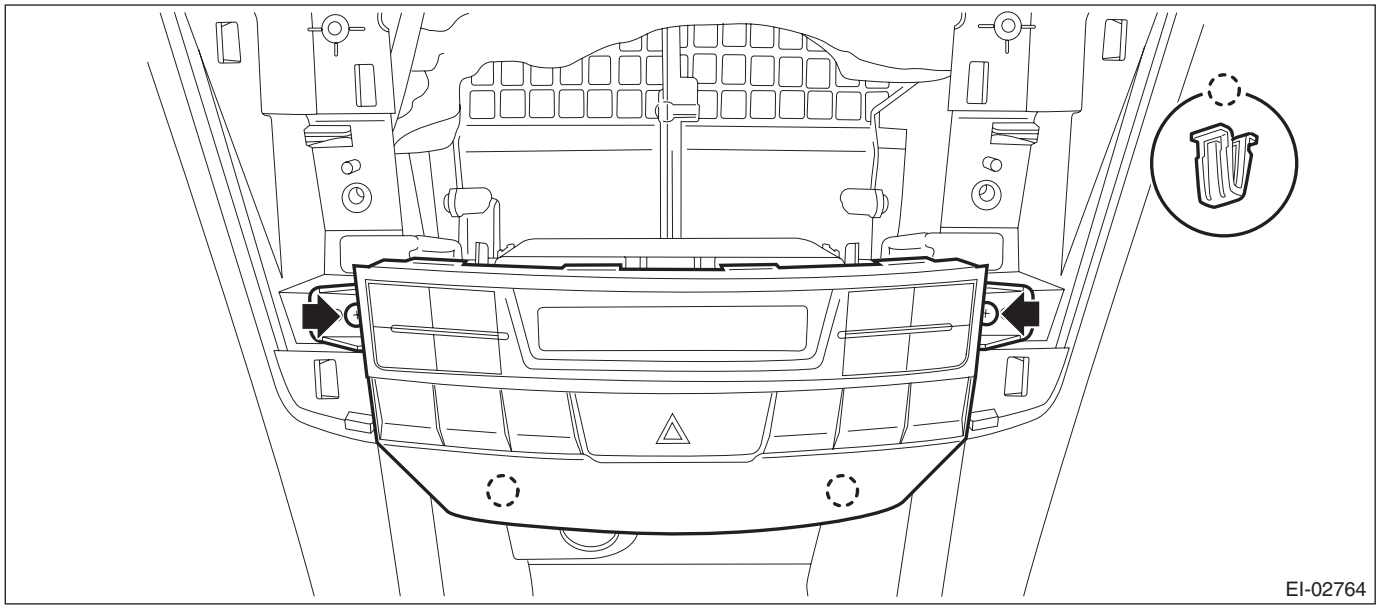
8) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



9) Remove the navigation assembly. (Model with navigation)
(1) Remove the left and right screws.
(2) Disconnect the connectors, and remove the navigation assembly.



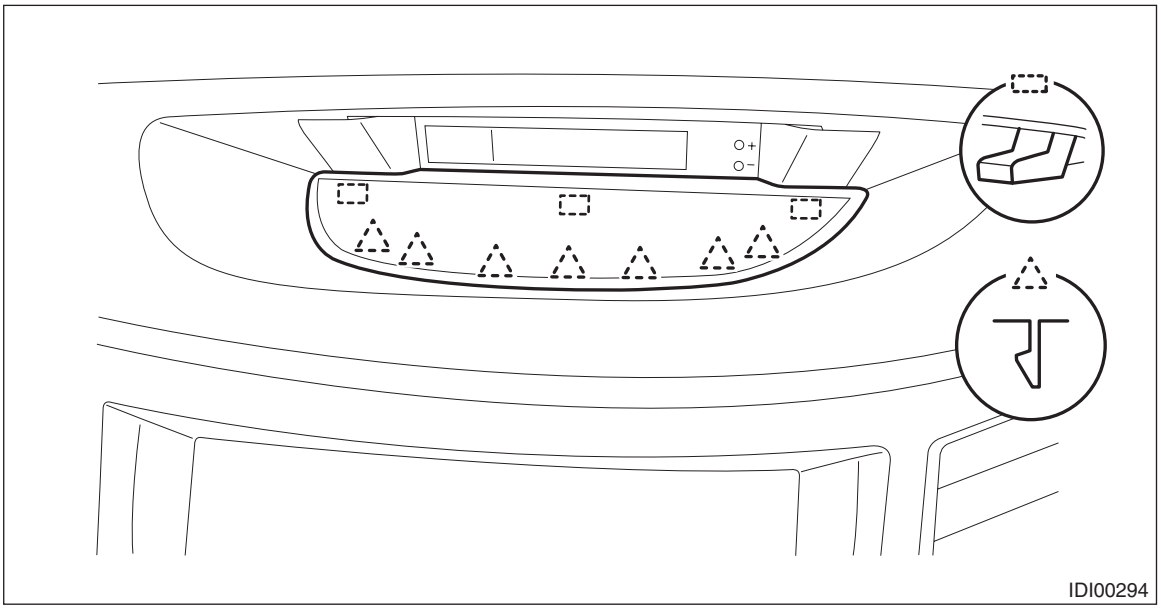
10) Remove the control panel assembly.
(1) Remove the screws, and pull out the control panel assembly toward you.
(2) Disconnect the connector, and remove the control panel assembly.



11) Remove the multi display assembly.

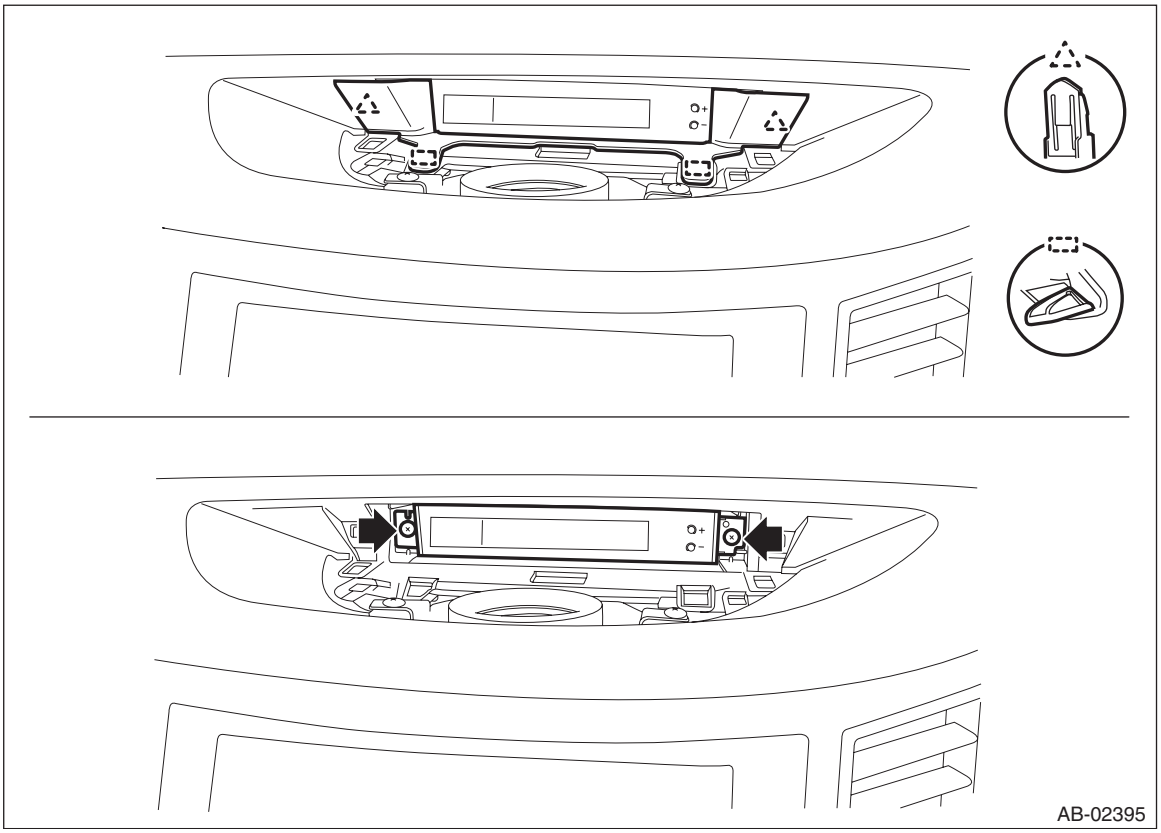
CAUTION:
Be careful not to damage the multi display or instrument panel.

(1) Detach the center speaker cover by releasing the claws and hooks.



NOTE:
An easy way of removal is to first remove the audio assembly or navigation assembly and push up the cover from the backside.

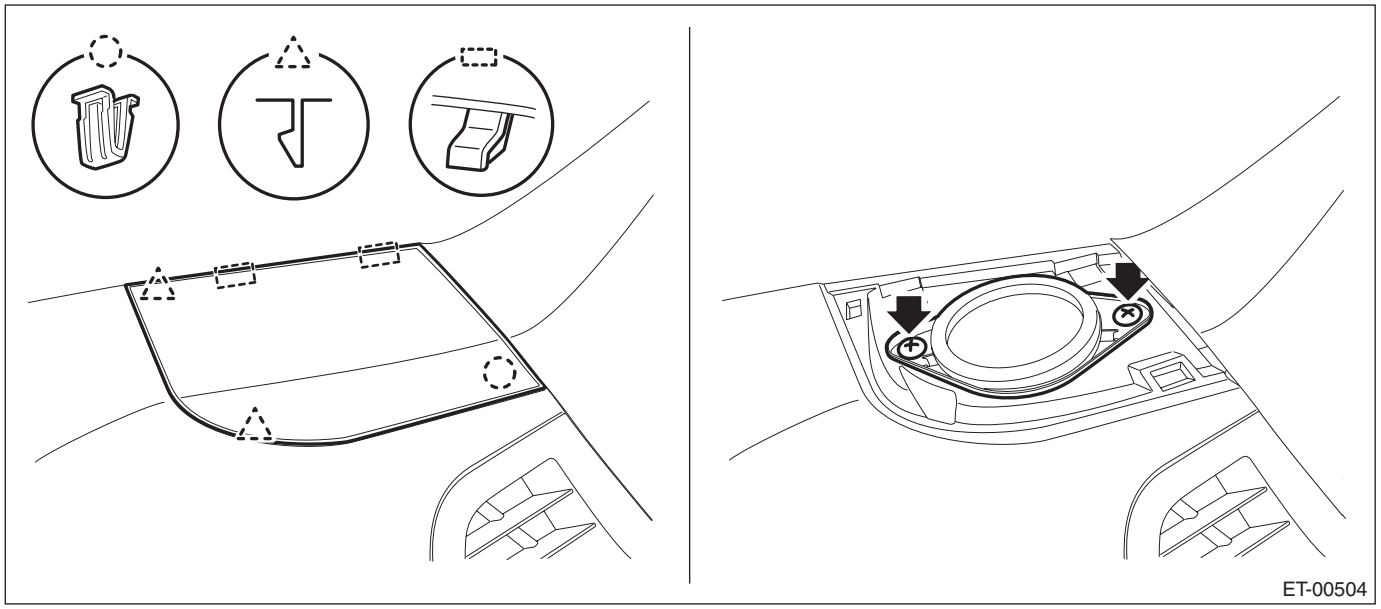
(2) Release the clips and claws, detach the multi display panel LWR.
(3) Remove the screws and pull out the multi display toward you to disconnect the connectors.



12) Remove the left and right front side speaker assembly. (Models with front side speaker)
(1) Release the clips and claws, then detach the side speaker cover.

CAUTION:
To remove the cover, use a plastic clip remover or equivalent tool.
(2) Remove the screws.

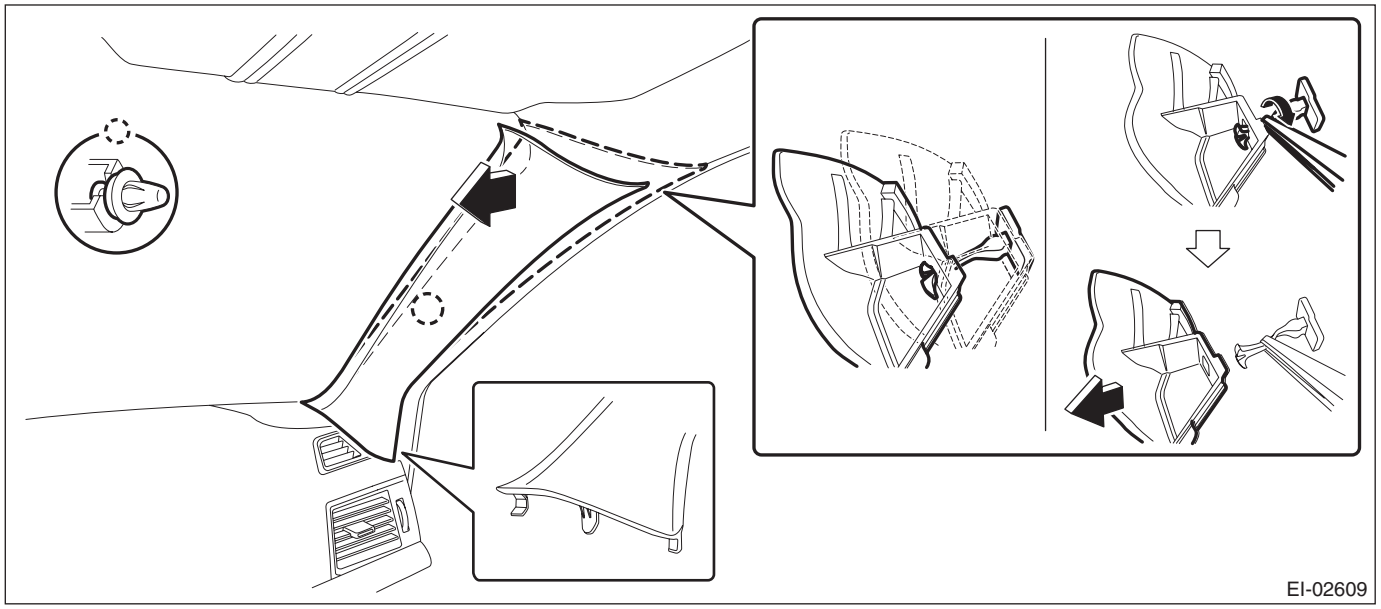
Preparation tool:
Stubby screwdriver
(3) Disconnect the connector and remove the front side speaker assembly.



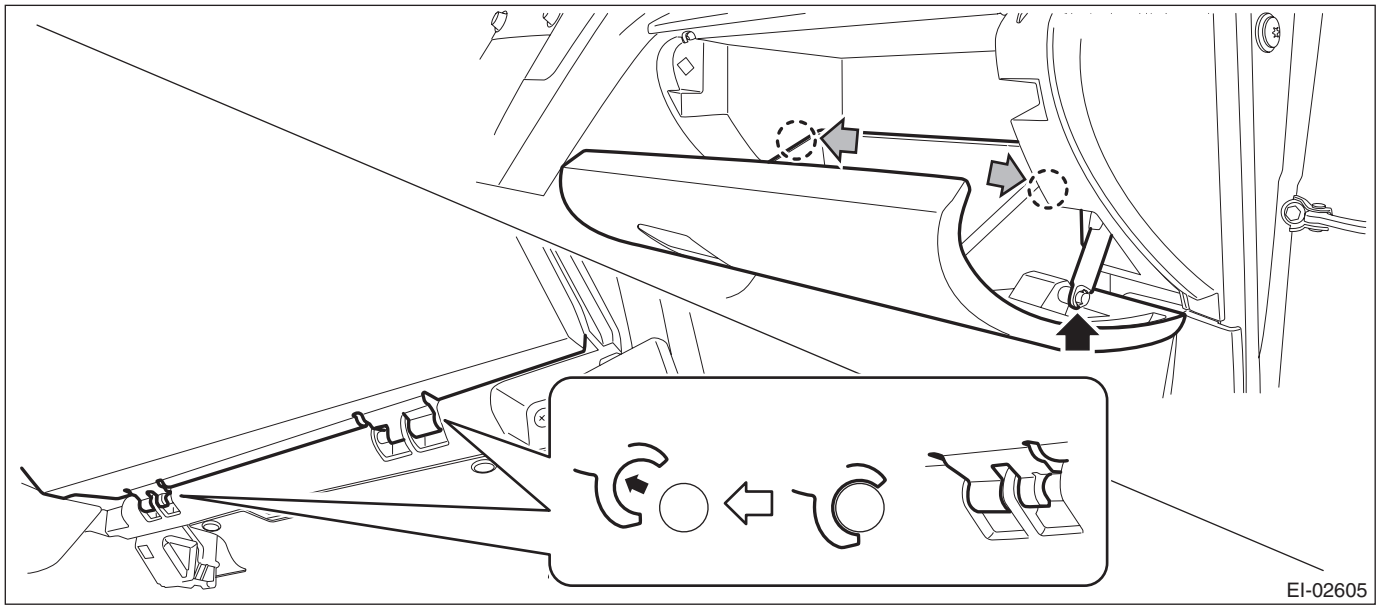
NOTE:
On the passenger's side, also disconnect the sunload sensor connector.
13) Remove the left and right front pillar trims.
(1) Pull the upper part of the front pillar trim towards the center of the vehicle.
(2) Insert long-nose pliers into the top part of the trim, grip the tether clip with the pliers and twist 90° in that position.

CAUTION:
Be careful not to damage the pillar trim surface and curtain airbag module when inserting the pliers.
(3) While holding the tether clip twisted as in the previous step, remove the front pillar trim from the tether clip.

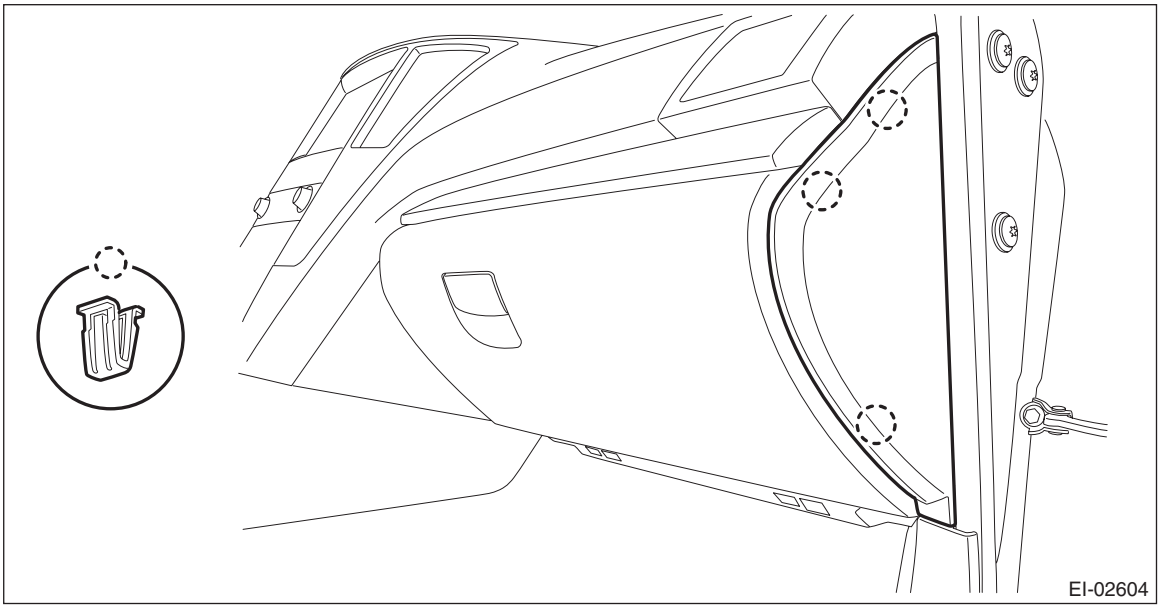
(4) Remove the clip and the front pillar trim.



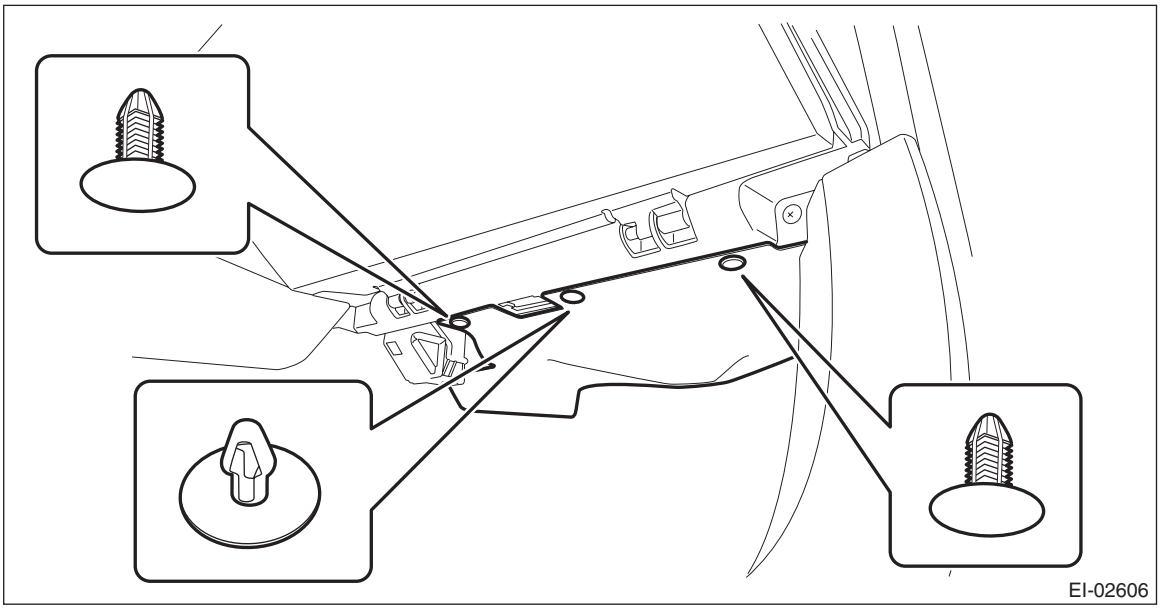
14) Remove the glove box lid assembly.
(1) Remove the glove box damper.
(2) Release the stoppers and remove the glove box lid assembly by pulling it toward you.



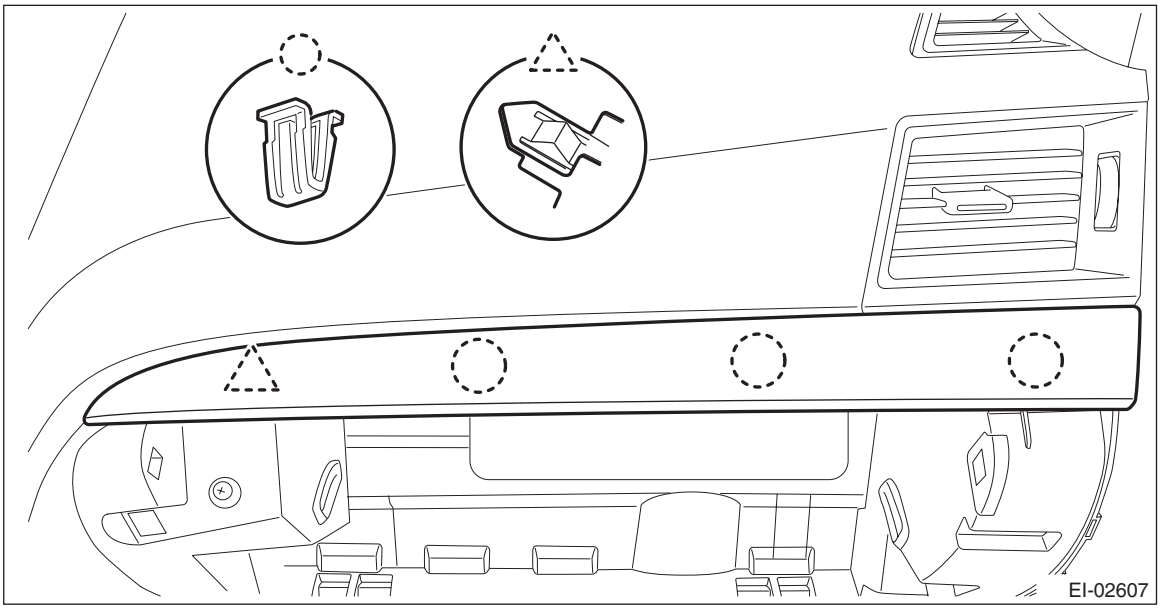
15) Remove the glove box back panel.
(1) Release the clips, and remove the instrument panel side cover RH.



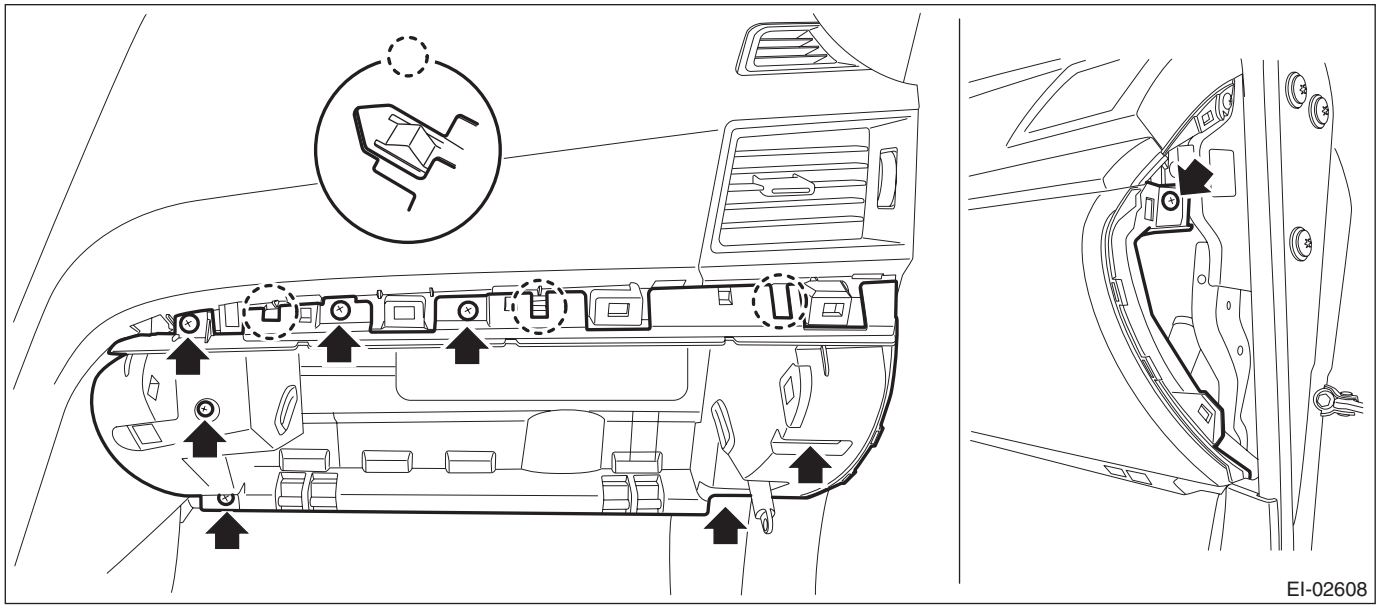
(2) Release the clips, and remove the glove box under cover.



(3) Release the clips and claws, and remove the ornament panel assembly P.

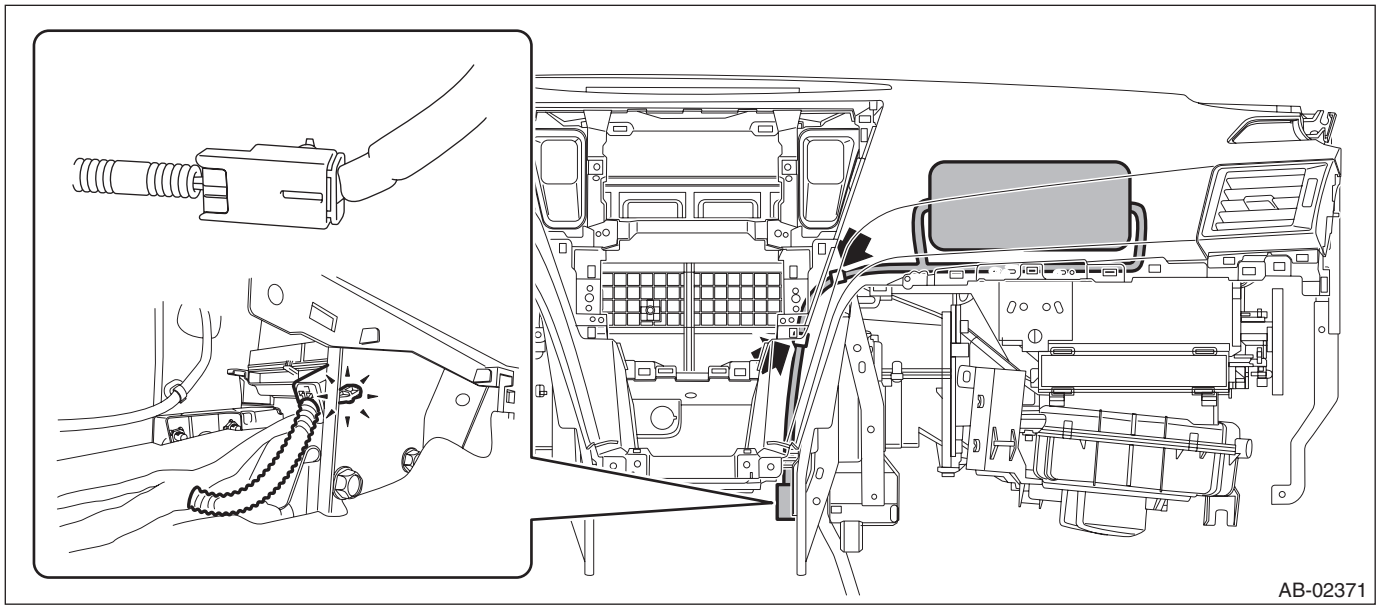


(4) Remove the screws and release the claws, then detach the glove box back panel.

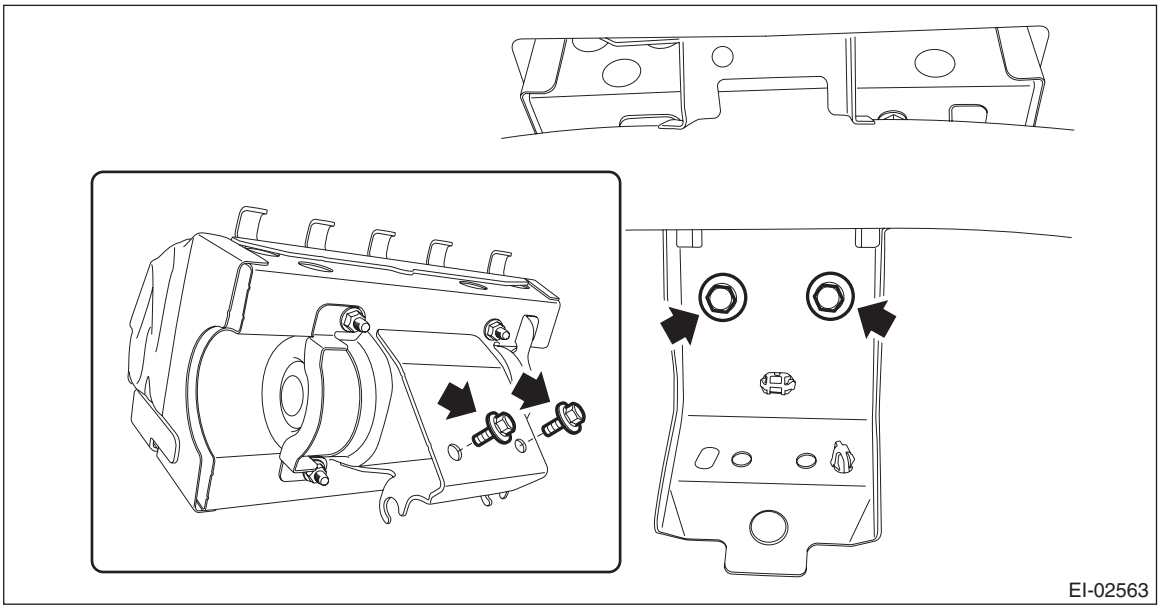


(5) Disconnect the glove box light LED connector.

16) Disconnect the connector from the passenger's airbag module assembly and remove the bolt.
(1) Release the connector and harness clamps and disconnect the airbag connector.

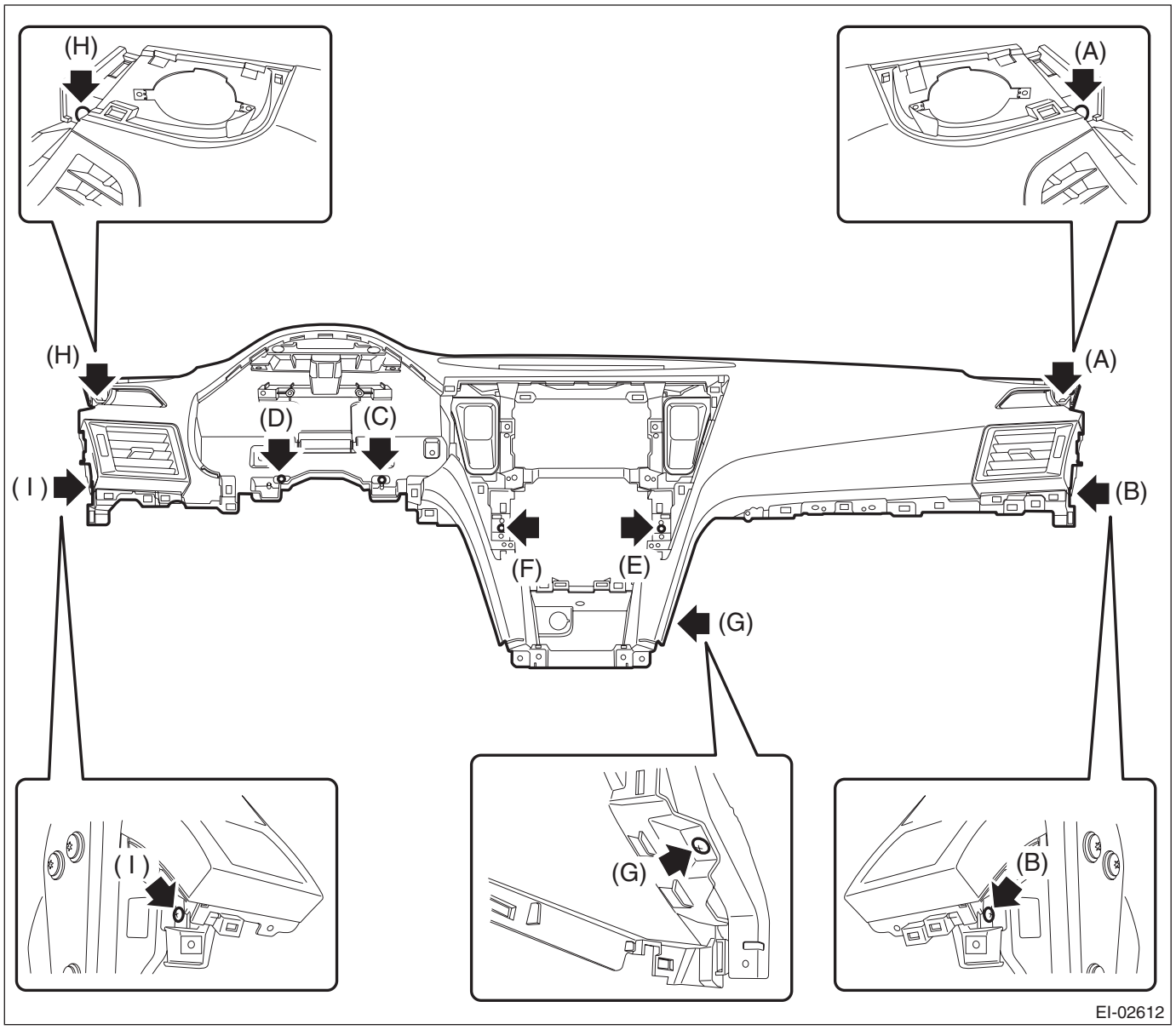


(2) Remove passenger's airbag module assembly bolts.



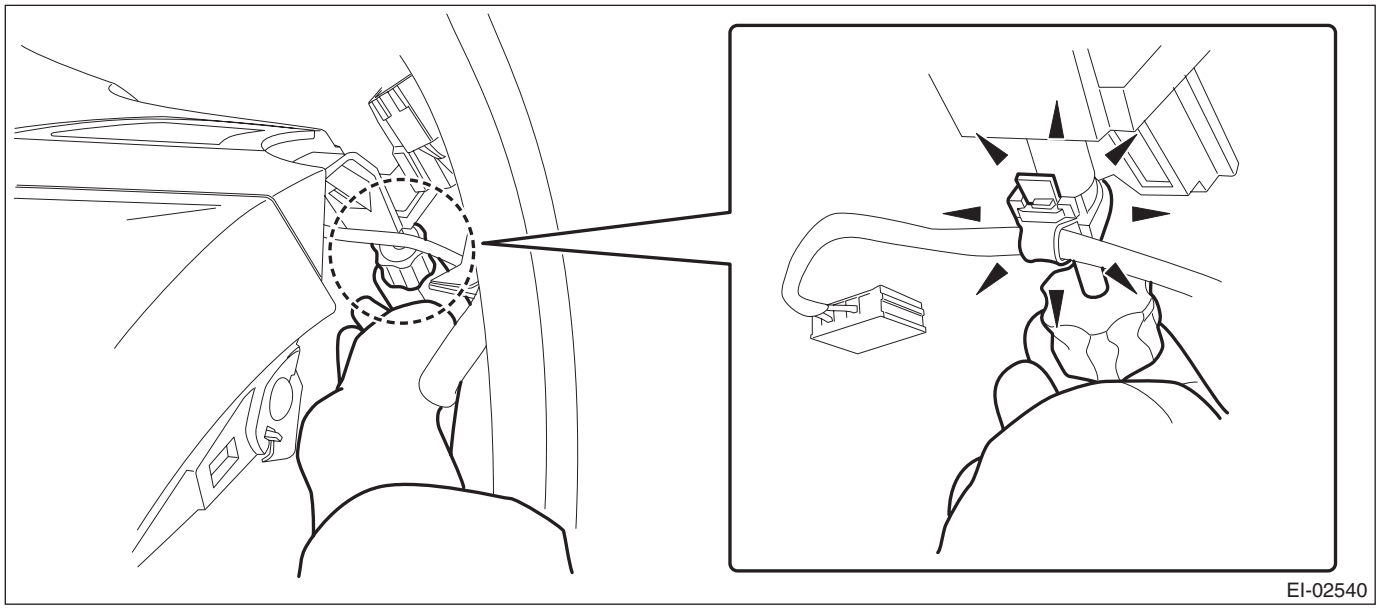
17) Remove the steering shaft assembly. <Ref. to PS-25, REMOVAL, Steering Column.>

18) Remove the instrument panel assembly.
(1) Remove the screws. (A), (B), (C), (D), (E), (F), (G), (H), (I)



(2) Pull out the instrument panel assembly toward you and release the clamps of the left and right front side speakers.

Preparation tool:
Stubby screwdriver

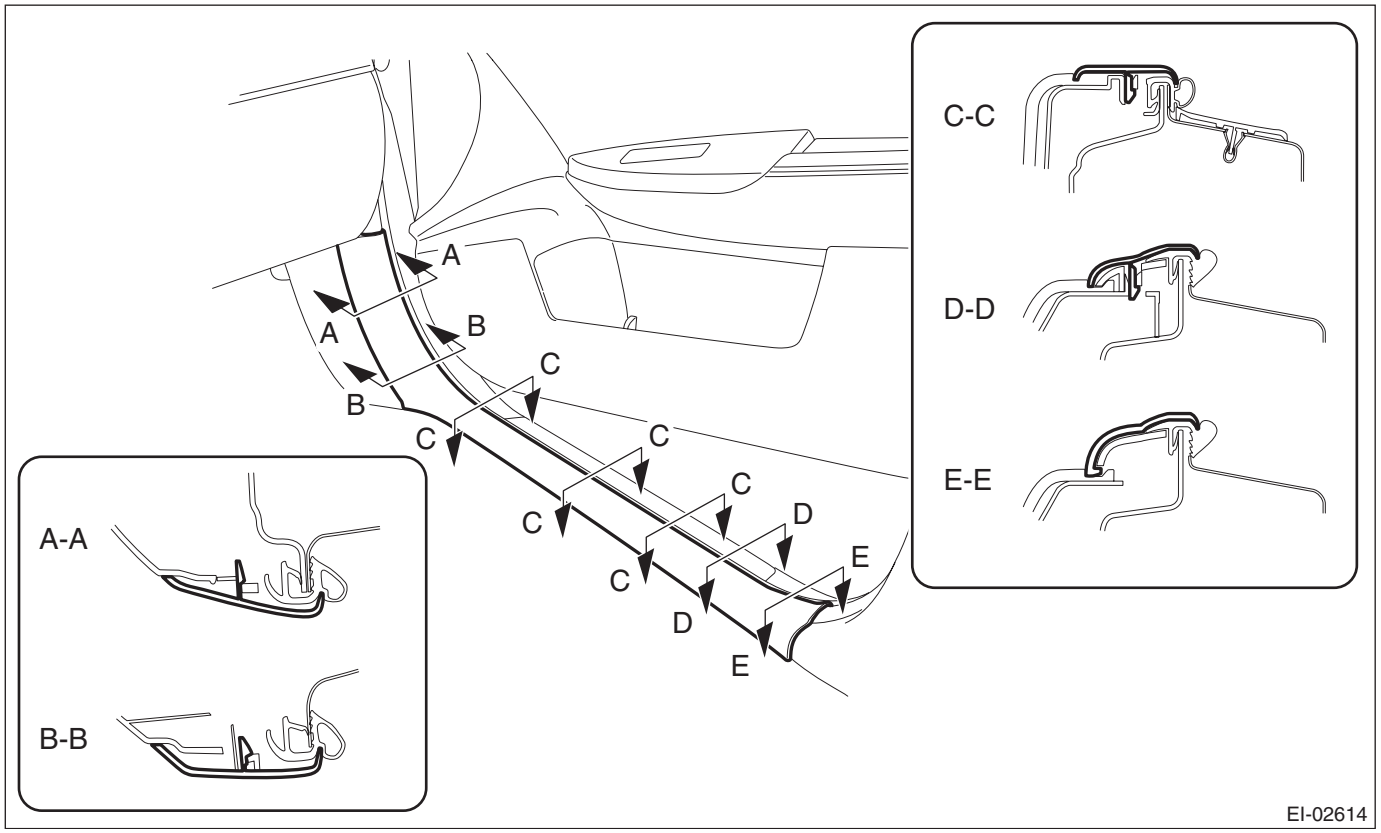


(3) After checking that all harness clamps and connectors are released and disconnected, remove the instrument panel assembly.

CAUTION:
Be careful not to damage the instrument panel surface and interior trims.

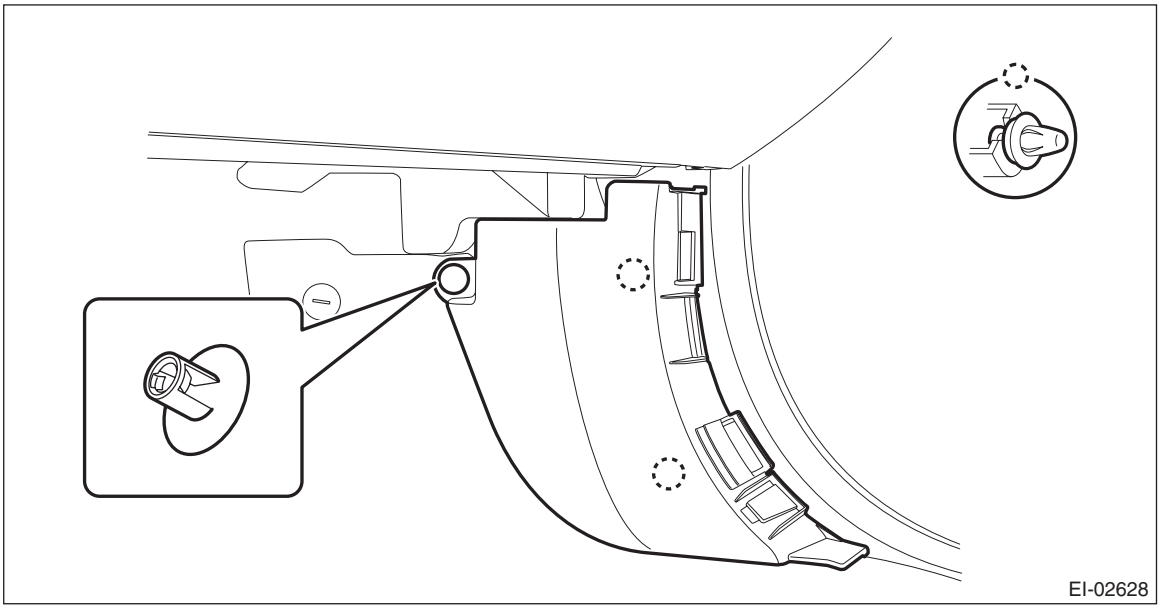
19) Release the claws, and then remove the side sill cover - front INN on the left and right sides.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



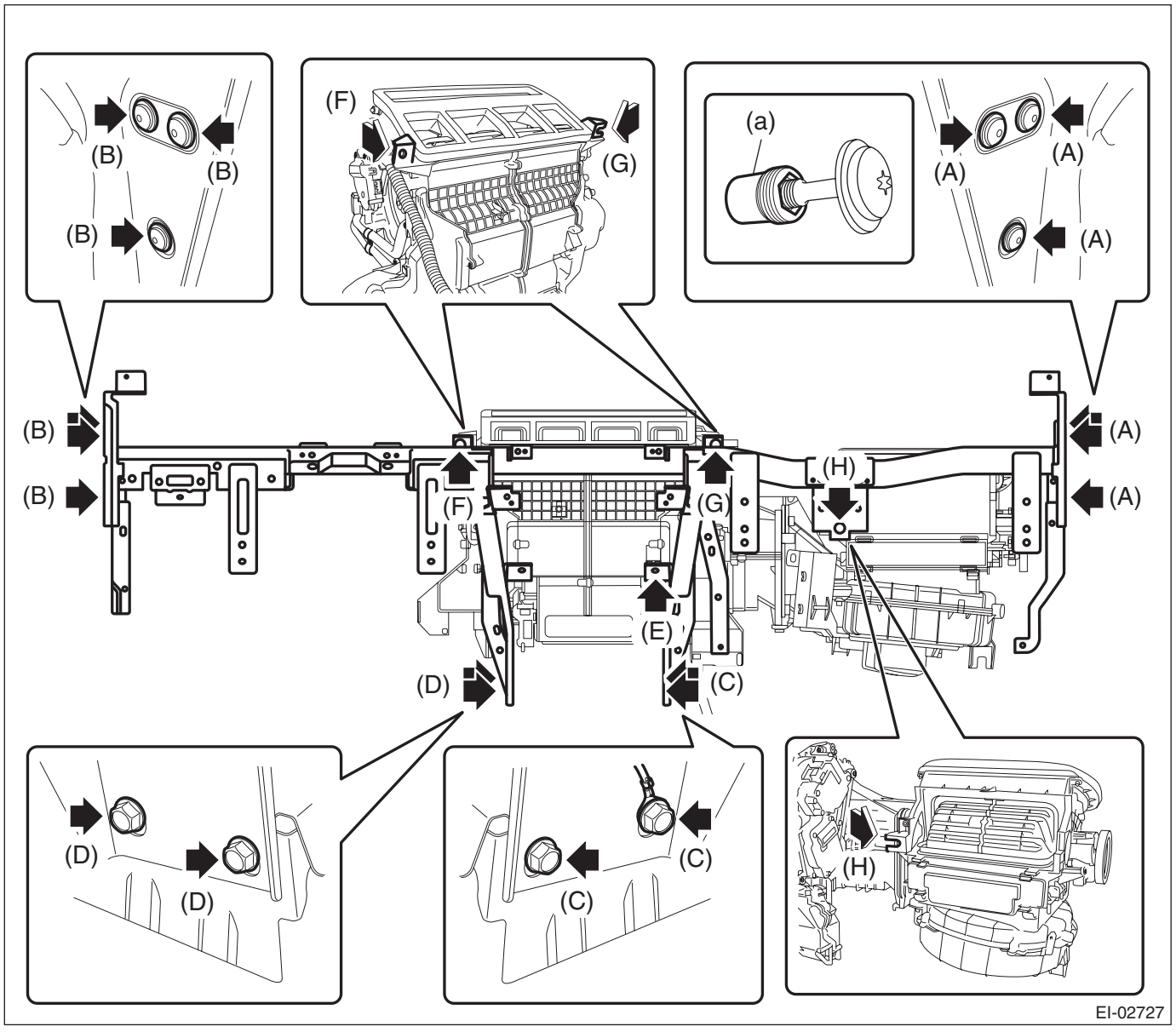
NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

20) Remove the clip, and remove the left and right side sill cover front.



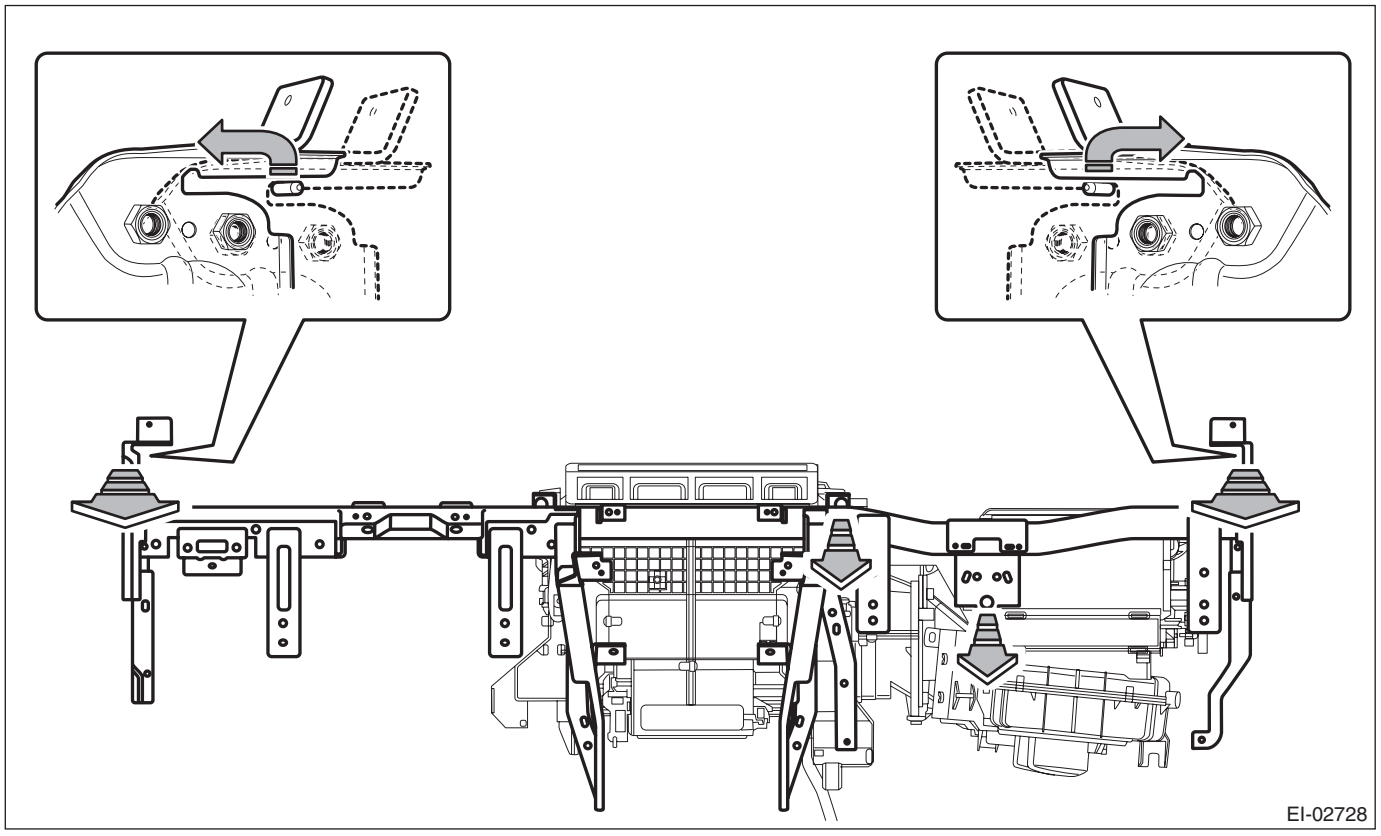
21) Remove the steering support beam assembly.
(1) Remove the fuse box and relay box.
(2) Remove the screws. (E)
(3) Disconnect all harness clamps and connectors of the instrument panel harness.
(4) Remove the TORX® bolt and adjuster bolt (a) at the outer front pillar (only passenger's side). (A), (B)

Preparation tool:
TORX® T40
Hexagon wrench (12 mm)
(5) Remove the bolts at the floor center. (C), (D)
(6) Remove the nut (F) and (G) behind the cooling unit.
(7) Remove the nut (H) behind the blower unit.



(8) Slightly lift the steering support beam assembly to detach the left and right pins. Then pull it toward you to remove the assembly.

CAUTION:
- **Check that all harness clamps and connectors are detached.**
- **Be careful not to damage interior trims.**



B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
• Do not reuse the tether clips on the upper part of the front pillar trim. Always replace with a new part.
Once the tether clip is removed from the pillar trim, the retention power deteriorates and the front pillar trim may come off.
• Before installing the front pillar trim, check the condition of (white) protective unwoven cloth of curtain airbag. If it is damaged (airbag module cloth is exposed), replace the curtain airbag module assembly with a new part.
1) Attach components until the instrument panel assembly is formed, in the reverse order of removal.

NOTE:
Method of installing insulator
• Adhesive
Use polyurethane adhesive. When assembling the instrument panel assembly, wait until the adhesive has evaporated to prevent filling of the smell in the compartment.
• Double-sided tape
Use commercial double-sided tape. (Use strong double-sided adhesive tape.)
2) Insert the matching pins (three locations) on the body side into the instrument panel assembly.
3) Check that the matching pins are inserted securely, and then route the harness.
4) Install each part in the reverse order of removal.

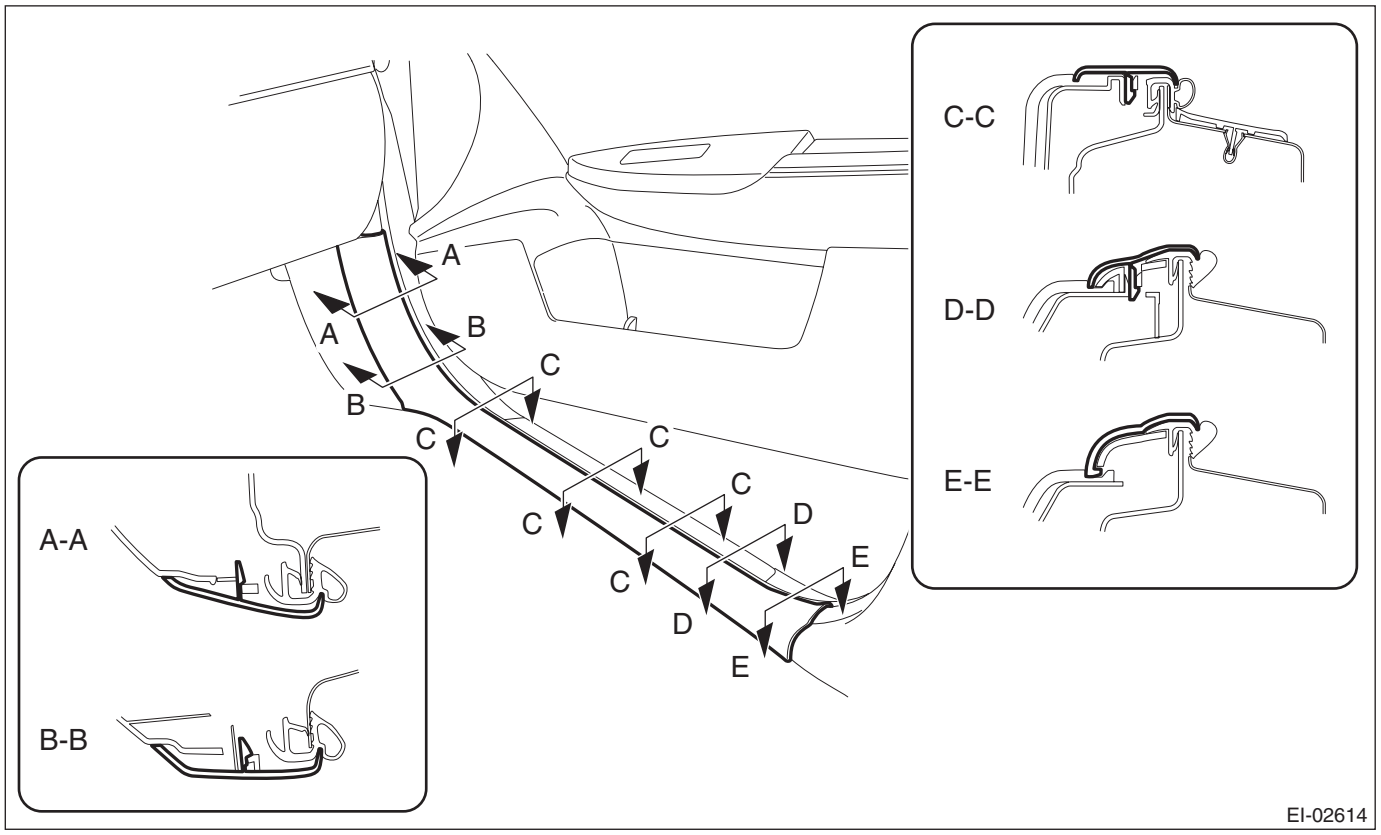
Tightening torque:
Steering support beam:<Ref. to EI-14, INSTRUMENT PANEL, COMPONENT, General Description.>
Passenger's airbag module assembly: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Steering shaft:<Ref. to PS-4, STEERING WHEEL AND COLUMN, COMPONENT, General Description.>
Console box: 6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

19.Lower Inner Trim

A: REMOVAL

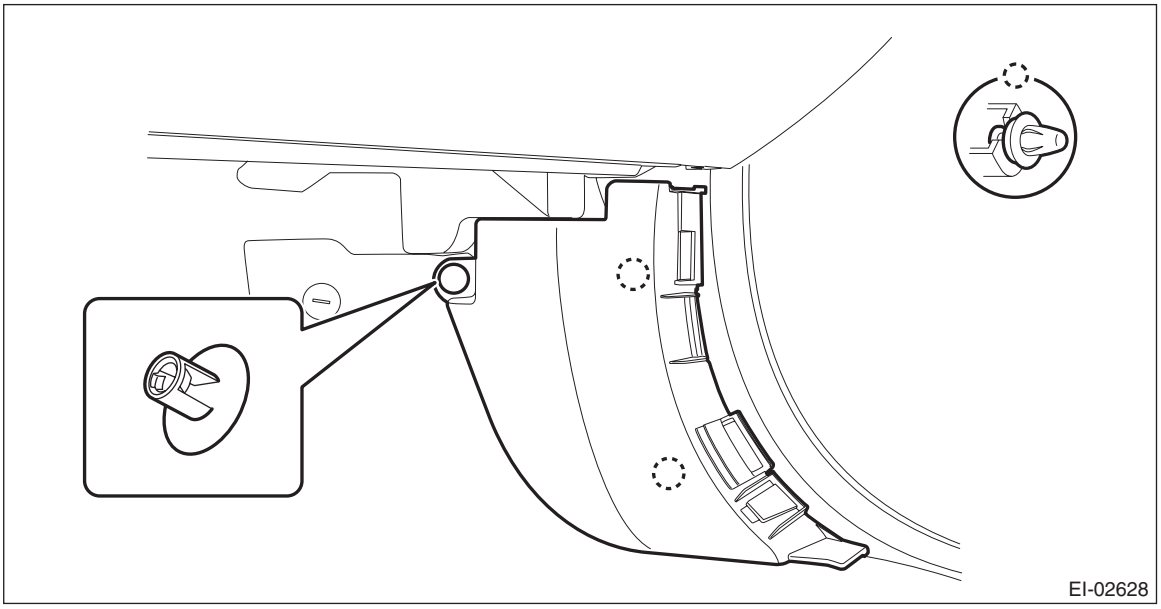
1) Release the claws, and then remove the side sill cover-front INN.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



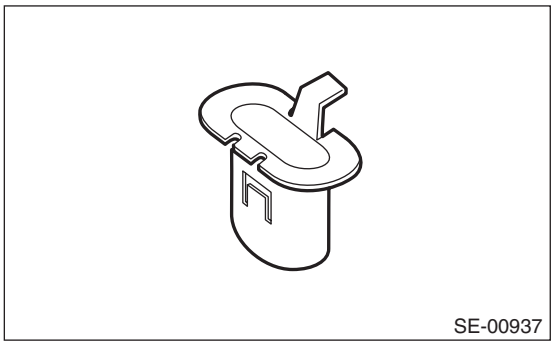
NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

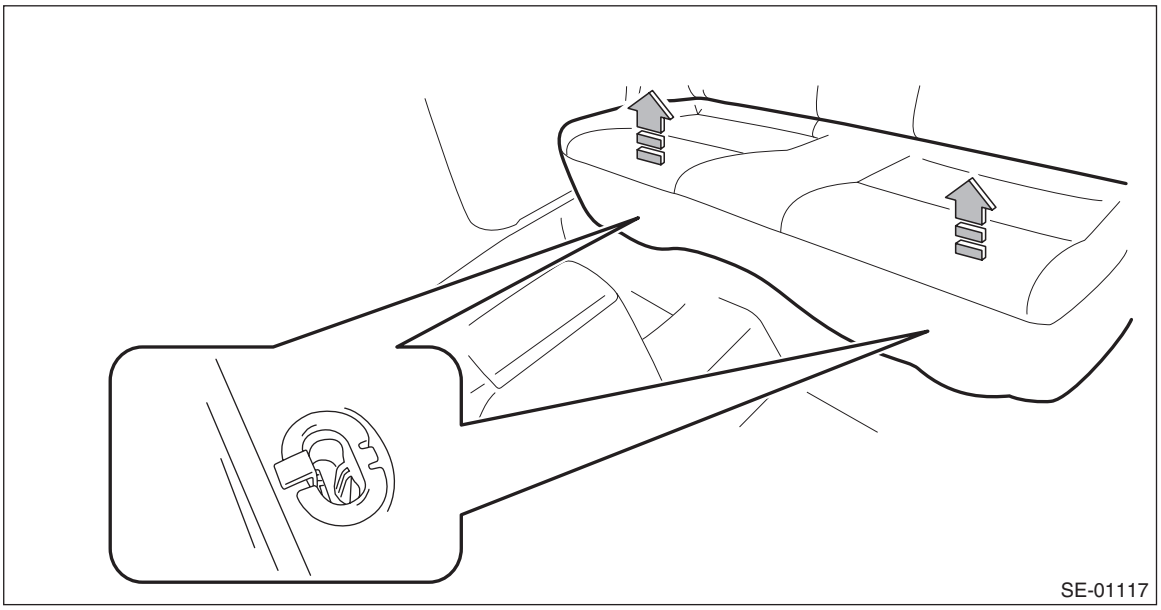
2) Remove the clip, and remove the side sill cover front.



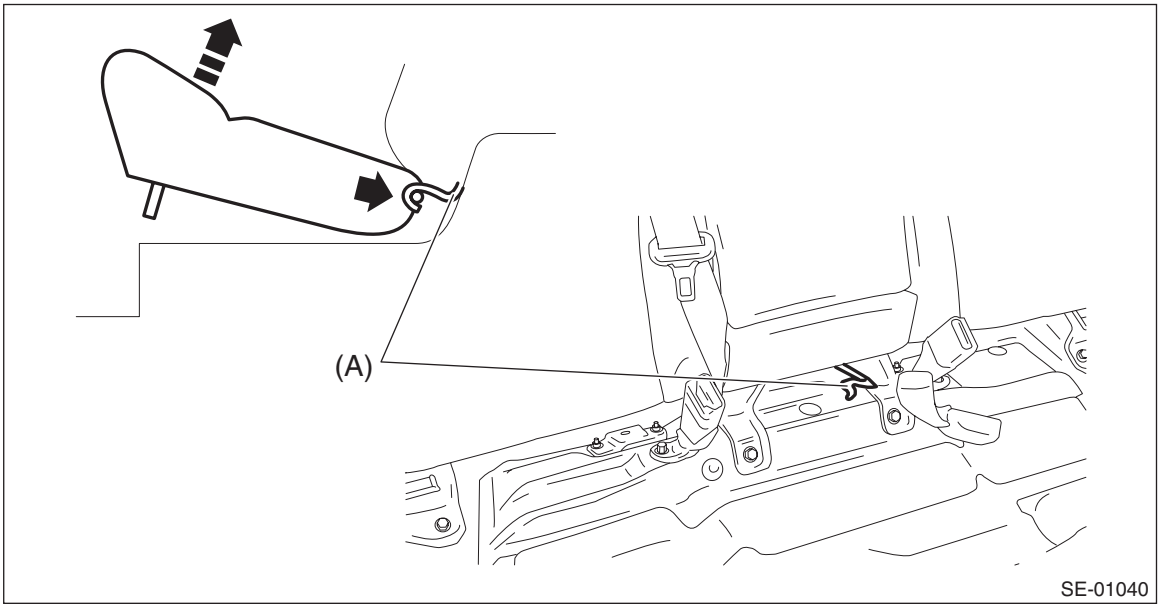
3) Remove the rear seat cushion assembly.
(1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937


SE-01117

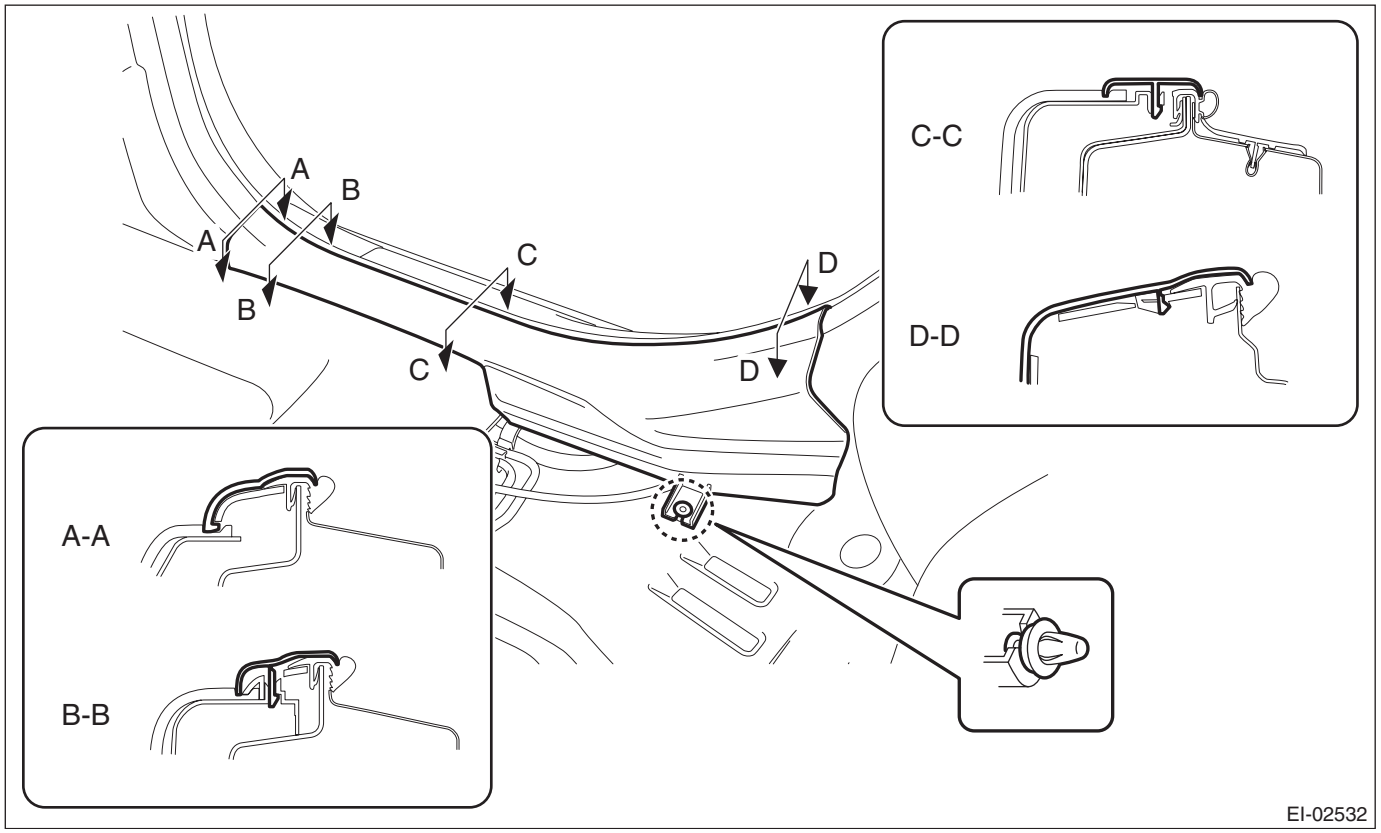
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



SE-01040

4) Release the clips and claws, and then remove the side sill cover - rear INN.

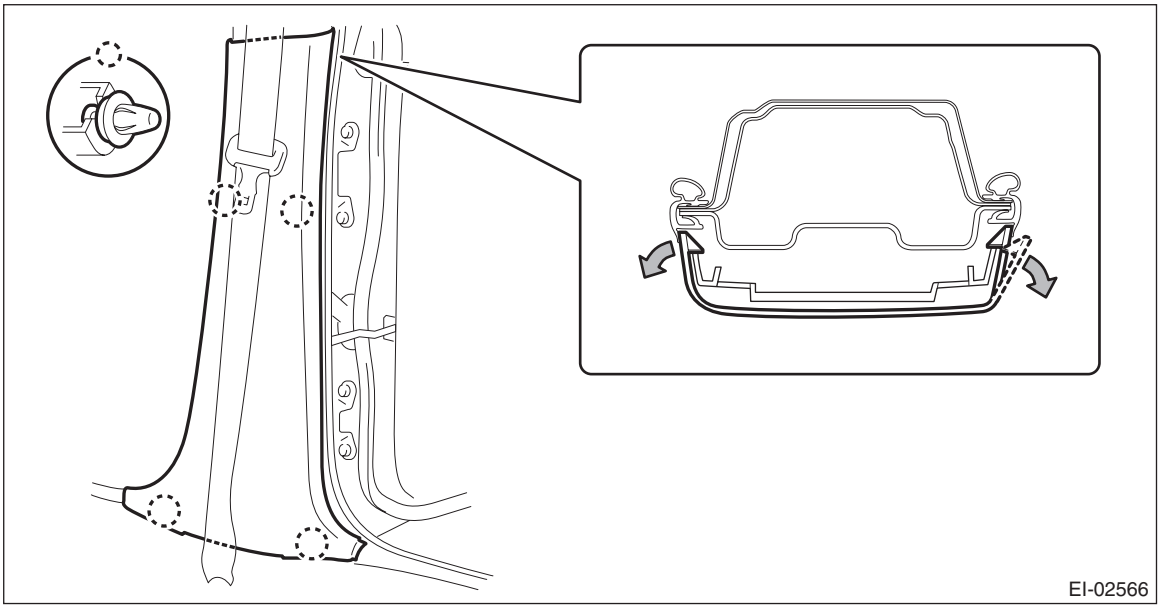
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



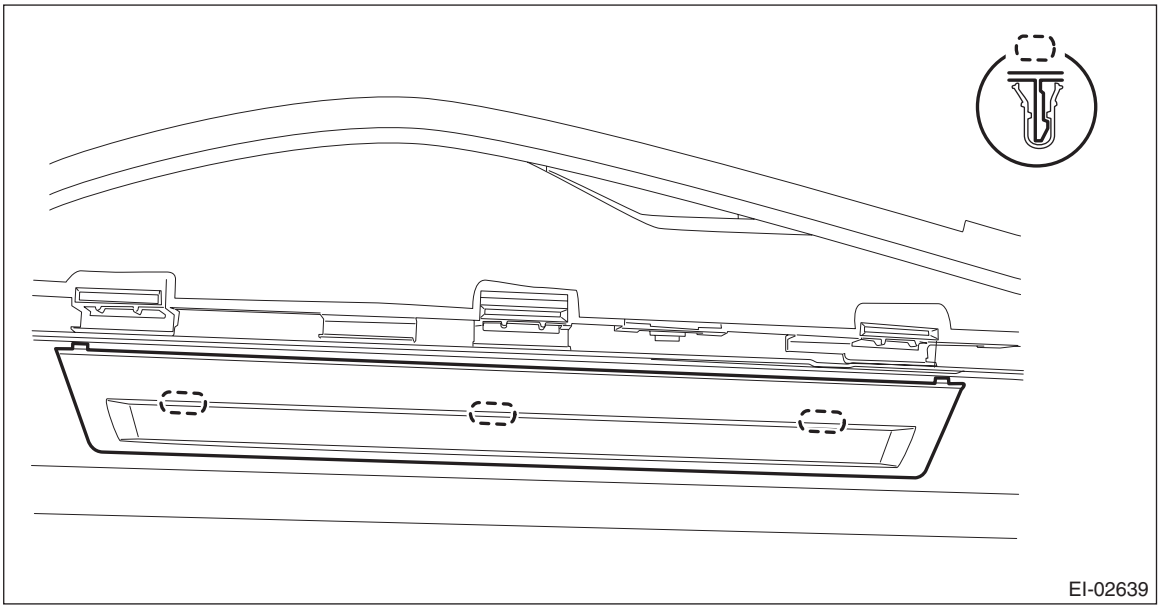
NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

5) Remove the center pillar trim LWR.
(1) Release the clip by pulling the center pillar trim LWR toward you.
(2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

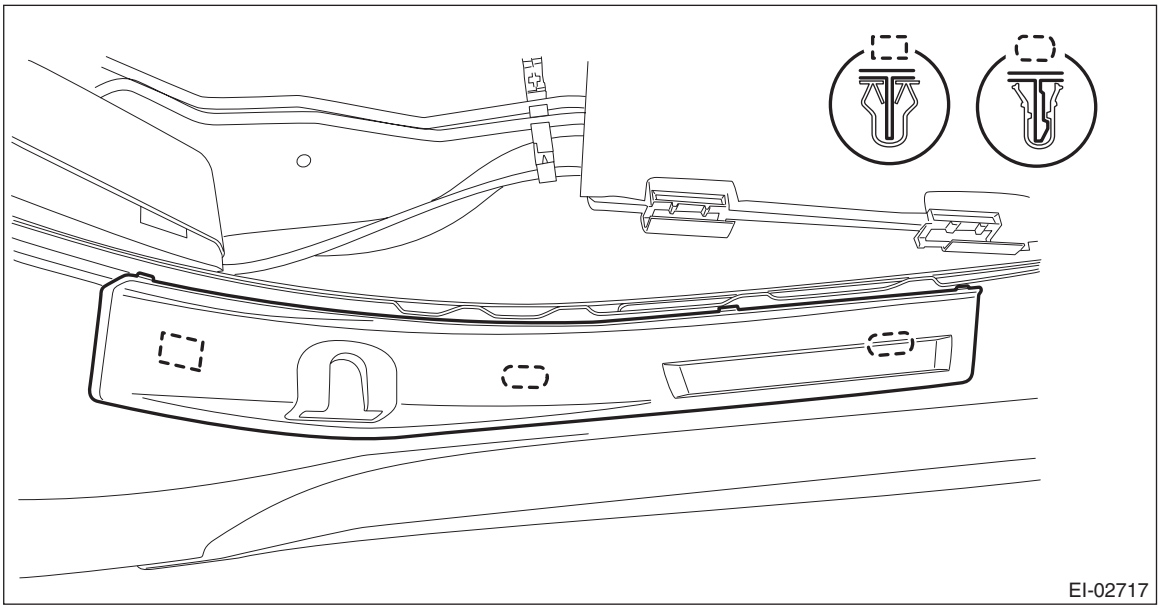
CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.


EI-02566

NOTE:
First release the claw located to the rear of the vehicle.
6) Release the claws, and then remove the side sill cover-front OUT.

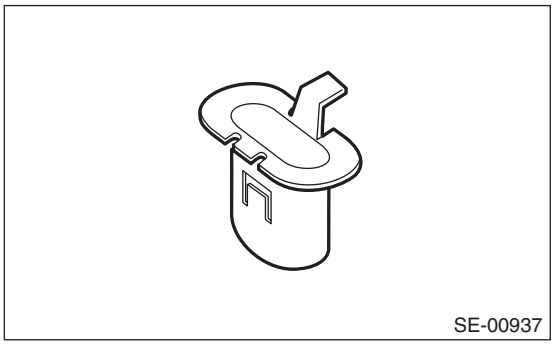

EI-02639

7) Release the claws and metal clips, and then remove the side sill cover-rear OUT.



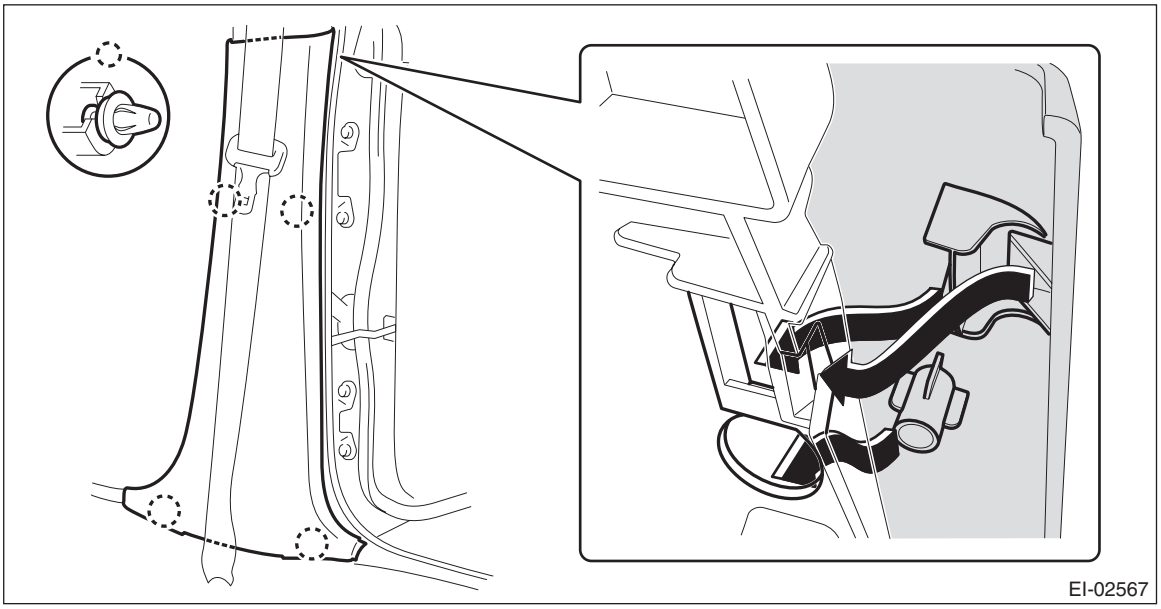
B: INSTALLATION

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937

Install each part in the reverse order of removal.

NOTE:
Assemble the center pillar trim LWR to the center pillar trim UPR securely.

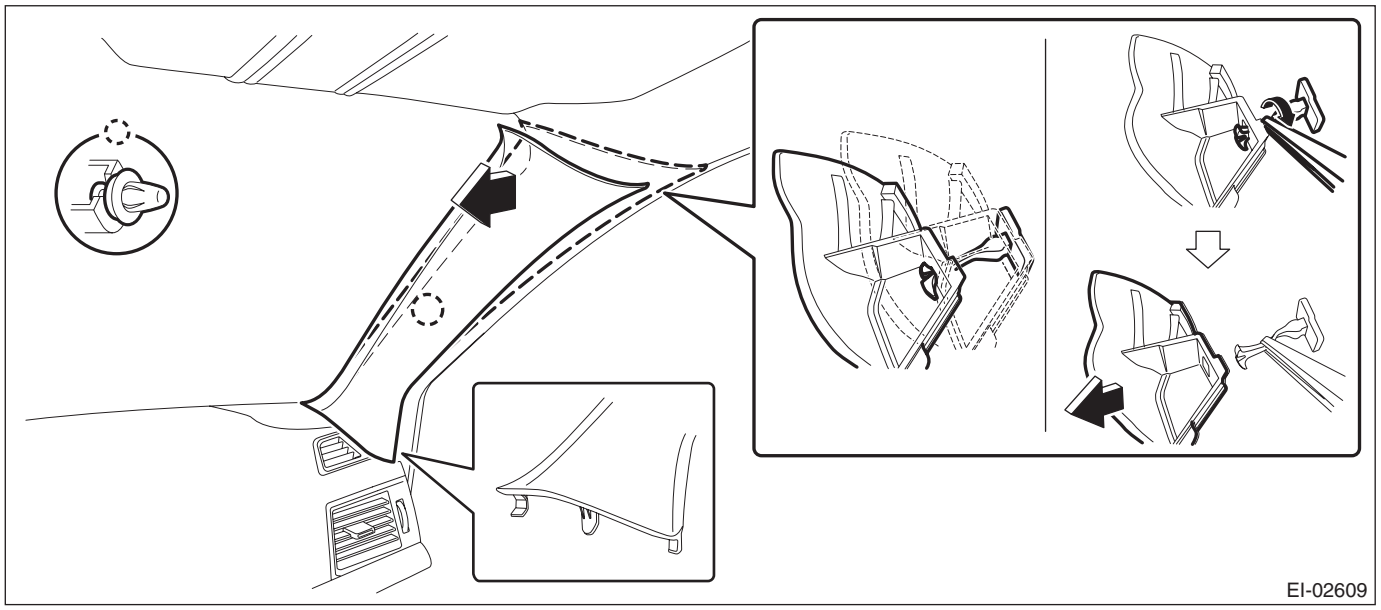

EI-02567

20.Upper Inner Trim

A: REMOVAL

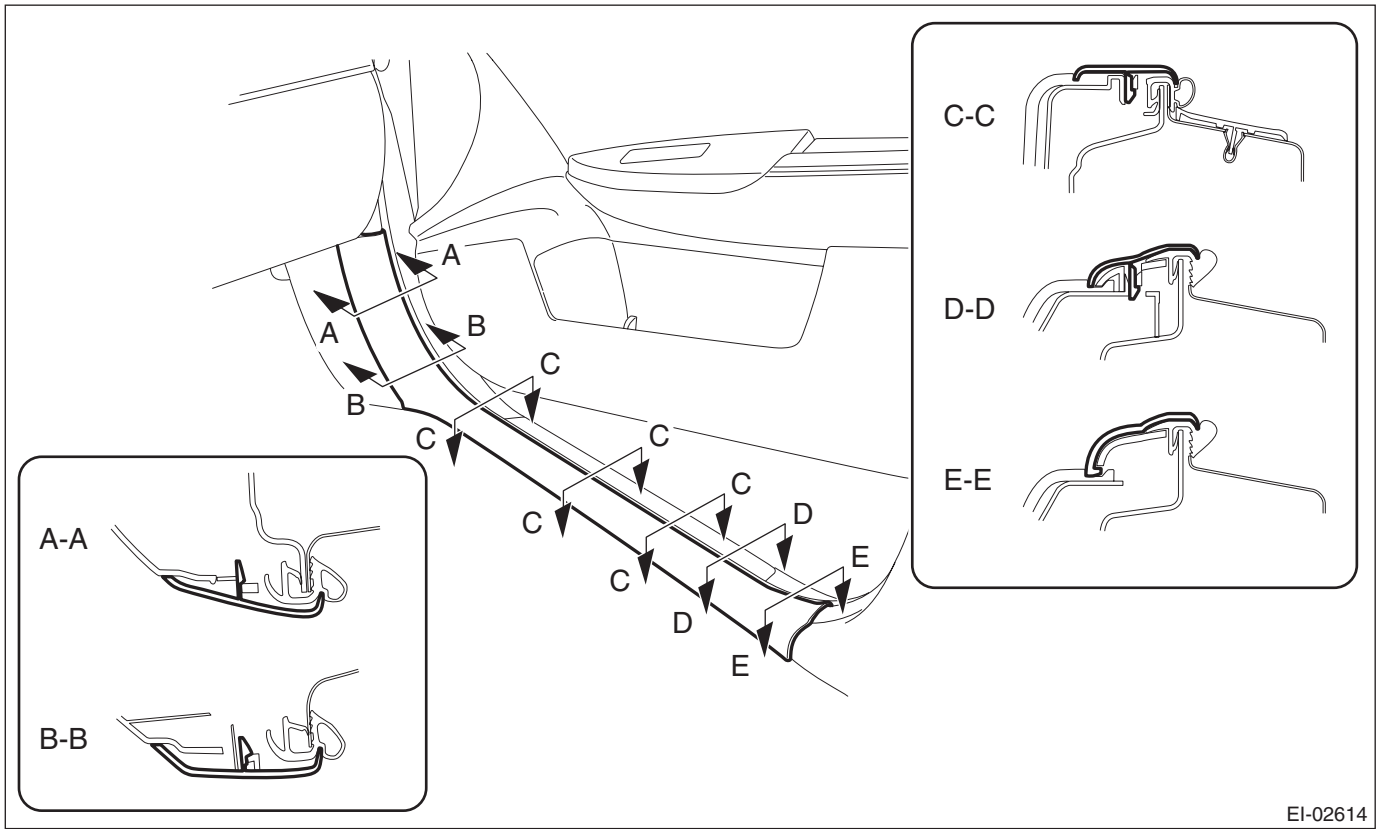
1) Remove the front pillar trim.
   (1) Pull the upper part of the front pillar trim towards the center of the vehicle.
   (2) Insert long-nose pliers into the top part of the trim, grip the tether clip with the pliers and twist 90° in that position.

CAUTION:
Be careful not to damage the pillar trim surface and curtain airbag module when inserting the pliers.
   (3) While holding the tether clip twisted as in the previous step, remove the front pillar trim from the tether clip.
   (4) Remove the clip and the front pillar trim.



2) Release the claws, and then remove the side sill cover - front INN.

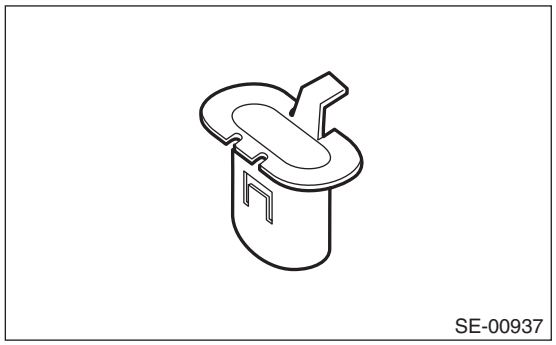
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

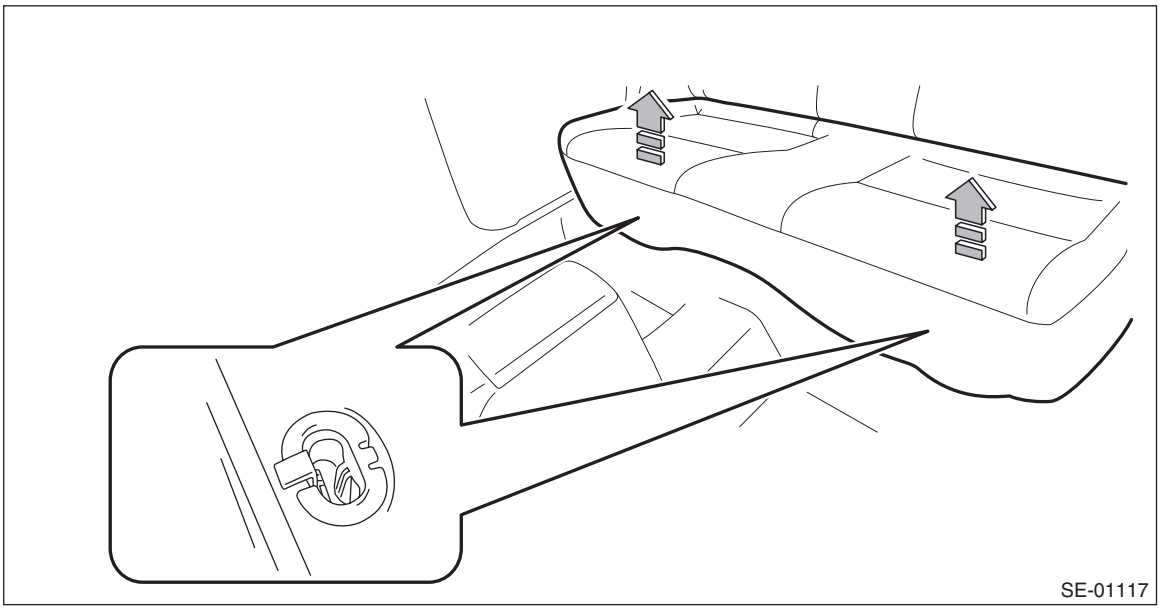


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

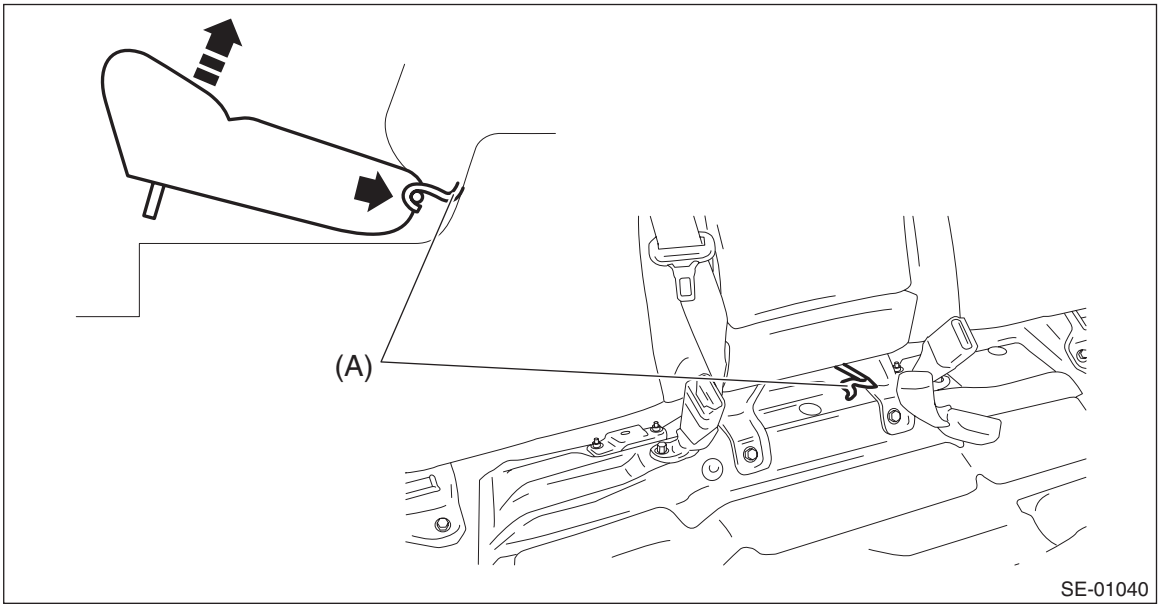
3) Remove the rear seat cushion assembly.
(1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937


SE-01117

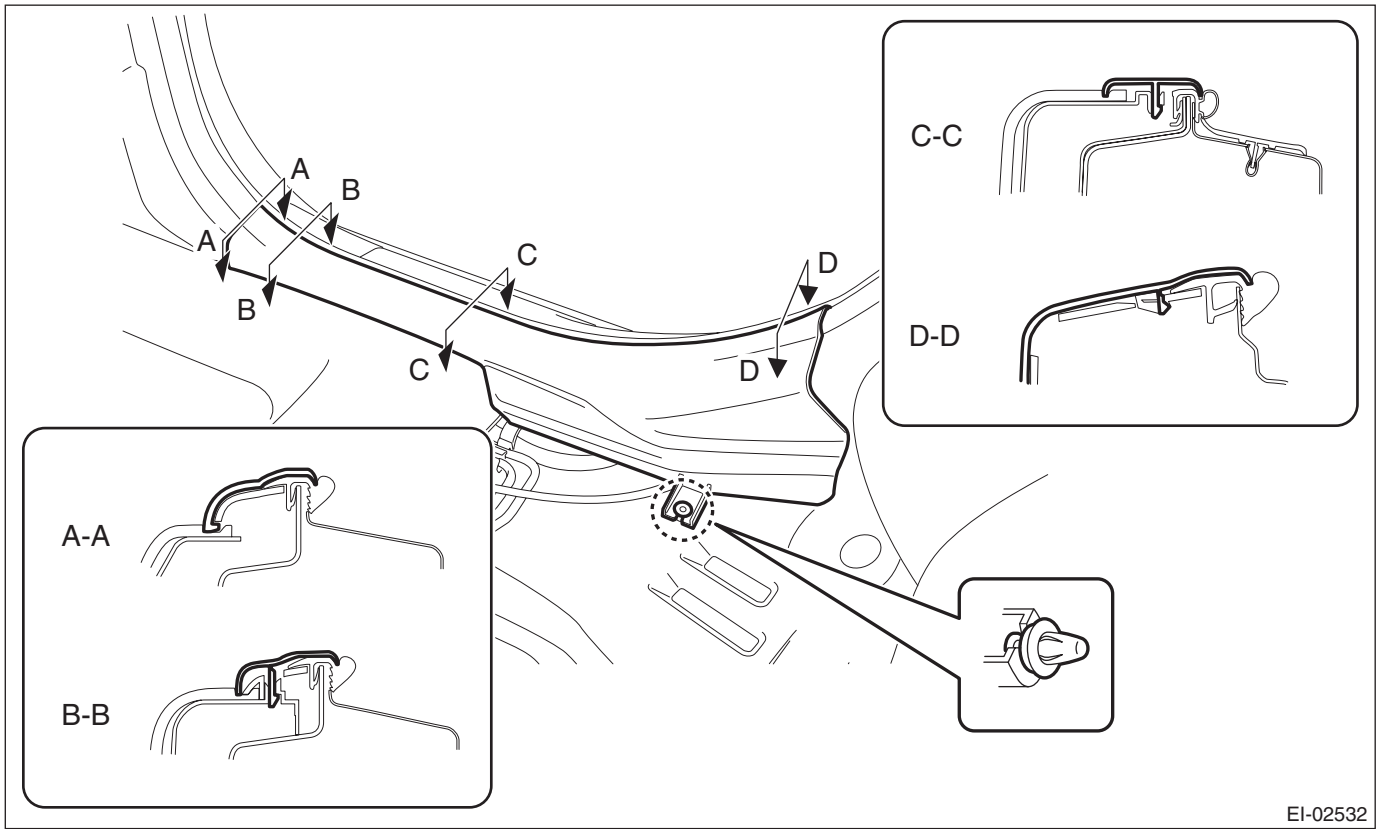
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



SE-01040

4) Release the clips and claws, and then remove the side sill cover - rear INN.

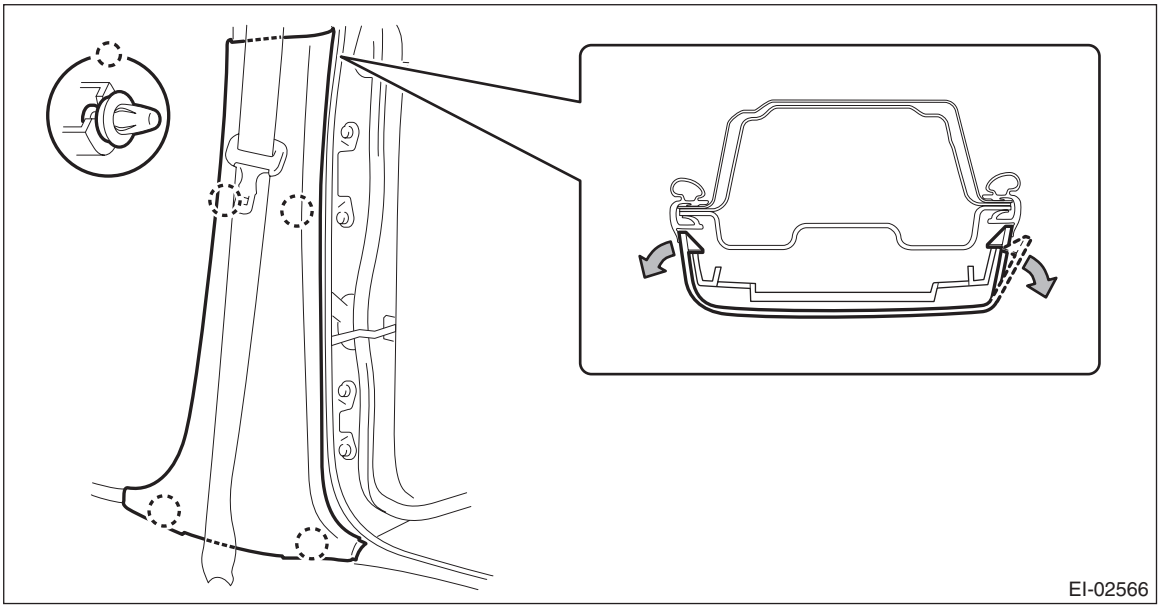
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



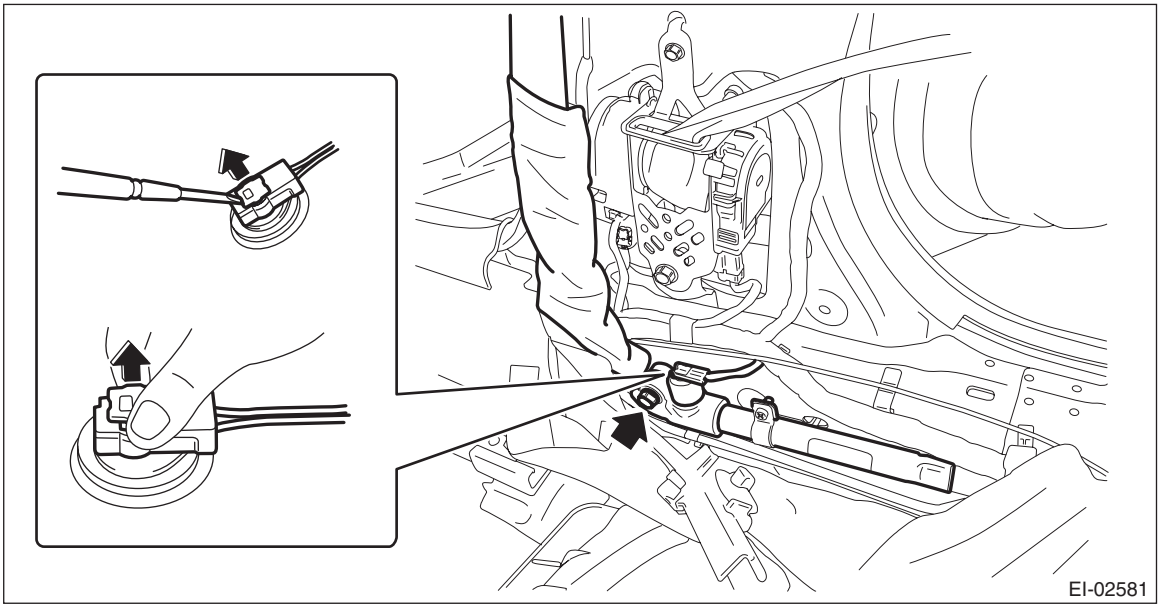
NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

5) Remove the center pillar trim LWR.
(1) Release the clip by pulling the center pillar trim LWR toward you.
(2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.


EI-02566

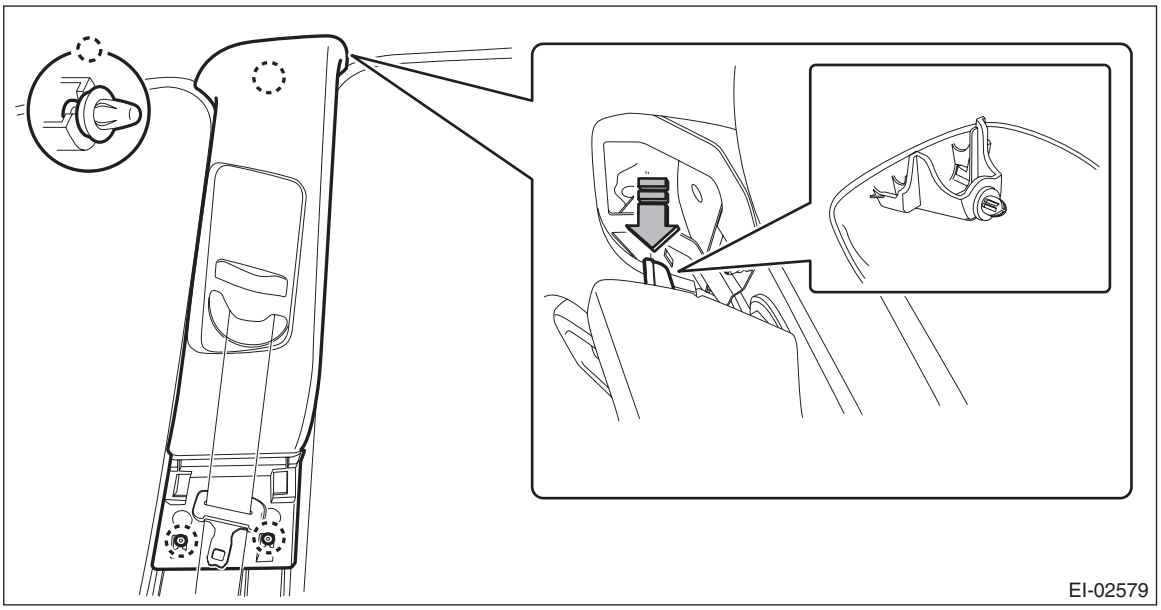
NOTE:
First release the claw located to the rear of the vehicle.
6) Remove the center pillar trim UPR.
(1) Also disconnect the connector of lap seat belt pretensioner, and remove the seat belt lower anchor bolt.


EI-02581

(2) Release the clip by pulling the lower part of the trim toward you.

(3) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the center pillar trim UPR.

CAUTION:
Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.

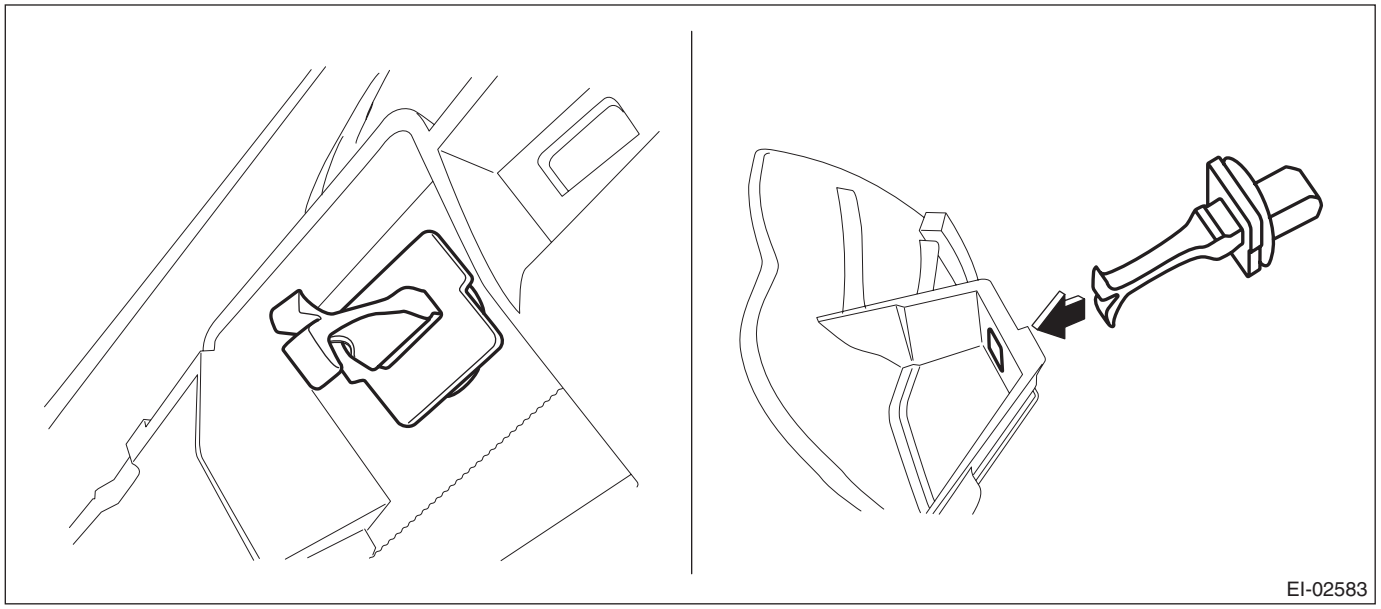


(4) Pull out the seat belt and remove the center pillar trim UPR.

B: INSTALLATION

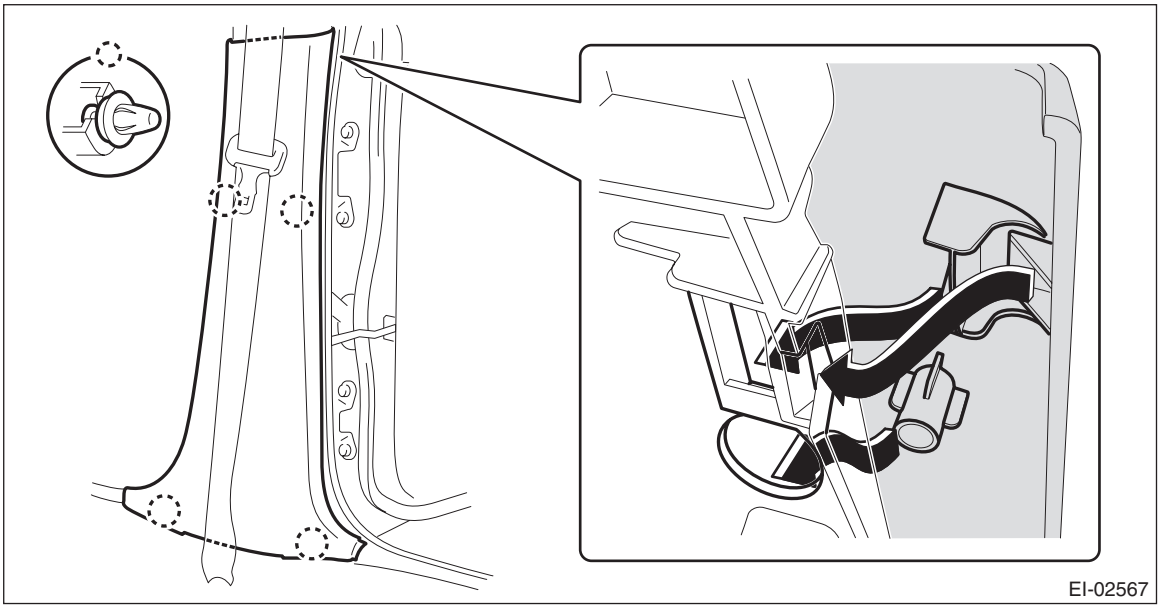
CAUTION:
• Do not reuse the tether clips on the upper part of the front pillar trim. Always replace with a new part.
Once the tether clip is removed from the pillar trim, the retention power deteriorates and the front pillar trim may come off.
• Do not reuse the clips in the upper section of the center pillar trim. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.
• Before installing the front pillar trim, check the condition of (white) protective unwoven cloth of curtain airbag. If it is damaged (airbag module cloth is exposed), replace the curtain airbag module assembly with a new part.
1) Remove the remaining tether clips from the vehicle body.
2) Prepare new tether clip and install it to the front pillar trim.

3) Install the front pillar trim.



4) Assemble the center pillar trim LWR to the center pillar trim UPR securely.

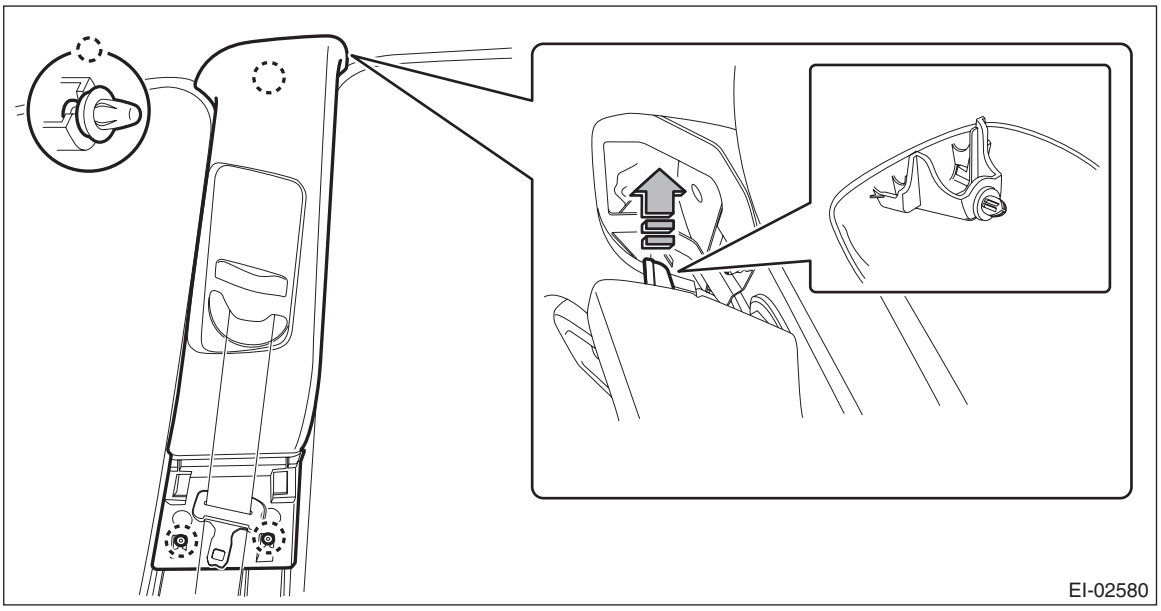
CAUTION:
Do not forget to install the seat belt.



5) Assemble the center pillar trim LWR and center pillar trim UPR to the body.

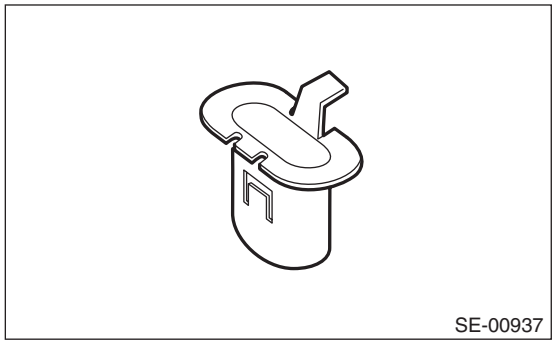
CAUTION:
Do not reuse the clips in the upper section of the pillar trim. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.

(1) Guide the seat belt through the center pillar trim UPR.
(2) Insert the upper claws of the pillar trim.
(3) Attach the pillar trim by fitting the lower clips to the body.


EI-02580

6) Install each part in the reverse order of removal.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937

Tightening torque
Front seat belt: <Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

21.Rear Quarter Trim

A: REMOVAL

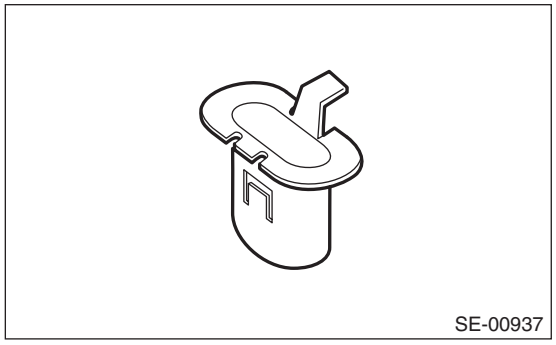
1. SEDAN MODEL

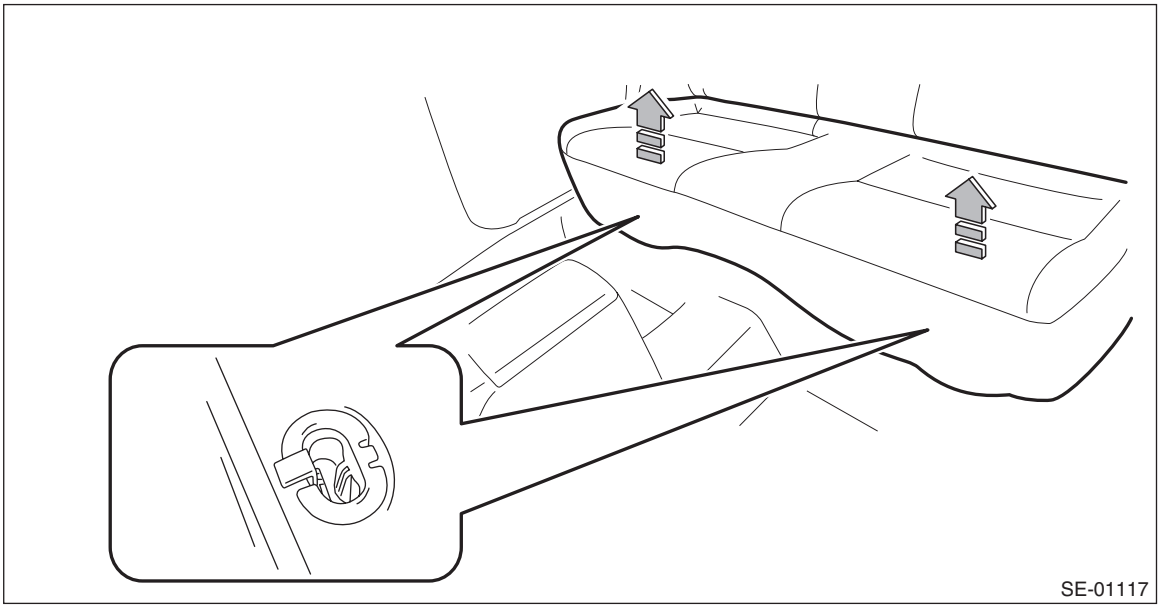
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

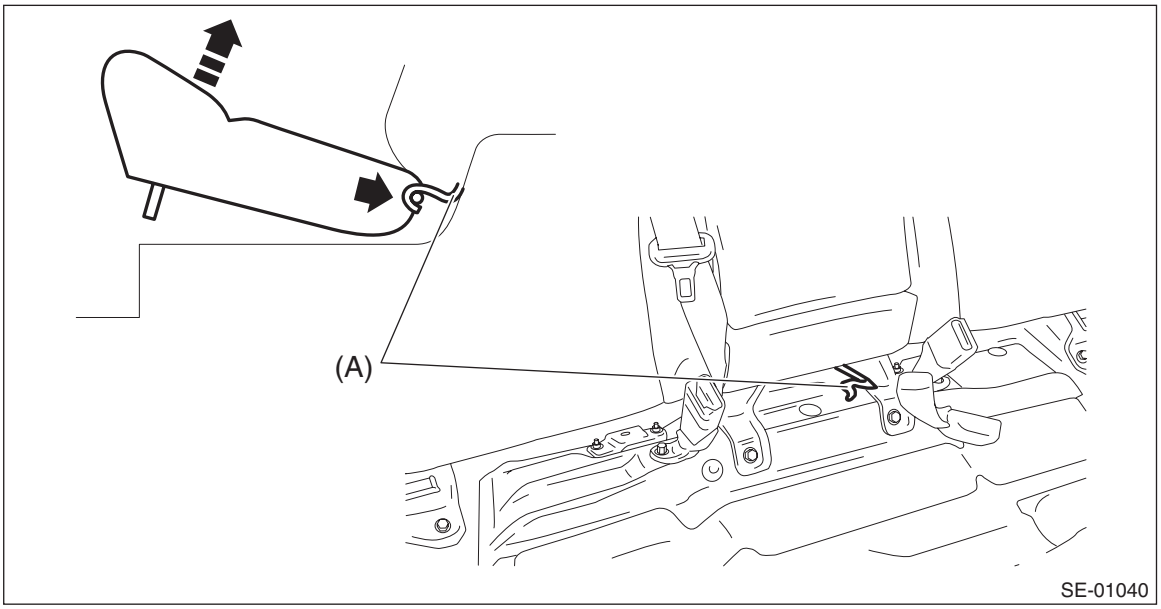
2) Remove the rear seat cushion assembly.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937

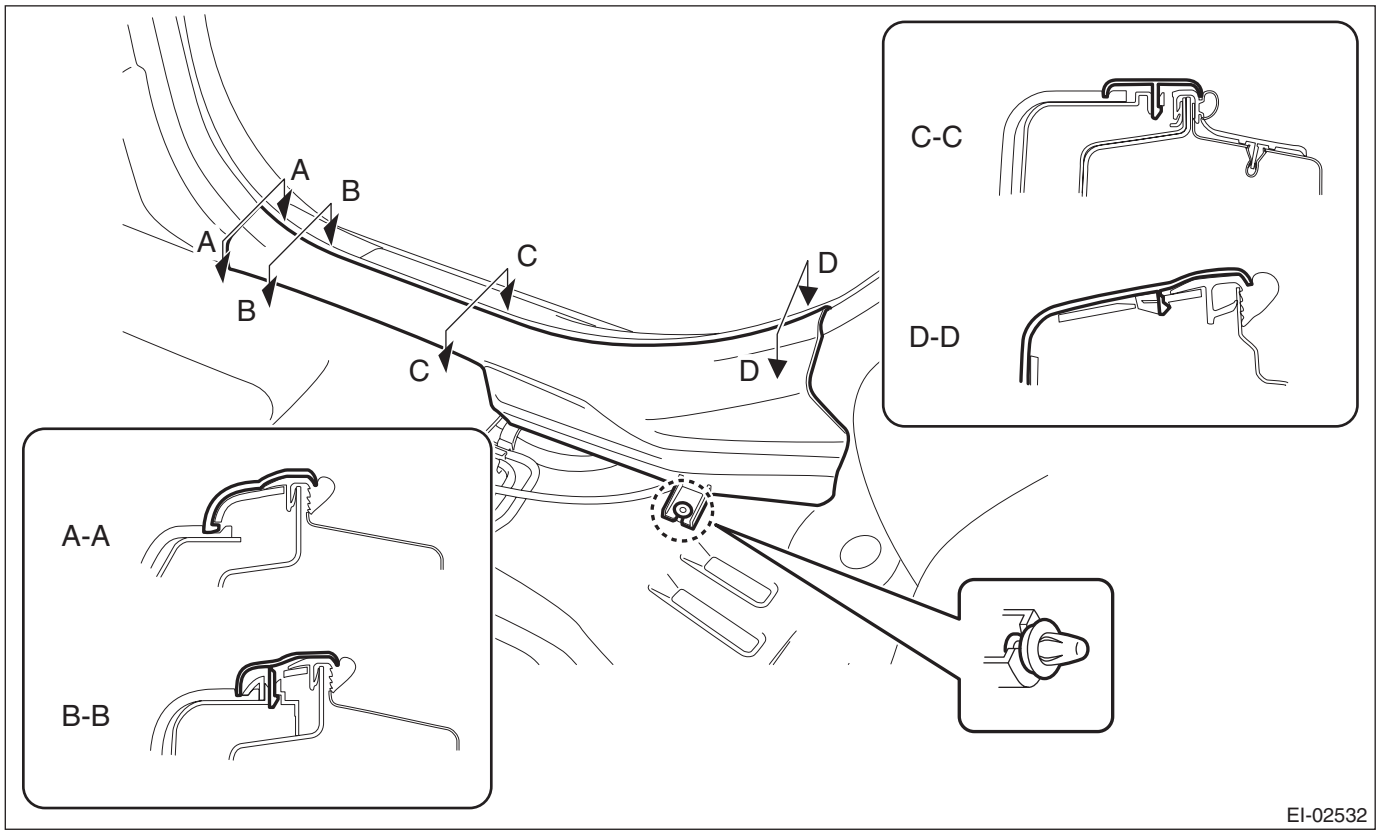

SE-01117

(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



3) Release the clips and claws, and then remove the side sill cover - rear INN.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

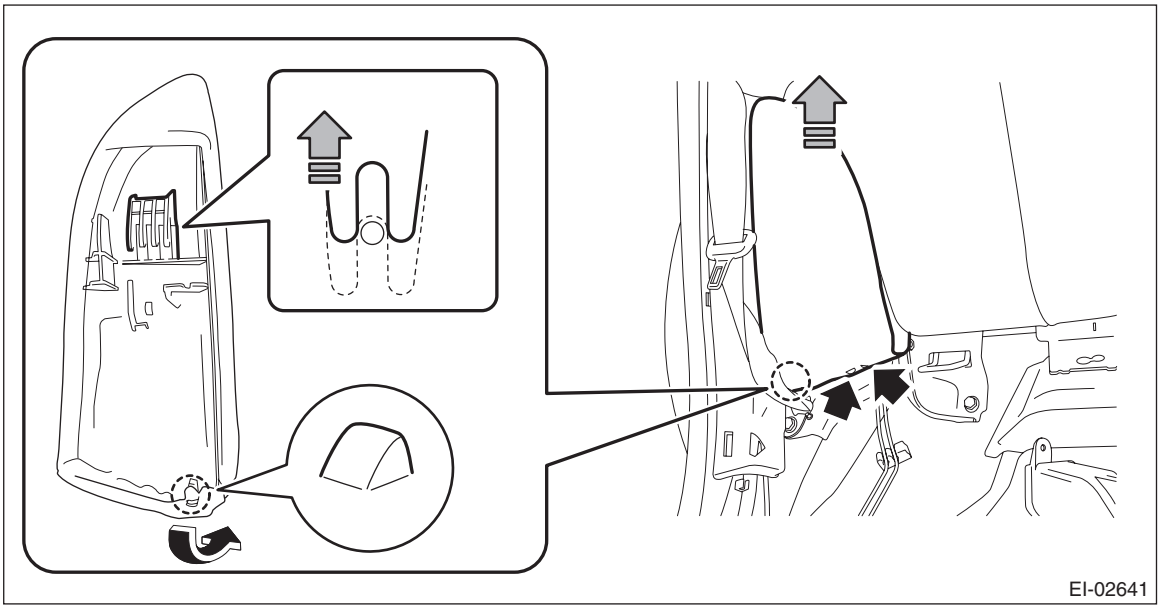


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

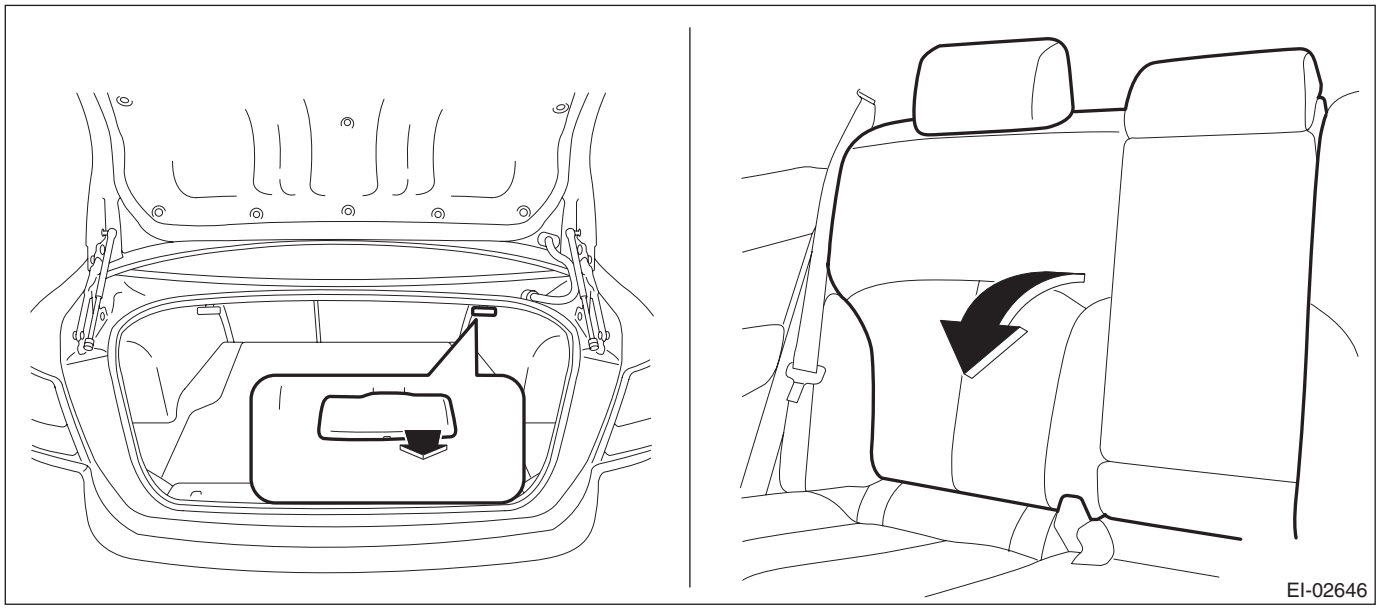
4) Remove the rear quarter trim LWR.
(1) Remove the backrest side pad.
a) Remove the screws.

Preparation tool:
Stubby screwdriver

b) Turn over the bottom end of the backrest side pad in the forward direction so that the claws are released.
c) Remove the backrest side pad by pulling it up.

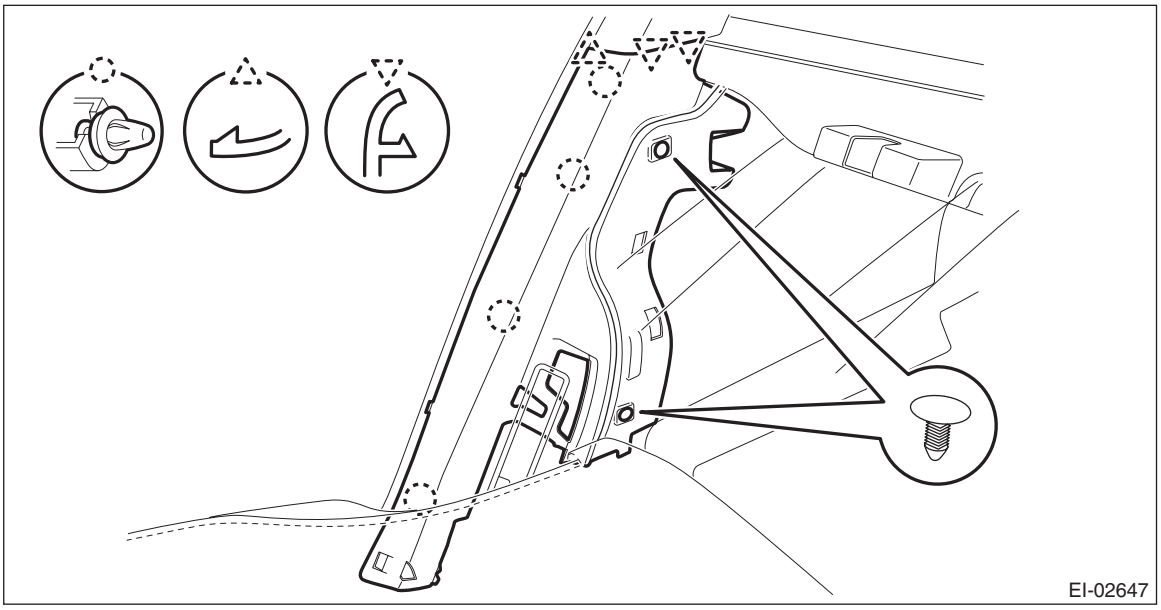

EI-02641

(2) Pull the release lever in the trunk room, and then tilt the backrest forward.


EI-02646

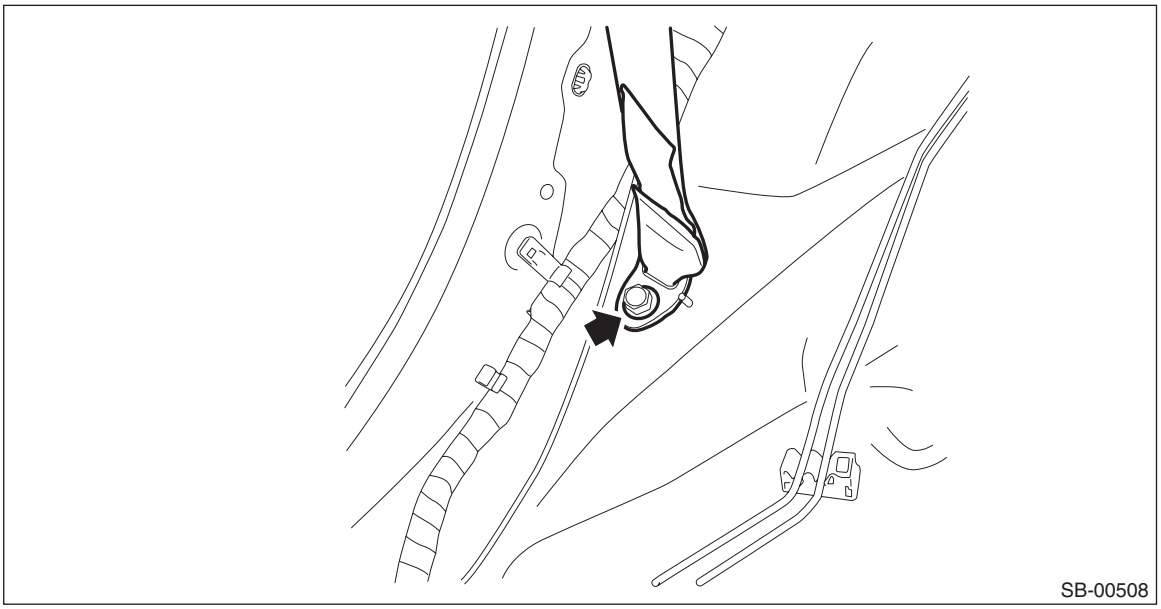
(3) Release the clips of the trunk trim panel assembly - side.

(4) Remove the clips, and remove the rear quarter trim LWR.

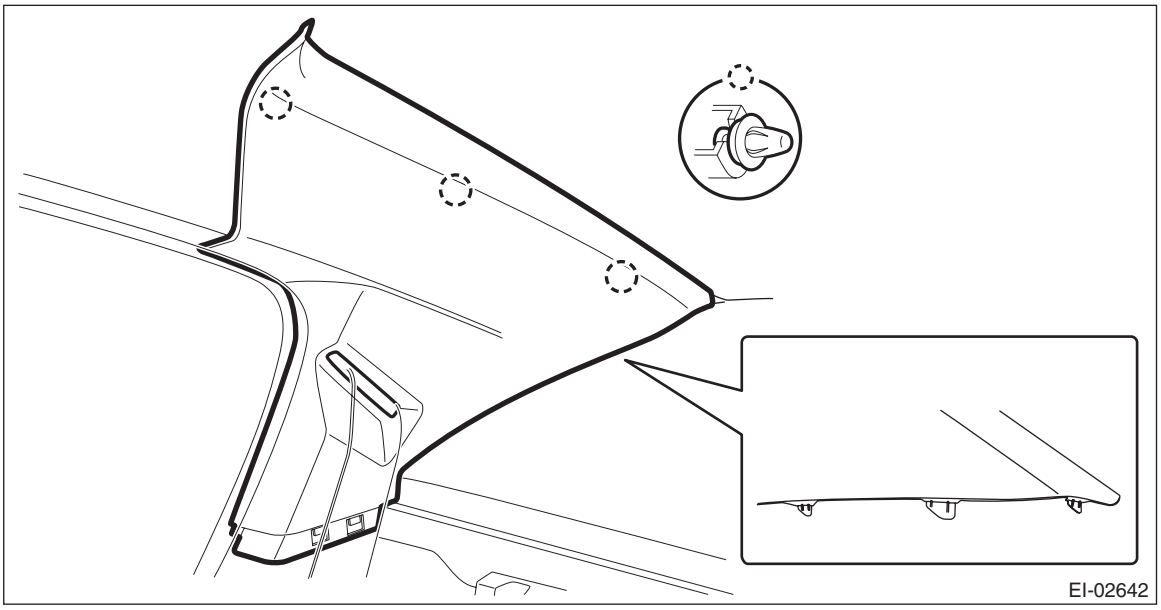


5) Remove the rear quarter trim UPR.

(1) Remove the lower anchor bolt of the outer belt assembly.



(2) Release the clips, and remove the rear quarter trim UPR.



(3) Pull out the seat belt and remove the rear quarter trim UPR.

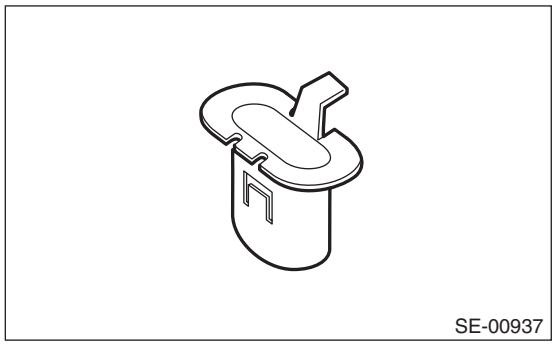
2. OUTBACK MODEL

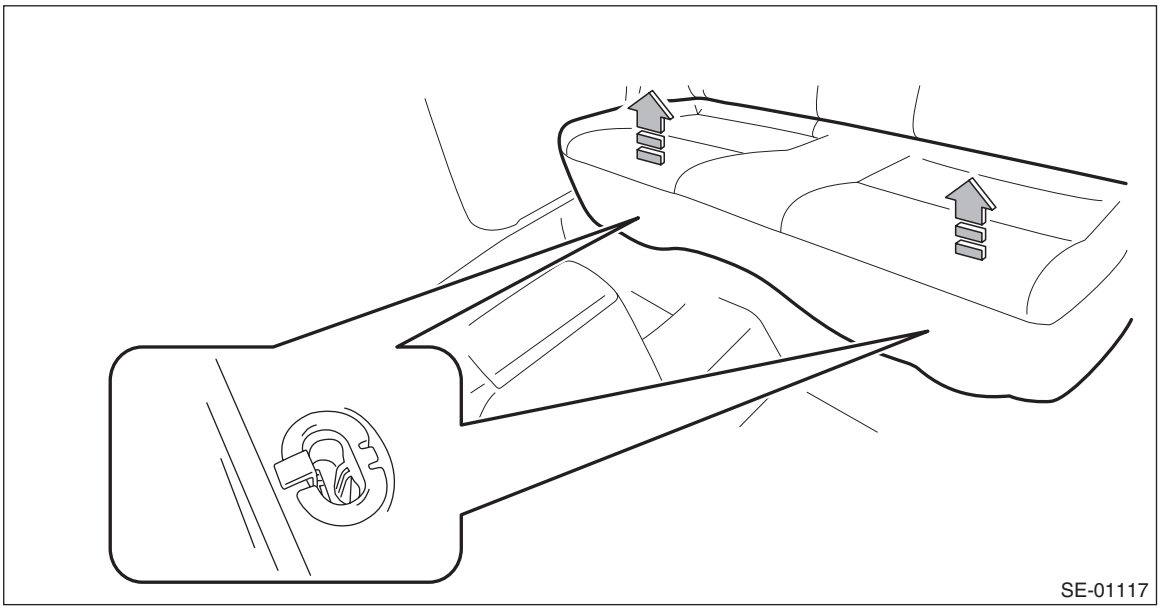
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

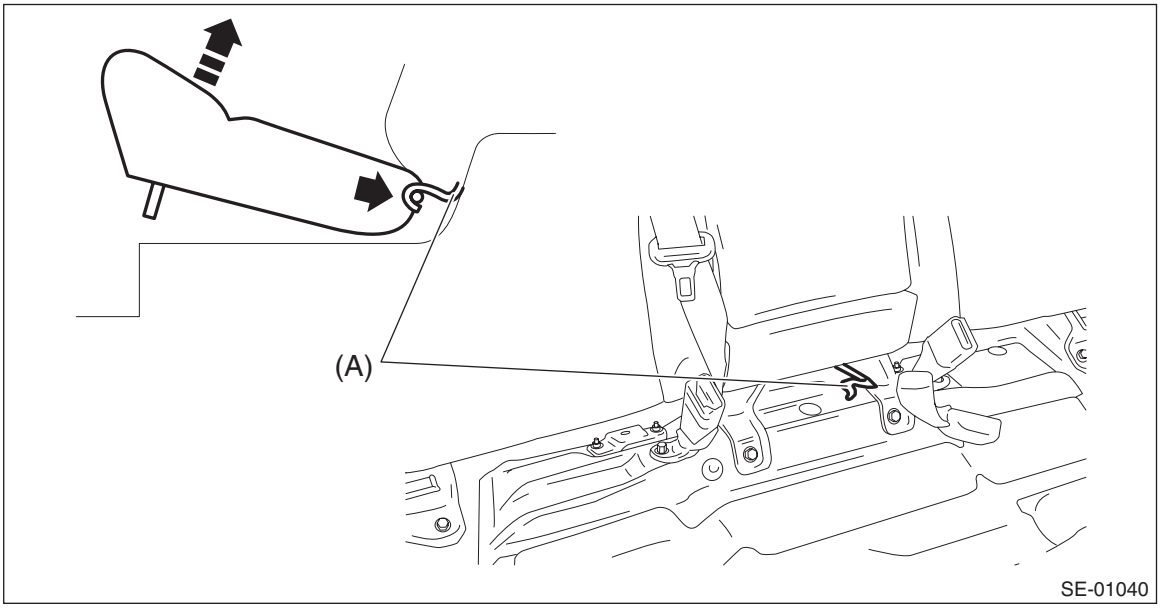
2) Remove the rear seat cushion assembly.
(1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937


SE-01117

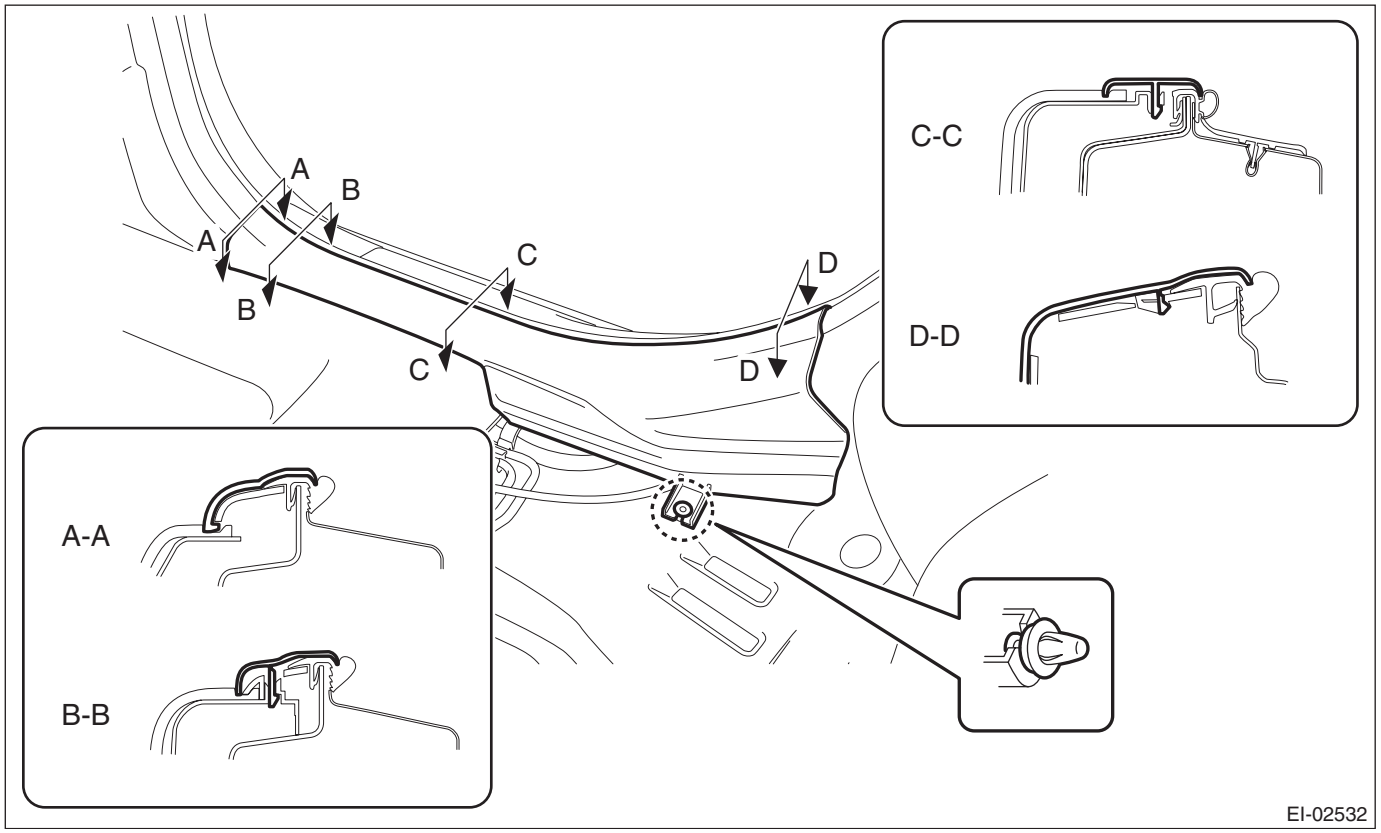
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



SE-01040

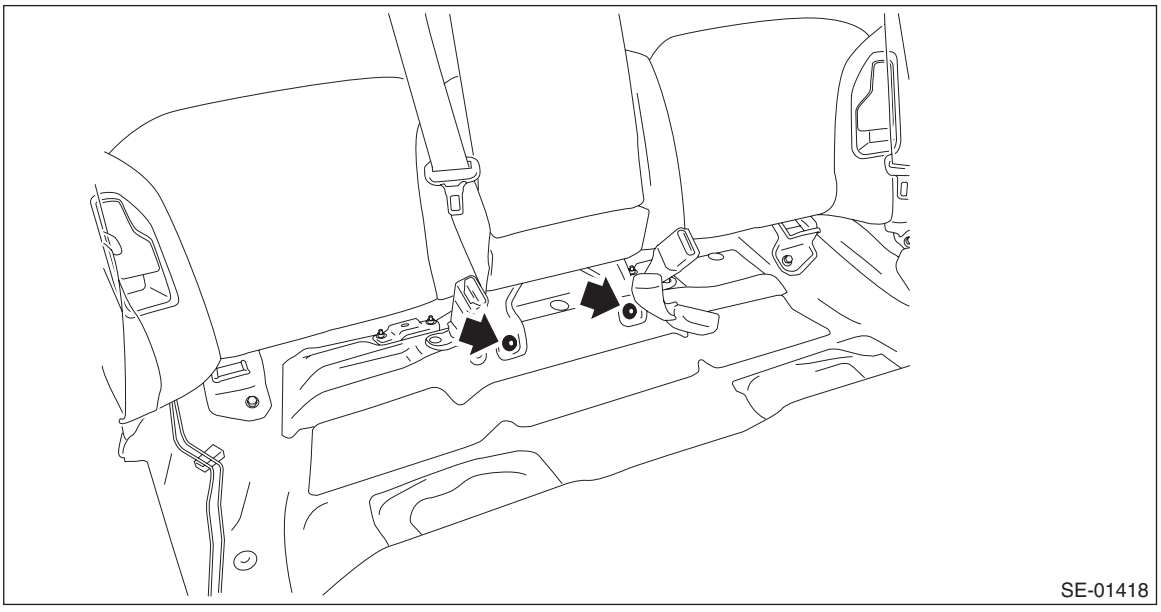
3) Release the clips and claws, and then remove the side sill cover - rear INN.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

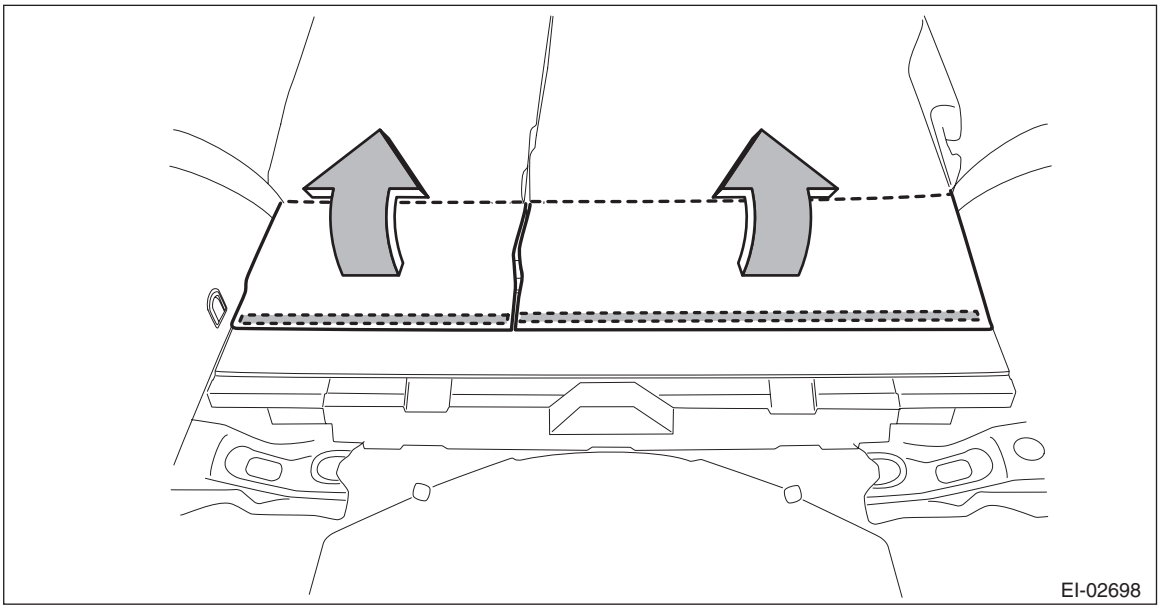


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

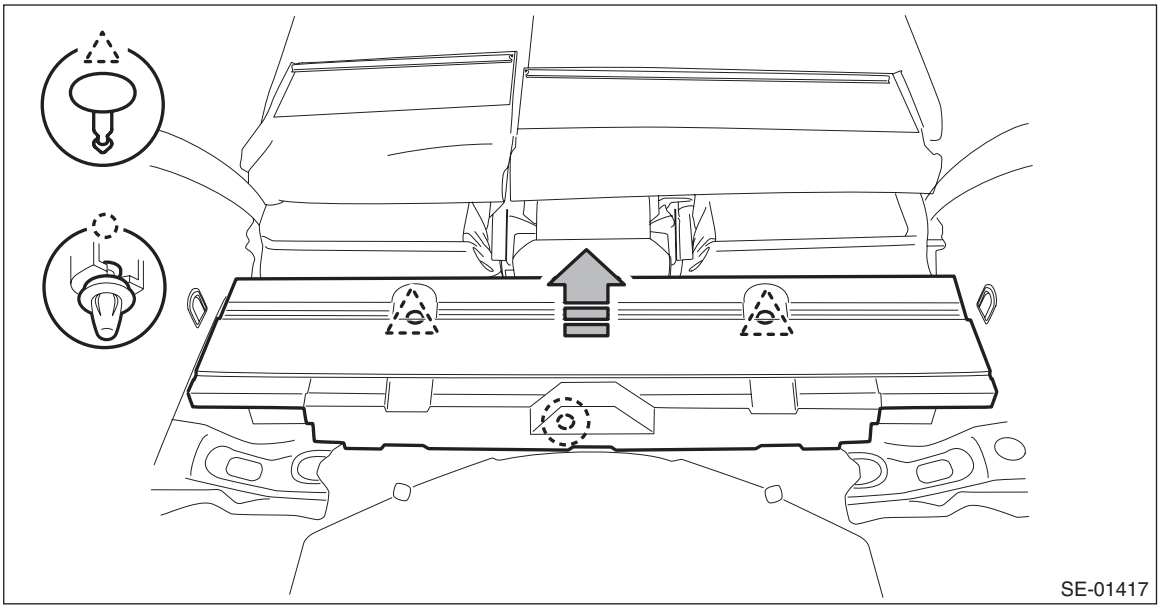
4) Remove the headrest.
5) Remove the backrest assembly RH.
(1) Remove the hinge bolts at the front of the backrest assembly RH.



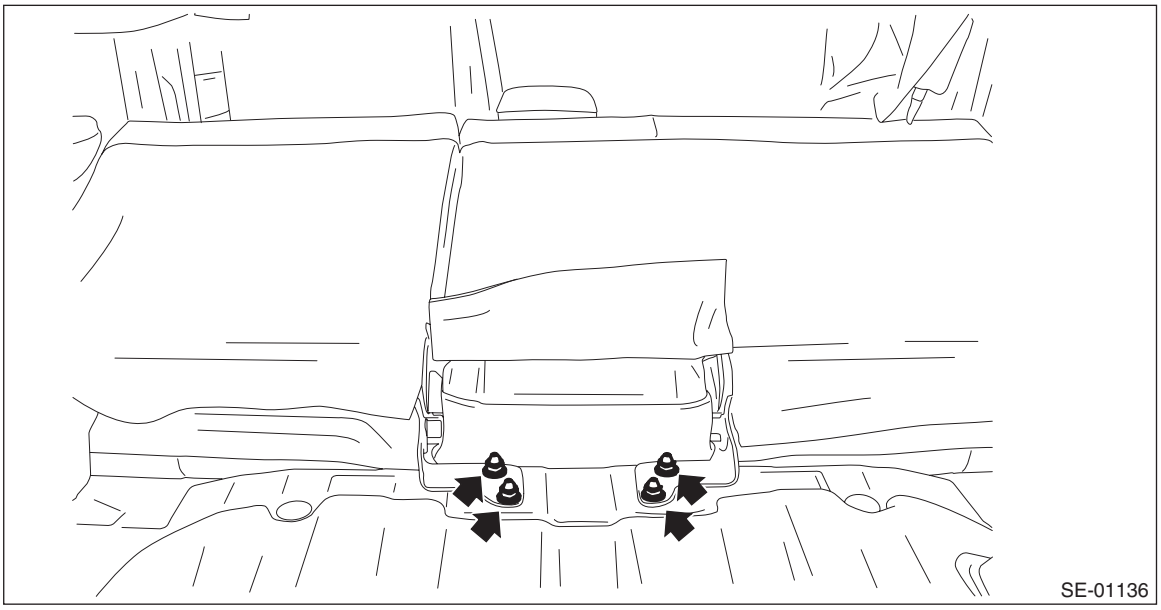
(2) Tilt the backrest forward, and then turn over the backrest backside mat.



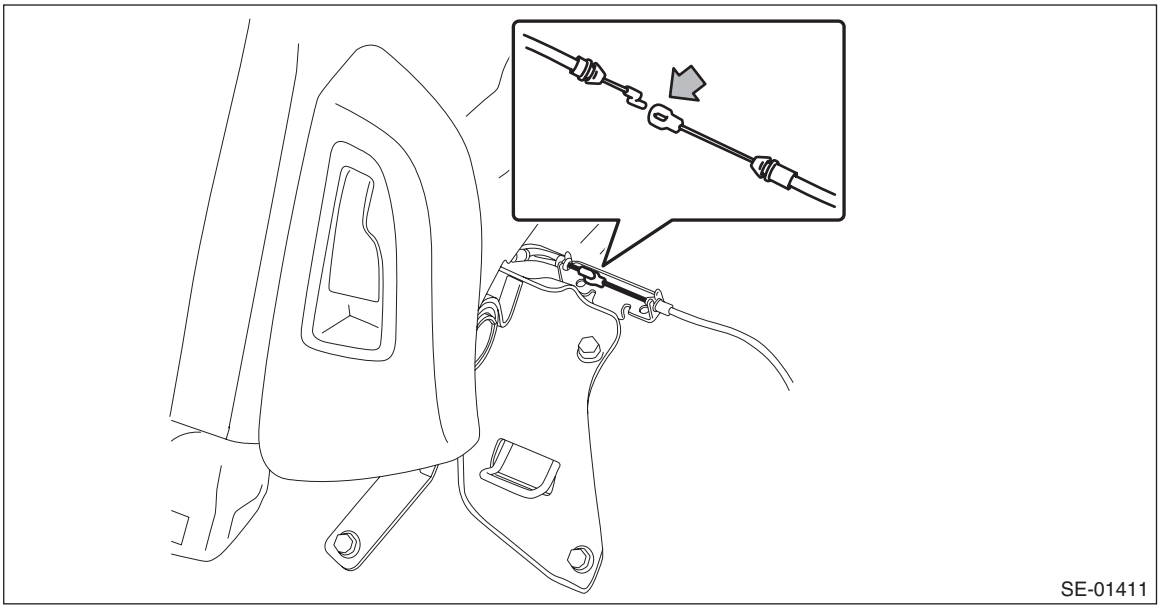
(3) Remove the clips, and remove the rear floor mat - front.



(4) Remove the nuts at the rear of backrest hinge.

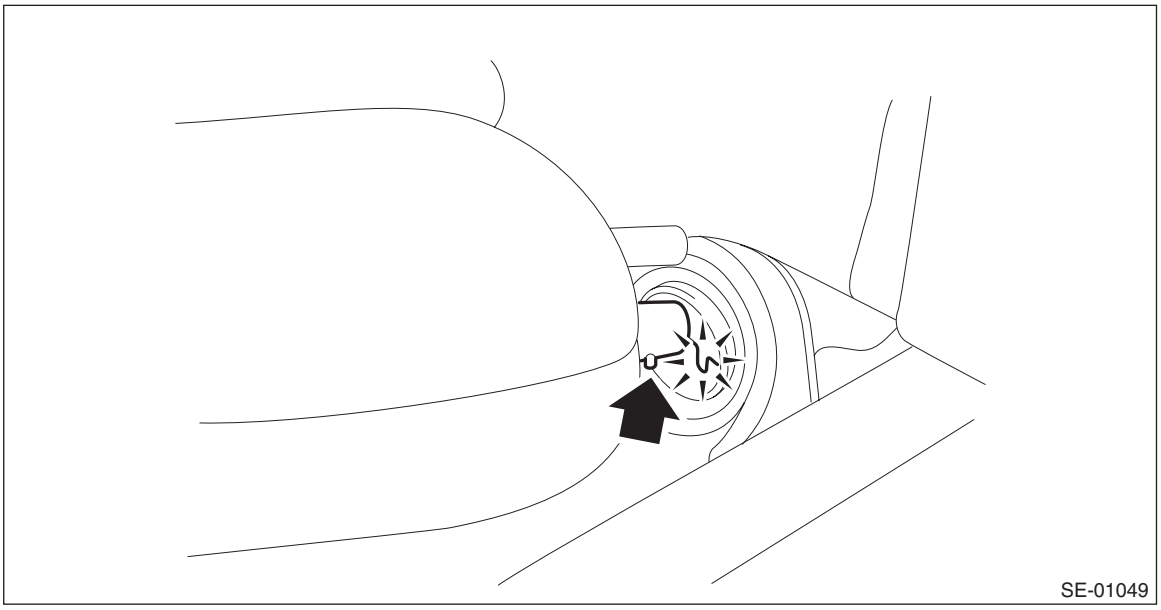


(5) Disconnect the backrest cable and reclining cable.



NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

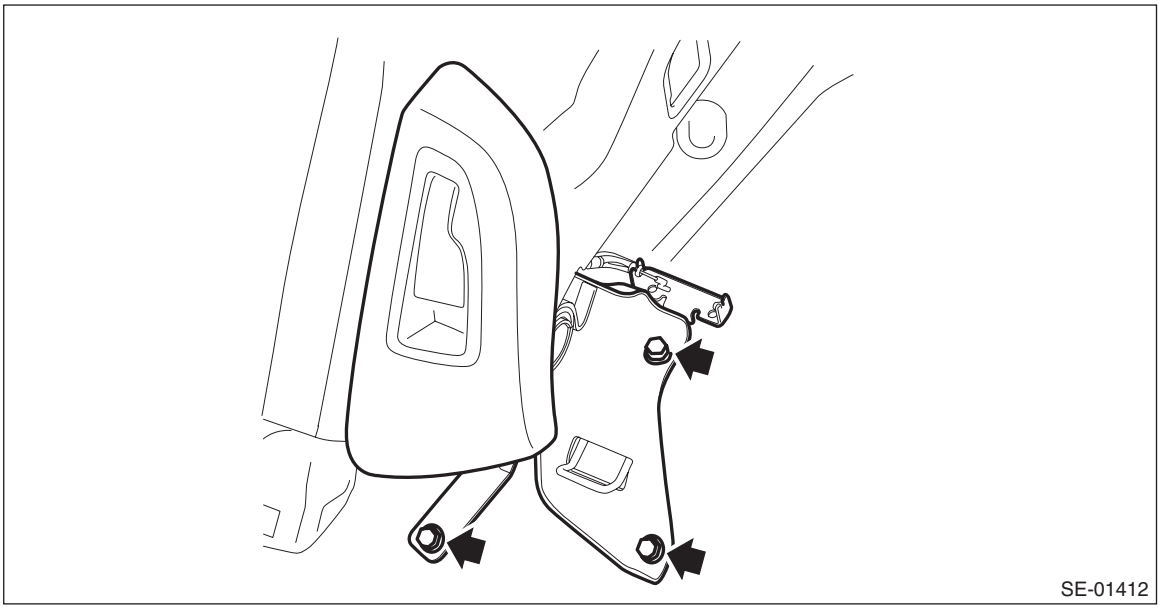
(6) Remove the backrest assembly RH from the hinge assembly RH.



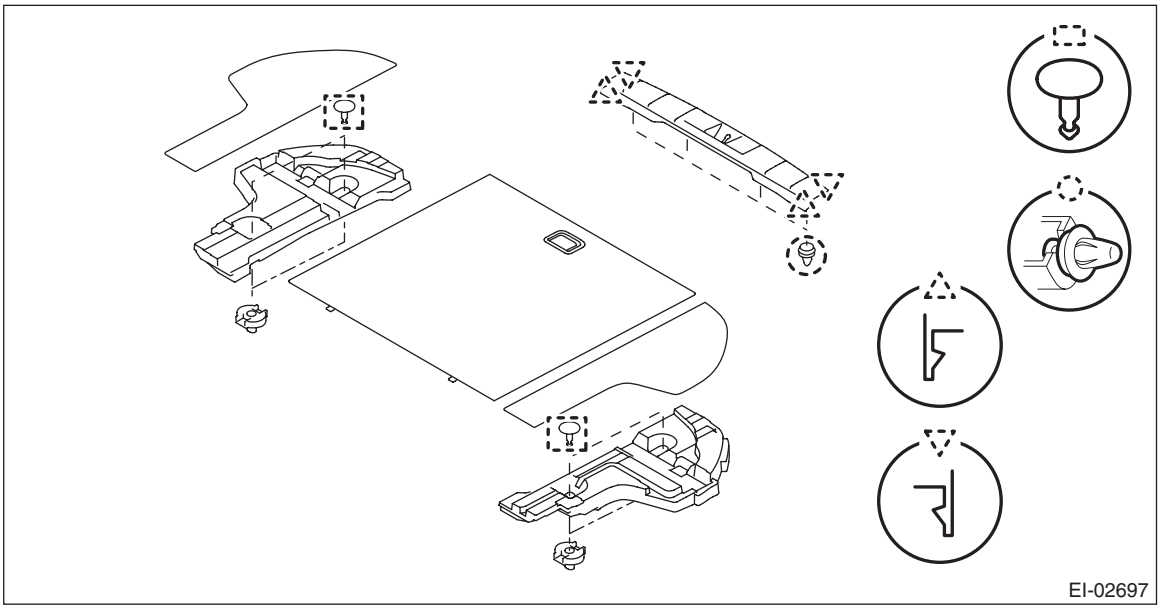
NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

(7) Take out the part outside the vehicle so that the body is not damaged by the hinges.

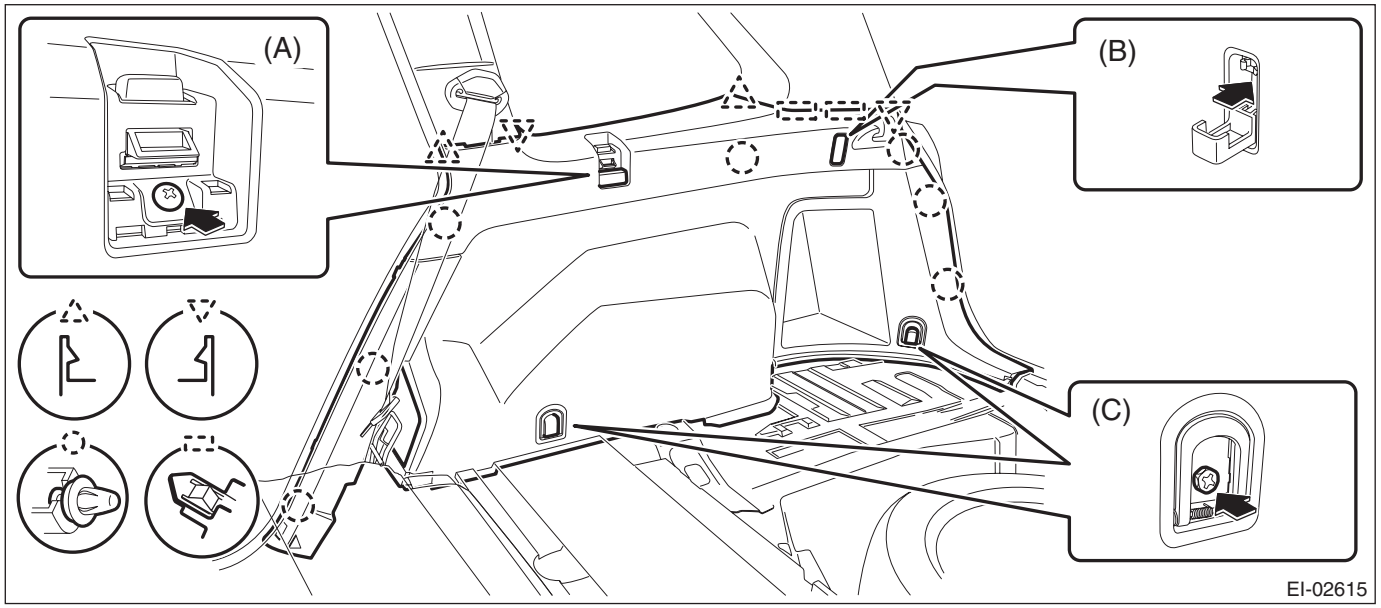
6) Remove the bolts, and remove the backrest side pad assembly RH.



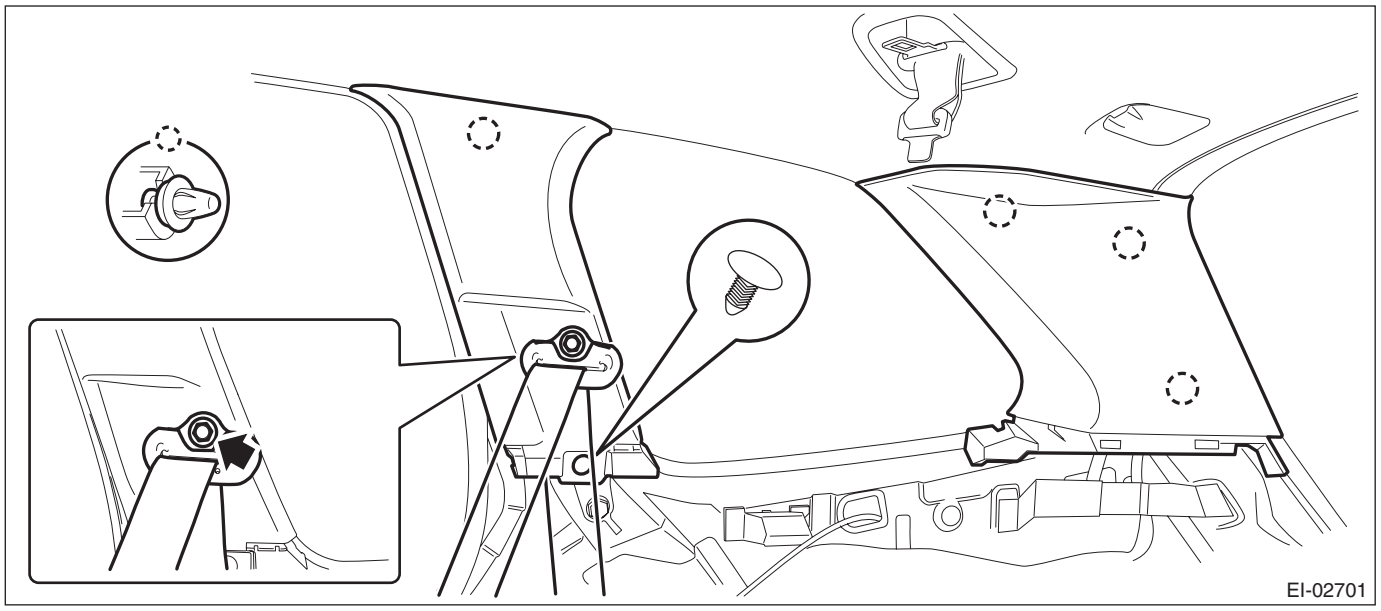
7) Remove the clips, and remove the luggage floor box and rear floor edge cover.



8) Remove the rear quarter trim LWR.
   (1) Remove the caps, screws, and bolts. (A), (C)
   (2) Take out the hook and remove the screw inside. (B)
   (3) Remove the clips, and remove the rear quarter trim LWR.

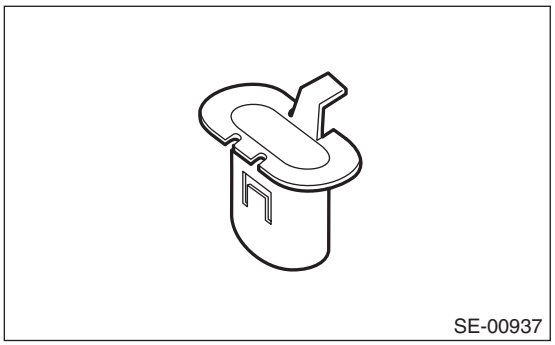


9) Remove the rear quarter trim UPR.
   (1) Open the cap and remove the bolt to remove the seat belt anchor.
   (2) Remove the clips, and remove the rear quarter trim UPR - front.
   (3) Remove the clips, and remove the rear quarter trim UPR - rear.



B: INSTALLATION

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.



Install each part in the reverse order of removal.

Tightening torque:
Sedan model
Rear seat belt: <Ref. to SB-3, REAR SEAT BELT (SEDAN MODEL), COMPONENT, General Description.>
OUTBACK model
Rear seat belt: <Ref. to SB-4, REAR SEAT BELT (OUTBACK MODEL), COMPONENT, General Description.>

22.Rear Shelf Trim

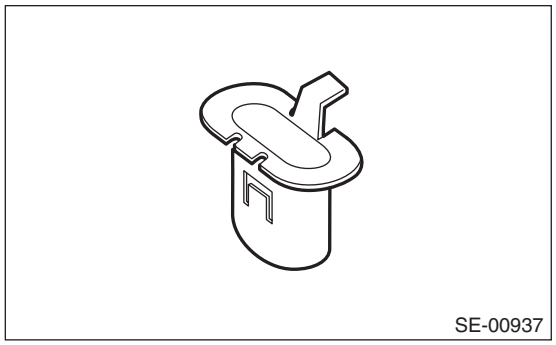
A: REMOVAL

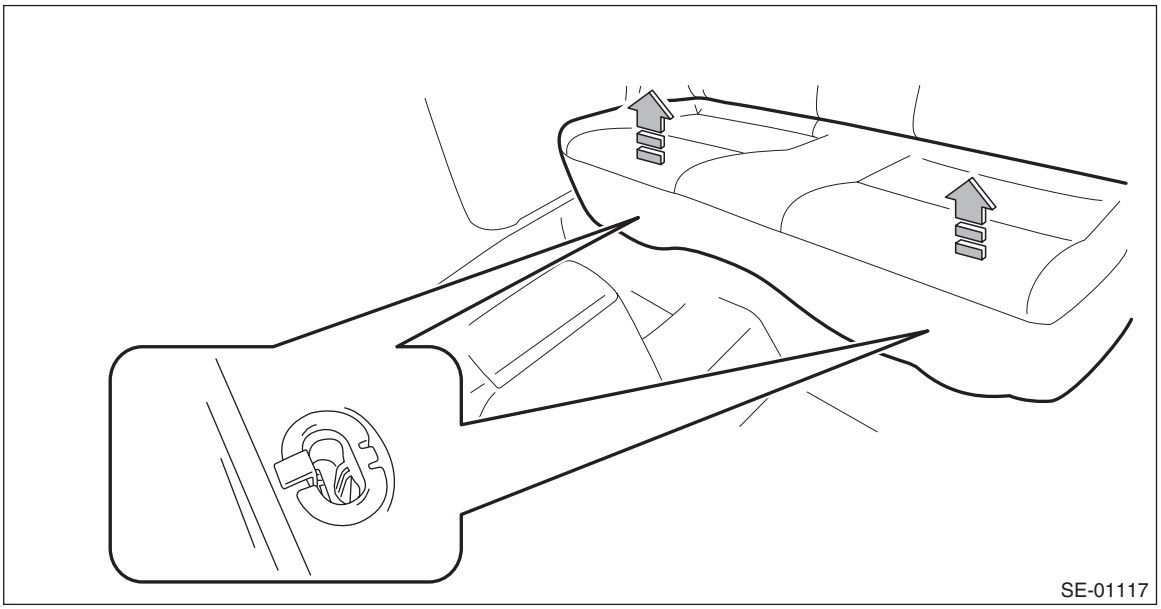
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

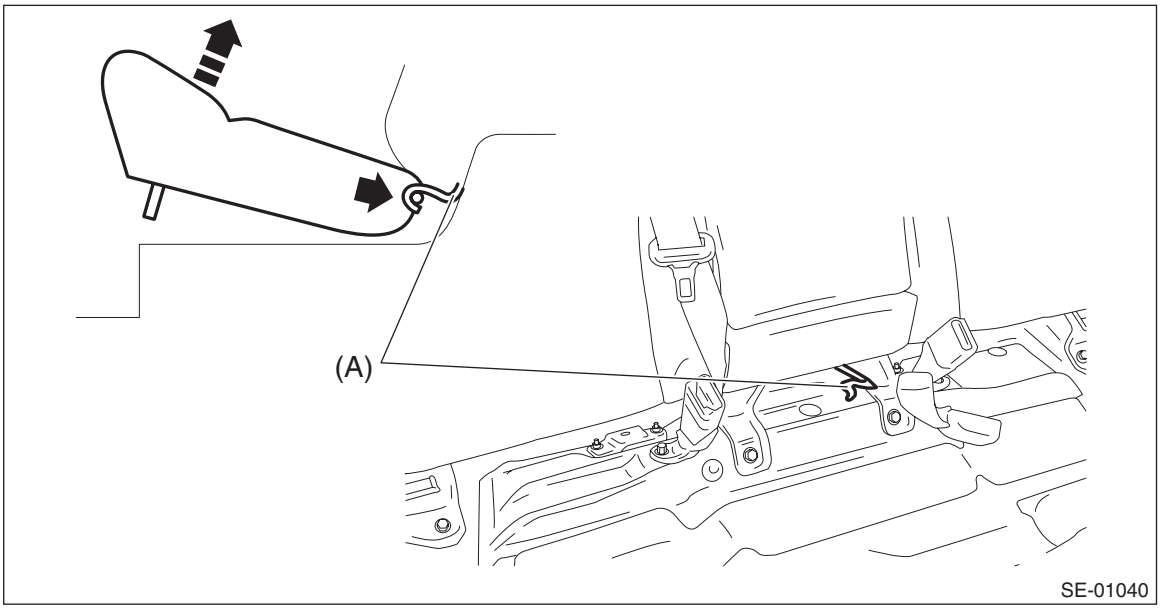
2) Remove the rear seat cushion assembly.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937

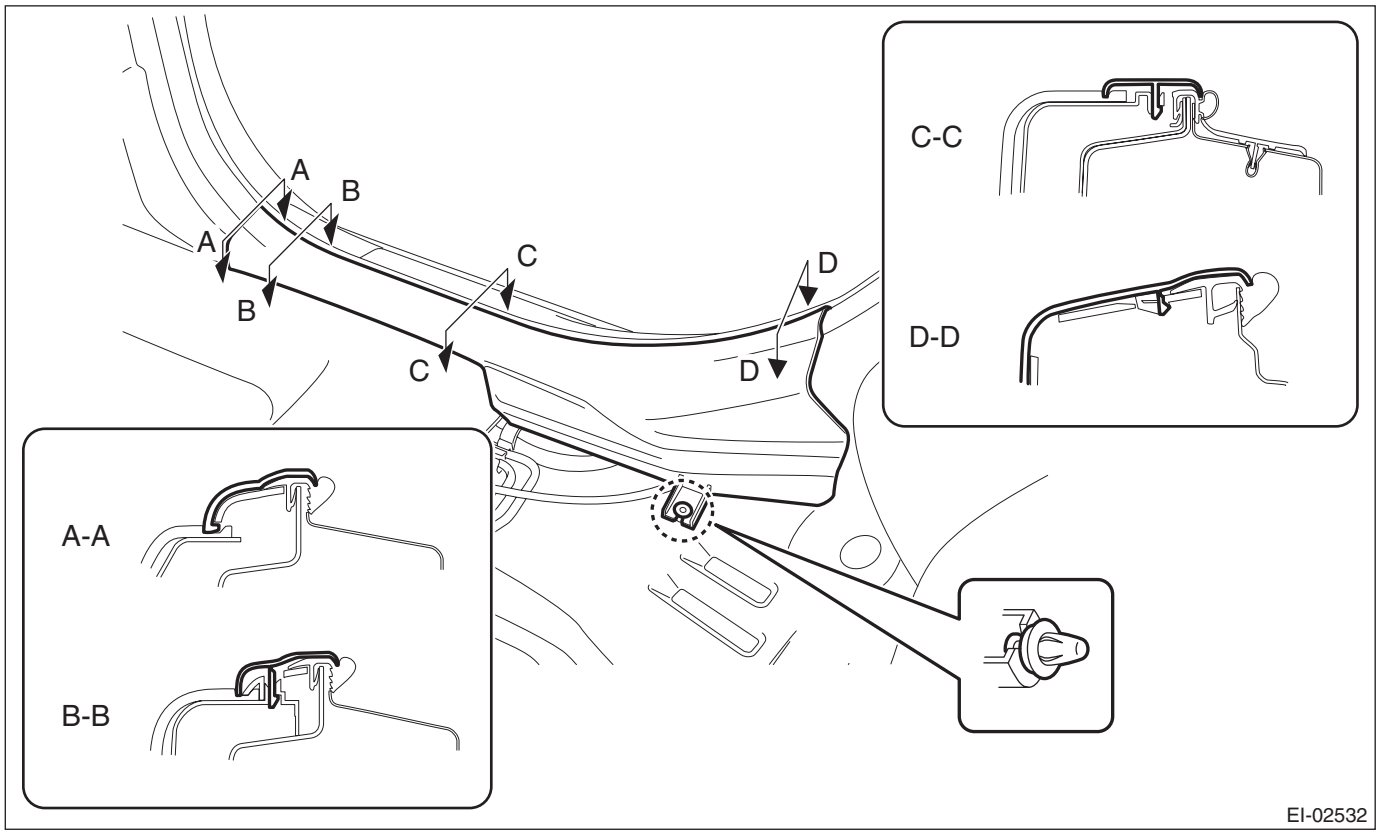

SE-01117

(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



3) Release the clips and claws, and remove the side sill covers - rear INN on the left and right sides.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

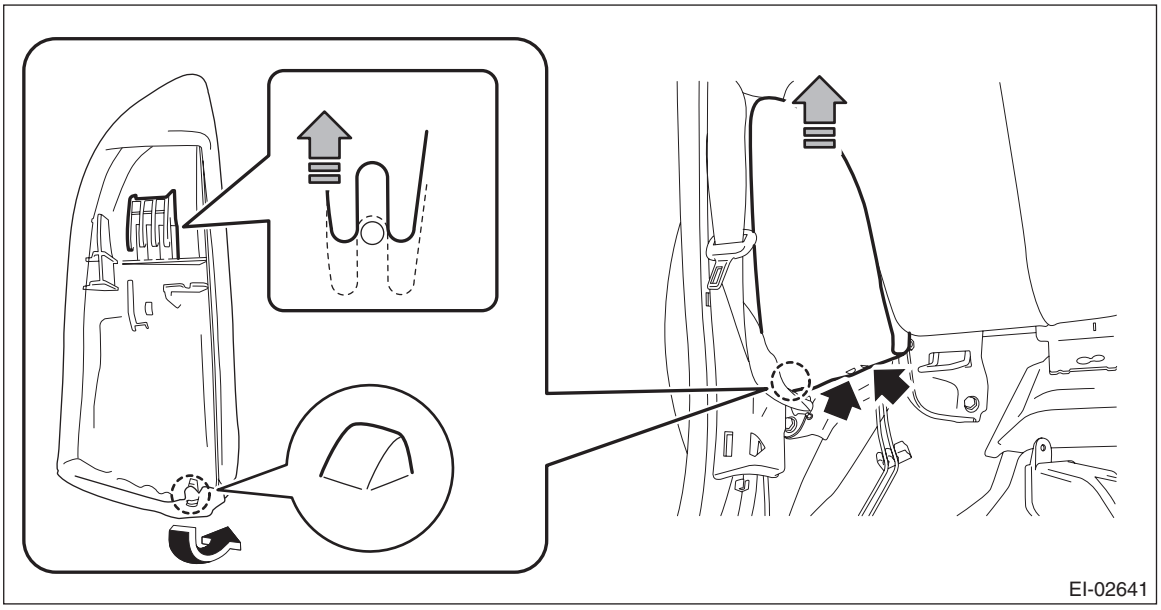


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

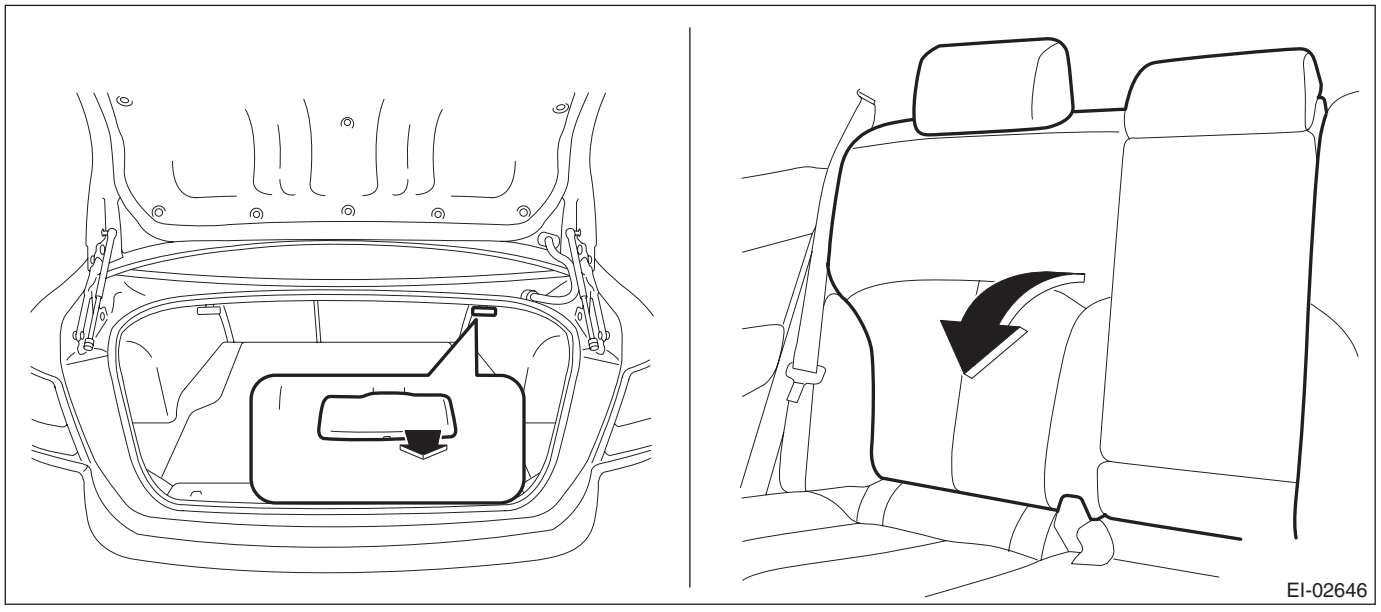
4) Remove the left and right rear quarter trim LWR.
(1) Remove the backrest side pad.
a) Remove the screws.

Preparation tool:
Stubby screwdriver

b) Turn over the bottom end of the backrest side pad in the forward direction so that the claws are released.
c) Remove the backrest side pad by pulling it up.

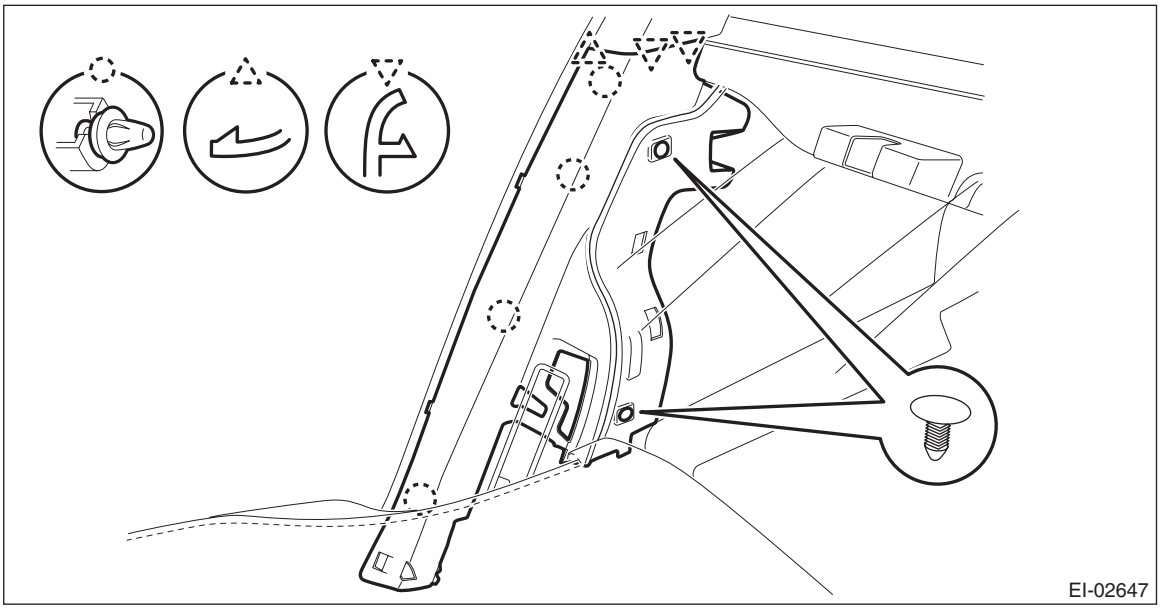


(2) Pull the release lever in the trunk room, and then tilt the backrest forward.



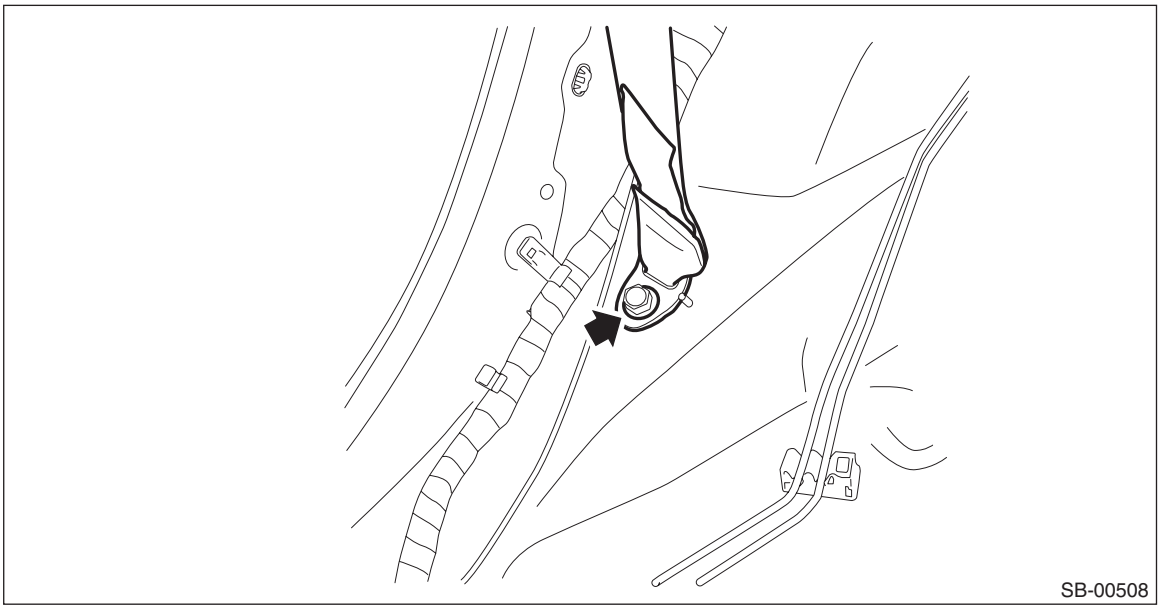
(3) Release the clips of the trunk trim panel assembly - side.

(4) Remove the clips, and remove the rear quarter trim LWR.

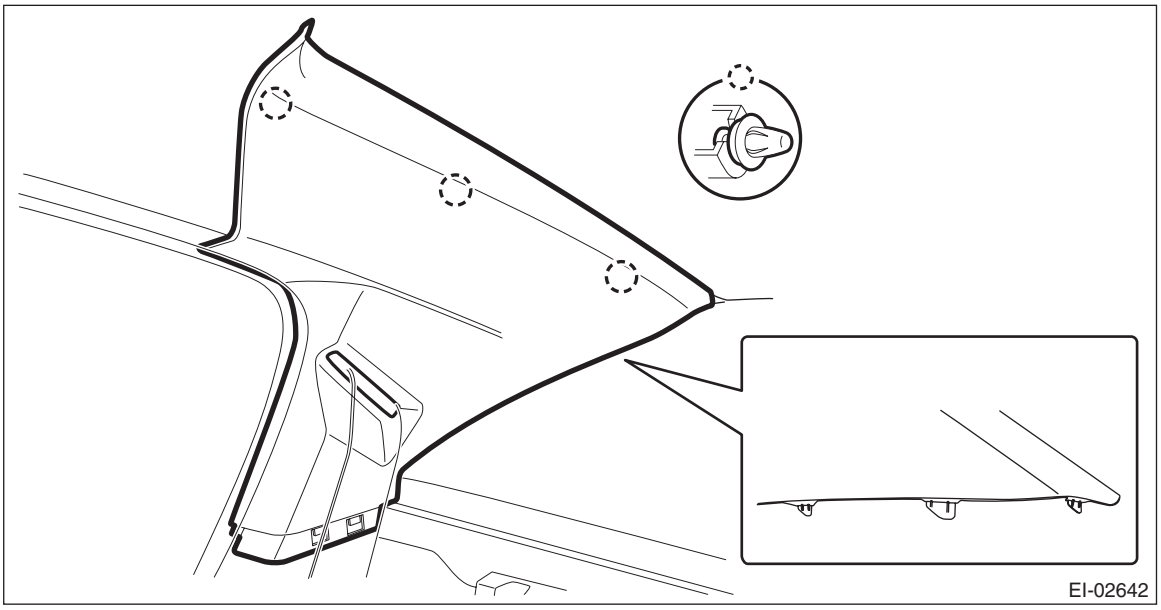


5) Remove the left and right rear quarter trim UPR.

(1) Remove the lower anchor bolt of the outer belt assembly.

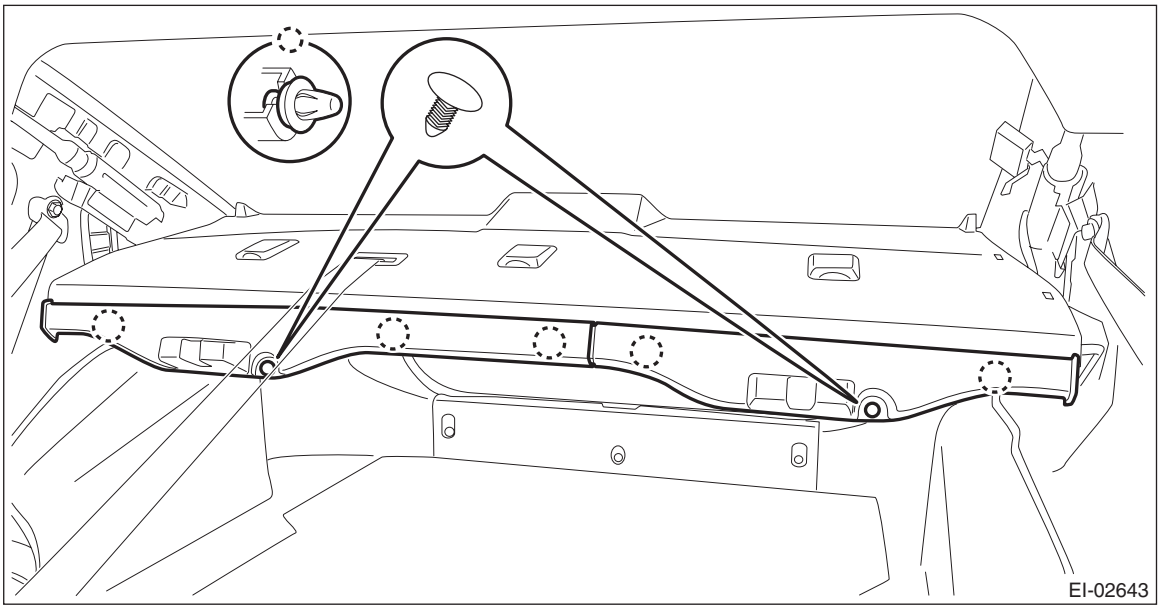


(2) Release the clips, and remove the rear quarter trim UPR.

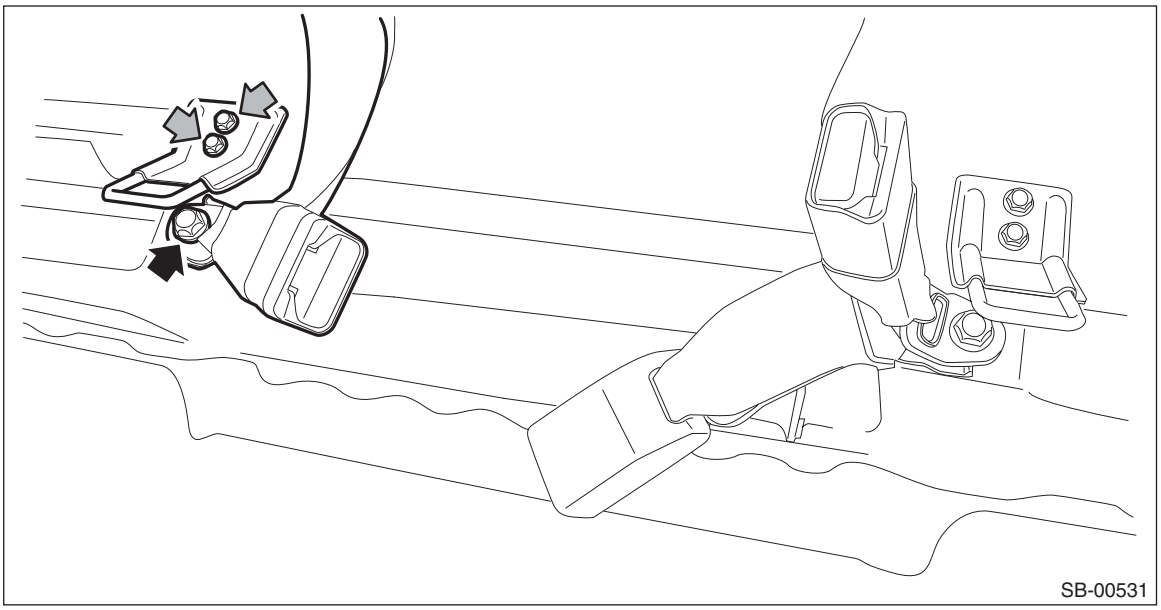


(3) Pull out the seat belt and remove the rear quarter trim UPR.

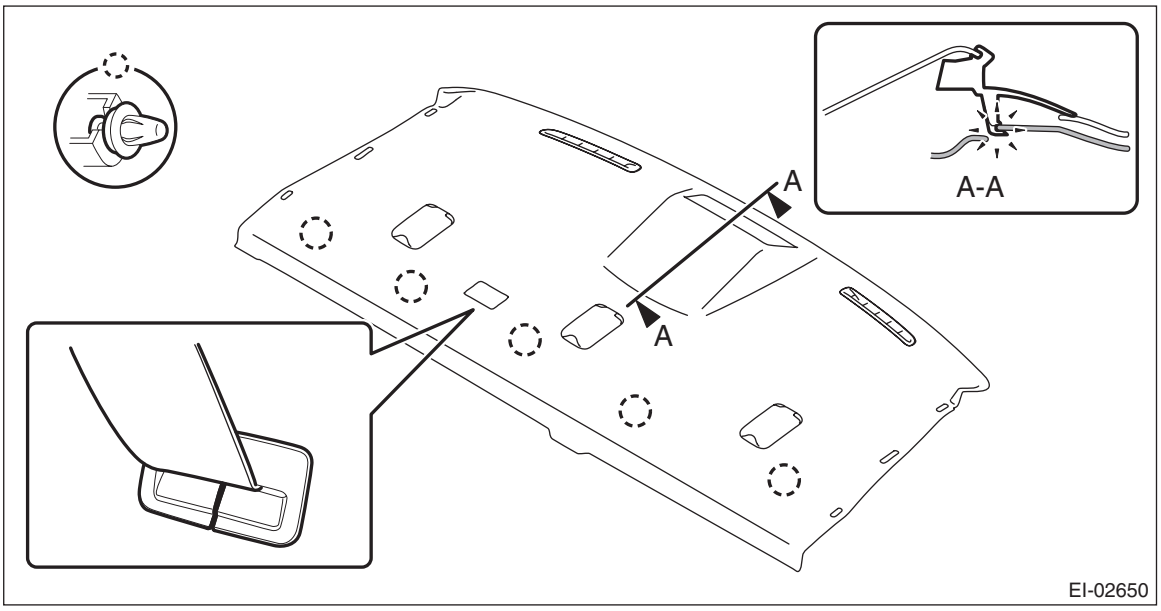
6) Release the clips and remove the trunk trim panel assembly - front on the left and right sides.



7) Remove the lower anchor of the shoulder belt assembly CTR.
   (1) Remove the nuts and remove the ISO-FIX anchor.
   (2) Remove the bolts, and remove the lower anchor of shoulder belt assembly CTR.

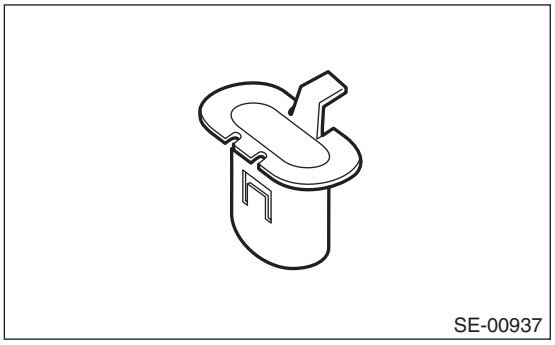


8) Remove the rear shelf panel assembly.
   (1) Release the clips to float the rear shelf panel assembly.
   (2) Release the belt guide and guide the anchor of rear center seat belt to behind the shelf panel.
   (3) Disconnect the connector of high-mounted stop light.
   (4) Remove the rear shelf panel assembly.



B: INSTALLATION

CAUTION:
- **Make sure to insert the claws on the back of high-mounted stop light into the rear shelf panel.**
- **If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.**



- **Make sure to insert the claws on the back of high-mounted stop light into the rear shelf panel.**

Install each part in the reverse order of removal.

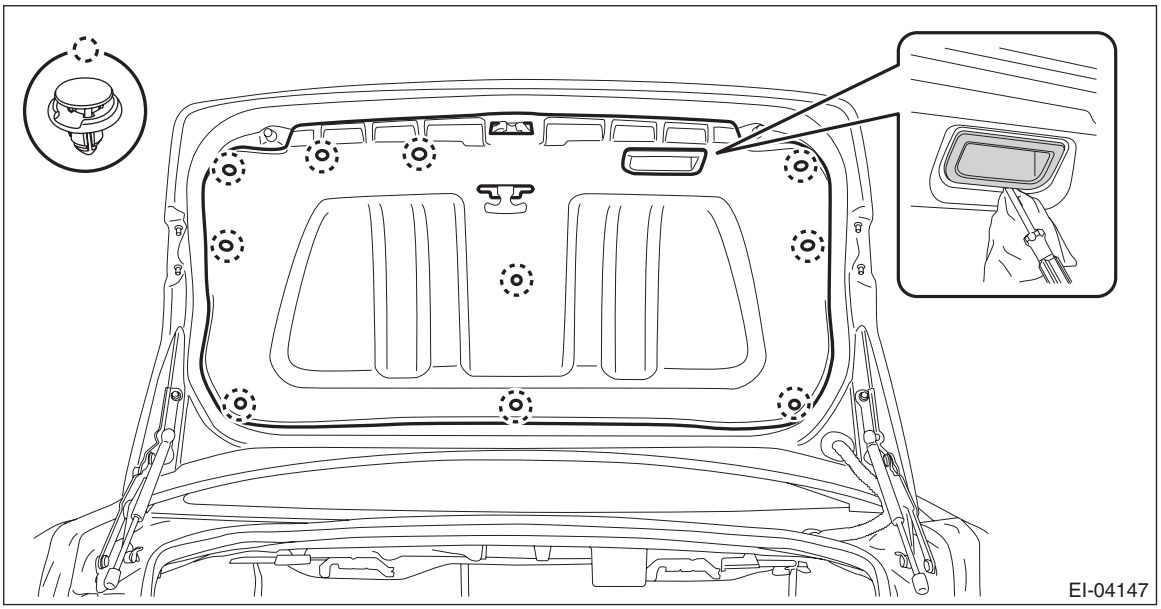
Tightening torque:
ISO-FIX anchor: 25 N·m (2.55 kgf-m, 18.4 ft-lb)
Rear seat belt: <Ref. to SB-3, REAR SEAT BELT (SEDAN MODEL), COMPONENT, General Description.>

23.Trunk Room Trim

A: REMOVAL

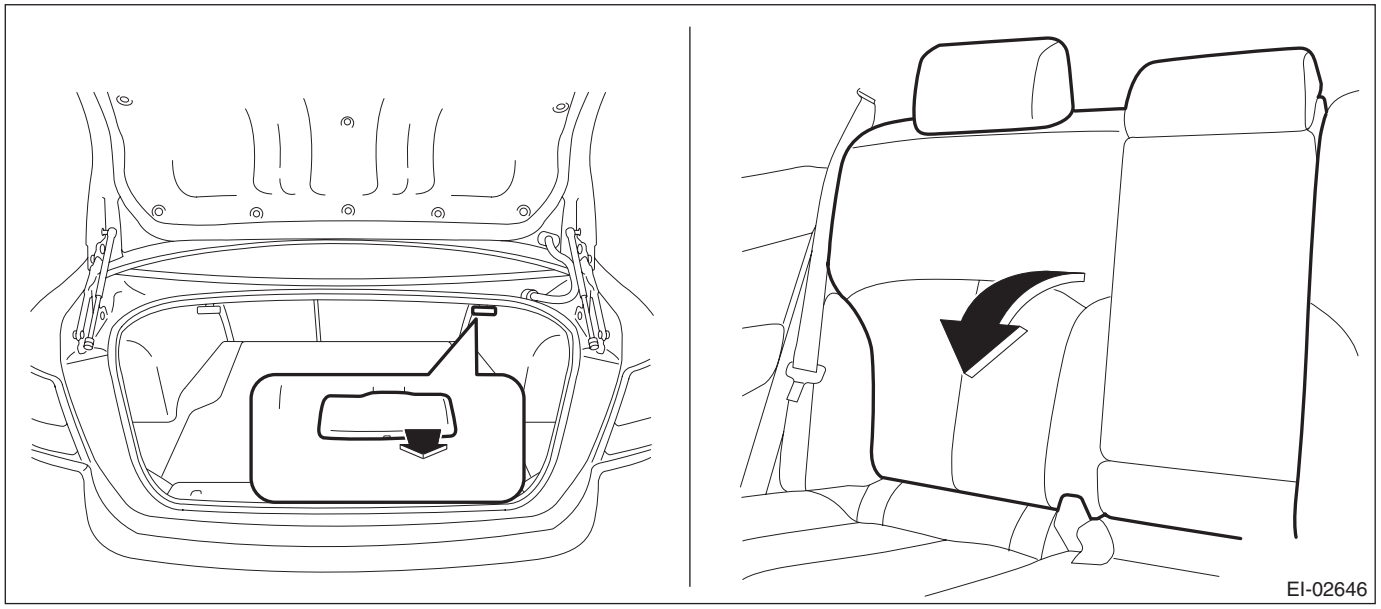
1. TRUNK LID TRIM

1) Open the trunk lid.
2) Remove the trunk handle.
3) Remove the clips and the trunk lid trim.



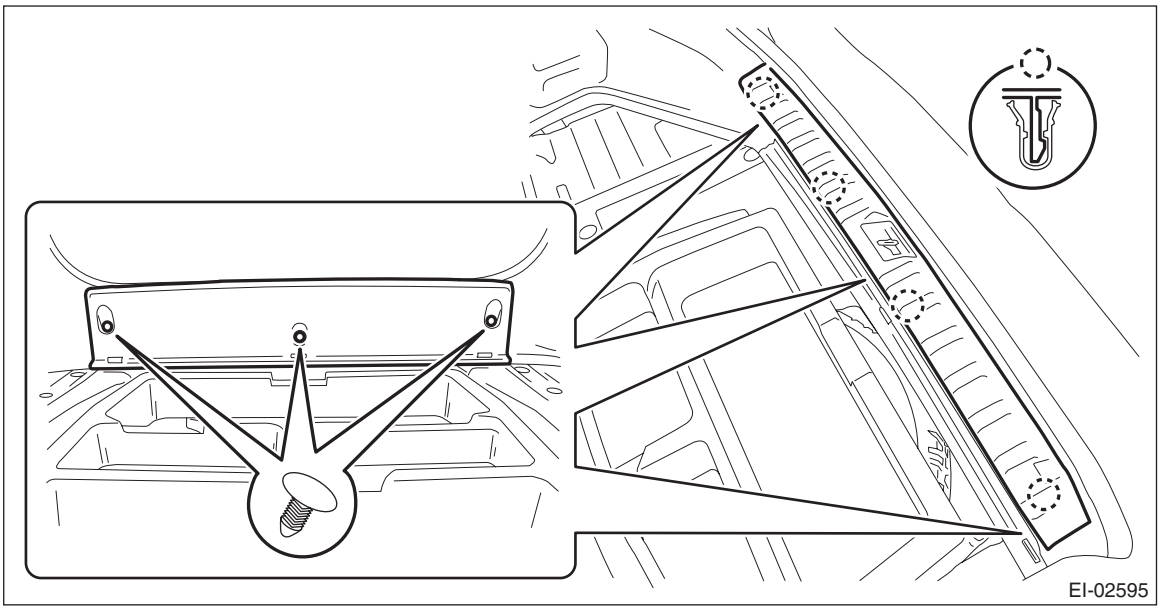
2. TRUNK ROOM TRIM

1) Pull the release lever in the trunk room, and then tilt the backrest forward.

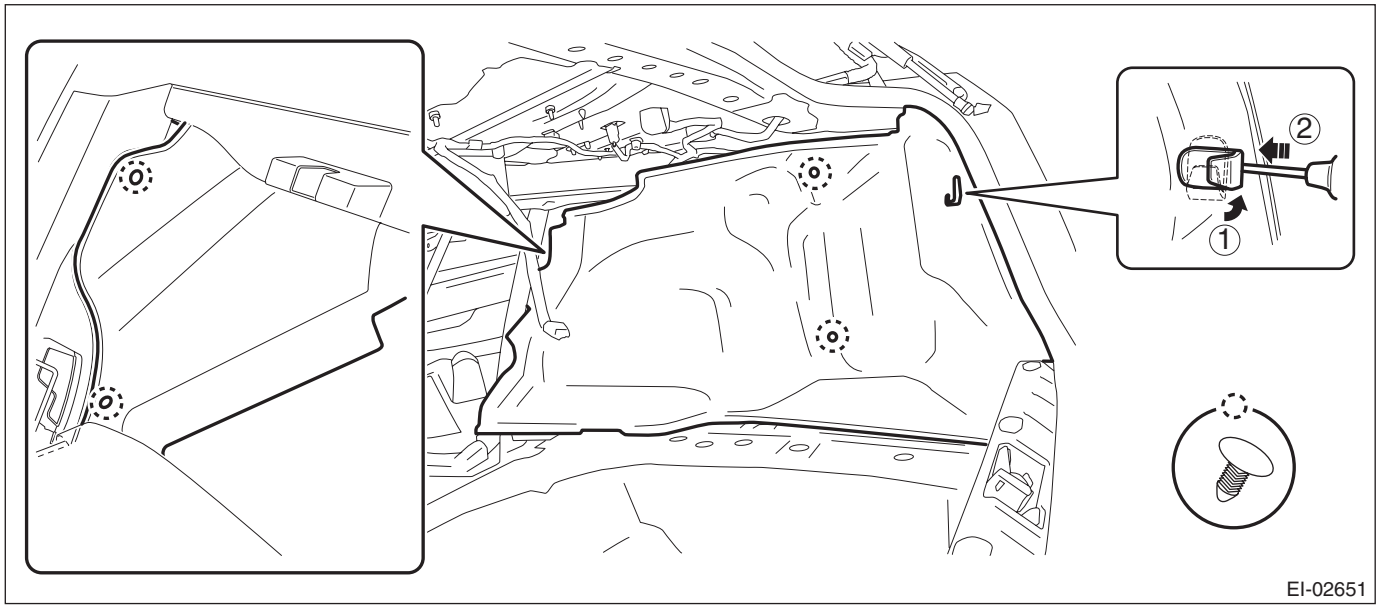


2) Remove the trunk room mat.

3) Remove the trunk trim assembly-rear.
   (1) Remove the clip.
   (2) Release the claws, and remove the trunk trim assembly-rear.



4) Remove the trunk trim panel assembly-side.
   (1) Remove the hook.
      a) Turn the hook to 90°.
      b) Press the claw using a screwdriver to detach the hook.
   (2) Release the clips and remove the trunk trim panel assembly-side.



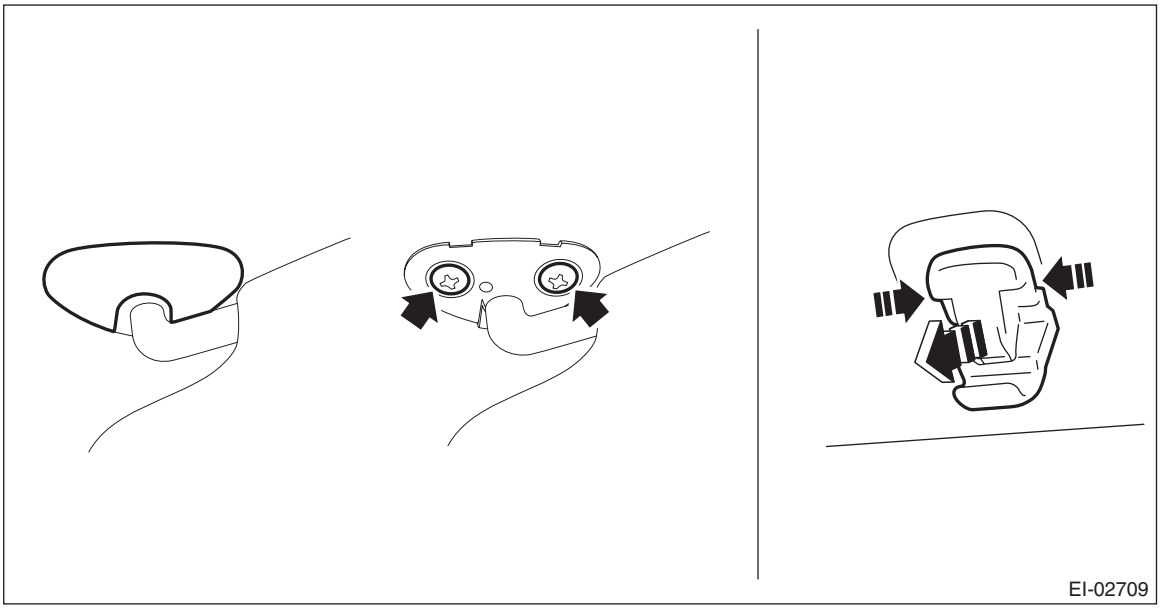
B: INSTALLATION

Install each part in the reverse order of removal.

24.Sun Visor

A: REMOVAL

1) Remove the cover, loosen the screws, and remove the sun visor assembly.
2) Remove the sun visor hook.
   (1) Press both sides using a flat tip screwdriver.
   (2) Remove the sun visor hook by pulling toward you.



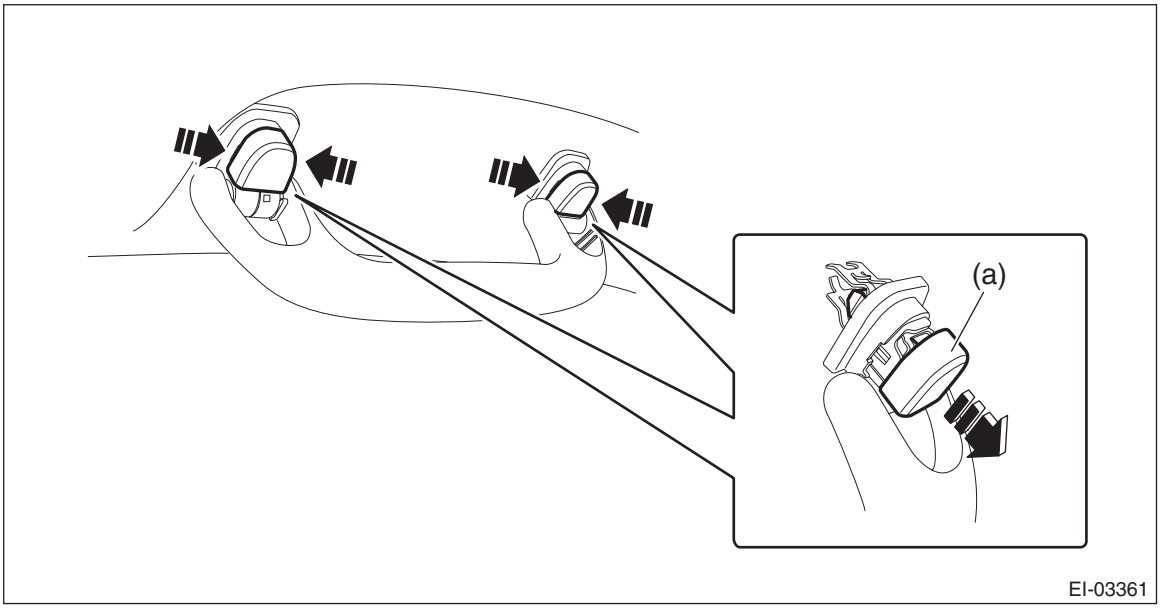
B: INSTALLATION

Install each part in the reverse order of removal.

25.Assist Grip

A: REMOVAL

Remove the assist grip assembly.
1) Remove the cap (a) by pulling the both sides of the cap (a) using a flat tip screwdriver wrapped with a protection tape.
2) Pull the assist grip toward you (to the vehicle center) and remove the metal clip from the bracket.



B: INSTALLATION

Install each part in the reverse order of removal.

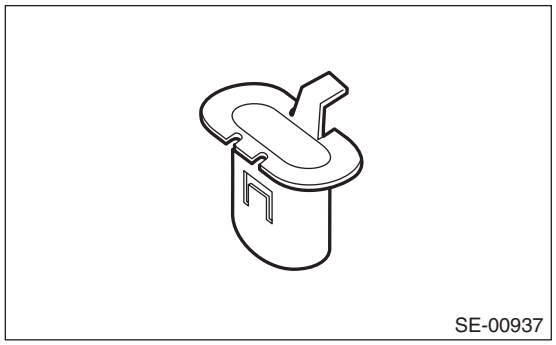
26.Roof Trim

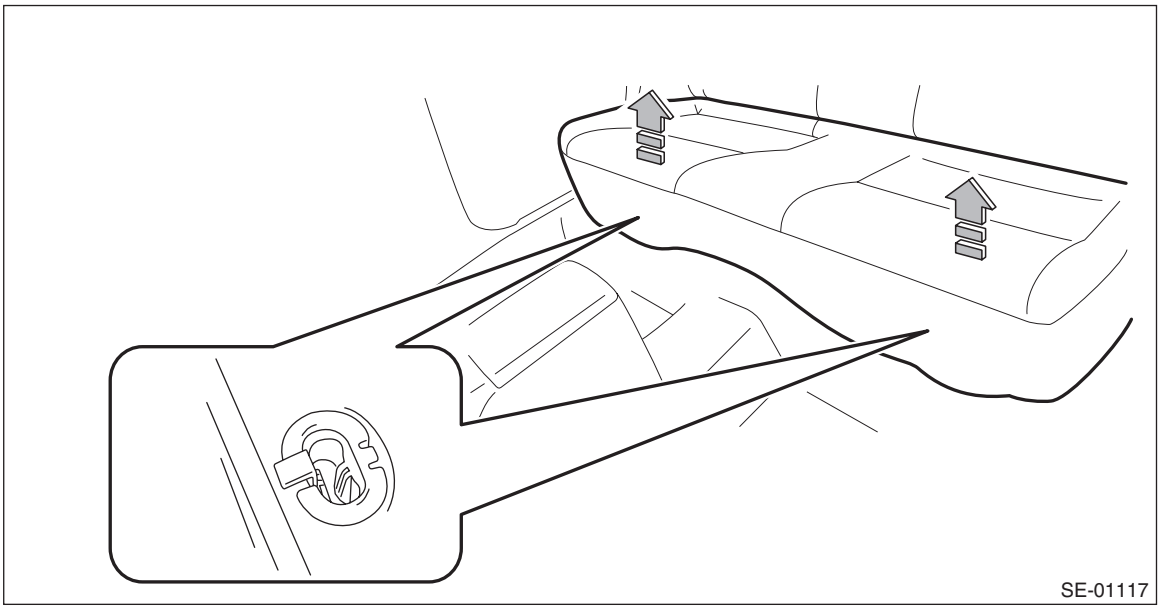
A: REMOVAL

1. SEDAN MODEL

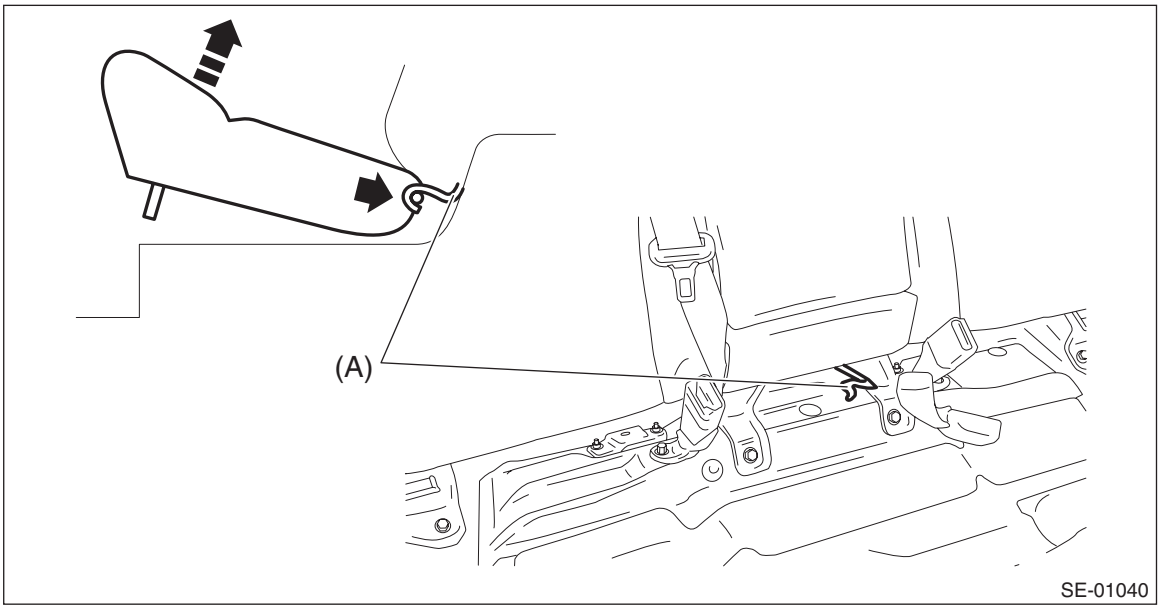
1) Remove the rear seat cushion assembly.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937

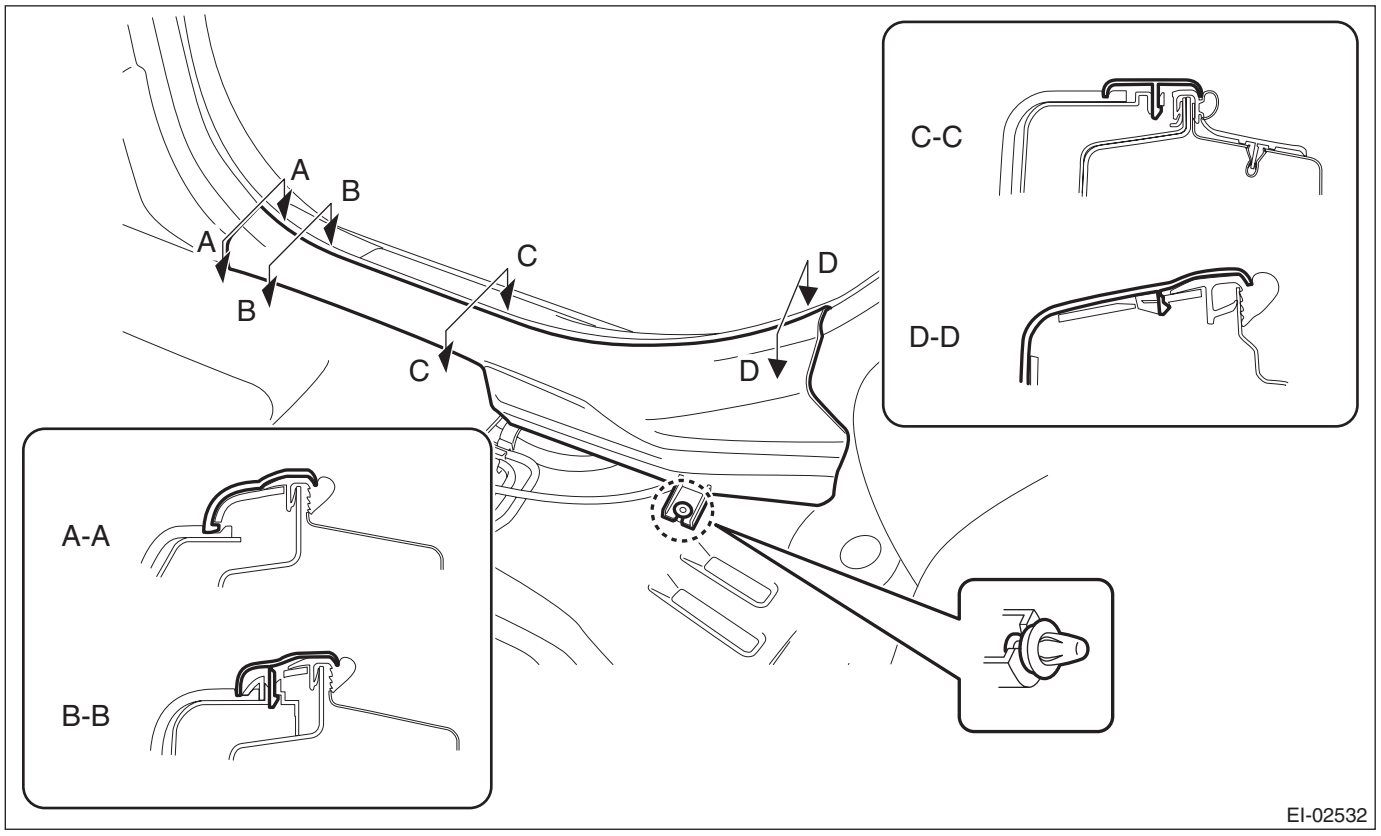

SE-01117

(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



2) Release the clips and claws, and remove the side sill covers - rear INN on the left and right sides.

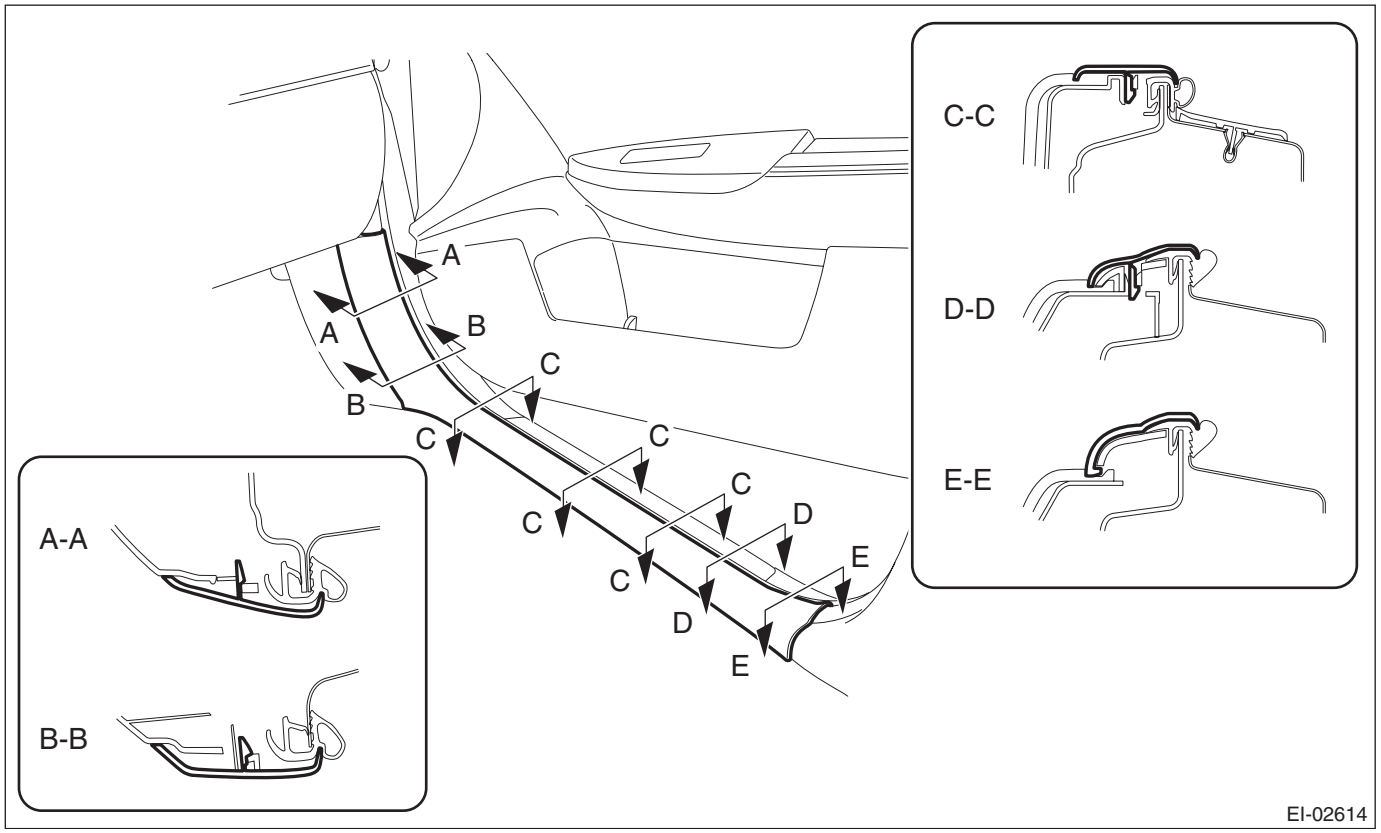
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

3) Release the claws, and then remove the side sill cover - front INN on the left and right sides.

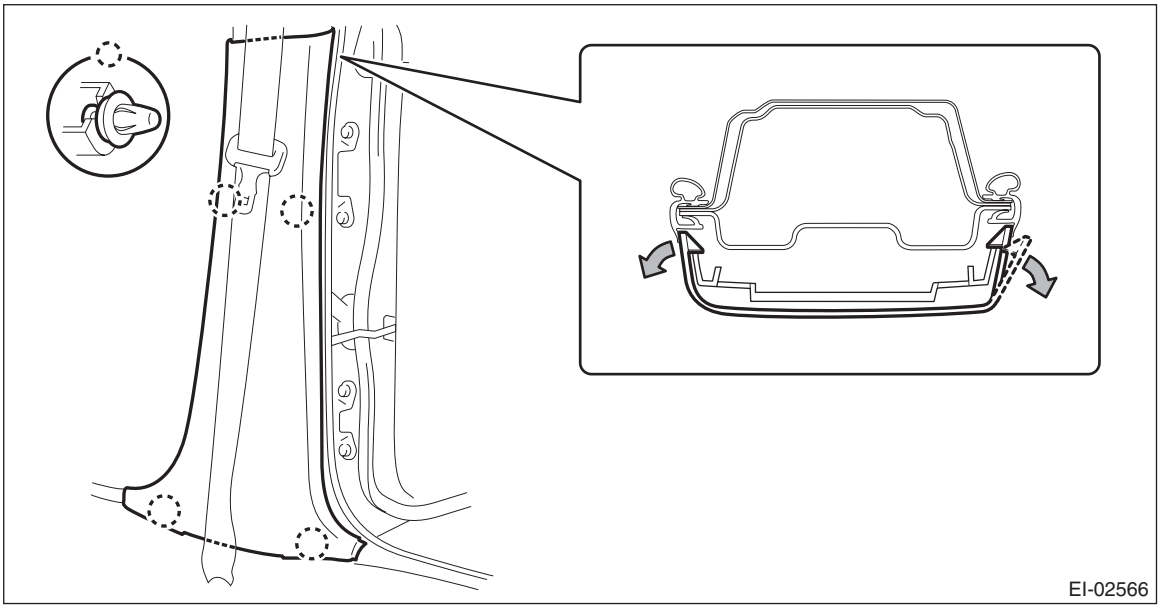
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

4) Remove the left and right center pillar trim LWR.
   (1) Release the clip by pulling the center pillar trim LWR toward you.
   (2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.



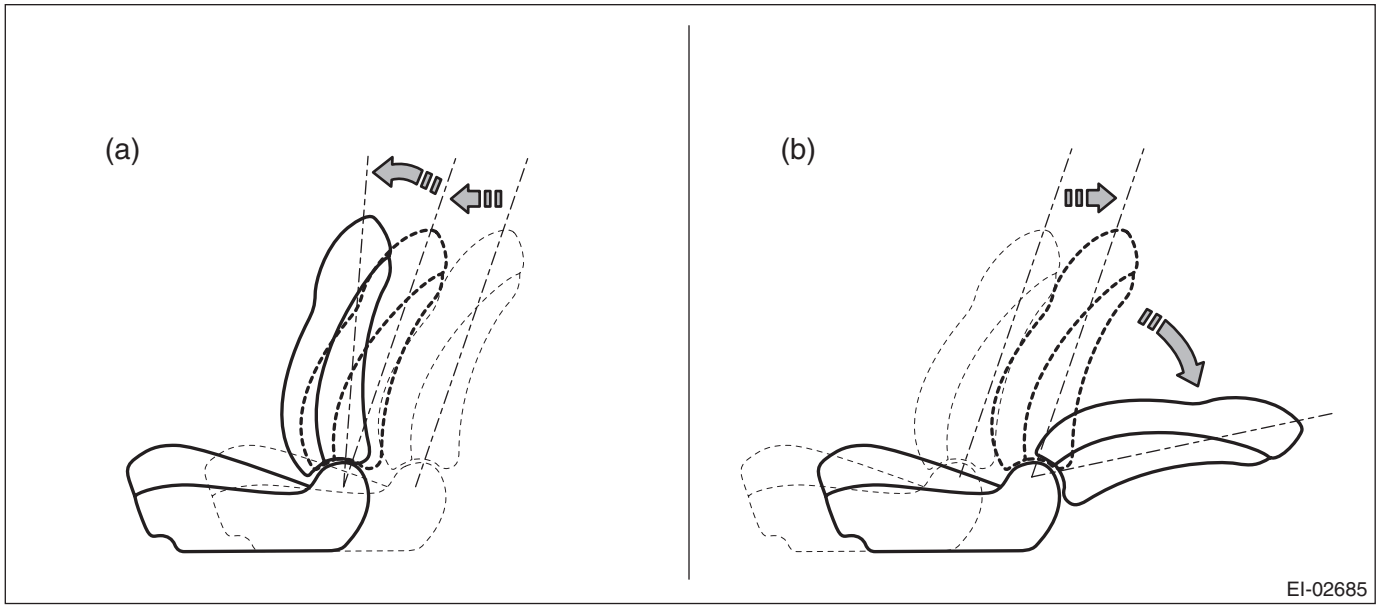
NOTE:
First release the claw located to the rear of the vehicle.
5) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

NOTE:
For the power seat, adjust the front seat position before removing the battery ground.
6) Adjust the front seat position.
   (1) Remove the driver's seat and passenger's seat headrests.

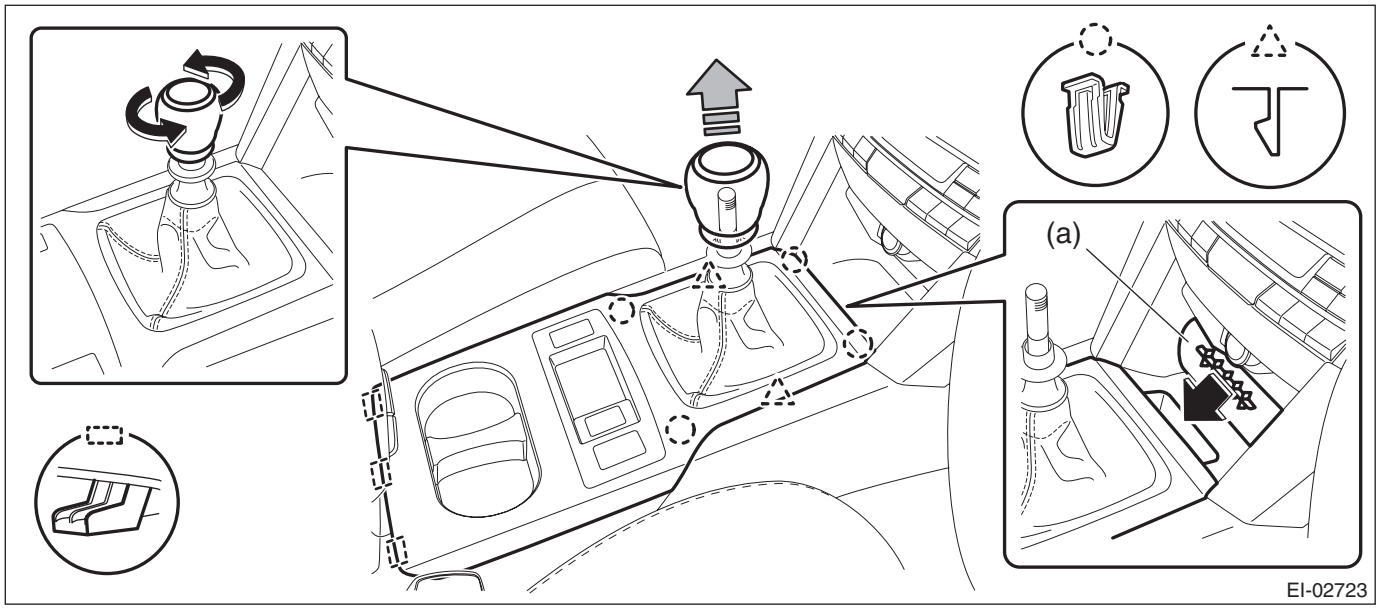
NOTE:
For models with headrest monitor, remove the headrest in the following procedures.
1. Fold the backrest all the way backward, and then remove the headrest.
2. Place the headrest on the seating face.

3. Return the backrest to the original position.
   (2) Tilt the driver's seat backrest forward and move the seat to the front most position. (a)
   (3) Tilt the passenger's seat backrest rearward and move the seat to the rearmost position. (b)



7) Cover the following areas to protect from damage.
- Steering wheel
- Instrument panel surface
- Glove box surface

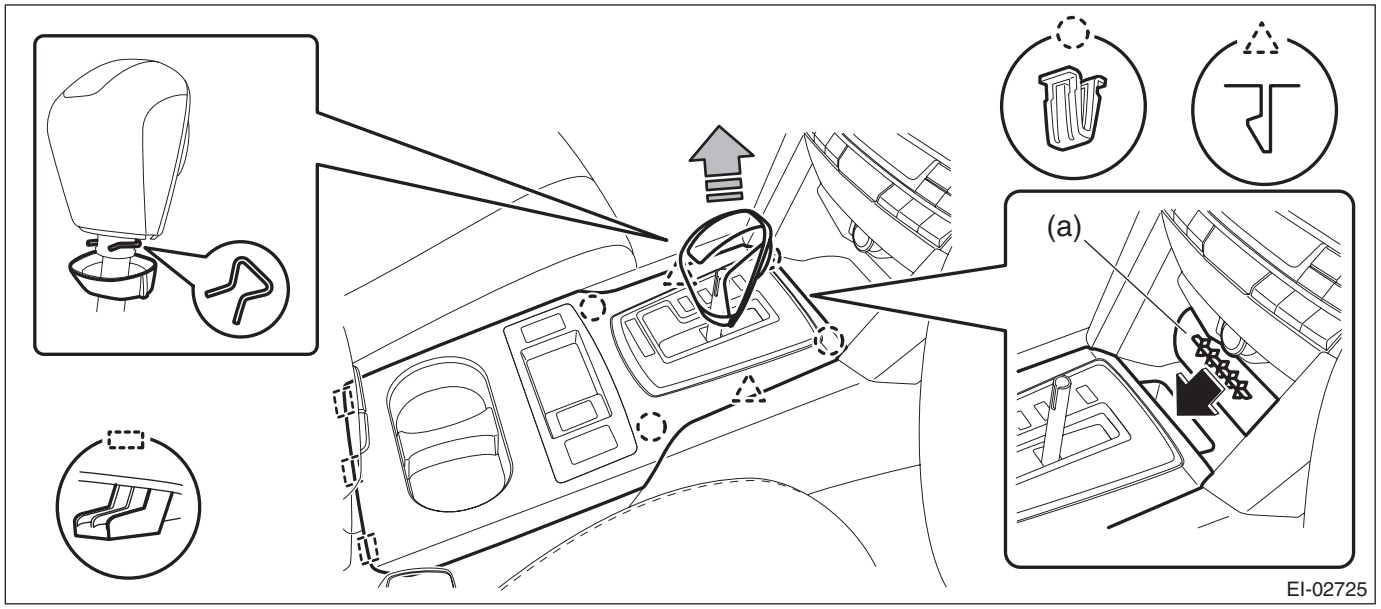
8) Remove the console front cover assembly.
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

3. Disconnect the harness connector and remove the console front cover assembly.

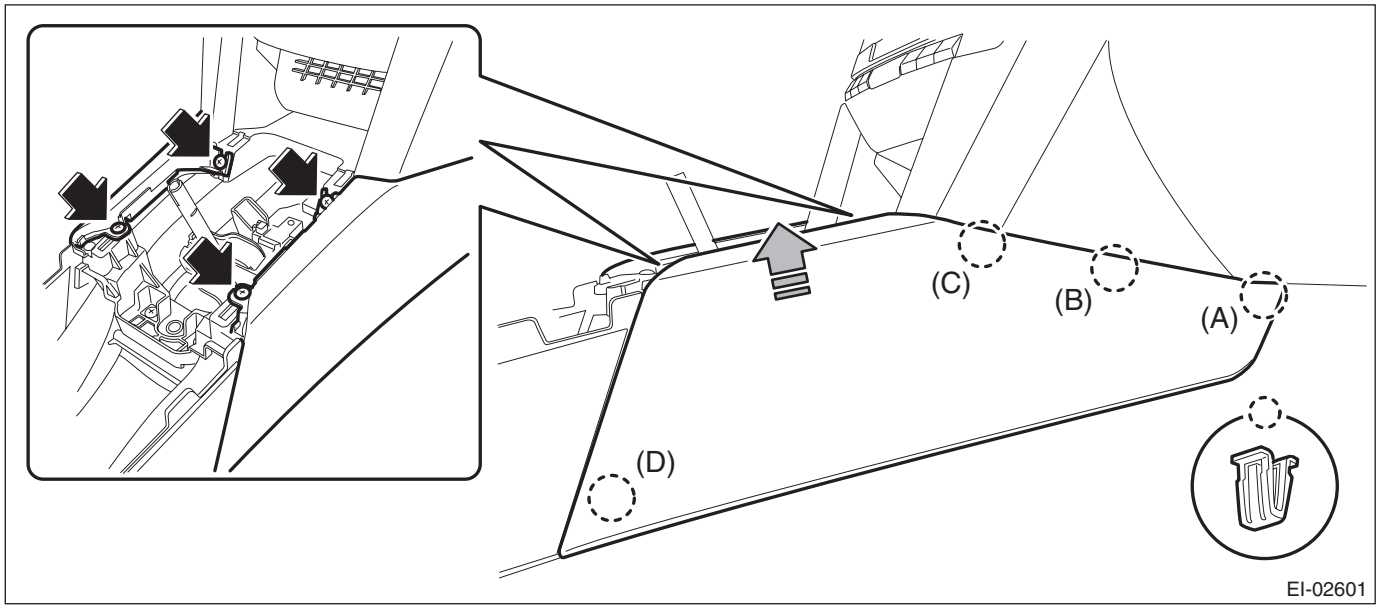
- AT model / CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

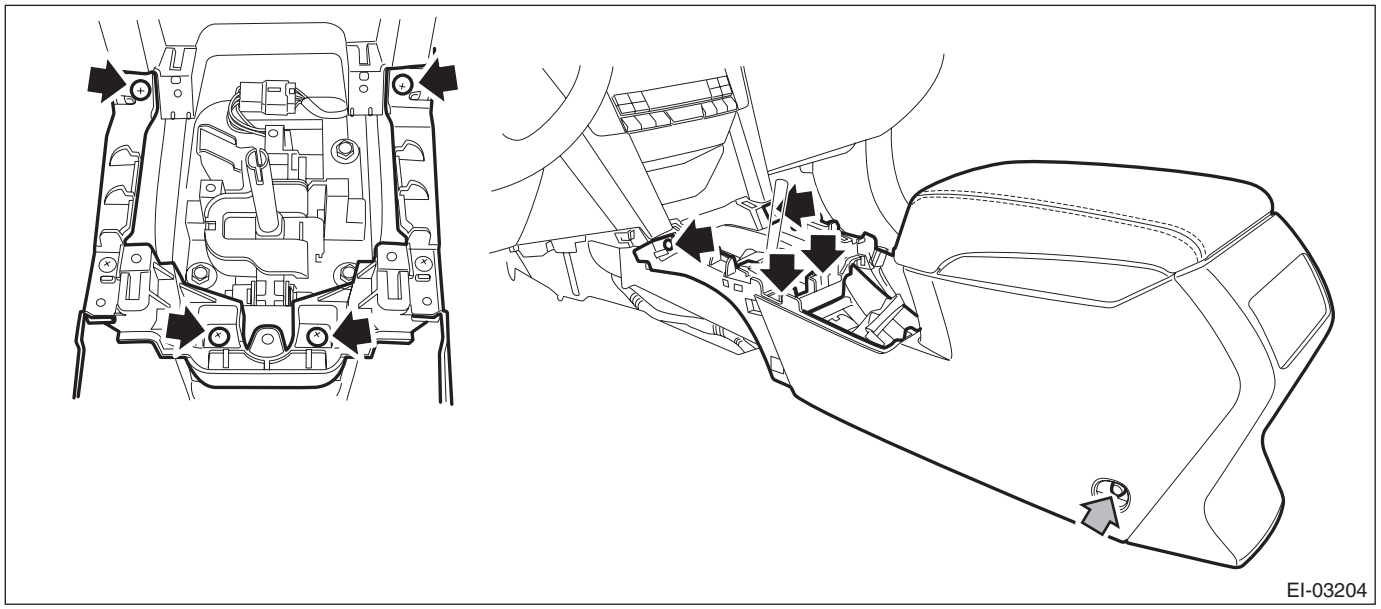
9) Remove the left and right console front side cover assembly.
   (1) Remove the screws and release the clips (A) to (D) in order.
   (2) Remove the console front side cover assembly by pulling it up.



10) Remove the console box assembly.
(1) Move the seat, and remove the bolts after detaching the left and right caps.

NOTE:
For a model with power seat, connect the battery ground cable and move the seat. Then, disconnect the battery ground cable again and wait for 60 seconds at least before restarting the work.

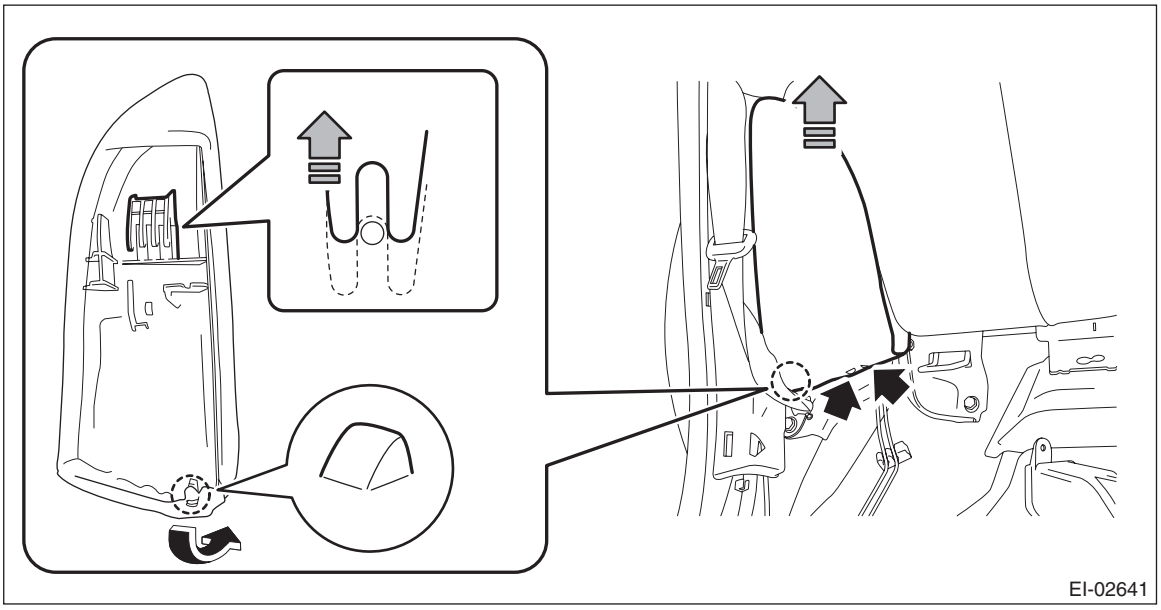
(2) Remove the screws, disconnect the harness connector and remove the console box assembly.



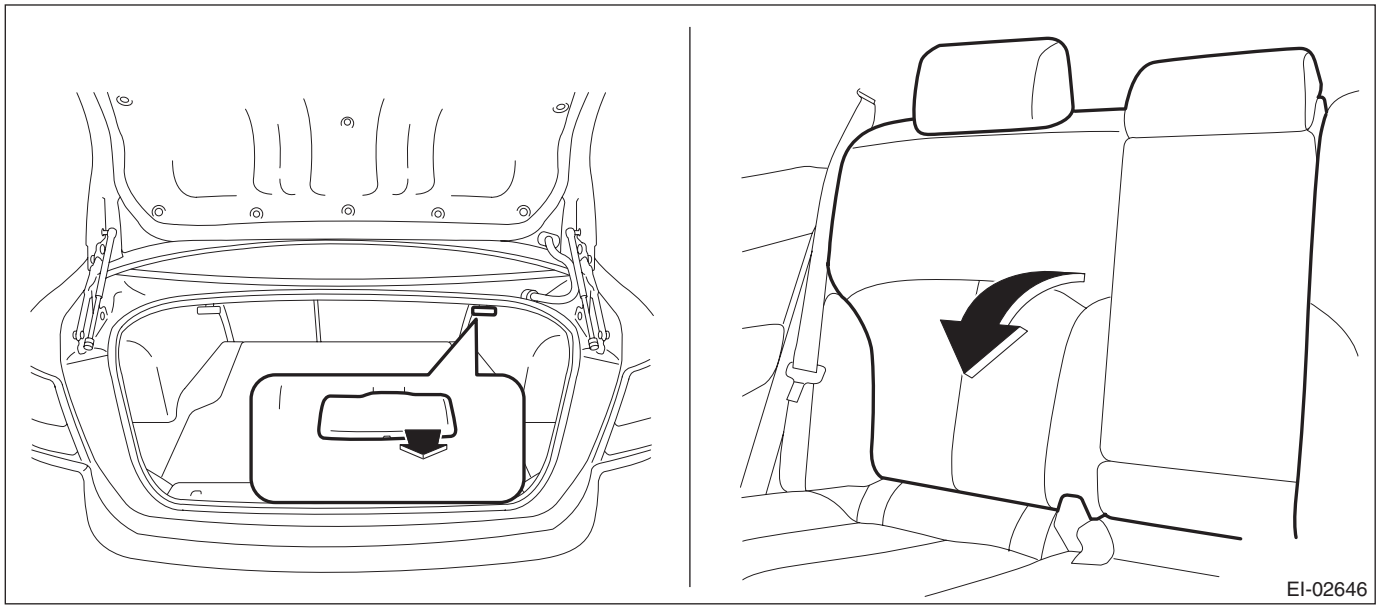
11) Remove the left and right rear quarter trim LWR.
(1) Remove the backrest side pad.
a) Remove the screws.

Preparation tool:
Stubby screwdriver

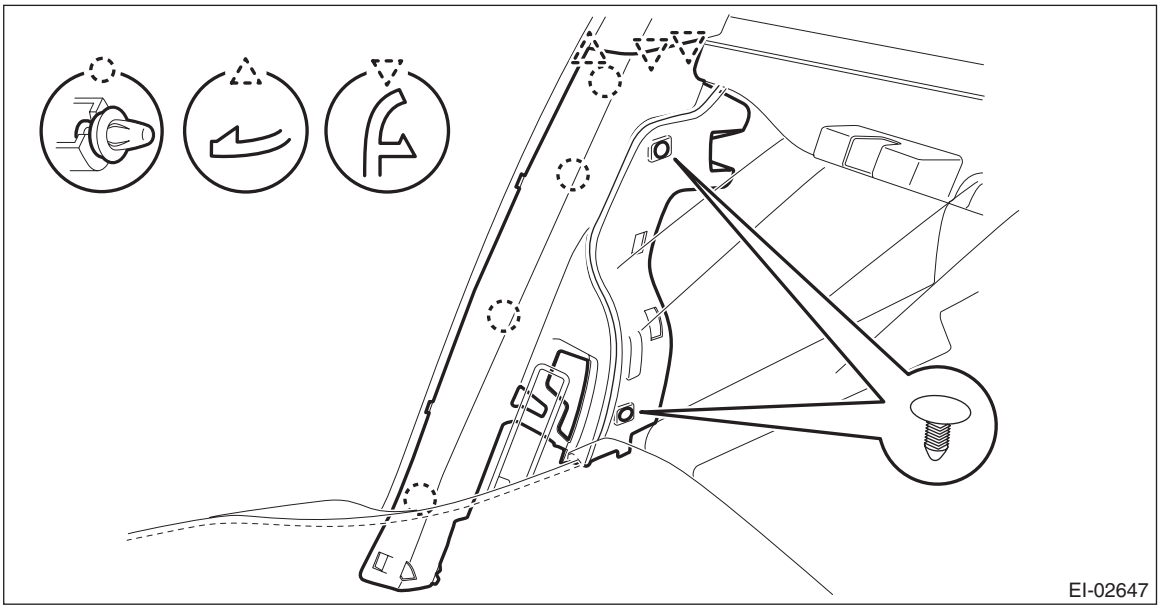
b) Turn over the bottom end of the backrest side pad in the forward direction so that the claws are released.
c) Remove the backrest side pad by pulling it up.



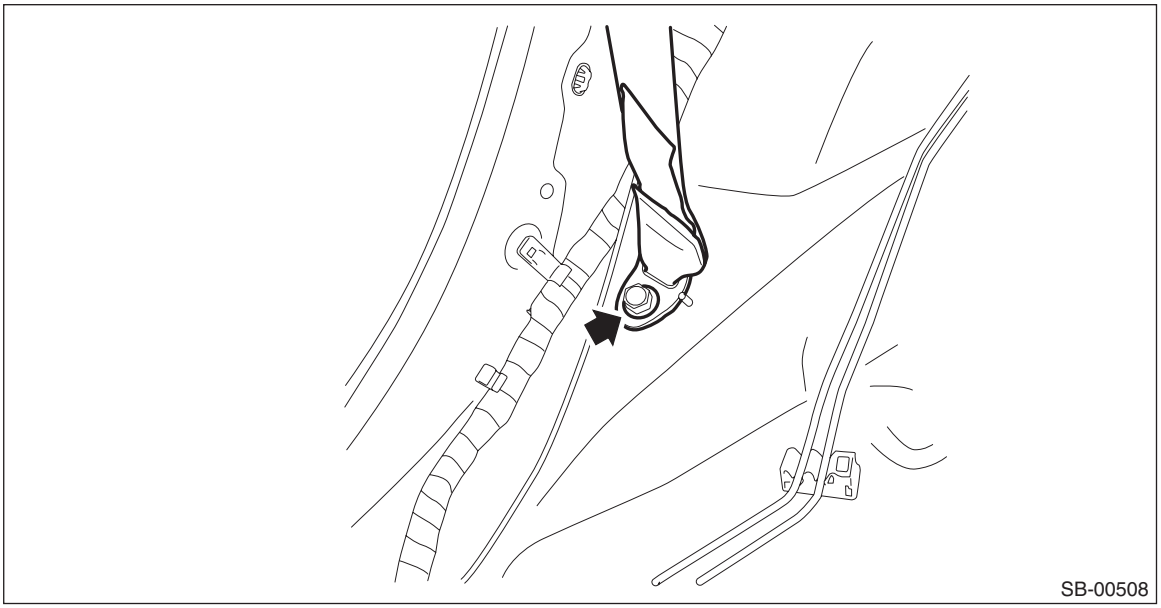
(2) Pull the release lever in the trunk room, and then tilt the backrest forward.



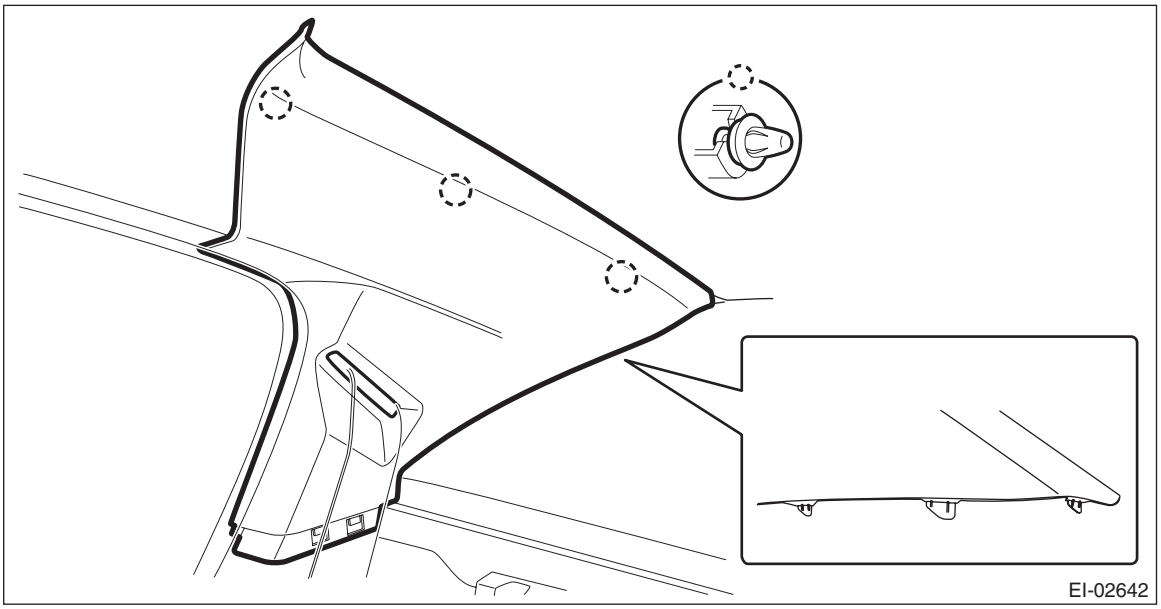
(3) Release the clips of the trunk trim panel assembly - side.
(4) Remove the clips, and remove the rear quarter trim LWR.



12) Remove the left and right rear quarter trim UPR.
(1) Remove the lower anchor bolt of the outer belt assembly.



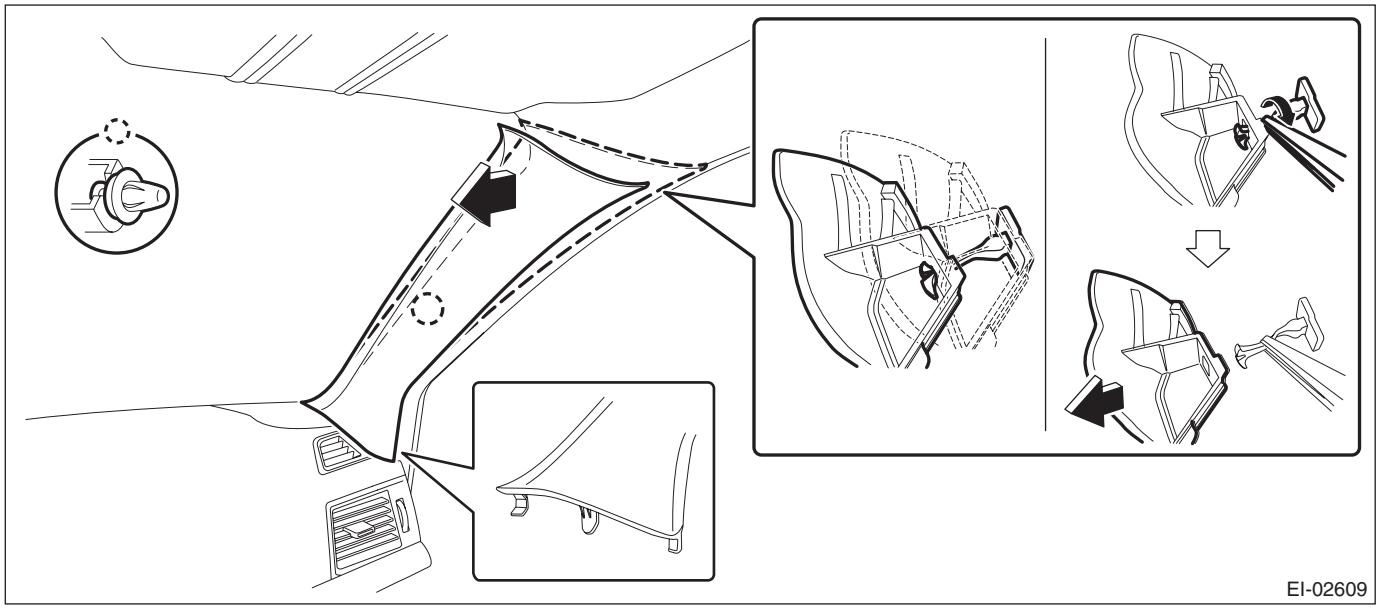
(2) Release the clips, and remove the rear quarter trim UPR.



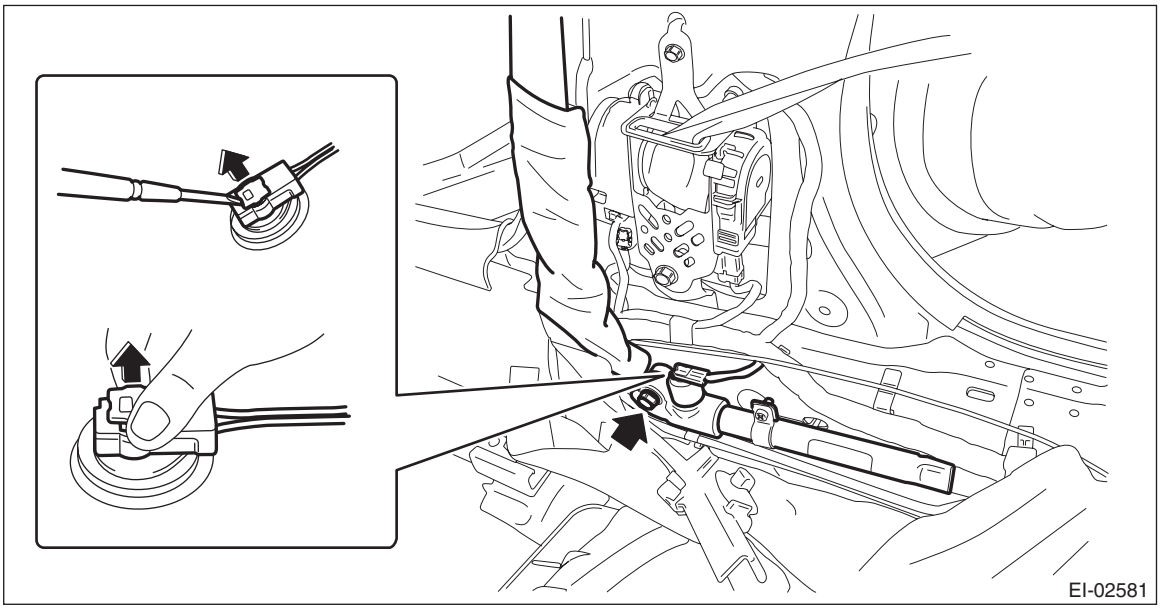
(3) Pull out the seat belt and remove the rear quarter trim UPR.

13) Remove the left and right front pillar trims.
(1) Pull the upper part of the front pillar trim towards the center of the vehicle.
(2) Insert long-nose pliers into the top part of the trim, grip the tether clip with the pliers and twist 90° in that position.

CAUTION:
Be careful not to damage the pillar trim surface and curtain airbag module when inserting the pliers.
(3) While holding the tether clip twisted as in the previous step, remove the front pillar trim from the tether clip.
(4) Remove the clip and the front pillar trim.


EI-02609

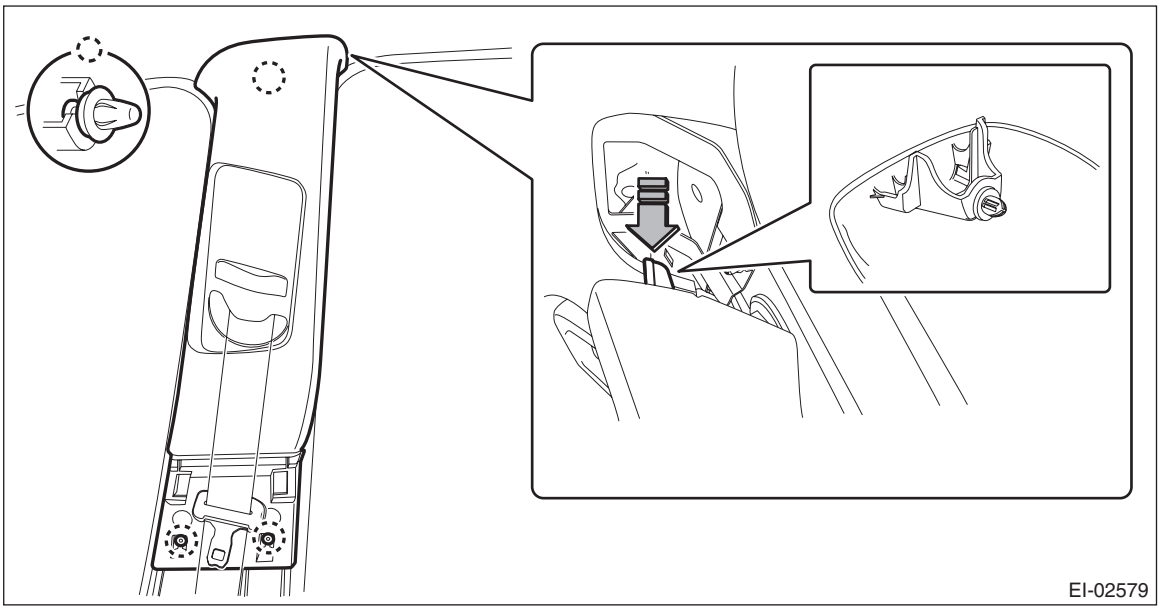
14) Remove the center pillar trim UPR.
(1) Also disconnect the connector of lap seat belt pretensioner, and remove the seat belt lower anchor bolt.


EI-02581

NOTE:
On passenger's side, disconnect the connector of the seat belt tension sensor.
(2) Release the clip by pulling the lower part of the trim toward you.

(3) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the center pillar trim UPR.

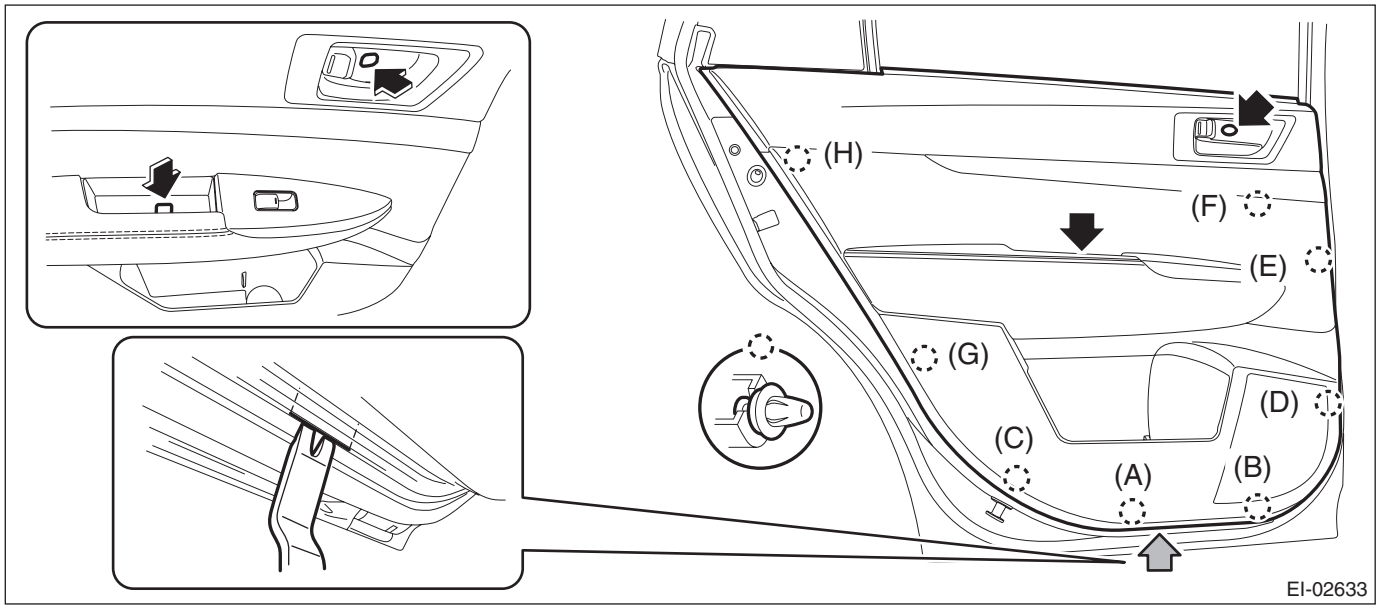
CAUTION:
Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.



(4) Pull out the seat belt and remove the center pillar trim UPR.

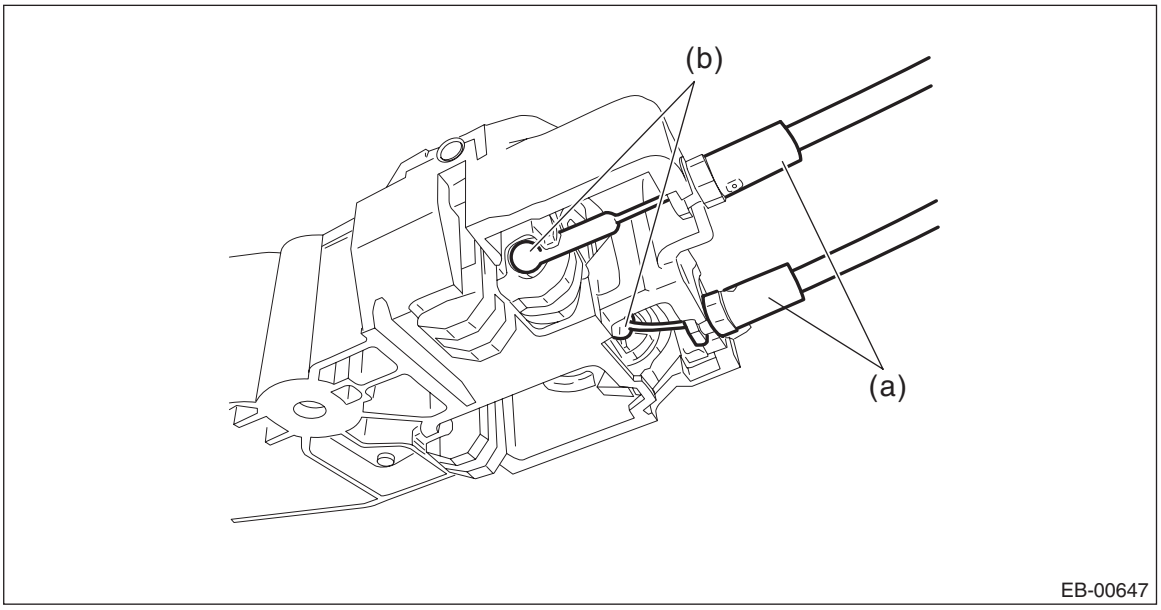
15) Remove the rear door trim assembly on driver's side.
(1) Open the cover and remove the screw.
(2) Remove the clips in the order of (A) to (H) and remove the door trim from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



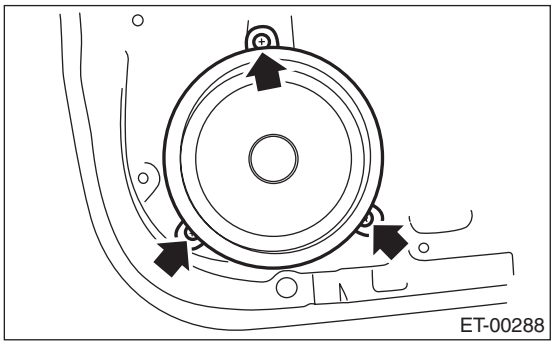
NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.

(3) Remove the cables (a) and (b) from the cable holder of inner remote.

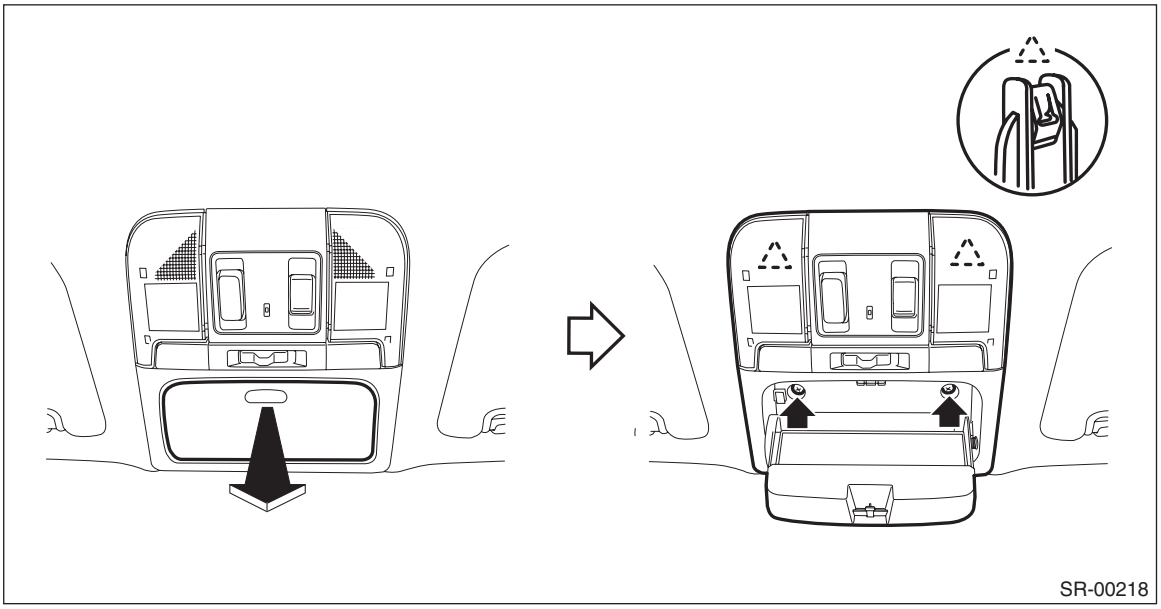


(4) Disconnect the harness connector and remove the door trim.

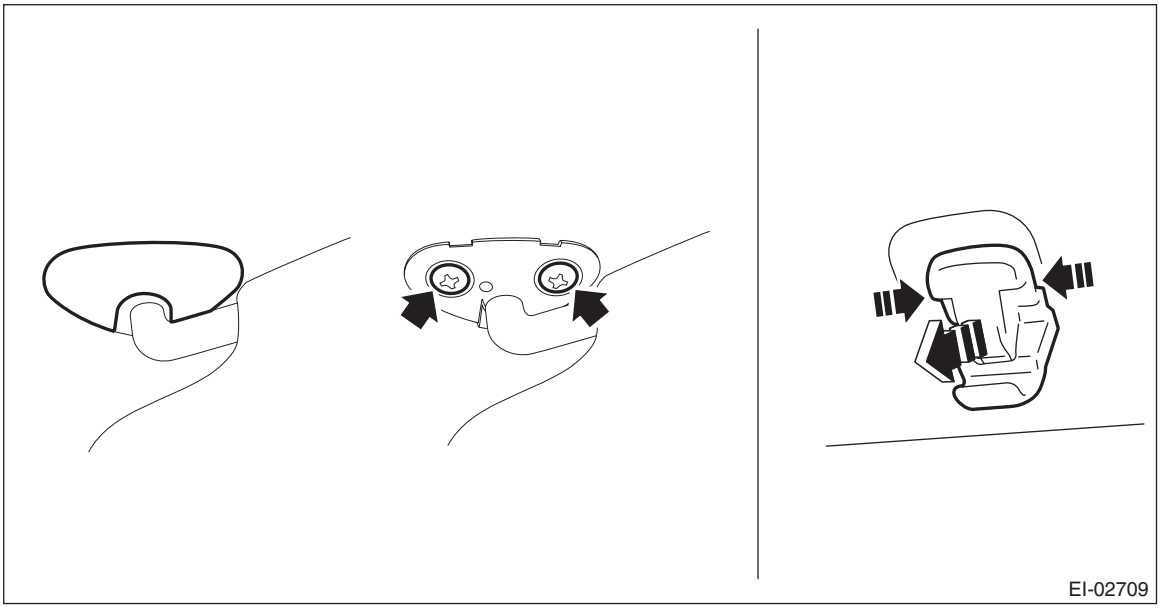
16) Remove the rear speaker assembly on driver's side.
(1) Remove the screws.
(2) Disconnect the harness connector and remove the rear door speaker.



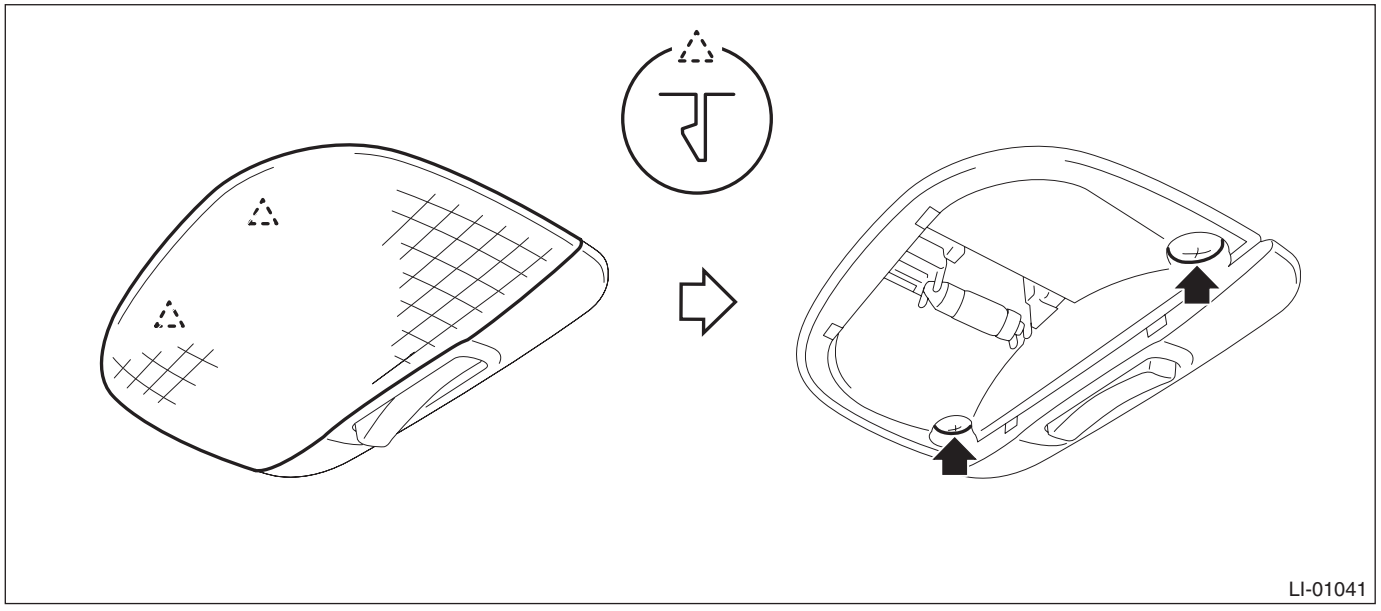
17) Remove the overhead console assembly. (Models without EyeSight)
(1) Push and open the rear end of the overhead console lid, and remove the screws.
(2) Disconnect the connector and remove the overhead console assembly.



18) Remove the stereo camera cover. (Models with EyeSight)<Ref. to ES-8, REMOVAL, Stereo Camera.>
19) Remove the left and right sun visor assembly.
(1) Remove the cover, loosen the screws, and remove the sun visor assembly.
(2) Press the both sides of the sun visor hook using a flat tip screwdriver.
(3) Remove the sun visor hook by pulling toward you.

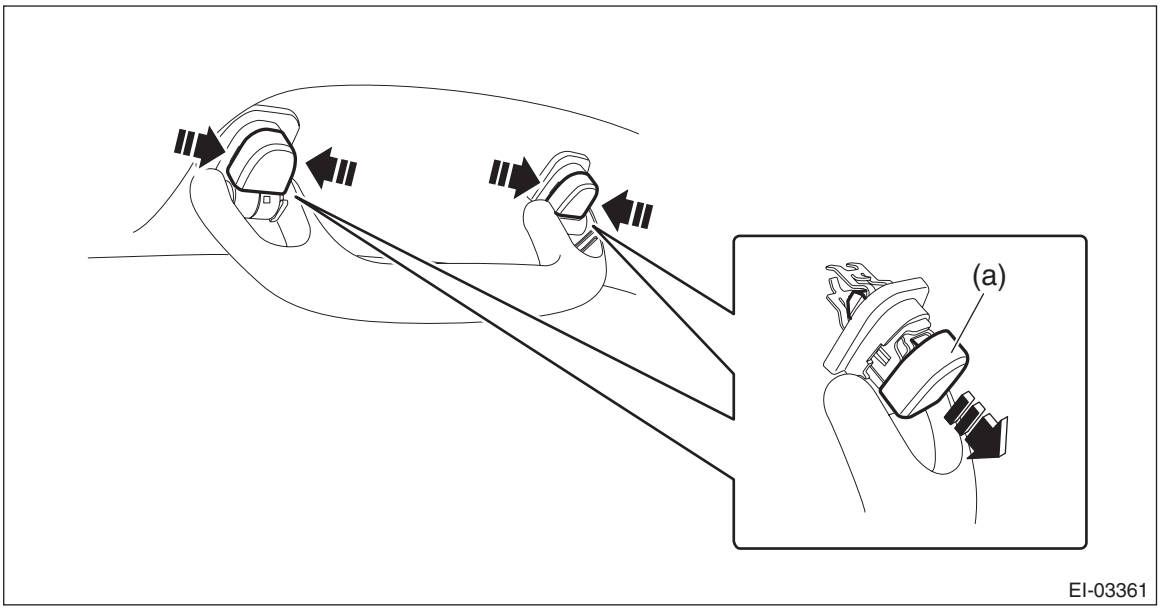


20) Remove the room light assembly.
(1) Release the claws and remove the cover.
(2) Remove the two screws.

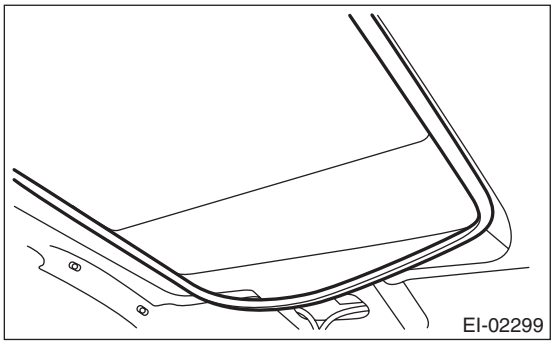


(3) Disconnect the connector and remove the room light assembly.

21) Remove all assist grip assembly.
(1) Remove the cap (a) by pulling the both sides of the cap (a) using a flat tip screwdriver wrapped with a protection tape.
(2) Pull the assist grip toward you (to the vehicle center) and remove the metal clip from the bracket.

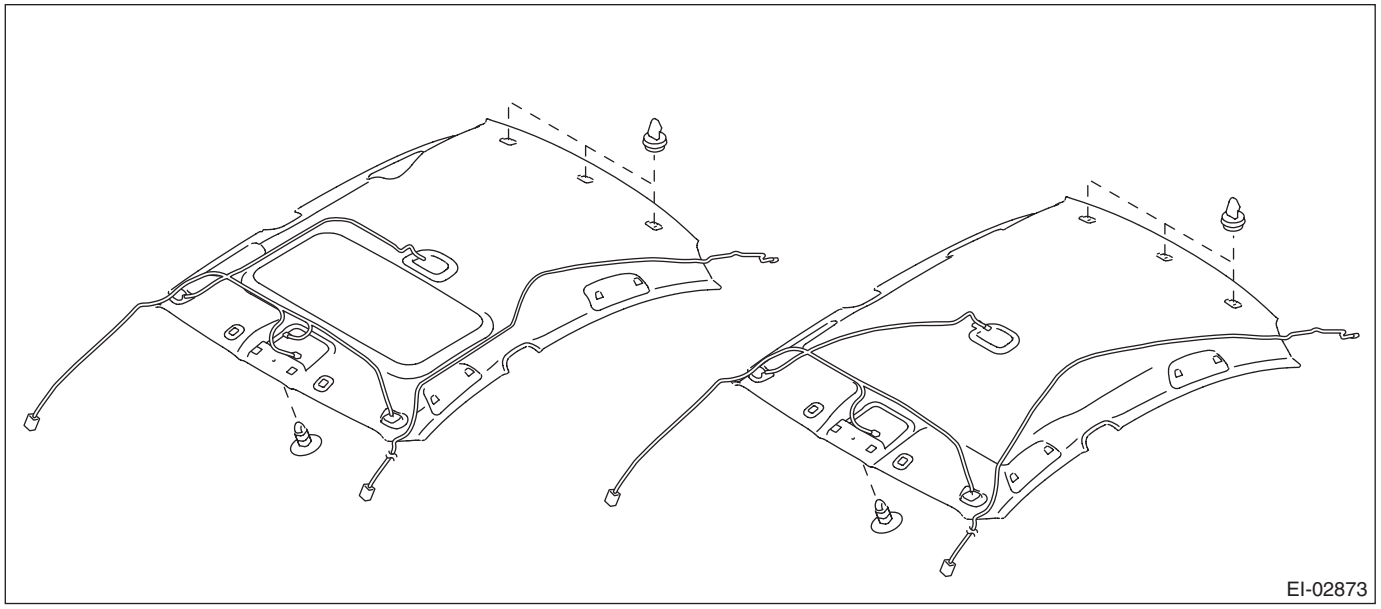


22) Remove the sun roof garnish. (Model with sunroof)

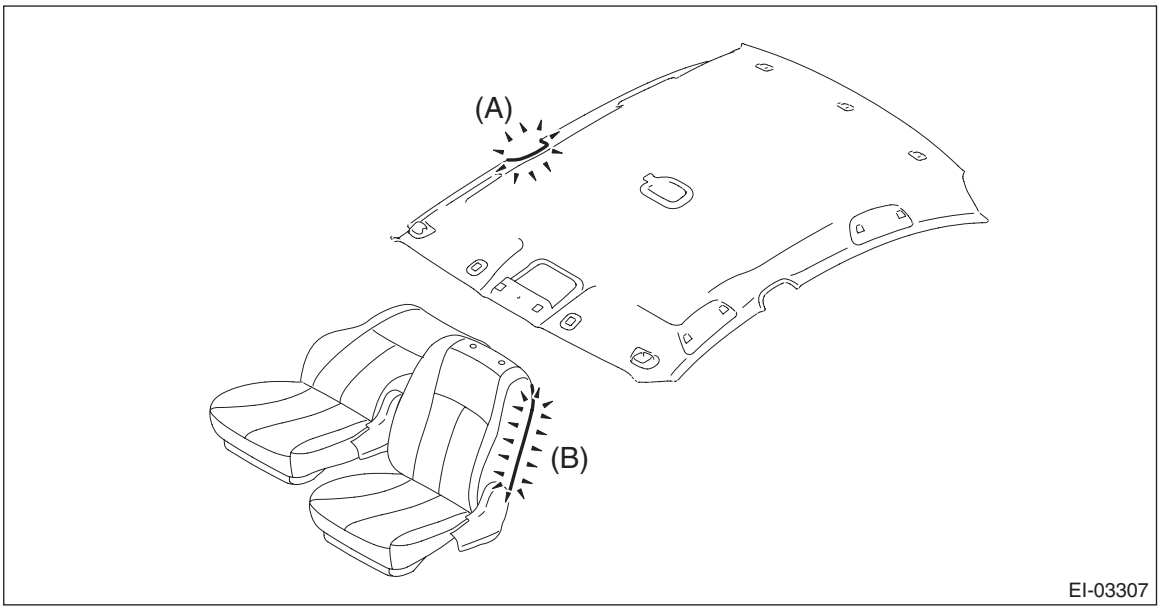


23) Disconnect the roof harness connector at the front pillar RH.

24) Remove the roof trim assembly.
(1) Remove the clips, and then remove the roof trim.
(2) Remove the feeder cord and roof cord from the roof trim.


EI-02873

(3) Take out the roof trim assembly from inside the vehicle.
a) Align the center pillar (A) of roof trim with a corner (B) of the driver's seat and turn the roof trim obliquely.



EI-03307

b) While holding the roof trim assembly in the condition in step a), take it out from the driver's side rear door opening.

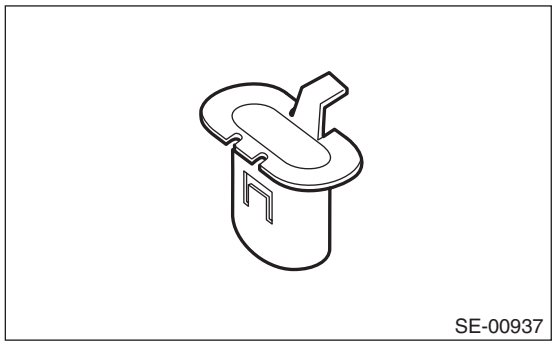
2. OUTBACK MODEL

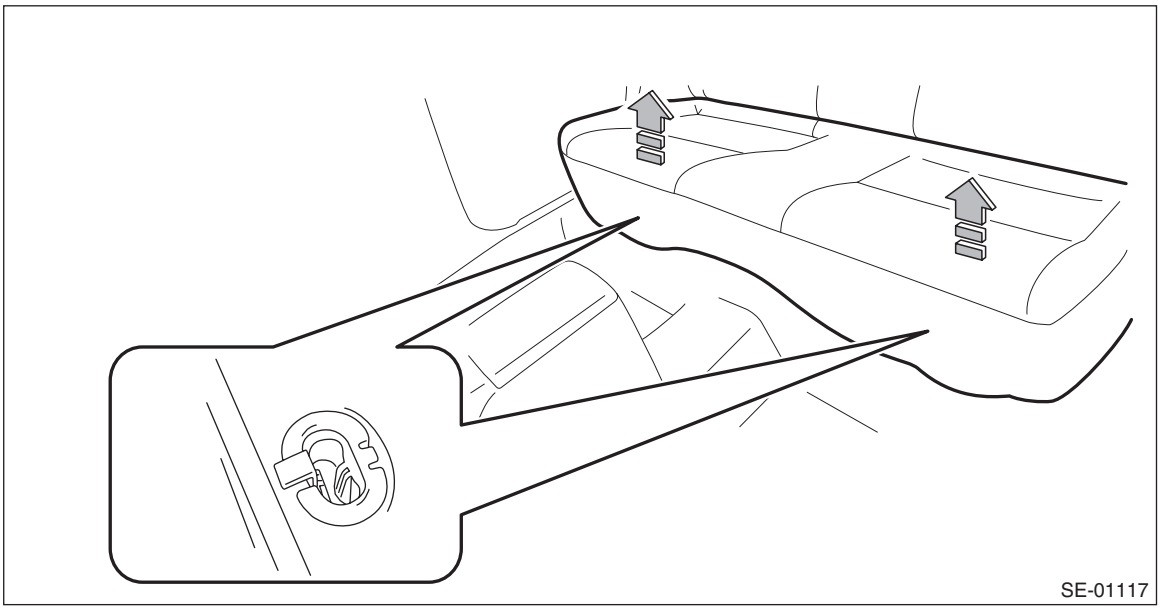
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

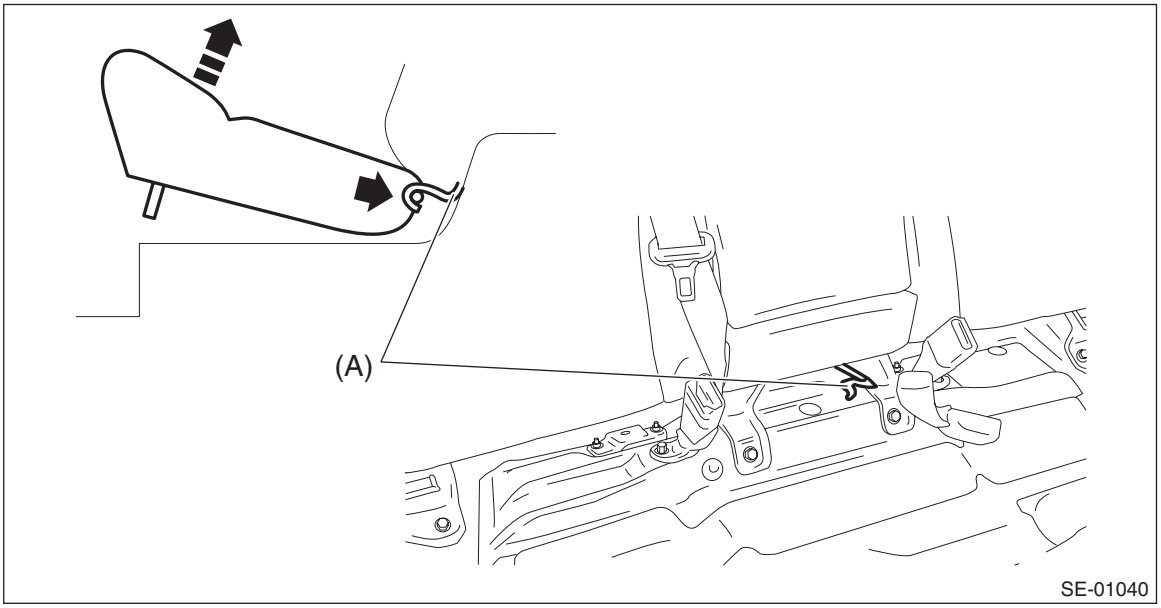
2) Remove the rear seat cushion assembly.
(1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


SE-00937


SE-01117

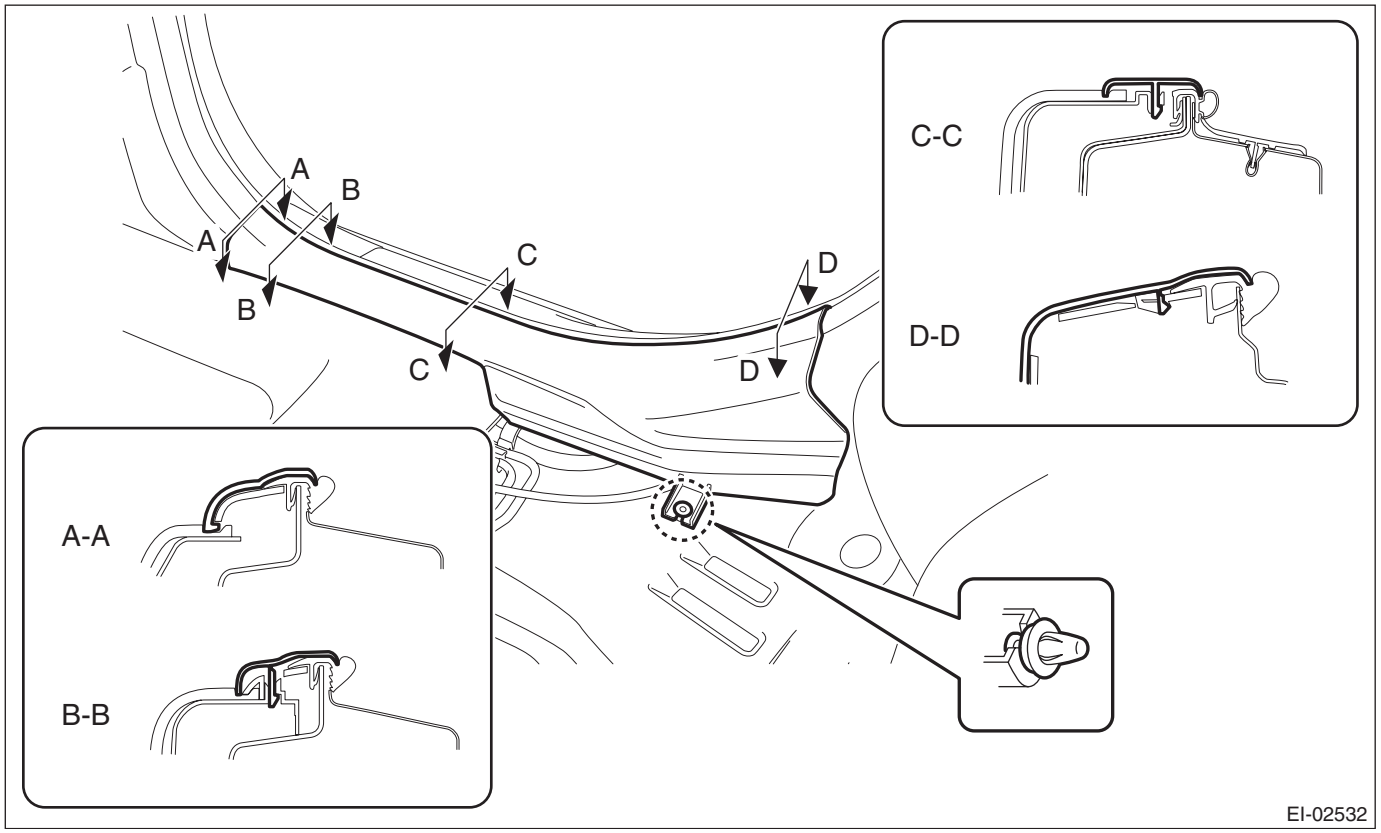
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



SE-01040

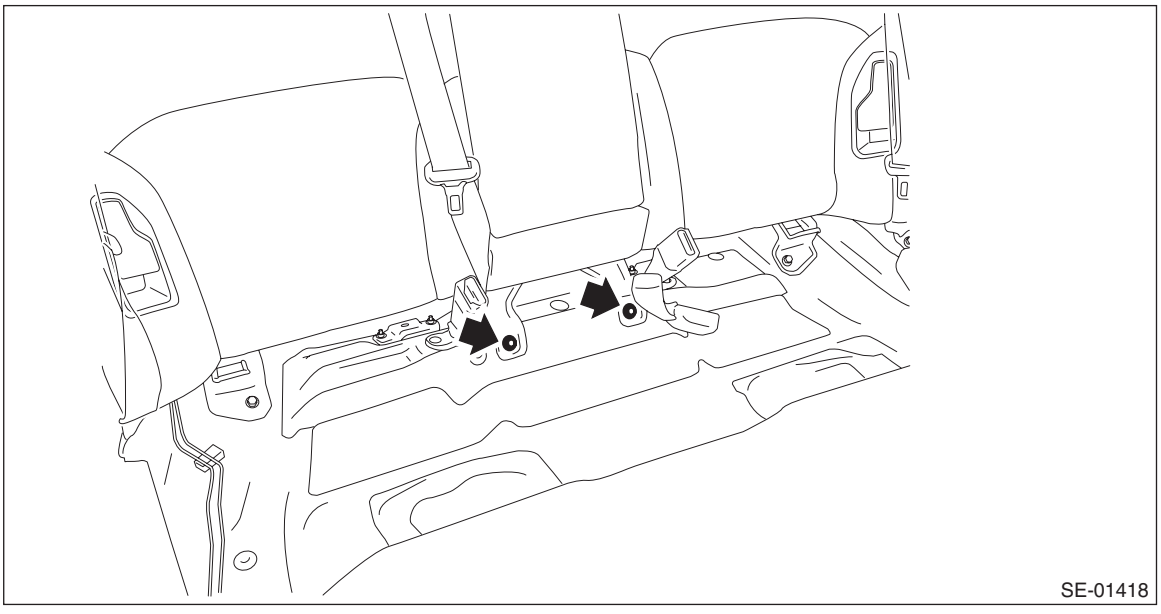
3) Release the clips and claws, and remove the side sill covers - rear INN on the left and right sides.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

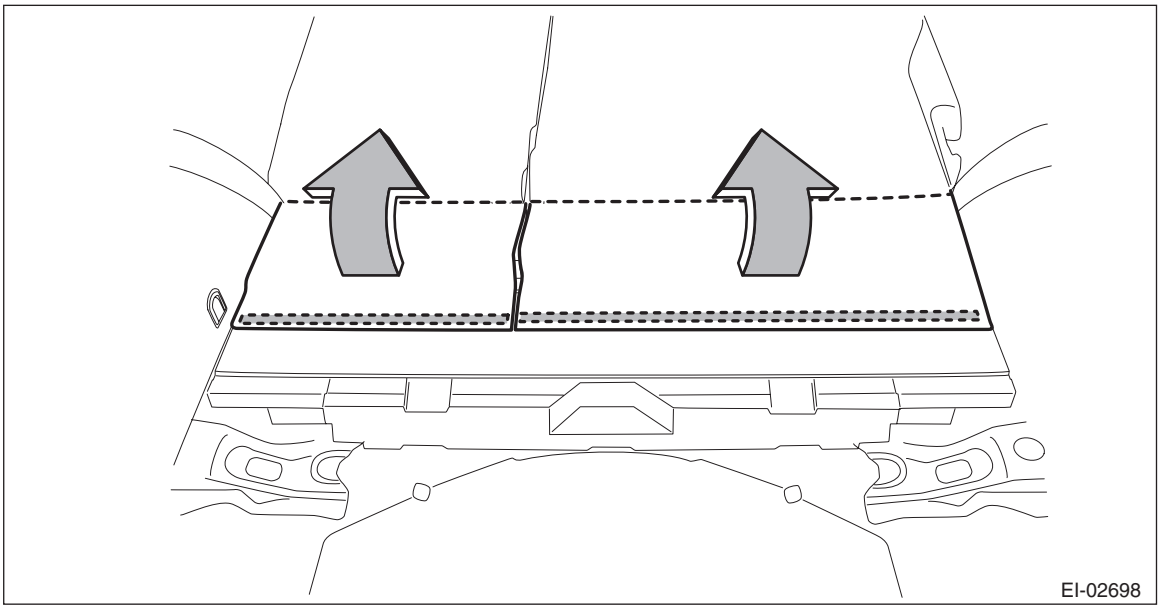


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

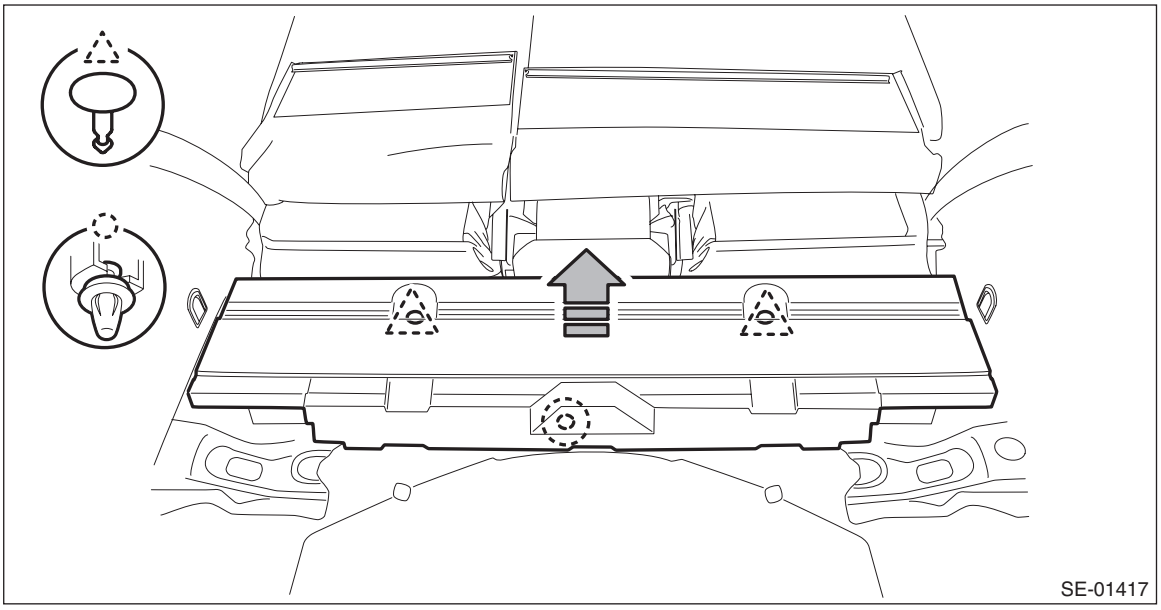
4) Remove the left and right backrest assemblies.
   (1) Remove the headrest.
   (2) Remove the hinge bolts at the front of the backrest assembly RH.



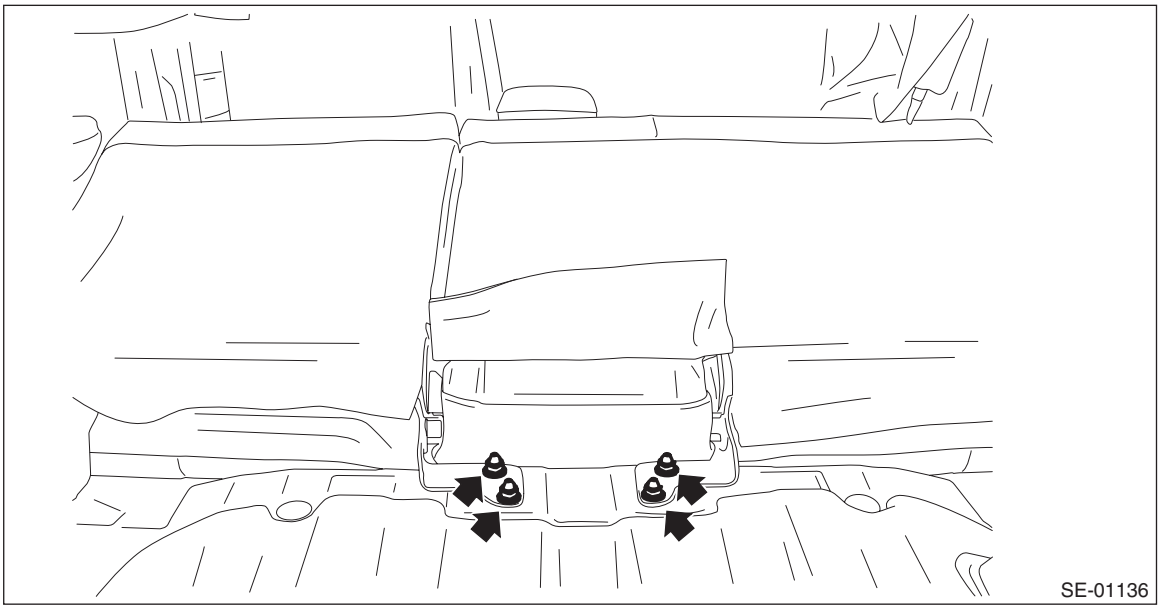
(3) Tilt the backrest forward, and then turn over the backrest backside mat.



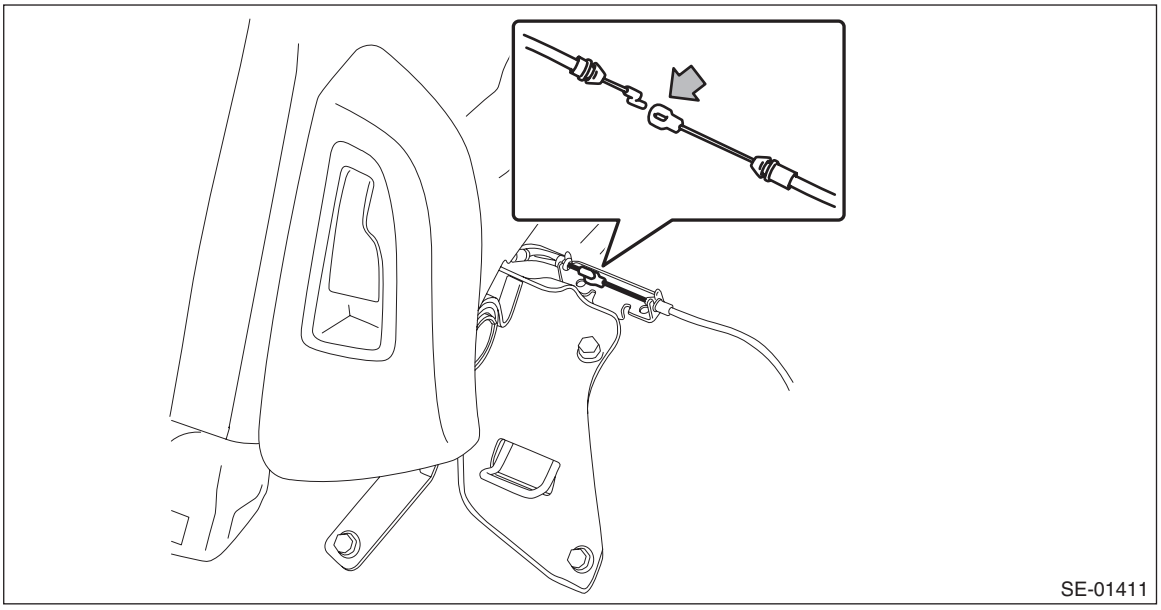
(4) Remove the clips, and remove the rear floor mat - front.



(5) Remove the nuts at the rear of backrest hinge.

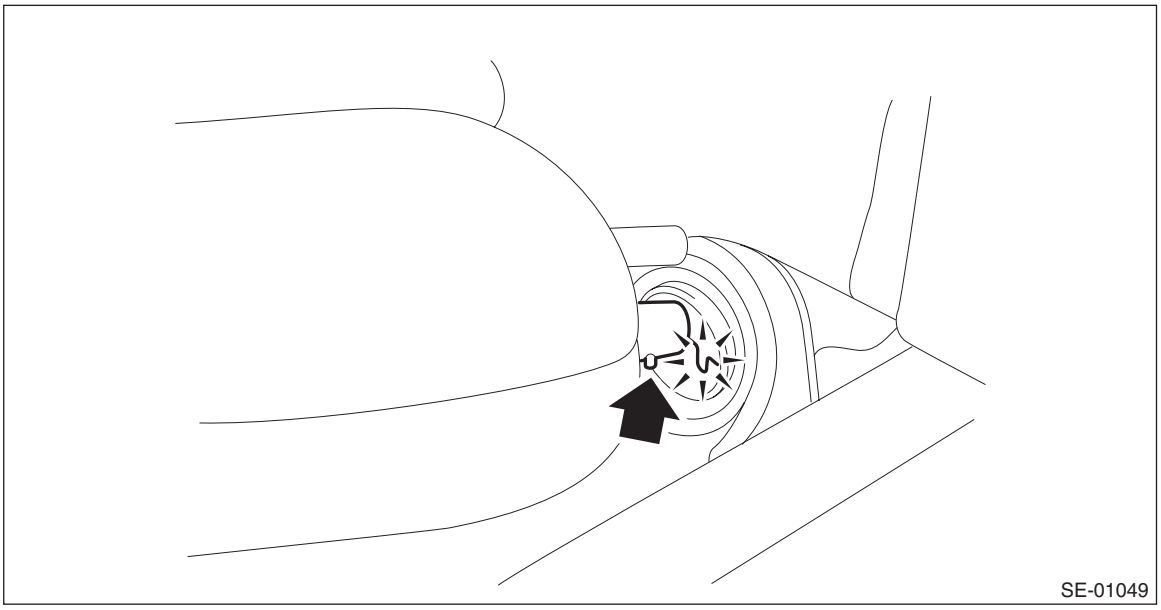


(6) Disconnect the backrest cable and reclining cable.



NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

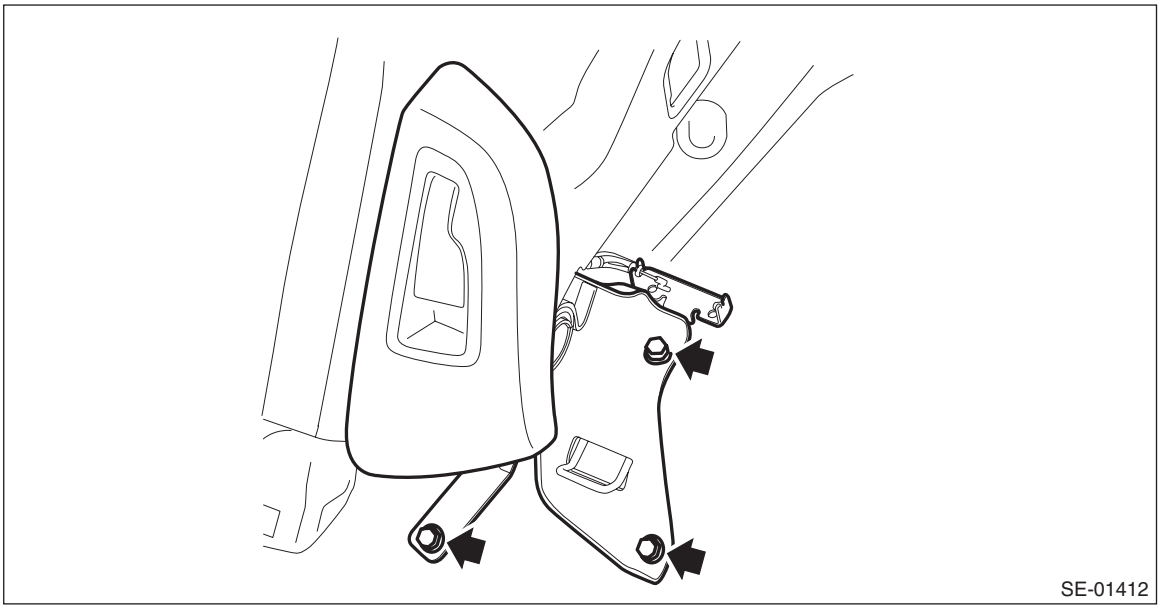
(7) Remove the backrest assembly RH from the hinge assembly RH.



NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

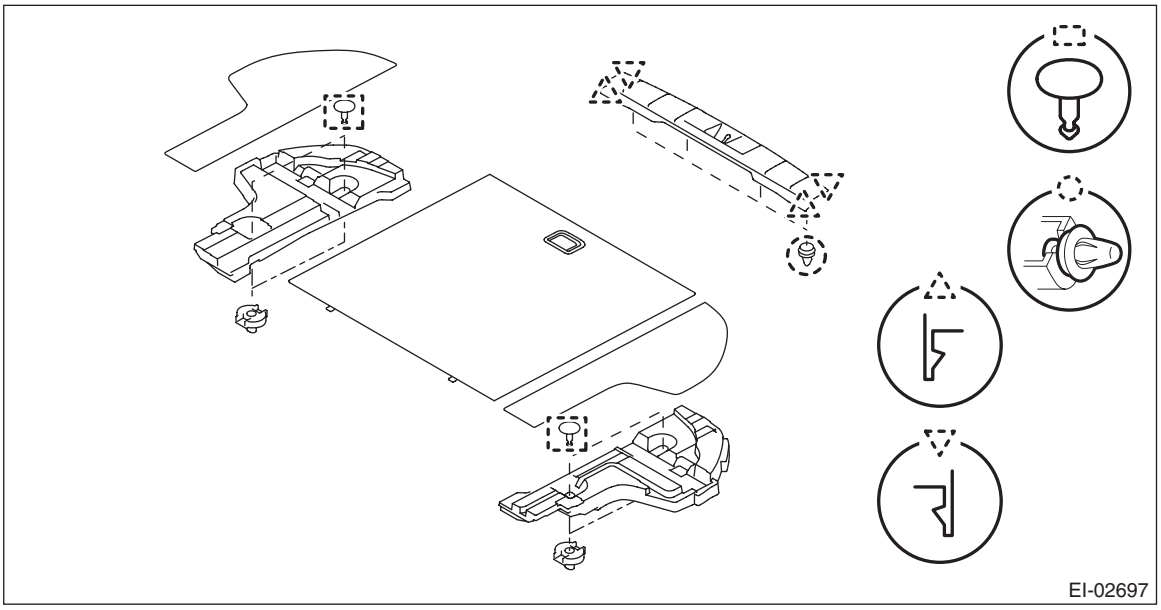
(8) Take out the part outside the vehicle so that the body is not damaged by the hinges.

5) Remove the bolts, and remove the backrest side pad assembly RH.

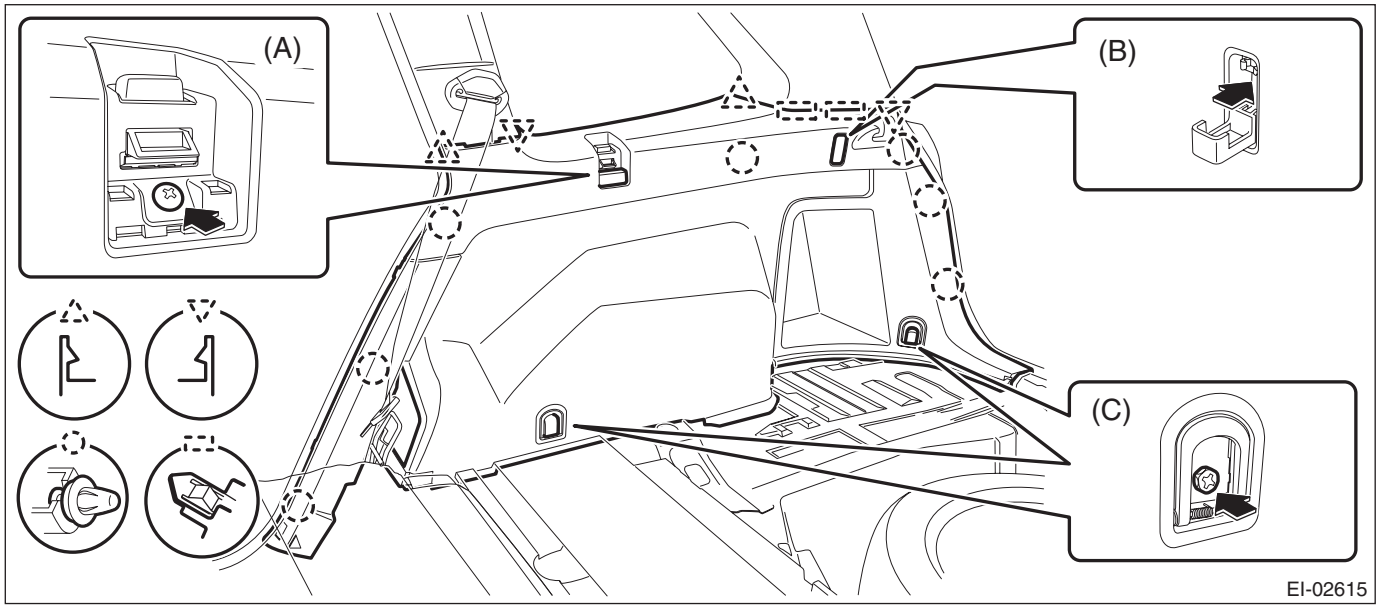


6) Referring to the above steps, remove the backrest assembly LH.

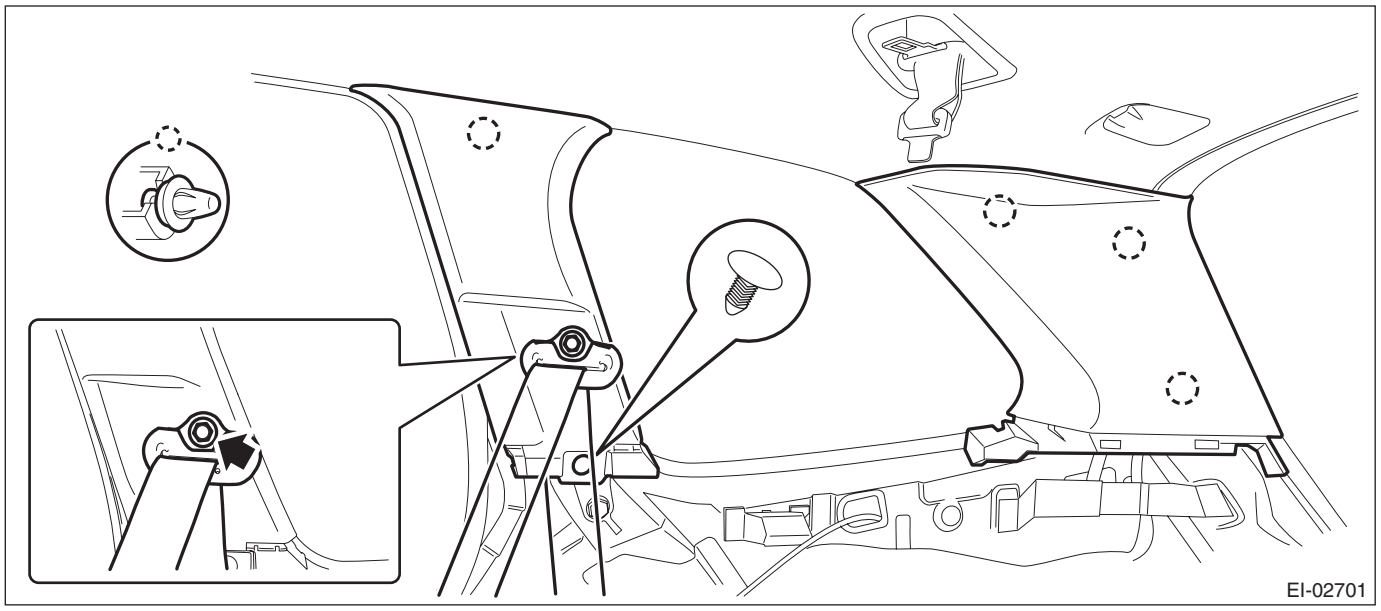
7) Remove the clips, and remove the luggage floor box and rear floor edge cover.



8) Remove the left and right rear quarter trim LWR.
   (1) Remove the caps, screws, and bolts. (A), (C)
   (2) Take out the hook and remove the screw inside. (B)
   (3) Remove the clips, and remove the rear quarter trim LWR.

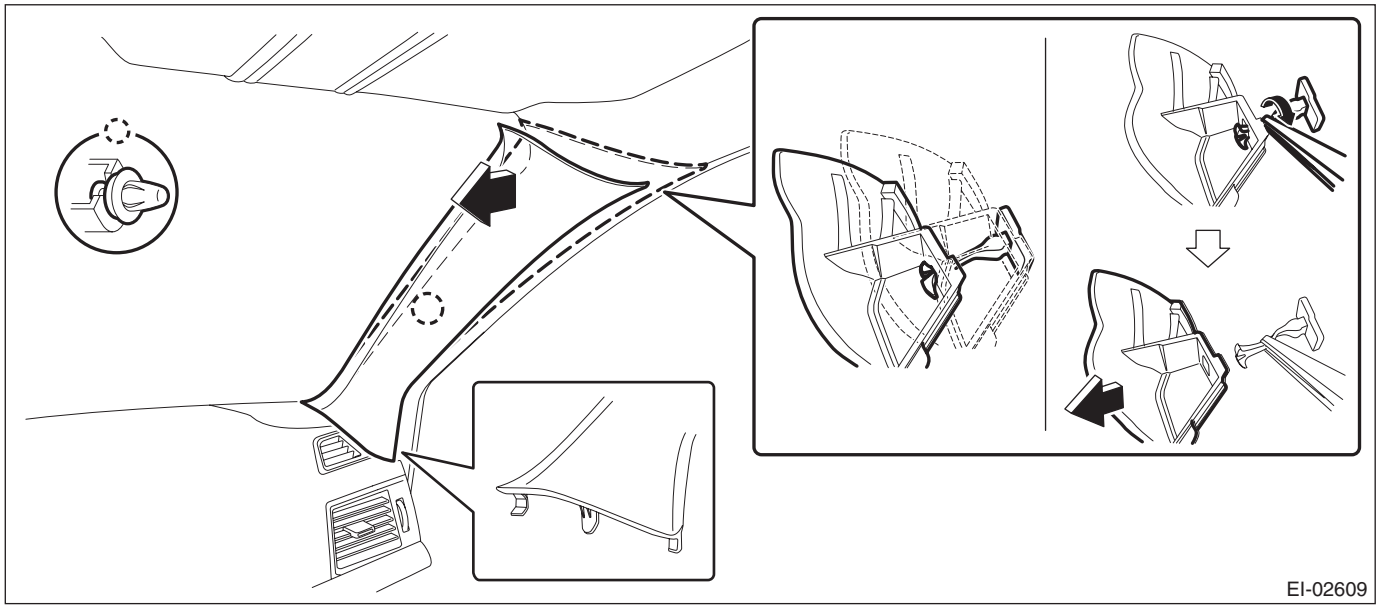


9) Remove the left and right rear quarter trim UPR.
(1) Open the cap and remove the bolt to remove the seat belt anchor.
(2) Remove the clips, and remove the rear quarter trim UPR - front.
(3) Remove the clips, and remove the rear quarter trim UPR - rear.


EI-02701

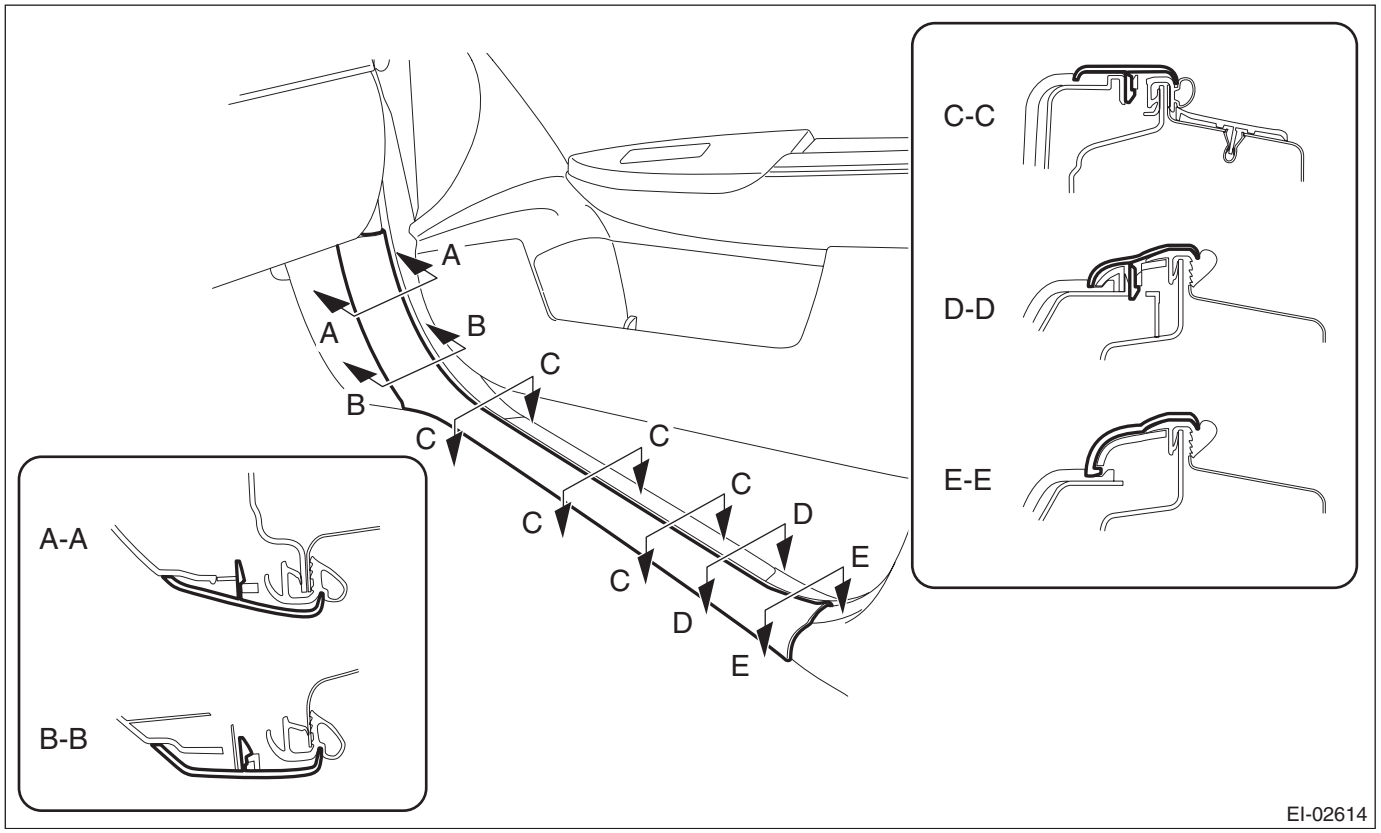
10) Remove the left and right front pillar trims.
(1) Pull the upper part of the front pillar trim towards the center of the vehicle.
(2) Insert long-nose pliers into the top part of the trim, grip the tether clip with the pliers and twist 90° in that position.

CAUTION:
Be careful not to damage the pillar trim surface and curtain airbag module when inserting the pliers.
(3) While holding the tether clip twisted as in the previous step, remove the front pillar trim from the tether clip.
(4) Remove the clip and the front pillar trim.


EI-02609

11) Release the claws, and then remove the side sill cover - front INN on the left and right sides.

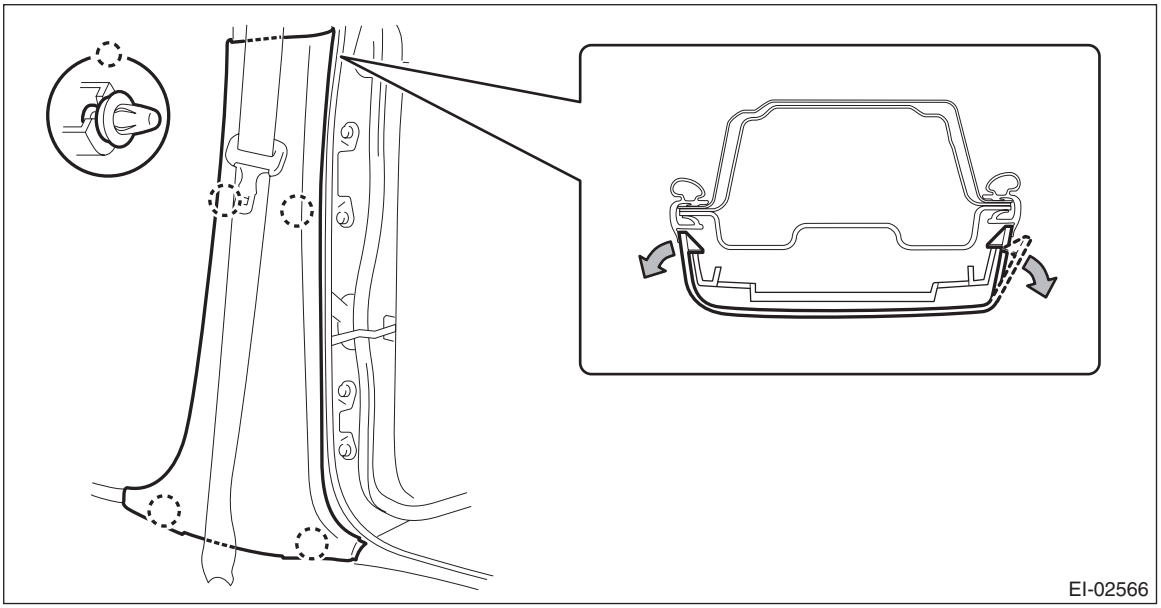
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



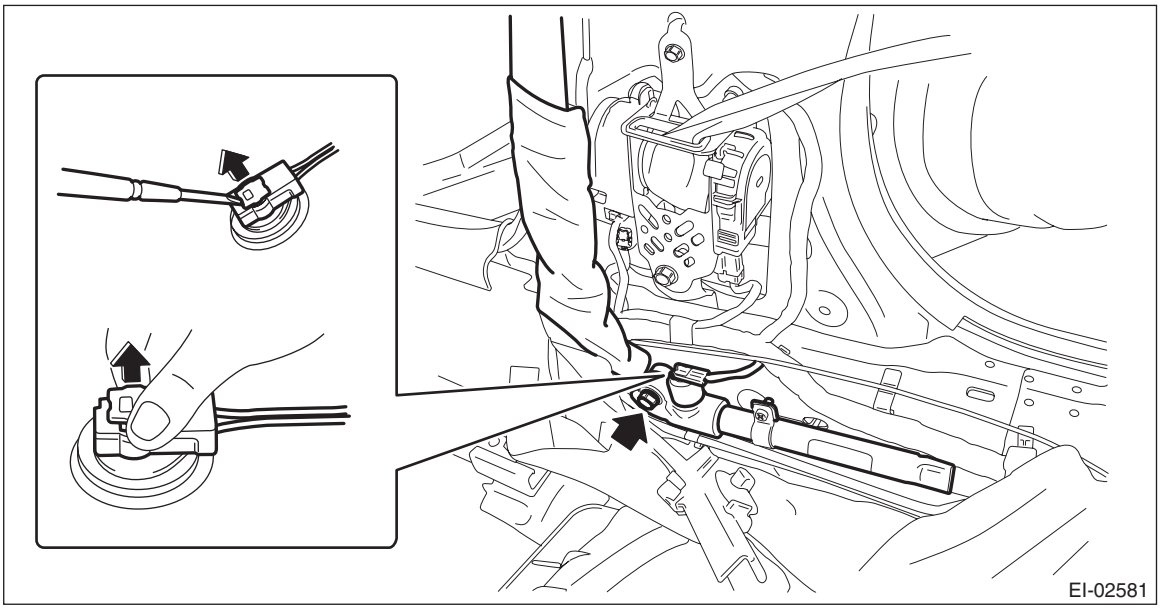
NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

12) Remove the left and right center pillar trim LWR.
(1) Release the clip by pulling the center pillar trim LWR toward you.
(2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.



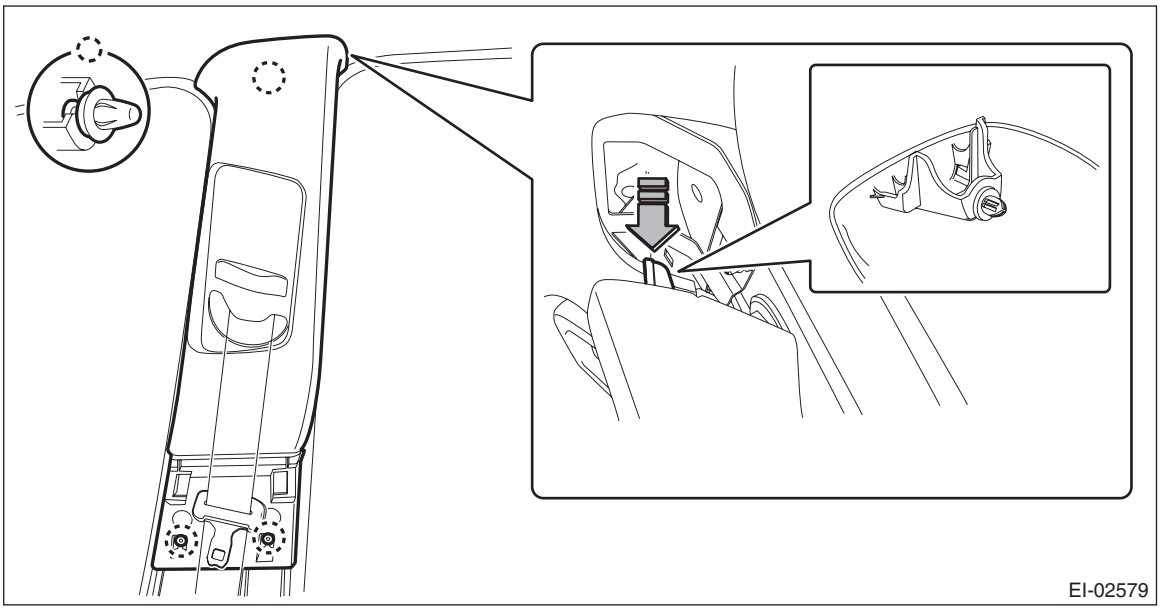
NOTE:
First release the claw located to the rear of the vehicle.
13) Remove the center pillar trim UPR.
Also disconnect the connector of lap seat belt pretensioner, and remove the seat belt lower anchor bolt.



(1) Release the clip by pulling the lower part of the trim toward you.

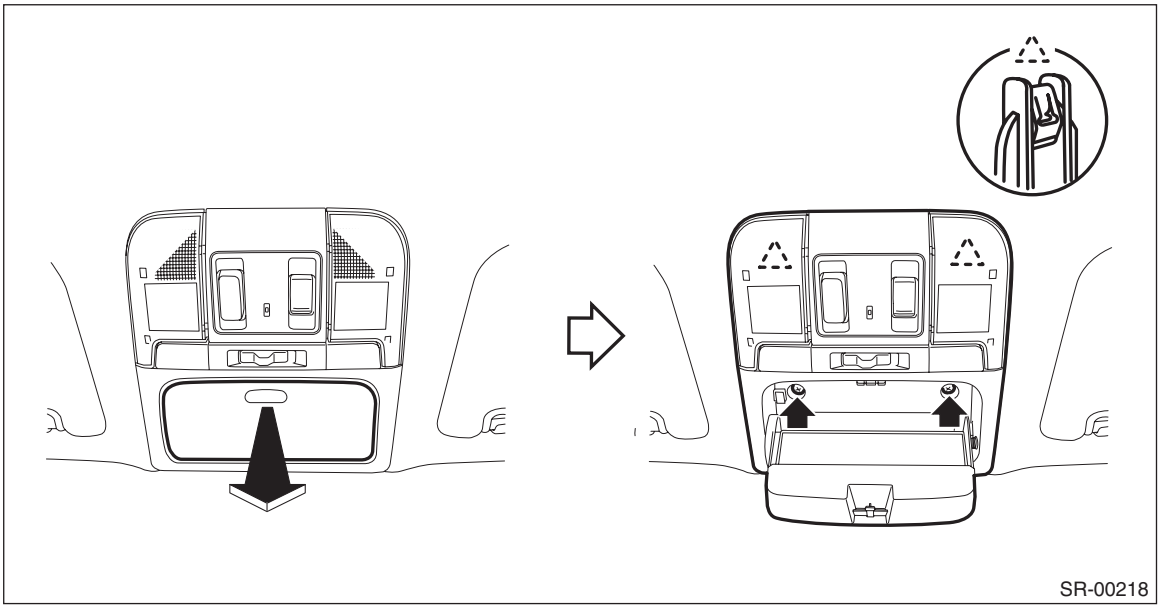
(2) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the center pillar trim UPR.

CAUTION:
Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.


EI-02579

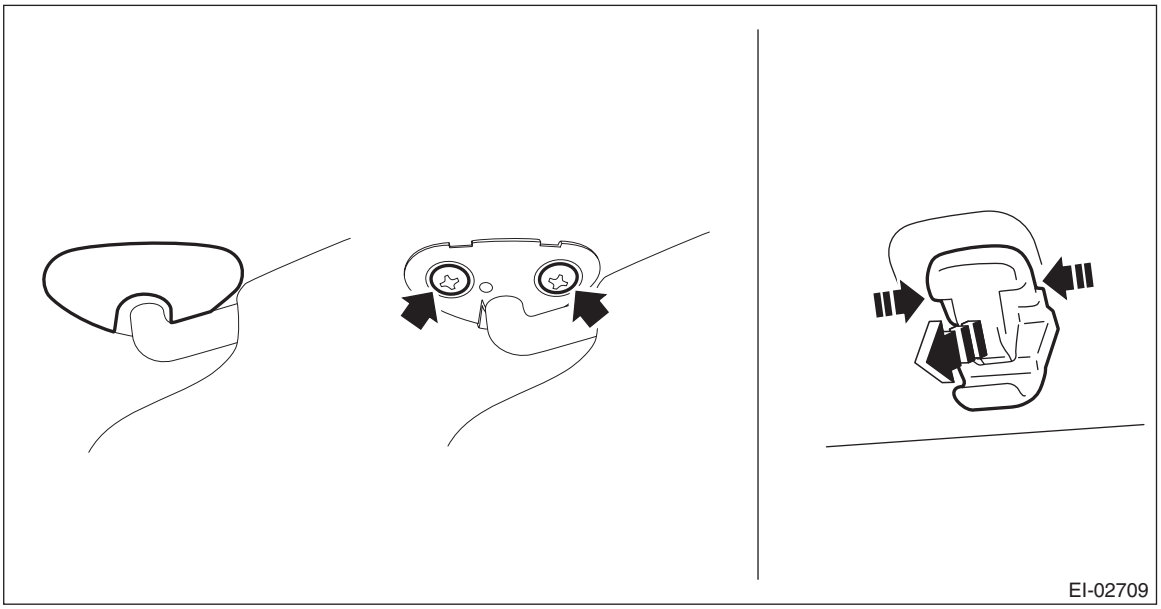
(3) Pull out the seat belt and remove the center pillar trim UPR.

14) Remove the overhead console assembly. (Models without EyeSight)
(1) Push and open the rear end of the overhead console lid, and remove the screws.
(2) Disconnect the connector and remove the overhead console assembly.

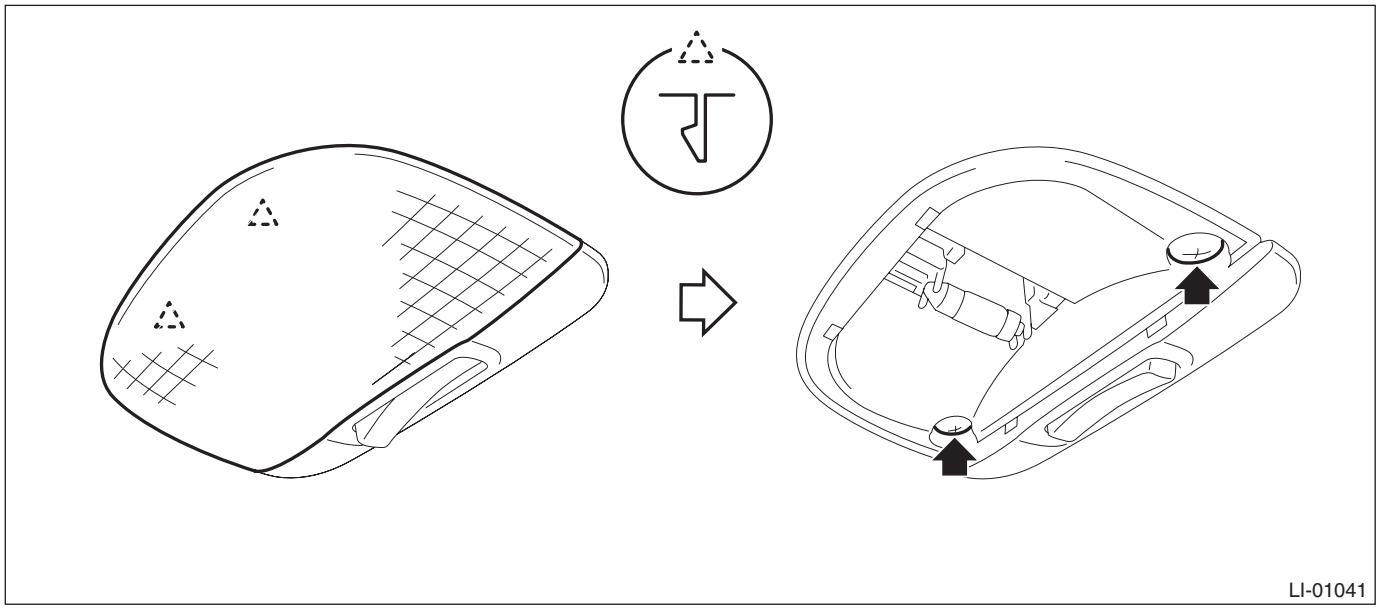

SR-00218

15) Remove the stereo camera cover. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>

16) Remove the left and right sun visor assembly.
(1) Remove the cover, loosen the screws, and remove the sun visor assembly.
(2) Press the both sides of the sun visor hook using a flat tip screwdriver.
(3) Remove the sun visor hook by pulling toward you.

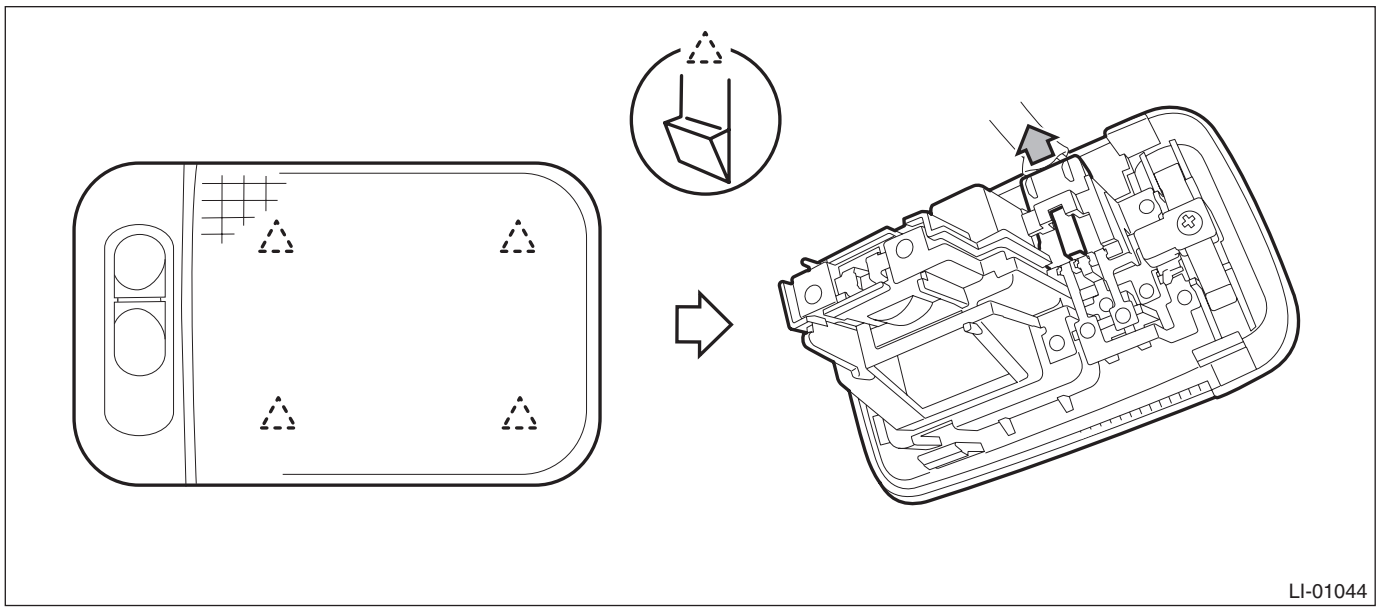


17) Remove the room light assembly.
(1) Release the claws and remove the cover.
(2) Remove the two screws.

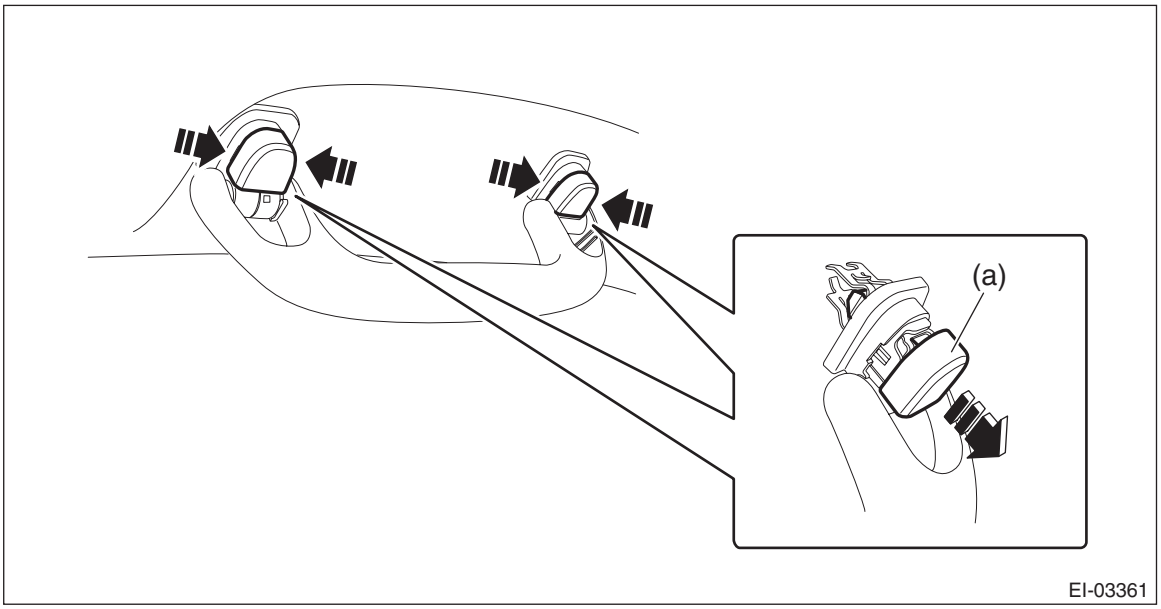


(3) Disconnect the connector and remove the room light assembly.

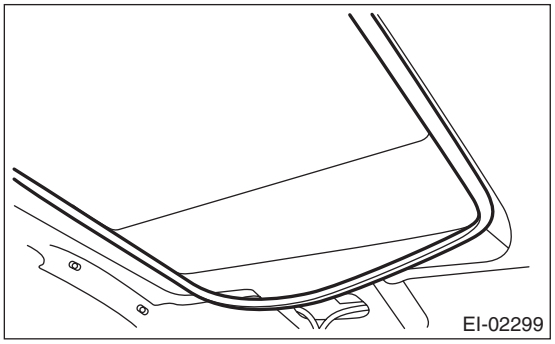
18) Remove the luggage light.
(1) Release the claws and remove the luggage room light main body.
(2) Disconnect the connector and remove the luggage room light.



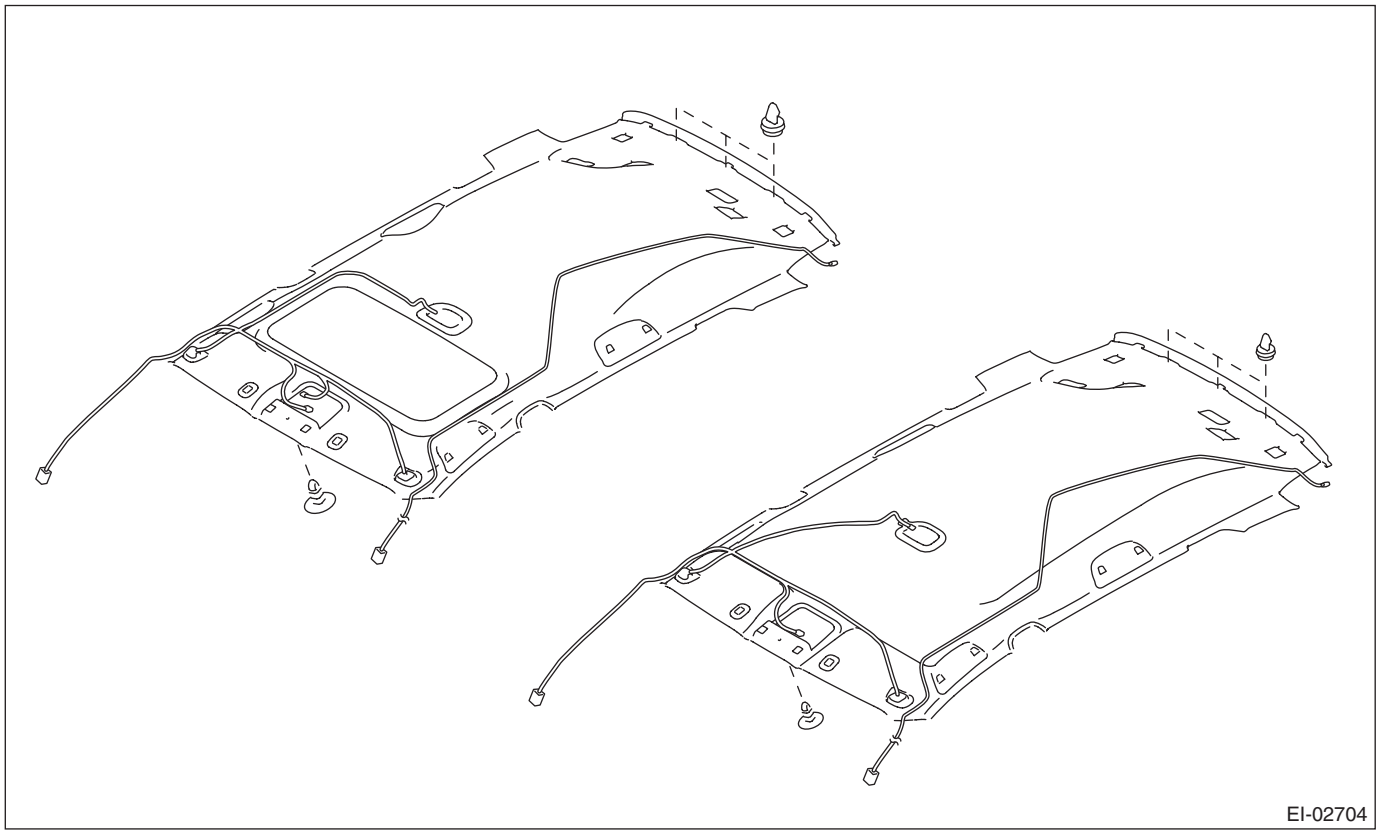
19) Remove all assist grip assembly.
(1) Remove the cap (a) by pulling the both sides of the cap (a) using a flat tip screwdriver wrapped with a protection tape.
(2) Pull the assist grip toward you (to the vehicle center) and remove the metal clip from the bracket.



20) Remove the sun roof garnish. (model with sunroof)



21) Disconnect the roof harness connector at the front pillar RH.
22) Remove the roof trim assembly.
    (1) Release the clips and remove the feeder cord and roof cord from the roof trim.
    (2) Take out the roof trim assembly from the rear gate opening to outside.



B: INSTALLATION

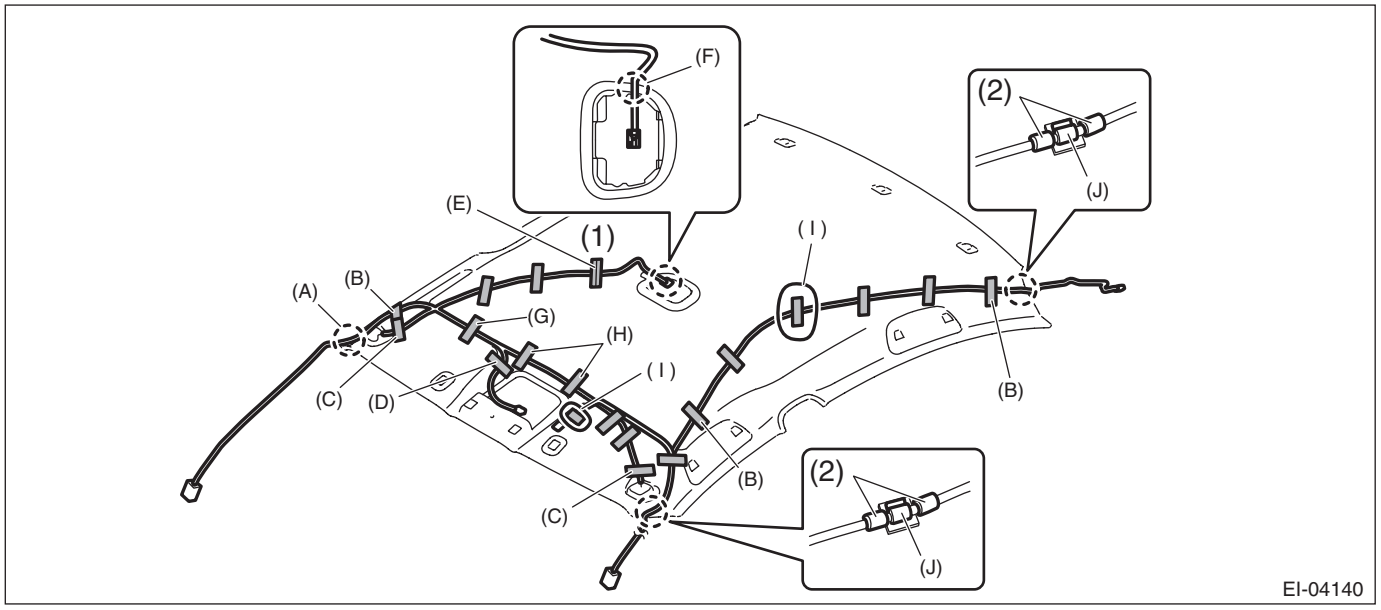
1) Attach the feeder cord and roof cord to the roof trim.

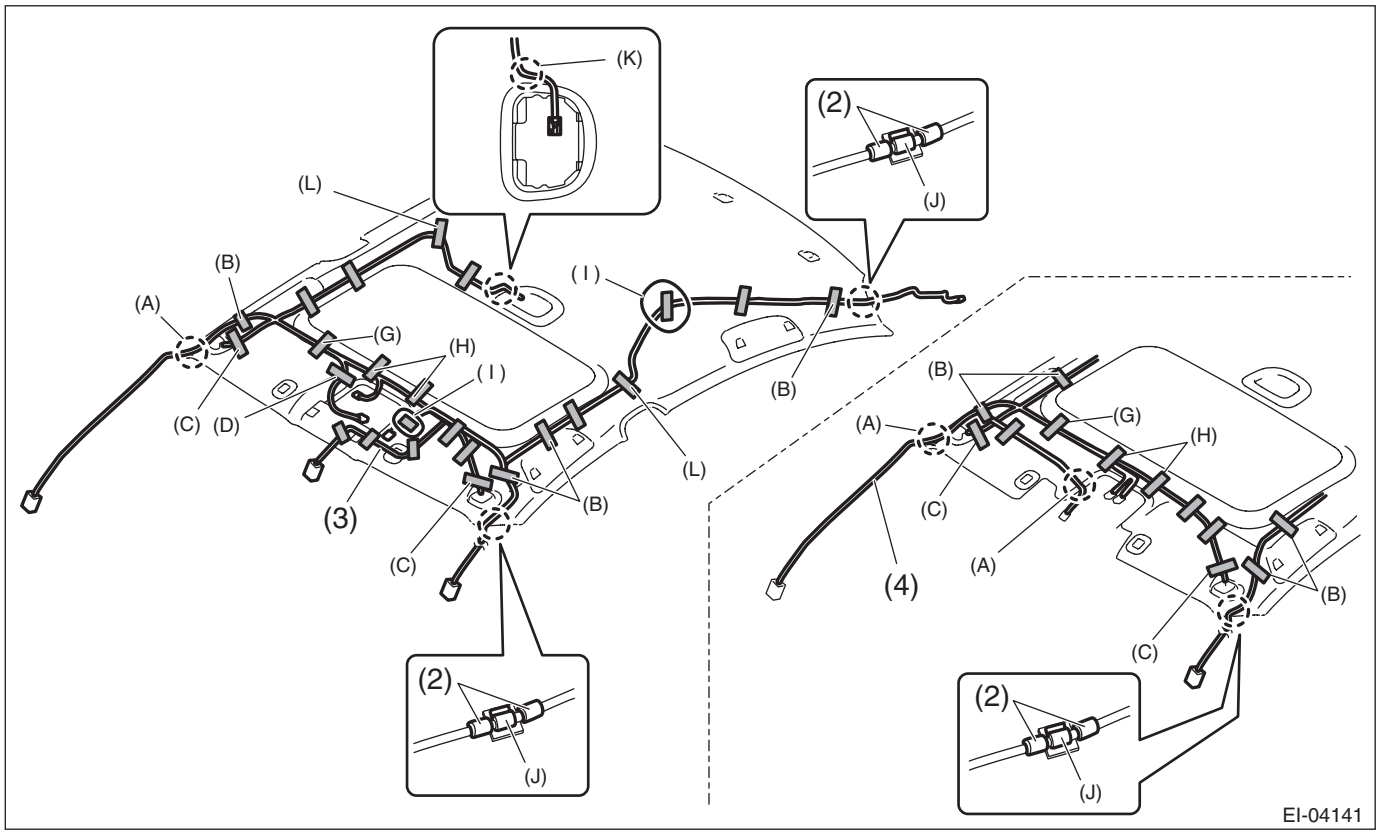
CAUTION:
Route each cord carefully. The cord may interfere with the airbag and prevent normal deployment of the curtain airbag when necessary.

Tape:
Item number: 86359SC000/TAPE

NOTE:
Use the tape (service parts) by cutting into 80 mm × 50 mm (3.2 in × 2.0 in).

- Sedan model





(1) Mark-off line

(2) Polyurethane tape

(3) Only for models with automatic anti-glare mirror

(4) Only for models with EyeSight

(A) Align the marking (white) center of cord with the clamp to secure.

(B) Affix with tape while avoiding the assist grip surface.

(C) Adjust the excess cord to 60±10 mm (2.4±0.4 in) from the hole edge, and affix with tape.

(D) Affix right after the cord branching point with tape.

(E) Affix with tape while aligning with the mark-off line.

(F) Place the marking (white) cord center to adjust the excess.

(G) Align with the center of sun visor, and affix with tape.

(H) Affix the rear left and right of the hole with tape.

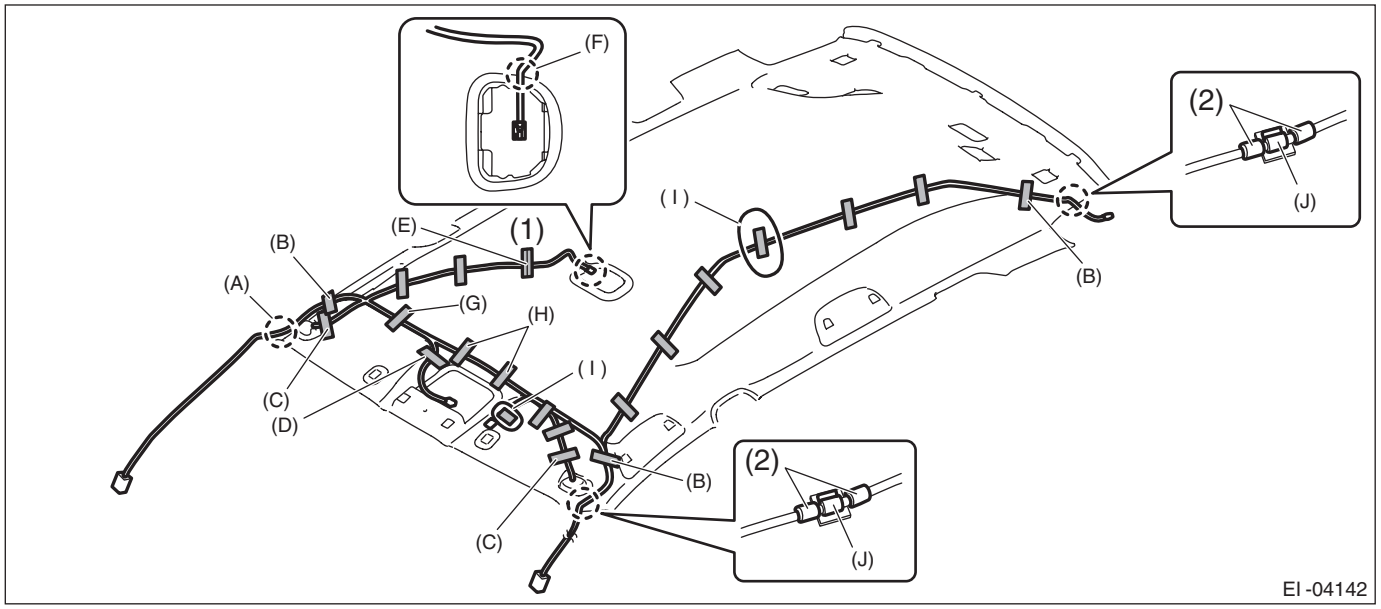
(I) Adjust the excess cord at position (1) and secure it with tape.

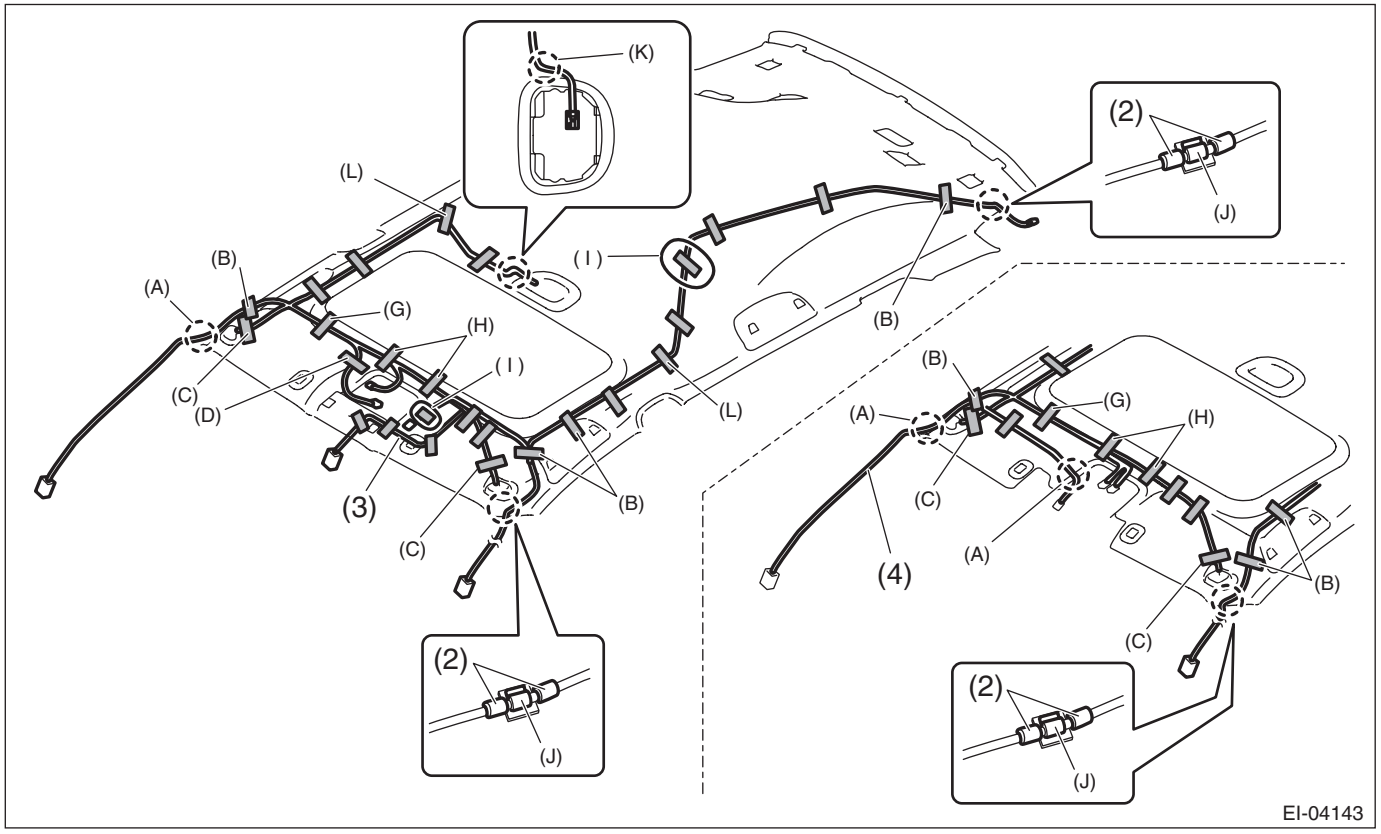
(J) Place the clamp between the polyurethane tapes to secure.

(K) Pass the marking (white) of cord under the clamp.

(L) Affix the cord at the pad rear end with tape.

- OUTBACK model

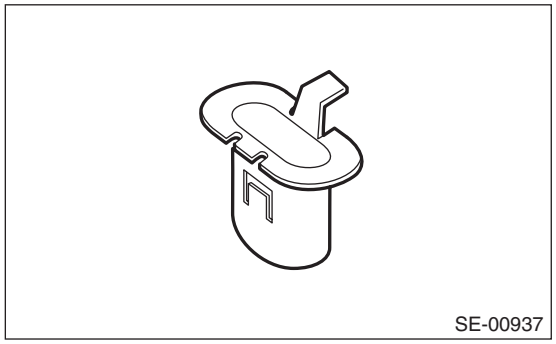




(1)	Mark-off line	(3)	Only for models with automatic anti-glare mirror	(4)	Only for models with EyeSight
(2)	Polyurethane tape				
(A)	Align the marking (white) center of cord with the clamp to secure.	(E)	Affix with tape while aligning with the mark-off line.	(I)	Adjust the excess cord at (I) position and affix with tape.
(B)	Affix with tape while avoiding the assist grip surface.	(F)	Place the marking (white) cord center to adjust the excess.	(J)	Place the clamp between the polyurethane tapes to secure.
(C)	Adjust the excess cord to 60±10 mm (2.4±0.4 in) from the hole edge, and affix with tape.	(G)	Align with the center of sun visor, and affix with tape.	(K)	Pass the marking (white) of cord under the clamp.
(D)	Affix right after the cord branching point with tape.	(H)	Affix the rear left and right of the hole with tape.	(L)	Affix the cord at the pad rear end with tape.

2) Install each part in the reverse order of removal.

CAUTION:
• For installation of the stereo camera cover, refer to "INSTALLATION", "Stereo Camera Cover" in the "EyeSight" section and observe the precautions for installation. <Ref. to ES-12, INSTALLATION, Stereo Camera.>
• Do not reuse the tether clips on the upper part of the front pillar trim. Always replace with a new part.
Once the tether clip is removed from the pillar trim, the retention power deteriorates and the front pillar trim may come off.
• Do not reuse the clips on the upper part of the center pillar trim. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.
• Before installing the front pillar trim, check the condition of (white) protective unwoven cloth of curtain airbag. If it is damaged (airbag module cloth is exposed), replace the curtain airbag module assembly with a new part.
• If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.

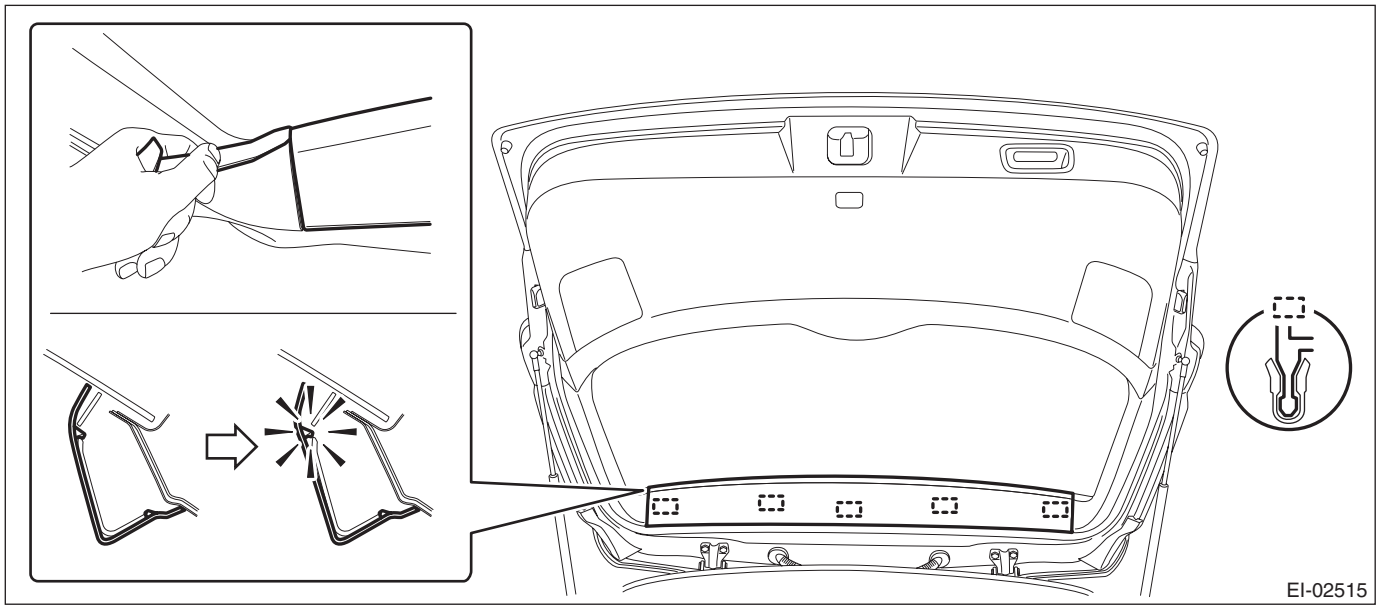

SE-00937

Tightening torque:
Sedan model
Backrest assembly: 53 N·m (5.40 kgf-m, 39.1 ft-lb)
Rear seat belt:<Ref. to SB-3, REAR SEAT BELT (SEDAN MODEL), COMPONENT, General Description.>
Front seat belt:<Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>
OUTBACK model
Rear seat belt:<Ref. to SB-4, REAR SEAT BELT (OUTBACK MODEL), COMPONENT, General Description.>
Front seat belt:<Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

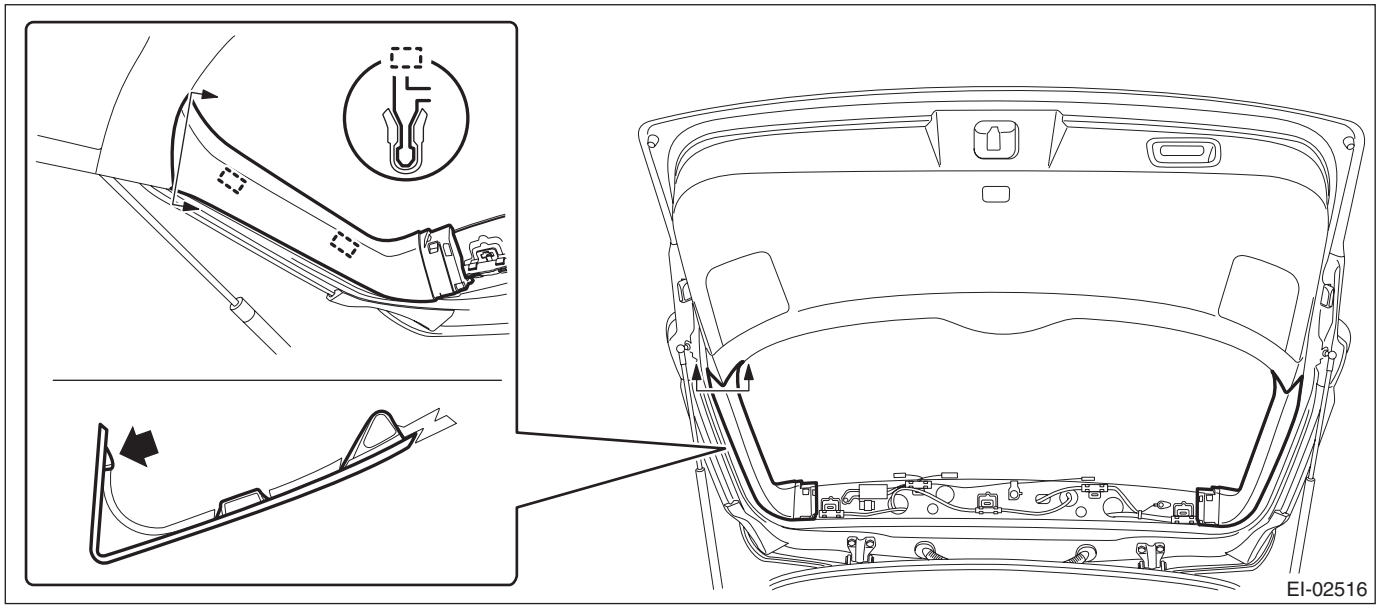
27.Rear Gate Trim

A: REMOVAL

1) Remove the rear gate upper trim.
   (1) Remove the claws on the trim edge.
   (2) Disconnect the claws in the center of trim, and remove the rear gate upper trim.



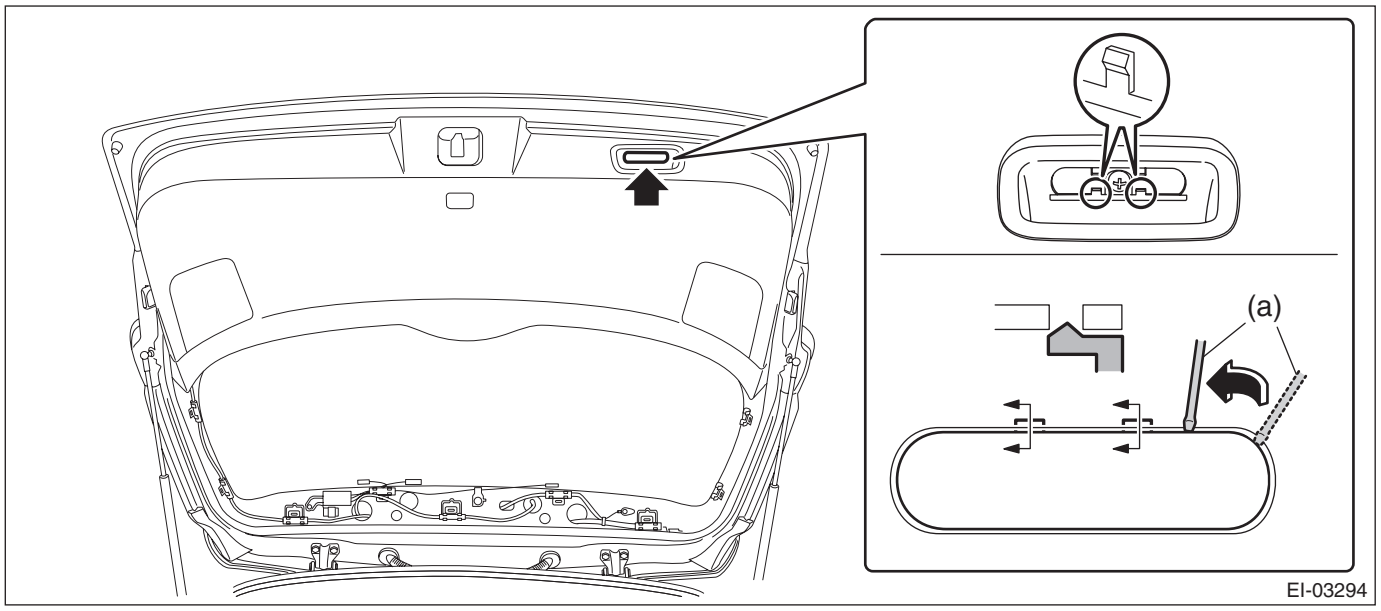
2) Remove the rear gate pillar trim.
   (1) Release the claws.
   (2) Remove the claws on the bottom of trim, and remove the rear gate pillar trim.



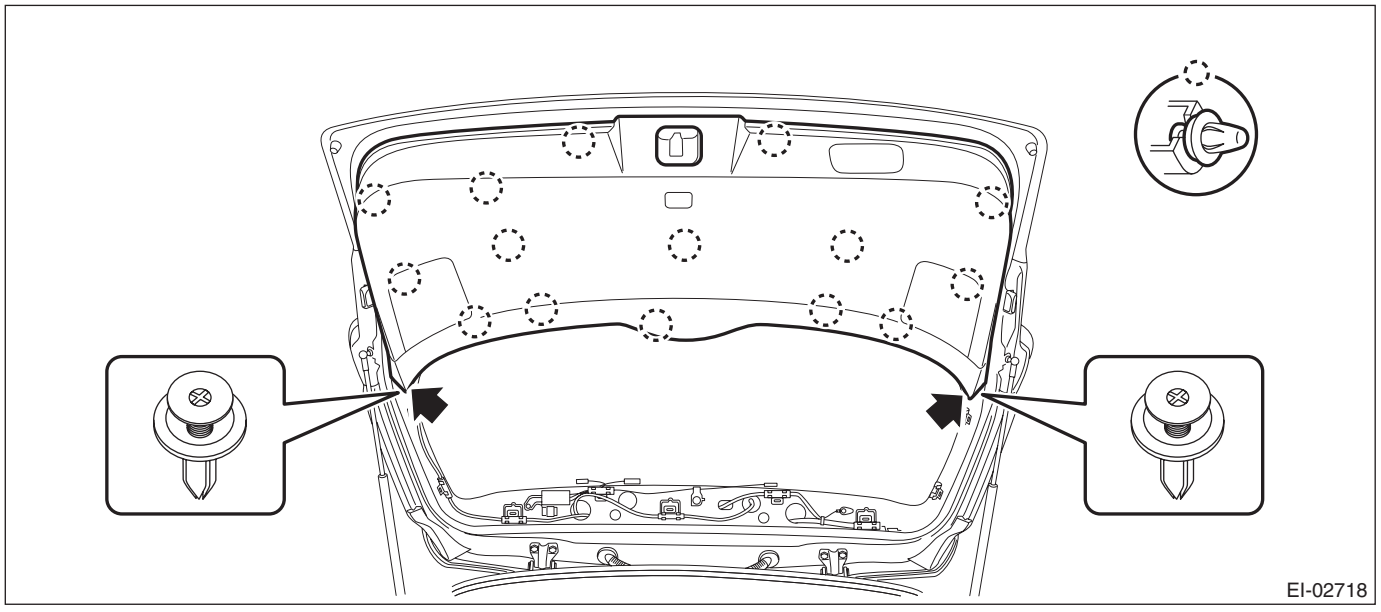
3) Remove the hand grip of rear gate.

CAUTION:
- **Be careful not to scratch the trim.**
- **To protect the trim from damage, attach a protective tape to the tool in use.**

(1) Insert a precision screwdriver (a).
(2) With the screwdriver inserted, move the precision screwdriver toward the claw and open the cap.
(3) Remove the screws and detach the hand grip.



4) Remove the clips, and then remove the rear gate lower trim.
(1) Remove the clips on both ends.
(2) Release the clips and remove the rear gate lower trim.



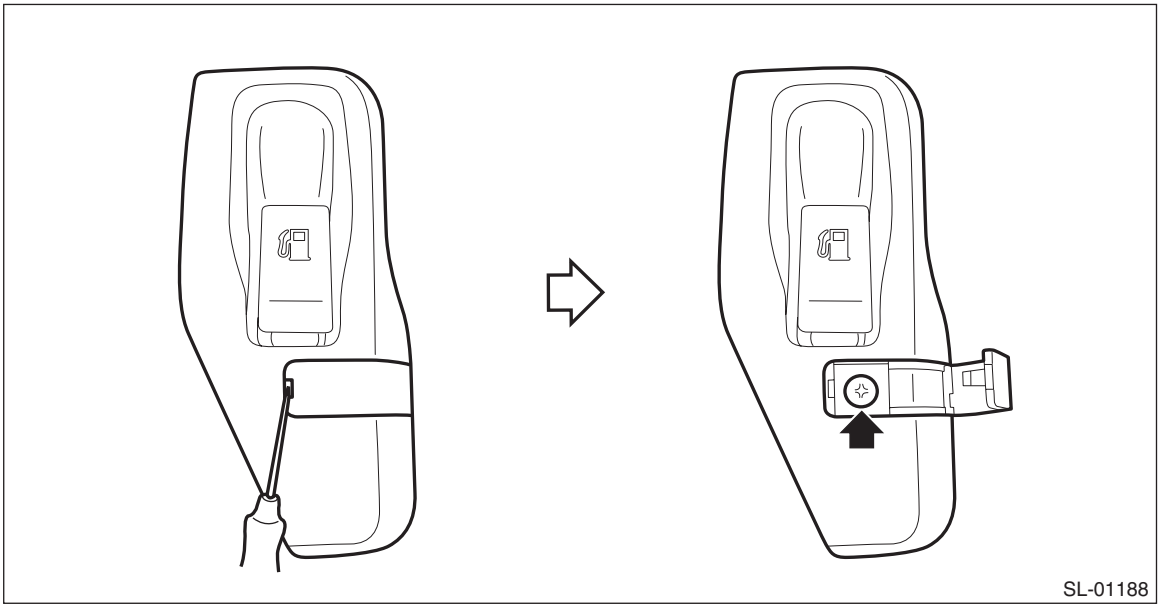
B: INSTALLATION

Install each part in the reverse order of removal.

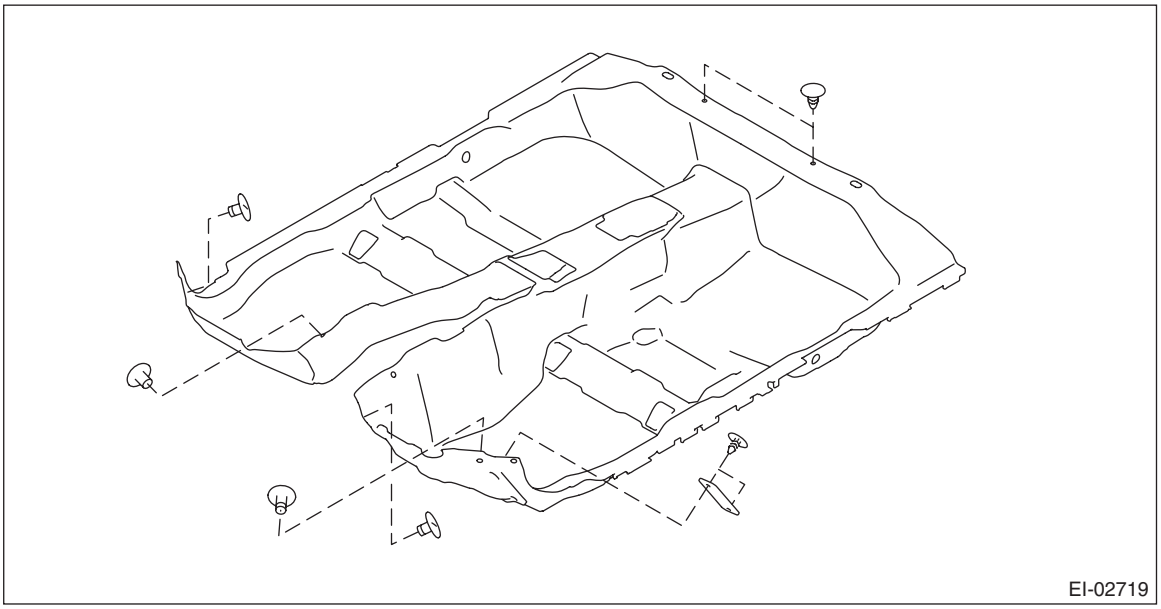
28.Floor Mat

A: REMOVAL

1) Remove the front seat assembly. <Ref. to SE-10, REMOVAL, Front Seat.>
2) Remove the rear seat cushion assembly. <Ref. to SE-34, REMOVAL, Rear Seat.>
3) Remove the console box assembly. <Ref. to EI-72, REMOVAL, Console Box.>
4) Remove the console front side cover. <Ref. to EI-69, CONSOLE FRONT COVER, REMOVAL, Center Console.>
5) Remove the lower inner trim. <Ref. to EI-97, REMOVAL, Lower Inner Trim.>
6) Remove the pull handle cover.
   (1) Open the cover by using a flat tip screwdriver.
   (2) Remove the screw and remove the pull handle cover.


SL-01188

7) Take out the floor mat from the vehicle.
   (1) Remove the clips from the floor mat.
   (2) Remove the mat hook on both sides.
   (3) Take out the floor mat after folding down.


EI-02719

B: INSTALLATION

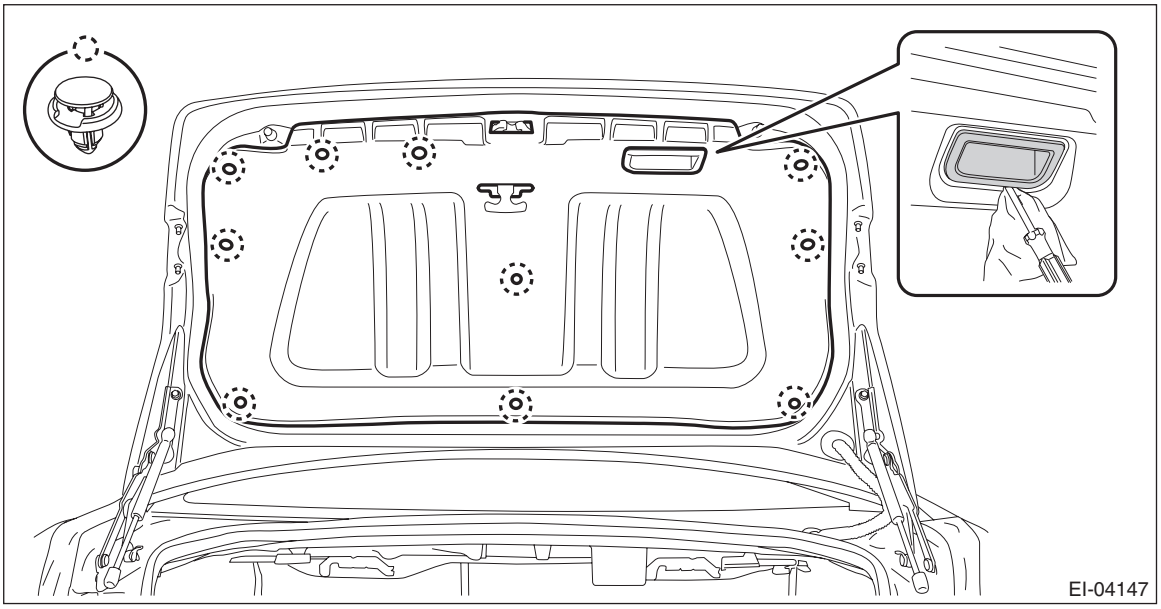
Install each part in the reverse order of removal.

NOTE:
Secure the mat firmly with hook and clip.

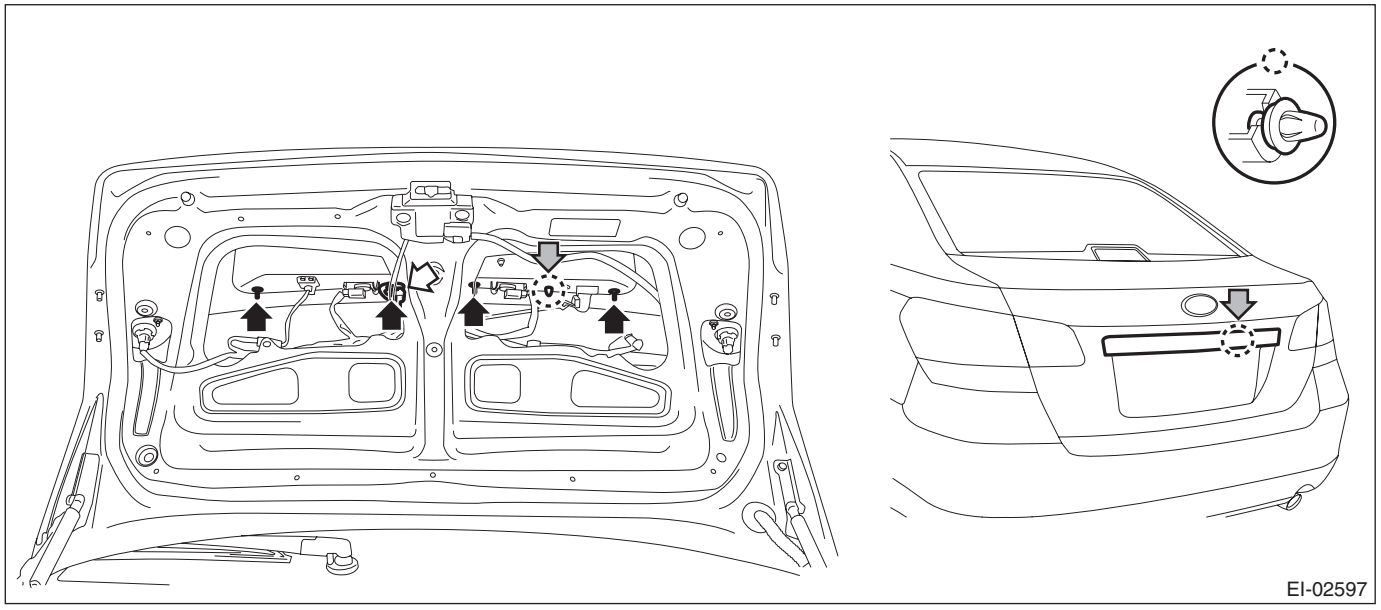
29.Trunk Lid Garnish

A: REMOVAL

1) Remove the trunk lid trim.
   (1) Remove the trunk handle.
   (2) Remove the clips and the trunk lid trim.



2) Remove the trunk lid garnish.
   (1) Remove the nut.
   (2) Remove the clips and the trunk lid garnish.



B: INSTALLATION

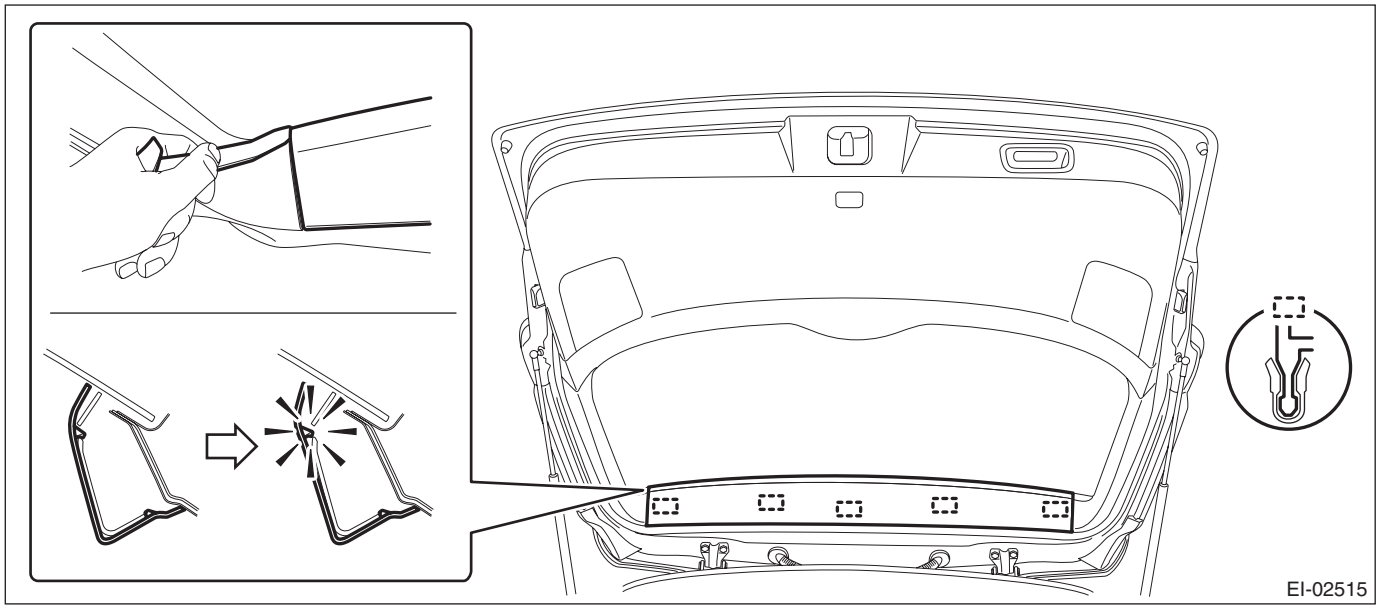
Install each part in the reverse order of removal.

Tightening torque:
4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

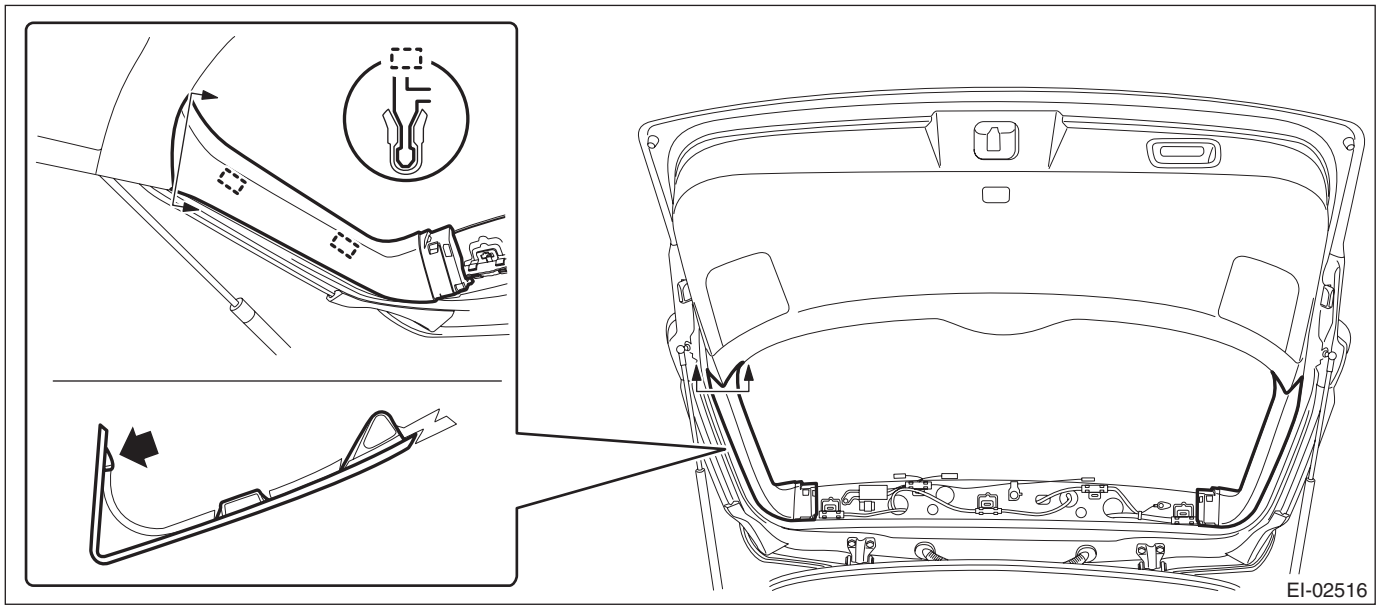
30.Rear Gate Garnish

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim.
   (1) Remove the rear gate upper trim.
      a) Remove the claws on the trim edge.
      b) Disconnect the claws in the center of trim, and remove the rear gate upper trim.



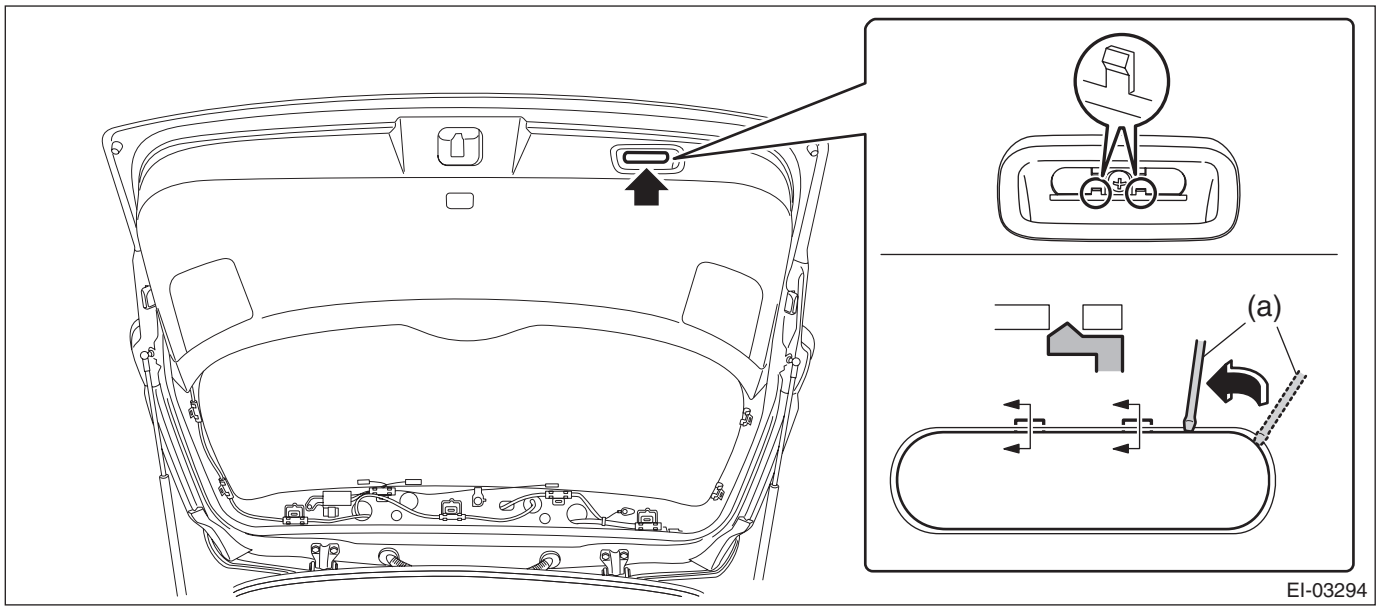
   (2) Remove the rear gate pillar trim.
      a) Release the claws.
      b) Remove the claws on the bottom of trim, and remove the rear gate pillar trim.



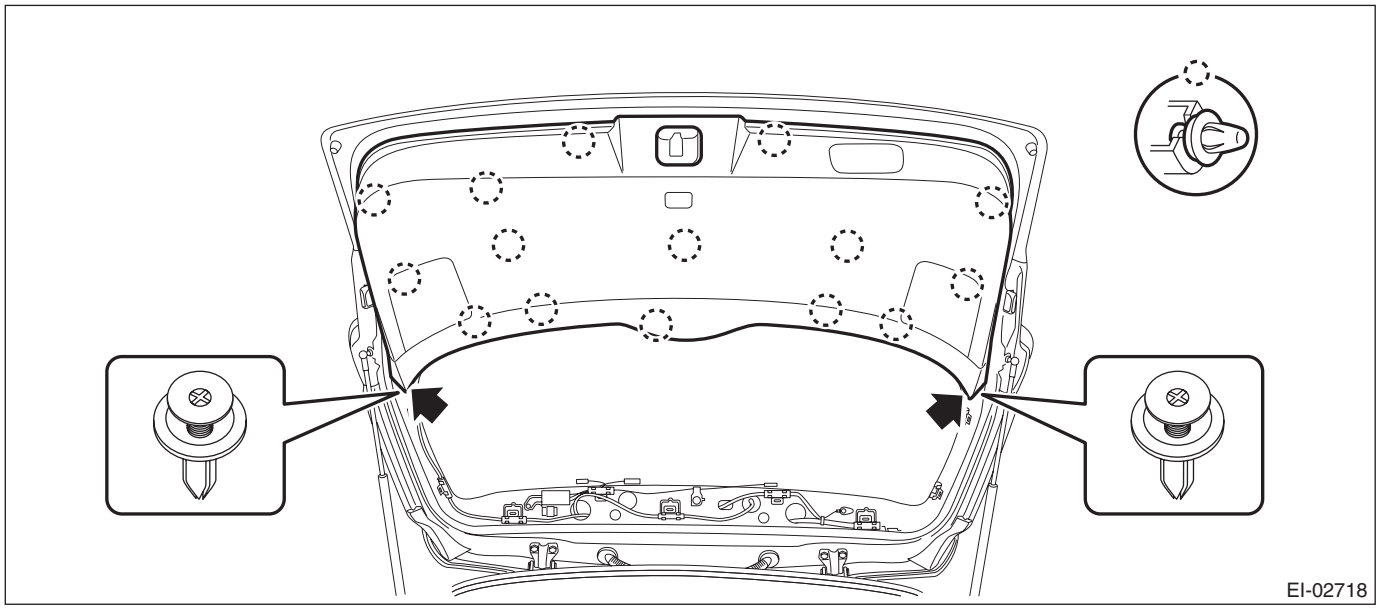
(3) Remove the hand grip of rear gate.

CAUTION:
- **Be careful not to scratch the trim.**
- **To protect the trim from damage, attach a protective tape to the tool in use.**

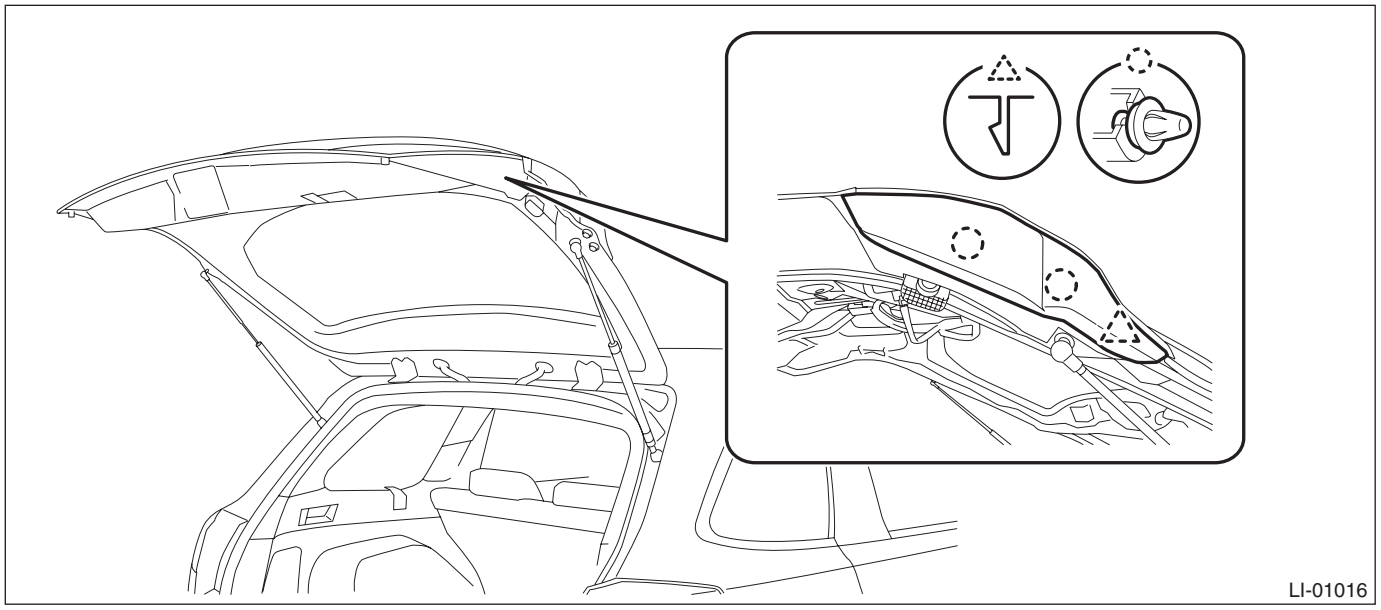
a) Insert a precision screwdriver (a).
b) With the screwdriver inserted, move the precision screwdriver toward the claw and open the cap.
c) Remove the screws and detach the hand grip.



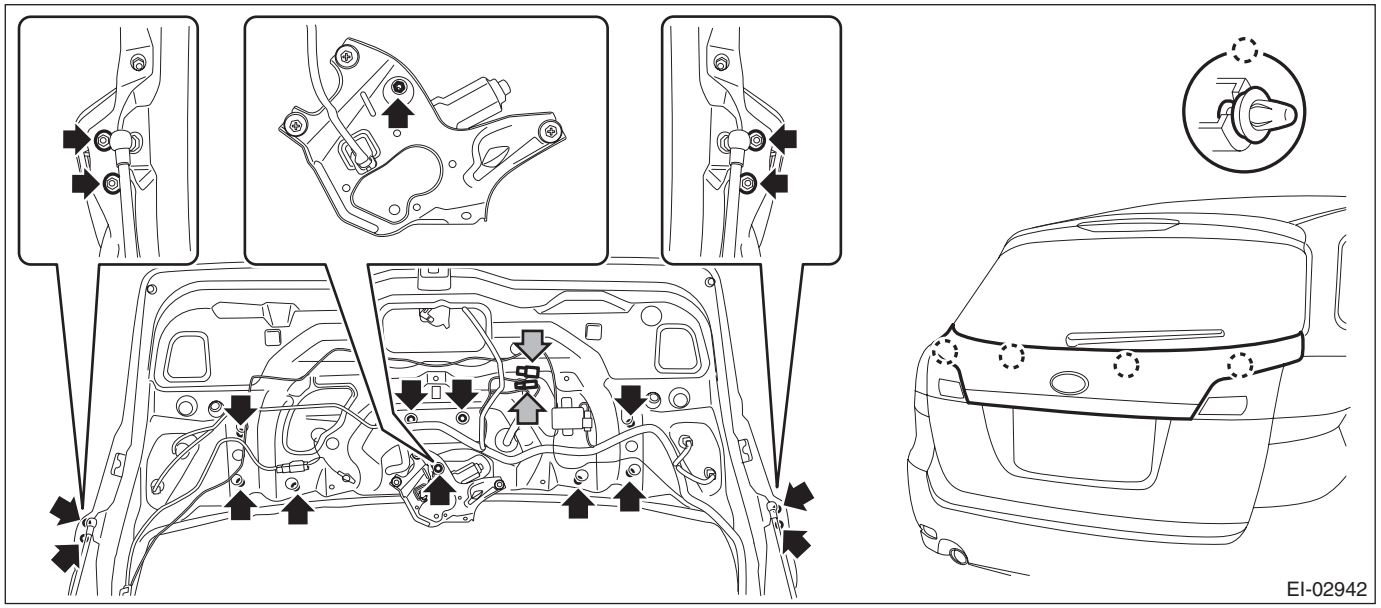
(4) Remove the rear gate lower trim.
a) Remove the clips on both ends.
b) Release the clips and remove the rear gate lower trim.



3) Remove the rear gate garnish.
(1) Release the clips and claws, then detach the rear finisher light side cover.



(2) Disconnect the harness connector of license plate light assembly.
(3) Remove the nuts.
(4) Remove the clips, and remove the rear gate garnish.



B: INSTALLATION

CAUTION:
Make sure that the harness grommet is installed securely.
Incomplete installation causes water leak.
Install each part in the reverse order of removal.

Tightening torque
Rear gate garnish: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

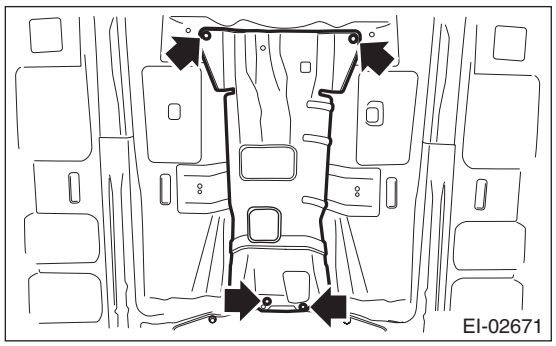
31.Heat Shield Cover

A: REMOVAL

1. FRONT HEAT SHIELD COVER

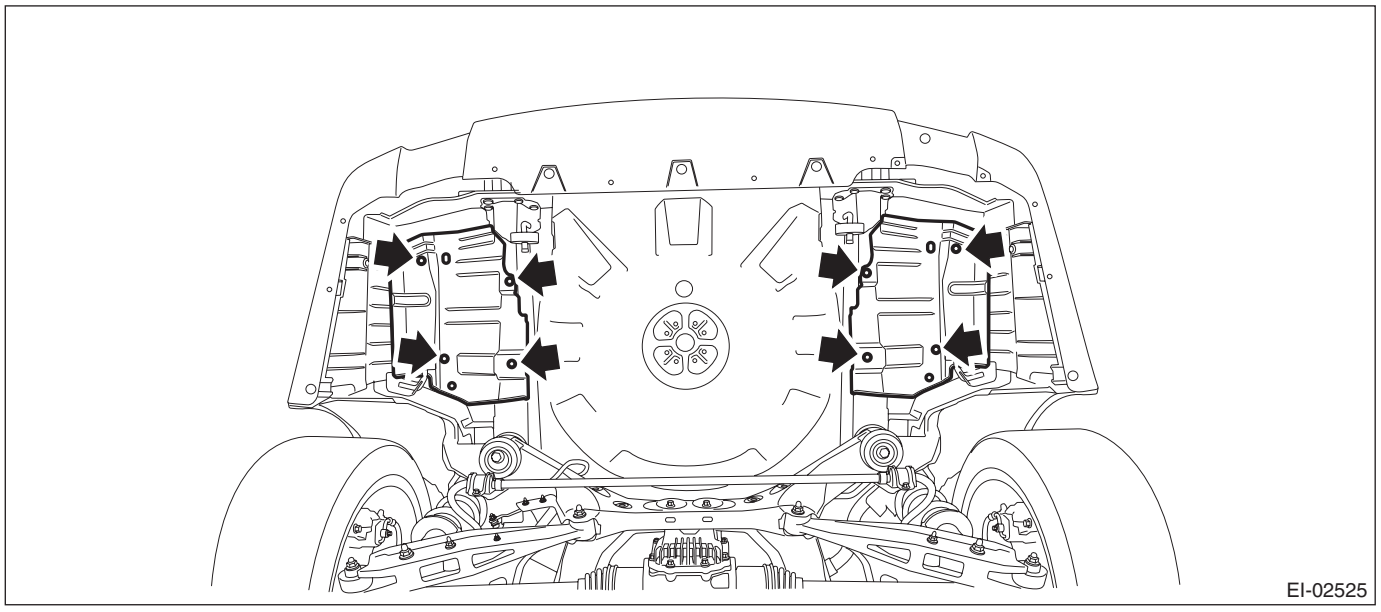
NOTE:
For 2.5 L non-turbo model, refer to “EXHAUST SYSTEM” section.
1) Remove the rear exhaust pipe and muffler. (H6 model)
- **Rear exhaust pipe <Ref. to EX(H6DO)-10, REMOVAL, Muffler.>**
- **Muffler <Ref. to EX(H6DO)-10, REMOVAL, Muffler.>**

2) Remove the four bolts to remove the front heat shield cover.



2. REAR HEAT SHIELD COVER

NOTE:
For 2.5 L non-turbo model, refer to “EXHAUST SYSTEM” section.
1) Remove the muffler. (H6 model) <Ref. to EX(H6DO)-10, REMOVAL, Muffler.>
2) Remove the bolts, and remove the rear heat shield cover. (H6 model)



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Refer to “COMPONENT” of “General Description”. <Ref. to EI-24, HEAT SHIELD COVER, COMPONENT, General Description.>

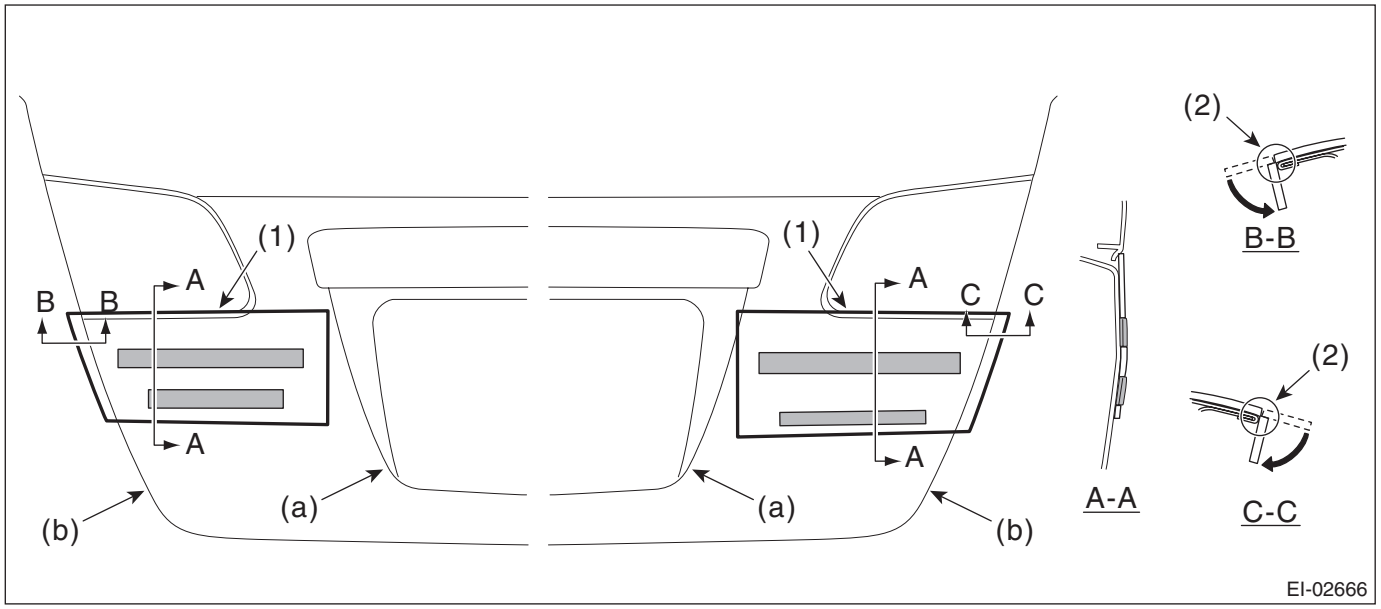
32.Ornament

A: INSTALLATION

1. LETTER MARK

Adhere the letter mark according to the following measurements.

- Sedan model



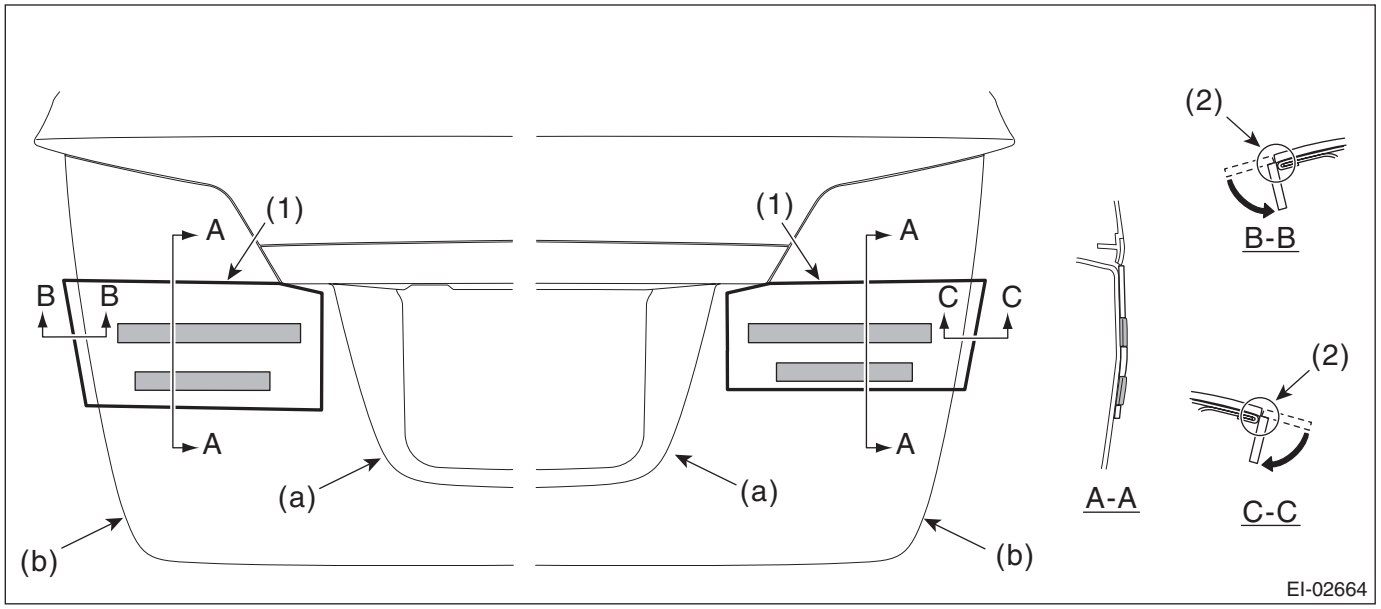
(a) Character line

(b) Trunk lid panel end

(1) Align the top end of application tape to the radius start of the rear finisher light.

(2) Align the slit of application tape to the end of trunk lid panel and break off the application tape.

- OUTBACK model



(a) Character line

(b) End of rear gate panel

(1) Align the top end of application tape to the bottom of the rear finisher light.

(2) Align the slit of application tape to the end of rear ate panel and break off the application tape.

EXTERIOR BODY PANELS

EB

		Page
1.	General Description	2
2.	Front Hood	9
3.	Front Fender	16
4.	Front Door	24
5.	Front Sealing Cover	30
6.	Rear Door	32
7.	Rear Sealing Cover	37
8.	Door Sash Tape	39
9.	Trunk Lid	43
10.	Rear Gate	48
11.	Protector Tape	55

1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:
• Start the diagnosis after the engine has started. (Cruise control main switch does not turn on even if it is pressed before the engine starts.)
• When performing diagnosis, observe the legal speed limit on the road.
• The cancel code will also appear when the cruise control is cancelled by the driver's operation. Do not confuse them.
• Be sure to get an assistant to support the diagnosis while driving, and have him/her operate the select monitor.
• Before clearing the memory, be sure to record the following data. (Obtain the data before inspection because the previous trouble or temporary stop history will be cleared once the memory clear is performed.)
- **All Diagnostic Trouble Codes (DTCs)**
- **Cancel code of stereo camera**
- **Current data of stereo camera**

(To obtain the data concerning camera adjustment information, previous trouble or temporary stop history, all data must be measured for a few seconds after the engine has started.)

	Step	Check	Yes	No
1	**PREPARATION BEFORE INSPECTION.** Using the Check List for Interview, confirm the condition of the malfunction occurrence from the user. <Ref. to ES(diag)-3, CHECK, Check List for Interview.>	Is there any component that obviously seems to affect the malfunction?	Repair or replace the component that seems to affect the malfunction.	Go to step **2**.
2	**CHECK DTC.** Read the DTC using Subaru Select Monitor. NOTE: When communication with the stereo camera could not be established, check the circuit. <Ref. to ES(diag)-20, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.>	Is DTC displayed on Subaru Select Monitor?	Perform the diagnosis according to the List of Diagnostic Trouble Code (DTC). <Ref. to ES(diag)-78, List of Diagnostic Trouble Code (DTC).> If the diagnostic codes other than the stereo camera are displayed, refer to the diagnosis for the relevant codes.	Go to step **3**.
3	**CHECK CANCEL CODE.** Read the cancel code related to the stereo camera using the Subaru Select Monitor.	Is cancel code related to the stereo camera displayed on the Subaru Select Monitor?	Perform the diagnosis according to the List of Cancel Code. <Ref. to ES(diag)-82, List of Cancel Code.>	Go to step **4**.
4	**PERFORM DIAGNOSTICS WITH PHENOMENON.** Using the diagnostics with phenomenon, perform inspection. <Ref. to ES(diag)-62, Diagnostics with Phenomenon.>	Does the following apply? No phenomenon described in the diagnostics with phenomenon occur / No indicators show sign of malfunction.	Finish the diagnosis.	Perform the diagnosis according to the diagnostics with phenomenon.

2. Check List for Interview

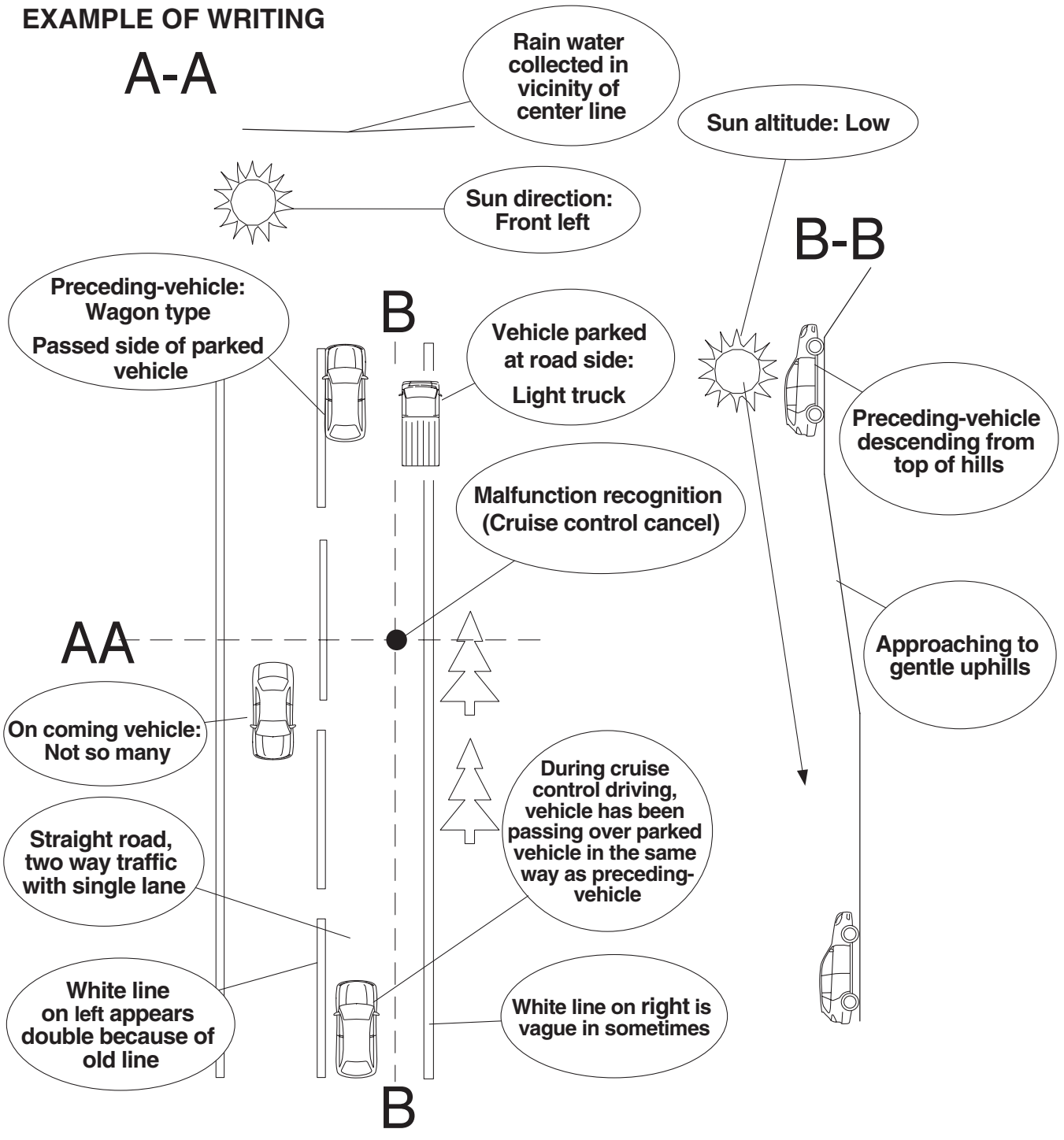
A: CHECK

Inspect the following items regarding the vehicle's state.

Writer/Inspector	Writer's name		
	Inspector's Name		
Vehicle information	Car accessory equipment condition	Car accessory is installed to the windshield glass.	No/Yes (Position:)
		Other	No/Yes (Accessory's name:)
	Is there any modification for the following items?	Suspension?	Not changed/Changed (Specifically:)
		Headlight?	Not changed/Changed (Specifically:)
		Tire size?	Not changed/Changed (Specifically:)
		Front wiper?	Not changed/Changed (Specifically:)
	How is the condition around camera?	Is there any scratch or damage on the windshield glass?	No/Yes (Specifically:)
		Are antennas, etc. attached on the prohibited area?	No/Yes (Specifically:)
		Is wide mirror or accessory attached?	No/Yes (Specifically:)
	How is the surface condition of the windshield glass?	Presence of oil film, fogging, dirt and/or glass coating	No/Yes (Specifically:)
	How is the condition of the dashboard?	Is there anything that can be easily reflected against the windshield glass on the dashboard?	No/Yes (Specifically:)
	How is the deterioration of the wiper?	Does any streak or uneven wiping area remain in front of the camera?	No/Yes (Specifically:)
	How is the condition of the tire?	Is there any wear? Is there any excessive wear difference?	No/Yes (Specifically:)
		Is the air pressure proper?	Proper/Improper (Specifically:)
	How is the condition of the camera lens filter?	Is there finger print adhesion or cracks on the lens filter?	No/Yes (Specifically:)
Description of malfunction	What kind of malfunction has been detected?	Failure/temporary stop/faulty operation of adaptive cruise control/faulty operation of pre-collision brake/other faulty operations	
	What kind of DTC and/or cancel code is displayed?		
	How is the meter display?	EyeSight warning light	Off/On/Blink
		Pre-collision brake OFF indicator light	Off/On
		Lane departure warning OFF indicator light	Off/On
		Multi information display	• EyeSight Disabled No Camera View • EyeSight Disabled Temp Range • EyeSight Disabled Check Manual

Check List for Interview

Occurrence conditions	Occurrence date		Occurrence location	
	Vehicle speed at occurrence	Approx. km/h (MPH)	Occurrence timing	During driving/during stopping/continues after engine has started
	Road type	Express way/limited highway/main highway/general road	Weather	Fine/cloudy/rainy/snowy/other
	Road condition ①	Dry/slippery (Rainy • compacted snow • icy road)	Ambient temperature	Approx. ° C
	Road condition ②	Asphalt/gravel/earth and sand/other	Position of solar radiation	Described in the detailed chart when the weather is fine.
	Road shape	Uphill/downhill/bank/roll/uneven surface	Time elapsed after engine start	Immediately after engine start/within 5 minutes after engine start/more than 5 minutes after engine start
	Wiper operation status	OFF/INT/LO/HI/AUTO	Light on status	Off/LO On/HI On
	Vehicle weight	Number of passengers: ( ), Did the vehicle carry heavy load? (No/Yes (Approx. kg))		
Detailed chart (Refer to the example of description.)				
In case of malfunction caused by temporary stop or faulty operation, draw a chart so that the following conditions can be recognized referring to the example of description. (Images taken by digital camera can be used.) • Road shape (straight, curve, tunnel, number of lane, etc.) • Road grade and it's change • Presence of white line, guardrails and/or side wall (degree of clarity) • Position of the sun • Presence and shape of preceding vehicle, oncoming vehicle, vehicle running on the next lane or pedestrian • Presence and shape of surrounding building or structure • Traveled course of own vehicle and preceding vehicle				


EXAMPLE OF WRITING
A-A
Rain water collected in vicinity of center line
Sun altitude: Low
Sun direction: Front left
B-B
Preceding-vehicle: Wagon type
Passed side of parked vehicle
B
Vehicle parked at road side:
Light truck
Preceding-vehicle descending from top of hills
Malfunction recognition (Cruise control cancel)
AA
Approaching to gentle uphills
On coming vehicle: Not so many
During cruise control driving, vehicle has been passing over parked vehicle in the same way as preceding-vehicle
Straight road, two way traffic with single lane
White line on left appears double because of old line
White line on right is vague in sometimes
B
ADA00311

3. General Description

A: CAUTION

1. AIRBAG SYSTEM

Airbag system wiring harness is routed near the cruise control command switch.

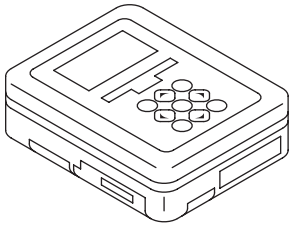
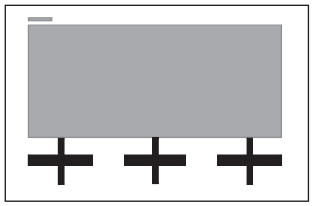
CAUTION:
• Do not use the electrical test equipment on the airbag system wiring harnesses and connector circuits.
• Be careful not to damage the airbag system wiring harness when servicing the cruise control command switch. Airbag system wiring harness is routed near the cruise control command switch.

2. EyeSight

CAUTION:
• Do not hold the camera unit of the stereo camera.
• Do not touch the lens on the stereo camera.
• Do not clean the lens of the stereo camera.
• When cleaning the windshield glass, use care so that the glass cleaner, etc. does not come in contact with the lens of the stereo camera.
• Do not make an impact or apply excessive force to the stereo camera.
• Do not disassemble the stereo camera.
• Do not change the installation position of the stereo camera or do not modify the surrounding structure.
• If the stereo camera or windshield glass is removed or replaced, always adjust or check the stereo camera.
• When lifting up the vehicle to rotate the tires, turn off the pre-crash function.
• Stereo camera axis may be displaced even in a minor collision. Even if the EyeSight warning light or etc. is not illuminated, or the "EyeSight Disabled Check Manual" is not displayed on the multi information display, adjust the stereo camera.
• When removing the stereo camera cover assembly, cover the camera cover opening with the protective tape with a weak adhesive force such as masking tape, etc. <Ref. to ES-8, REMOVAL, Stereo Camera.>

B: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.
 ST87599YC001	87599YC001	RANDOM CHART	Used for adjusting stereo camera.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Measure (5 m (16 ft) or more)	Used for adjusting stereo camera.
Leveling line	Used for adjusting stereo camera.
Plumb bob	Used for adjusting stereo camera.
Weight	Used for adjusting stereo camera.
Packing tape	Used for adjusting stereo camera.
Masking tape	Used for removing and installing stereo camera cover assembly.

C: INSPECTION

1. BATTERY

Measure the battery voltage and specific gravity of electrolyte.

Standard voltage:
12 V or more

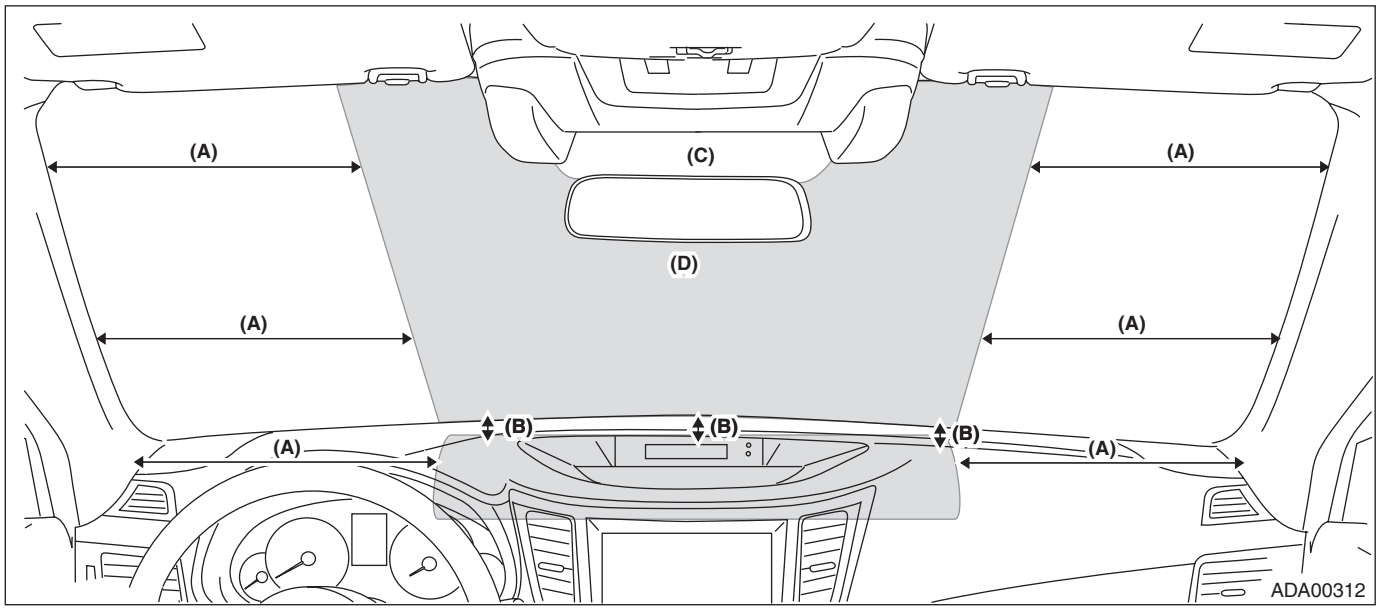
Specific gravity:
1.260 or more

2. WINDSHIELD GLASS AND DASHBOARD

Remove the windshield glass and dashboard in front of the stereo camera.

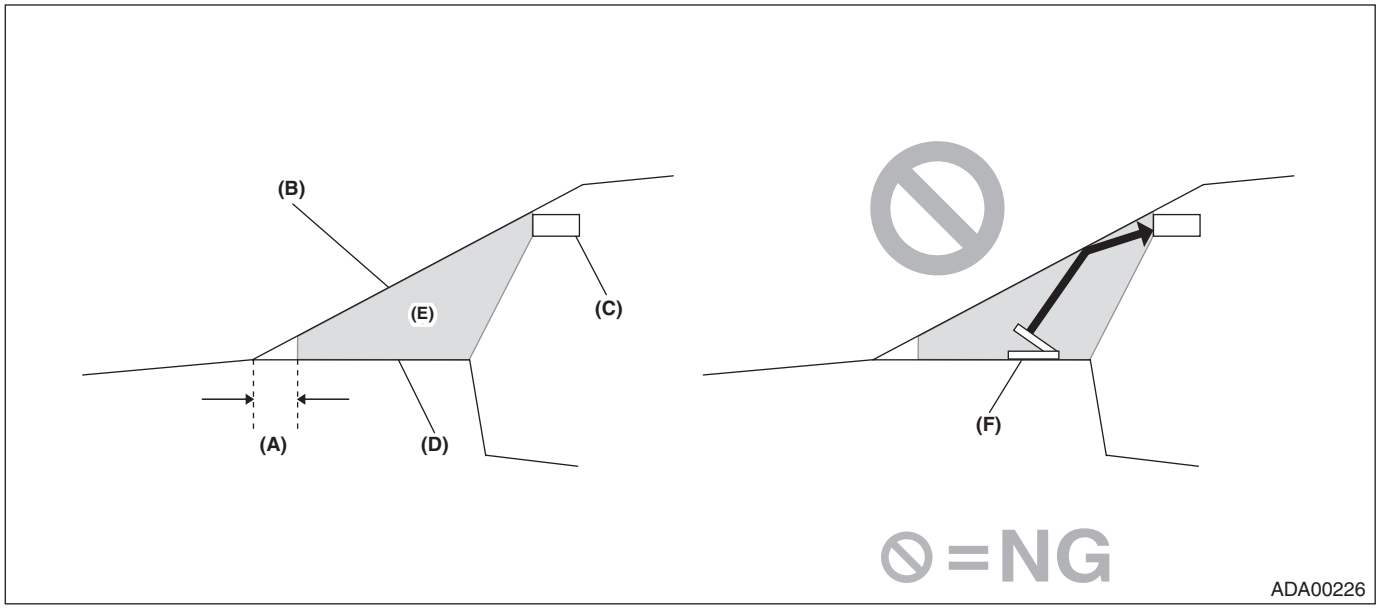
Standard:
There must be no oil film, dirt, scratch or fogging that obstructs the forward visibility of the stereo camera.
Do not stick or attach the aftermarket parts on the prohibited area (E) shown in the figure below. Even outside the prohibited area, if the abnormal operation occurs due to the reflection of the light or the reflection to the glass, change the adhering position or installation position.

- ***Application of stickers or antennas***
  – This will affect the visibility of the stereo camera, causing the function not to operate correctly.
- ***Object on the dashboard***
  – These things will be reflected on the windshield glass, affecting the recognition of the stereo camera, thus causing the function not to operate correctly.
- Front view



(A) 350 mm (13.8 in)
(B) 150 mm (5.9 in)
(C) Ceramic area
(D) Prohibited area

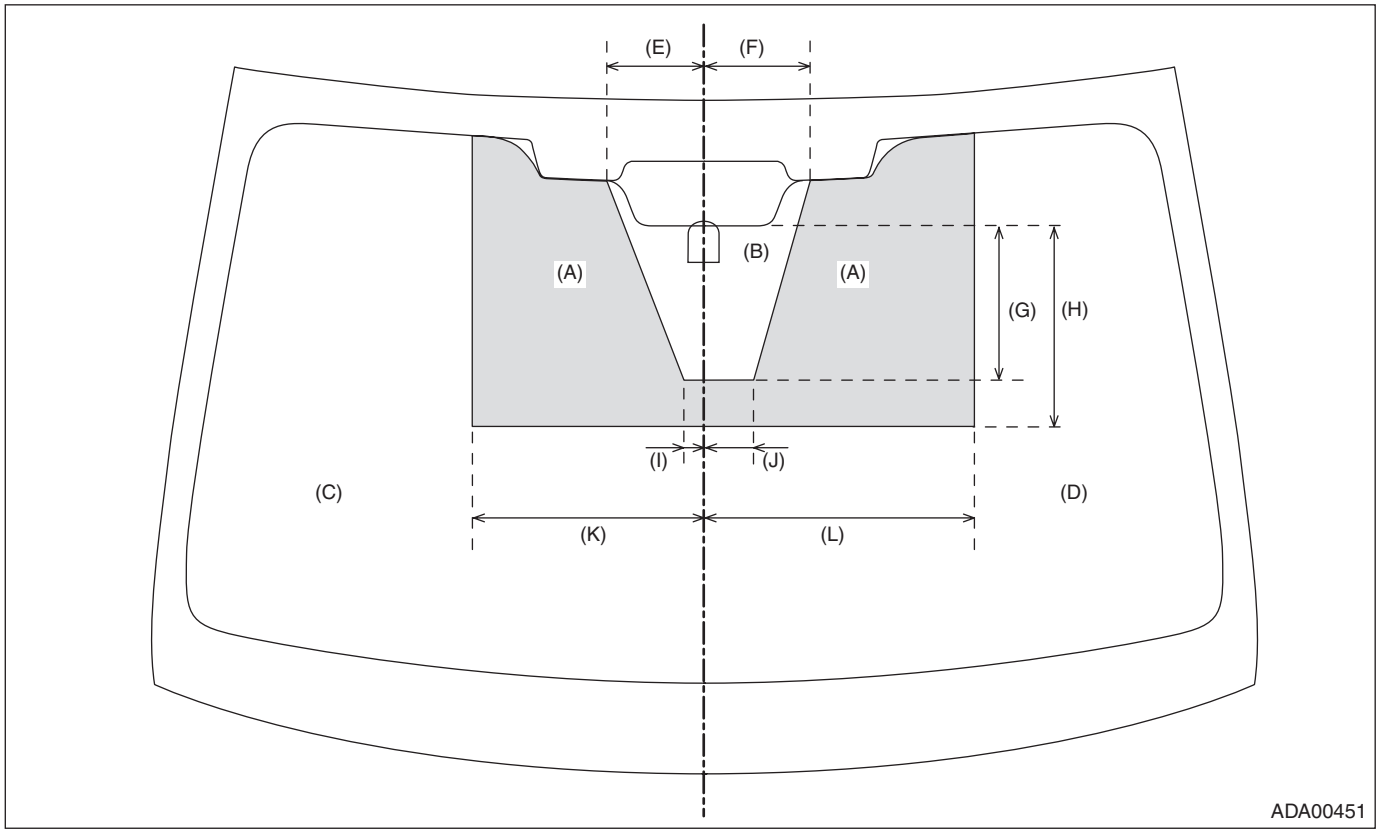
- Side view



(A)	150 mm (5.9 in)	(C)	Stereo camera cover	(E)	Prohibited area
(B)	Windshield glass	(D)	Dashboard	(F)	External monitor etc.

NOTE:
- Clean the windshield glass if dirt or fogging is found on the glass. Repair or replace the glass if damage is found.
  – When cleaning the inner side of the windshield glass, be careful not to touch the lens of the stereo camera. Take care so that the glass cleaner is not applied to the lens. (As with the removal of the stereo camera, cover the camera cover opening with the protective tape with a weak adhesive force such as masking tape, etc before operation. After operation, be sure to remove the tape.)<Ref. to ES-8, REMOVAL, Stereo Camera.>
  – When replacing the windshield glass, be sure to replace the part for the EyeSight.
  – If the glass is removed or replaced, always perform the stereo camera adjustment and inspection.
- Relocate any aftermarket parts out of the prohibited area.
- Do not touch the lens on the stereo camera. Do not clean the lens of the stereo camera. (If the lens surface is touched, the lens hood must be replaced as it is impossible to clean the lens surface for ensuring quality.)

- If the damage is found in the glass repair prohibited area shown in the figure below, replace the glass.
  – Damage in the prohibited area can affect the recognition of the stereo camera even if it is repaired, and thereby EyeSight function may not operate properly.

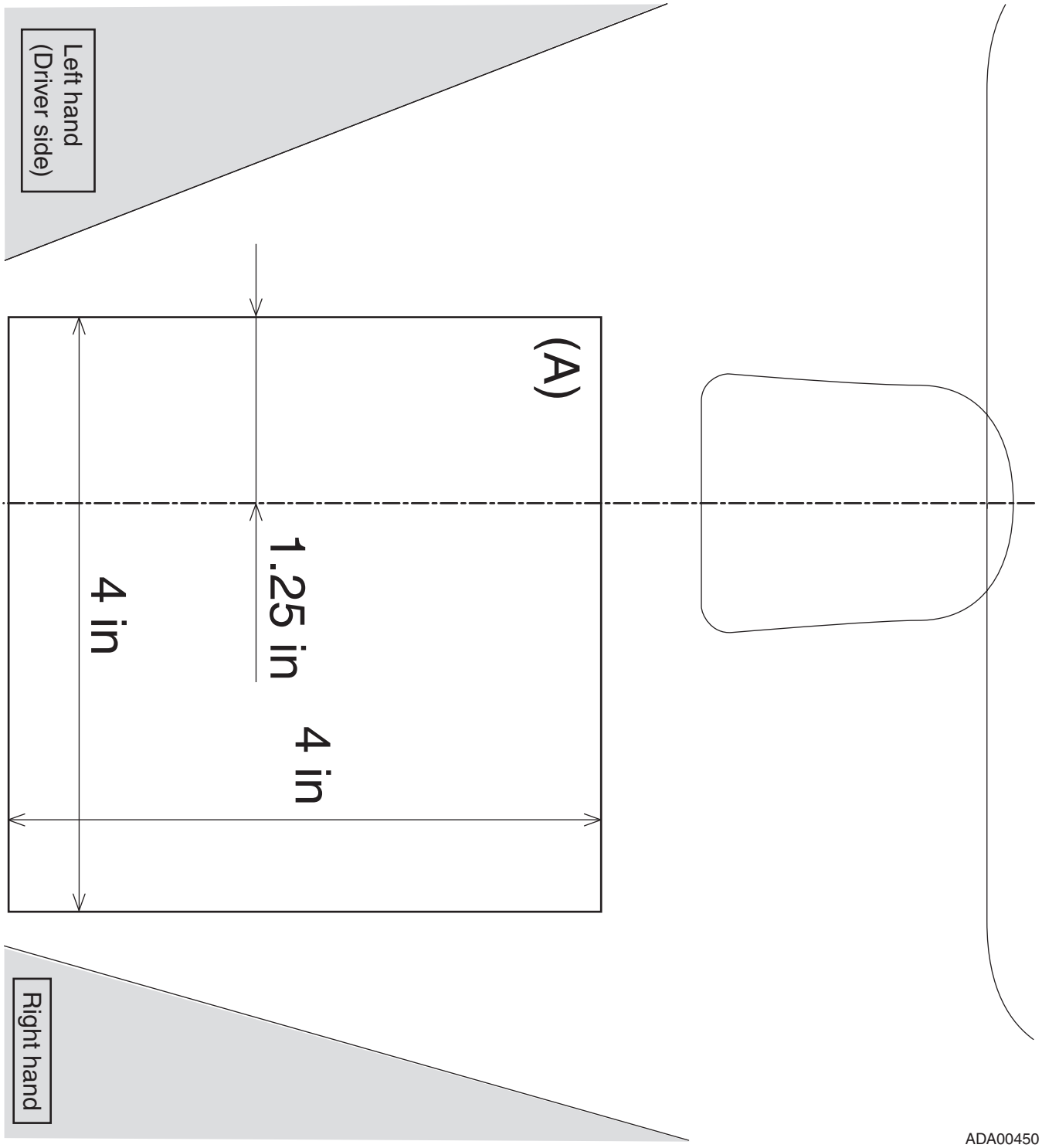


(A)	Glass repair prohibited area	(E)	128 mm (5 in)	(I)	27 mm (1.1 in)
(B)	Glass repairable area	(F)	140 mm (5.5 in)	(J)	65 mm (2.6 in)
(C)	Glass repairable area (Driver's side)	(G)	203 mm (8 in)	(K)	305 mm (12 in)
(D)	Glass repairable area (Passenger's side)	(H)	270 mm (10.6 in)	(L)	356 mm (14 in)

– Install the ETC transponder inside the area (A) shown in the figure below.

Before installing, attach a full-scale copy of the following figure on the inside of the windshield glass surface to install the parts to correct positions.

– Align the position with respect to the end of the ceramic area.
– Prepare a copy in which the line drawn in the figure actually has 4 inches long. (A full-scale copy without enlargement or reduction can be used.)
– Only the transponder with a thickness of 1.5 inches or less can be used.

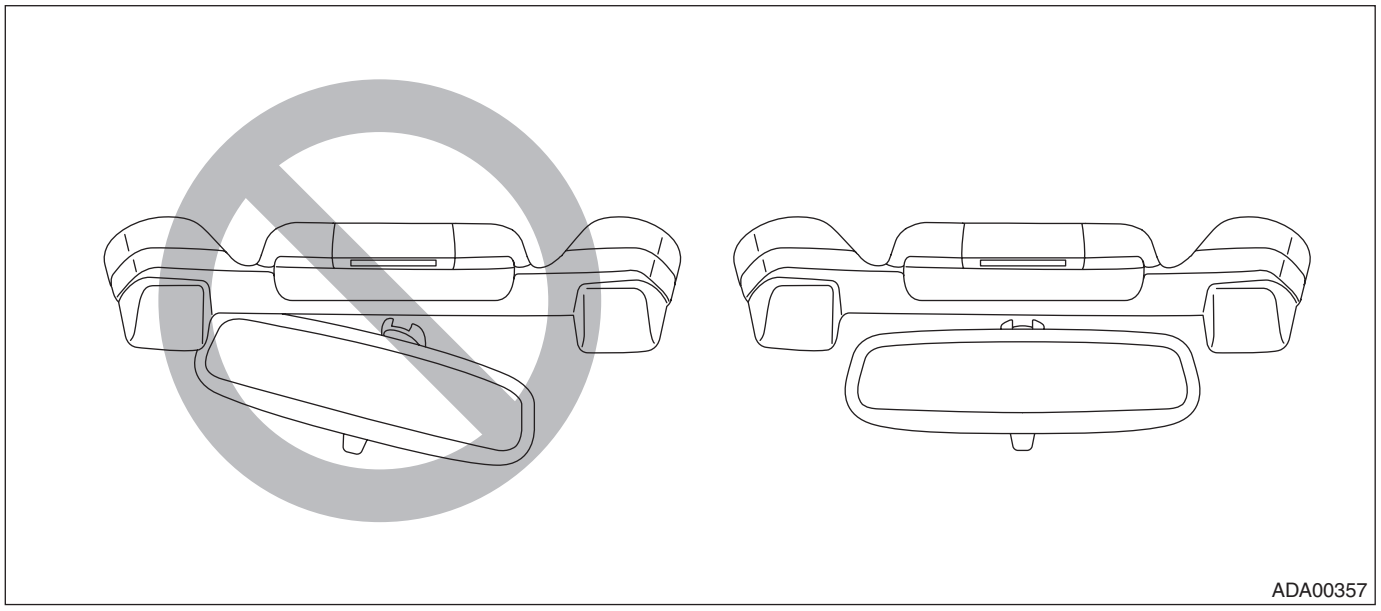


3. REAR VIEW MIRROR

Check the rear view mirror condition.

Standard:

The rear view mirror other than genuine parts shall not be used. (Wide mirrors shall not be used)
The visibility of the stereo camera shall not be blocked.
— This will affect the visibility of the stereo camera, causing the system not to operate correctly.



4. FRONT WIPER

Check the wiping condition of windshield glass.

Standard:

Use Subaru genuine part only for wiper blade body and blade rubber.
— Using the part other than genuine part will affect the recognition of the stereo camera, which may cause the function not to operate correctly.
Do not continue using the damaged blade rubber.
— The glass may be damaged. If the wiping performance decreases, or if the distinct streak is found, replace it as soon as possible.

NOTE:
Clean the windshield glass if oil film or dirt is found.

5. TIRE INFLATION PRESSURE

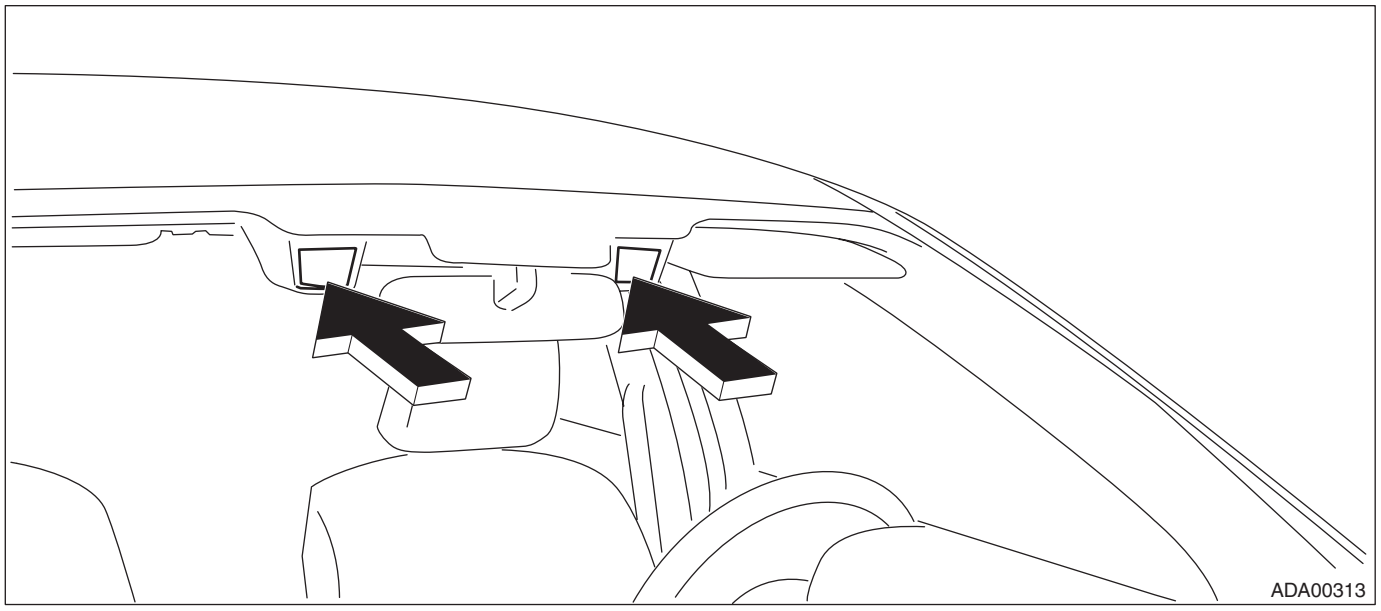
Check the tire air pressure.

Standard:

Adjust to the specified air pressure. <Ref. to WT-2, SPECIFICATION, General Description.>
Do not install worn tire or tires with excessive wear difference.
Install tires with specified size.

6. STEREO CAMERA

Check the lens filter on the left and right camera lenses of the stereo camera for fingerprints or lens filter for cracks or etc. through the windshield glass.

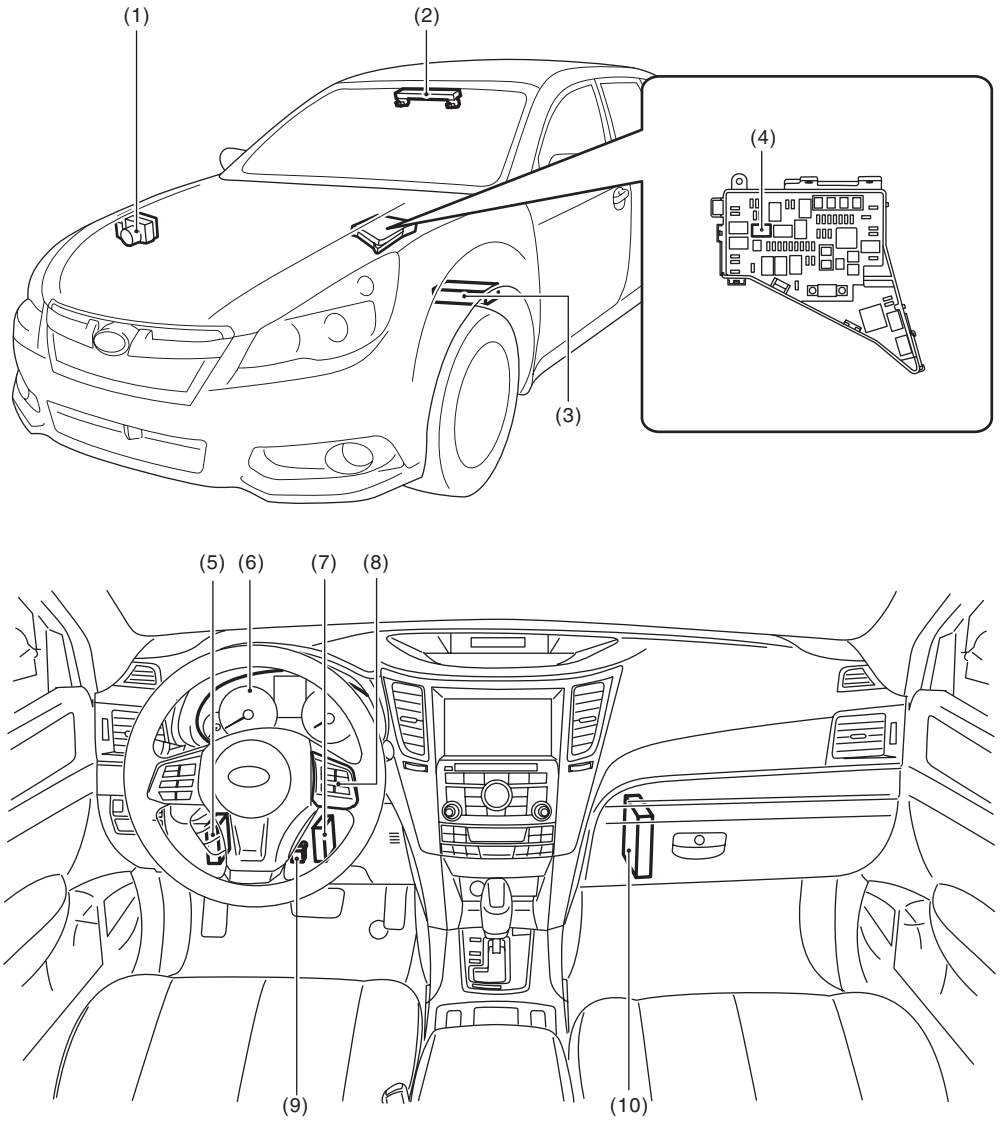


NOTE:

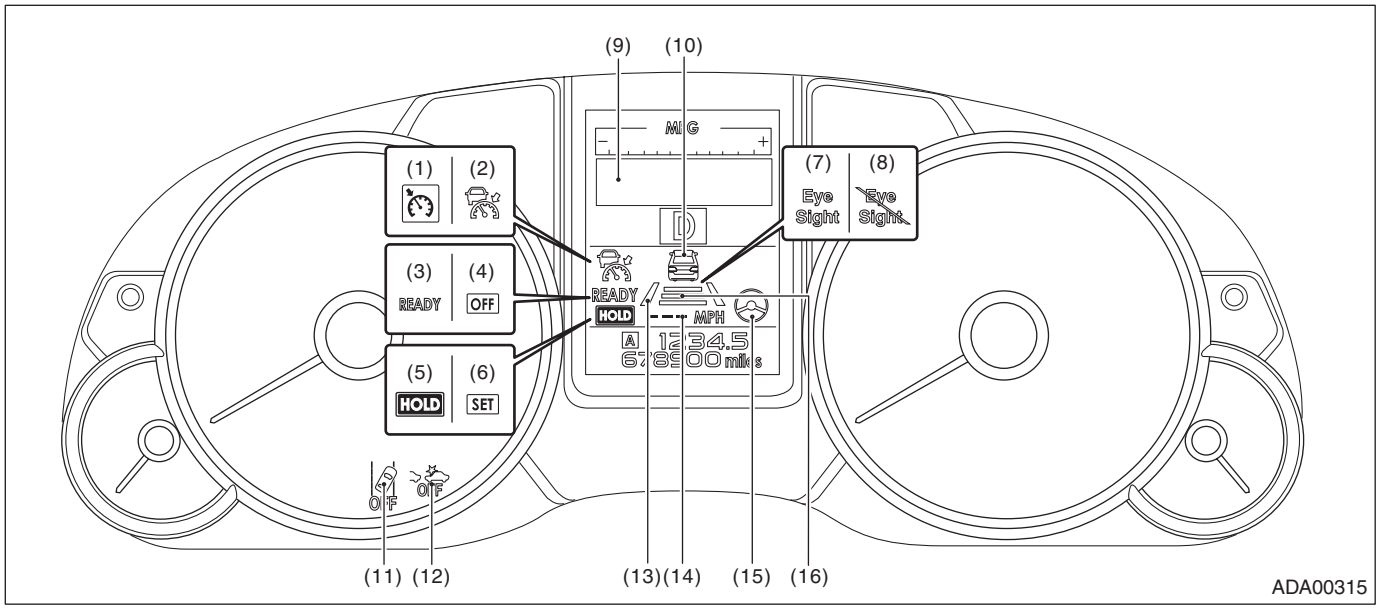
- Do not remove the camera or camera cover to check the lens.
- When spider's web or insects are found in the visibility of the camera or lens hood, remove it using the air blow not to touch the lens surface. Do not cover them with hand or cloth.
- Thin and uniform adhesion of dust, dirt or tobacco stains to the lens filter surface resulting from normal use will not be an obstacle. Do not attempt to clean in such cases.
- If oil from such as a fingerprint adheres or an excessive dirt adheres, or if lens filter cracks, the lens hood must be replaced. <Ref. to ES-13, REPLACEMENT OF LENS HOOD, REPLACEMENT, Stereo Camera.>
- If the fingerprint adhesions or cracks occur on the lens filter, the following failures may arise.
  – The vehicle may not be able to detect the preceding vehicle or obstacle because the defects can induce the irregular reflection of the headlight of oncoming vehicle.
  – The vehicle may not be able to detect the preceding vehicle or obstacle because the defects can induce the irregular reflection of the brake light of the preceding vehicle.
  – All the functions of the EyeSight may be suspended by the self-diagnosis function equipped with the camera.
  – When the lens filter is broken, the vehicle may not be able to detect the preceding vehicle or obstacle all day and all night.
- Even if the lens filter is not touched, applying the force to the black hood securing the lens filter may tension the lens filter to crack it.
- Do not clean the lens filter with any cleaner. It is quite difficult to uniformly clean both of the right and left lenses, and such an attempt just ends up spreading dirt and will cause problems as same as those from oil film.

4. Electrical Component Location

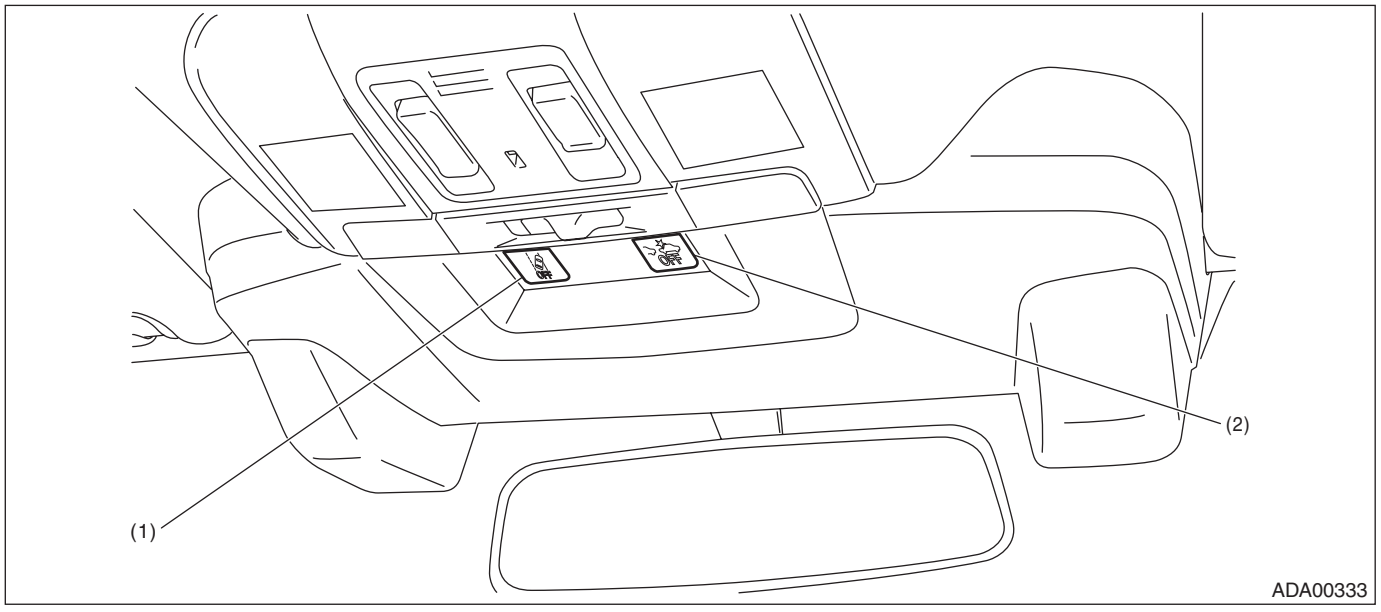
A: LOCATION



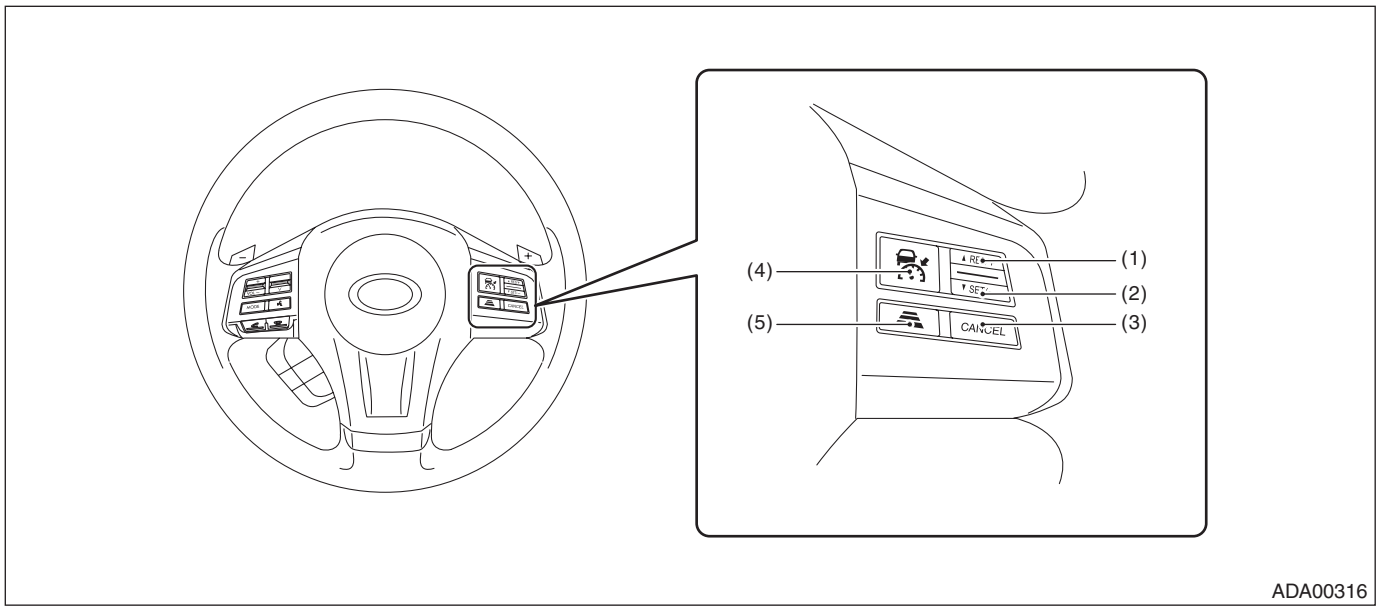
(1) VDC control module (VDC CM)
(2) Stereo camera
(3) Parking brake control module (EPB CM)
(4) Brake light relay
(5) Transmission control module (TCM)
(6) Combination meter
(7) Body integrated unit
(8) Cruise control command switch
(9) Stop light and brake switch
(10) Engine control module (ECM)



(1) Conventional CRUISE indicator
(2) Adaptive CRUISE indicator
(3) READY indicator
(4) OFF indicator
(5) HOLD indicator
(6) SET indicator
(7) EyeSight warning indicator
(8) EyeSight temporary stop indicator
(9) Message display area
(10) Preceding vehicle indicator
(11) Lane departure warning OFF indicator light
(12) Pre-collision brake OFF indicator light
(13) Lane indicator
(14) Set vehicle speed display
(15) Steering wheel indicator
(16) Following distance setting indicator



(1) Lane departure warning OFF switch
(2) Pre-collision brake OFF switch

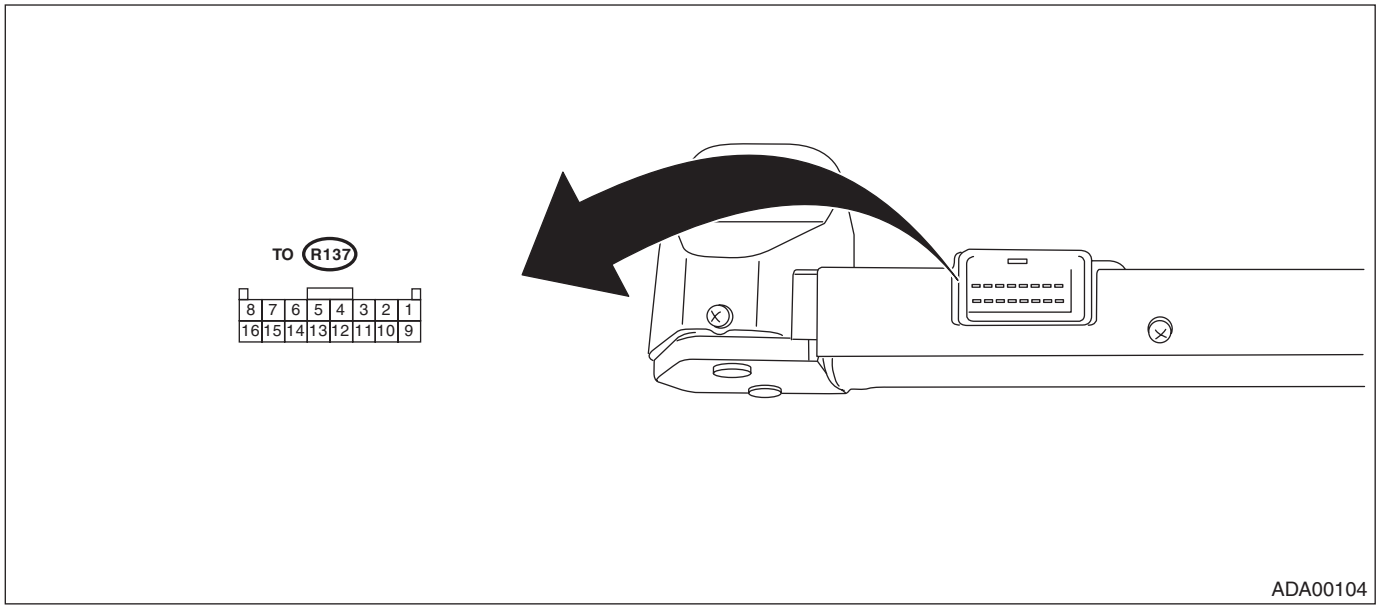


(1) RES/+ (Resume/+) switch
(2) SET/– (Set/–) switch
(3) CANCEL switch
(4) CRUISE switch
(5) Following distance setting switch

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

1. STEREO CAMERA



Signal name and contents	Terminal No.	Measuring conditions and status		Standard
		Key switch	Operation or condition	
Battery power supply	16	OFF	Always	Power supply voltage
Ignition power supply	6	ON	—	Power supply voltage
Brake light drive output signal	4	ON	{Brake Lamp Lighting Operation} of {System Operation Check Mode} is performed. <Ref. to ES(diag)-44, System Operation Check Mode.>	Approx. 12 V
			—	Approx. 0 V
Pre-collision brake OFF switch	12 — chassis ground	ON	Switch pressed.	Approx. 0 V
			—	Approx. 12 V
Lane departure warning OFF switch	13 — chassis ground	ON	Switch pressed.	Approx. 0 V
			—	Approx. 12 V
CAN-H	10	—	—	—
GND	7 15	ON	—	Approx. 0 V
CAN-L	9	—	—	—

2. ENGINE CONTROL MODULE (ECM)

For details on the input/output signals for the engine control module, refer to ENGINE (DIAGNOSTICS).

3. VDC CONTROL MODULE (VDC CM)

For details on the input/output signals for VDC control module, refer to VDC (DIAGNOSTICS). <Ref. to VDC(diag)-12, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

4. TRANSMISSION CONTROL MODULE (TCM)

For details on the input/output signals for the transmission control module, refer to AUTOMATIC TRANSMISSION (DIAGNOSTICS). <Ref. to 5AT(diag)-13, Transmission Control Module (TCM) I/O Signal.> <Ref. to CVT(diag)-11, Transmission Control Module (TCM) I/O Signal.>

5. PARKING BRAKE CONTROL MODULE (EPB CM)

For details on the input/output signals for the parking brake control module, refer to PARKING BRAKE (DIAGNOSTICS). <Ref. to PB(diag)-11, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

6. BODY INTEGRATED UNIT

Refer to the BODY CONTROL SYSTEM (DIAGNOSTICS) for the I/O Signal of the body integrated unit. <Ref. to BC(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

7. COMBINATION METER

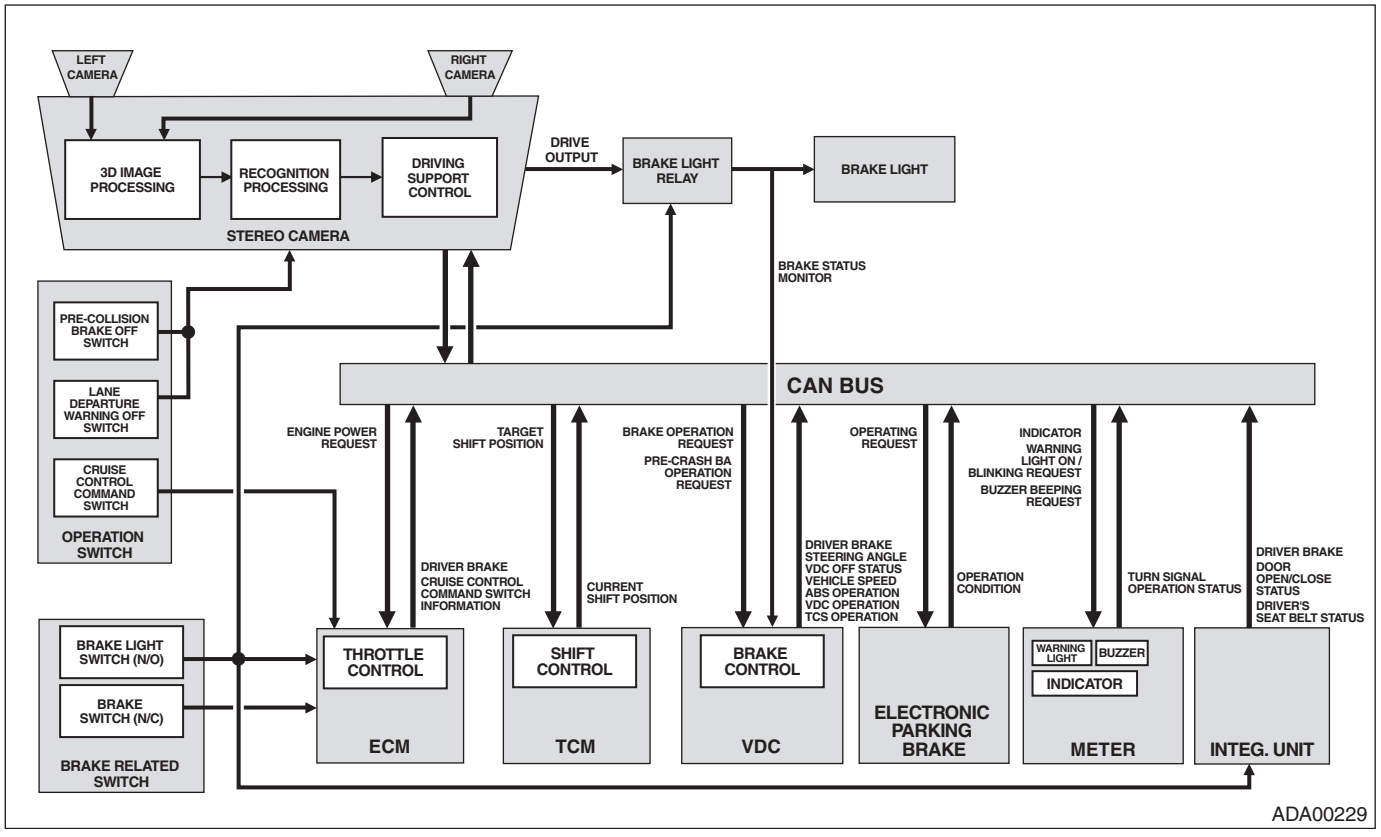
For details on the input/output signals for the combination meter, refer to INSTRUMENTATION/DRIVER INFO. <Ref. to IDI-7, ELECTRICAL SPECIFICATION, Combination Meter System.>

B: WIRING DIAGRAM

<Ref. to WI-108, WIRING DIAGRAM, Cruise Control System.>

C: SYSTEM BLOCK DIAGRAM

Main signals used between stereo camera and relevant CM



6. Subaru Select Monitor

A: OPERATION

1. GENERAL DESCRIPTION

For on-board diagnosis function of the EyeSight, use the Subaru Select Monitor.
The on-board diagnosis function operates in three categories, which are used depending on the type of problems;
1) Diagnosis with diagnostic trouble code (DTC):
When the electrical failure occurs in the EyeSight, DTC is detected from the stereo camera. If the DTC is detected, the relevant DTC is displayed by illuminating or blinking the EyeSight warning light. To check the details concerning the DTC, use the Subaru Select Monitor.
2) Diagnosis with cancel code:

(1) This category of diagnosis requires actual vehicle driving in order to determine the cause, as when cruise speed is cancelled during driving although cruise cancel condition is not entered.

(2) Cruise control memory in ECM and stereo camera stores the cancel condition (Code No.) which occurred during driving. When there are multiple cancel conditions (Code No.), they are shown on the Subaru Select Monitor.

CAUTION:
• In the cruise control memory, not only the cruise control "cancel" occurred (although the "cancel" operation is not entered by the driver), but also the "cancel" condition input by the driver is stored.
• The latest memory content (latest code) is cleared when ignition switch is turned to OFF. However, memory contents set by the diagnosis of faulty switches related to the system and cruise control will remain as trouble history (memory code) after the ignition switch is turned to OFF.
3) Real-time Diagnosis:
Real-time diagnosis function is used to determine whether or not the input signal system is in good order, according to signal emitted from switches, sensors, etc.

(1) Vehicle cannot be driven at cruise speed when the problem occurs in the cruise control system or relevant circuits.

(2) Monitor the signal conditions from switches and sensors.

2. BASIC OPERATION

For operation procedures, refer to the "PC application help for Subaru Select Monitor".

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

- Communication error with stereo camera

DETECTING CONDITION:

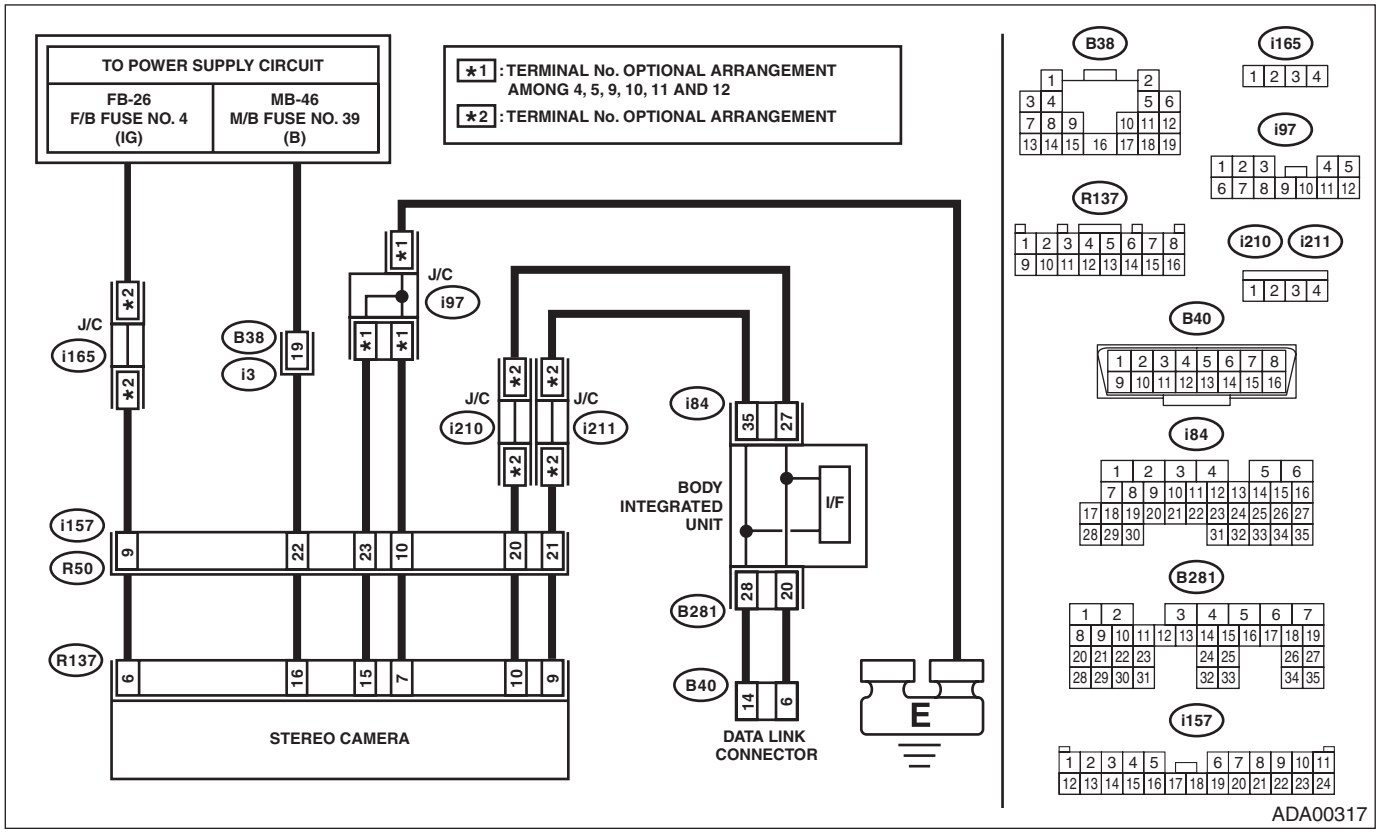
- Defective harness connector
- Power supply circuit malfunction
- Defective stereo camera
- Defective CAN system
- Defective Subaru Select Monitor

TROUBLE SYMPTOM:

- EyeSight warning light blinks.

WIRING DIAGRAM:

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>



Step		Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select {ADA adaptive cruise control system} using the Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 10 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is the battery terminal contact proper?	Go to step **4**.	Connect the battery terminal securely or replace it.

	Step	Check	Yes	No
4	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether the communication can be executed normally.	Is the communication between Subaru Select Monitor and other unit normal?	Go to step **5**.	Check the connection of Subaru Select Monitor.
5	**READ DTC OF BODY INTEGRATED UNIT.** Select {Integ. unit mode}, and check DTC.	Is there any fault?	Repair according to diagnosis for LAN system.	Go to step **6**.
6	**CHECK HARNESS CONNECTOR BETWEEN STEREO CAMERA AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the stereo camera connector. 3) Measure the resistance between the stereo camera and the data link connector. ***Connector & terminal*** ***(R137) No. 10 — (B40) No. 6:*** ***(R137) No. 9 — (B40) No. 14:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair or replace the harness and connectors between the stereo camera and data link connector.
7	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between stereo camera and chassis ground. ***Connector & terminal*** ***(R137) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **8**.	Check the harness from battery to stereo camera.
8	**CHECK GROUND CIRCUIT.** 1) Turn the ignition switch to OFF, then disconnect the ground cable from battery. 2) Measure the resistance between harness connector of stereo camera and chassis ground. ***Connector & terminal*** ***(R137) No. 7 — Chassis ground:*** ***(R137) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **9**.	Check the harness from stereo camera to chassis ground.
9	**CHECK CONNECTOR.**	Is there poor contact of stereo camera connector?	Repair the connector, or replace harness.	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

7. Read Current Data

A: OPERATION

1. STEREO CAMERA

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {ADA adaptive cruise control system}.
3) On «ADA adaptive cruise control system» display, select {EyeSight (from 2009MY)}.
4) Click the [OK] button after the information of stereo camera has been displayed.
5) On «EyeSight (from 2009MY)» display, select {Current Data Display & Save}.
6) Using the scroll key, scroll the display screen up or down until the following data is shown.

Display	Content	Unit of measure	Reference
Camera ID	Display of serial No. inside the stereo camera	—	Displayed by 12 digits.
Camera battery voltage	Display of input voltage of stereo camera	V	Battery voltage
Camera temperature sensor (present)	Display of present temperature for internal circuit of stereo camera	°C	
Camera temperature sensor (past MAX value)	Display of stereo camera internal circuit temperature (past MAX value)	°C	
Camera temperature sensor (past MIN value)	Display of stereo camera internal circuit temperature (past MIN value)	°C	
Image ON/OFF status	ON/OFF status of present image sensor	—	ON (If the acceptable temperature range of the camera is exceeded or internal camera failure (partial) occurs, the image sensor turns off.)
Initial inspection distance accuracy rate	Factory settings information	%	
Initial inspection distance	Factory settings information	—	
Initial optical axis direction (X-axis)	Factory settings information	pix	
Initial optical axis direction (Y-axis)	Factory settings information	pix	
Initial optical axis correction value (X-axis)	Factory settings information	pix	
Initial optical axis correction value 2 (X-axis)	Factory settings information	pix	
Initial optical axis correction value (Y-axis)	Factory settings information	pix	
Initial shim type	Factory settings information	—	One of the followings is displayed. • Upward correction • Standard • Downward correction
Initial left image, rotation deviation correction value	Factory settings information	—	
Initial left image, vertical deviation correction value	Factory settings information	—	
Initial distance correction value	Factory settings information	—	
Initial error code	Factory settings information	—	
Initial aiming completion flag	Factory settings information	—	Aiming completed (After factory shipping, when stereo camera is replaced or adjusted, “Aiming not completed” is displayed.)

Display	Content	Unit of measure	Reference
D C-Ratio	Dealer adjustment/inspection information	%	
Distance	Dealer adjustment/inspection information	—	
Optical axis correction value (X-axis)	Dealer adjustment/inspection information	pix	
Optical axis correction value 2 (X-axis)	Dealer adjustment/inspection information	pix	
Optical axis correction value (Y-axis)	Dealer adjustment/inspection information	pix	
Left image, rotation deviation correction value	Dealer adjustment/inspection information	—	
Left image, vertical deviation correction value	Dealer adjustment/inspection information	—	
Distance correction value	Dealer adjustment/inspection information	—	
Error code	Dealer adjustment/inspection information	—	
Aiming execution history	Dealer adjustment/inspection information	—	
Aiming completion flag	Dealer adjustment/inspection information	—	Aiming not completed (After factory shipping, when stereo camera is replaced or adjusted, “Aiming completed” is displayed.)
Automatic adjustment status	Index for automatic adjustment operation performed by the driving test after the completion of the optical axis adjustment	—	“1F” is displayed when completed.
Camera adjustment value (pitching)	Present adjustment status	pix	
Camera adjustment value (yaw)	Present adjustment status	pix	
Camera adjustment value (yaw 2)	Present adjustment status	pix	
Pre-crash brake function	ON/OFF status by pre-collision brake OFF switch	—	Switch status is displayed. • ON • OFF
Lane deviation warning function	ON/OFF status by lane departure warning OFF switch	—	Switch status is displayed. • ON • OFF
Headlight SW (LO)	Operation status of headlight LO switch	—	Switch status is displayed. • ON • OFF
Turn SW (Left)	Operation status of left turn switch	—	Switch status is displayed. • ON • OFF
Turn SW (Right)	Operation status of right turn switch	—	Switch status is displayed. • ON • OFF
Wiper SW (Front)	Operation status of front wiper switch	—	Switch status is displayed. • ON • OFF
Preceding vehicle distance	Display of distance from preceding vehicle	m	
Lane recognition status	Display of lane recognition status	—	Displayed when 20 m or more of the vehicle lane is recognized. • Right lane recognition: “01” • Left lane recognition: “10” • Lane not recognized: “00”

Display	Content	Unit of measure	Reference
Model registration information	Display of displacement and vehicle model	—	Vehicle information is displayed.
Ineffective distance data count	Number of data for invalid distance during aiming	—	
Camera status1	Information of stereo camera	—	
Camera status2	Information of stereo camera	—	
Camera status3	Information of stereo camera	—	
Camera status4	Information of stereo camera	—	
Camera status5	Information of stereo camera	—	
Camera status6	Information of stereo camera	—	
Camera status7	Information of stereo camera	—	
System software version (4BYTE)	Information of stereo camera	—	
Recognition software version (4BYTE)	Information of stereo camera	—	
Camera failure real-time information	Current camera failure information	—	
Camera failure details, cumulative flag 1	Failure experience cumulative information since the last memory clear	—	
Camera failure details, cumulative flag 2		—	
Camera failure details, cumulative flag 3		—	
Camera failure details, cumulative flag 4		—	
Camera failure details, cumulative flag 5		—	
Camera failure details, cumulative flag 6		—	
Camera failure details, cumulative flag 7		—	
Camera failure details, cumulative flag 8		—	
Camera failure details, cumulative flag 9		—	
Camera failure details, cumulative flag 10		—	
Camera temporary stop, detail flag 1	Current camera temporary stop information <Ref. to ES(diag)-38, CAMERA TEMPORARY STOP INFORMATION, OPERATION, Read Current Data.>	—	
Camera temporary stop, detail flag 2		—	
Camera temporary stop, detail flag 3		—	
Camera temperature, operation status	Current camera temperature/operation status	—	Camera temperature/operation status is displayed. • Normal • High temperature • Low temperature
Ignition start number	Total IGN start number	Time	

Display	Content	Unit of measure	Reference
Camera temperature abnormality IGON count 1	IGN time information when camera temperature becomes 85°C or more, or –40°C or less.	Time	When no abnormality in temperature is experienced, “0” is displayed.
Camera temperature abnormality IGON count 2	IGN time information when camera temperature becomes 85°C or more, or –40°C or less.	Time	
Camera temperature abnormality IGON count 3	IGN time information when camera temperature becomes 85°C or more, or –40°C or less.	Time	
Camera temperature abnormality IGON count 4	IGN time information when camera temperature becomes 85°C or more, or –40°C or less.	Time	
Camera temperature abnormality IGON count 5	IGN time information when camera temperature becomes 85°C or more, or –40°C or less.	Time	
Vehicle model registration information (camera inside)	Display of displacement and vehicle model	—	Vehicle information is displayed.
Camera temporary stop details 1	The latest information of the camera temporary stop (Camera temporary stop: 0 count — 23 counts)<Ref. to ES(diag)-38, CAMERA TEMPORARY STOP INFORMATION, OPERATION, Read Current Data.>	—	
Camera temporary stop details 2		—	
Camera temporary stop details 3		—	
Ignition start number when camera temporary stop	Total IGN start number since the latest camera temporary stop NOTE: If the IGN start number is “91” and the IGN start number during camera temporary stop is “85”, this indicates that the latest occurrence of camera temporary stop was during the IGN starting of 6 times ago (this number can be obtained by the expression 91 – 85 = 6).	Time	
Camera status8	Stereo camera temporary stop information	—	
Camera status9	Stereo camera temporary stop information	—	

Display	Content	Unit of measure	Reference
Camera temporary stop 0 count	Cumulative number of stereo camera temporary stop occurrence since the last memory clear For occurrence condition of each count, refer to “LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS”. <Ref. to ES(diag)-85, LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS, LIST, List of Cancel Code.> The number of occurrence is stored in each field, depending on conditions under which the temporary stop was made at “Temporary stop occurrence of camera recognition system”. For details of the camera temporary stop information of current and past latest, check “Camera temporary stop, detail flag” and “Camera temporary stop details”. Temporary stop related to other than camera recognition system, such as “temporary stop due to VDC OFF switch”, is recorded in the cancel code.	Time	
Camera temporary stop 1 count			
Camera temporary stop 2 count			
Camera temporary stop 3 count			
Camera temporary stop 4 count			
Camera temporary stop 5 count			
Camera temporary stop 6 count			
Camera temporary stop 7 count			
Camera temporary stop 8 count			
Camera temporary stop 9 count			
Camera temporary stop 10 count			
Camera temporary stop 11 count			
Camera temporary stop 12 count			
Camera temporary stop 13 count			
Camera temporary stop 14 count			
Camera temporary stop 15 count			
Camera temporary stop 16 count			
Camera temporary stop 17 count			
Camera temporary stop 18 count			
Camera temporary stop 19 count			
Camera temporary stop 20 count			
Camera temporary stop 21 count			
Camera temporary stop 22 count			
Camera temporary stop 23 count			

Display	Content	Unit of measure	Reference
ACC forced cancellation code 1(latest)	ACC forced cancellation occurrence information since the last memory clear For example of codes, refer to “LIST OF ACC FORCED CANCELLATION CODE”. <Ref. to ES(diag)-92, LIST OF ACC FORCED CANCELLATION CODE, LIST, List of Cancel Code.> “When the cruise control set is released and the set operation is not accepted”, the system records under which condition the ACC forced cancellation code is canceled and records the number of times since the latest occurrence of IGN start. If the cancellation is performed under the same condition, the code is not recorded as a new code, but recorded as the latest code, and the IGN number will be updated.	—	
IGN-ON count when ACC forced cancellation code 1 recorded		times past	
ACC forced cancellation code 2		—	
IGN-ON count when ACC forced cancellation code 2 recorded		times past	
ACC forced cancellation code 3		—	
IGN-ON count when ACC forced cancellation code 3 recorded		times past	
ACC forced cancellation code 4		—	
IGN-ON count when ACC forced cancellation code 4 recorded		times past	
ACC forced cancellation code 5		—	
IGN-ON count when ACC forced cancellation code 5 recorded		times past	
ACC forced cancellation code 6		—	
IGN-ON count when ACC forced cancellation code 6 recorded		times past	
ACC forced cancellation code 7		—	
IGN-ON count when ACC forced cancellation code 7 recorded		times past	
ACC forced cancellation code 8		—	
IGN-ON count when ACC forced cancellation code 8 recorded		times past	
Brake lamp SW signal	Brake switch signal status	—	Operation status of the brake pedal is displayed. • ON • OFF
Headlight SW (Hi)	Headlight switch (Hi) signal	—	Switch status is displayed. • ON • OFF
Small Light SW	Small light switch signal	—	Switch status is displayed. • ON • OFF
Headlight SW (Low)	Headlight switch (Lo) signal	—	Switch status is displayed. • ON • OFF
Front wiper ON-OFF status	Front wiper signal status	—	Switch status is displayed. • OFF or intermittent • LOW or higher
Message counter (BIU)	Body integrated unit message counter signal	—	
Integ. Unit internal malfunction flag	Body integrated unit failure signal	—	Normal

Display	Content	Unit of measure	Reference
Rear defogge operation	Rear defogger operation signal	—	Rear defogger operation status is displayed. • ON • OFF
Integ. Unit HS-CAN malfunction	HS-CAN failure signal	—	Normal
Driver's seat belt status	Status of driver's seat belt	—	Seat belt status is displayed. • Seat belt released • Seat belt fastened
Driver's door status	Status of driver's door	—	Door status is displayed. • Close • Open
Passenger Door State	Status of passenger's door	—	Door status is displayed. • Close • Open
Backseat right door state	Status of rear right door	—	Door status is displayed. • Close • Open
Backseat left door state	Status of rear left door	—	Door status is displayed. • Close • Open
Engine Speed	Engine speed signal	rpm	Corresponds to the tachometer display.
Accelerator Opening Angle	Acceleration opening angle signal	%	
Idle Switch	Idle switch signal	—	"ON" during idling
CAN diagnosis, message transmission stop demand	Transmission stop signal for CAN diagnosis and CAN data	—	Normal
CRUISE Indicator ON request	Request signal for CRUISE indicator illumination	—	Indicator status is displayed. • OFF • ON
SET Indicator ON request	Request signal for SET indicator illumination	—	Indicator status is displayed. • OFF • ON
Target vehicle distance setting status	Setting status of target vehicle distance	—	Settings are displayed. • Distance setting: Long • Distance setting: Medium • Distance setting: Short • Constant speed
Driver's request torque	Torque signal requested by driver	Nm	
Actual engine torque	Actual engine torque signal	Nm	
ETC Throttle angle signal	Opening angle signal of electronic throttle control	%	
SI Drive mode (Control)	Identification signal of SI-DRIVE mode	—	Switch status is displayed. • S# • I • S
Fuel cut flag	Fuel cut signal	—	"OFF" during idling
Cruise main switch status	Status of cruise control main switch (CRUISE switch)	—	Switch status is displayed. • Other than ON • ON

Display	Content	Unit of measure	Reference
Cruise command switch status	Status of the cruise control command switch	—	Switch status is displayed. • SW OFF • CANCEL SW ON • RES/+SW ON • SET/–SW ON • Vehicle distance SW ON Other statuses are not displayed.
Engine type AR/EJ discrimination flag	Engine type discrimination signal	—	Information of engine equipped is displayed. • EJ • AR
Message counter(ECM)	ECM message counter signal	—	
Accelerate state flag	Acceleration status signal	—	• OFF • ON
Resume hold state flag	Resume hold status signal	—	• OFF • ON
Coast status	Coast status signal of engine	—	“Other than coast” during idling
Resume deceleration hold state flag	Resume deceleration hold status signal	—	• OFF • ON
Fuel type	Fuel type	—	Gasoline
Engine displacement	Engine displacement	—	Information of engine equipped is displayed. • 2.5 L • 3.6 L
Camshaft type	Engine type	—	Information of engine equipped is displayed. • SOHC • DOHC
Number of cylinder	Number of cylinder for engine	—	Information of engine equipped is displayed. • H4 • H6
Turbo	Presence or absence of turbo	—	Information of engine equipped is displayed. • Turbo • Non-turbo
Cruise main status	Status of the cruise control main switch	—	Switch status is displayed. • ON • OFF
Cruise control SET status	Status of the cruise control set	—	Switch status is displayed. • ON • OFF
Accelerator wide opening judgment status	Signal that judges the accelerator opening angle to be “wide”.	—	“Not established” during idling
Brake status	Brake switch signal status	—	Brake switch status is displayed. • BRAKE OFF • BRAKE ON
Adaptive cruise control data NG flag	NG signal of stereo camera data	—	• OK • NG
Adaptive cruise control torque down prohibition flag	Torque down prohibition signal of stereo camera	—	• ON • OFF

Display	Content	Unit of measure	Reference
AT/MT judgment flag	AT/MT distinction signal	—	Transmission equipped is displayed. • AT • MT
ETC malfunction information	Failure signal of electronic throttle control	—	• Normal • Abnormal
Engine malfunction information	Failure signal of ECM	—	• Normal • Abnormal
SI Drive mode (Display)	SI-DRIVE mode signal	—	Switch status is displayed. • No signal input • S# • I • S
Idle switch (TPS)	Idle status signal	—	Idle status is displayed. • Non idle status • Idle status
Delivery mode	Delivery mode status signal	—	• Normal • Delivery MODE
Cruise Control Set Speed	Set vehicle speed value for cruise control	km/h	Set value is displayed.
EPB Operating status	Operation status of parking brake	—	Operation status is displayed. • Error • Cancel • Operation completed (pulled status) • Operating (pull side) • Cancelling • Dynamic parking Other statuses are not displayed.
EPB Buzzer information	Buzzer status of parking brake	—	Buzzer status is displayed. • Not beeping • Switch sound • Switch impossible sound • Cancel sound
EPB Auto function ON light	Status of automatic function of parking brake	—	Depends on the status of EPB automatic function. (“OFF” for default) • ON • OFF
EPB Operating light	Status of parking brake warning light	—	Illumination status is displayed. • OFF • ON • Blink
Message counter (EPB)	Message counter signal of parking brake	—	
EPB error information	Error information of parking brake	—	Error information is displayed. • Normal • Stroke not finished • Emergency cancel • Pulling force abnormal
EPB operating permission flag1	Operating permission signal of parking brake	—	• ON • OFF
EPB operating permission flag2	Operating permission signal of parking brake	—	• Prohibit (cancel operation) • Permit (no cancel operation)

Display	Content	Unit of measure	Reference
EPB operating permission flag3	Operating permission signal of parking brake	—	• Prohibit (Crazy driver mode) • Permit (normal mode)
Message counter(Meter)	Message counter signal of combination meter	—	
Remaining mileage	Remaining mileage signal	km	
Ambient air temperature	Ambient air temperature signal	°C	
Outside temperature (for control)	Outside temperature for control signal	°C	
Turn signal, Right output	Output signal for right turn signal	—	Operation status is displayed. • OFF • Turn signal, Right output
Turn signal, Left output	Output signal for left turn signal	—	Operation status is displayed. • OFF • Turn signal, Left output
Destination Code	Destination signal	—	Destination code is displayed.
Adaptive cruise control specification flag	Adaptive cruise distinction signal	—	• Non-ACC spec. • ACC specification
Eye Sight specification flag	EyeSight distinction signal	—	• Non-Eye Sight spec. • Eye Sight specification
Adaptive CC ECM, CAN information no-receive flag	No-receive signal of stereo camera CAN data	—	• Normal • Data no-receive
Large diameter tire distinction flag	Tire diameter distinction signal	—	• Normal tire • Large diameter tire
Meter malfunction information	Failure signal of combination meter	—	• Normal • Abnormal
Vehicle model identification "idling stop"	Auto Start Stop ON/OFF signal	—	• Without Auto Start Stop • With Auto Start Stop
Odometer value	ODO value signal of meter	km	
Fluid pressure target	Target value of brake fluid pressure	MPa	
Pre-crash BA command flag	Pre-crash brake assist command signal	—	• Not commanded • Commanding
Pre-crash action flag	Pre-crash command signal	—	• Not commanded • Commanding
EPB operating request flag	Parking brake request signal	—	• Non request • Request
Adaptive CC ECM malfunction flag for VDC	SI cruise failure signal to VDC control module	—	• Normal (ACC/pre-crash control OK) • Malfunction (ACC/Pre-crash control NG)
Brake control actuation permission flag	Brake operation permission signal	—	• Brake control non-actuate • Brake control actuate
EPB hill hold prohibition flag	Prohibition signal for parking brake hill hold	—	• OFF • ON
Pre-crash BA threshold	Pre-crash brake assist threshold	—	• Normal • Pre-crash BA threshold 1 • Pre-crash BA threshold 2 • Without Request
Message counter (Adaptive CC ECM)1	Message counter signal	—	
Target torque	Target torque command signal	Nm	

Display	Content	Unit of measure	Reference
Leading vehicle follow flag	Preceding vehicle follow signal	—	• Not following • Following
LSF Flag	Low speed following mode signal	—	• Other than LSF • LSF
Target torque command flag	Target torque command signal	—	• Target torque command • Target vehicle speed command
ACC forced cancellation flag	ACC forced cancellation signal	—	• ACC non-forced cancel • ACC forced cancelling
Brake system distinction flag	Brake system distinction signal	—	• VDC control • Booster control
Brake control actuation flag	Actuation signal of brake control	—	• No control instruction • Control instruction
AT rapid start prevention control flag	AT rapid start prevention control	—	• With AT rapid start prevention control • Without AT rapid start prevention control
Stop hold, before reserve flag	Stop hold, before reserve signal	—	• OFF • ON (stop holding and before reserve)
AT shift set value upper limit	AT shift set value upper limit signal	—	• Without Request • 1st gear • 2nd gear • 3rd gear • 4th gear • 5th gear
AT rapid start prevention, engine torque down command value	AT rapid start prevention control, engine torque down command value	Nm	
Lane blinking (smash white-painted face)	Lane blinking (smash white-painted face)	—	• OFF • Simultaneous blinking • Alternation blinking
Steering wheel indication	Steering wheel indicator signal	—	• OFF • ON • Blinking 1 • Blinking 2
Road surface incline estimation value (level ground G deviation)	Road surface incline estimation value (level ground G deviation) signal	G	
Check sum	Error detection signal of adaptive cruise control	—	
EyeSight, Idling stop cooperation flag	Auto Start Stop cooperation signal	—	• Auto Start Stop not operation • Auto Start Stop operation
P-CR OFF indicator on flag	Pre-collision brake OFF indicator light illumination command signal	—	Operation status of indicator is displayed. • Light off command (Pre-crash ON) • Light on command (Pre-crash OFF)
LANE OFF indicator on flag	Lane departure warning OFF indicator light illumination command signal	—	Operation status of indicator is displayed. • Light off command (Lane deviation, stagger ON) • Light on command (Lane deviation, stagger OFF)

Display	Content	Unit of measure	Reference
HALT code	HALT code signal for meter	—	• No HALT • HALT(E1 camera view defectiveness) • HALT(E2 camera temperature range outside) • HALT(E3 and others)
Cruise indicator flag for meter display	CRUISE indicator illumination signal	—	Operation status of indicator is displayed. • OFF • ON
Cruise control SET ON flag	SET indicator illumination signal	—	Operation status of indicator is displayed. • CC not SET • CC SET
Stop holding flag	Vehicle stopping signal	—	• OFF • Stop holding
READY flag	READY indicator illumination signal	—	Operation status of indicator is displayed. • CC not READY • CC READY
Vehicle distance setting	Vehicle distance setting signal	—	Settings are displayed. • Distance setting: Short • Distance setting: Medium • Distance setting: Long • CC constant speed mode
Vehicle speed set for meter display	Setting value for cruise set speed	km/h	
Warning code	Warning code signal	—	• No alarm • HALT • Increase Brake Pedal Load/Vehicle distance alarm/Pre-crash brake • ACC automatic cancel • Pre-crash brakes 2 • Lane deviation warning • Stagger warning • Preceding vehicle capture / lost sound • Front vehicle acceleration • AT false start restraint
Adaptive CC ECM malfunction flag	Failure signal of stereo camera	—	Normal
Message counter (Adaptive CC ECM)2	Message counter signal of stereo camera	—	
Request drive torque when closed position (for CVT)	Request drive torque when closed position (for CVT) signal	—	
ACC braking (driver or control) flag (for CVT)	ACC braking (driver or control) signal (for CVT)	—	OFF
Request drive torque control flag when closed position (for CVT)	Request drive torque control signal when closed position (for CVT)	—	No request
OFF indication	OFF indicator signal	—	• OFF • ON • Blink
Preceding vehicle indication	Preceding vehicle indicator signal	—	• OFF • ON • Blink

Display	Content	Unit of measure	Reference
Surface resistance estimation value	Surface resistance estimation value	—	
Road surface incline estimation value	Road surface incline estimation value	%	
AT Type	AT type	—	AT types equipped are displayed. • CVT • 5AT
AWD type	Driving method of AWD	—	System equipped is displayed. • ACT4 • VTD
Total reduction ratio (current)	Current total reduction ratio signal	—	
Current gear position	Current gear position signal	—	Current gear position is displayed. • N • 1 • 2 • 3 • 4 • 5 • Automatic neutral • R • P No items other than above are displayed.
TCM malfunction information	Failure signal of TCM	—	• Abnormal • Normal
Target gear position	Target gear position signal	—	Target gear position is displayed. • N • 1 • 2 • 3 • 4 • 5 • Automatic neutral • R • P No items other than above are displayed.
Message counter(TCM)	Message counter signal of TCM	—	

Display	Content	Unit of measure	Reference
Shift mode	AT shift mode signal	—	Current AT shift mode is displayed. • Other position • Selecting I • Selecting S • Selecting S# • Manual mode • Cruise Control controlled • Hill climb/down controlled • Acceleration controlled • Temporary mode • Accelerator pedal quick return controlled • Braking controlled • Cornering controlled • Automatic neutral controlled No items other than above are displayed.
Hill down mode flag	Hill down mode signal	—	Current status is displayed. • Hill down cancelling • Hill down
Sports shift gear position indication information	Sports shift gear position indication signal	—	• OFF • "1" • "2" • "3" • "4" • "5" • “E” • "-" • "6" • "7" • "8"
Lock up status	AT lock up status	—	Current status is displayed. • Open • Slip • Lock-up
CAN diagnosis, message transmission stop demand	Transmission stop judgment for CAN diagnosis and CAN data by TCM	—	• Normal • Stop
Steering angle sensor value	Steering angle sensor value signal	deg	Right turn: + Left turn: –
Yaw Rate value	Yaw rate value signal	deg/s	Right turn: – Left turn: +
Lateral acceleration	Lateral acceleration signal	m/s^2	Right turn: – Left turn: +
Adaptive CC ECM malfunction reception status	System failure reception status signal of stereo camera	—	• Malfunction reception • Malfunction no-receive
Adaptive CC ECM communication error	Communication failure signal of stereo camera	—	• Abnormal • Normal
Adaptive CC ECM deceleration request reception status	Reception status for deceleration request from stereo camera to VDC control module	—	• Without Request • Request
Pre-crash BA request reception status	Pre-crash brake assist request reception status	—	• Without Request • Request
Pre-crash request reception status	Pre-crash request reception status	—	• Without Request • Request
Brake control permission flag	Brake control permission signal	—	• ON • No permission

Display	Content	Unit of measure	Reference
Driver brake detection flag	Brake operation signal generated by driver	—	Operation status of the brake pedal is displayed. • ON • OFF
Eye Sight variant flag	EyeSight variant signal	—	• Other than Eye Sight variant • Eye Sight variant
Wheel speed pulse counter	Wheel speed pulse counter signal	—	
Right front wheel W/C actual fluid pressure	Right front wheel cylinder fluid pressure	MPa	
Left front wheel W/C actual fluid pressure	Left front wheel cylinder fluid pressure	MPa	
Wheel speed average speed	Vehicle speed value	km/h	
M/C actual fluid pressure	Brake fluid pressure in master cylinder	MPa	
Longitudinal G sensor value	Longitudinal acceleration	m/s^2	Deceleration: + Acceleration: –
Message counter (VDC)	Message counter signal of VDC	—	
Vehicle height information	Vehicle height information	—	Vehicle information is displayed. • Unknown • OBK • Standard • OBK 2.5 i S package
VDC-OFF Indicator status	VDC-OFF indicator status	—	Operation status of indicator is displayed. • Light off • Light on
Pre-crash BA prohibition flag	Pre-crash brake assist prohibition signal	—	• Normal • Malfunction, Control stop
ABS operation flag	Operating status signal of ABS	—	• Not operating • Operating
TCS operation flag	Operating status signal of TCS	—	• Not operating • Operating
VDC oversteer control flag	Operating status signal of VDC	—	• Not during control • During control
VDC understeer control flag	Operating status signal of VDC	—	• Not during control • During control
BLS Signal status	Brake light illumination status	—	Illumination status is displayed. • OFF • BRAKE ON
VDC-OFF Flag	VDC OFF signal	—	Switch status is displayed. • System OFF • System ON
VDC sensor abnormal flag	VDC sensor failure signal	—	• Sensor normal • Sensor abnormal
Vehicle speed sensor abnormal flag	Vehicle speed sensor failure signal	—	• Sensor normal • Sensor abnormal
VDC system abnormal flag	VDC system failure signal	—	• VDC normal • VDC malfunction
VDC WL flag		—	• ON • OFF
CAN diagnosis, transmissions stop	Transmission stop judgment for CAN diagnosis and CAN data	—	• ON • Diagnosis, send message stop request

Display	Content	Unit of measure	Reference
Front left wheel speed	Front left wheel speed sensor signal value	km/h	
Front right wheel speed	Front right wheel speed sensor signal value	km/h	
Rear left wheel speed	Rear left wheel speed sensor signal value	km/h	
Rear right wheel speed	Rear right wheel speed sensor signal value	km/h	
Message counter (Auto Start Stop)	Message counter signal of Auto Start Stop CM	—	
Restart cranking demand	Restart request signal	—	• No request • With Request
Under Auto Start Stop control	Under Auto Start Stop control signal	—	• Outside Auto Start Stop control • Under Auto Start Stop control
Main power supply voltage drop state	Power supply voltage drop signal	—	• Other than power supply voltage drop • Power supply voltage drop
idling stop demand	Idling stop demand signal	—	• No request • With Request
EPB operation instructions	Electronic parking brake operation instructions signal	—	• No operation instructions • Operation instructions
During idling stop	During idling stop signal	—	• Other than during idling stop signal • During idling stop
Auto Start Stop operation permission	Auto Start Stop operation permission signal	—	• Operation prohibit • Operating Permission
Auto Start Stop system failure	Auto Start Stop system failure signal	—	• Normal • Abnormal

NOTE:
- For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.
- For details on camera temporary stop count, refer to “LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS”. <Ref. to ES(diag)-85, LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS, LIST, List of Cancel Code.>
- For details on ACC forced cancellation code, refer to “LIST OF ACC FORCED CANCELLATION CODE”. <Ref. to ES(diag)-92, LIST OF ACC FORCED CANCELLATION CODE, LIST, List of Cancel Code.>

2. CAMERA TEMPORARY STOP INFORMATION

Display	Measure-ment value	Remarks
Camera temporary stop, detail flag 1 and Camera temporary stop details 1	00	Not applicable to conditions of camera temporary stop count 0 — 7.
	01	Temporary stop has been made under the condition of camera temporary stop count 0.
	02	Temporary stop has been made under the condition of camera temporary stop count 1.
	04	Temporary stop has been made under the condition of camera temporary stop count 2.
	08	Temporary stop has been made under the condition of camera temporary stop count 3.
	10	Temporary stop has been made under the condition of camera temporary stop count 4.
	20	Temporary stop has been made under the condition of camera temporary stop count 5.
	40	Temporary stop has been made under the condition of camera temporary stop count 6.
	80	Temporary stop has been made under the condition of camera temporary stop count 7.
Camera temporary stop, detail flag 2 and Camera temporary stop details 2	00	Not applicable to conditions of camera temporary stop count 8 — 15.
	01	Temporary stop has been made under the condition of camera temporary stop count 8.
	02	Temporary stop has been made under the condition of camera temporary stop count 9.
	04	Temporary stop has been made under the condition of camera temporary stop count 10.
	08	Temporary stop has been made under the condition of camera temporary stop count 11.
	10	Temporary stop has been made under the condition of camera temporary stop count 12.
	20	Temporary stop has been made under the condition of camera temporary stop count 13.
	40	Temporary stop has been made under the condition of camera temporary stop count 14.
	80	Temporary stop has been made under the condition of camera temporary stop count 15.
Camera temporary stop, detail flag 3 and Camera temporary stop details 3	00	Not applicable to conditions of camera temporary stop count 16 — 23.
	01	Temporary stop has been made under the condition of camera temporary stop count 16.
	02	Temporary stop has been made under the condition of camera temporary stop count 17.
	04	Temporary stop has been made under the condition of camera temporary stop count 18.
	08	Temporary stop has been made under the condition of camera temporary stop count 19.
	10	Temporary stop has been made under the condition of camera temporary stop count 20.
	20	Temporary stop has been made under the condition of camera temporary stop count 21.
	40	Temporary stop has been made under the condition of camera temporary stop count 22.
	80	Temporary stop has been made under the condition of camera temporary stop count 23.

NOTE:
For details on camera temporary stop count, refer to “LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS”. <Ref. to ES(diag)-85, LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS, LIST, List of Cancel Code.>

3. ENGINE CONTROL MODULE (ECM)

For current data of engine control module, refer to ENGINE (DIAGNOSTICS).

4. VDC CONTROL MODULE (VDC CM)

For current data of VDC control module, refer to VDC (DIAGNOSTICS). <Ref. to VDC(diag)-17, READ CURRENT DATA, OPERATION, Subaru Select Monitor.>

5. TRANSMISSION CONTROL MODULE (TCM)

For current data of transmission control module, refer to 5AT (DIAGNOSTICS) or CVT (DIAGNOSTICS). <Ref. to 5AT(diag)-18, OPERATION, Read Current Data.> <Ref. to CVT(diag)-15, OPERATION, Subaru Select Monitor.>

6. PARKING BRAKE CONTROL MODULE (EPB CM)

For current data of parking brake control module, refer to PARKING BRAKE (DIAGNOSTICS). <Ref. to PB(diag)-14, READ CURRENT DATA, OPERATION, Subaru Select Monitor.>

7. BODY INTEGRATED UNIT

For current data of body integrated unit, refer to BODY CONTROL (DIAGNOSTICS). <Ref. to BC(diag)-12, LIST, Read Current Data.>

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
For details concerning DTC, refer to “List of Diagnostic Trouble Code (DTC)”. <Ref. to ES(diag)-78, List of Diagnostic Trouble Code (DTC).>

9. Read Cancel Code

A: OPERATION

1. STEREO CAMERA

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
For details on cancel codes, refer to List of Cancel Code. <Ref. to ES(diag)-82, STEREO CAMERA, LIST, List of Cancel Code.>

2. ENGINE CONTROL MODULE (ECM)

1) On «Main Menu» display, select {Each System Check}.
On «System Selection Menu» display, select {Engine Control System}. Click the [OK] button after the information of engine type has been displayed.
2) Drive vehicle at 40 km/h (25 MPH) or more and set the cruise control.

CAUTION:
• When performing diagnosis, observe the legal speed limit on the road.
• The cancel code will also appear when the cruise control is cancelled by the driver’s operation. Do not confuse them.
• Be sure to get an assistant to support the diagnosis while driving, and have him/her operate the select monitor.
3) When the set speed is cancelled by itself (without any cancel operations such as applying brake) or when the cruise control could not be set by performing the setting operation, select the {Cancel Code(s) Display} on the engine malfunction diagnosis screen.

NOTE:
The cancel code has a {Latest Diagnostic Code(s)} and {Memorized Diagnostic Code(s)}. {Latest Diagnostic Code(s)} displays the latest code that occurred in this check drive. Cancel codes judged by the ECM on the basis of the diagnosis of faulty switches relating to the system and cruise control are also displayed in the {Memorized Diagnostic Code(s)}.

4) Perform Engine DTC Clear Memory operation.
Cancel codes for switches relating to the system and cruise control are deleted by clearing memory on the engine side.

NOTE:
• The latest code will be cleared by turning ignition switch to OFF.
• For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.
• For details on cancel codes, refer to List of Cancel Code. <Ref. to ES(diag)-90, ECM, LIST, List of Cancel Code.>

10.Real-time Diagnosis

A: OPERATION

1) On «EyeSight (from 2009MY)» display, select {Current Data Display & Save}.
2) Check that the display changes and the contents are correct when performing the operations as follows.

- Depress and release the brake pedal. (Stop light switch and brake switch are turned ON.)
  - Subaru Select Monitor display item “Brake lamp SW signal”, “Brake status”, “BLS Signal status”
- Turn the main switch to ON.
  - Subaru Select Monitor display item “Cruise main switch status”
- Turn the “CANCEL” switch to ON.
  - Subaru Select Monitor display item “Cruise command switch status”
- Turn the “SET/–” switch to ON.
  - Subaru Select Monitor display item “Cruise command switch status”
- Turn the “RES/+” switch to ON.
  - Subaru Select Monitor display item “Cruise command switch status”
- Turn the “Vehicle distance” switch to ON.
  - Subaru Select Monitor display item “Cruise command switch status”
- Operate the shift lever.
  - Subaru Select Monitor display item “Current gear position”
- Press and hold the pre-collision brake OFF switch.
  - Subaru Select Monitor display item “P-CR OFF indicator on flag”
- Press and hold the lane departure warning OFF switch.
  - Subaru Select Monitor display item “LANE OFF indicator on flag”

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

11.Clear Memory Mode

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

12.System Operation Check Mode

A: OPERATION

NOTE:
Compulsory drive inspection of the brake light can be performed.
1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {ADA adaptive cruise control system}.
3) On «ADA adaptive cruise control system» display, select {EyeSight (from 2009MY)}.
4) On «EyeSight (from 2009MY)» display, select {Compulsory Drive Mode}.
5) On «Compulsory Drive Mode» display, select {Brake Lamp Lighting Operation}.
6) Perform operation according to the Subaru Select Monitor display.

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

13.Camera Adjustment, Inspection

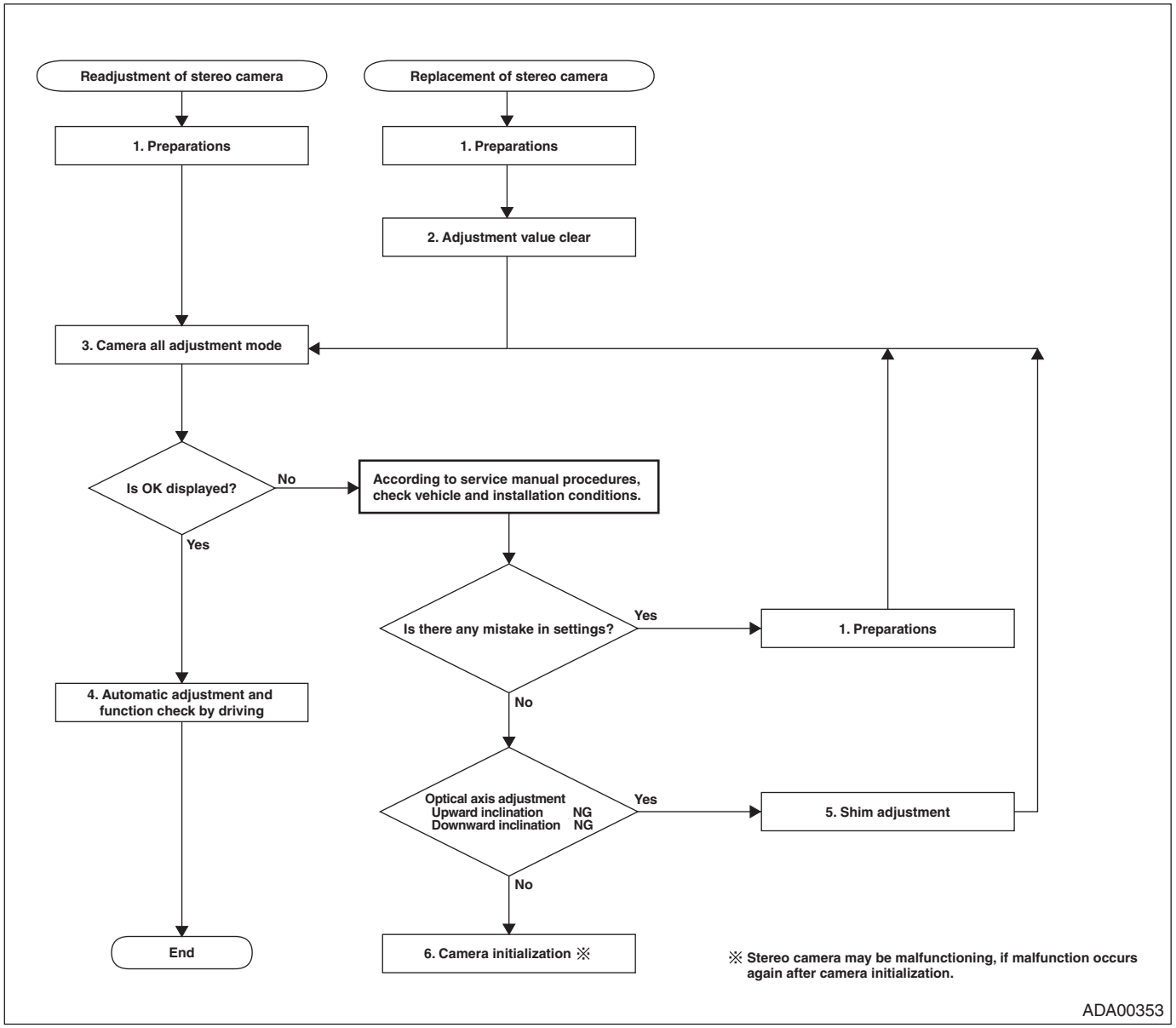
A: PROCEDURE

CAUTION:
- **Perform the camera adjustment and inspection at curb weight without passengers.**
- **Handle RANDOM CHART (ST: 87599YC001) carefully so as not to break it with the adhesive force of the tape.**

Perform inspection or adjustment according to the following procedures.
- Readjustment of stereo camera

Perform the adjustment in the following order: [1. Preparations] → [6. Camera all adjustment mode (replacement/removal)] → [4. Automatic adjustment and function check by driving].
- Replacement of stereo camera

Perform the replacement in the following order: [1. Preparations] → [7. Clear adjustment value] → [6. Camera all adjustment mode (replacement/removal)] → [4. Automatic adjustment and function check by driving].

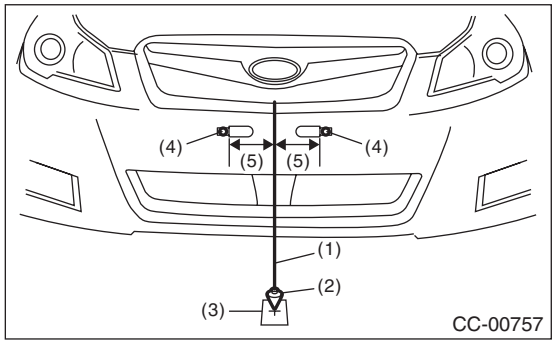


1. PREPARATIONS

Perform the preparation of the adjustment and inspection for the stereo camera.

- **When performing adjustment or inspection by affixing RANDOM CHART onto partition**

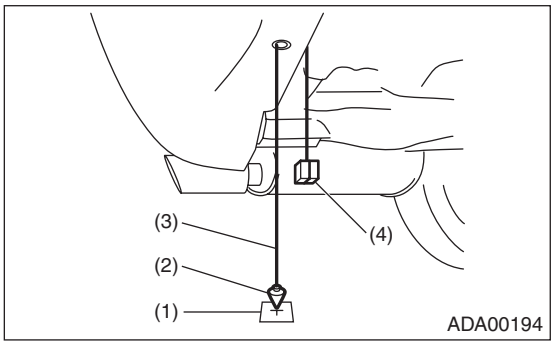
1) Adjust the tire pressure.
2) Prepare the Subaru Select Monitor, measure, plumb bob, weight, leveling line and RANDOM CHART (ST: 87599YC001).
3) Place the vehicle on a level surface where approximately 5 m (16.4 ft) space can be secured in front of the vehicle.
4) Suspend the plumb bob with leveling line from front center position of vehicle (center of license plate base), and mark the position where the plumb bob touches the ground. (Point A)



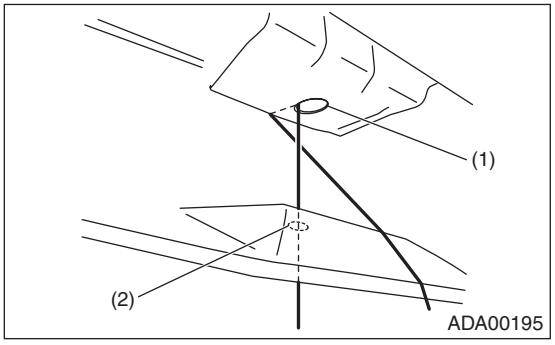
(1) Leveling line
(2) Plumb bob
(3) Point A
(4) License plate base
(5) Same distance

NOTE:
Stick the packing tape etc. on the floor, then make a marking on it.

5) Suspend the plumb bob with leveling line from rear center position of vehicle, and mark the position where the plumb bob touches the ground. (Point B)
(1) Remove the mounting clip located at center of the rear bumper.
(2) Thread the leveling line of plumb bob into the bumper mounting hole on body side.
(3) Attach the weight on the leveling line which is opposite end of the plumb bob.
(4) Adjust the length so that the point of the plumb bob may touch the ground.

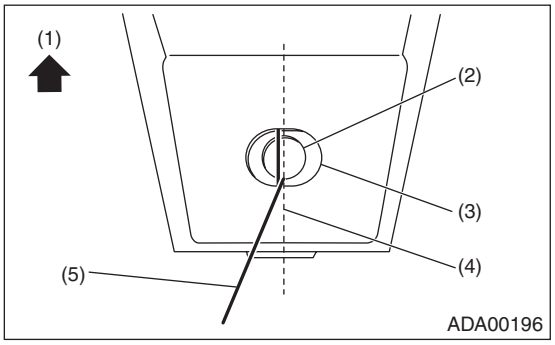


(1) Point B
(2) Plumb bob
(3) Leveling line
(4) Weight



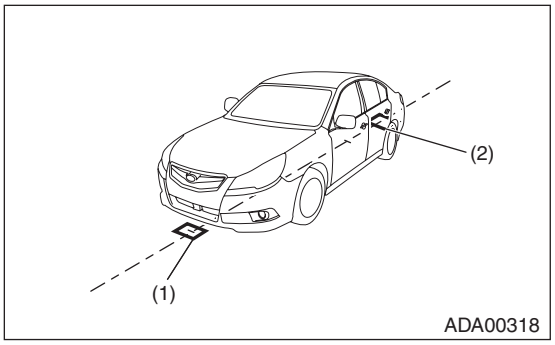
(1) Mounting hole on body side
(2) Mounting hole on bumper side

NOTE:
Confirm that the plumb bob has been suspended from the mounting hole center line on body side.



(1) Front side of vehicle
(2) Mounting hole on bumper side
(3) Mounting hole on body side
(4) Mounting hole center line on body side
(5) Leveling line of plumb bob

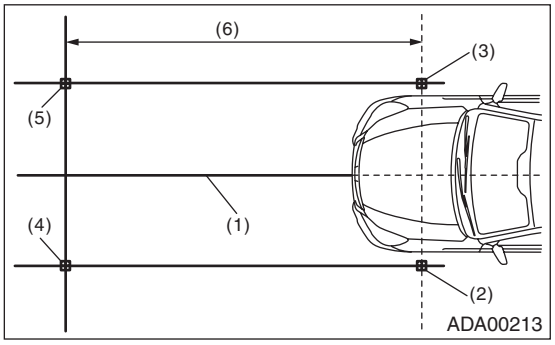
6) Strain approximately 5 m (16.4 ft) of the leveling line from the marking point B through the marking point A toward the front side of the vehicle, and fix it with packing tape. (A-B line)



(1) Point A
(2) Point B

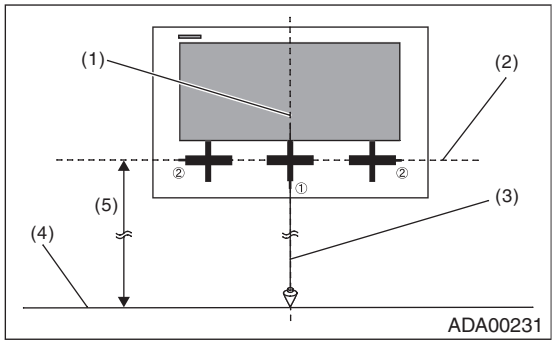
NOTE:
Confirm that there is no wet condition or unevenness on the floor, to strain the leveling line correctly.

7) Mark the installation position of the partition.
(1) Suspend the plumb bob from the center of the front tire, and mark the point C and point D.
(2) Strain the leveling line from the point C and point D toward the front of vehicle parallel to the vehicle body center line (A-B line), and fix the leveling line with packing tape.
(3) Make a marking on the point 4,070 mm (13.4 ft) ahead of the vehicle from the point C and point D. (Point E and point F)
(4) Strain the leveling line so that it passes through the point E and point F. (E-F line)



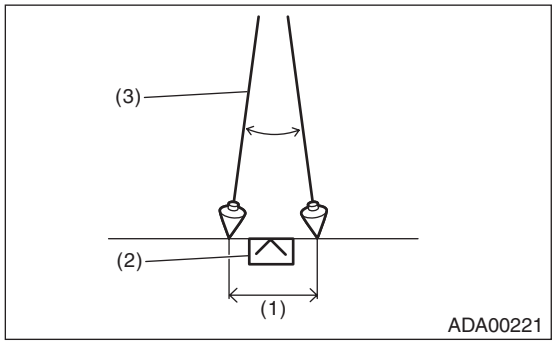
(1) Vehicle body center line (A-B line)
(2) Point C
(3) Point D
(4) Point E
(5) Point F
(6) 4,070 mm (13.4 ft)

8) Place the partition and RANDOM CHART.
(1) Using the plumb bob, attach the RANDOM CHART on the wall (or partition), so that the height from the floor to the cross mark (left and right) setting reference (horizontal line) is 1,004 mm (3.3 ft) while aligning the RANDOM CHART cross mark (center) setting reference (vertical line) to the vehicle body center line (leveling line).
(2) Adjust the partition so that it is parallel to E-F line.



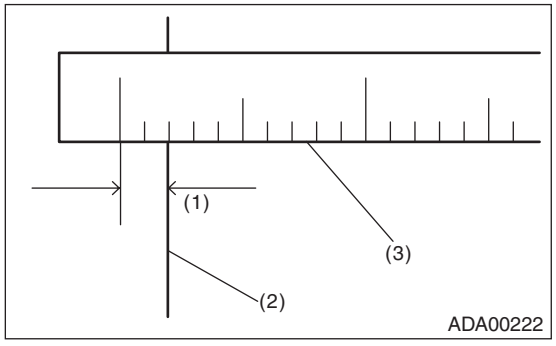
(1) ① = Setting reference (vertical line) and vehicle body center line (A-B line)
(2) ② = Setting reference (horizontal line)
(3) Plumb bob
(4) E-F line
(5) 1,004 mm (3.3 ft)

CAUTION:
- **Centering accuracy of the plumb bob shall be ±4.0 mm (±0.16 in) or less.**



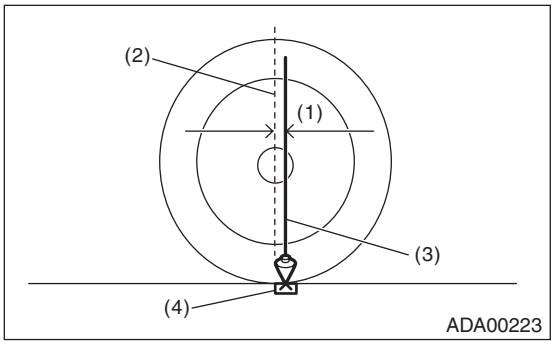
(1) ±4.0 mm (±0.16 in)
(2) Marking
(3) Plumb bob

- **Positioning accuracy of the measure shall be ±2.0 mm (±0.08 in) or less.**



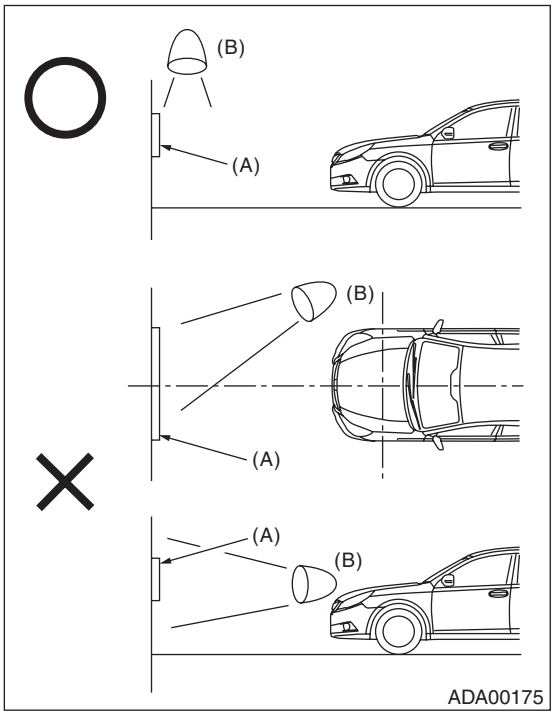
(1) ±2.0 mm (±0.08 in)
(2) Marking
(3) Measure

- **Centering accuracy of the tire shall be ±4.0 mm (±0.16 in) or less.**



(1) ±4.0 mm (±0.16 in)
(2) Tire center line
(3) Plumb bob
(4) Marking

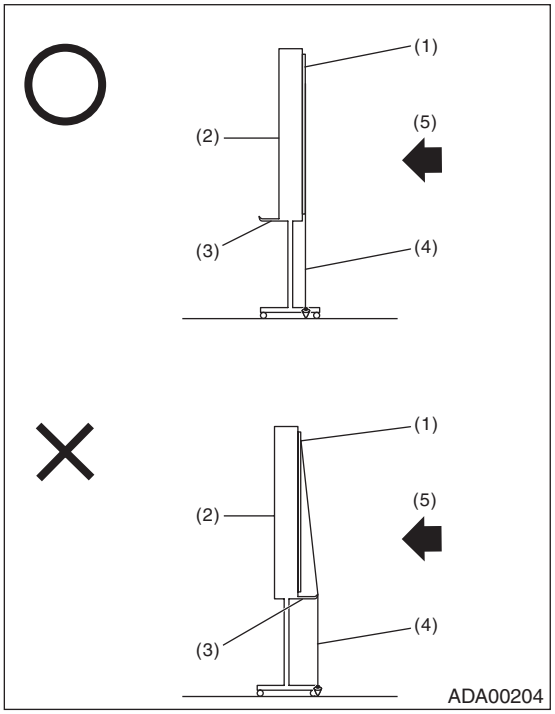
- **Affix the RANDOM CHART onto the vertical partition with flat surface.**
- **Turn off the headlight.**
- **Remove the luggage from the vehicle.**
- **Perform the adjustment work at the level floor.**
- **Perform the adjustment work at lighted places. If the lighting is not enough, adjustment can not be done, and accuracy rate may not be acquired.**
- **Apply the lighting from the upper side of RANDOM CHART. (If the lighting is applied from the position where light reflects at RANDOM CHART, the adjustment can not be done, because the reflected light enters the camera.)**



(A) RANDOM CHART
(B) Lighting

- **The adjustment in the outdoors cannot be recommended. Note the sun position, when adjusting it in outdoor by necessity. (It is not acceptable when the sunlight comes from front or rear of the vehicle)**
- **Do not affix RANDOM CHART with lustrous tapes which may reflect the light.**

• When the front tires are not directed to the straight ahead position even if the steering wheel is set to the center position, adjust the alignment.
• When using the white board as a partition, affix the RANDOM CHART on the flat surface without protrusion such as penholder. When suspending the plumb bob, suspend it vertically from the RANDOM CHART by avoiding protrusion.



(1) RANDOM CHART
(2) White board
(3) Protrusion (penholder, etc.)
(4) Plumb bob
(5) Vehicle travel direction

9) Turn the ignition switch to OFF.
10) Check the windshield glass and the dashboard. <Ref. to ES(diag)-8, WINDSHIELD GLASS AND DASHBOARD, INSPECTION, General Description.>

CAUTION:
If there are any dirt, object or reflection from dashboard within the visibility of stereo camera, or if the inner mirror is excessively moved and the object enters the visibility of the camera, the correct adjustment and inspection can not be performed. Especially, do not put paper etc. on the dashboard.
11) Connect the Subaru Select Monitor.

NOTE:
Use the Subaru Select Monitor equipped with the latest version of the software.
12) Turn the ignition switch to ON.
13) Wait for 10 seconds.
14) On «Main Menu» display, select {Each System Check}.
15) On «System Selection Menu» display, select {ADA adaptive cruise control system}.
16) Select {EyeSight (from 2009MY)} while pressing the camera cover mounted pre-collision brake OFF switch and lane departure warning OFF switch at the same time.

NOTE:
If {EyeSight (from 2009MY)} is selected without pressing two switches at the same time, {Camera adjustment, inspection} cannot be performed. (for preventing misoperation)
Also, the message is not displayed, when the camera does not finish the start-up (approx. 10 seconds after ignition switch ON). In that case, repeat from the selection of {EyeSight (from 2009MY)}.

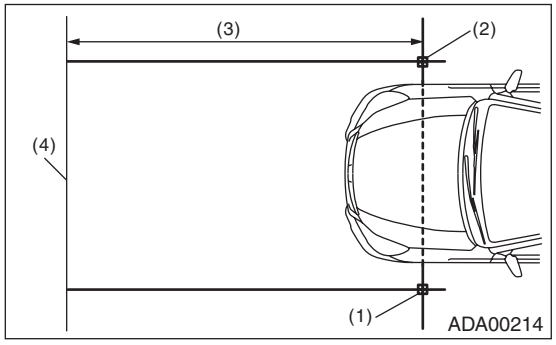
17) On «EyeSight (from 2009MY)» display, select {Camera adjustment, inspection}, to perform the camera adjustment or inspection.

NOTE:
• When performing {Camera adjustment, inspection}, pre-collision brake OFF indicator light, lane departure warning OFF indicator light in the meter will illuminate, and the normal function will be disabled.
• After camera adjustment, the function will be enabled, when the ignition switch is turned to OFF and system is restarted.

• When performing adjustment or inspection by affixing RANDOM CHART onto wall.

1) Adjust the tire pressure.
2) Prepare the Subaru Select Monitor, measure, plumb bob, weight, leveling line and RANDOM CHART (ST: 87599YC001).
3) Mark the setting position of the vehicle.
(1) Strain the leveling line so that it is at right angles to wall on which the RANDOM CHART is affixed, and fix the leveling line with packing tape.
(2) Make a marking 4,070 mm (13.4 ft) away from the wall where the leveling line is fixed. (Point A and point B)

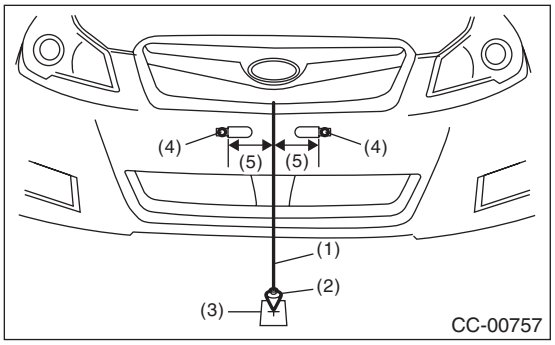
NOTE:
Stick the packing tape etc. on the floor, then make a marking on it.
(3) Strain the leveling line so that it passes through the point A and point B. (A-B line)



(1) Point A
(2) Point B
(3) 4,070 mm (13.4 ft)
(4) Wall

4) Suspend the plumb bob from the center of the front tire of the vehicle, and place the vehicle so that it is aligned with the leveling line (A-B line).

5) Suspend the plumb bob with leveling line from front center position of vehicle (center of license plate base), and mark the position where the plumb bob touches the ground. (Point C)

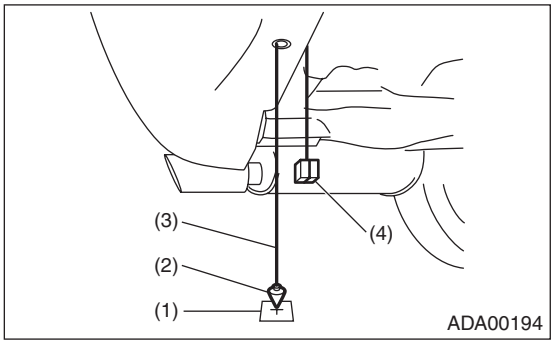


(1) Leveling line
(2) Plumb bob
(3) Point C
(4) License plate base
(5) Same distance

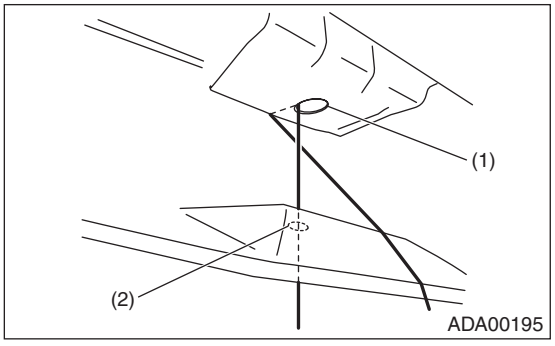
NOTE:
Stick the packing tape etc. on the floor, then make a marking on it.

6) Suspend the plumb bob with leveling line from rear center position of vehicle, and mark the position where the plumb bob touches the ground. (Point D)

(1) Remove the mounting clip located at center of the rear bumper.
(2) Thread the leveling line of plumb bob into the bumper mounting hole on body side.
(3) Attach the weight on the leveling line which is opposite end of the plumb bob.
(4) Adjust the length so that the point of the plumb bob may touch the ground.

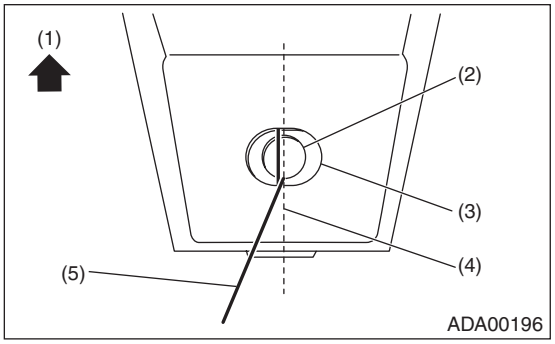


(1) Point D
(2) Plumb bob
(3) Leveling line
(4) Weight



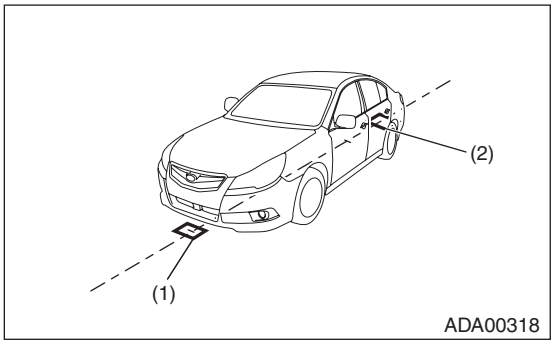
(1) Mounting hole on body side
(2) Mounting hole on bumper side

NOTE:
Confirm that the plumb bob has been suspended from the mounting hole center line on body side.



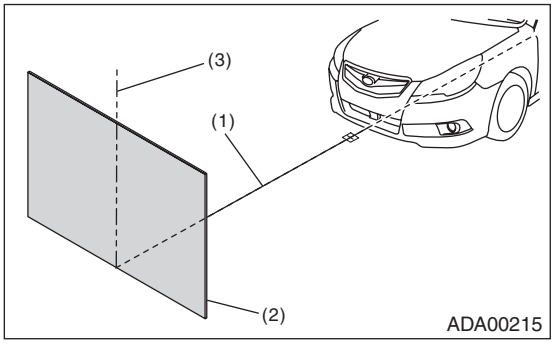
(1) Front side of vehicle
(2) Mounting hole on bumper side
(3) Mounting hole on body side
(4) Mounting hole center line on body side
(5) Leveling line of plumb bob

7) Strain the leveling line from the making point D through the marking point C to the wall, and fix it with packing tape. (C-D line)

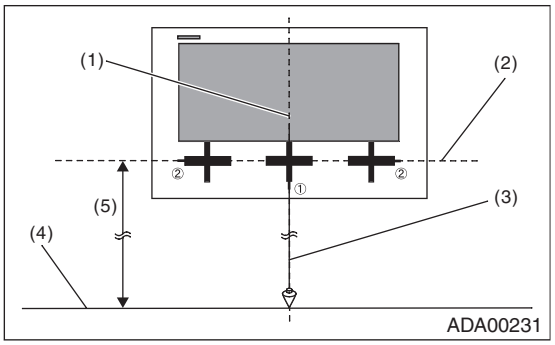


(1) Point C
(2) Point D

8) Using the plumb bob, attach the RANDOM CHART on the wall, so that the height from the floor to the cross mark (left and right) setting reference (horizontal line) is 1,004 mm (3.3 ft) while aligning the RANDOM CHART cross mark (center) setting reference (vertical line) to the vehicle body center line (leveling line).

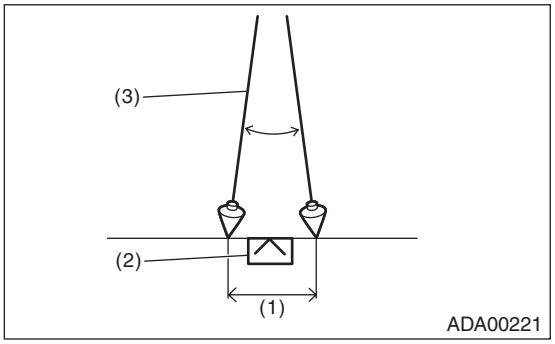


(1) Vehicle body center line (C-D line)
(2) Wall
(3) Setting reference (vertical line)



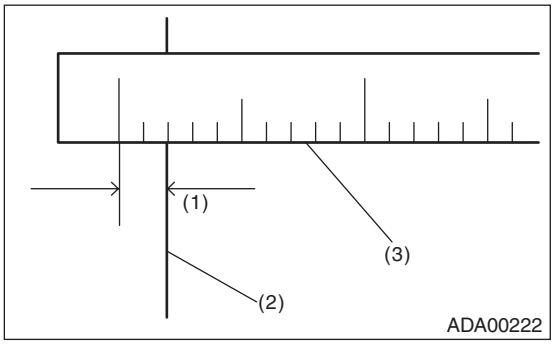
(1) ① = Setting reference (vertical line) and vehicle body center line (C-D line)
(2) ② = Setting reference (horizontal line)
(3) Plumb bob
(4) Floor
(5) 1,004 mm (3.3 ft)

CAUTION:
- **Centering accuracy of the plumb bob shall be ±4.0 mm (±0.16 in) or less.**



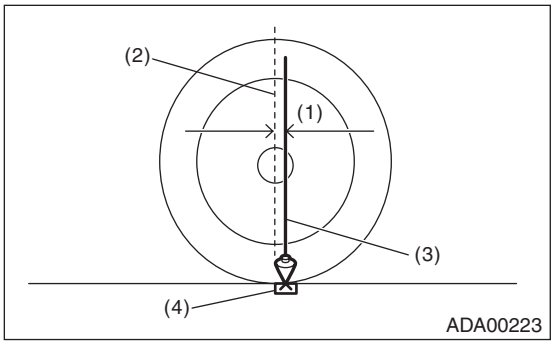
(1) ±4.0 mm (±0.16 in)
(2) Marking
(3) Plumb bob

- **Positioning accuracy of the measure shall be ±2.0 mm (±0.08 in) or less.**



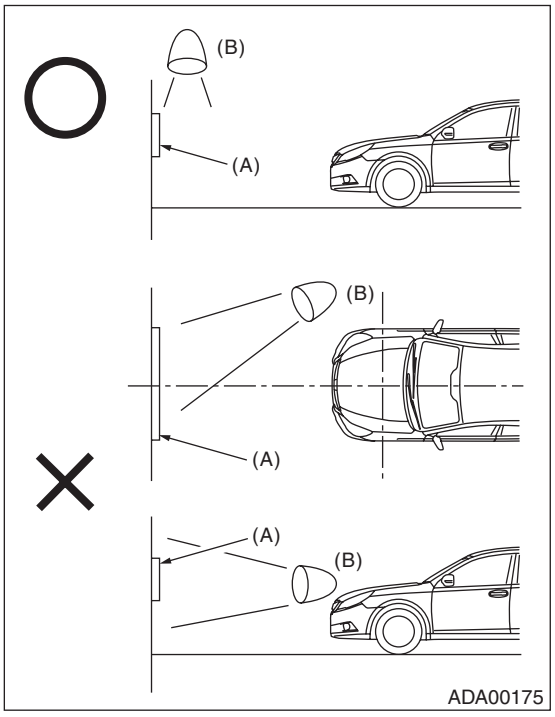
(1) ±2.0 mm (±0.08 in)
(2) Marking
(3) Measure

- **Centering accuracy of the tire shall be ±4.0 mm (±0.16 in) or less.**



(1) ±4.0 mm (±0.16 in)
(2) Tire center line
(3) Plumb bob
(4) Marking

- **Affix the RANDOM CHART onto the vertical wall with flat surface.**
- **Turn off the headlight.**
- **Remove the luggage from the vehicle.**
- **Perform the adjustment work at the level floor.**
- **Perform the adjustment work at lighted places. If the lighting is not enough, adjustment can not be done, and accuracy rate may not be acquired.**
- **Apply the lighting from the upper side of RANDOM CHART. (If the lighting is applied from the position where light reflects at RANDOM CHART, the adjustment can not be done, because the reflected light enters the camera.)**



(A) RANDOM CHART
(B) Lighting

- **The adjustment in the outdoors cannot be recommended. Note the sun position, when adjusting it in outdoor by necessity. (It is not acceptable when the sunlight comes from front or rear of the vehicle)**
- **Do not affix RANDOM CHART with lustrous tapes which may reflect the light.**

• **When the front tires are not directed to the straight ahead position even if the steering wheel is set to the center position, adjust the alignment.**

9) Turn the ignition switch to OFF.
10) Check the windshield glass and the dashboard. <Ref. to ES(diag)-8, WINDSHIELD GLASS AND DASHBOARD, INSPECTION, General Description.>

CAUTION:
If there are any dirt, object or reflection from dashboard within the visibility of stereo camera, or if the inner mirror is excessively moved and the object enters the visibility of the camera, the correct adjustment and inspection can not be performed. Especially, do not put paper etc. on the dashboard.
11) Connect the Subaru Select Monitor.

NOTE:
Use the Subaru Select Monitor equipped with the latest version of the software.
12) Turn the ignition switch to ON.
13) Wait for 10 seconds.
14) On «Main Menu» display, select {Each System Check}.
15) On «System Selection Menu» display, select {ADA adaptive cruise control system}.
16) Select {EyeSight (from 2009MY)} while pressing the camera cover mounted pre-collision brake OFF switch and lane departure warning OFF switch at the same time.

NOTE:
If {EyeSight (from 2009MY)} is selected without pressing two switches at the same time, {Camera adjustment, inspection} cannot be performed. (for preventing misoperation)
Also, the message is not displayed, when the camera does not finish the start-up (approx. 10 seconds after ignition switch ON). In that case, repeat from the selection of {EyeSight (from 2009MY)}.
17) On «EyeSight (from 2009MY)» display, select {Camera adjustment, inspection}, to perform the camera adjustment or inspection.

NOTE:
• When performing {Camera adjustment, inspection}, pre-collision brake OFF indicator light, lane departure warning OFF indicator light in the meter will illuminate, and the normal function will be disabled.
• After camera adjustment, the function will be enabled, when the ignition switch is turned to OFF and system is restarted.

2. ADJUSTMENT VALUE CLEAR

Perform when replacing stereo camera. (Do not perform when performing stereo camera re-adjustment and inspection)
1) On «Camera adjustment, inspection» display, select {Camera individual adjustment mode}.
2) On «Camera individual adjustment mode» display, select {Clear adjustment value}.
3) When «Perform camera adjustment/inspection. Press OK when the preparations have been made.» is displayed, if preparation is ready, select {OK}.
4) When «Clear the adjustment value.» is displayed, select {OK}.
5) When «Clearing adjustment value...» is displayed, wait until process finishes.
6) When the adjustment value clear is finished correctly, and «Adjustment value cleared OK!» is displayed, select {OK} to finish.
7) Turn the ignition switch to OFF and wait for approx. 5 seconds or more.

CAUTION:
If the ignition switch OFF period is short, the adjustment value clear can not be performed correctly.
8) Next, perform the camera all adjustment mode (replacement/removal). <Ref. to ES(diag)-58, CAMERA ALL ADJUSTMENT MODE (REPLACEMENT/REMOVAL), PROCEDURE, Camera Adjustment, Inspection.>

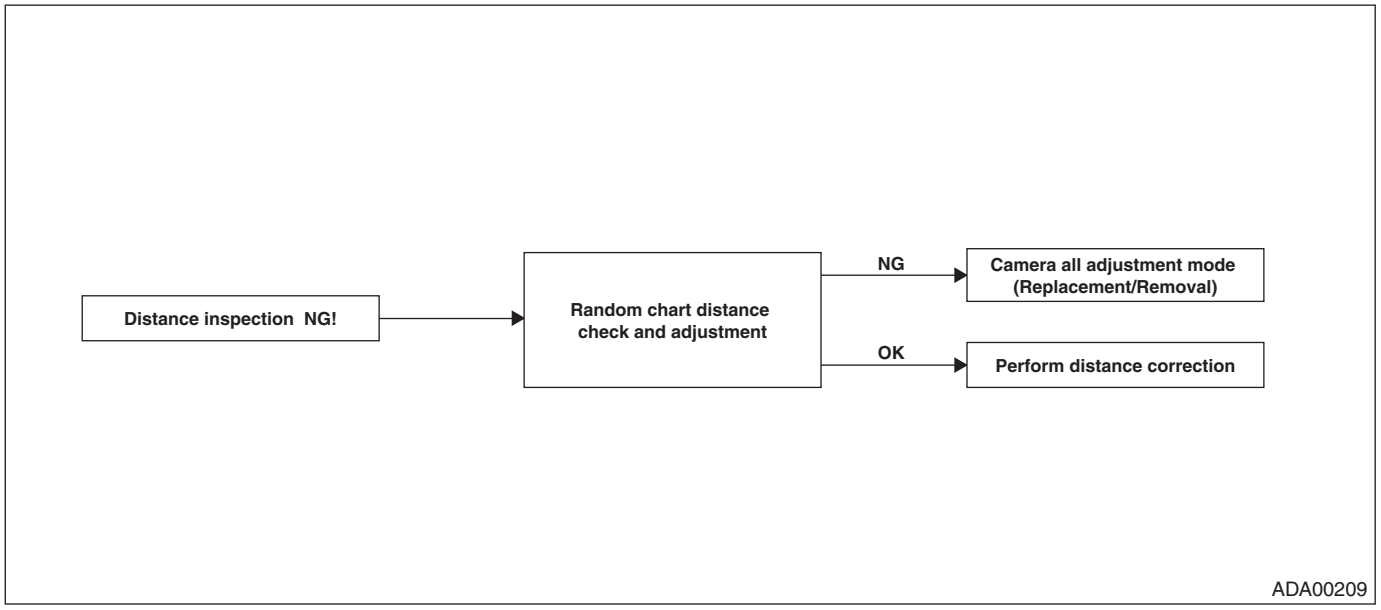
3. CAMERA ALL ADJUSTMENT MODE (REPLACEMENT/REMOVAL)

Perform this procedure when the stereo camera is replaced or re-adjustment is necessary (when stereo camera malfunctioning, when stereo camera reinstalled, when windshield glass replaced).

CAUTION:

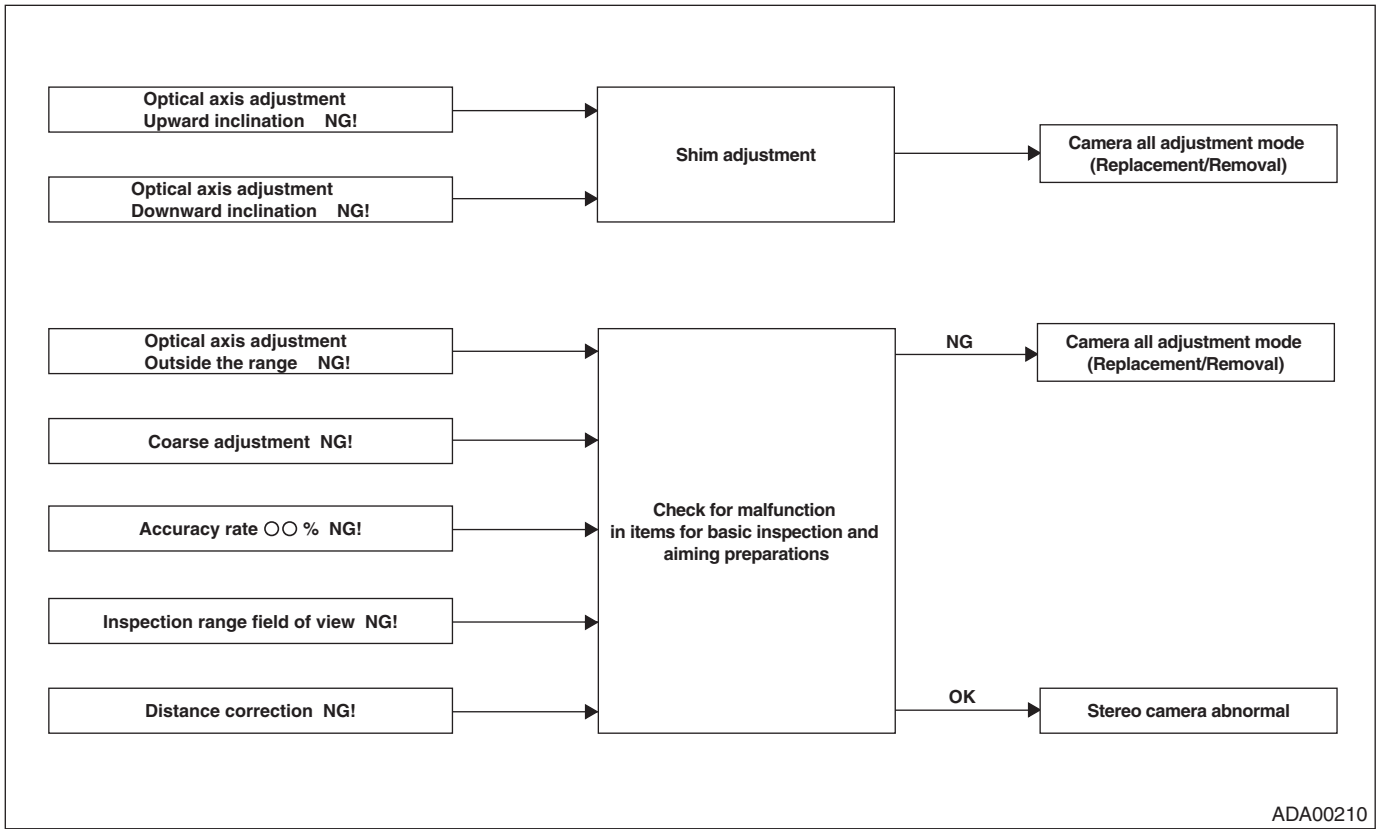
- **When the stereo camera is replaced, be sure to perform the {Clear adjustment value} first. When {Clear adjustment value} was skipped, restart the procedure from {Clear adjustment value} again. <Ref. to ES(diag)-57, ADJUSTMENT VALUE CLEAR, PROCEDURE, Camera Adjustment, Inspection.>**
- **Perform the camera adjustment and inspection at curb weight without passengers.**
- **When the camera all adjustment mode is performed, if the procedures are not completed correctly to the end, the warning light may illuminate, when the vehicle moves.**

1) On «Camera adjustment, inspection» display, select {Camera all adjustment mode (replacement/removal)}.
2) «Perform camera adjustment/inspection. Press OK when the preparations have been made.» will be displayed, if preparation is ready, select {OK}.
3) When «In process...» is displayed, wait until inspection finishes.
4) When the accuracy rate inspection is finished correctly, and «Accuracy rate ○○% OK!» is displayed, select {OK} to go to step 9).
5) When «Distance inspection NG!» is displayed, refer to the NOTE below.



NOTE:
Distance check and adjustment of RANDOM CHART<Ref. to ES(diag)-46, PREPARATIONS, PROCEDURE, Camera Adjustment, Inspection.>
6) When «Perform distance correction.» is displayed, select {OK}. When the distance correction is finished correctly, and «Distance correction OK!» is displayed, select {OK} and go to the accuracy rate inspection.
7) When «Perform accuracy rate inspection.» is displayed, select {OK}. When the accuracy rate inspection is finished correctly, and «Accuracy rate ○○% OK!» is displayed, select {OK} to go to the next step.

8) When «○○ NG!» is displayed during adjustment, refer to the NOTE below.



NOTE:
• Shim adjustment <Ref. to ES(diag)-60, SHIM ADJUSTMENT, PROCEDURE, Camera Adjustment, Inspection.>
• Basic inspection items <Ref. to ES(diag)-8, INSPECTION, General Description.>
• Aiming preparation items <Ref. to ES(diag)-46, PREPARATIONS, PROCEDURE, Camera Adjustment, Inspection.>

9) Turn the ignition switch to OFF and wait for 5 seconds. (time necessary to save adjustment and inspection result)

CAUTION:
If the ignition switch OFF period after adjustment and inspection finished is short, the adjustment and inspection result can not be saved correctly. The warning light may illuminate, when the vehicle moves.

10) Turn the ignition switch to ON, and confirm that [Aiming completion flag] of “Current Data Display & Save” is [Aiming completed] using the Subaru Select Monitor. (Note that it is different from [Initial aiming completion flag]) Or confirm that the [Model registration information] corresponds to the vehicle.

NOTE:
Even if [Aiming completion flag] is [Aiming completed], when no record is registered in [Model registration information], turn the ignition switch to off again, and wait for five seconds.

11) Perform the {Clear Memory}, and turn the ignition switch to OFF.

12) Next, perform the automatic adjustment and function check by driving. <Ref. to ES(diag)-60, AUTOMATIC ADJUSTMENT AND FUNCTION CHECK BY DRIVING, PROCEDURE, Camera Adjustment, Inspection.>

4. AUTOMATIC ADJUSTMENT AND FUNCTION CHECK BY DRIVING

NOTE:
• Perform the automatic adjustment and function check by driving to improve the recognition accuracy of stereo camera, when the stereo camera is replaced or re-adjusted, or the EyeSight function does not operate correctly.
• The automatic adjustment and function check by driving adjust the stereo camera more in detail, based on the stereo camera adjustment using RANDOM CHART.
1) Perform this procedure after finishing stereo camera adjustment and inspection.
2) On «ADA adaptive cruise control system» display, select {EyeSight (from 2009MY)}.
3) On «EyeSight (from 2009MY)» display, select {Current Data Display & Save}.
4) On «Current Data Display & Save» display, display the {Automatic adjustment status}. <Ref. to ES(diag)-22, OPERATION, Read Current Data.>
5) Drive the vehicle until [Automatic adjustment status] displays {1F}.
Drive the vehicle so that the distance from the preceding vehicle is 40 m or more.

Display	Remarks	Unit of measure	Note (at idling)
Automatic adjustment status	Index for automatic adjustment operation performed by the driving test after the completion of the optical axis adjustment	—	{1F} is displayed when completed.

NOTE:
• The time required until {1F} is displayed may be longer depending on the road condition etc.
• For new vehicles, {00} may be displayed. It is not necessary to drive the vehicle before delivery because high-accuracy aiming has been performed at vehicle shipment.
6) On {Current Data Display & Save} display, display [Lane recognition status] to check if any of the following appears.
• Right lane is recognized: 01
• Left lane is recognized: 10
• Right and left lane are recognized: 11

Display	Remarks	Unit of measure	Note (at idling)
Lane recognition status	Display of lane recognition status	—	Recognized when vehicle lane can be seen by 20 m or more.

7) On {Current Data Display & Save} display, display [Distance from leading vehicle] to check if the distance from the preceding vehicle is approximately the same.

5. SHIM ADJUSTMENT

1) Turn the ignition switch to OFF.
2) Detach the stereo camera cover, and remove the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>
3) Remove the stereo camera spacer, and insert the shim into the body and camera spacer.

NOTE:
• Inserting the shim (031105000) into the vehicle front side makes camera downward.
• Inserting the shim (031105000) into the vehicle rear side makes camera upward.
• There is a case that the shim may be inserted at the production line, but it is not abnormal.
4) Install the stereo camera spacer.

Tightening torque:
5.5±1.0 N·m (0.56±0.10 kgf-m, 4.1±0.7 ft-lb)
5) Install the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>
6) Perform the camera all adjustment mode (replacement/removal). <Ref. to ES(diag)-58, CAMERA ALL ADJUSTMENT MODE (REPLACEMENT/REMOVAL), PROCEDURE, Camera Adjustment, Inspection.>

6. CAMERA INITIALIZATION

This is a recovery measures prepared for the data failure caused by the low battery voltage during data storage to inside the stereo camera.

CAUTION:
Do not usually perform camera initialization because it will clear the aiming data and/or DTCs.
Perform the camera initialization only when the aiming result is NG even if the vehicle is placed correctly in the flowchart described in “A: Procedure”.
1) Turn the ignition switch to ON.
2) Wait for 10 seconds.
3) On Main Menu display, select {Each System Check}.
4) On «System Selection Menu», select {ADA adaptive cruise control system}.
5) Select «EyeSight (from 2009MY)».
6) Select {Clear Memory} while pressing the camera cover mounted pre-collision brake OFF switch and lane departure warning OFF switch at the same time.
7) Turn the ignition switch to OFF.
8) Wait for 5 seconds.
9) Next, perform the clear adjustment value. <Ref. to ES(diag)-57, ADJUSTMENT VALUE CLEAR, PROCEDURE, Camera Adjustment, Inspection.>

14.Diagnostics with Phenomenon

A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

1. ADAPTIVE CRUISE CONTROL, CONVENTIONAL CRUISE CONTROL

Phenomenon		Check Item	Reference
1	Cruise control main switch is not turned to ON. (CRUISE indicator light does not illuminate.) Or cruise control is cancelled without operating the cruise control command switch.	(1) Read the cancel code of the ECM.	Perform the diagnosis according to displayed cancel code. <Ref. to ES(diag)-90, ECM, LIST, List of Cancel Code.> If not displayed, go to (2).
		(2) Perform the real-time diagnosis. Check the input signal of cruise control system.	<Ref. to ES(diag)-42, Real-time Diagnosis.> When normal, go to (4). When abnormal, go to (3).
		(3) Check the cruise control command switch.	<Ref. to ES(diag)-76, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
		(4) Check the CRUISE indicator.	<Ref. to ES(diag)-75, CHECK ADAPTIVE CRUISE CONTROL INDICATOR LIGHT/CONSTANT SPEED CRUISE CONTROL INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
2	Cruise control cannot be set. Or cruise control is cancelled without releasing operation. NOTE: • Do not turn the ignition switch to OFF after the cruise control is deactivated. • Do not operate the cruise control command switch after the cruise control is deactivated. If the above is performed, the cancel code the ECM will be cleared.	(1) Read the cancel code of the ECM.	Perform the diagnosis according to displayed cancel code. <Ref. to ES(diag)-82, List of Cancel Code.> If not displayed, go to (2).
		(2) Perform the real-time diagnosis. Check the input signal of cruise control system.	<Ref. to ES(diag)-42, Real-time Diagnosis.> When normal, go to (6). When abnormal, go to the relevant items for (3), (4), (5).
		(3) Check the cruise control command switch.	<Ref. to ES(diag)-76, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
		(4) Check stop light switch and brake switch.	<Ref. to BR-58, Brake Pedal.> <Ref. to CC(diag)-18, 12, Diagnostic Procedure with Cancel Code.>
		(5) Check the neutral position switch.	<Ref. to CC(diag)-21, 14, Diagnostic Procedure with Cancel Code.> <Ref. to CC(diag)-27, 62, Diagnostic Procedure with Cancel Code.>
		(6) Check vehicle speed sensor.	<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>
3	SET indicator does not illuminate.	Check the SET indicator.	<Ref. to ES(diag)-75, CHECK ADAPTIVE CRUISE CONTROL INDICATOR LIGHT/CONSTANT SPEED CRUISE CONTROL INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
4	Vehicle speed is not held within set speed ±3 km/h (±2 MPH) on a level road.	Check the vehicle speed sensor.	<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>
5	Vehicle speed does not increase or does not return to set speed after RES/+ switch has been pressed.	(1) Perform the real-time diagnosis. Check the input signal of cruise control system.	<Ref. to ES(diag)-42, Real-time Diagnosis.> When abnormal, go to (2).
		(2) Check the RES/+ switch.	<Ref. to ES(diag)-76, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
6	Vehicle speed does not decrease after SET/– switch has been pressed.	(1) Perform the real-time diagnosis. Check the input signal of cruise control system.	<Ref. to ES(diag)-42, Real-time Diagnosis.> When abnormal, go to (2).
		(2) Check the SET/– switch.	<Ref. to ES(diag)-76, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>

Phenomenon		Check Item	Reference
7	Cruise control is not released after CANCEL switch has been pressed.	(1) Perform the real-time diagnosis. Check the input signal of cruise control system.	<Ref. to ES(diag)-42, Real-time Diagnosis.> When abnormal, go to (2).
		(2) Check the CANCEL switch.	<Ref. to ES(diag)-76, CHECK CRUISE CONTROL COMMAND SWITCH, Diagnostics with Phenomenon.>
8	Cruise control is not released after brake pedal has been depressed.	(1) Perform the real-time diagnosis. Check the input signal of cruise control system.	<Ref. to ES(diag)-42, Real-time Diagnosis.> When abnormal, go to (2).
		(2) Check stop light switch and brake switch.	<Ref. to CC(diag)-18, 12, Diagnostic Procedure with Cancel Code.> <Ref. to BR-65, INSTALLATION, Stop Light Switch.>
9	Cruise control is not released after shifting to the neutral position.	(1) Perform the real-time diagnosis. Check the input signal of cruise control system.	<Ref. to ES(diag)-42, Real-time Diagnosis.> When abnormal, go to (2).
		(2) Check the neutral position switch.	<Ref. to CC(diag)-21, 14, Diagnostic Procedure with Cancel Code.>

Phenomenon		Check Item	Reference
10	Acceleration or deceleration does not occur according to the preceding vehicle. The preceding vehicle is difficult to be detected. Braking force is weaker than usual. Alarm for requiring more brake pedal force does not sound.	(1) Using CHECK LIST (ADAPTIVE CRUISE CONTROL), check the condition and respond to it. 1) Is this applied to the condition that the use of adaptive cruise control is not desired? 2) Is this applied to the object or condition that is hard to be recognized by the stereo camera? 3) Is this applied to the driving condition that the preceding vehicle cannot be recognized or the vehicle on the next lane or the object on the roadside may be recognized by mistake? 4) Is this applied to the condition that brake force may become poor? 5) Is this applied to the condition that the alarm for requiring more brake pedal force does not sound even in a short vehicle distance?	<Ref. to ES(diag)-69, CHECK LIST (ADAPTIVE CRUISE CONTROL), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, go to (2).
		(2) Check the windshield glass and dashboard.	<Ref. to ES(diag)-8, WINDSHIELD GLASS AND DASHBOARD, INSPECTION, General Description.> When normal, go to (3).
		(3) Check the front wiper.	<Ref. to ES(diag)-12, FRONT WIPER, INSPECTION, General Description.> When normal, go to (4).
		(4) Check the stereo camera.	<Ref. to ES(diag)-13, STEREO CAMERA, INSPECTION, General Description.> When normal, go to (5).
		(5) Bleed air from brake system.	<Ref. to BR-52, BRAKE LINE, PROCEDURE, Air Bleeding.> When normal, go to (6).
		(6) Check the optical axis of the stereo camera.	Adjust the optical axis of the stereo camera. <Ref. to ES(diag)-45, PROCEDURE, Camera Adjustment, Inspection.>

2. PRE-COLLISION BRAKE, AT RAPID START PREVENTION CONTROL

Phenomenon		Check Item	Reference
1	Pre-collision brake does not operate. Or the pre-collision brake operates, but the vehicle cannot stop safely before collision. Or the pre-collision brake is released automatically. Or the pre-collision brake assist does not operate.	(1) Check that the pre-collision brake OFF indicator light goes off.	If this indicator light illuminates, the operation is not performed.
		(2) Using check list (pre-collision brake), check the following and respond to it. 1) Is this applied to the condition that the pre-collision brake does not operate, or there is a high possibility that the vehicle cannot stop safely before collision with the pre-collision brake? 2) Is this applied to the condition that there is a high possibility that the pre-collision brake does not operate due to the recognition status of the stereo camera? 3) Is this applied to the condition that the system does not operate correctly and the turning OFF of the pre-collision brake is desired? 4) Is this applied to the condition that the pre-collision brake OFF indicator light illuminates?	<Ref. to ES(diag)-71, CHECK LIST (PRE-COLLISION BRAKE), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
2	Pre-collision brake operates improperly. Or the pre-collision brake is not released. Or the pre-collision brake assist operates improperly.	(1) Using check list (pre-collision brake), check the following and respond to it. 1) Is this applied to the condition that the turning OFF of the pre-collision brake is desired? 2) Is this applied to the condition that the pre-collision brake may operate?	<Ref. to ES(diag)-71, CHECK LIST (PRE-COLLISION BRAKE), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
3	Pre-collision brake OFF indicator light does not go off. Or the pre-collision brake OFF indicator light illuminates automatically.	(1) Check that this failure occurs during engine start.	Light illumination for a while after the engine start is a normal.
		(2) Using the SSM, check that the system is not in the HALT condition with the cancel code.	If the cancel code is displayed, check the diagnosis contents from the List of Cancel Code, and perform the corresponding operations. <Ref. to ES(diag)-82, List of Cancel Code.> If the cancel code is not displayed, go to (3).
		(3) Check the pre-collision brake OFF switch.	<Ref. to ES(diag)-112, DTC B28B0 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
4	Pre-collision brake OFF indicator light does not illuminate. Or the pre-collision brake OFF indicator light goes off automatically.	(1) Check that this failure occurs during engine start.	Even if the pre-collision brake is turned off, it is turned on again when the engine switch is turned off and the engine has restarted.
		(2) Check the pre-collision brake OFF switch.	<Ref. to ES(diag)-112, DTC B28B0 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Phenomenon		Check Item	Reference
5	AT rapid start prevention control does not operate. Or the AT rapid start prevention control is released automatically.	(1) Check that the pre-collision brake OFF indicator light goes off.	If this indicator light illuminates, the operation is not performed.
		(2) Using check list (at rapid start prevention control), check the following and respond to it. 1) Is this applied to the condition that the AT rapid start prevention control may not operate? 2) Is this applied to the condition that the pre-collision brake OFF indicator light illuminates?	<Ref. to ES(diag)-73, CHECK LIST (AT RAPID START PREVENTION CONTROL), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
6	AT rapid start prevention control operates improperly. Or the AT rapid start prevention control is not released.	(1) Using check list (at rapid start prevention control), check the following and respond to it. 1) Is this applied to the condition that the turning OFF of the AT rapid start prevention control is desired? 2) Is this applied to the condition that the AT rapid start prevention control may operate?	<Ref. to ES(diag)-73, CHECK LIST (AT RAPID START PREVENTION CONTROL), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.

3. LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION

Phenomenon		Check Item	Reference
1	Lane departure warning does not operate. Or the lane departure warning is released automatically.	(1) Check that the lane departure warning OFF indicator light goes off.	If this indicator light illuminates, the operation is not performed.
		(2) Using check list (lane departure warning, sway warning, forward vehicle's start monitoring function), check the following and respond to it. 1) Is this applied to the condition that the lane departure warning does not operate or is difficult to operate? 2) Is this applied to the condition that the lane departure warning OFF indicator light illuminates?	<Ref. to ES(diag)-74, CHECK LIST (LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
2	Lane departure warning operates improperly. Or the lane departure warning is not released.	(1) Using check list (lane departure warning, sway warning, forward vehicle's start monitoring function), check the following and respond to it. 1) Is this applied to the condition that the vehicle lane is recognized erroneously and the lane departure warning may operate?	<Ref. to ES(diag)-74, CHECK LIST (LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
3	Lane departure warning OFF indicator light does not go off. Or the lane departure warning OFF indicator light illuminates automatically.	(1) Check that this failure occurs during engine start.	Even if the lane departure warning is turned off, it is turned on again when the engine switch is turned off and the engine has restarted.
		(2) Using the SSM, check that the system is not in the HALT condition with the cancel code.	If the cancel code is displayed, check the diagnosis contents from the List of Cancel Code, and perform the corresponding operations. <Ref. to ES(diag)-82, List of Cancel Code.> If the cancel code is not displayed, go to (3).
		(3) Check the lane departure warning OFF indicator light.	<Ref. to ES(diag)-112, DTC B28B0 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
4	Lane departure warning OFF indicator light does not illuminate. Or the lane departure warning OFF indicator light goes off automatically.	(1) Check that this failure occurs during engine start.	Even if the lane departure warning is turned off, it is turned on again when the engine switch is turned off and the engine has restarted.
		(2) Check the lane departure warning OFF indicator light.	<Ref. to ES(diag)-112, DTC B28B0 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Phenomenon		Check Item	Reference
5	Sway warning does not operate. Or the sway warning is released automatically.	(1) Check that the lane departure warning OFF indicator light goes off.	If this indicator light illuminates, the operation is not performed.
		(2) Using check list (lane departure warning, sway warning, forward vehicle's start monitoring function), check the following and respond to it. 1) Is this applied to the condition that the sway warning may not operate? 2) Is this applied to the condition that the lane departure warning OFF indicator light illuminates?	<Ref. to ES(diag)-74, CHECK LIST (LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
6	Sway warning operates improperly. Or the sway warning is not released.	(1) Using check list (lane departure warning, sway warning, forward vehicle's start monitoring function), check the following and respond to it. 1) Is this applied to the condition that the sway warning may operate improperly?	<Ref. to ES(diag)-74, CHECK LIST (LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
7	Forward vehicle's start monitoring function does not operate. Or the forward vehicle's start monitoring function is released automatically.	(1) Using check list (lane departure warning, sway warning, forward vehicle's start monitoring function), check the following and respond to it. 1) Is this applied to the condition that the forward vehicle's start monitoring function does not operate even when the preceding vehicle has already started?	<Ref. to ES(diag)-74, CHECK LIST (LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.
8	Forward vehicle's start monitoring function operates improperly. Or the forward vehicle's start monitoring function is not released.	(1) Using check list (lane departure warning, sway warning, forward vehicle's start monitoring function), check the following and respond to it. 1) Is this applied to the condition that the forward vehicle's start monitoring function operates even when the preceding vehicle has not yet started?	<Ref. to ES(diag)-74, CHECK LIST (LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> When there is a relevant item in the check list, it can be the cause of malfunction. Eliminate the cause, and check that the malfunction has been improved. If not solved, the stereo camera may be malfunctioning.

4. CHECK LIST (ADAPTIVE CRUISE CONTROL)

Item Name			Yes/No	
[1]: When the vehicle does not accelerate or decelerate according to the preceding vehicle, or when it is difficult to detect the preceding vehicle.				
1	Check that the following are applied to the condition that the use of adaptive cruise control is not desired.			
	1	Tire pressure is not correct.	Yes	No
	2	The vehicle is equipped with the temporary spare tire.	Yes	No
	3	The vehicle is equipped with worn tire or tires with excessive wear difference.	Yes	No
	4	The vehicle is equipped with the tires out of specification.	Yes	No
	5	The flat tire is repaired using the temporary repair kit.	Yes	No
	6	The suspension has been modified.	Yes	No
	7	The vehicle is equipped with the tire chain.	Yes	No
	8	Headlight is dirty or the optical axis is deviated. (The vehicle cannot correctly emit the headlight beam against the object and recognize it.)	Yes	No
	9	The driving status of own vehicle is unstable due to an accident or failure.	Yes	No
	10	The brake warning light illuminates.	Yes	No
	11	When the vehicle is tilted by the heavy load or when the passenger capacity is exceeded.	Yes	No
	12	The vehicle is towing the trailer or other vehicle.	Yes	No
	13	The vehicle drives on the general road (other than limited highway). (Depending on the road environment (complicated roads etc.), the vehicle may not be able to drive according to the traffic condition, which may lead to the traffic accident.)	Yes	No
	14	The vehicle drives on the sharp bend.	Yes	No
	15	The vehicle drives on the slippery roads such as icy road or snow-covered road. (Tires can spin, losing the vehicle control.)	Yes	No
	16	The vehicle drives under the traffic condition that the certain vehicle distance is difficult to be maintained due to frequent acceleration and deceleration. (The vehicle may not be able to drive according to the traffic condition.)	Yes	No
	17	There is a steep downhill. (The vehicle may drive at higher speed than the set vehicle speed.)	Yes	No
	18	The vehicle performs adaptive driving while recognizing the preceding vehicle on the steep downhills. (Brake can be overheated.)	Yes	No
	19	The vehicle drives on the road with repeated steep uphills and downhills or crossover. (The vehicle may not be able to recognize the preceding vehicle or may recognize the road surface, and appropriate control may not be performed.)	Yes	No
	20	The vehicle is entering the interchange, service area, parking area, junction or tollgate. (The vehicle may not be able to recognize the preceding vehicle.)	Yes	No
	21	When the surrounding brightness (such as inlet and outlet of a tunnel) suddenly changes.	Yes	No
	22	There are water, snow or sandy dust raised by the preceding vehicle or oncoming vehicle, or sand or smoke blown in the wind, or moisture in front of own vehicle. (The vehicle may not be able to recognize the preceding vehicle or may recognize the water, and appropriate control may not be performed.)	Yes	No
	23	The windshield glass is covered with fog, snow, dirt, frost or sandy dust.	Yes	No
	24	The raindrops, water drops or dirt on the windshield glass are not wiped off sufficiently. (The vehicle may not be able to recognize the preceding vehicle, and appropriate control may not be performed.)	Yes	No
	25	Canoes etc. loaded on the roof block the visibility of the stereo camera.	Yes	No

		Item Name	Yes/No	
2	Check that the following are applied to the object or condition that is hard to be recognized by the stereo camera.			
	1	That was a vehicle with large speed difference (low-speed driving vehicle, stopping vehicle, oncoming vehicle).	Yes	No
	2	That was a cutting-in vehicle.	Yes	No
	3	That was a motorcycle, bicycle, pedestrian or animal, etc.	Yes	No
	4	It was dim in the evening or in the morning.	Yes	No
	5	The headlight did not illuminate during nighttime hours or inside the tunnel.	Yes	No
	6	The tail light of the preceding vehicle did not illuminate during nighttime hours or inside the tunnel.	Yes	No
	7	The vehicle was exposed to the intense light (backlight such as sunlight or headlight high-beam light) from the front of the vehicle.	Yes	No
	8	The rearmost surface of the preceding vehicle was small, low or uneven. That was a truck equipped with an unloaded platform without gate, a vehicle that the luggage was protruding from the rear end of the vehicle, a vehicle of special shape (carrier car, side car, etc.) or a vehicle with low vehicle height.	Yes	No
	9	There was an object extremely close to the bumper of the own vehicle.	Yes	No
3	Check that the following are applied to the driving condition that the preceding vehicle cannot be recognized or the vehicle on the next lane or the object on the roadside may be recognized by mistake.			
	1	The vehicle began adaptive cruise control from the condition that the vehicle distance was short immediately after the preceding vehicle was cut in.	Yes	No
	2	The vehicle drove on the curve, outlet and inlet of the curve, or the road with many curves in succession. (Recognition may not be performed properly, because the preceding vehicle is out of recognition area.)	Yes	No
	3	The position against the preceding vehicle deviated laterally.	Yes	No
	4	There were some objects just near the road side.	Yes	No
	5	The speed difference against the preceding vehicle was large.	Yes	No
	6	Other vehicle cut ahead of the own vehicle.	Yes	No
	7	The vehicle distance was extremely short.	Yes	No
	8	The own vehicle swayed in the vehicle lane.	Yes	No
	9	The road surface was uneven due to roll or unpaved track.	Yes	No
	10	The vehicle drove on the narrow lane because of the lane closure or construction work.	Yes	No
	11	The driving of own vehicle was unstable due to an accident or failure.	Yes	No
	12	The own vehicle was loaded with the extremely heavy load in the luggage compartment or on the rear seat.	Yes	No
[2]: When braking force is weaker than usual.				
1	Check that the following are applied to the condition that brake force may become poor.			
	1	The vehicle status (loading amount, passenger, etc.) was inappropriate.	Yes	No
	2	The road surface was very steep, slippery, sharp turn, or uneven.	Yes	No
	3	The service maintenance condition of the vehicle (brake system, tire wear, tire pressure, spare tire, etc.) was inappropriate.	Yes	No
	4	The brake was cold at low ambient temperature or immediately after the driving had started.	Yes	No
	5	The symptom occurred between immediately after engine started and after a while the vehicle started driving (Completion of warming up operation can be used as an indication.).	Yes	No
	6	The brake force becomes poor due to the overheating of the brake on the downhills.	Yes	No
	7	The brake force becomes poor because of the wet brake after driving onto the puddle or washing the vehicle.	Yes	No
[3]: When the alarm for requiring more brake pedal force does not sound.				
1	Check that the following are applied to the condition that the alarm for requiring more brake pedal force does not sound even in a short vehicle distance.			
	1	The relative speed to the preceding vehicle (when the vehicle speed of the own vehicle was approximately the same as that of the preceding vehicle) was small.	Yes	No
	2	The vehicle speed of the preceding vehicle was faster than that of the own vehicle (when the vehicle distance was getting longer).	Yes	No
	3	Other vehicle cut in extremely close to the own vehicle.	Yes	No
	4	The preceding vehicle decelerated abruptly.	Yes	No
	5	There are many continuous uphills and downhills.	Yes	No

5. CHECK LIST (PRE-COLLISION BRAKE)

Item Name			Yes/No	
[1]: When pre-collision brake did not operate, or when vehicle could not stop safely before collision in spite of pre-collision brake operation.				
1	Check that the following are applied to the condition that the pre-collision brake does not operate, or there is a high possibility that the vehicle cannot stop safely before collision in spite of pre-collision brake operation.			
	1	The following conditions occurred. Vehicle speed difference in the preceding was small. Vehicle distance was long. Lateral deviation was large (offset amount).	Yes	No
	2	The vehicle status (loading amount, number of passenger, etc.) was inappropriate.	Yes	No
	3	The road surface was very steep, slippery, sharp turn, or uneven.	Yes	No
	4	There was problem for the frontal visibility (rain, snow, fog, smoke, etc.).	Yes	No
	5	The target was not a vehicle. (motorcycle, bicycle, pedestrian, livestock, animals, guardrail, telephone pole, tree, fence, wall, etc.)	Yes	No
	6	Crash avoidance operation (accelerator pedal, brake pedal, steering wheel, etc.) was performed.	Yes	No
	7	The service maintenance condition of the vehicle (brake system, tire wear, tire pressure, spare tire, etc.) was inappropriate.	Yes	No
	8	The vehicle is towing the trailer or other vehicle.	Yes	No
	9	The brake was cold at low ambient temperature or immediately after the driving had started.	Yes	No
	10	The brake force becomes poor due to the overheating of the brake on the downhills.	Yes	No
	11	The brake force becomes poor because of the wet brake after driving onto the puddle or washing the vehicle.	Yes	No
2	Check that the following are applied to the condition that there is a high possibility that the pre-collision brake does not operate depending on the recognition status of the stereo camera.			
	1	It was bad weather (heavy rain, snowstorm, dense fog).	Yes	No
	2	The field of view was insufficient due to water, snow or sandy dust raised by the preceding vehicle or oncoming vehicle, or the moisture, sand or smoke blown in the wind.	Yes	No
	3	The headlight did not illuminate during nighttime hours or inside the tunnel.	Yes	No
	4	The tail light of the preceding vehicle did not illuminate during nighttime hours or inside the tunnel.	Yes	No
	5	The vehicle approached the motorcycle, bicycle or pedestrian in the night.	Yes	No
	6	It was dark in the evening or in the morning.	Yes	No
	7	The rearmost surface of the preceding vehicle was small, low or uneven. That was a truck equipped with an unloaded platform without gate, a vehicle that the luggage was protruding from the rear end of the vehicle, a vehicle of special shape (carrier car, side car, etc.) or a vehicle with low vehicle height.	Yes	No
	8	There was a wall in front of the stopping vehicle.	Yes	No
	9	There was an object close to the vehicle.	Yes	No
	10	That was a vehicle stopped sideways.	Yes	No
	11	That was a vehicle which was oncoming or driving in reverse.	Yes	No
	12	The object was small seen from the stereo camera. (small animals, infants, person squatting down or lying down)	Yes	No
	13	The preceding vehicle made a sharp turn, or performed abrupt acceleration or deceleration.	Yes	No
	14	Other vehicle, motorcycle, bicycle or pedestrian existed extremely close to the bumper of the own vehicle, or approached them with very small speed difference.	Yes	No
	15	The speed difference was 5 km/h (3.1 MPH) or less. (The control is performed in close distance. Depending on the objects shape and size, the rear end surface may be outside the camera visibility area.)	Yes	No
	16	Other vehicle, motorcycle, bicycle or pedestrian cut in from the side or jumped in front of the own vehicle.	Yes	No
	17	The own vehicle changed the vehicle lane, and followed the preceding vehicle right behind.	Yes	No
	18	The vehicle was exposed to the intense light (backlight such as sunlight or headlight high-beam light) from the front of the vehicle.	Yes	No
	19	The windshield glass was covered with fog, snow, dirt, frost or sandy dust.	Yes	No
	20	The windshield glass has not yet been wiped off sufficiently during or after the use of the window washer.	Yes	No
	21	The recognition of the object was imperfect due to the raindrop or droplet of the window washer or the wiper blade blocking the visibility of the stereo camera.	Yes	No

		Item Name	Yes/No	
2	22	Canoes etc. loaded on the roof blocked the visibility of the stereo camera.	Yes	No
	23	Other vehicle, motorcycle, bicycle or pedestrian existed out of the illuminating area of the headlight. (The vehicle cannot correctly emit the headlight beam against the object and recognize it.)	Yes	No
	24	The vehicle drove on the sharp turn, steep uphills or steep downhills.	Yes	No
	25	The road surface was uneven due to roll or unpaved track.	Yes	No
	26	The vehicle passed through the outlet or inlet of a tunnel.	Yes	No
	27	The object was a fence or wall with even pattern (striped pattern or bricks) or unpatterned surface.	Yes	No
	28	The object was a plate of glass, mirror wall or door.	Yes	No
3	Check that the following are applied to the condition that the system does not operate correctly and the turning OFF of the pre-collision brake is desired.			
	1	Tire pressure is not correct.	Yes	No
	2	The vehicle is equipped with the temporary spare tire.	Yes	No
	3	The vehicle is equipped with worn tire or tires with excessive wear difference.	Yes	No
	4	The vehicle is equipped with the tires out of specification.	Yes	No
	5	The flat tire is repaired using the temporary repair kit.	Yes	No
	6	The suspension has been modified.	Yes	No
	7	The vehicle is equipped with the tire chain.	Yes	No
	8	Headlight is dirty or the optical axis is deviated.	Yes	No
	9	The driving status of own vehicle is unstable due to an accident or failure.	Yes	No
	10	The brake warning light illuminates.	Yes	No
	11	Vehicle is tilted by the heavy load. Or, passenger capacity is exceeded.	Yes	No
4	Check that the following are applied to the condition that the pre-collision brake OFF indicator light illuminates. (When the pre-collision brake OFF indicator light illuminates, the pre-collision brake does not operate.)			
	1	The pre-collision brake is turned off, using the pre-collision brake OFF switch.	Yes	No
	2	The VDC operation is stopped by pressing the VDC OFF switch.	Yes	No
	3	Approximately for 7 seconds after the engine has started.	Yes	No
	4	EyeSight is malfunctioning.	Yes	No
	5	EyeSight is stopped temporarily.	Yes	No
[2]: When pre-collision brake operated improperly.				
1	Check that the following are applied to the condition that the turning OFF of the pre-collision brake is desired.			
	1	The vehicle is towed.	Yes	No
	2	The vehicle is loaded on the carrier car.	Yes	No
	3	The chassis dynamometer or free roller is used.	Yes	No
	4	The vehicle is lifted up, engine is started and the tire is spun.	Yes	No
	5	The vehicle passes through the banners, flags, drooping branches or grass while making contact with them.	Yes	No
	6	The vehicle performs sporty driving on the circuit.	Yes	No
	7	When the vehicle uses the movable type car wash machine.	Yes	No
2	Check that the following are applied to the condition that the pre-collision brake may operate.			
	1	The vehicle passes through the ETC gate at a speed exceeding the specification.	Yes	No
	2	The vehicle drives close to the preceding vehicle.	Yes	No
	3	The vehicle drives on the place where the road surface gradient changed suddenly.	Yes	No
	4	The vehicle passes through the moisture or mass of smoke.	Yes	No
	5	When the exhaust gas emitted from the preceding vehicle is visible clearly at cold weather.	Yes	No
	6	There is an obstacle on the curve or crossing.	Yes	No
	7	The vehicle passes through close to other vehicle or obstacle.	Yes	No
	8	The vehicle parks close to the wall in front or to other vehicle.	Yes	No

6. CHECK LIST (AT RAPID START PREVENTION CONTROL)

Item name			Yes/No	
[1]: When AT rapid start prevention control did not operate.				
1	Check that the following are applied to the condition that the AT rapid start prevention control may not operate.			
	1	The following conditions occur. Distance from the front object is long. Vehicle speed difference is small. Lateral deviation is large (offset amount).	Yes	No
	2	It was bad weather (heavy rain, snowstorm, dense fog).	Yes	No
	3	The visibility was insufficient due to sand or smoke blown in the air.	Yes	No
	4	The vehicle approached the obstacle in the evening, in the morning or in the night.	Yes	No
	5	The vehicle approached the obstacle in the dark place (e.g. closed-in parking lot).	Yes	No
	6	The height of the obstacle was low. (low wall, low guardrail, vehicle with low height etc.)	Yes	No
	7	The object was small seen from the stereo camera. (small animals, infants, person squatting down or lying down)	Yes	No
	8	The obstacle or rearmost area of the preceding vehicle (trailer, etc.) was small. Or the vehicle approached them too close.	Yes	No
	9	The obstacle such as other vehicle, motorcycle, bicycle or pedestrian cut in from the side or jumped in front of the own vehicle.	Yes	No
	10	The own vehicle changed the vehicle lane when it started, and approached right behind the obstacle.	Yes	No
	11	The vehicle was exposed to the intense light (backlight such as sunlight or headlight high-beam light) from the front of the vehicle.	Yes	No
	12	The windshield glass was covered with fog, snow, dirt, frost or sandy dust.	Yes	No
	13	The windshield glass has not yet been wiped off sufficiently during or after the use of the window washer.	Yes	No
	14	The recognition of the object was imperfect due to the raindrop or droplet of the window washer or the wiper blade blocking the visibility of the stereo camera.	Yes	No
	15	Canoes etc. loaded on the roof blocked the visibility of the stereo camera.	Yes	No
	16	The obstacle existed out of the illuminating area of the headlight.	Yes	No
	17	The vehicle drove on the sharp turn, steep uphills or steep downhills.	Yes	No
	18	The object was a fence or wall with even pattern (striped pattern or bricks) or unpatterned surface.	Yes	No
	19	The object was a plate of glass, mirror wall or door.	Yes	No
	20	Crash avoidance operation (accelerator pedal, brake pedal, steering wheel, etc.) was performed.	Yes	No
2	Check that the following are applied to the condition that the pre-collision brake OFF indicator light illuminates. (When pre-collision brake OFF indicator light illuminates, the AT rapid start prevention control does not operate.)			
	1	The pre-collision brake was turned off, using the pre-collision brake OFF switch.	Yes	No
	2	The VDC operation is stopped by pressing the VDC OFF switch.	Yes	No
	3	Approximately for 7 seconds after the engine has started.	Yes	No
	4	EyeSight is malfunctioning.	Yes	No
	5	EyeSight is stopped temporarily.	Yes	No
[2]: When AT rapid start prevention control malfunctioned.				
1	Check that the following are applied to the condition that the turning OFF of the AT rapid start prevention control is desired.			
	1	The vehicle is towed.	Yes	No
	2	The vehicle is loaded on the carrier car.	Yes	No
	3	The chassis dynamometer or free roller is used.	Yes	No
	4	The vehicle is lifted up, engine is started and the tire is spun.	Yes	No
	5	The vehicle passes through the banners, flags, drooping branches or grass while making contact with them.	Yes	No
	6	The vehicle performs sporty driving on the circuit.	Yes	No

		Item name	Yes/No	
2	Check that the following are applied to the condition that the AT rapid start prevention control may operate.			
	1	The vehicle passes through the ETC gate at a speed exceeding the specification.	Yes	No
	2	The vehicle drives close to the preceding vehicle.	Yes	No
	3	The vehicle drives on the place where the road surface gradient changed suddenly.	Yes	No
	4	The vehicle passes through the moisture or mass of smoke.	Yes	No
	5	There is an obstacle on the curve or crossing.	Yes	No
	6	The vehicle passes through close to other vehicle or obstacle.	Yes	No
	7	The vehicle parks close to the wall in front or to other vehicle.	Yes	No

7. CHECK LIST (LANE DEPARTURE WARNING, SWAY WARNING, FORWARD VEHICLE'S START MONITORING FUNCTION)

		Item name	Yes/No	
[1]: When lane departure warning did not operate.				
1	Check that the following are applied to the condition that the lane departure warning does not operate or is difficult to operate.			
	1	The lane departure warning is turned off.	Yes	No
	2	The vehicle speed of the own vehicle is approximately less than 50 km/h (31 MPH).	Yes	No
	3	That was approximately 7 seconds period after the lane departure warning had occurred once.	Yes	No
	4	The steering wheel was turned fully or rapidly.	Yes	No
	5	The brake pedal is depressed.	Yes	No
	6	The vehicle is accelerated by depressing the accelerator pedal.	Yes	No
	7	The vehicle distance from the preceding vehicle is short.	Yes	No
	8	That was approximately 7 seconds period while the turn signal indicator was operating or after the lever was returned.	Yes	No
	9	The vehicle has not returned inside the vehicle lane after the operation of the lane departure warning.	Yes	No
	10	The width of the vehicle lane is narrow.	Yes	No
	11	The vehicle lane is difficult to be recognized seen from the stereo camera. (Partition line (white line, etc.) does not exist or is disappearing. Or the color of the partition line is very similar to that of the road surface, and difficult to be seen. Or the width of the partition line is very thin.)	Yes	No
	12	The preceding vehicle performed crash avoidance action to avoid the obstacle, and the own vehicle performed steering operation after the preceding vehicle.	Yes	No
2	Check that the following are applied to the condition that the lane departure warning OFF indicator light illuminates. (When the lane departure warning OFF indicator light illuminates, the lane departure warning does not operate.)			
	1	The lane departure warning is turned off, using the lane departure warning OFF switch.	Yes	No
	2	The VDC operation is stopped by pressing the VDC OFF switch.	Yes	No
	3	Approximately for 7 seconds after the engine has started.	Yes	No
	4	EyeSight is malfunctioning.	Yes	No
	5	EyeSight is stopped temporarily.	Yes	No
[2]: When lane departure warning malfunctioned.				
1	Check that the following are applied to the condition that the vehicle lane is recognized erroneously and the lane departure warning may operate.			
	1	There was the tire track on the wet road or snow-covered road.	Yes	No
	2	There was the boundary line between snow-covered area and asphalt or on the trace of road repair.	Yes	No
	3	There was the double vehicle lane.	Yes	No
	4	The shadow of the guardrail was detected by mistake.	Yes	No

Item name			Yes/No	
[3]: When sway warning did not operate.				
1	Check that the following are applied to the condition that the sway warning may not operate.			
	1	The vehicle drove on the road with many curves in succession.	Yes	No
	2	The vehicle speed changed greatly.	Yes	No
	3	That was immediately after the vehicle lane had changed.	Yes	No
	4	The vehicle lane was difficult to be recognized seen from the stereo camera. (Partition line (white line, etc.) does not exist or is disappearing. Or the color of the partition line is very similar to that of the road surface, and difficult to be seen. Or the width of the partition line is very thin.)	Yes	No
	5	That was immediately after the sway had begun.	Yes	No
2	Check that the following are applied to the condition that the lane departure warning OFF indicator light illuminates. (When the lane departure warning OFF indicator light illuminates, the sway warning does not operate.)			
	1	The lane departure warning is turned off, using the lane departure warning OFF switch.	Yes	No
	2	The VDC operation is stopped by pressing the VDC OFF switch.	Yes	No
	3	Approximately for 7 seconds after the engine has started.	Yes	No
	4	EyeSight is malfunctioning.	Yes	No
	5	EyeSight is stopped temporarily.	Yes	No
[4]: When sway warning malfunctioned.				
1	Check that the following are applied to the condition that the sway warning may operate.			
	1	That was after the sway had stopped.	Yes	No
	2	The driver lost concentration on driving the vehicle due to fatigue or looking away.	Yes	No
[5]: When forward vehicle's start monitoring function did not operate, or when it malfunctioned.				
1	Check that the following are applied to the condition that the forward vehicle's start monitoring function does not operate even when the preceding vehicle has already started, or the forward vehicle's start monitoring function operates even when the preceding vehicle has not yet started.			
	1	The motorcycle cut in the space between the own vehicle and the stopped preceding vehicle.	Yes	No
	2	The vehicle could not recognize the preceding vehicle properly due to the weather condition or road shape.	Yes	No
	3	The stereo camera lost sight of the preceding vehicle.	Yes	No
	4	The driver did not depress the brake pedal with select lever in D, M or N range. (At this time, the forward vehicle's start monitoring function does not operate. (except when stop holding))	Yes	No

B: CHECK ADAPTIVE CRUISE CONTROL INDICATOR LIGHT/CONSTANT SPEED CRUISE CONTROL INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT

TROUBLE SYMPTOM:

Adaptive cruise control or conventional cruise control can be set, but adaptive cruise control indicator light/constant speed cruise control indicator light and cruise SET indicator light do not illuminate.

Step		Check	Yes	No
1	**CHECK ADAPTIVE CRUISE CONTROL INDICATOR LIGHT/CONSTANT SPEED CRUISE CONTROL INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT.** Check the combination meter. <Ref. to IDI-8, OPERATION, Combination Meter System.>	Does adaptive cruise control indicator light/constant speed cruise control indicator light and cruise SET indicator light illuminate?	Go to step **2**.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>
2	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Is a DTC of the LAN system detected?	Perform the diagnosis according to DTC for LAN system.	Replace the ECM. <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).>

C: CHECK CRUISE CONTROL COMMAND SWITCH

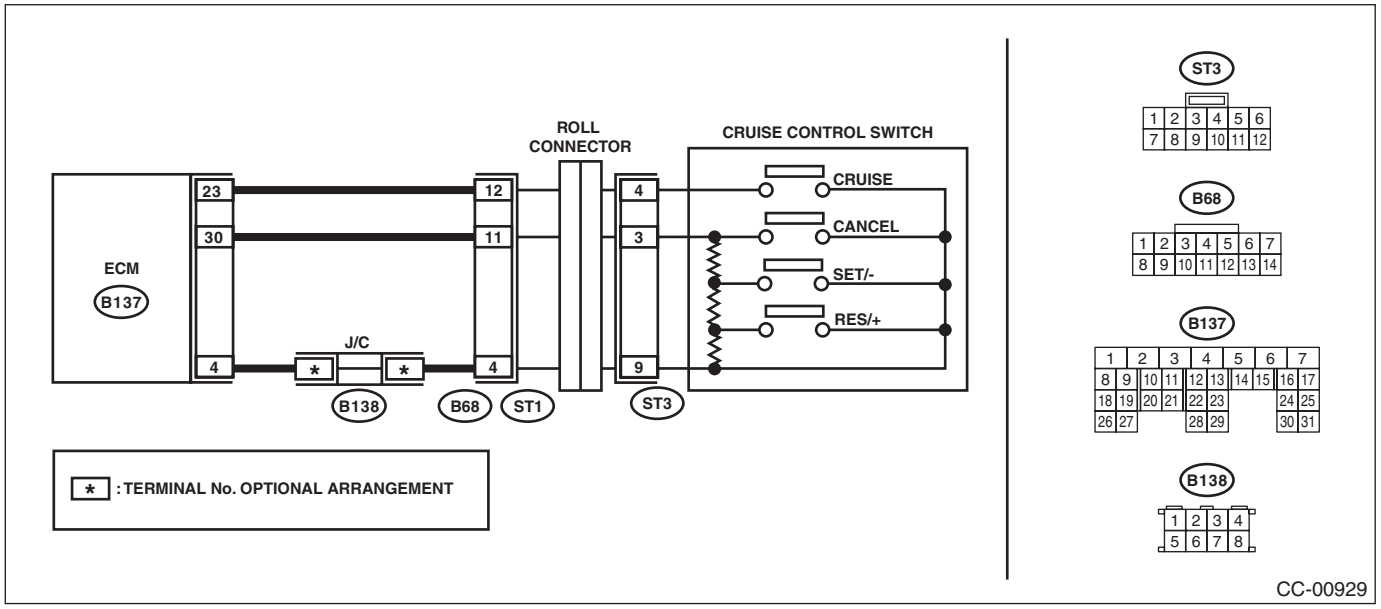
TROUBLE SYMPTOM:

- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

WIRING DIAGRAM:

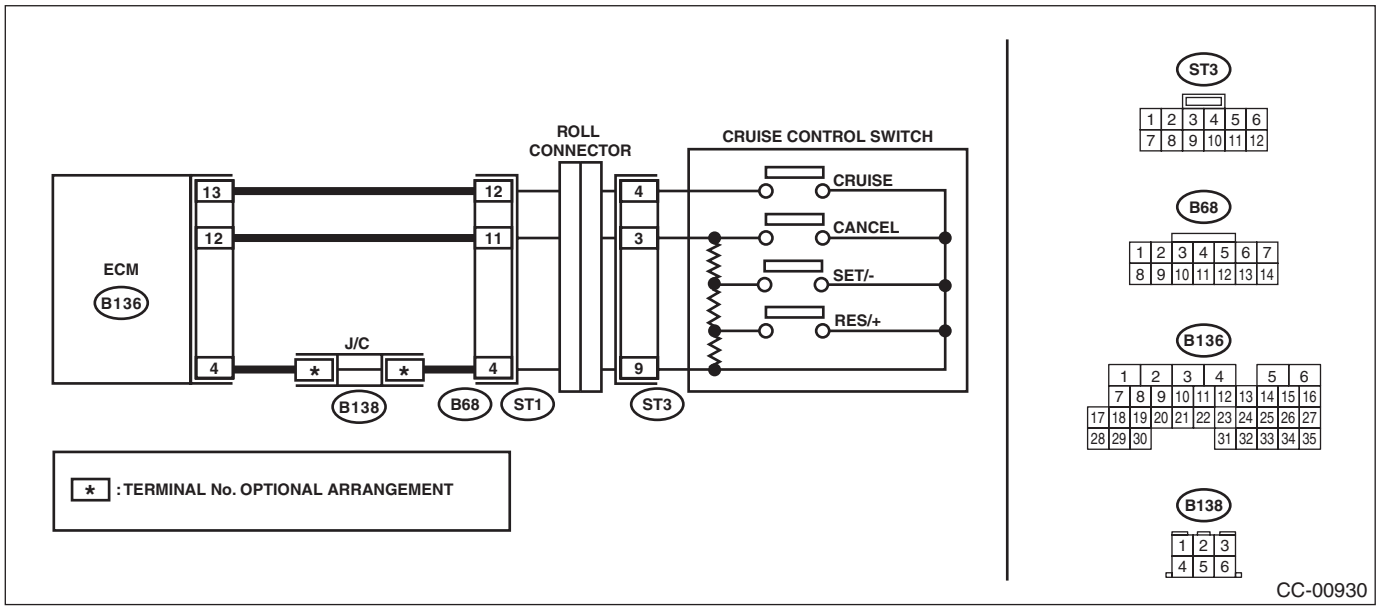
- 2.5 L model

EyeSight System <Ref. to WI-182, 2.5 L MODEL, WIRING DIAGRAM, EyeSight System.>



- 3.6 L model

EyeSight System <Ref. to WI-186, 3.6 L MODEL, WIRING DIAGRAM, EyeSight System.>



	Step	Check	Yes	No
1	**CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT.** 1) Remove the driver's airbag module. <Ref. to AB-37, REMOVAL, Driver's Airbag Module.> 2) Disconnect the harness connector of cruise control command switch. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(ST3) No. 4 (+) — Chassis ground (–):*** ***(ST3) No. 3 (+) — Chassis ground (–):***	Is the voltage 5 V or more?	Go to step **2**.	Check the harness between cruise control command switch and ECM, and the steering roll connector for open or short circuit, or for poor contact.
2	**CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-7, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(ST3) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check for open circuit between cruise control command switch and chassis ground.
3	**CHECK CRUISE CONTROL COMMAND SWITCH.** Check the cruise control command switch.	Is the cruise control command switch normal?	Replace the ECM. <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H6DO)-54, REMOVAL, Engine Control Module (ECM).>	Replace the cruise control command switch.

15.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Subaru Select Monitor display items	Contents of diagnosis	Note
U0073	Control Module Communication Bus “A” Off	Detected when bus off status (the stereo camera detects the failure and is disconnected from CAN line) occurs.	<Ref. to ES(diag)-93, DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0100	Lost Communication With ECM/PCM “A”	Detected when CAN data from ECM is not transmitted to stereo camera.	<Ref. to ES(diag)-93, DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0101	Lost Communication With TCM	Detected when CAN data from TCM is not transmitted to stereo camera.	<Ref. to ES(diag)-93, DTC U0101 LOST COMMUNICATION WITH TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0122	Lost Communication With Vehicle Dynamics Control Module	Detected when CAN data from VDC is not transmitted to stereo camera.	<Ref. to ES(diag)-93, DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0128	Lost Communication With Park Brake Control Module	Detected when CAN data from EPB is not transmitted to stereo camera.	<Ref. to ES(diag)-93, DTC U0128 LOST COMMUNICATION WITH PARK BRAKE CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	Detected when CAN data from body integrated unit is not transmitted to stereo camera.	<Ref. to ES(diag)-93, DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module	Detected when CAN data from combination meter is not transmitted to stereo camera.	<Ref. to ES(diag)-93, DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0401	Invalid Data Received From ECM/PCM “A”	Failure counter diagnosis of engine control module (ECM)	<Ref. to ES(diag)-93, DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM “A”, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0402	Invalid Data Received From TCM	Failure counter diagnosis of automatic transmission control module (TCM)	<Ref. to ES(diag)-93, DTC U0402 INVALID DATA RECEIVED FROM TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0416	Invalid Data Received From Vehicle Dynamics Control Module	Failure counter diagnosis of VDC control module (VDC CM)	<Ref. to ES(diag)-94, DTC U0416 INVALID DATA RECEIVED FROM VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0417	Invalid Data Received From Park Brake Control Module	Failure counter diagnosis of electronic parking brake control module (EPB CM)	<Ref. to ES(diag)-94, DTC U0417 INVALID DATA RECEIVED FROM PARK BRAKE CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0422	Invalid Data Received From Body Control Module	Failure counter diagnosis of body integrated unit	<Ref. to ES(diag)-94, DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Subaru Select Monitor display items	Contents of diagnosis	Note
U0423	Invalid Data Received From Instrument Panel Cluster Control Module	Failure counter diagnosis of combination meter	<Ref. to ES(diag)-94, DTC U0423 INVALID DATA RECEIVED FROM INSTRUMENT PANEL CLUSTER CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1001	CAN-HS Abnormal	Detected when error occurs in the high speed CAN communication circuit.	<Ref. to ES(diag)-94, DTC U1001 CAN-HS ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2801	TCM Abnormal	Detected when error occurs in the automatic transmission.	<Ref. to ES(diag)-94, DTC B2801 TCM ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2802	ETC Abnormal	Detected when error occurs in the electronic throttle control.	<Ref. to ES(diag)-94, DTC B2802 ETC ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2803	EPB Abnormal	Detected when error occurs in the electronic parking brake.	<Ref. to ES(diag)-94, DTC B2803 EPB ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2804			<Ref. to ES(diag)-94, DTC B2804 EPB ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2805	BIU Abnormal	Detected when error occurs in the body integrated unit.	<Ref. to ES(diag)-95, DTC B2805 BIU ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2806	ECM Abnormal	Detected when error occurs in the engine control module (ECM).	<Ref. to ES(diag)-95, DTC B2806 ECM ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2807		Detected when cruise indicator illumination request from ECM and ON/OFF information of cruise function do not match.	<Ref. to ES(diag)-95, DTC B2807 ECM ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2809	VDC Abnormal	Detected when error occurs in the VDC.	<Ref. to ES(diag)-95, DTC B2809 VDC ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B280A		VDC brake control malfunction 1	<Ref. to ES(diag)-95, DTC B280A VDC ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B280B		VDC brake control malfunction 2	<Ref. to ES(diag)-95, DTC B280B VDC ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B280C		VDC fluid pressure control is prohibited.	<Ref. to ES(diag)-95, DTC B280C VDC ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B280D		Pre-collision brake assist is prohibited.	<Ref. to ES(diag)-95, DTC B280D VDC ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B280E		VDC wrong variant	<Ref. to ES(diag)-95, DTC B280E VDC ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B280F	Meter Abnormal	Detected when error occurs in the CAN communication with combination meter.	<Ref. to ES(diag)-96, DTC B280F METER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2810		Detected when different (undesignated) type of combination meter is installed.	<Ref. to ES(diag)-96, DTC B2810 METER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Subaru Select Monitor display items	Contents of diagnosis	Note
B2813	Brake Switch Abnormal	Detected when error occurs in the brake switch system.	<Ref. to ES(diag)-97, DTC B2813 BRAKE SWITCH ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2814	Power Supply Volt Error	Detected when battery voltage is below specified value or when the +B harness of the stereo camera is broken.	<Ref. to ES(diag)-99, DTC B2814 POWER SUPPLY VOLT ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2815		Detected when battery voltage exceeds the specified value.	<Ref. to ES(diag)-100, DTC B2815 POWER SUPPLY VOLT ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2817	Brake Lamp Error	Detected when error occurs in the brake light illumination circuit.	<Ref. to ES(diag)-101, DTC B2817 BRAKE LAMP ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A0	Vehicle Model Judgment Abnormal	Detected when the model code stored in EEPROM and the model code used for CAN data are different, or when +B harness of the stereo camera is broken at aiming completion.	<Ref. to ES(diag)-104, DTC B28A0 VEHICLE MODEL JUDGMENT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A1	Adaptive CC ECM Communication Data Error	Abnormal judgment for stereo camera by ECM Or detected when the stereo camera or ECM is assembled incorrectly.	<Ref. to ES(diag)-106, DTC B28A1 ADAPTIVE CC ECM COMMUNICATION DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A2		Abnormal judgment for stereo camera data by VDC	<Ref. to ES(diag)-107, DTC B28A2 ADAPTIVE CC ECM COMMUNICATION DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A3		Abnormal judgment for stereo camera data by combination meter	<Ref. to ES(diag)-108, DTC B28A3 ADAPTIVE CC ECM COMMUNICATION DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A4		Abnormal judgment for stereo camera data by EPS CM	<Ref. to ES(diag)-108, DTC B28A4 ADAPTIVE CC ECM COMMUNICATION DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A5		Detected when error occurs in the transmission data from stereo camera to ECM.	<Ref. to ES(diag)-109, DTC B28A5 ADAPTIVE CC ECM COMMUNICATION DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A6	Stereo Camera Abnormal	Detected when error occurs in the communication between stereo camera and CPU.	<Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A7		Detected when error occurs in the communication data inside the control module due to external factors such as noises.	<Ref. to ES(diag)-110, DTC B28A7 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A8			<Ref. to ES(diag)-110, DTC B28A8 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28A9			<Ref. to ES(diag)-110, DTC B28A9 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Subaru Select Monitor display items	Contents of diagnosis	Note
B28AA	Stereo Camera Abnormal	Detected when error occurs in the communication with microcomputer 1 system inside the stereo camera.	<Ref. to ES(diag)-110, DTC B28AA STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28AB		Detected when error occurs in the communication with microcomputer 2 system inside the stereo camera.	<Ref. to ES(diag)-110, DTC B28AB STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28AC		Detected when error occurs in the ASIC system inside the stereo camera.	<Ref. to ES(diag)-110, DTC B28AC STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28AD		Detected when error occurs in the stereo camera image system.	<Ref. to ES(diag)-111, DTC B28AD STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28AE		Detected when error occurs in the internal power supply system of stereo camera.	<Ref. to ES(diag)-111, DTC B28AE STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28AF		Detected when adjustment/inspection of camera has not been completed normally.	<Ref. to ES(diag)-111, DTC B28AF STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28B0		Detected when error occurs in pre-collision brake/lane departure warning OFF switch or harness, or also detected when the switch is held for 45 seconds or more.	<Ref. to ES(diag)-112, DTC B28B0 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28B1		Detected when the optical axis of stereo camera is deviated in lateral direction or when the fluctuation range of automatic adjustment value has been enlarged.	<Ref. to ES(diag)-113, DTC B28B1 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28B2		Detected when the temperature of the stereo camera excessively increases. (When this DTC is detected, performing adjustment or inspection of the camera will not return to the normal state. In this case, always replace the stereo camera.)	<Ref. to ES(diag)-113, DTC B28B2 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B28B3		Detected when the temperature of the stereo camera excessively decreases. (When this DTC is detected, performing adjustment or inspection of the camera will not return to the normal state. In this case, always replace the stereo camera.)	<Ref. to ES(diag)-113, DTC B28B3 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

16.List of Cancel Code

A: LIST

1. STEREO CAMERA

If the following cancel codes are detected from the stereo camera, all the functions of the EyeSight excluding the conventional cruise control stop temporarily and cannot be used. When the failure is resolved, the function starts operating.

NOTE:
• Temporary stop is not released even if the lane departure warning OFF switch or pre-collision brake OFF switch is pressed.
• Depending on the situation, temporary stop may not be released even if the ignition switch is turned off.

Cancel code	Subaru Select Monitor display items	Contents of diagnosis	Note
25-33H	Camera temporary stop	Detected when engine speed is 300 rpm or less. (Not detected at initial IGN ON.)	Perform check of the ECM. <Ref. to EN(H4DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
60-A0H	CAN diagnosis prohibited	The voltage dropped below 10 V immediately after IGN ON. (During CRUISE MAIN ON, "EyeSight Disabled Check Manual" is displayed in the multi information display.)	This code may be displayed when the engine is not started for a while with the ignition switch ON and when the engine has started after that. This is a normal operation. If this is not the case, the supply voltage may be malfunctioning. <Ref. to ES(diag)-99, DTC B2814 POWER SUPPLY VOLT ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
61-A1H	ECM reprogramming	Because the control module (CM) is being reprogrammed, temporary stop is performed. (During CRUISE MAIN ON, "EyeSight Disabled Check Manual" is displayed in the multi information display.)	After the completion of the reprogramming operation, turn the ignition to OFF and restart. If the operation returns from the temporary stop status, it is normal.
65-C0H	Pre-crash hard brake operation	Because the pre-collision secondary brake operated three times between engine starting and stopping, the temporary stop is performed. (This is not a normal operation, or the system failure may occur.) (During CRUISE MAIN ON, "EyeSight Disabled Check Manual" is displayed in the multi information display.)	This code may be displayed when the pre-collision brake is operated intentionally. Turn the ignition switch to OFF, and restart after a while. If the operation returns from the temporary stop status, it is normal. When temporary stop status continues with the code other than 65-C0H after restart, perform diagnosis according to the code. When temporary stop status continues with the code of 65-C0H after restart, the stereo camera may be malfunctioning. In this case, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

Cancel code	Subaru Select Monitor display items	Contents of diagnosis	Note
72-CCH 72-CDH	Camera temporary stop	Temporary stop was performed due to the bad weather, backlight, fogged window or dirty window interfering with the recognition function of the stereo camera. And also when the front of the camera is blocked by the hand or when it is very dark around the vehicle or when the vehicle is surrounded by the blanket of snow and nothing can be seen from the stereo camera, this code may be displayed even after the temperature becomes extremely high or low. (During CRUISE MAIN ON, "EyeSight Disabled No Camera View" is displayed in the multi information display.)	Investigate the following items No. 1 and No. 2, and check that the possible cause of the temporary stop is applied either to No. 1 or No. 2. 1. Using the “CHECK LIST (CAMERA TEMPORARY STOP)”, investigate the cause of the temporary stop. <Ref. to ES(diag)-88, CHECK LIST (CAMERA TEMPORARY STOP), LIST, List of Cancel Code.> When there is a relevant item in the check list, it can be the cause of malfunction. 2. Read the temporary stop count stored in the temporary stop count of current data, and check the cause of the temporary stop occurred in the past from “LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS”. <Ref. to ES(diag)-85, LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS, LIST, List of Cancel Code.> When the causes of the temporary stop for No. 1 and No. 2 correspond, drive the vehicle for a while after the cause of the temporary stop has been eliminated. If the operation returns from the temporary stop status, it is normal. (However, when the occurrence and cancellation of the temporary stop take place repeatedly, the temporary stop status is held to prevent the irritation, delaying the return of the operation.) When this is not the case, check the stereo camera and its periphery. <Ref. to ES(diag)-8, WINDSHIELD GLASS AND DASHBOARD, INSPECTION, General Description.> <Ref. to ES(diag)-12, FRONT WIPER, INSPECTION, General Description.> <Ref. to ES(diag)-13, STEREO CAMERA, INSPECTION, General Description.>

List of Cancel Code

Cancel code	Subaru Select Monitor display items	Contents of diagnosis	Note
72-CEH	Camera temporary stop	The temperature of the stereo camera became excessively high or low, and the operation stopped temporarily. (During CRUISE MAIN ON, "EyeSight Disabled Temp Range" is displayed in the multi information display.)	Perform inspection concerning the item for 72-CEH of the “CHECK LIST (CAMERA TEMPORARY STOP)”. <Ref. to ES(diag)-88, CHECK LIST (CAMERA TEMPORARY STOP), LIST, List of Cancel Code.> When the failure is resolved, and the operation returns from the temporary stop status, it is normal. When the operation does not return from the temporary status even if driving the vehicle for a while after the failure has been resolved, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>
72-E5H		The operation stopped temporarily due to vertical deviation of the optical axis of the stereo camera. (During CRUISE MAIN ON, "EyeSight Disabled Check Manual" is displayed in the multi information display.)	Perform inspection concerning the item for 72-E5H of the “CHECK LIST (CAMERA TEMPORARY STOP)”. <Ref. to ES(diag)-88, CHECK LIST (CAMERA TEMPORARY STOP), LIST, List of Cancel Code.> This code may be displayed when the rear of the vehicle is lowered by the overload. When the failure is resolved, and the operation returns from the temporary stop status after driving for a while, it is normal. If this item is displayed in an ordinary use under which the vehicle is not tilted, readjust the stereo camera. <Ref. to ES(diag)-45, PROCEDURE, Camera Adjustment, Inspection.> If the same cancel code is still detected after readjustment, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

2. LIST OF CONTENTS FOR CAMERA TEMPORARY STOP: 0 — 23 COUNTS

Read the camera temporary stop count from Current Data Display & Save of Subaru Select Monitor, estimate the possible cause of the temporary stop according to the chart below. (After clearing the memory, the number of occurrence for each temporary stop is accumulated.)

Subaru Select Monitor display items	Main causes	Possible conditions for temporary stop (including events occurring less frequently)	Cancel code/DTC	Meter display
Camera temporary stop 0 count	Backlight of the sunlight	Backlight, dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, deteriorated wiper, front of the camera is blocked by hand, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm, dense fog), unpatterned wall, fence, wall with vertical stripe, water drop raised by preceding vehicle, steep slope, banner, grass, preceding vehicle with large uneven surface (trailer, etc.), preceding vehicle driving in the night without illuminating the tail light	72-CC	EyeSight Disabled No Camera View
Camera temporary stop 1 count Camera temporary stop 2 count	Dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm), water drop raised by preceding vehicle			
Camera temporary stop 3 count	Fogged window glass, frost on the window glass	Backlight, dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, deteriorated wiper, front of the camera is blocked by hand, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm, dense fog), water drop raised by preceding vehicle, very dark and no obstacle around the vehicle, unpatterned wall, blanket of snow around the vehicle and no obstacle is found		
Camera temporary stop 4 count	Front of the camera is blocked by hand.	Backlight, dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, deteriorated wiper, front of the camera is blocked by hand, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm, dense fog), banner, grass, etc.		
Camera temporary stop 5 count	Heavy snowfall in the night	Heavy snowfall in the night, wall with vertical stripe, fence, etc.		
Camera temporary stop 6 count	Dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm), water drop raised by preceding vehicle	Backlight, dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, deteriorated wiper, front of the camera is blocked by hand, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm, dense fog), water drop raised by preceding vehicle, preceding vehicle driving in the night without illuminating the tail light, preceding vehicle with large uneven surface (trailer, etc.), etc.		

Subaru Select Monitor display items	Main causes	Possible conditions for temporary stop (including events occurring less frequently)	Cancel code/DTC	Meter display
Camera temporary stop 7 count	Not used			
Camera temporary stop 8 count	Malfunction of electronic circuit	This temporary stop occurs when there is an object blocking the visibility of the camera at IGN ON or when the camera was exposed to the backlight during startup. This temporary stop occurs immediately after IGN ON. Unless the ignition switch is turned to OFF, the temporary stop is not canceled.	72-CD	EyeSight Disabled No Camera View
Camera temporary stop 9 count	Malfunction of electronic circuit	This item may be displayed when the condition that there is no object around the vehicle continues for a long time.		
Camera temporary stop 10 count	Malfunction of electronic circuit	This item is displayed when the cause of the temporary stop has not been eliminated for several hours. When the vehicle is driven with a piece of paper applied in front of the camera or with the object placed on the dashboard reflected against the windshield glass, the temporary stop status continues for a long time.		
Camera temporary stop 11 count	Backlight	Backlight		
Camera temporary stop 12 count	Malfunction of electronic circuit	This item is displayed by the snowfall in the night, wall with vertical stripe or fence, etc.		
Camera temporary stop 13 count	The number of surrounding objects is larger than expected.	When the number of surrounding objects is larger than expected, etc.		
Camera temporary stop 14 count	Dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm)	Backlight, dirty window glass, fogged window glass, frost on the window glass, oil film on the window glass, raindrop adhering to the window glass, fingerprint adhering to the lens, deteriorated wiper, front of the camera is blocked by hand, object on the dashboard reflected against the windshield glass, bad weather (heavy rain, snowstorm, dense fog), water drop raised by preceding vehicle, banner, grass, preceding vehicle with large uneven surface (trailer, etc.), etc.		
Camera temporary stop 15 count	Not used			
Camera temporary stop 16 count	When the vehicle is tilted excessively by the heavy load	• The vehicle is tilted excessively by the heavy load. • The vehicle drives on the steep uphills or steep downhills. • The stereo camera was subject to impact, and the displacement or distortion occurred.	72-E5	EyeSight Disabled Check Manual

Subaru Select Monitor display items	Main causes	Possible conditions for temporary stop (including events occurring less frequently)	Cancel code/DTC	Meter display
Camera temporary stop 17 count	Malfunction of electronic circuit	This item is displayed by the reflection of the object on the dashboard.	B28B1	EyeSight warning light illuminates.
Camera temporary stop 18 count	Camera has been deformed by hitting it.	Camera has been deformed by hitting it.		
Camera temporary stop 19 count				
Camera temporary stop 20 count				
Camera temporary stop 21 count				
Camera temporary stop 22 count	Not used			
Camera temporary stop 23 count	High temperature (Camera portion: approx. 70°C or more), low temperature (Camera portion: approx. –10°C or less)	High temperature (Camera portion: approx. 70°C or more), low temperature (Camera portion: approx. –10°C or less)	72-CE	EyeSight Disabled Temp Range

3. CHECK LIST (CAMERA TEMPORARY STOP)

Even when the set status of the adaptive cruise control is canceled or temporary stop status occurs, the cancel codes will not be retained for the following.

- When the VDC operation is stopped by pressing the VDC OFF switch
- When the pre-collision brake operation is stopped by pressing the pre-collision brake OFF switch
- When the lane departure warning is stopped by pressing the lane departure warning OFF switch
- Immediately after the engine start

If not applicable to the cases described above, and the cancel code is displayed, perform the inspection according to the following items.

Item name			Yes/No	
[1]: Cancel code [72-CCH, 72-CDH] (At this time, “EyeSight Disabled No Camera View” is displayed in the multi information display.)				
1	Check that the following are applied to the conditions that are difficult to be recognized by the stereo camera.			
	1	It was bad weather (heavy rain, snowstorm, dense fog; especially when the oil film adheres to the windshield glass, the glass coating agent is used, or when the old wiper is used).	Yes	No
	2	The vehicle was exposed to the intense light (backlight such as sunlight or headlight high-beam light) from the front of the vehicle.	Yes	No
	3	The windshield glass is covered with fog, snow, dirt, frost or sandy dust, and either of them blocks the visibility of the stereo camera.	Yes	No
	4	The vehicle was tilted excessively by the heavy load.	Yes	No
	5	Canoes etc. loaded on the roof blocked the visibility of the stereo camera.	Yes	No
	6	The field of view was insufficient due to water or snow raised by the preceding vehicle or oncoming vehicle, or the moisture, sand, smoke or sandy dust blown in the wind.	Yes	No
	7	The vehicle passed through the outlet or inlet of a tunnel.	Yes	No
	8	The rearmost area of preceding vehicle was small (trailer, etc.), low or uneven.	Yes	No
	9	The object was a fence or wall with even pattern (striped pattern or bricks) or unpatterned surface.	Yes	No
	10	The object was a plate of glass, mirror wall or door.	Yes	No
	11	The raindrops, water drops or dirt on the windshield glass are not wiped off sufficiently.	Yes	No
	12	The tail light of the preceding vehicle did not illuminate during nighttime hours or inside the tunnel.	Yes	No
	13	The vehicle passed through the banners, flags, drooping branches or grass.	Yes	No
	14	The vehicle drove on the steep uphills or steep downhills.	Yes	No
	15	Front of the camera was blocked by the hand.	Yes	No
	16	It was very dark and there was no obstacle around the vehicle.	Yes	No
	17	There was blanket of snow around the vehicle and no obstacle was found.	Yes	No
	18	Dirt such as fingerprint adhered to the lens portion of the stereo camera.	Yes	No
	19	There was an object on the instrument panel. (The object will be reflected on the windshield glass, losing the stable recognition, and the temporary stop may occur.)	Yes	No
	20	The stereo camera was subject to impact, and the displacement or distortion occurred.	Yes	No
[2]: Cancel code [72-CEH] (At this time, “EyeSight Disabled Temp Range” is displayed in the multi information display.)				
1	Check that the following is applied to the condition that the temperature of the stereo camera becomes excessively high or low.			
	1	The compartment temperature was high. (For example: The vehicle was left under the scorching sun.) Or the compartment temperature was low. (For example: The vehicle was left under the frigid environment.)	Yes	No

List of Cancel Code

Item name			Yes/No	
[3]: Cancel code [72-E5H] (At this time, “EyeSight Disabled Check Manual” is displayed in the multi information display.)				
1	Check that the following are applied to the condition that the vertical deviation of the optical axis of stereo camera occurs.			
	1	The vehicle was tilted excessively by the heavy load.	Yes	No
	2	The vehicle drove on the steep uphills or steep downhills.	Yes	No
	3	The stereo camera was subject to impact, and the displacement or distortion occurred.	Yes	No

4. ECM

When the following cancel codes are detected from the ECM, the cruise control will be cancelled.

Cancel code	Subaru Select Monitor display items	Contents of diagnosis	Note
11	Main switch	Main switch of cruise control command switch is turned to OFF, and then the cruise control is released.	This DTC is displayed without operating the main switch. <Ref. to CC(diag)-16, 11, Diagnostic Procedure with Cancel Code.>
12	Stop & Brake switch	Stop light switch or brake switch is turned to ON, and then the cruise control is released.	This DTC is displayed without depressing the brake pedal. <Ref. to CC(diag)-18, 12, Diagnostic Procedure with Cancel Code.>
14	Neutral switch	Neutral position switch is turned to ON, and then the cruise control is released.	This DTC is displayed without shifting to neutral position. <Ref. to CC(diag)-21, 14, Diagnostic Procedure with Cancel Code.>
15	Cancel switch	Cancel switch is turned to ON, and then the cruise control is released.	This DTC is displayed without operating the cancel switch. <Ref. to CC(diag)-23, 15, Diagnostic Procedure with Cancel Code.>
16	Ignition switch	Ignition switch is turned to OFF, and then the cruise control is released.	This DTC is displayed without operating the ignition switch. <Ref. to CC(diag)-24, 16, Diagnostic Procedure with Cancel Code.>
21	Abnormality of switches when Ignition switch on	When the ignition switch is turned to ON, each switch of cruise control command switch is already turned to ON.	This DTC is displayed when turning ignition switch to ON without operating the cruise control switch. <Ref. to CC(diag)-25, 21, Diagnostic Procedure with Cancel Code.>
22	Abnormality of change in vehicle speed	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-26, 22, Diagnostic Procedure with Cancel Code.>
24	Abnormality of switches related to cruise control	Open circuit of cruise control switch is detected during cruise driving. (The system is judged as model without cruise control.)	This DTC is displayed with normal operation. <Ref. to CC(diag)-26, 24, Diagnostic Procedure with Cancel Code.>
31	Engine Speed	• Abnormal increase of engine speed is detected. • Gear is placed in Neutral, 1st or Reverse position.	Cruise in 2nd shift position or more. <Ref. to CC(diag)-26, 31, Diagnostic Procedure with Cancel Code.>
32	Cruse Control out of Range	• Vehicle speed exceeds the controllable range during cruising. • Set operation was performed at vehicle speed unavailable for setting. • RESUME operation was performed without memorized vehicle speed.	This DTC is displayed, though the vehicle speed is increased to the speed available for cruise set and set operation was performed again. <Ref. to CC(diag)-26, 32, Diagnostic Procedure with Cancel Code.>
34	Prohibition of cruise control at continuing big Accel. angle	The vehicle has been driven at higher speed than set vehicle speed for an abnormally long time (approximately 10 minutes) during cruise driving.	<Ref. to CC(diag)-26, 34, Diagnostic Procedure with Cancel Code.>
35	Prohibition of cruise control at vehicle speed F/B malfunction	Set vehicle speed cannot be kept because of some reasons (steep uphill, parking brake, abnormal decrease of engine output, etc.) during cruise driving.	<Ref. to CC(diag)-27, 35, Diagnostic Procedure with Cancel Code.>

Cancel code	Subaru Select Monitor display items	Contents of diagnosis	Note
41	VDC/TCS/EPB Operating	Vehicle dynamics control (VDC), TCS or EPB is operated during cruise driving or cruise setting.	<Ref. to CC(diag)-27, 41, Diagnostic Procedure with Cancel Code.>
43	ABS/VDC Failure	When CRUISE switch is ON, ABS or vehicle dynamics control (VDC) system malfunction is detected.	<Ref. to CC(diag)-27, 43, Diagnostic Procedure with Cancel Code.>
44	Body Integrated unit Failure	When CRUISE switch is ON, body integrated unit system malfunction is detected.	<Ref. to CC(diag)-27, 44, Diagnostic Procedure with Cancel Code.>
45	Meter Failure	When CRUISE switch is ON, combination meter malfunction is detected.	<Ref. to CC(diag)-27, 45, Diagnostic Procedure with Cancel Code.>
47	Adaptive cruise control ECM abnormal	When CRUISE switch is ON, stereo camera malfunction is detected.	Check the DTCs related to stereo camera.
49	TCM Failure	Transmission control module (TCM) malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-27, 49, Diagnostic Procedure with Cancel Code.>
53	Adaptive cruise control compulsory cancellation	Stereo camera detects the release command of the cruise control during cruise driving or cruise setting operation.	Check the stereo camera. Confirm the display contents of the current data “ACC forced cancellation code 1 — 8”, and perform inspection. <Ref. to ES(diag)-92, LIST OF ACC FORCED CANCELLATION CODE, LIST, List of Cancel Code.>
54	Release SW	Brake control module detects the brake pedal operation by the driver during cruise driving or cruise setting operation.	If this code is detected when the brake pedal is not depressed intentionally, check the release switch.
55	Adaptive cruise control reception data abnormal	When CRUISE switch is ON, malfunction is detected in the reception data from the stereo camera.	Check the cancel code of stereo camera.
61	Brake Switch Failure	Malfunction in the stop light & brake switch is detected.	<Ref. to CC(diag)-27, 61, Diagnostic Procedure with Cancel Code.>
62	Neutral Switch Failure	Neutral position switch malfunction is detected.	<Ref. to CC(diag)-27, 62, Diagnostic Procedure with Cancel Code.>
63	Abnormality 1 of change in vehicle speed	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-27, 63, Diagnostic Procedure with Cancel Code.>
64	Engine Sensor Failure 1	Malfunction related to engine is detected.	<Ref. to CC(diag)-28, 64, Diagnostic Procedure with Cancel Code.>
65	Abnormality 1 of switches related to cruise control	Cruise control command switch malfunction is detected. (When the switch is pressed ON for a long time (approximately two minutes), stuck ON condition is detected.)	<Ref. to CC(diag)-28, 65, Diagnostic Procedure with Cancel Code.>
66	Cruise Control Calculation Error	Cruise control calculation (microcomputer) malfunction is detected.	<Ref. to CC(diag)-28, 66, Diagnostic Procedure with Cancel Code.>

5. LIST OF ACC FORCED CANCELLATION CODE

When the following forced cancellation codes are detected from the stereo camera, the cruise control will be cancelled.
The following chart is the list of contents displayed in “ACC forced cancellation code 1 — 8” of “Current Data Display & Save”.
For 1 through 8, 1 is the latest record, and the maximum of 8 experienced forced cancellation codes are displayed. The same code stores the last IG number.

Subaru Select Monitor display items	Description
No cancel code	Displayed when the cancel code of the cruise control is not stored.
Adaptive mode: Low speed, no leading vehicle	During driving in the adaptive cruise mode, this item is displayed when the own vehicle speed becomes 30 km/h (19 MPH) or less, and the detection status of the preceding vehicle changes from Present ⇨ Not present, and the cruise control is canceled.
Adaptive mode: Camera temporary stop	During driving in the adaptive cruise mode, this item is displayed when the cruise control is canceled by temporarily stopping the EyeSight.
Adaptive mode: Leading vehicle no acceleration	During driving in the adaptive cruise mode, this item is displayed when the driver attempted to set the cruise control, however it was impossible because the preceding vehicle had not yet started.
Constant speed mode: Low speed	During driving in the constant speed mode, this item is displayed when the own vehicle speed becomes approximately 30 km/h (19 MPH) or less and the cruise control is canceled.
Common: Wheel speed sensor abnormal	This item is displayed when the cruise control is canceled because of the wheel speed sensor malfunctions.
Common: Brake operation	This item is displayed when the cruise control is canceled by the brake operation of the driver.
Common: Pre-crash brake	This item is displayed when the cruise control is canceled by the operation of the pre-collision brake.
Common: AT manual mode	This item is displayed when the cruise control is canceled because the AT is shifted into manual mode or paddle operation is performed.
Common: VDC switch OFF	This item is displayed when the VDC function is turned off by the VDC OFF switch and the cruise control is canceled.
Common: Door open	This item is displayed when the cruise control is canceled by opening the driver’s door, passenger’s door or rear doors.
Common: Driver’s seat belt released	This item is displayed when the cruise control is canceled by unfastening the driver’s seat belt.
Common: EPB operation	This item is displayed when the cruise control is canceled by the EPB dynamic parking (EPB compulsory drive).
Common: High speed	This item is displayed when the own vehicle speed becomes approximately 160 km/h (99 MPH) or more and the cruise control is canceled.
Common: AT gear range	This item is displayed when the following occurs. Since the driver desired to drive the vehicle in the adaptive cruise mode or in the constant speed mode, he or she performed SET or RES operation. However, the operation was not accepted because it was done immediately after D-range shifting.
Common: Road surface incline	This item is displayed when the road surface gradient was judged to be steep and the cruise control is canceled.
Common: ABS operation	This item is displayed when the cruise control is canceled by the operation of the ABS.
Common: Large steering operation	This item is displayed when the steering wheel is fully turned and the cruise control is canceled.

NOTE:
- ACC: Adaptive Cruise Control
- “Adaptive cruise mode”: Adaptive cruise control
- “Constant speed mode”: Conventional cruise control
- “Common”: Adaptive cruise control and conventional cruise control

17.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF

Detected when error occurs in the CAN line. (Bus off)

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

B: DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”

Detected when CAN data from engine control module (ECM) is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

C: DTC U0101 LOST COMMUNICATION WITH TCM

Detected when CAN data from TCM is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

D: DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

Detected when CAN data from VDC is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

E: DTC U0128 LOST COMMUNICATION WITH PARK BRAKE CONTROL MODULE

Detected when CAN data from EPB is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

F: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

Detected when CAN data from body integrated unit is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

G: DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE

Detected when CAN data from meter is not transmitted to stereo camera.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

H: DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM “A”

Failure counter diagnosis of engine control module (ECM)

NOTE:
Perform check of the ECM. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

I: DTC U0402 INVALID DATA RECEIVED FROM TCM

Failure counter diagnosis of automatic transmission control module (TCM)

NOTE:
Check the automatic transmission. <Ref. to 5AT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to CVT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

J: DTC U0416 INVALID DATA RECEIVED FROM VEHICLE DYNAMICS CONTROL MODULE

Failure counter diagnosis of VDC control module (VDC CM)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

K: DTC U0417 INVALID DATA RECEIVED FROM PARK BRAKE CONTROL MODULE

Failure counter diagnosis of electronic parking brake control module (EPB CM)

NOTE:
Check the electronic parking brake. <Ref. to PB(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

L: DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE

Failure counter diagnosis of body integrated unit

NOTE:
Inspect the body integrated unit. <Ref. to BC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

M: DTC U0423 INVALID DATA RECEIVED FROM INSTRUMENT PANEL CLUSTER CONTROL MODULE

Failure counter diagnosis of combination meter

NOTE:
Check the combination meter. <Ref. to IDI-14, INSPECTION, Combination Meter System.>

N: DTC U1001 CAN-HS ABNORMAL

Detected when error occurs in the high speed CAN communication circuit.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

O: DTC B2801 TCM ABNORMAL

Detected when error occurs in the automatic transmission.

NOTE:
Check the automatic transmission. <Ref. to 5AT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to CVT(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

P: DTC B2802 ETC ABNORMAL

Detected when error occurs in the electronic throttle control.

NOTE:
Check the electronic throttle control. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Q: DTC B2803 EPB ABNORMAL

Detected when error occurs in the electronic parking brake. (EPB operation prohibited)

NOTE:
Check the electronic parking brake. <Ref. to PB(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

R: DTC B2804 EPB ABNORMAL

Detected when error occurs in the electronic parking brake. (EPB operation abnormal)

NOTE:
Check the electronic parking brake. <Ref. to PB(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

S: DTC B2805 BIU ABNORMAL

Detected when error occurs in the body integrated unit.

NOTE:
Inspect the body integrated unit. <Ref. to BC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

T: DTC B2806 ECM ABNORMAL

Detected when error occurs in the engine control module (ECM).

NOTE:
Perform check of the ECM. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

U: DTC B2807 ECM ABNORMAL

Detected when cruise indicator illumination request from ECM and ON/OFF information of cruise function do not match.

NOTE:
Perform check of the ECM. <Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

V: DTC B2809 VDC ABNORMAL

Detected when error occurs in the VDC. (VDC failure)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

W: DTC B280A VDC ABNORMAL

Detected when error occurs in the VDC. (VDC brake control malfunction 1)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

X: DTC B280B VDC ABNORMAL

Detected when error occurs in the VDC. (VDC brake control malfunction 2)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Y: DTC B280C VDC ABNORMAL

Detected when error occurs in the VDC. (VDC fluid pressure control prohibited)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Z: DTC B280D VDC ABNORMAL

Detected when error occurs in the VDC. (Pre-collision BA prohibited)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

AA:DTC B280E VDC ABNORMAL

Detected when error occurs in the VDC. (VDC wrong variant)

NOTE:
Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

AB:DTC B280F METER ABNORMAL

Malfunction is detected in the combination meter.
DTC DETECTING CONDITION:
Defective combination meter
TROUBLE SYMPTOM:
- All functions of EyeSight system do not operate.
- EyeSight warning light blinks or illuminates.
- Combination meter does not illuminate.

NOTE:
Check the combination meter. <Ref. to IDI-14, INSPECTION, Combination Meter System.>

AC:DTC B2810 METER ABNORMAL

Detected when the combination meter, which is not designed exclusively for EyeSight is installed.
DTC DETECTING CONDITION:
Incorrect specifications of combination meter
TROUBLE SYMPTOM:
All functions of EyeSight system do not operate.

NOTE:
Replace the combination meter with the one designed for EyeSight.

AD:DTC B2813 BRAKE SWITCH ABNORMAL

Detected when the error related to brake switch occurs.

DTC DETECTING CONDITION:

- Defective brake switch
- Defective brake light switch

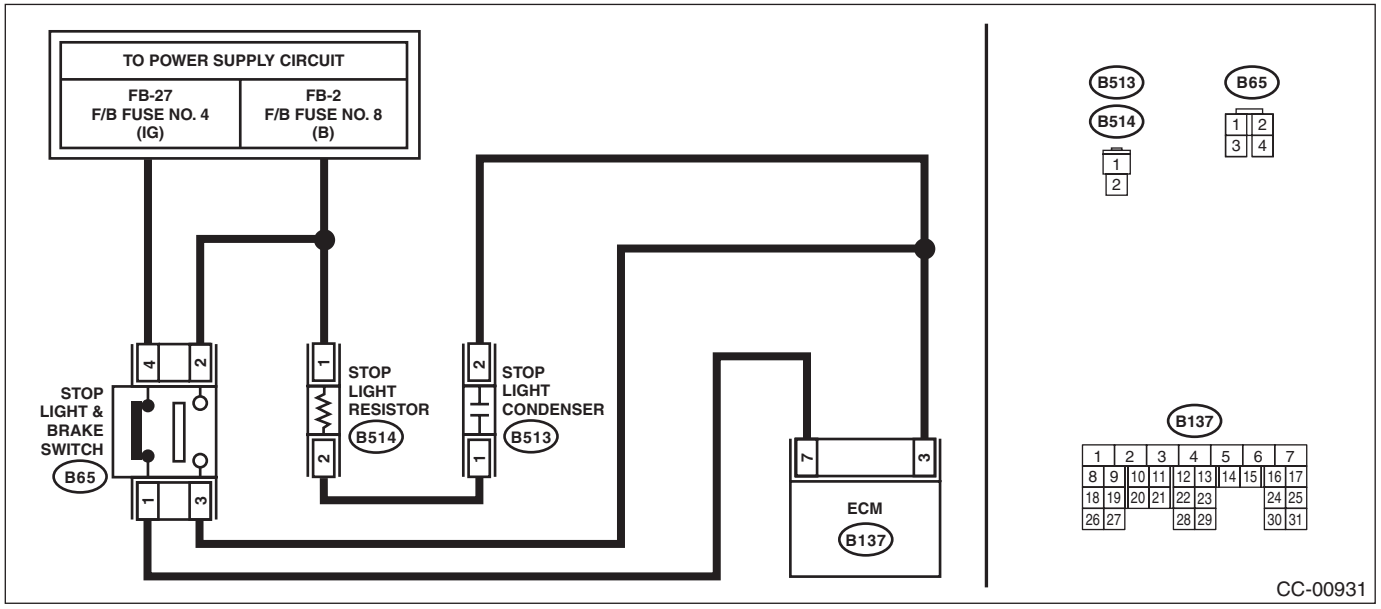
TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.
- Malfunction indicator light illuminates.

WIRING DIAGRAM:

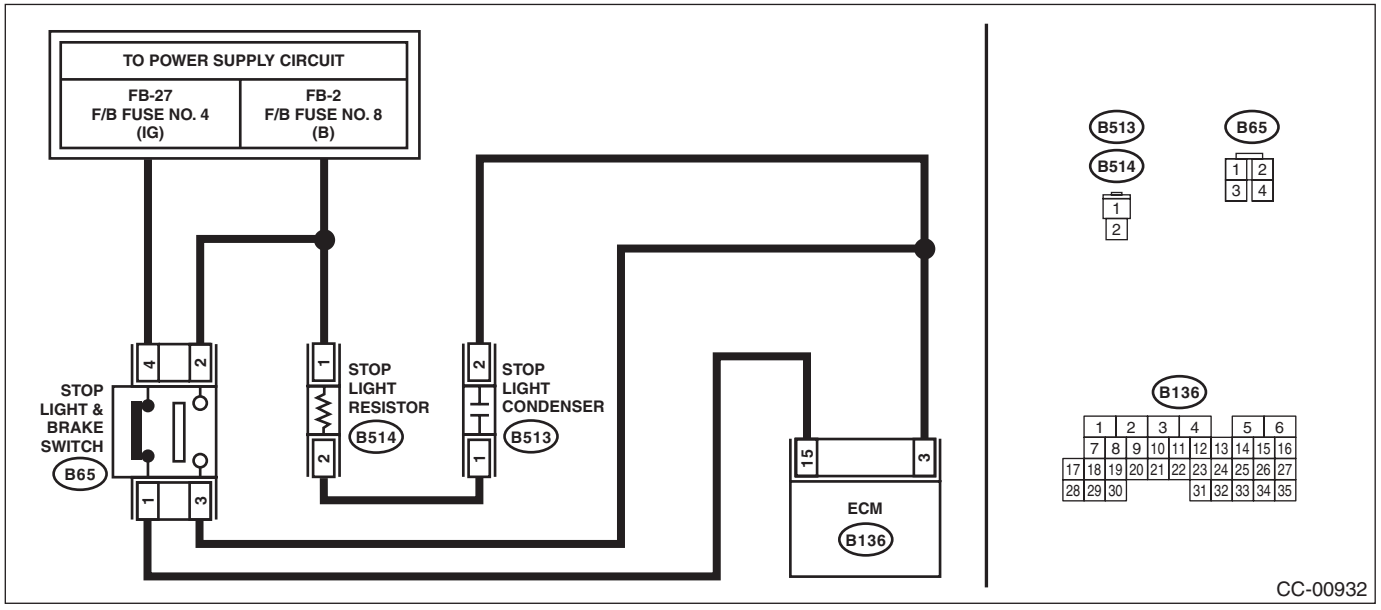
- 2.5 L model

EyeSight System <Ref. to WI-182, 2.5 L MODEL, WIRING DIAGRAM, EyeSight System.>



- 3.6 L model

EyeSight System <Ref. to WI-186, 3.6 L MODEL, WIRING DIAGRAM, EyeSight System.>



	Step	Check	Yes	No
1	**CHECK BRAKE SWITCH SIGNAL (ECM).** 1) Turn the ignition switch to ON. 2) Confirm the current data of stereo camera using Subaru Select Monitor. 3) Display the data of brake switch to check it.	Is ON ←→ OFF displayed on the display when the brake pedal is depressed or released?	Go to step **2**.	Go to step **3**.
2	**CHECK BRAKE SWITCH SIGNAL (BODY INTEGRATED UNIT).** 1) Turn the ignition switch to ON. 2) Connect the Subaru Select Monitor. 3) Select {Integ. unit mode} from main menu. 4) Select {Current Data Display & Save}, check the brake switch output.	Is ON ←→ OFF displayed on the display when the brake pedal is depressed or released?	Go to step **6**.	Go to step **3**.
3	**CHECK STOP LIGHT & BRAKE SWITCH.** Check the stop light & brake switch. <Ref. to BR-65, INSPECTION, Stop Light Switch.>	Is the stop light & brake switch OK?	Go to step **4**.	Replace the stop light & brake switch. <Ref. to BR-63, REMOVAL, Stop Light Switch.>
4	**CHECK BRAKE SWITCH CIRCUIT (BATTERY POWER SUPPLY CIRCUIT).** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from stop light & brake switch. 3) Turn the ignition switch to ON. 4) Measure the voltage between stop light & brake switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 2 (+) — Chassis ground (–):*** ***(B65) No. 4 (+) — Chassis ground (–):***	Is the voltage approx. 10 V or more?	Go to step **5**.	Check the power supply system circuit, and if any fault is found, repair or replace the defective parts.
5	**CHECK BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector. 3) Measure the resistance between ECM harness connector terminal and stop light & brake switch. ***Connector & terminal*** ***2.5 L model*** ***(B137) No. 3 — (B65) No. 3:*** ***(B137) No. 7 — (B65) No. 1:*** ***3.6 L model*** ***(B136) No. 3 — (B65) No. 3:*** ***(B136) No. 15 — (B65) No. 1:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the harness.
6	**CHECK STEREO CAMERA.** 1) Connect all connectors. 2) Turn the ignition switch to ON. 3) Connect the Subaru Select Monitor. 4) Read the DTC.	Is another DTC (other than DTC B2813) displayed?	Perform the diagnosis according to DTC.	Go to step **7**.
7	**CHECK CONNECTOR.** Check the connectors of stop light & brake switch, ECM and stereo camera.	Is the connector normal?	Go to step **8**.	Repair or replace the connector.
8	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Is a DTC of the LAN system detected?	Perform the diagnosis according to DTC for LAN system.	Go to step **9**.
9	**CHECK STEREO CAMERA.** 1) Clear the memory. 2) Read the DTC.	Is the same DTC (DTC B2813) displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact occurs.

AE:DTC B2814 POWER SUPPLY VOLT ERROR

Detected when the status of 7.9 V or less continues approximately for 5 seconds and is judged to be low-voltage malfunction, or when the +B harness of the stereo camera is broken.

DTC DETECTING CONDITION:

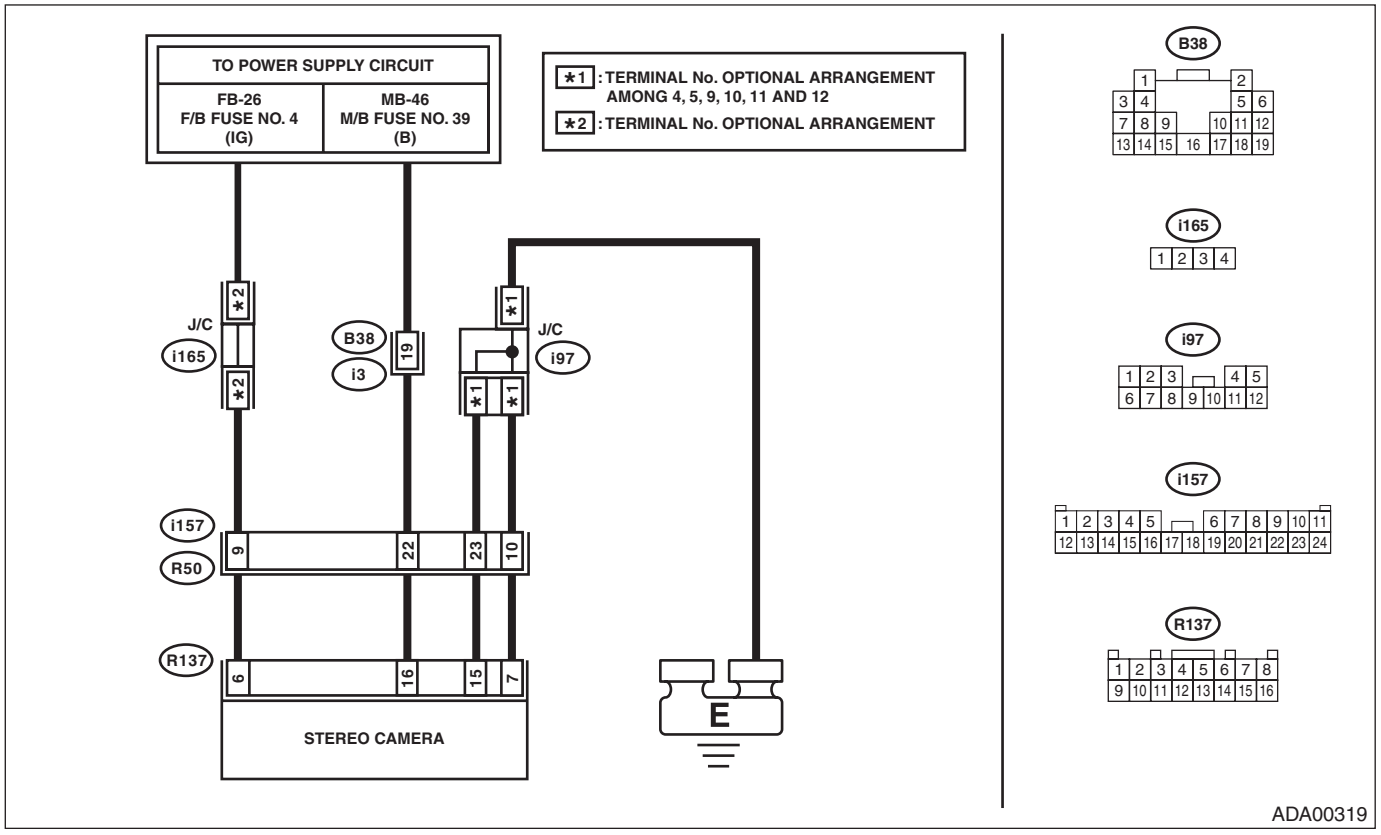
- Input voltage to stereo camera is out of specifications.
- Defective stereo camera control harness (open circuit in +B harness)
- Defective stereo camera

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light blinks or illuminates.
- CRUISE indicator light blinks.
- Malfunction indicator light illuminates.
- VDC warning light illuminates.
- ATF temperature warning light illuminates.

WIRING DIAGRAM:

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>



Step		Check	Yes	No
1	**CHECK GENERATOR.** 1) Start the engine and idle for a while. 2) Measure the voltage between generator terminal B and chassis ground. ***Connector & terminal*** ***Generator terminal B (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the generator.
2	**CHECK BATTERY TERMINAL.** Turn the ignition switch to OFF.	Is the battery terminal connected securely?	Go to step **3**.	Tighten the battery terminal securely.

	Step	Check	Yes	No
3	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the faulty fuse. If the newly replaced fuse is blown instantly, check the short circuit in harness.
4	**CHECK HARNESS (POWER SUPPLY CIRCUIT).** 1) Disconnect the stereo camera. 2) Turn the ignition switch to ON. 3) Measure the voltage between harness connector of stereo camera and chassis ground. ***Connector & terminal*** ***(R137) No. 6 (+) — Chassis ground (–):*** ***(R137) No. 16 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Check the power supply system circuit, and if any fault is found, repair the defective parts or replace the harness.
5	**CHECK HARNESS (GROUND CIRCUIT).** 1) Turn the ignition switch to OFF. 2) Disconnect the ground cable from battery. 3) Measure the resistance between stereo camera and chassis ground. ***Connector & terminal*** ***(R137) No. 7 — Chassis ground:*** ***(R137) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6**.	Check the ground system circuit, and if any fault is found, repair the defective parts or replace the harness.
6	**CHECK POOR CONTACT OF CONNECTORS.** Check stereo camera connector.	Is there poor contact of the connector?	Repair the connector.	Go to step **7**.
7	**CHECK STEREO CAMERA.** 1) Connect all connectors and battery terminals securely. 2) Start the engine, drive the vehicle at 40 km/h (24.9 MPH) or more, stop the vehicle and then stop the engine. 3) After 3 seconds or more have elapsed, restart the engine. 4) Clear the memory. 5) Read the DTC.	Is the same DTC (DTC B2814 or B2815) displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact occurs.

AF:DTC B2815 POWER SUPPLY VOLT ERROR

Detected when the status for the battery voltage of 16 V or more continues approximately for 5 seconds and is judged to be abnormally high voltage.
Refer to DTC B2814 for DTC detecting condition, trouble symptom and diagnostic procedure. <Ref. to ES(diag)-99, DTC B2814 POWER SUPPLY VOLT ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AG:DTC B2817 BRAKE LAMP ERROR

DTC DETECTING CONDITION:

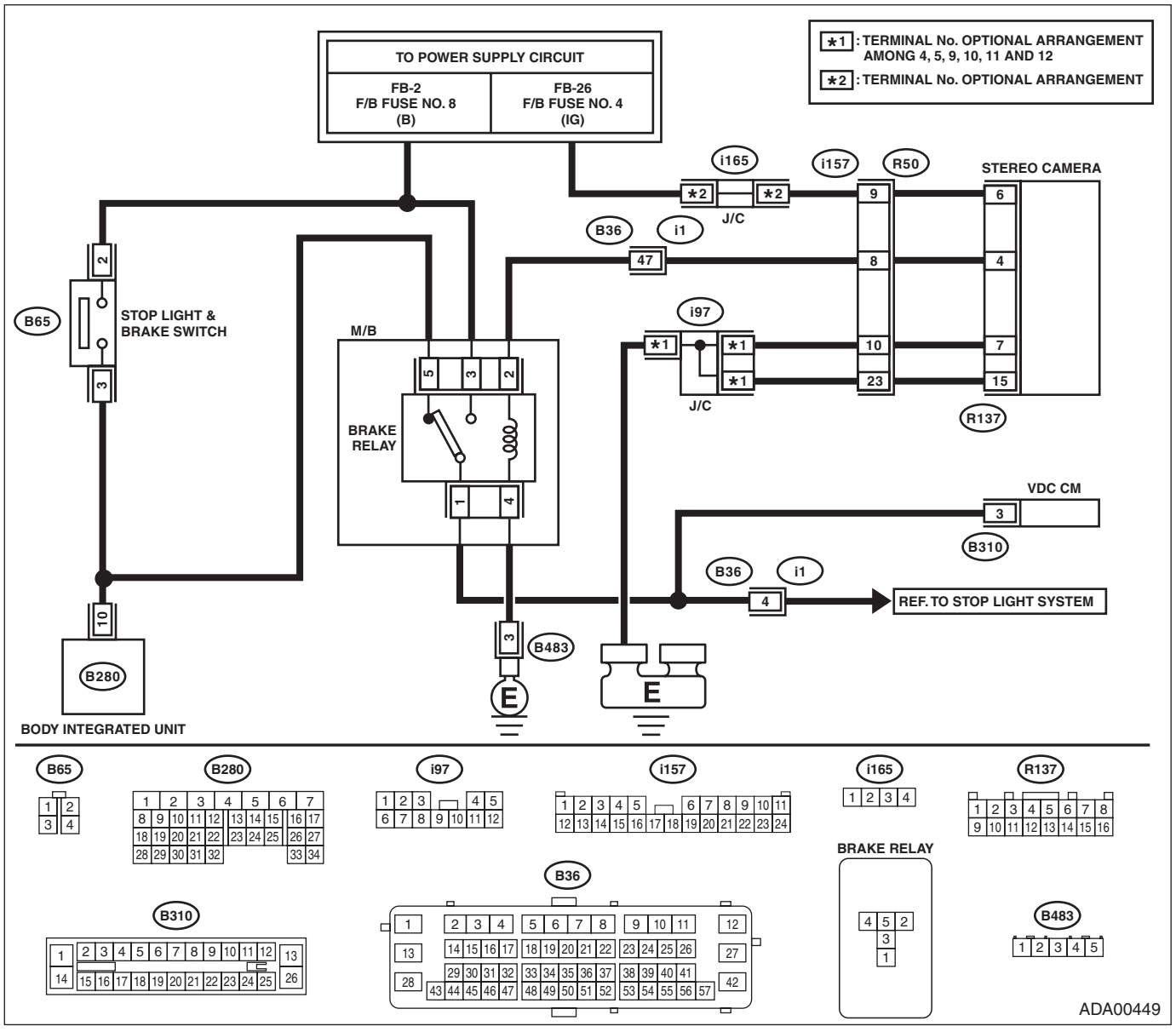
- Defective brake light relay
- Defective brake light switch
- Defective VDC

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.
- Brake light does not go off or illuminate.

WIRING DIAGRAM:

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>



Step		Check	Yes	No
1	**CHECK BRAKE LIGHT.** Turn the ignition switch to ON.	Does the brake light go off when the brake pedal is not depressed?	Go to step **5**.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the brake light relay connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between the brake light relay connector and chassis ground. ***Connector & terminal*** ***Brake relay No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Repair or replace the harness.	Go to step **3**.
3	**CHECK HARNESS.** Measure the voltage between the brake light relay connector and chassis ground. ***Connector & terminal*** ***Brake relay No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Replace the brake light relay. <Ref. to ES-24, REMOVAL, Brake Lamp Relay.>
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the stereo camera. 3) Turn the ignition switch to ON. 4) Measure the voltage between the brake light relay connector and chassis ground. ***Connector & terminal*** ***Brake relay No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Repair the harness.	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>
5	**CHECK BRAKE LIGHT RELAY.** 1) Turn the ignition switch to OFF. 2) Disconnect the brake light relay connector. 3) Check the brake light relay.	Is the brake light relay OK?	Go to step **6**.	Replace the brake light relay. <Ref. to ES-24, REMOVAL, Brake Lamp Relay.>
6	**CHECK HARNESS.** 1) Disconnect the connector from the VDCCM&H/U. 2) Measure the resistance between brake light relay and VDCCM&H/U harness connector. ***Connector & terminal*** ***Brake relay No. 1 — (B310) No. 3:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair or replace the harness.
7	**CHECK HARNESS.** 1) Disconnect the stop light & brake switch connector. 2) Disconnect the connector of body integrated unit. 3) Measure the resistance between stop light & brake switch and harness connector of body integrated unit. ***Connector & terminal*** ***(B65) No. 3 — (B280) No. 10:***	Is the resistance less than 10 Ω?	Go to step **8**.	Check harness between stop light switch and body integrated unit.
8	**CHECK CONNECTOR.** Check the connectors for brake light relay, stereo camera, VDCCM&H/U and body integrated unit.	Is the connector normal?	Go to step **9**.	Repair or replace the connector.
9	**CHECK HARNESS.** 1) Disconnect the brake light relay connector. 2) Measure the voltage between the brake light relay connector and chassis ground. ***Connector & terminal*** ***Brake relay No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **10**.	Check the power supply system harness.
10	**CHECK HARNESS.** Measure the resistance between the brake light relay harness connector and chassis ground. ***Connector & terminal*** ***Brake relay No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **11**.	Check the ground system harness.

	Step	Check	Yes	No
11	**CHECK HARNESS.** 1) Disconnect the stereo camera. 2) Disconnect the brake light relay connector. 3) Measure the resistance between the harness connectors of stereo camera and brake light relay. ***Connector & terminal*** ***(R137) No. 4 — Brake relay No. 2:***	Is the resistance less than 10 Ω?	Go to step **12**.	Repair or replace the connector.
12	**CHECK HARNESS.** Measure the resistance between the brake light relay harness connector and chassis ground. ***Connector & terminal*** ***Brake relay No. 1 — Chassis ground:***	Is the resistance 1 MΩ or more?	Check the brake light bulb and harness.	Go to step **13**.
13	**CHECK HARNESS.** Measure the resistance between the harness connectors of stop light & brake switch and brake light relay. ***Connector & terminal*** ***(B65) No. 3 — Brake relay No. 5:***	Is the resistance less than 10 Ω?	Go to step **14**.	Check the harness.
14	**CHECK STEREO CAMERA.** 1) Connect all connectors securely. 2) Turn the ignition switch to ON. 3) Connect the Subaru Select Monitor. 4) Read the DTC.	Is another DTC displayed?	Perform the diagnosis according to DTC.	Go to step **15**.
15	**CHECK STEREO CAMERA.** 1) Clear the memory. 2) Start the engine. After 5 seconds of the engine start, depress and hold the brake pedal for 3 seconds or more. 3) Operate the adaptive cruise control with preceding vehicle adaptive function in all speed ranges, apply brake by deceleration control. 4) Read the DTC.	Is DTC B2817 displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact occurs.

AH:DTC B28A0 VEHICLE MODEL JUDGMENT ABNORMAL

Detected when the model code for stereo camera and the model code used for CAN data are different.

DTC DETECTING CONDITION:

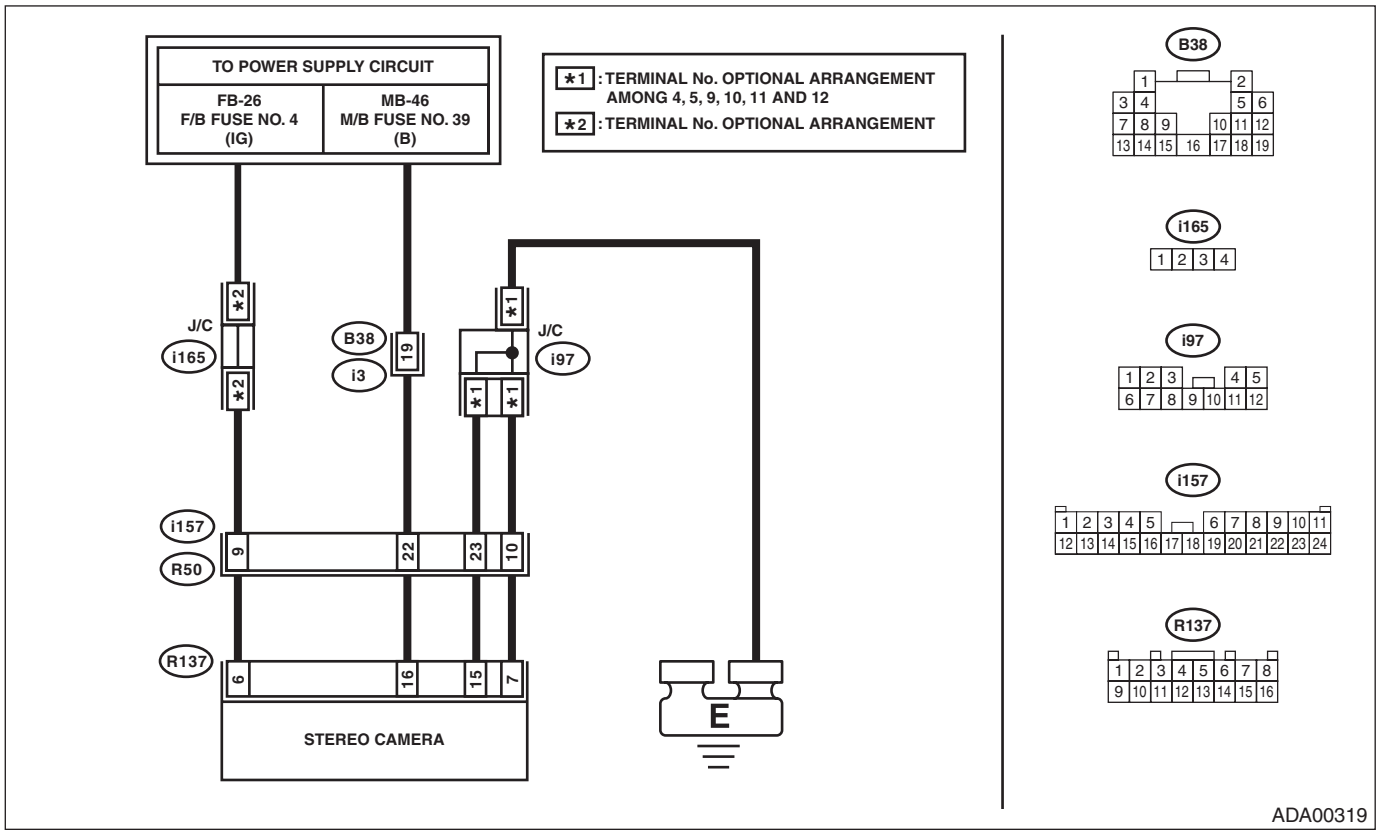
- Defective CAN system
- Defective stereo camera
- In the aiming operation, there is an open circuit in the +B harness of the stereo camera.
- In the completion of the aiming operation, the switching from IGN OFF to IGN ON takes place too early, and the recording of the model information has not yet been finished.

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

WIRING DIAGRAM:

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>



Step		Check	Yes	No
1	**CHECK RELATED CM.** Check the part number of the ECM, TCM, VDC CM and combination meter.	Is each CM a genuine part?	Go to step **2**.	Replace the non-genuine CM with a genuine one.
2	**CHECK STEREO CAMERA.** 1) Remove the camera cover. 2) Check the part number of the stereo camera.	Is the stereo camera genuine?	Go to step **3**.	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>
3	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK MODEL REGISTRATION INFORMATION.** Check the model registration information from the current data of stereo camera.	Does vehicle and data correspond?	Perform the adjustment or inspection of the camera. <Ref. to ES(diag)-45, Camera Adjustment, Inspection.>	Go to step **5**.
5	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **6**.	Replace the faulty fuse. If the newly replaced fuse is blown instantly, check the short circuit in harness.
6	**CHECK HARNESS (POWER SUPPLY CIRCUIT).** 1) Disconnect the stereo camera. 2) Turn the ignition switch to ON. 3) Measure the voltage between harness connector of stereo camera and chassis ground. ***Connector & terminal*** ***(R137) No. 6 (+) — Chassis ground (–):*** ***(R137) No. 16 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **7**.	Check the power supply system circuit, and if any fault is found, repair the defective parts or replace the harness.
7	**CHECK HARNESS (GROUND CIRCUIT).** 1) Turn the ignition switch to OFF. 2) Disconnect the ground cable from battery. 3) Measure the resistance between stereo camera and chassis ground. ***Connector & terminal*** ***(R137) No. 7 — Chassis ground:*** ***(R137) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **8**.	Check the ground system circuit, and if any fault is found, repair the defective parts or replace the harness.
8	**CHECK POOR CONTACT OF CONNECTORS.** Check stereo camera connector.	Is there poor contact of the connector?	Repair the connector.	Go to step **9**.
9	**CHECK STEREO CAMERA.** 1) Connect all connectors and battery terminals securely. 2) Clear the memory. 3) Read the DTC.	Is the same DTC (DTC B28A0) displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact occurs.

AI: DTC B28A1 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the engine control module (ECM) detects the malfunction of stereo camera, or when the stereo camera or ECM is assembled incorrectly.

DTC DETECTING CONDITION:

- Defective CAN system
- Defective engine control module (ECM)
- Defective stereo camera
- Incorrect assembly of stereo camera (When the stereo camera designed for C-type vehicle is installed to the B-type vehicle, etc.)
- Incorrect assembly of ECM (When the ECM designed for B-type vehicle is installed to the C-type vehicle, etc.)

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

	Step	Check	Yes	No
1	**CHECK ECM.** Check the part number of the ECM.	Is the ECM genuine?	Go to step **2**.	Replace the ECM.
2	**CHECK STEREO CAMERA.** 1) Remove the camera cover. 2) Check the part number of the stereo camera.	Is the stereo camera genuine?	Go to step **3**.	Replace the stereo camera.
3	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **4**.
4	**CHECK ECM.** Perform the diagnosis for the engine. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **5**.
5	**CHECK CONNECTOR.** Check the ECM connector and the stereo camera connector.	Is the connector OK?	Go to step **6**.	Repair or replace the connector.
6	**CHECK STEREO CAMERA.** Read the DTC.	Is another DTC displayed?	Perform the diagnosis according to DTC.	Go to step **7**.
7	**CHECK STEREO CAMERA.** 1) Clear the memory. 2) Read the DTC.	Is the same DTC displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact.

AJ:DTC B28A2 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the VDC control module (VDC CM) detects the malfunction of stereo camera.

DTC DETECTING CONDITION:

- Defective CAN system
- Defective VDC control module (VDC CM)
- Defective stereo camera

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK VDC.** Perform the diagnosis for VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK CONNECTOR.** Check the VDC connector and the stereo camera connector.	Is the connector OK?	Go to step **4**.	Repair or replace the connector.
4	**CHECK STEREO CAMERA.** Read the DTC.	Is another DTC displayed?	Perform the diagnosis according to DTC.	Go to step **5**.
5	**CHECK STEREO CAMERA.** 1) Clear the memory. 2) Read the DTC.	Is the same DTC displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact.

AK:DTC B28A3 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the combination meter detects the malfunction of stereo camera.

DTC DETECTING CONDITION:

- Defective CAN system
- Defective combination meter
- Defective stereo camera

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is the DTC displayed in the LAN system?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK COMBINATION METER.** Check the combination meter.	Is combination meter OK?	Go to step **3**.	Perform the diagnosis for combination meter.
3	**CHECK CONNECTOR.** Check the combination meter connector and the stereo camera connector.	Is the connector OK?	Go to step **4**.	Repair or replace the connector.
4	**CHECK STEREO CAMERA.** Read the DTC.	Is another DTC displayed?	Perform the diagnosis according to DTC.	Go to step **5**.
5	**CHECK STEREO CAMERA.** 1) Clear the memory. 2) Read the DTC.	Is the same DTC displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact.

AL:DTC B28A4 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when the power steering control module (EPS CM) detects the malfunction of stereo camera.

DTC DETECTING CONDITION:

- Defective CAN system
- Defective EPS CM
- Defective stereo camera

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is the DTC displayed in the LAN system?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK EPS CM.** Perform the diagnosis for the power steering system.	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK CONNECTOR.** Check the EPS CM connector and the stereo camera connector.	Is the connector OK?	Go to step **4**.	Repair or replace the connector.
4	**CHECK STEREO CAMERA.** Read the DTC.	Is another DTC displayed?	Perform the diagnosis according to DTC.	Go to step **5**.
5	**CHECK STEREO CAMERA.** 1) Clear the memory. 2) Read the DTC.	Is the same DTC displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact.

AM:DTC B28A5 ADAPTIVE CC ECM COMMUNICATION DATA ERROR

Detected when abnormal data is transmitted from stereo camera to engine control module (ECM) and the engine control module (ECM) prohibits the AT rapid start prevention control, or when the engine control module (ECM) prohibits the AT rapid start prevention control.

DTC DETECTING CONDITION:

- Defective CAN system
- Defective engine control module (ECM)
- Defective stereo camera

TROUBLE SYMPTOM:

- All functions of EyeSight system do not operate.
- EyeSight warning light illuminates.

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK ECM.** Perform the diagnosis for the engine. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4DO)(diag)-2, Basic Diagnostic Procedure.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK CONNECTOR.** Check the ECM connector and the stereo camera connector.	Is the connector OK?	Go to step **4**.	Repair or replace the connector.
4	**CHECK STEREO CAMERA.** Read the DTC.	Is another DTC displayed?	Perform the diagnosis according to DTC.	Go to step **5**.
5	**CHECK STEREO CAMERA.** 1) Clear the memory. 2) Read the DTC again.	Is the same DTC displayed?	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Temporary poor contact.

AN:DTC B28A6 STEREO CAMERA ABNORMAL

Detected when communication error occurs inside the stereo camera.

DTC DETECTING CONDITION:

Communication error occurs inside the stereo camera.

TROUBLE SYMPTOM:

All functions of EyeSight system do not operate.

	Step	Check	Yes	No
1	**CHECK RESTARTING.** 1) Turn the ignition switch to OFF. 2) Start the engine. 3) Read the DTC related to the stereo camera using the Subaru Select Monitor.	Is DTC displayed after restarting the engine?*	Replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>	Clear the memory, in which temporary communication failure occurs and complete the step.

*: When malfunction is detected after restarting the engine, 0 is registered in IG counter. Other values can be regarded as DTCs detected in the past.

AO:DTC B28A7 STEREO CAMERA ABNORMAL

Detected when error occurs in the communication data inside the control module caused by external factors such as noises.

NOTE:
If the same DTC is still detected after the engine has restarted, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

AP:DTC B28A8 STEREO CAMERA ABNORMAL

Detected when error occurs in the communication data inside the control module caused by external factors such as noises.

NOTE:
If the same DTC is still detected after the engine has restarted, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

AQ:DTC B28A9 STEREO CAMERA ABNORMAL

Detected when error occurs in the communication data inside the control module caused by external factors such as noises.

NOTE:
If the same DTC is still detected after the engine has restarted, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

AR:DTC B28AA STEREO CAMERA ABNORMAL

Detected when communication error occurs due to malfunction of microcomputer inside the stereo camera.
DTC DETECTING CONDITION:
Communication error occurs due to malfunction of microcomputer inside the stereo camera.
TROUBLE SYMPTOM:
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AS:DTC B28AB STEREO CAMERA ABNORMAL

Detected when communication error occurs due to malfunction of microcomputer inside the stereo camera.
DTC DETECTING CONDITION:
Communication error occurs due to malfunction of microcomputer inside the stereo camera.
TROUBLE SYMPTOM:
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AT:DTC B28AC STEREO CAMERA ABNORMAL

Detected when communication error occurs due to malfunction of ASIC.
DTC DETECTING CONDITION:
Communication error occurs due to malfunction of ASIC.
TROUBLE SYMPTOM:
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AU:DTC B28AD STEREO CAMERA ABNORMAL

Detected when improper image recognition occurs in the microcomputer inside the stereo camera.
DTC DETECTING CONDITION:
Improper image recognition occurs in the microcomputer inside the stereo camera.
TROUBLE SYMPTOM:
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AV:DTC B28AE STEREO CAMERA ABNORMAL

Detected when improper power supply inside the stereo camera occurs.
DTC DETECTING CONDITION:
Improper power supply inside the stereo camera occurs.
TROUBLE SYMPTOM:
All functions of EyeSight system do not operate.
For diagnostic procedure, refer to “DTC B28A6 STEREO CAMERA ABNORMAL”. <Ref. to ES(diag)-109, DTC B28A6 STEREO CAMERA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AW:DTC B28AF STEREO CAMERA ABNORMAL

Detected when adjustment or inspection of stereo camera has not been completed normally.
DTC DETECTING CONDITION:
- Operation is aborted during adjustment or inspection of the stereo camera.
- After the replacement of the stereo camera, adjustment or inspection of camera has not yet been performed.

TROUBLE SYMPTOM:
All functions of EyeSight system do not operate.
For diagnostic procedure, perform adjustment/inspection of camera. When the adjustment or inspection of camera is performed, and if it is not completed successfully, replace the camera.

AX:DTC B28B0 STEREO CAMERA ABNORMAL

Detected when pre-collision brake OFF switch or lane departure warning OFF switch circuit is shorted.

DTC DETECTING CONDITION:

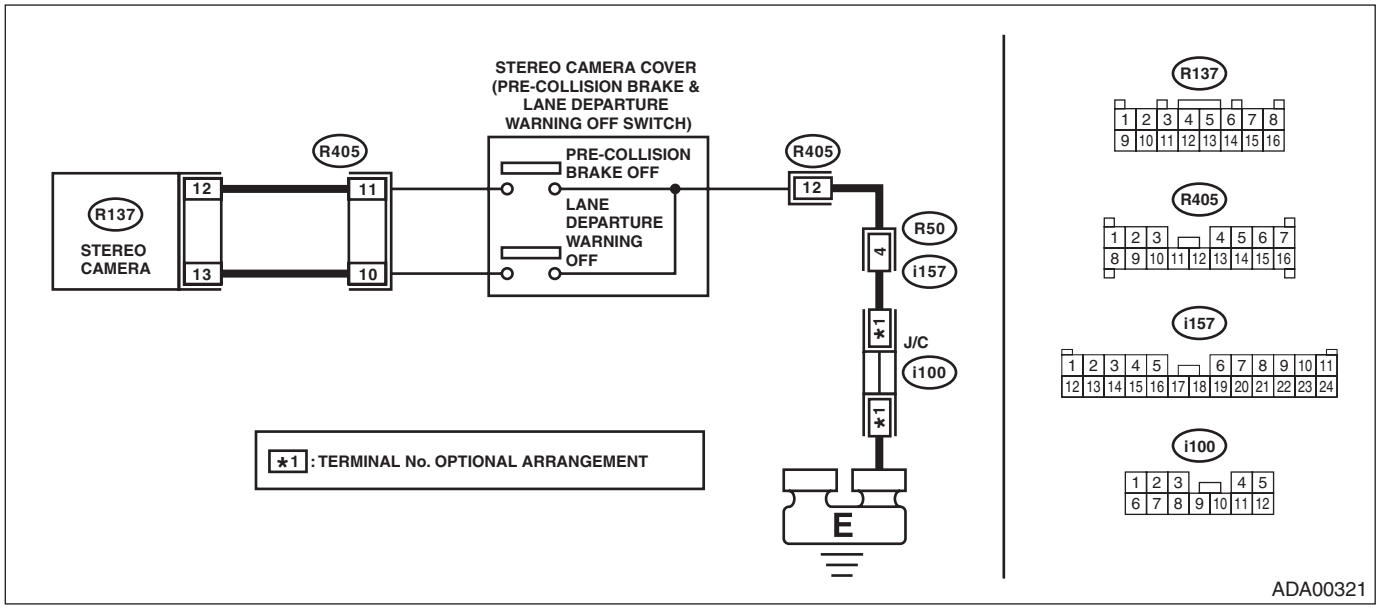
Pre-collision brake OFF switch or lane departure warning OFF switch circuit stays ON for 45 seconds or more.

TROUBLE SYMPTOM:

All functions of EyeSight system do not operate.

WIRING DIAGRAM:

EyeSight System <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>



Step		Check	Yes	No
1	**CHECK SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the stereo camera connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R137) No. 12 — Chassis ground:*** ***(R137) No. 13 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **2**.	If the code is still detected after restoring, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>
2	**CHECK HARNESS.** 1) Disconnect the switch connector for the stereo camera cover. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R137) No. 12 — Chassis ground:*** ***(R137) No. 13 — Chassis ground:***	Is the resistance 10 Ω or less?	Repair or replace the harness.	Go to step **3**.
3	**CHECK SWITCH.** Using the tester, measure the resistance of the switch. ***Connector & terminal*** ***(R405) No. 11 — No. 12:*** ***(R405) No. 10 — No. 12:***	Does the resistance change when the switch is operated?	Repair or replace the harness.	Replace the switch.

AY:DTC B28B1 STEREO CAMERA ABNORMAL

Detected when the optical axis of stereo camera is deviated in lateral direction or when the fluctuation range of automatic adjustment value has expanded.

NOTE:
Readjust the stereo camera. <Ref. to ES(diag)-45, PROCEDURE, Camera Adjustment, Inspection.>
If the same DTC is still detected after readjustment, replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

AZ:DTC B28B2 STEREO CAMERA ABNORMAL

Detected when the temperature of the stereo camera excessively increases.

NOTE:
When this DTC is detected, performing adjustment or inspection of the camera will not return to the normal state. In this case, always replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

BA:DTC B28B3 STEREO CAMERA ABNORMAL

Detected when the temperature of the stereo camera excessively decreases.

NOTE:
When this DTC is detected, performing adjustment or inspection of the camera will not return to the normal state. In this case, always replace the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>

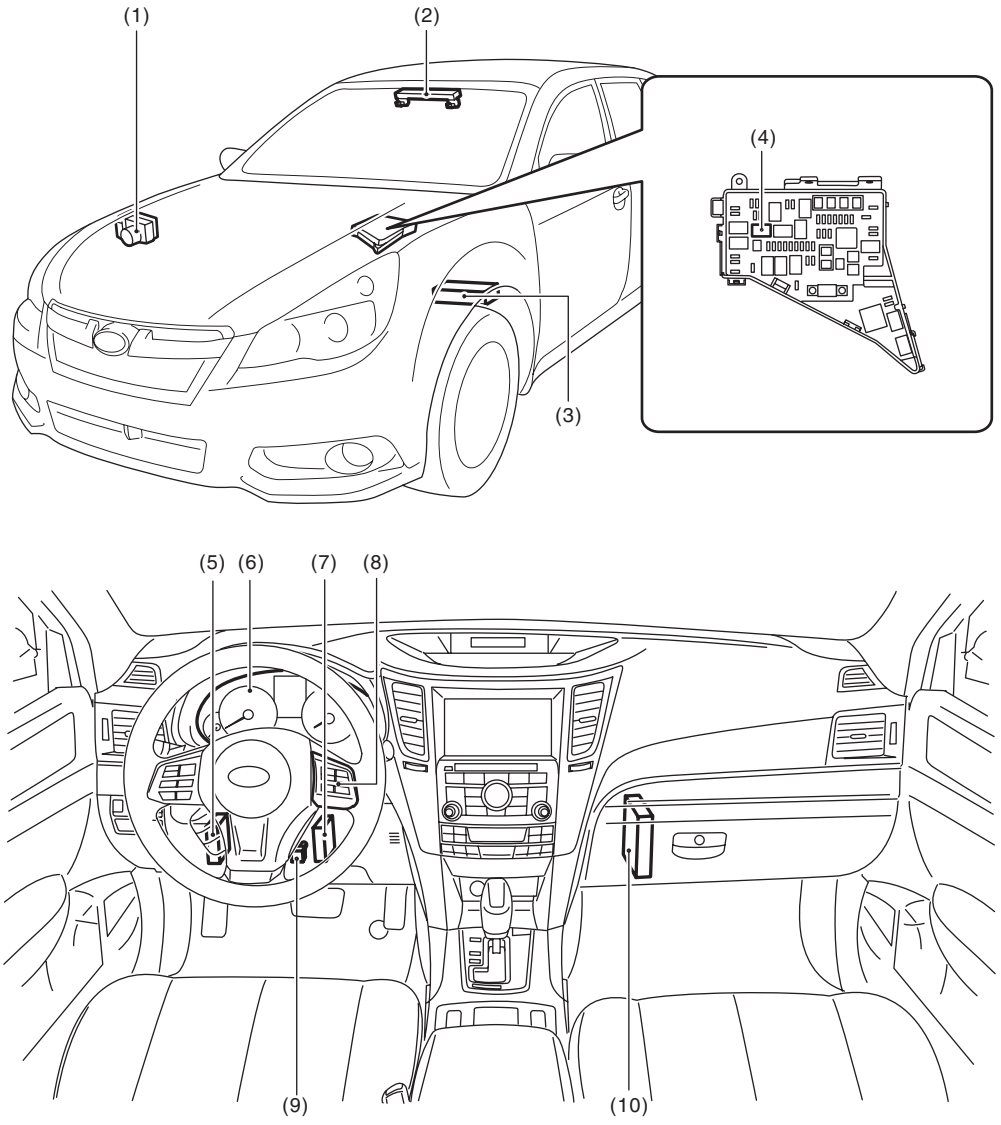
KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

KPS(diag)

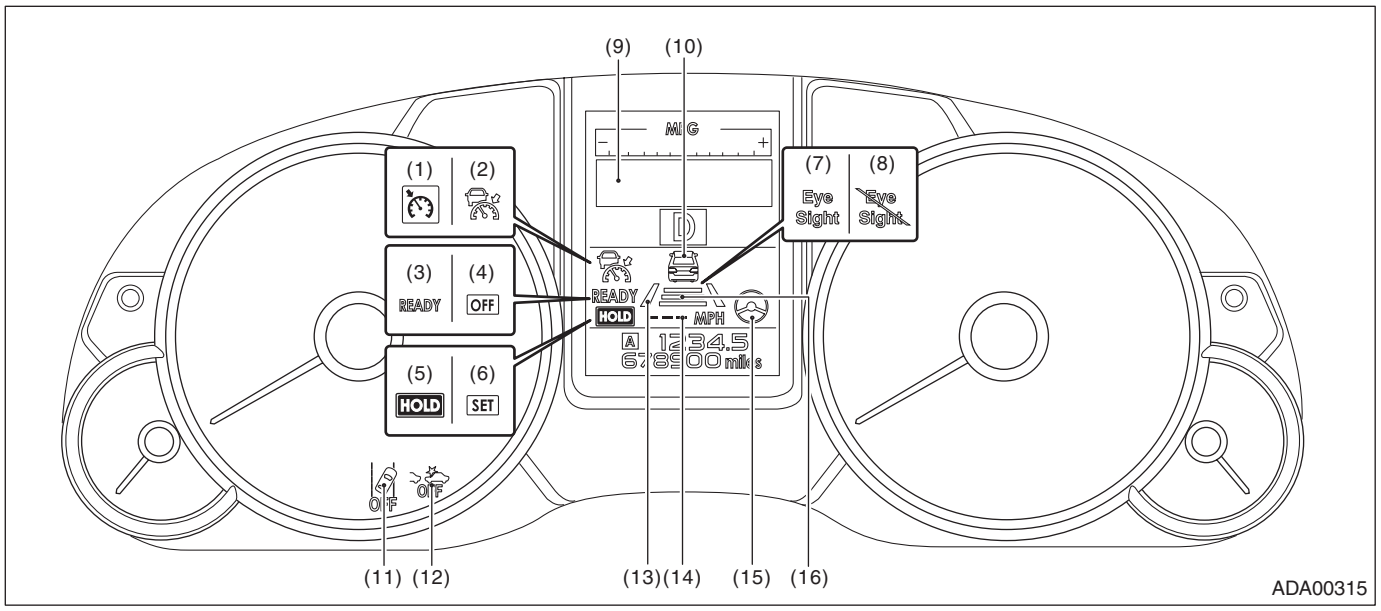
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1. General Description

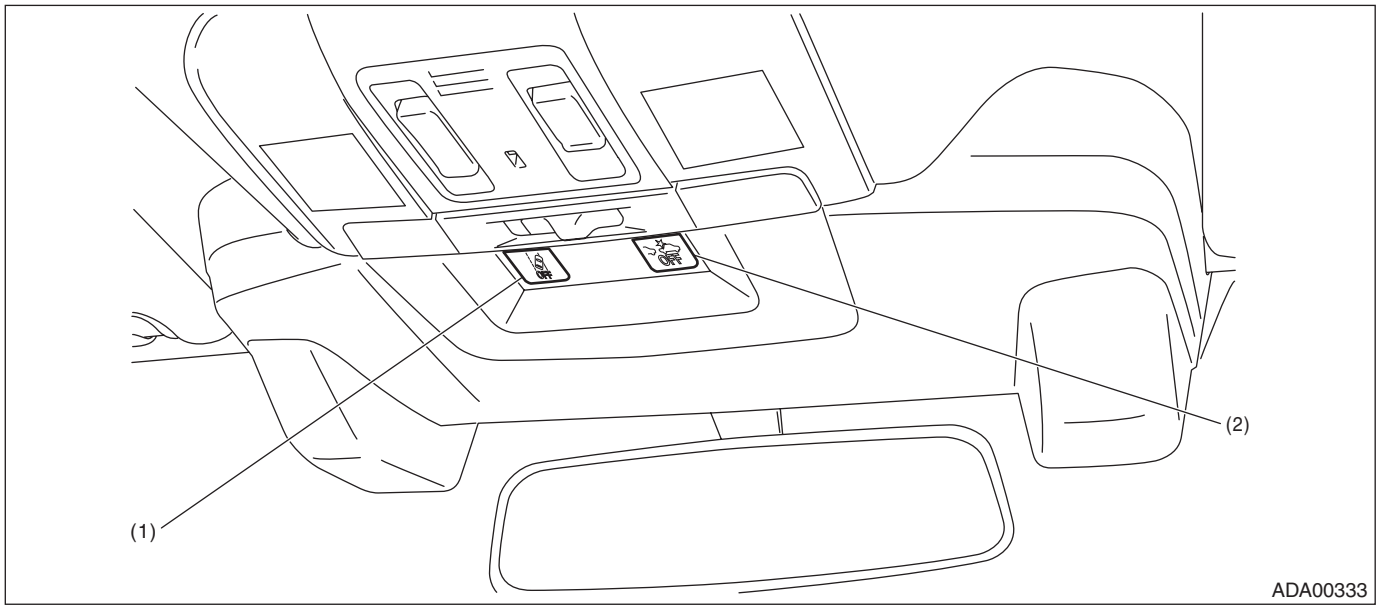
A: COMPONENT



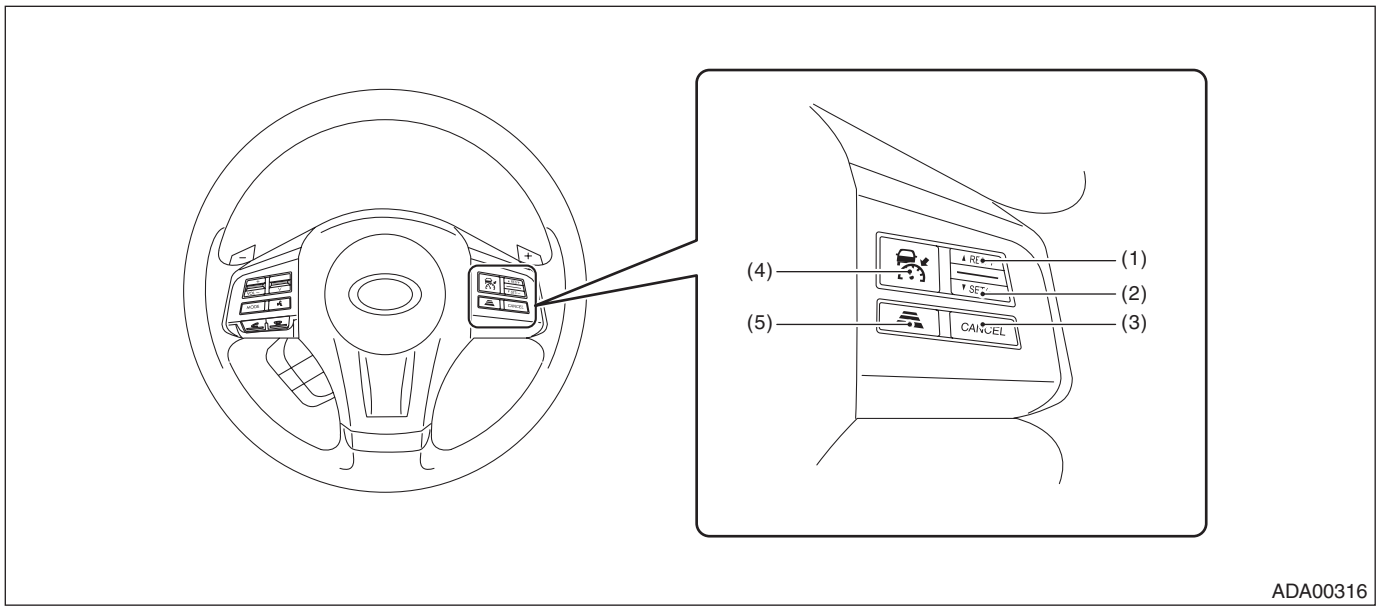
(1) VDC control module (VDC CM)
(2) Stereo camera
(3) Parking brake control module (EPB CM)
(4) Brake light relay
(5) Transmission control module (TCM)
(6) Combination meter
(7) Body integrated unit
(8) Cruise control command switch
(9) Stop light and brake switch
(10) Engine control module (ECM)



(1) Conventional CRUISE indicator
(2) Adaptive CRUISE indicator
(3) READY indicator
(4) OFF indicator
(5) HOLD indicator
(6) SET indicator
(7) EyeSight warning indicator
(8) EyeSight temporary stop indicator
(9) Message display area
(10) Preceding vehicle indicator
(11) Lane departure warning OFF indicator light
(12) Pre-collision brake OFF indicator light
(13) Lane indicator
(14) Set vehicle speed display
(15) Steering wheel indicator
(16) Following distance setting indicator



(1) Lane departure warning OFF switch
(2) Pre-collision brake OFF switch



(1) RES/+ (Resume/+) switch
(2) SET/– (Set/–) switch
(3) CANCEL switch
(4) CRUISE switch
(5) Following distance setting switch

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Adjust parts to the given specifications.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.
• Yellow connectors and harnesses with yellow tapes around them are the connectors and harnesses for the airbag system. Using a tester above such circuits may cause malfunction of airbag system. Follow the cautions for the airbag system in this case. <Ref. to AB-10, CAUTION, General Description.>
• Be careful not to damage the airbag system wiring harness when servicing electrical parts and switches.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>
• If the damage is found in the glass repair prohibited area, always replace the glass. <Ref. to ES(diag)-8, WINDSHIELD GLASS AND DASHBOARD, INSPECTION, General Description.>
Damage in the prohibited area can affect the recognition of the stereo camera even if it is repaired, and thereby EyeSight function may not operate properly.

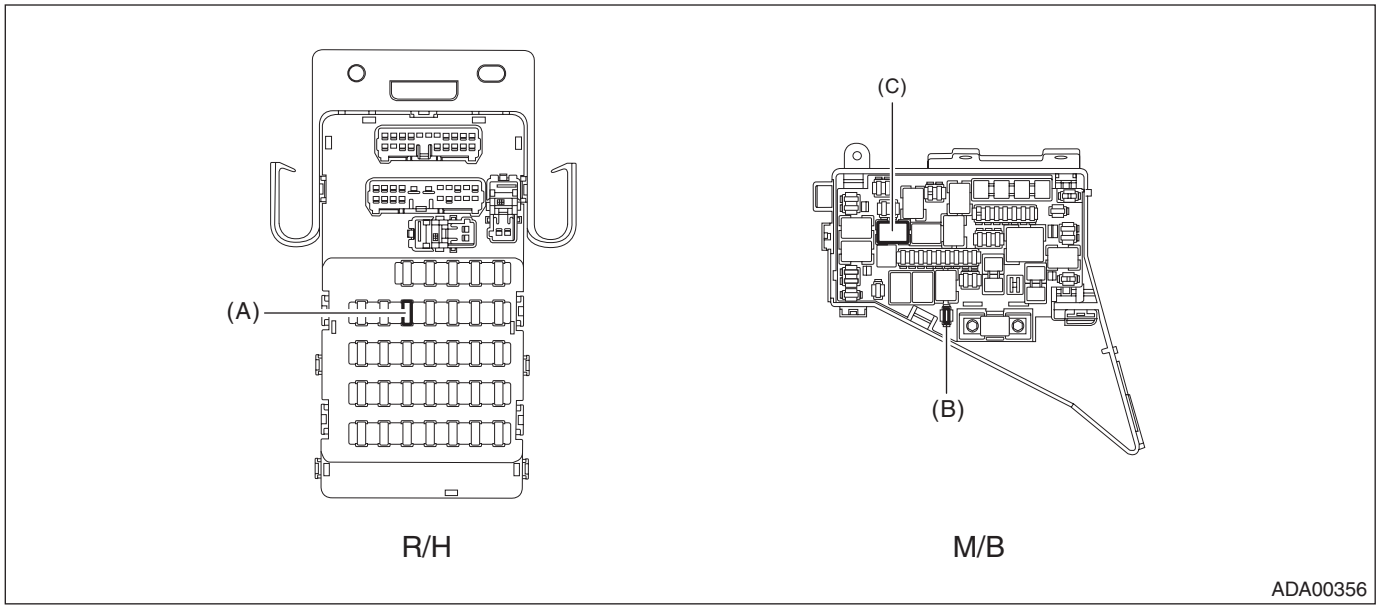
C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Protective tape (masking tape, etc.)	Used for removing and installing stereo camera cover assembly.
Steering wheel puller	Used for removing the steering wheel.

2. Relay and Fuse

A: LOCATION



Relay & fuse box	Fuse 15A (stop light and brake switch)	(A)
Main fuse box	Fuse 10 A (stereo camera)	(B)
	Brake light relay	(C)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

B: INSPECTION

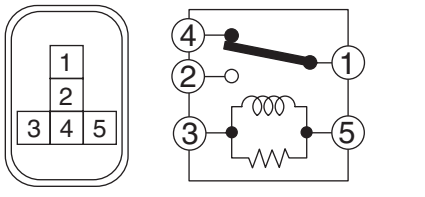
1. CHECK FUSE

1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

NOTE:
If the fuse is blown again, check the system wiring harness.

2. CHECK RELAY

1) Check the resistance between relay terminals.

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Always	1 MΩ or more	
1 — 4	Always	Less than 1 Ω	
1 — 2	Apply battery voltage between terminals 3 and 5.	Less than 1 Ω	

2) Replace the relay if the inspection result is not within the standard value.

3. EyeSight System

A: WIRING DIAGRAM

Refer to “EyeSight System” in the wiring diagram. <Ref. to WI-182, WIRING DIAGRAM, EyeSight System.>

B: INSPECTION

Refer to “Basic Diagnostic Procedure” of “EyeSight (DIAGNOSTICS)” section. <Ref. to ES(diag)-2, Basic Diagnostic Procedure.>

C: NOTE

For procedure of each component in the EyeSight system, refer to the respective section.

- Control module:<Ref. to ES-7, Control Unit.>
- Stereo camera:<Ref. to ES-8, Stereo Camera.>
- Cruise control command switch:<Ref. to ES-16, Cruise Control Command Switch.>
- Combination meter:<Ref. to ES-21, Combination Meter.>
- Transmission control module (TCM):<Ref. to ES-22, Transmission Control Module (TCM).>
- Stop light and brake switch:<Ref. to ES-23, Stop Light & Brake Switch.>
- Brake light relay:<Ref. to ES-24, Brake Lamp Relay.>
- VDC control module & hydraulic control unit (VDCCM&H/U):<Ref. to ES-25, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
- Parking brake actuator:<Ref. to ES-26, Parking Brake Actuator.>
- Switches and harness:<Ref. to ES-15, Switches and Harness.>

4. Control Unit

A: NOTE

System control of the EyeSight is performed by the following modules.
- Engine control module (ECM)
- Transmission control module (TCM)
- VDC control module (VDC CM)
- Parking brake actuator (EPB CM)
- Stereo camera

B: REMOVAL

For removal, refer to the removal procedure of each module.
- Engine control module (ECM)

H4 model: <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).>
H6 model: <Ref. to FU(H6DO)-54, REMOVAL, Engine Control Module (ECM).>
- Transmission control module (TCM)

CVT model: <Ref. to CVT-142, REMOVAL, Transmission Control Module (TCM).>
5AT model: <Ref. to 5AT-56, REMOVAL, Transmission Control Module (TCM).>
- VDC control module (VDC CM): <Ref. to VDC-12, MODELS WITH EyeSight, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
- Parking brake actuator (EPB CM): <Ref. to PB-7, REMOVAL, Parking Brake Actuator.>
- Stereo camera: <Ref. to ES-8, REMOVAL, Stereo Camera.>

C: INSTALLATION

For installation, refer to the installation procedure of each module.
- Engine control module (ECM)

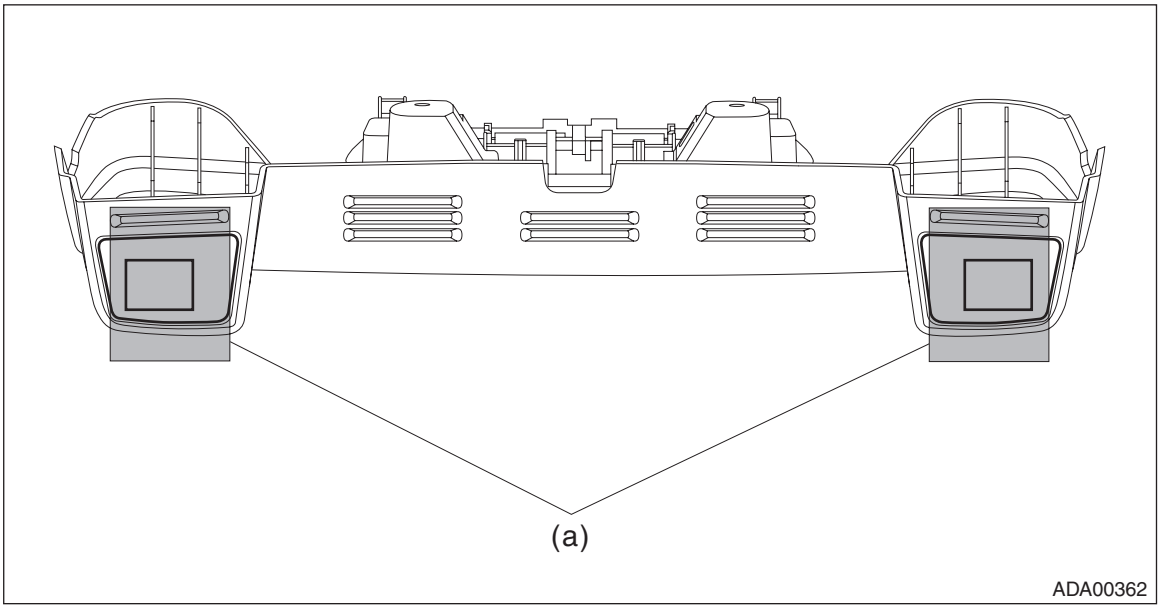
H4 model: <Ref. to FU(H4DO)-102, INSTALLATION, Engine Control Module (ECM).>
H6 model: <Ref. to FU(H6DO)-54, INSTALLATION, Engine Control Module (ECM).>
- Transmission control module (TCM)

CVT model: <Ref. to CVT-143, INSTALLATION, Transmission Control Module (TCM).>
5AT model: <Ref. to 5AT-56, INSTALLATION, Transmission Control Module (TCM).>
- VDC control module (VDC CM): <Ref. to VDC-14, MODELS WITH EyeSight, INSTALLATION, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
- Parking brake actuator (EPB CM): <Ref. to PB-9, INSTALLATION, Parking Brake Actuator.>
- Stereo camera: <Ref. to ES-12, INSTALLATION, Stereo Camera.>

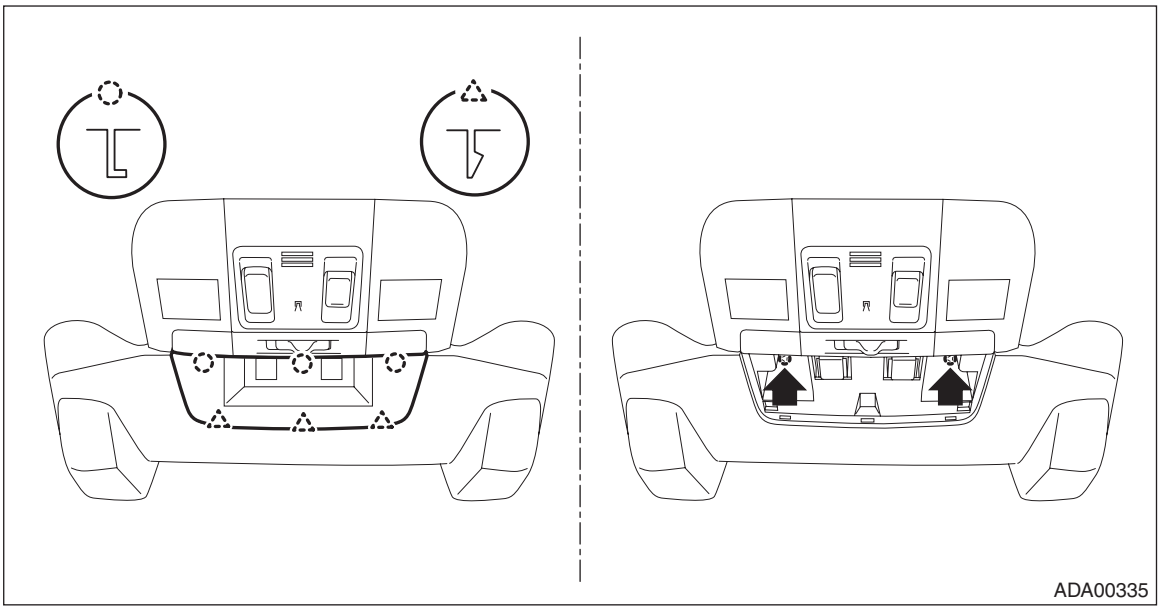
5. Stereo Camera

A: REMOVAL

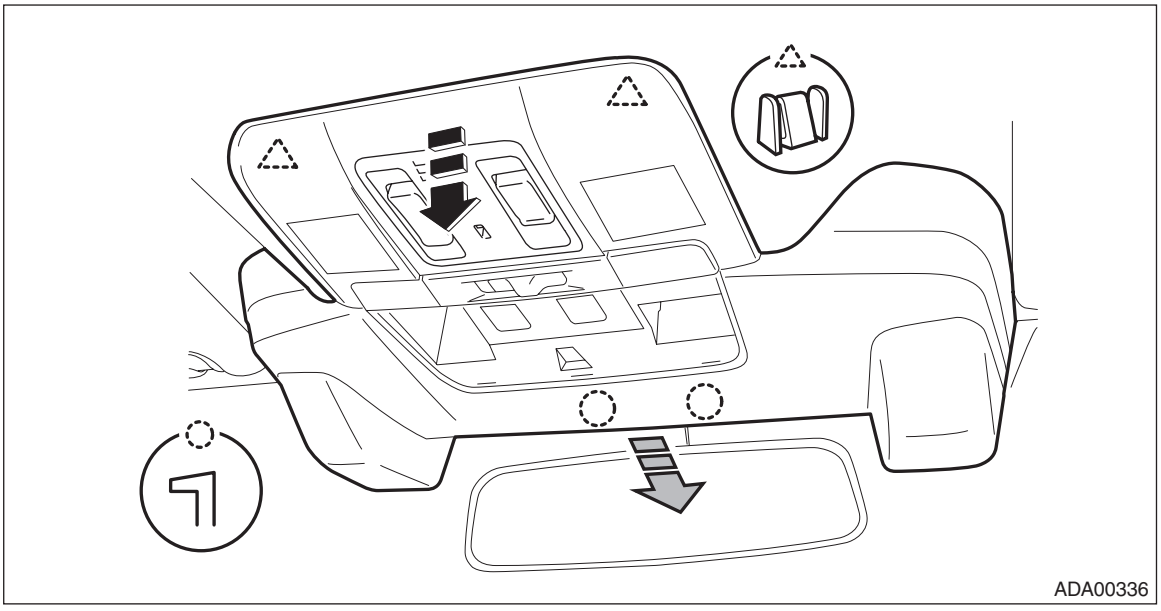
CAUTION:
• When the stereo camera or windshield glass has been replaced, removed or installed, always perform the adjustment and inspection of the camera. (When the stereo camera has been replaced with a new part, the camera remains in a failed state until adjustment and inspection are performed.)
• Since the stereo camera is a precision equipment, install the protective cover before handling it. (New stereo camera is equipped with a protective cover as a service part.)
• During removal, do not hold at the left and right cameras.
• Do not apply any impact to the stereo camera. (Even the slightest shock will deviate the optical axis of the camera, resulting in the loss of normal operation of the camera.)
• Do not disassemble the stereo camera.
• Attach the protective cover to the replacement part, put it into the box in the same way as the other parts and return it.
• Do not touch the lens filter on the stereo camera. If touched, replace the lens hood.
• When removing the stereo camera cover assembly, attach protective tape with a weak adhesive force such as masking tape to avoid interference with the camera lens before performing operation.
1) Disconnect the ground cable from battery.
2) Attach the protective tape (a) to the stereo camera cover assembly.



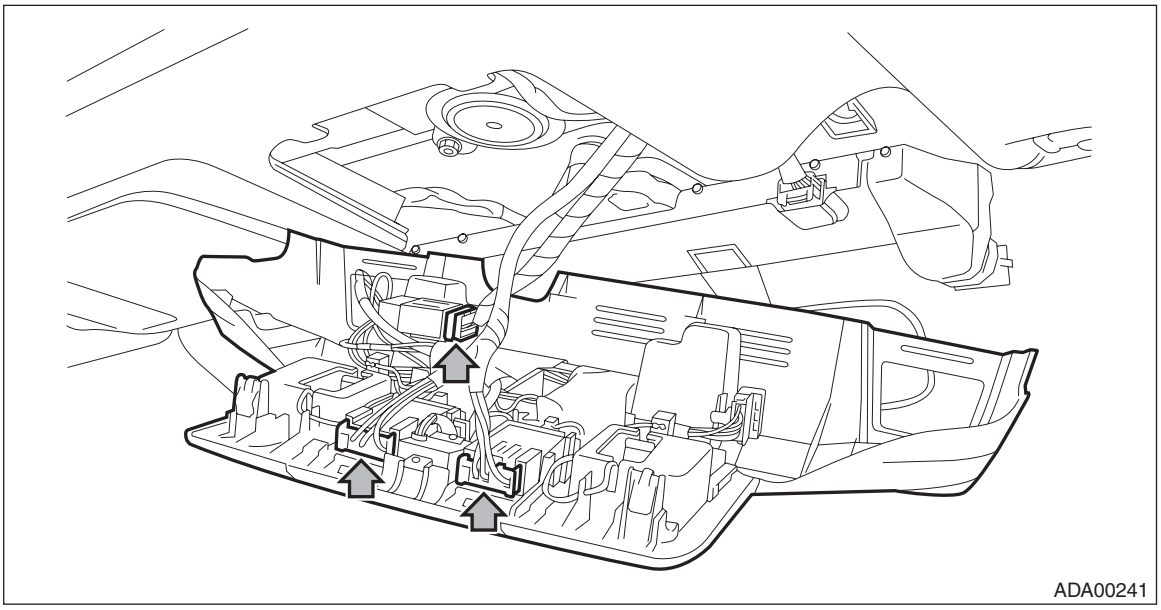
3) Remove the stereo camera cover.
(1) Release the claws and then remove the cap.
(2) Remove the mounting bolt of stereo camera cover.



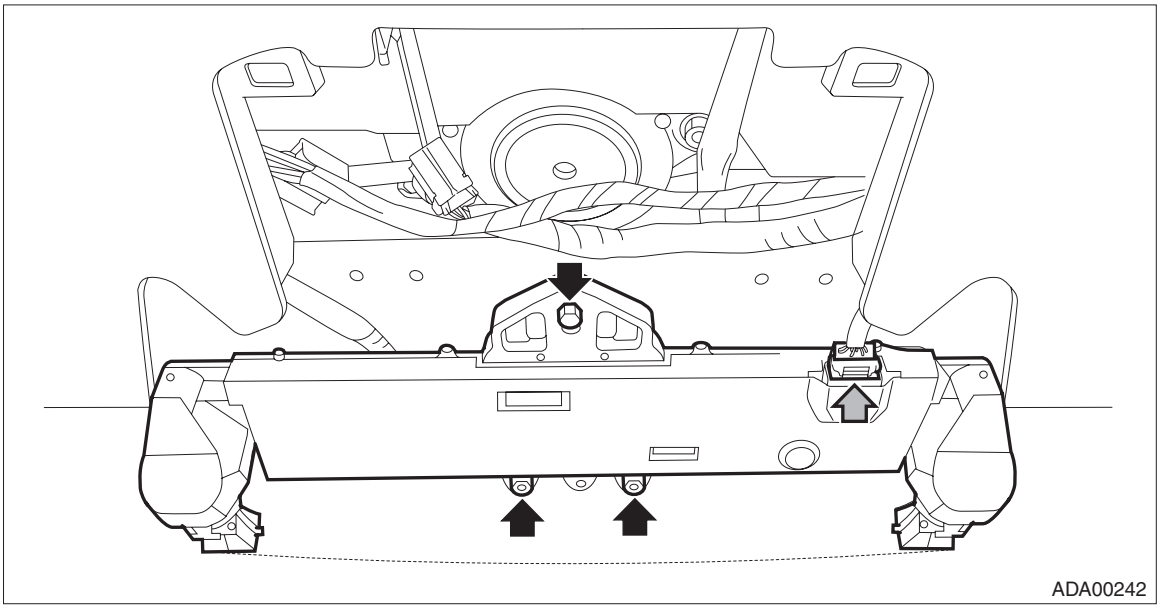
(3) Pull down the stereo camera cover, and then release the claws.
(4) Slide the stereo camera cover toward the windshield glass, and detach the cover hooks.



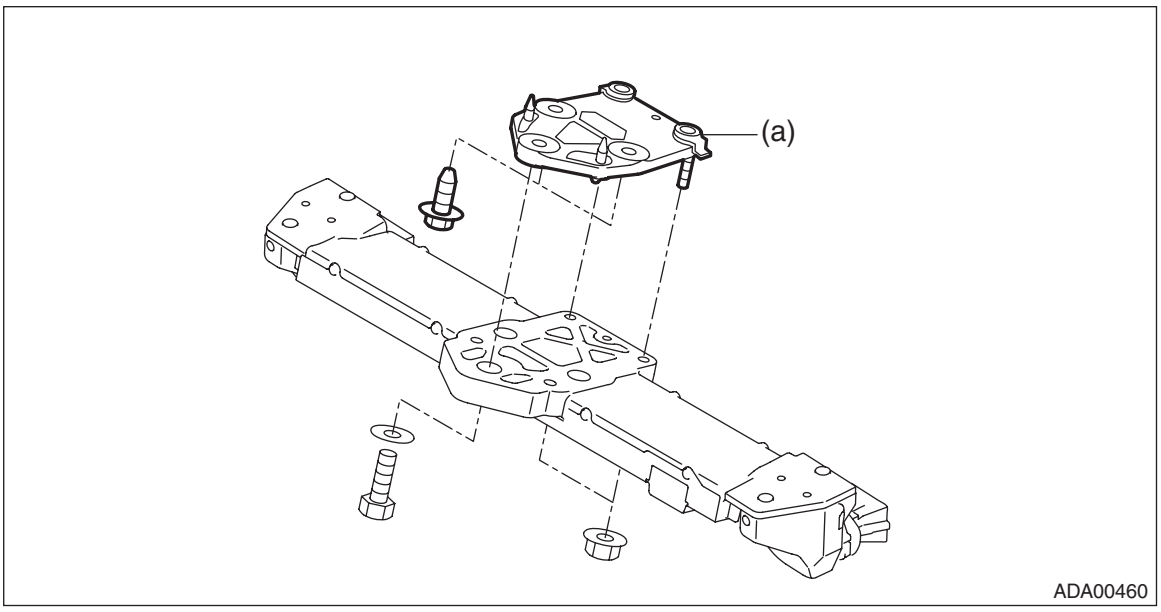
(5) Disconnect the connectors, and remove the stereo camera cover assembly.



4) Remove the stereo camera.
(1) Disconnect the stereo camera connector.
(2) Remove the bolts and nuts and remove the stereo camera.



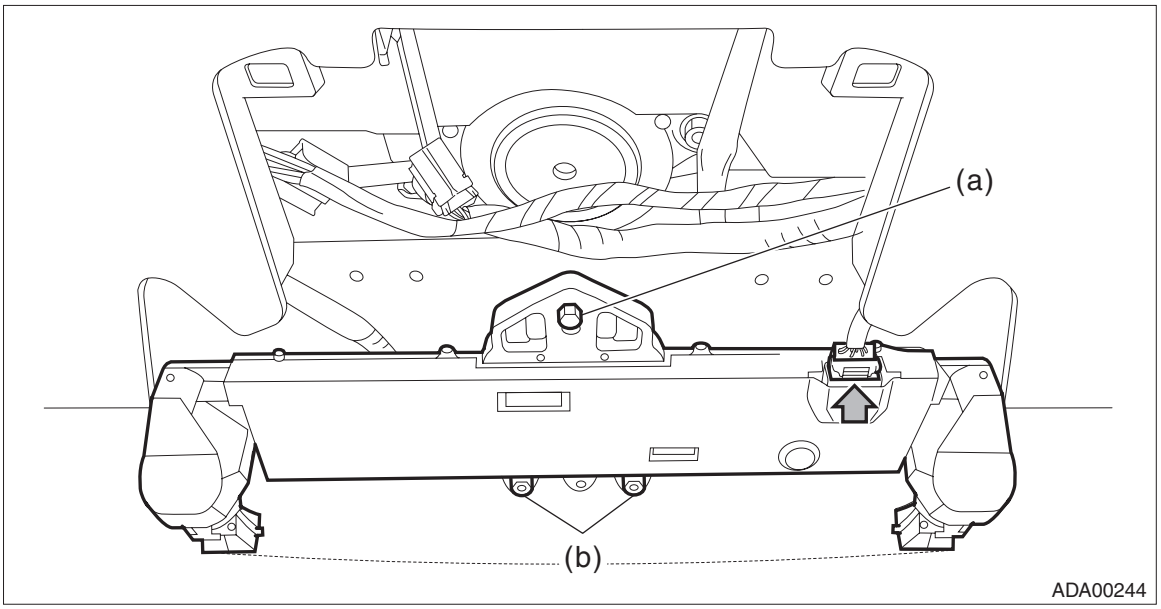
NOTE:
Remove the camera spacer (a) as required.



B: INSTALLATION

CAUTION:
• Do not remove the protective cover until just before installing the stereo camera cover assembly. Using the bolt and nut, install the stereo camera with the protective cover attached, connect the connectors, and then remove the protective cover.
• Do not apply any impact to the stereo camera. (Even the slightest shock will deviate the optical axis of the camera, resulting in the loss of normal operation of the camera.)
• During installation, do not hold at the left and right cameras.
• Do not change the installation position of the stereo camera or do not modify the surrounding structure.
• Remove the protective cover, install the stereo camera cover assembly, and then perform adjustment and inspection of the stereo camera. <Ref. to ES(diag)-45, Camera Adjustment, Inspection.>
• Do not touch the lens filter on the stereo camera. If touched, replace the lens hood.
• When installing the stereo camera cover assembly, attach protective tape with a weak adhesive force such as masking tape to avoid interference with the lens filter before performing operation.
• When installing the stereo camera cover assembly, take care so that the harness does not interfere with the stereo camera.
• Do not allow the stereo camera cover assembly to come in contact with the stereo camera. Install the stereo camera cover assembly precisely so that it will not block the visibility of the camera.
• Because the stereo camera is incompatible, be sure to check the part number before installation.
Install each part in the reverse order of removal.

NOTE:
When installing the stereo camera to the vehicle, install the bolt (a) first, and then the nut (b).

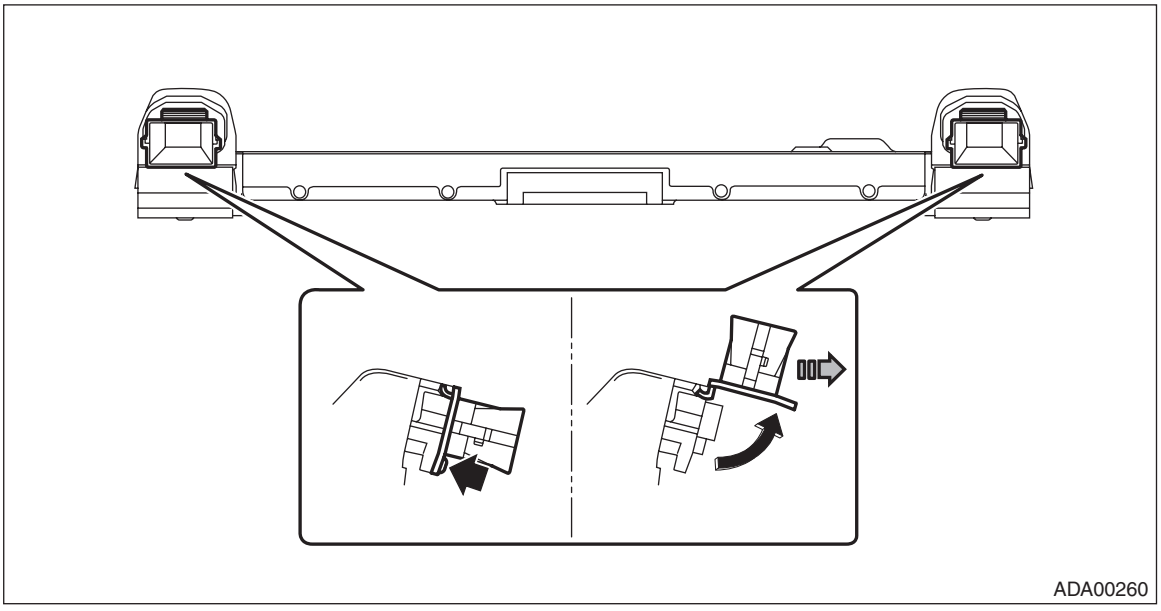


Tightening torque:
Camera spacer: 5.5±1.0 N·m (0.56±0.10 kgf-m, 4.1±0.7 ft-lb)
Stereo camera: 5.5±1.0 N·m (0.56±0.10 kgf-m, 4.1±0.7 ft-lb)
Stereo camera cover: 5.5±1.0 N·m (0.56±0.10 kgf-m, 4.1±0.7 ft-lb)

C: REPLACEMENT

1. REPLACEMENT OF LENS HOOD

CAUTION:
• Perform the operation in the room where there are less dust.
• During replacement, do not hold at the left and right cameras.
• During replacement, do not touch the terminals and circuit board.
• Do not apply any impact to the stereo camera. (Even the slightest shock will deviate the optical axis of the camera, resulting in the loss of normal operation of the camera.)
• Do not allow any tools to come in contact with the lens of the stereo camera and the lens filter on the lens hood.
• Do not clean the lens of the stereo camera and the lens filter on the lens hood.
• Replace the left and right lens hoods as a pair because the optical characteristics for both lens hoods must match.
• Wear clean nylon and vinyl glove. Do not wear cotton work glove to prevent dust or fiber from adhering to the lens hood.
• Before starting operation, discharge static electricity carried on body or clothes.
• Do not touch the lens of the stereo camera and the lens filter on the lens hood. If touched, replace the stereo camera and lens hood.
• After replacing the lens hood, perform adjustment and inspection of the stereo camera.
1) Remove the stereo camera. <Ref. to ES-8, REMOVAL, Stereo Camera.>
2) Remove the lens hood.
   (1) Remove the screws.
   (2) Rotate the lens hood by 90 degrees and pull it out.



3) Install lens hood in the reverse order of removal.

CAUTION:
Do not apply excessive force to the lens hood. The lens filter inside the hood may be tensioned, causing the lens filter to be broken.

NOTE:
If the fingerprint adhesion or damage to the lens filter occurs, the following failures may arise.
- The vehicle may not be able to detect the preceding vehicle or obstacle due to the effects of the headlight of the oncoming vehicle.
- The vehicle may not be able to detect the preceding vehicle or obstacle due to the effects of the brake light operation of the preceding vehicle.
- All the functions of the EyeSight may be suspended by the self-diagnosis function equipped with the camera.
- When the lens filter is broken, the vehicle may not be able to detect the preceding vehicle or obstacle all day and all night.

D: ADJUSTMENT

For adjustment and inspection of the stereo camera, refer to “Camera Adjustment and Inspection” of “EyeSight (DIAGNOSTICS)” section. <Ref. to ES(diag)-45, Camera Adjustment, Inspection.>

6. Switches and Harness

A: NOTE

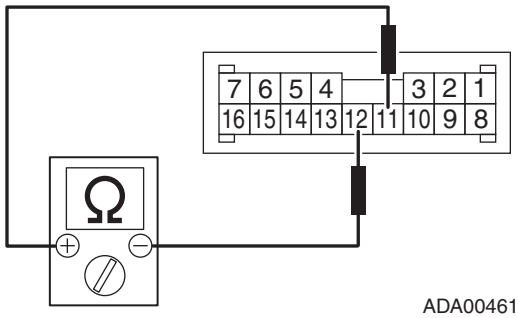
1. P-CR OFF & LANE OFF SWITCH

The P-CR OFF & LANE OFF switch is integrated in the stereo camera cover assembly.
If the P-CR OFF & LANE OFF switch is faulty, replace the stereo camera cover assembly. <Ref. to ES-8, Stereo Camera.>

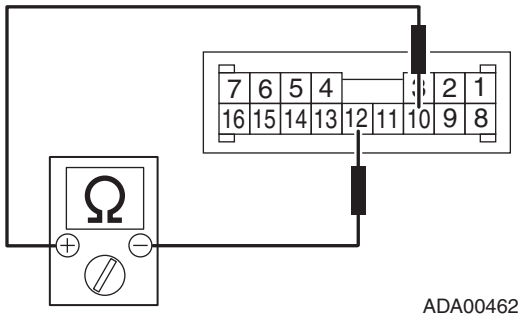
B: INSPECTION

1) Remove the stereo camera cover assembly.
2) Check the resistance between the terminals of P-CR OFF switch or LANE OFF switch.

- P-CR OFF switch

Terminal No.	Inspection conditions	Standard	Connector Sketch
11 — 12	OFF	1 MΩ or more	
	ON	Less than 1 Ω	

- LANE OFF switch

Terminal No.	Inspection conditions	Standard	Connector Sketch
10 — 12	OFF	1 MΩ or more	
	ON	Less than 1 Ω	

3) If the result of the inspection is not within the standard value, replace the stereo camera cover assembly.

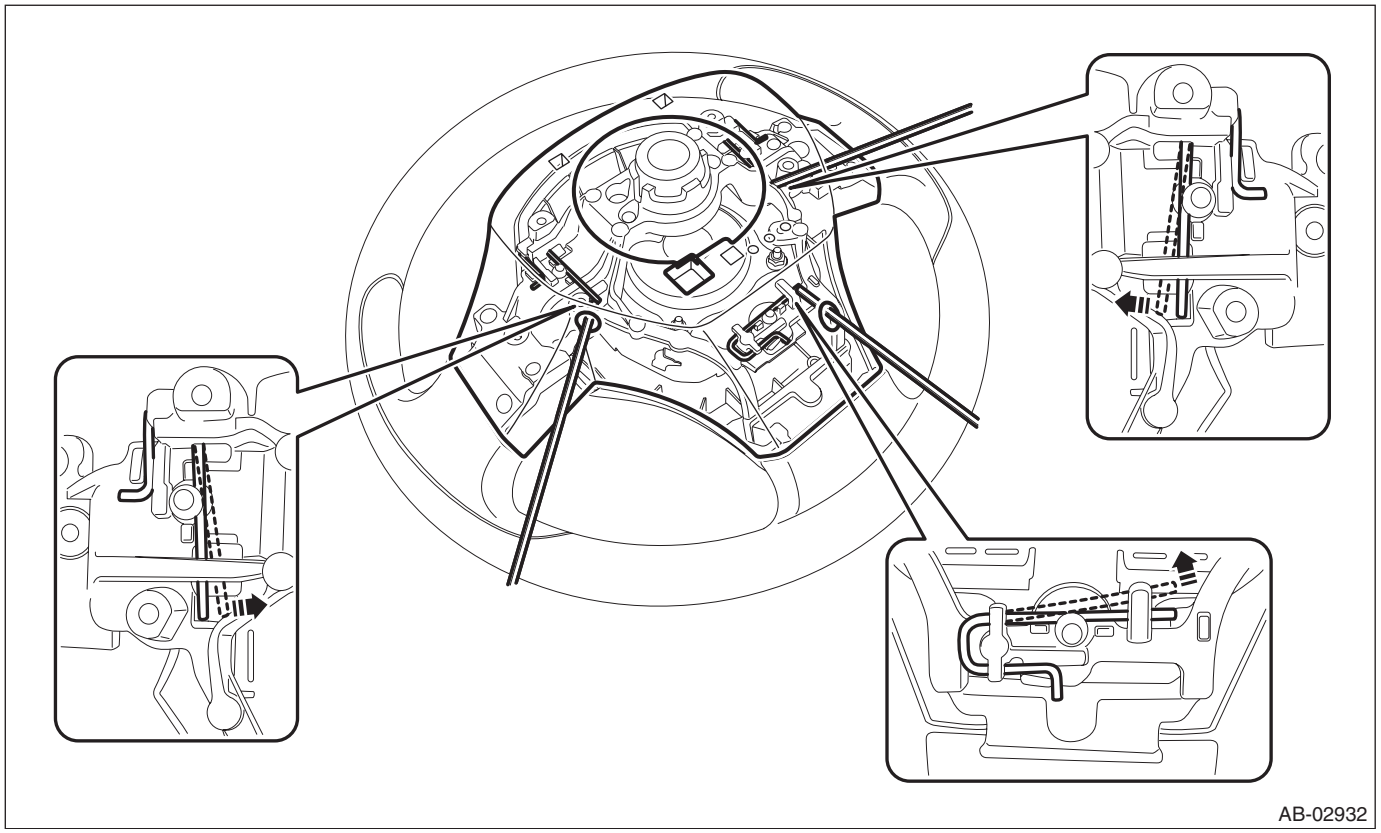
7. Cruise Control Command Switch

A: REMOVAL

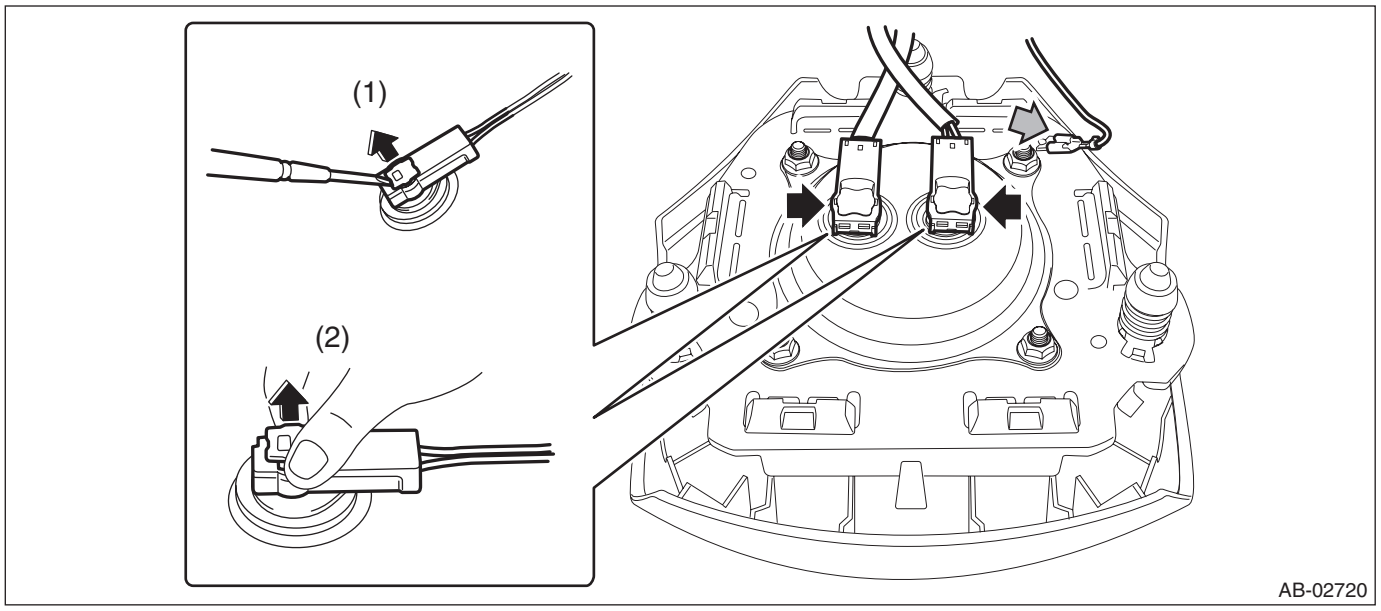
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.

CAUTION:
Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>

(1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



(2) Disconnect the horn harness and airbag connector and remove the airbag module assembly. <Ref. to AB-22, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER, PROCEDURE, Airbag Connector.>

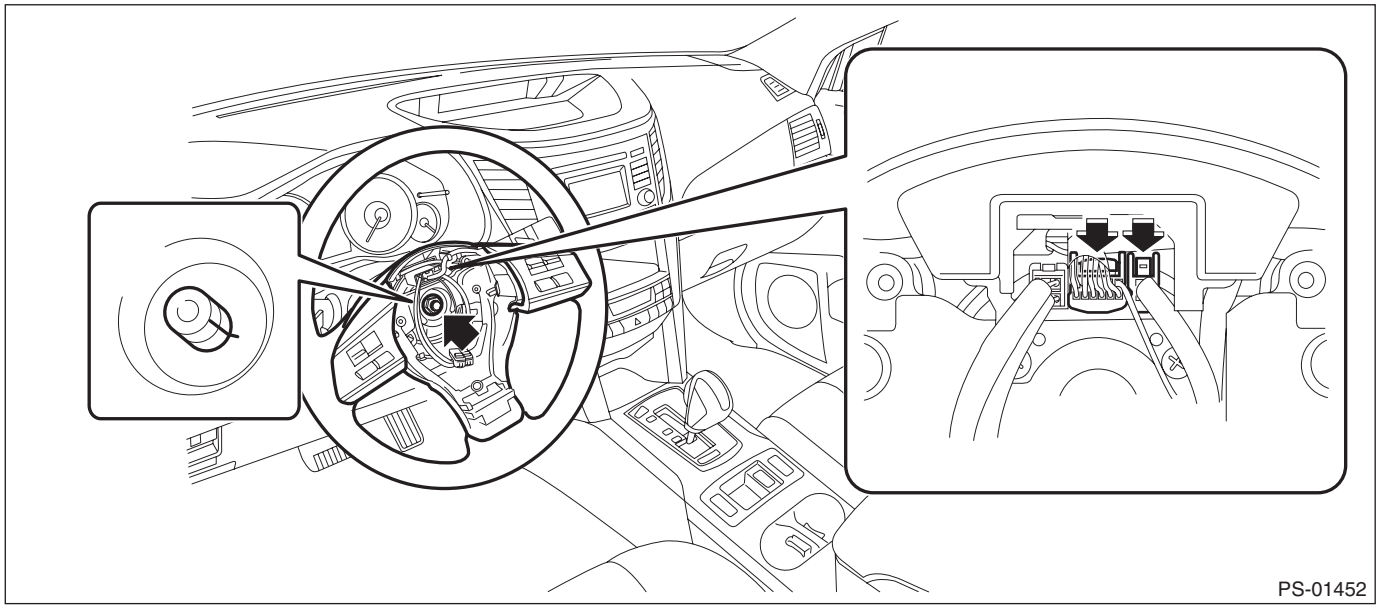


5) Remove the steering wheel.

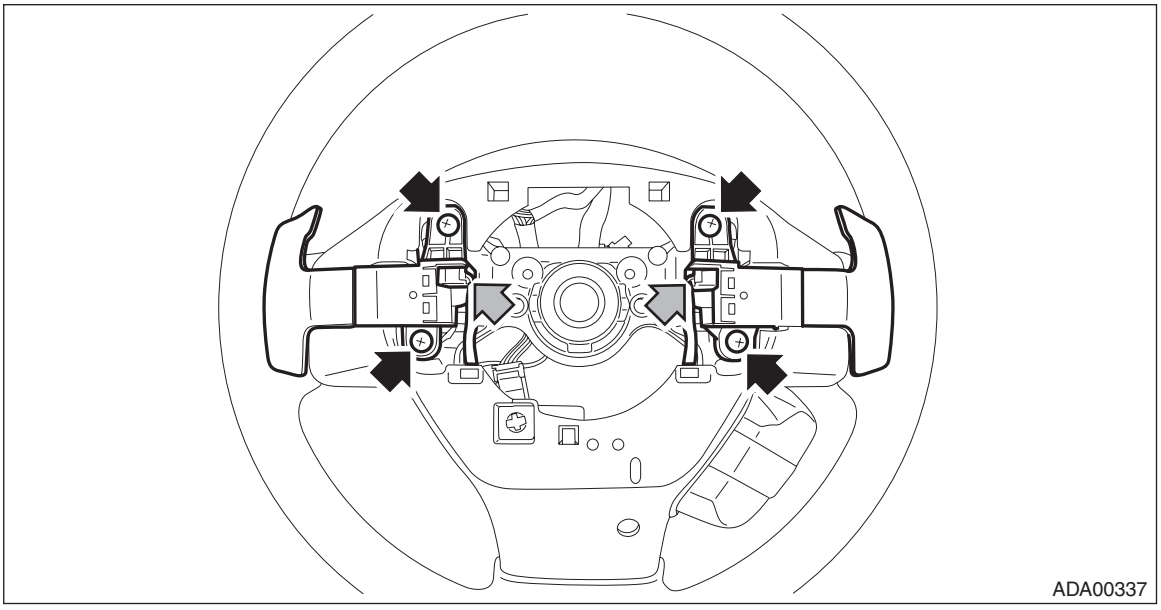
CAUTION:
- **Always use the steering wheel puller for removal to avoid deforming the steering wheel.**
- **If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.**

(1) Disconnect the connector and remove the nut.
(2) Put alignment marks and remove the steering wheel using a steering wheel puller.

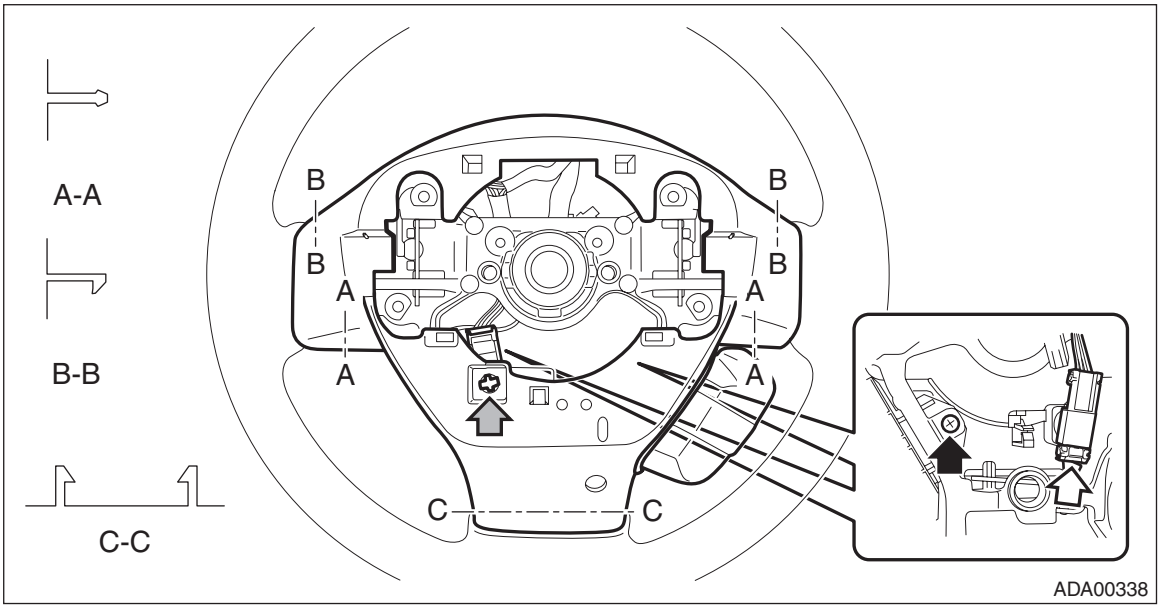
Preparation tool:
Steering wheel puller



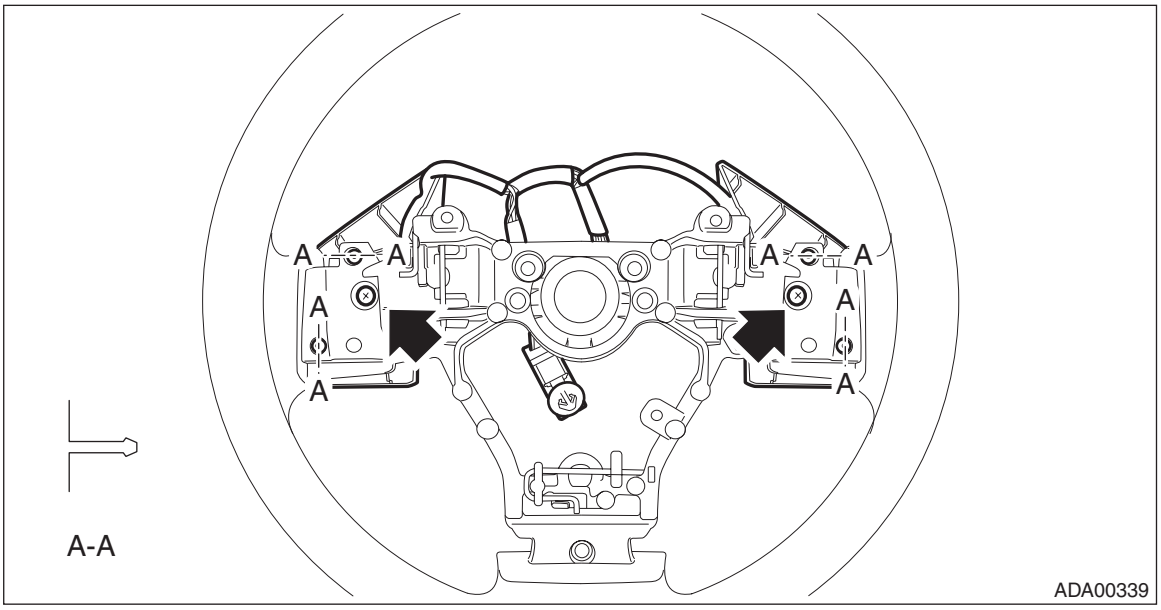
6) Remove the cruise control command switch.
(1) Remove the screw, disconnect the connector and remove the paddle shift switch.



(2) Remove the steering switch connector and screw.
(3) Disconnect the claws and then remove the lower cover.



(4) Remove the screw to remove the cruise control command switch assembly.



B: INSTALLATION

CAUTION:

- **Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>**
- **Do not allow harness and connectors to interfere or get tangled up with other parts.**
- **If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>**

1) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and steering column.

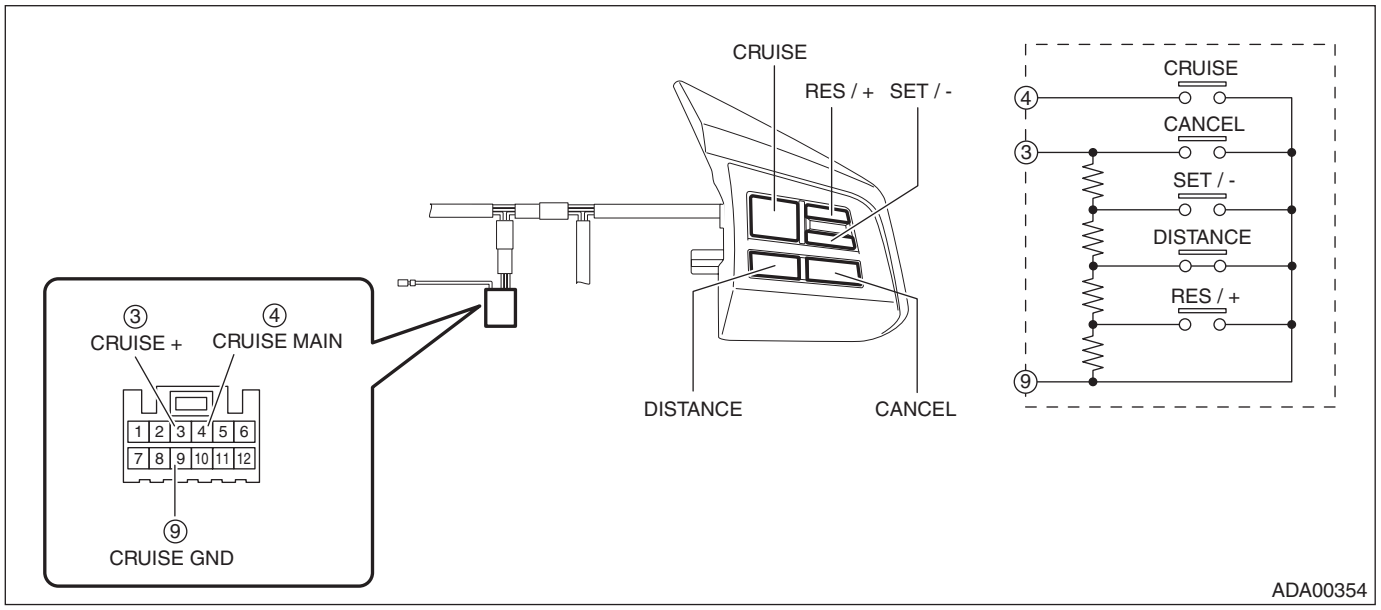
Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

Clearance:
Between column cover and steering wheel: 4 — 6 mm (0.16 — 0.24 in)

C: INSPECTION

1) Disconnect the cruise control command switch connector.
2) Check the resistance between cruise control command switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions		Standard
3 — 9	CANCEL SET/– DISTANCE RES/+	All OFF	Approx. 4 kΩ
3 — 9	CANCEL	ON	Less than 1 Ω
3 — 9	SET/–	ON	Approx. 250 Ω
3 — 9	DISTANCE	ON	Approx. 680 Ω
3 — 9	RES/+	ON	Approx. 1,470 Ω
4 — 9	CRUISE (MAIN)	OFF	1 MΩ or more
4 — 9		ON	Less than 1 Ω

3) Replace the cruise control command switch if the inspection result is not within the standard.

8. Combination Meter

A: NOTE

For the combination meter, refer to “INSTRUMENTATION/DRIVER INFO” section. <Ref. to IDI-25, Combination Meter.>

9. Transmission Control Module (TCM)

A: NOTE

For the transmission control module (TCM), refer to the following section.

- CVT model: <Ref. to CVT-142, Transmission Control Module (TCM).>
- 5AT model: <Ref. to 5AT-56, Transmission Control Module (TCM).>

10.Stop Light & Brake Switch

A: NOTE

For stop light and brake switch, refer to “BRAKE” section. <Ref. to BR-63, Stop Light Switch.>

11.Brake Lamp Relay

A: REMOVAL

Remove the brake light relay from the main fuse box (A/C relay holder).

NOTE:
Refer to “LOCATION” of “Relay and Fuse”. <Ref. to ES-5, LOCATION, Relay and Fuse.>

B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

Refer to “INSPECTION” of “Relay and Fuse”. <Ref. to ES-5, CHECK RELAY, INSPECTION, Relay and Fuse.>

12.VDC Control Module and Hydraulic Control Unit (VDCCM&H/U)

A: NOTE

For VDC control module & hydraulic control module (VDCCM&H/U), refer to “VEHICLE DYNAMICS CONTROL (VDC)” section. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>

13.Parking Brake Actuator

A: NOTE

For parking brake actuator (EPB CM), refer to “PARKING BRAKE” section. <Ref. to PB-7, Parking Brake Actuator.>

14.Diagnostics with Phenomenon

A: INSPECTION

Refer to “Diagnostics with Phenomenon” of “EyeSight (DIAGNOSTICS)” section. <Ref. to ES(diag)-62, Diagnostics with Phenomenon.>

EyeSight (DIAGNOSTICS)

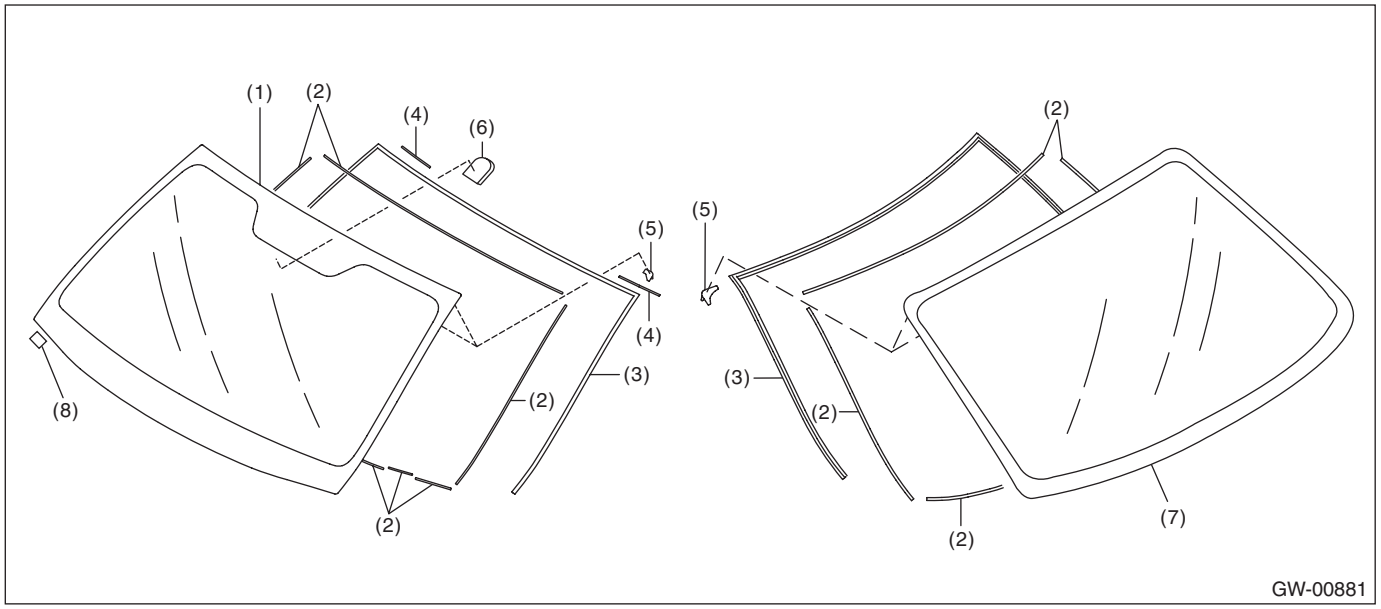
ES(diag)

		Page
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1. General Description

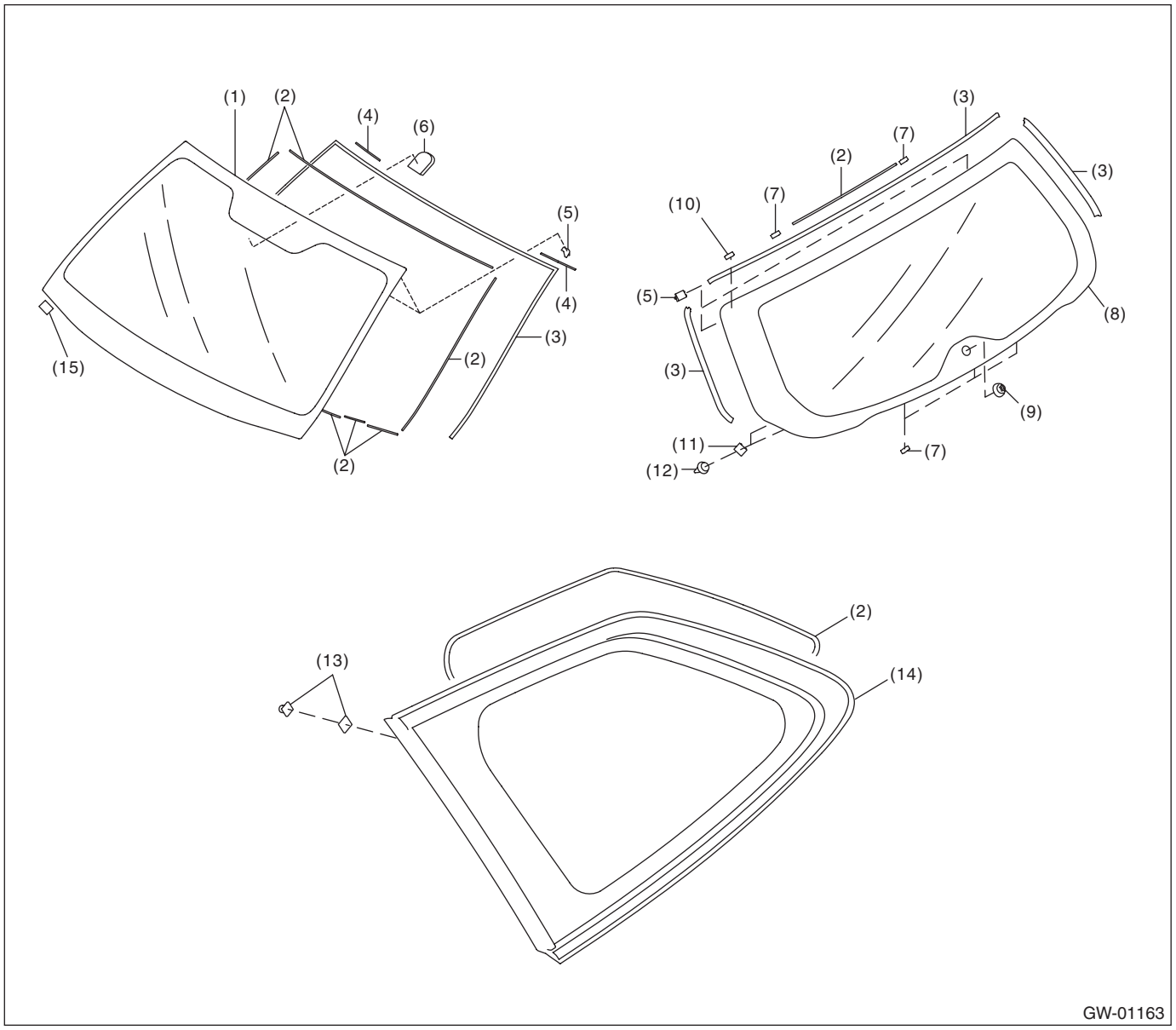
A: COMPONENT

1. FIXED GLASS (SEDAN MODEL)



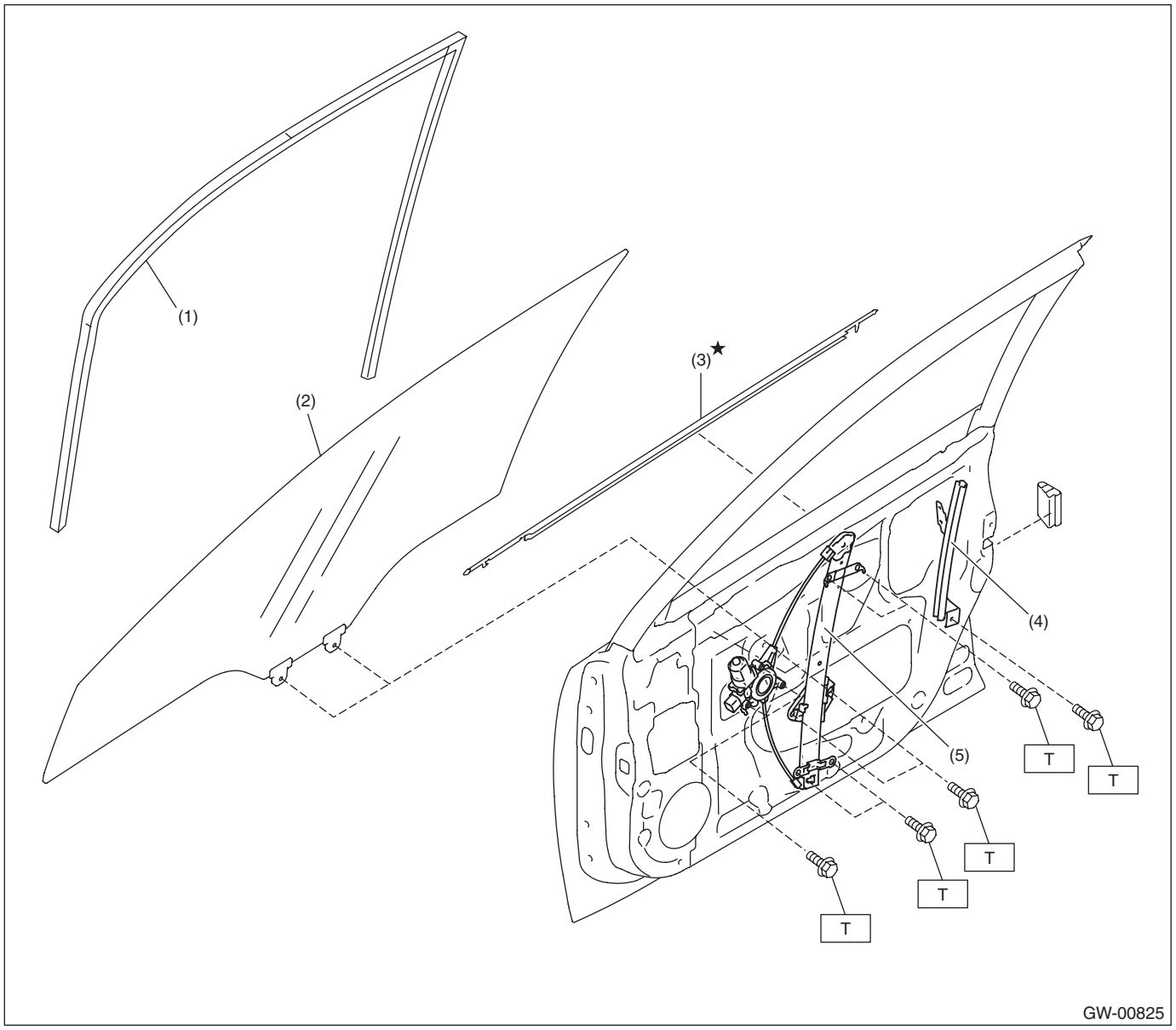
(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Seal upper side
(5) Locating pin
(6) Rearview mirror mount
(7) Rear window glass
(8) Seal A

2. FIXED GLASS (OUTBACK MODEL)



(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Seal upper side
(5) Locating pin
(6) Rearview mirror mount
(7) Spacer
(8) Rear gate glass
(9) Pivot
(10) EPT sealer
(11) Holder
(12) Clip
(13) Fastener
(14) Rear quarter glass
(15) Seal A

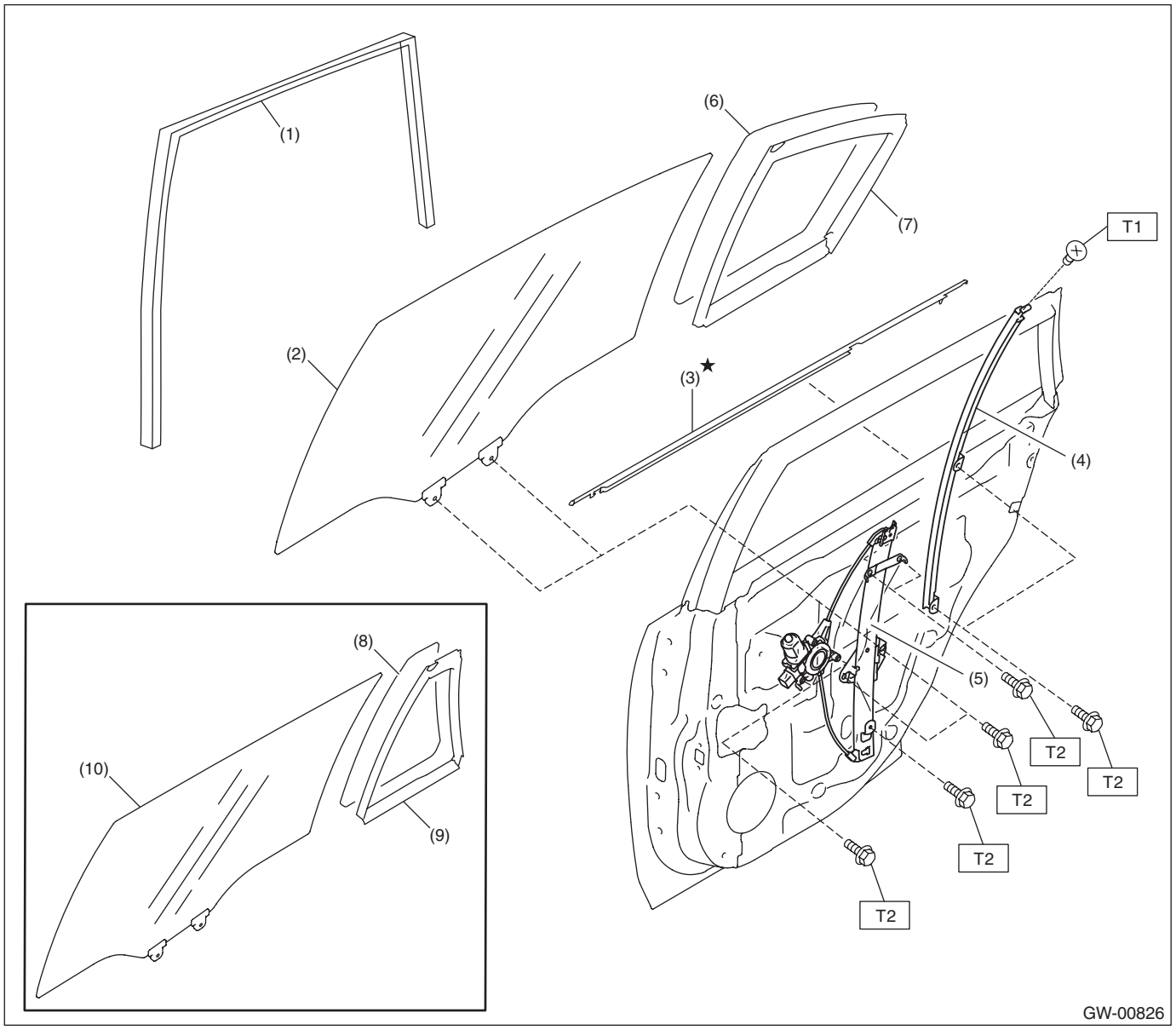
3. FRONT DOOR GLASS



(1) Glass run rubber
(2) Front door glass
(3) Weather strip outer
(4) Door sash
(5) Regulator and motor ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

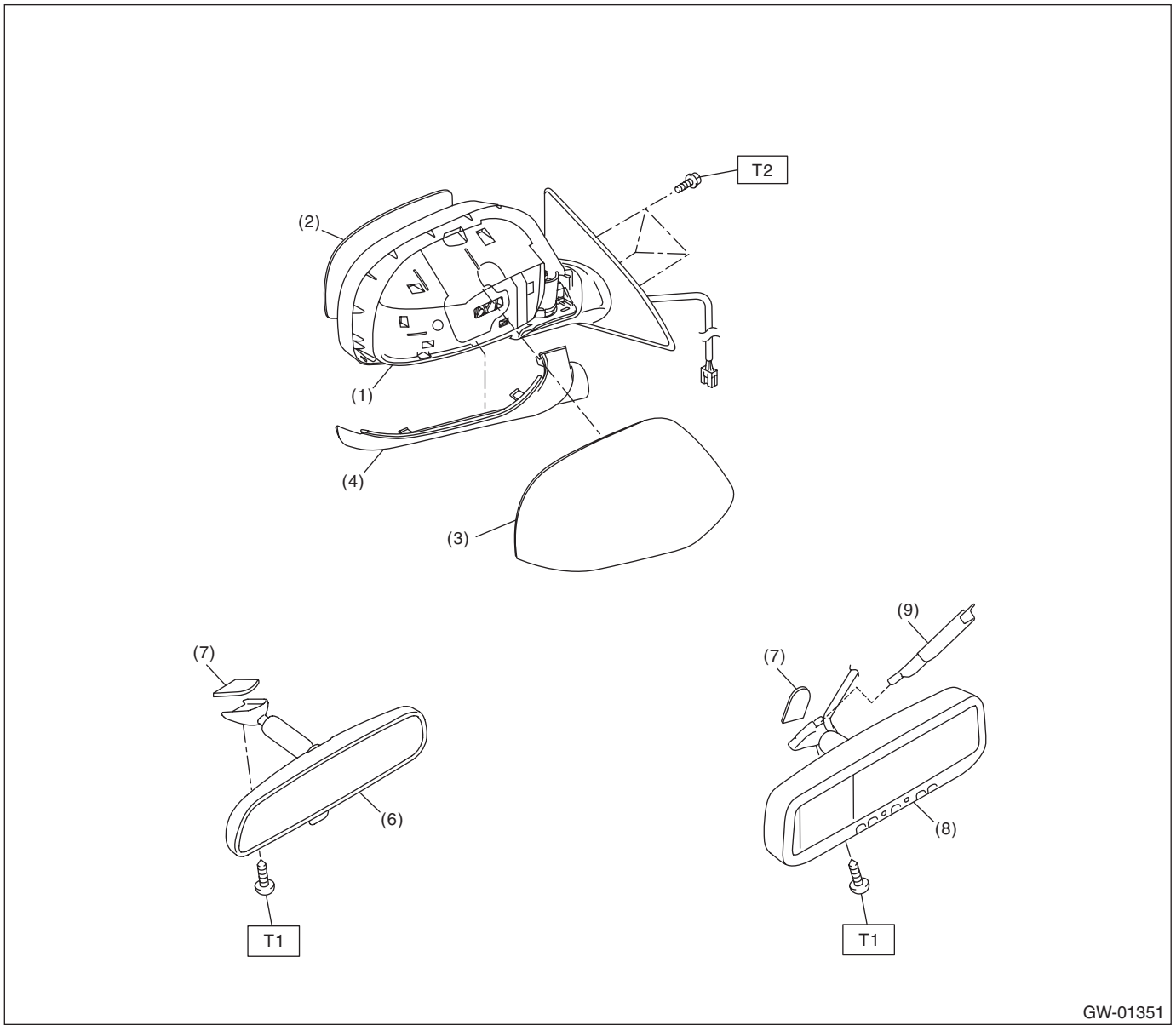
4. REAR DOOR GLASS



(1)	Glass run rubber	(6)	Partition glass (sedan model)
(2)	Rear door glass (sedan model)	(7)	Partition molding (sedan model)
(3)	Weather strip outer	(8)	Partition glass (OUTBACK model)
(4)	Door sash	(9)	Partition molding (OUTBACK model)
(5)	Regulator and motor ASSY	(10)	Rear door glass (OUTBACK model)

Tightening torque: N·m (kgf-m, ft-lb)
T1: 2.2 (0.22, 1.6)
T2: 7.5 (0.76, 5.5)

5. MIRROR



(1) Outer mirror
(2) Mirror
(3) Scalp cap
(4) Outer mirror lower cover
(5) Side turn signal light
(6) Rear view mirror
(7) Mount
(8) Rearview mirror (RCD model)
(9) Harness cover

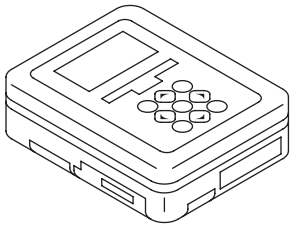
Tightening torque: N·m (kgf-m, ft-lb)
T1: 1.9 (0.19, 1.4)
T2: 4.5 (0.46, 3.3)

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Avoid impact and damage to the glass.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.

C: PREPARATION TOOL

1. SPECIAL TOOL

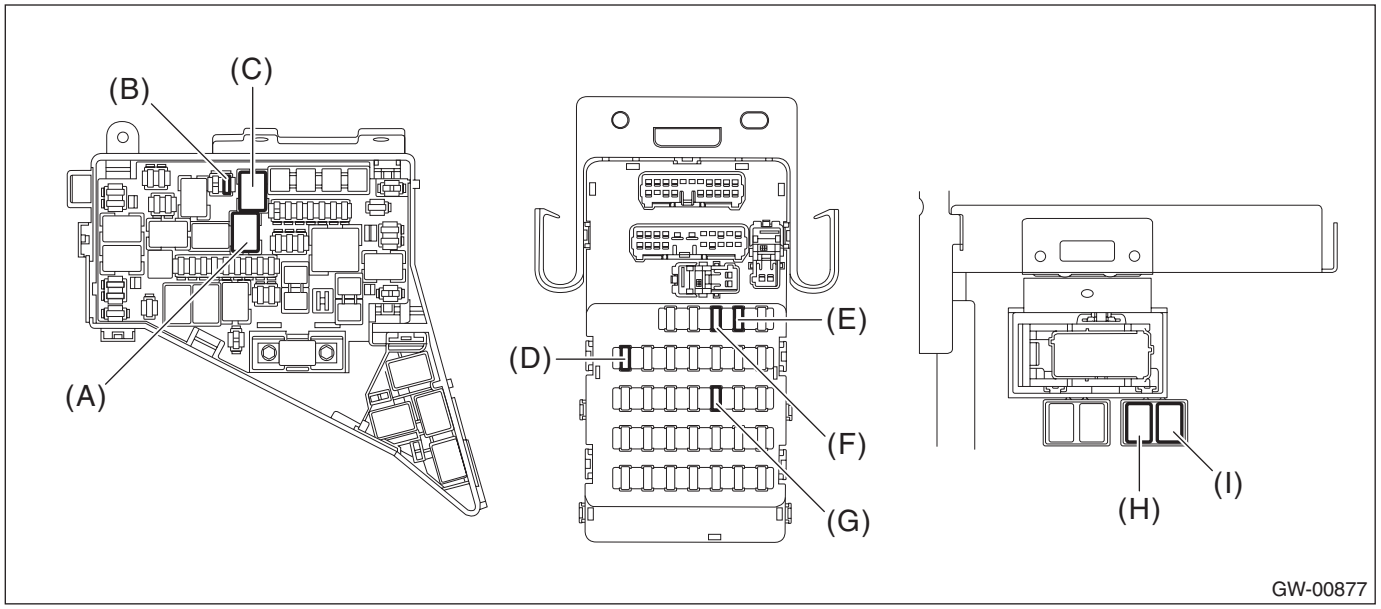
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Piano wire	Used for removing the window glass.
Cutter knife	Used for removing the window glass.
Windshield glass knife	Used for removing the window glass.
TORX® T20	Used to remove and install the rearview mirror.

2. Relay and Fuse

A: LOCATION



Main fuse box	Power window relay	(A)
	Fuse 25A (rear defogger)	(B)
	Rear defogger relay	(C)
Relay & fuse box	Fuse 7.5A (remote control mirror)	(D)
	Fuse 7.5A (wiper deicer)	(E)
	Fuse 20A (power window)	(F)
	Fuse 15A (wiper deicer, remote control mirror)	(G)
Relay holder	Wiper deicer relay	(H)
	Mirror heater relay	(I)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

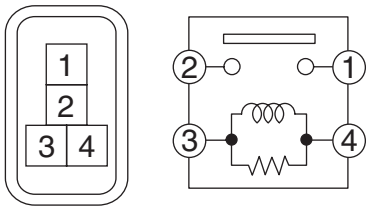
B: INSPECTION

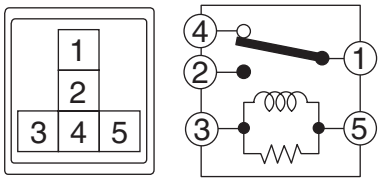
1. CHECK FUSE

1) Remove the fuse and check visually.
2) If the fuse is blown out, replace the fuse.

2. CHECK RELAY

1) Check the resistance between relay terminals.

Terminal No.	Inspection conditions	Specification	Circuit
1 — 2	Always	1 MΩ or more	 SR-00180
1 — 2	Apply battery voltage between 4 — 3 terminals.	Less than 1 Ω	

Terminal No.	Inspection conditions	Specification	Circuit
1 — 2	Always	1 MΩ or more	 SL-01085
1 — 4	Always	Less than 1 Ω	
1 — 2	Apply battery voltage between 3 — 5 terminals.	Less than 1 Ω	

2) Replace the relay if the inspection result is not within the standard value.

3. Power Window System

A: WIRING DIAGRAM

Refer to “Power Window System” in the wiring diagram. <Ref. to WI-237, WIRING DIAGRAM, Power Window System.>

B: INSPECTION

Symptoms	Inspection order
All power windows do not operate.	1. Check the fuse. 2. Check the power window relay. 3. Check the wiring harness.
Particular window does not operate.	1. Check the fuse. 2. Check the power window main switch. 3. Check the power window sub-switch. 4. Check the power window motor. 5. Check the wiring harness.
“Window Lock” does not operate.	Check the power window main switch.
Driver’s side window moves slightly (approx. 20 mm (0.79 in)). (model with driver’s side AUTO UP function)	1. Check the power window motor. 2. Check the power window main switch. 3. Check the wiring harness.
Driver’s side window moves slightly (approx. 50 mm (1.97 in)). (model with driver’s side AUTO UP function) (This is not malfunction.)	Perform reset operation A. <Ref. to GW-10, RESET OPERATION A, OPERATION, Power Window System.>
Driver’s side window does not close completely. (model with driver’s side AUTO UP function) (After fully closed with AUTO UP, the window reverses and slightly opens.)	Perform reset operation B. <Ref. to GW-10, RESET OPERATION B, OPERATION, Power Window System.>

C: OPERATION

1. RESET OPERATION A

1) Sit in the driver’s seat and close the door.
2) Turn the ignition switch to ON.
3) Operate the power window main switch to open the window glass halfway.
4) Operate the power window main switch to “UP” direction to fully close the driver’s side window glass.
5) While the window glass is fully closed, hold down the power window switch to “UP” direction for one second.
6) Operate the power window main switch to “AUTO DOWN” direction to check whether the window fully opens properly.

NOTE:
If the window does not fully open properly, repeat steps 1) to 6).

2. RESET OPERATION B

1) Sit in the driver’s seat and close the door.
2) Turn the ignition switch to ON.
3) Perform “AUTO UP” operation for the driver’s side window glass, by fully pulling up the power window main switch to cause the reverse operation (in reverse operation, the window is repeatedly fully closed and then reversed to open it slightly.) 10 times in row.
4) Check that the “AUTO UP” does not operate.
5) Perform reset operation A.
6) Check that the window operates properly by operating the “AUTO UP” and “AUTO DOWN” switch.

NOTE:
If the window does not fully open/close properly, repeat steps 1) to 6).

D: NOTE

For operation procedures of each component of the power window system, refer to the respective sections.
- Power window control switch: <Ref. to GW-12, Power Window Control Switch.>
- Front door glass: <Ref. to GW-18, Front Door Glass.>
- Front regulator and motor assembly: <Ref. to GW-20, Front Regulator and Motor Assembly.>
- Rear door glass: <Ref. to GW-30, Rear Door Glass.>
- Rear regulator and motor assembly: <Ref. to GW-32, Rear Regulator and Motor Assembly.>

4. Power Window Control Switch

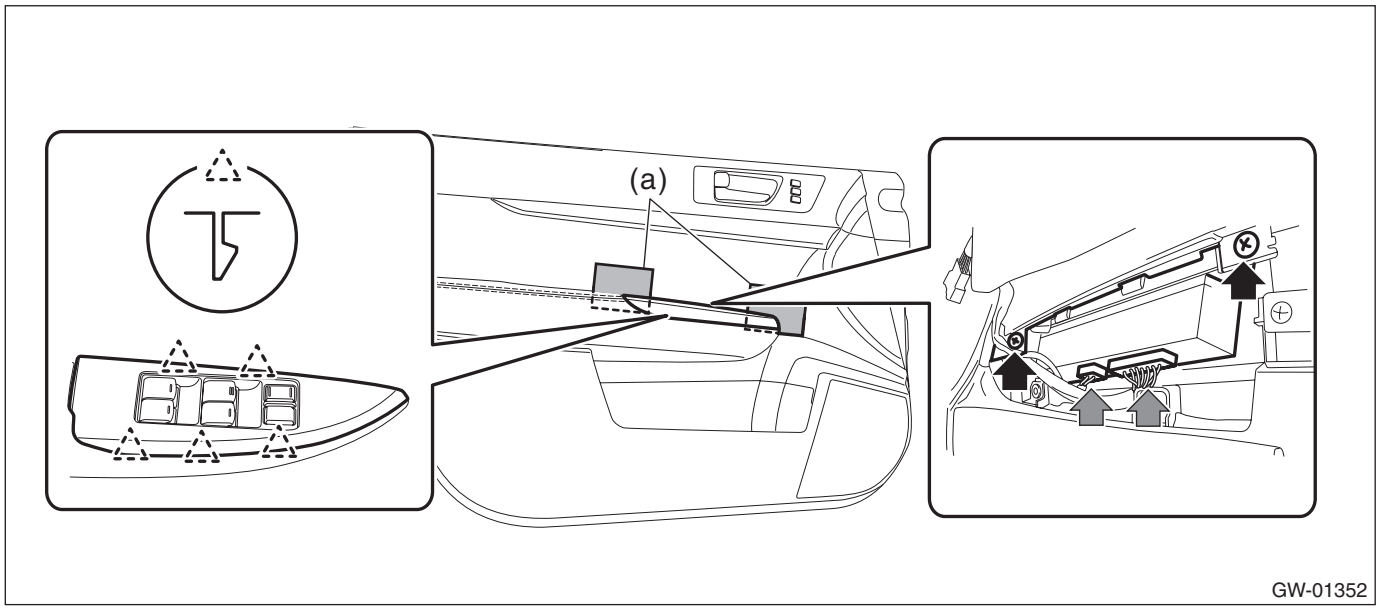
A: REMOVAL

1. MAIN SWITCH

1) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the power window switch panel.

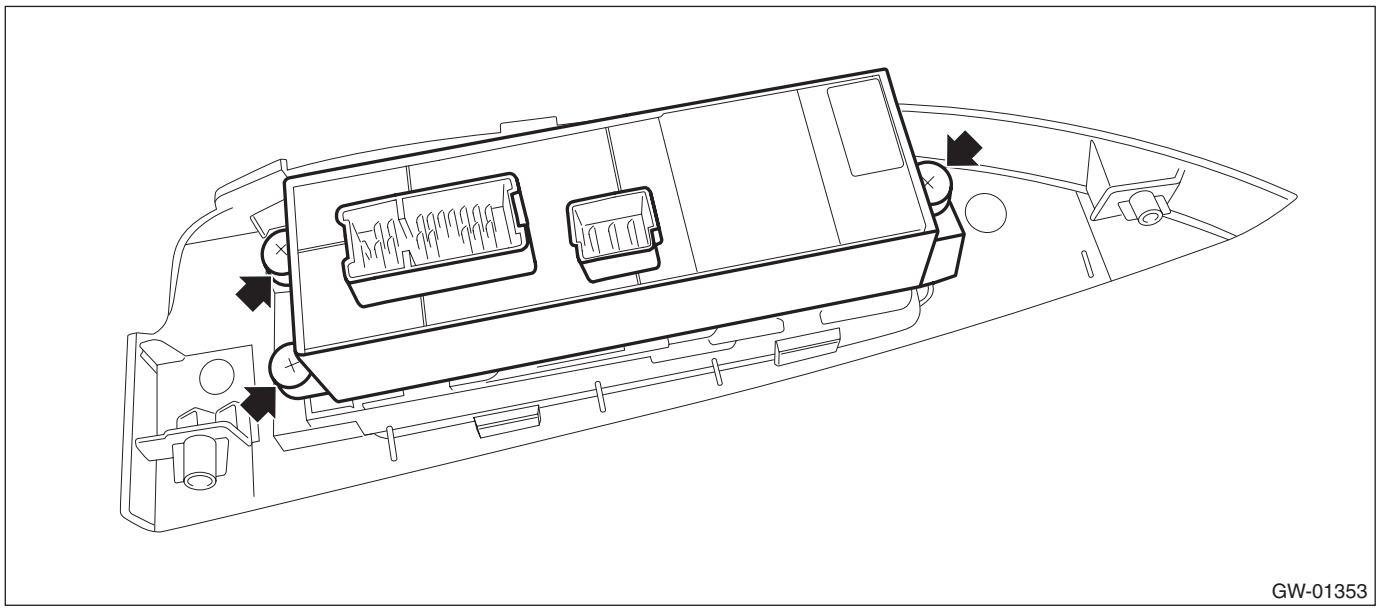
CAUTION:
Do not damage the door trim with the switch panel.

(1) Insert a sheet of protective paper (a) between switch panel and door trim.
(2) Remove the screws and disconnect the connector.
(3) Disconnect the claws and then remove the power window switch panel.



GW-01352

(4) Remove the screws and remove the power window main switch.


GW-01353

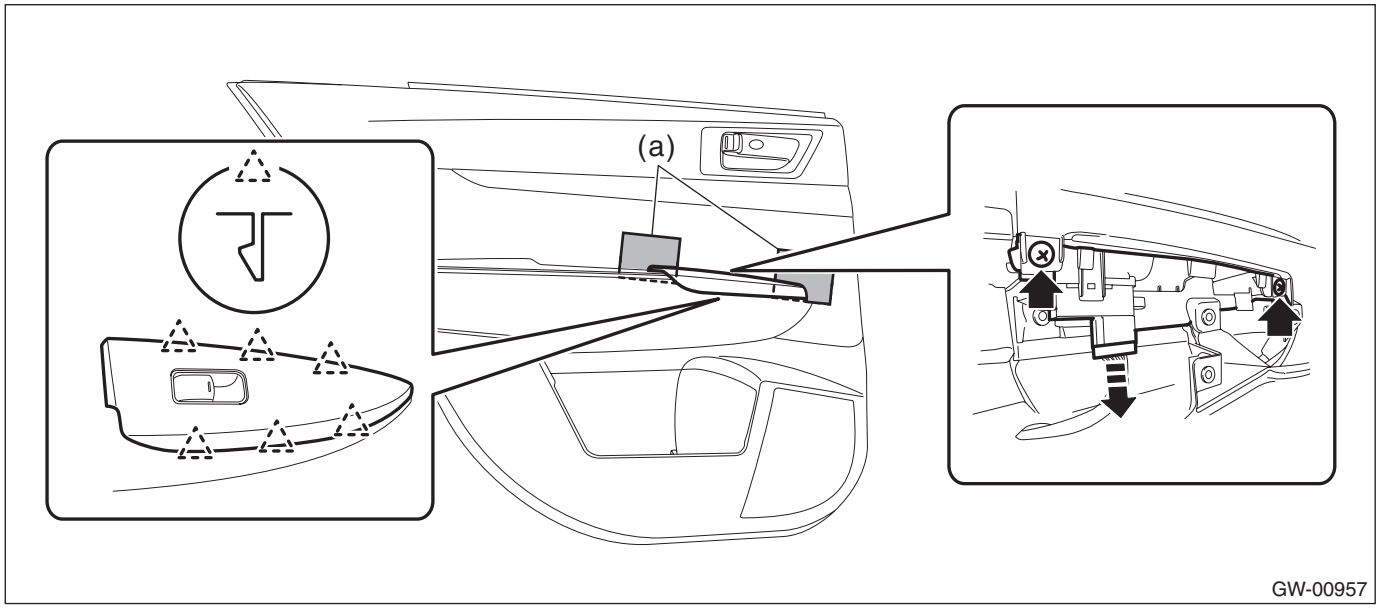
2. SUB-SWITCH

1) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>

2) Remove the power window switch panel.

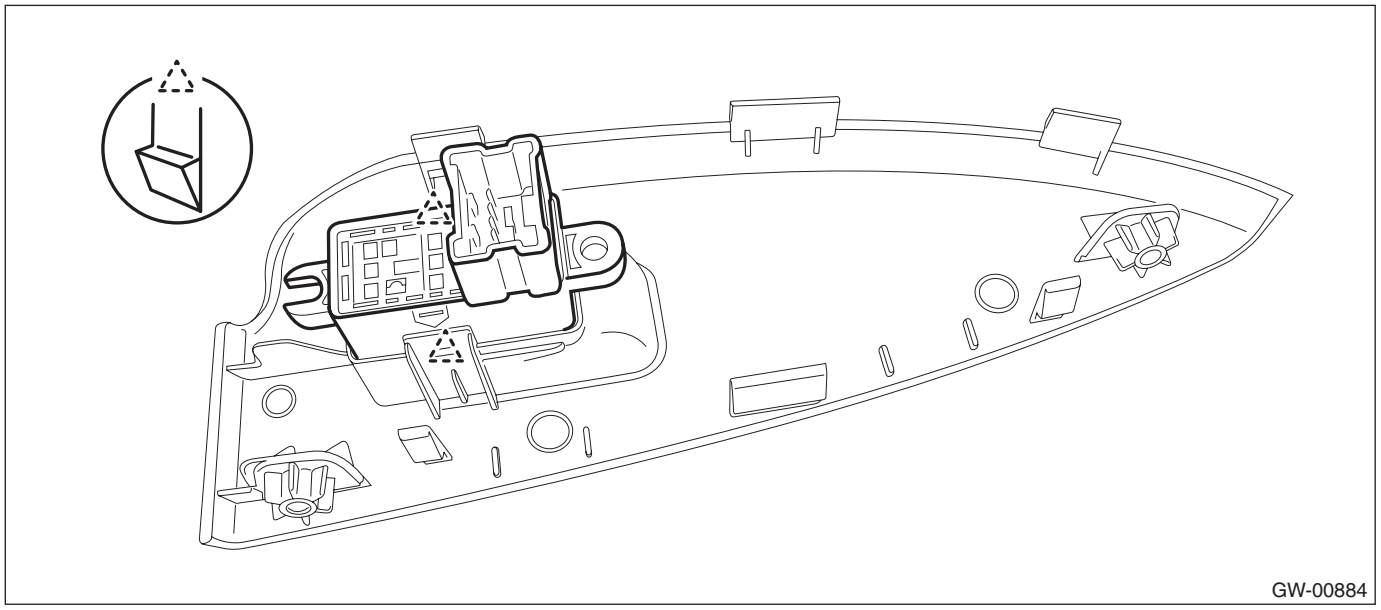
CAUTION:
Do not damage the door trim with the switch panel.

(1) Insert a sheet of protective paper (a) between switch panel and door trim.
(2) Remove the screws and disconnect the connector.
(3) Disconnect the claws and then remove the power window switch panel.



GW-00957

3) Disconnect the claws and then remove the power window sub-switch.


GW-00884

B: INSTALLATION

CAUTION:
• After installation of main switch, always perform the initial setting. (model with driver's side AUTO UP function)
Failure to do so may cause the improper activation of auto-reverse operation for pinching hazard prevention.
• Use protective paper to avoid damage to the door trim.

1) Install each part in the reverse order of removal.
2) Perform initial setting operation (reset operation A). <Ref. to GW-10, RESET OPERATION A, OPERATION, Power Window System.>

C: INSPECTION

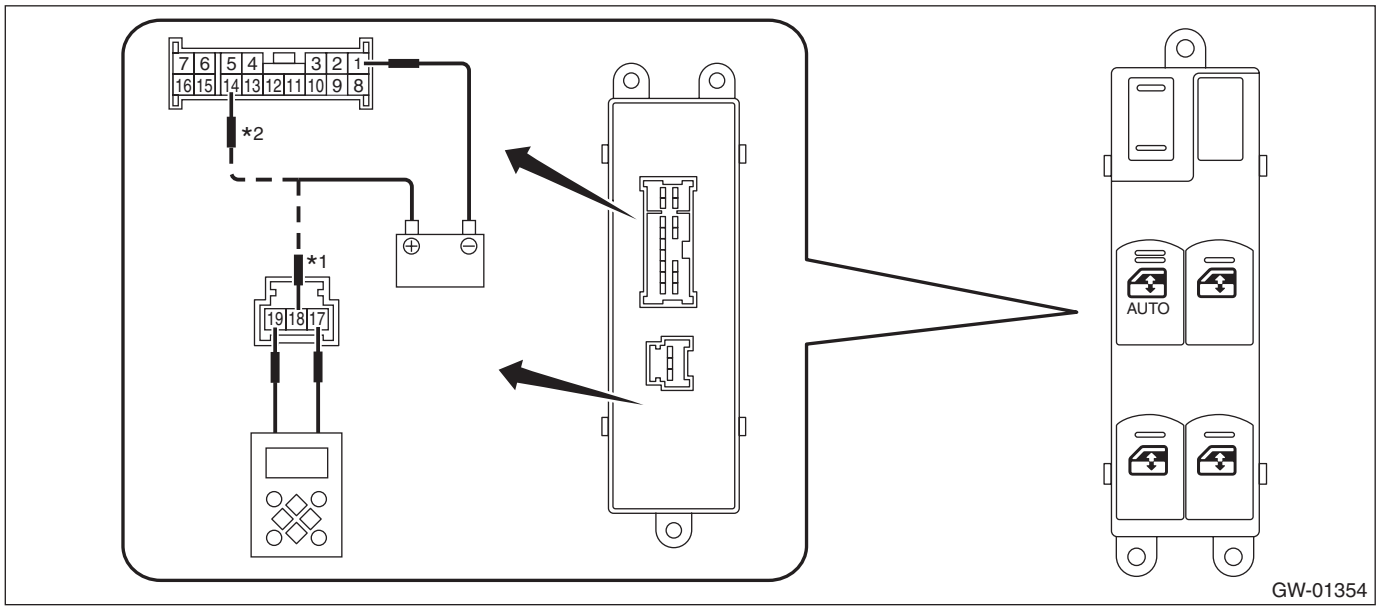
1. MAIN SWITCH

• Driver's seat

CAUTION:
Since the driver's side power window switch is controlled by CPU, do not check continuity for switch alone with the circuit tester. Performing continuity check with circuit tester may damage the driver's side power window switch circuit.
Check output from the power window main switch to driver's side motor using the oscilloscope function in the Subaru Select Monitor.
1) Remove the power window main switch.
2) Connect the battery and the Subaru Select Monitor to the power window main switch terminal.

CAUTION:
Never mix up the terminals when connecting the power window main switch connector and battery. If connected to a wrong terminal, the power window main switch may be damaged.

NOTE:
• When the battery is connected to the power window main switch terminal, the mark on the switch knob illuminates.
• For detailed procedures, refer to "Subaru Select Monitor Operation Manual".



*1: Model with driver's side AUTO UP function
*2: Model without driver's side AUTO UP function
3) Operate the main switch and check the output.

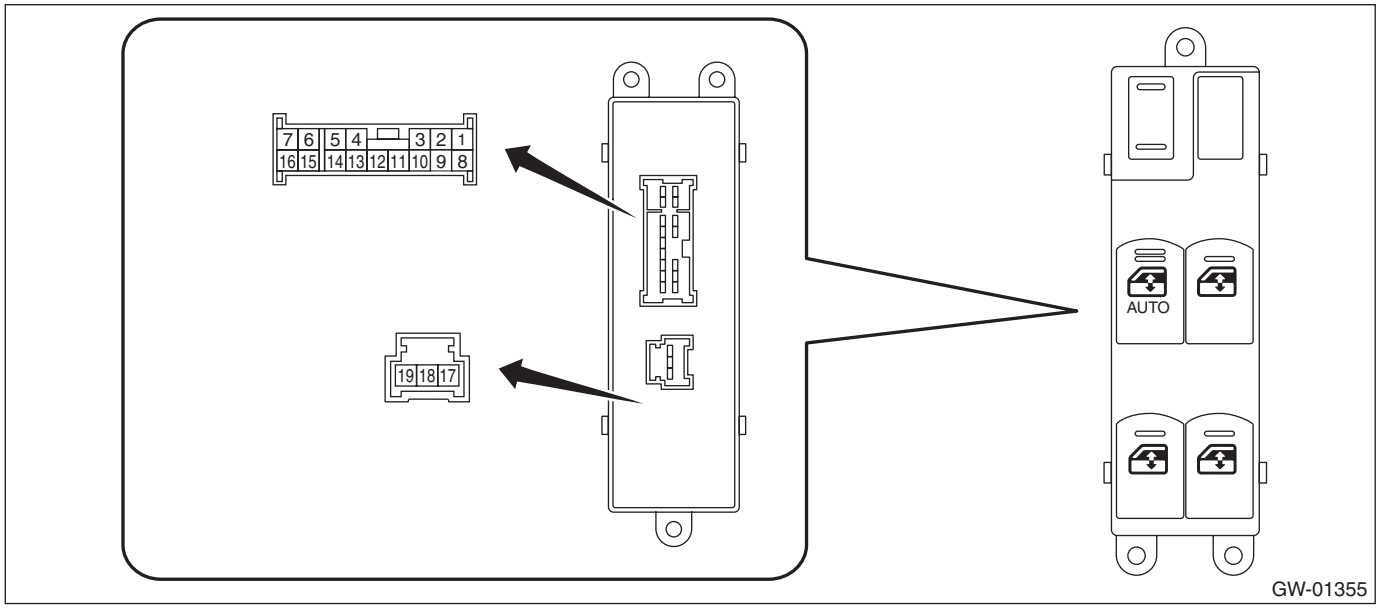
NOTE:
Since output time during window UP operation is extremely short, it cannot be checked without using a measuring instrument such as oscilloscope. Output is constantly produced while the switch is operated for window DOWN operation.

Inspection conditions	Output time (model without driver's side AUTO UP function)	Output time (model with driver's side AUTO UP function)	Standard
AUTO UP	600 ms	Approx. 130 ms	Battery voltage
UP	During switch operation		
OFF	—	—	0 V
DOWN	During switch operation	During switch operation	Battery voltage
AUTO DOWN	600 ms	Approx. 300 ms	

4) Replace the power window main switch if the inspection result is not within the standard value.

- **Except for driver's seat**

1) Check the resistance between main switch terminals.

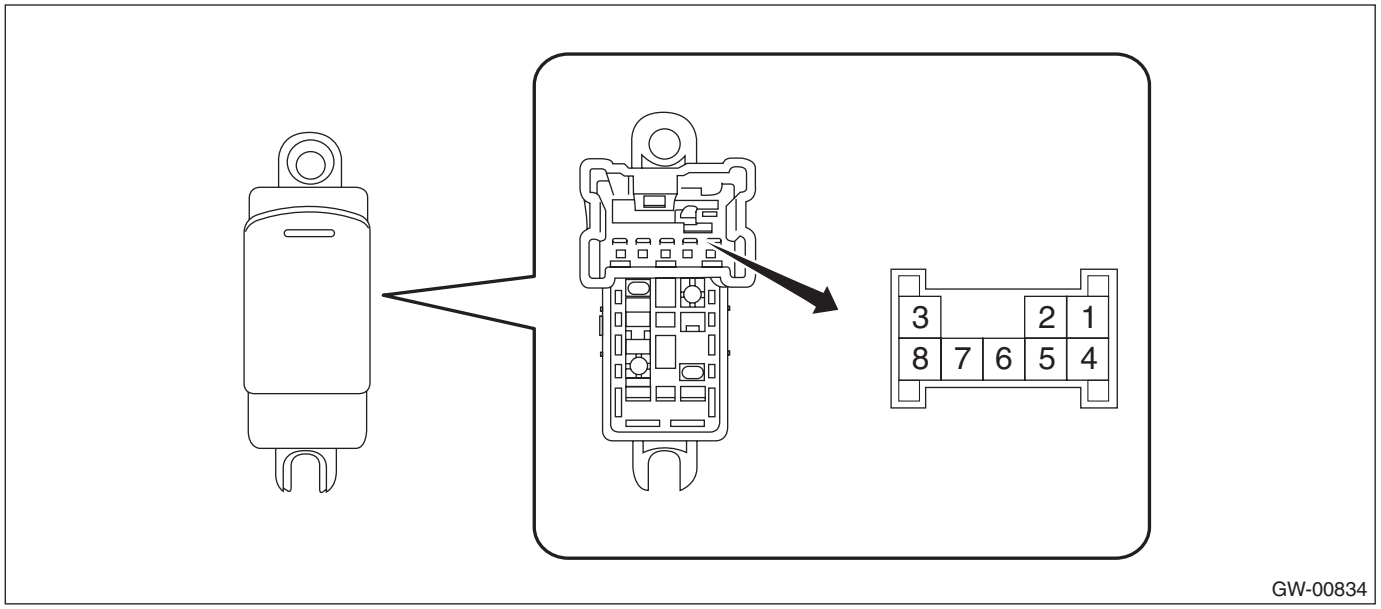


	Terminal No.	Inspection conditions	Standard
Passenger's seat	14 — 8 2 — 1	UP	Less than 1 Ω
	14 — 2 14 — 8	OFF	1 MΩ or more
	1 — 2 1 — 8 2 — 8		Less than 1 Ω
	14 — 2 1 — 8	DOWN	Less than 1 Ω
Rear LH	14 — 15 1 — 16	UP	Less than 1 Ω
	14 — 15 14 — 16	OFF	1 MΩ or more
	1 — 15 1 — 16 15 — 16		Less than 1 Ω
	14 — 16 1 — 15	DOWN	Less than 1 Ω
Rear RH	14 — 6 1 — 6	UP	Less than 1 Ω
	14 — 6 14 — 7	OFF	1 MΩ or more
	1 — 6 1 — 7 6 — 7		Less than 1 Ω
	14 — 6 7 — 1	DOWN	Less than 1 Ω

2) Replace the main switch if the inspection result is not within the standard value.

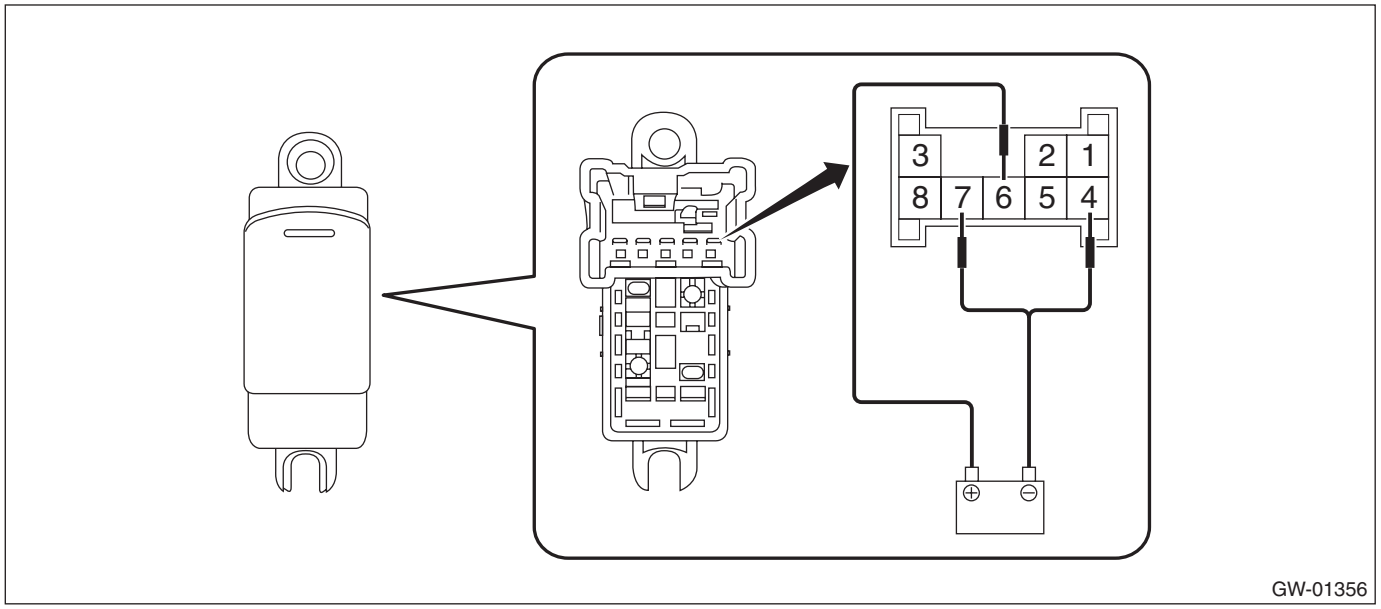
2. SUB-SWITCH

1) Remove the sub-switch.
2) Check the resistance between sub-switch terminals.



	Terminal No.	Inspection conditions	Standard
Passenger seat, rear	4 — 5 6 — 7	OFF	Less than 1 Ω
	5 — 6 6 — 8		1 MΩ or more
	5 — 6 6 — 7	UP	Less than 1 Ω
	4 — 5 4 — 8		1 MΩ or more
	6 — 7 6 — 8	DOWN	Less than 1 Ω
	4 — 6 7 — 8		1 MΩ or more

3) Check the switch light illumination condition.



	Terminal No.	Inspection conditions	Specification
Passenger seat, rear	6 — 7, 4	Battery connection between terminals	Light ON

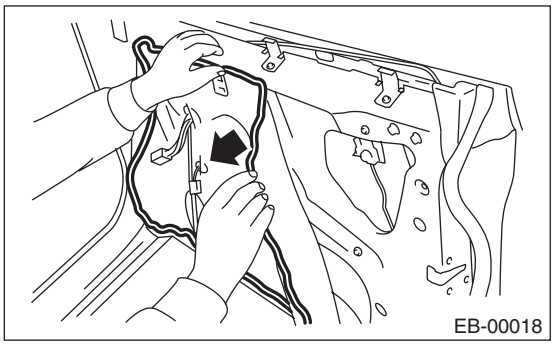
4) Replace the sub-switch if the inspection result is not within the standard value.

5. Front Door Glass

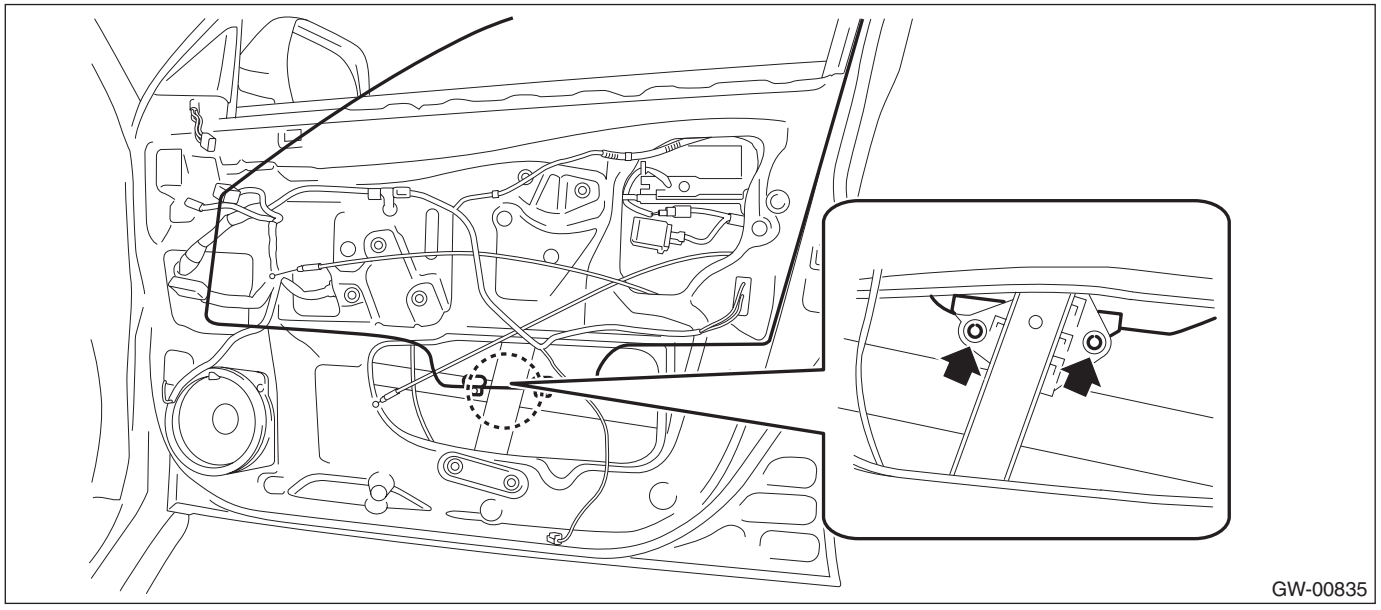
A: REMOVAL

1) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If cover gets broken, replace it with a new part.**

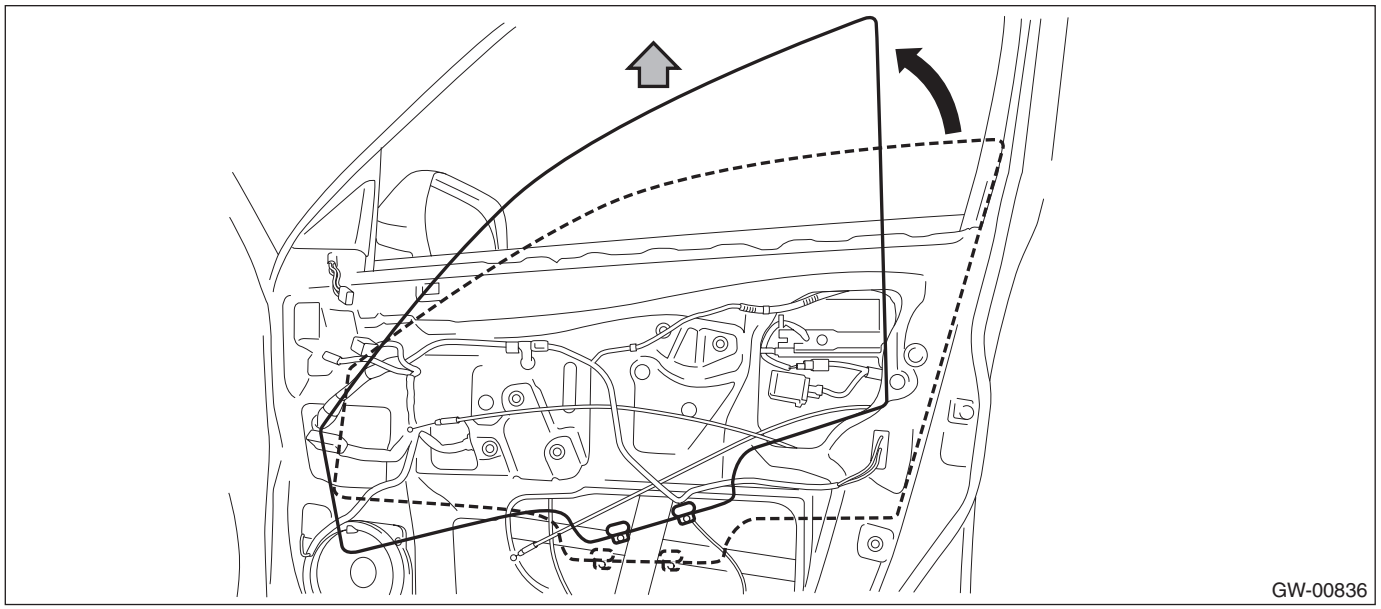


3) Remove the inner pad.
4) Attach the battery ground cable and power window switch and turn the ignition to ON.
5) Remove the front door glass.
   (1) Operate the power window switch to move the front door glass to the position where the mounting bolts can be seen.
   (2) Remove the bolt.



(3) While tilting the glass, remove the windshield glass.

CAUTION:
Avoid impact and damage to the glass.



B: INSTALLATION

CAUTION:
Make sure that the glass run rubber is placed securely in the door frame and sash.
Install each part in the reverse order of removal.

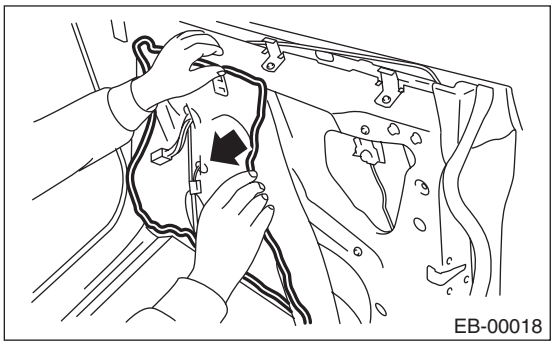
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-4, FRONT DOOR GLASS, COMPONENT, General Description.>

6. Front Regulator and Motor Assembly

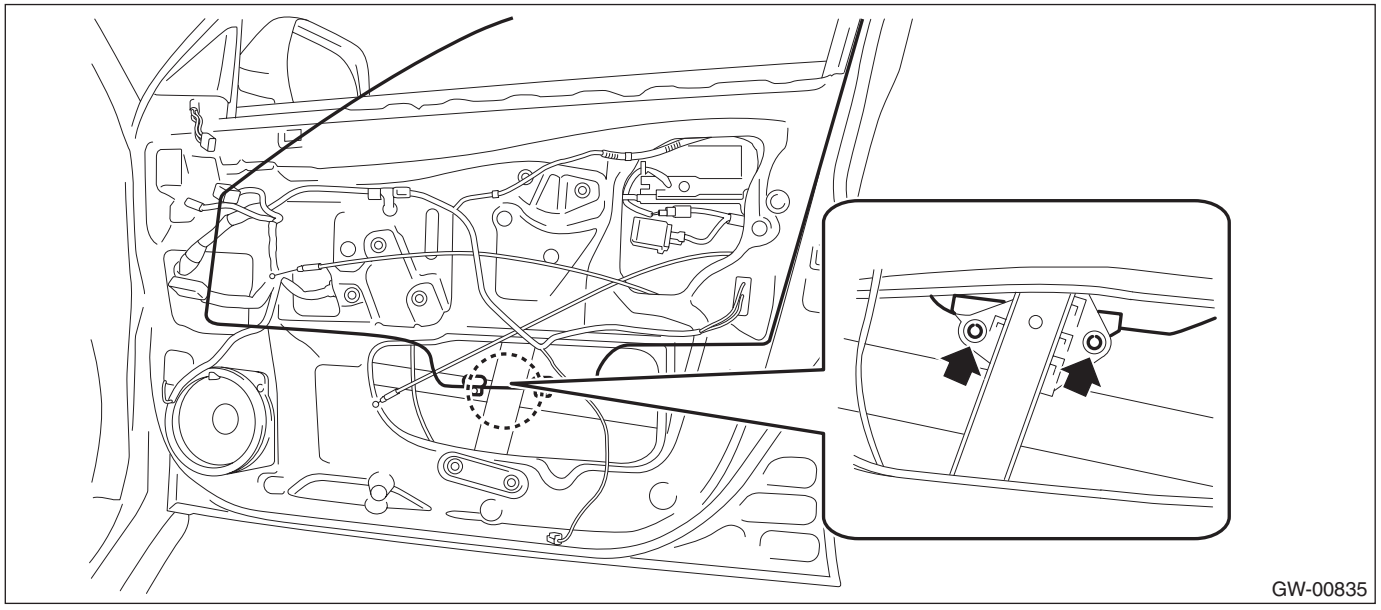
A: REMOVAL

1) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If cover gets broken, replace it with a new part.**

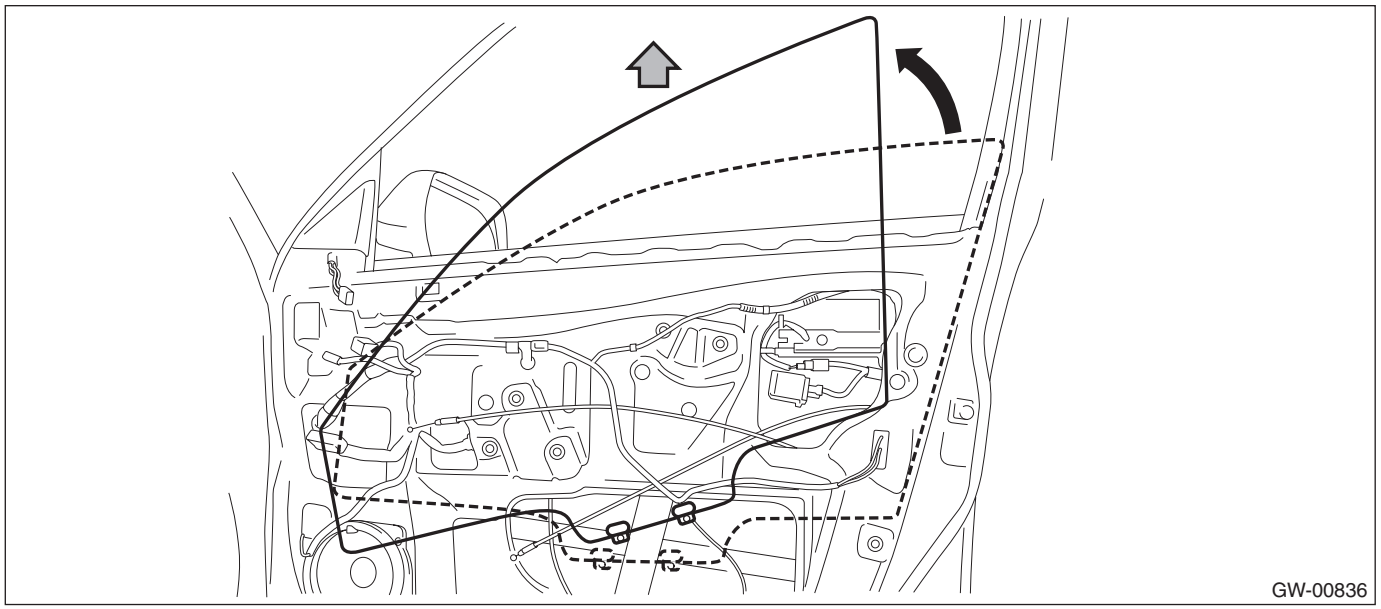


3) Remove the inner pad.
4) Attach the battery ground cable and power window switch and turn the ignition to ON.
5) Remove the front door glass.
   (1) Operate the power window switch to move the front door glass to the position where the mounting bolts can be seen.
   (2) Remove the bolt.

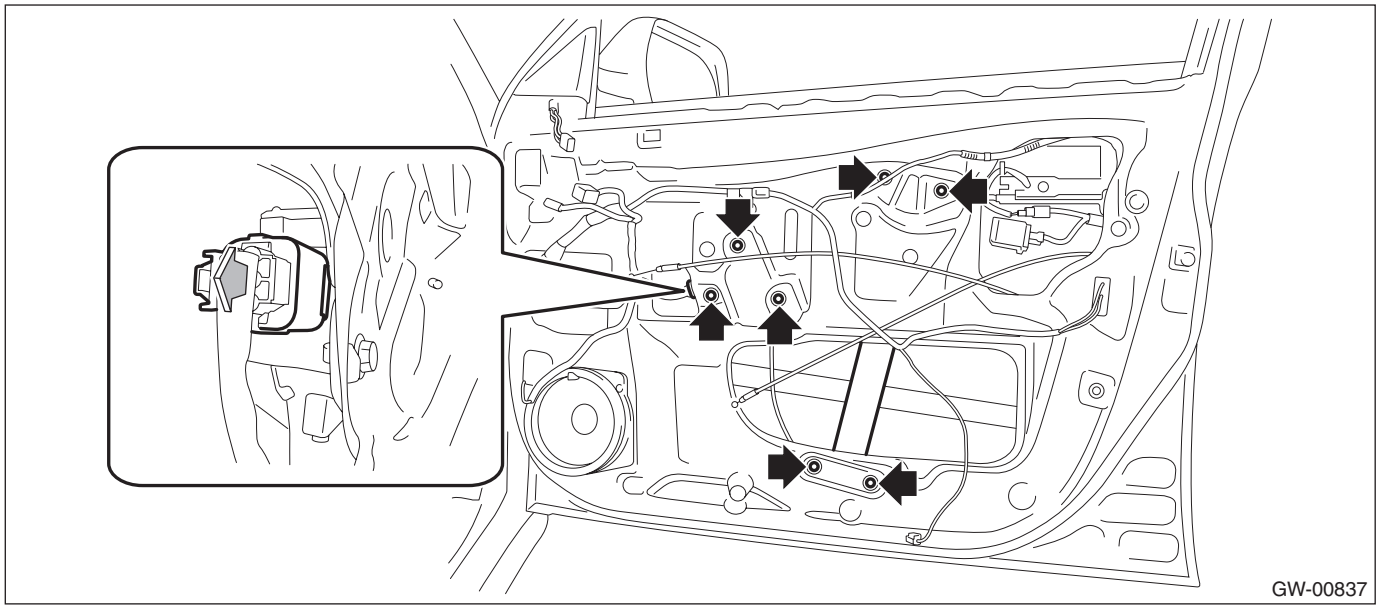


(3) While tilting the glass, remove the windshield glass.

CAUTION:
Avoid impact and damage to the glass.



6) Remove the front regulator and motor assembly.
(1) Disconnect the connector.
(2) Remove the bolts, and then remove the front regulator and motor assembly.



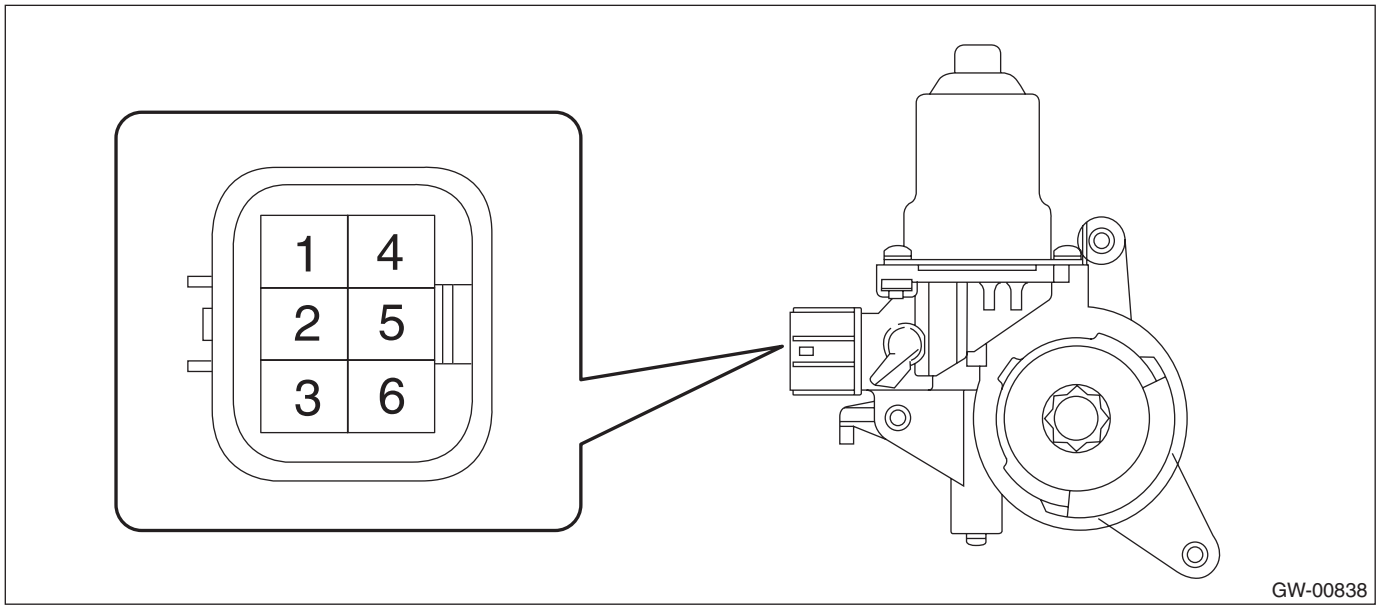
B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-4, FRONT DOOR GLASS, COMPONENT, General Description.>

C: INSPECTION

1) Disconnect the motor connector.
2) Apply battery voltage between the motor connector terminals and check the motor operation.



Terminal No.	Inspection conditions	Specification
1 (+) — 4 (–)	Apply battery voltage between terminals.	Increase
4 (+) — 1 (–)	Apply battery voltage between terminals.	Decrease

3) If the inspection results in improper operation, replace the front regulator and motor assembly.

7. Remote Control Mirror System

A: WIRING DIAGRAM

Refer to “Remote Control Mirror System” in the wiring diagram. <Ref. to WI-261, WIRING DIAGRAM, Remote Control Mirror System.>

B: INSPECTION

1. SYMPTOM CHART

Symptoms	Inspection order
All function does not operate.	1. Check the fuse. 2. Check the remote control mirror switch. 3. Check the wiring harness.
One side of the mirror motor does not operate.	1. Check the remote control mirror switch. 2. Check the mirror motor. 3. Check the wiring harness.
Mirror heater does not operate.	1. Check the defogger switch. 2. Check the mirror heater relay. 3. Check the mirror heater. 4. Check the wiring harness.

NOTE:
The mirror heater operates with the rear window defogger at the same time. Refer to the inspection procedure of rear window defogger system for details. <Ref. to GW-51, INSPECTION, Rear Window Defogger System.>

C: NOTE

For procedure of each component in the remote control mirror system, refer to the respective section.

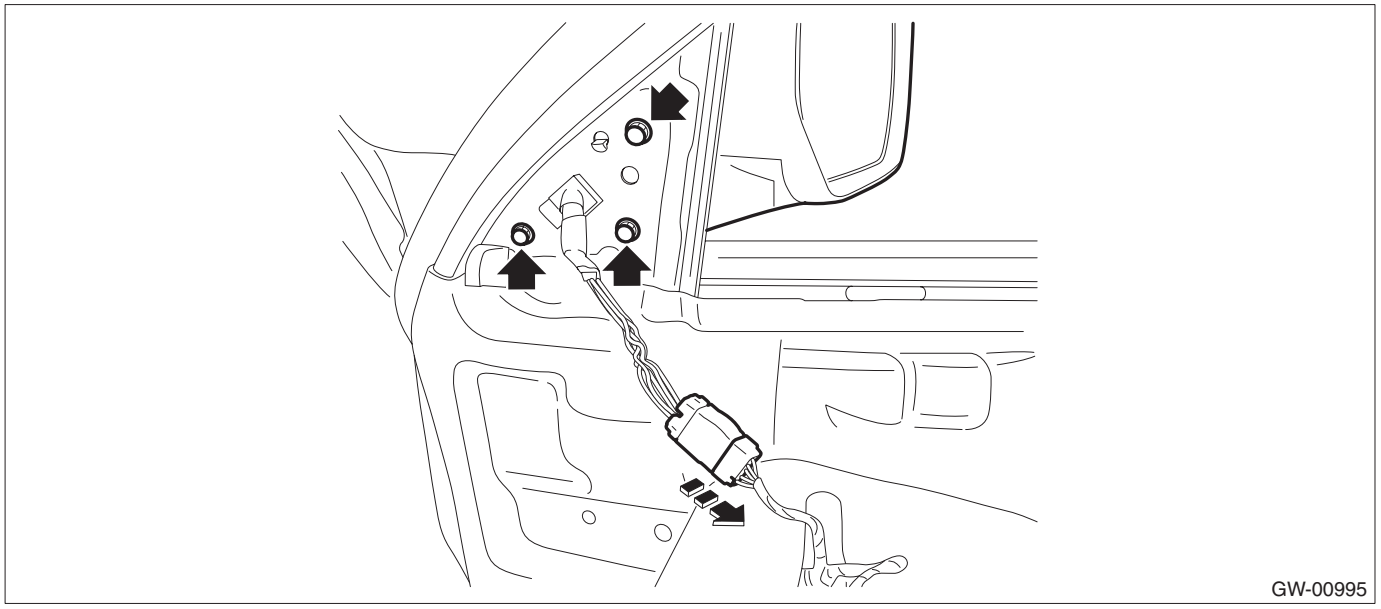
- Outer mirror assembly:<Ref. to GW-24, Outer Mirror Assembly.>
- Remote control mirror switch:<Ref. to GW-28, Remote Control Mirror Switch.>

8. Outer Mirror Assembly

A: REMOVAL

Refer to “DISASSEMBLY” for removal procedures of scalp cap and mirror face. <Ref. to GW-25, DISASSEMBLY, Outer Mirror Assembly.>

1) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the outer mirror assembly.
   (1) Disconnect the connector.
   (2) Remove the bolts to remove outer mirror assembly.



B: INSTALLATION

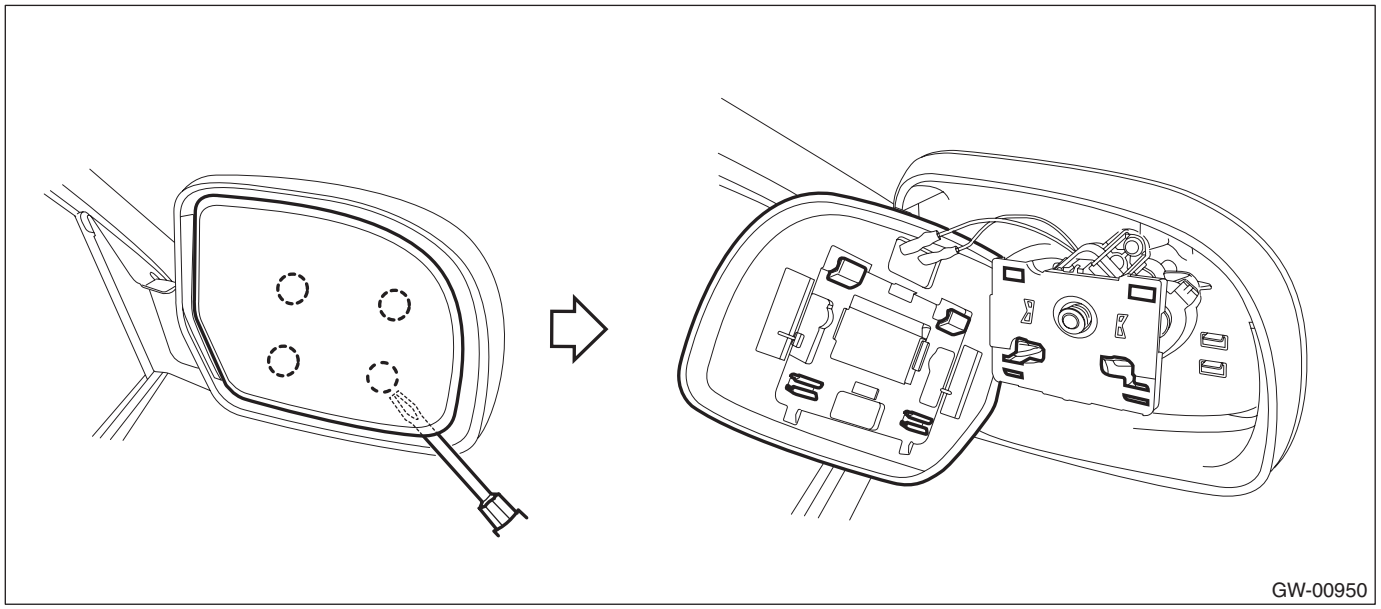
Install each part in the reverse order of removal.

Tightening torque:
Outer mirror assembly: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

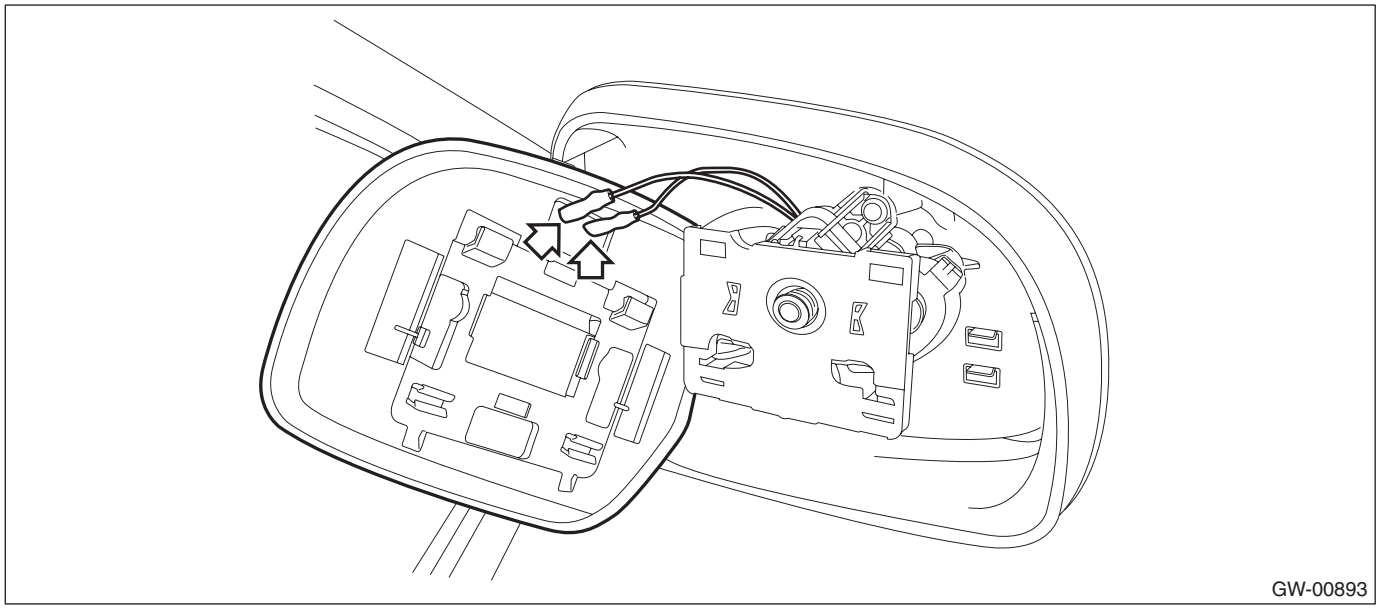
C: DISASSEMBLY

CAUTION:
• When removing the mirror, be careful not to damage the back surface of mirror with a flat tip screwdriver.
• When installing the mirror, insert the connector and clip securely.

1) Operate the remote control mirror switch to face the mirror surface upward.
2) Disconnect the ground cable from battery.
3) Remove the outer mirror.
   (1) Disconnect the clips using a flat tip screwdriver.

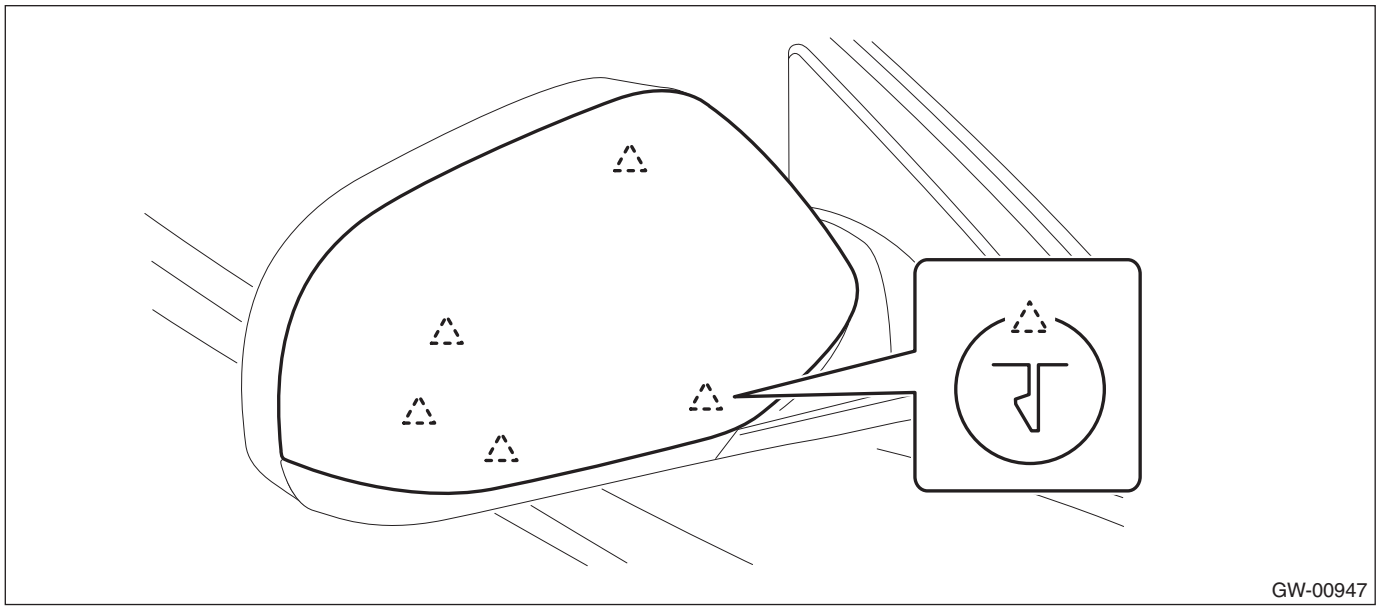


   (2) Disconnect the mirror heater connector. (Model with mirror heater)



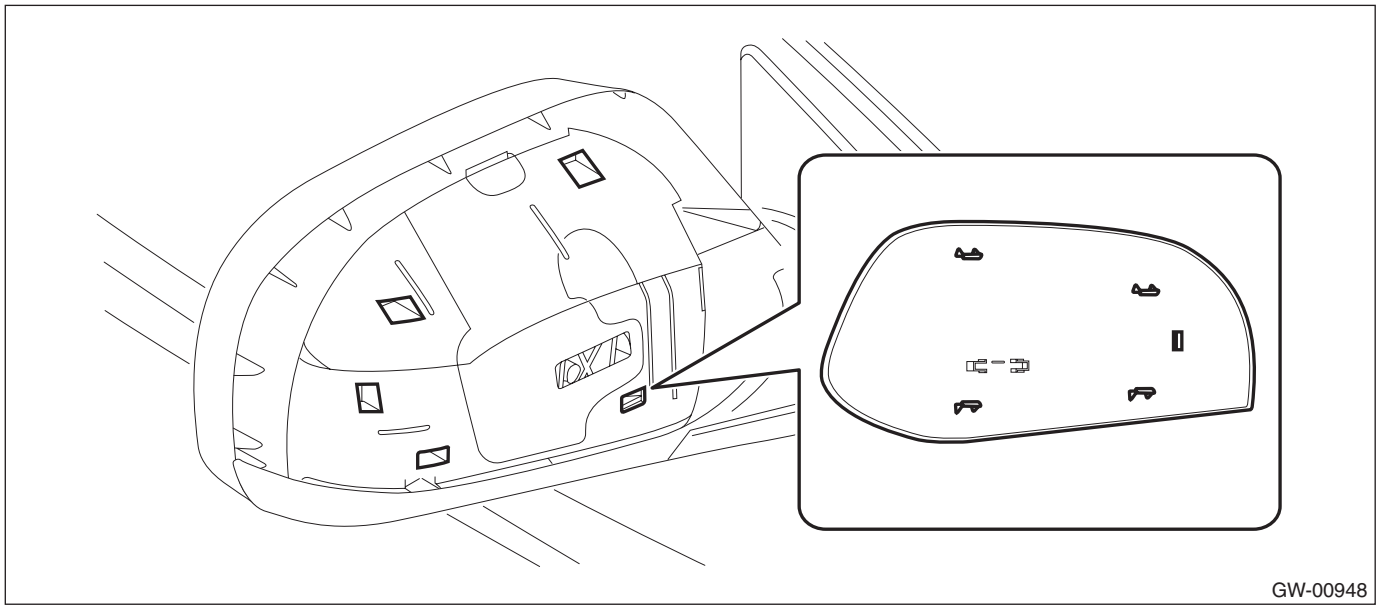
4) Disconnect the claws and then remove the scalp cap.

CAUTION:
Be careful not to apply excessive force when removing the scalp cap, as the lower hooks may become damaged.



D: ASSEMBLY

1) Engage the claws into the hole and install the scalp cap.

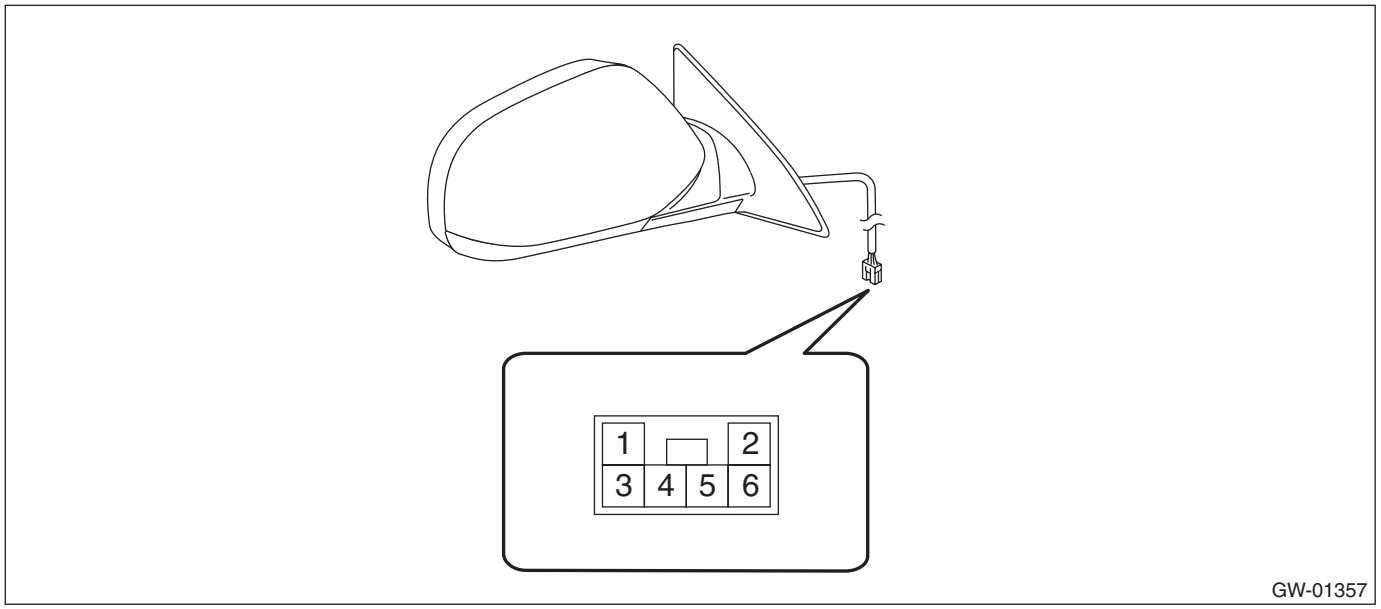


2) Check that all the claws are securely engaged.
3) Install the outer mirror in the reverse order of removal.

E: INSPECTION

1. CHECK MOTOR OPERATION

1) Disconnect the outer mirror connector.
2) Apply battery voltage between the outer mirror connector terminals and check the mirror operation.



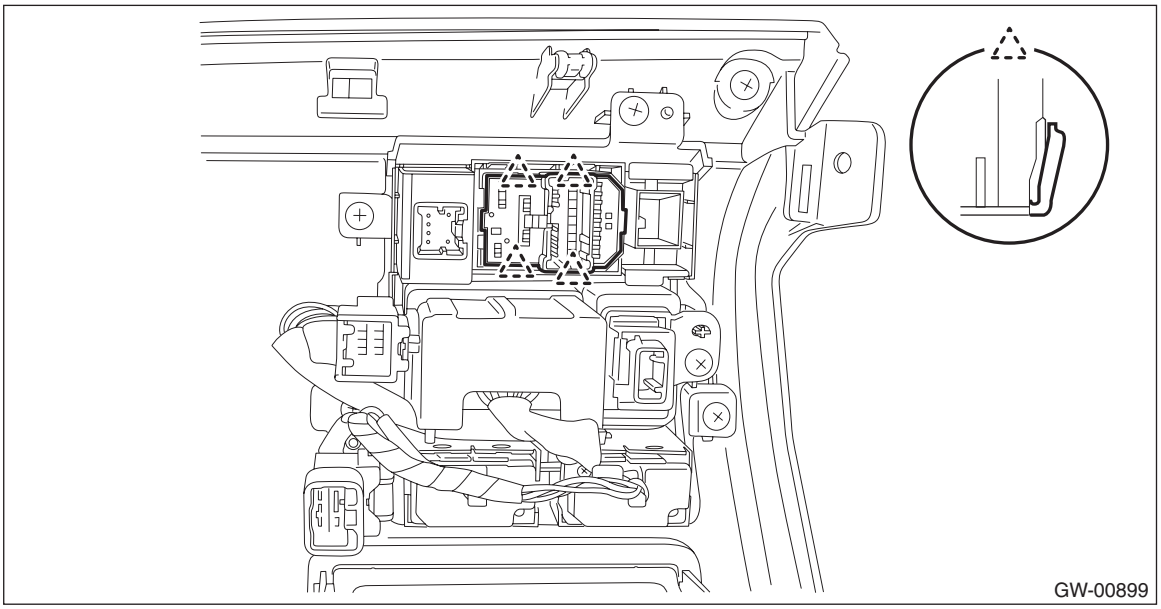
Terminal No.	Inspection conditions	Switch position
—	—	OFF
2 (+) — 5 (–)	Apply battery voltage between terminals.	UP
5 (+) — 2 (–)	Apply battery voltage between terminals.	DOWN
4 (+) — 2 (–)	Apply battery voltage between terminals.	LEFT
2 (+) — 4 (–)	Apply battery voltage between terminals.	RIGHT

3) If it does not operate normally, replace the outer mirror assembly.

9. Remote Control Mirror Switch

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the claws and then remove the remote control mirror switch.



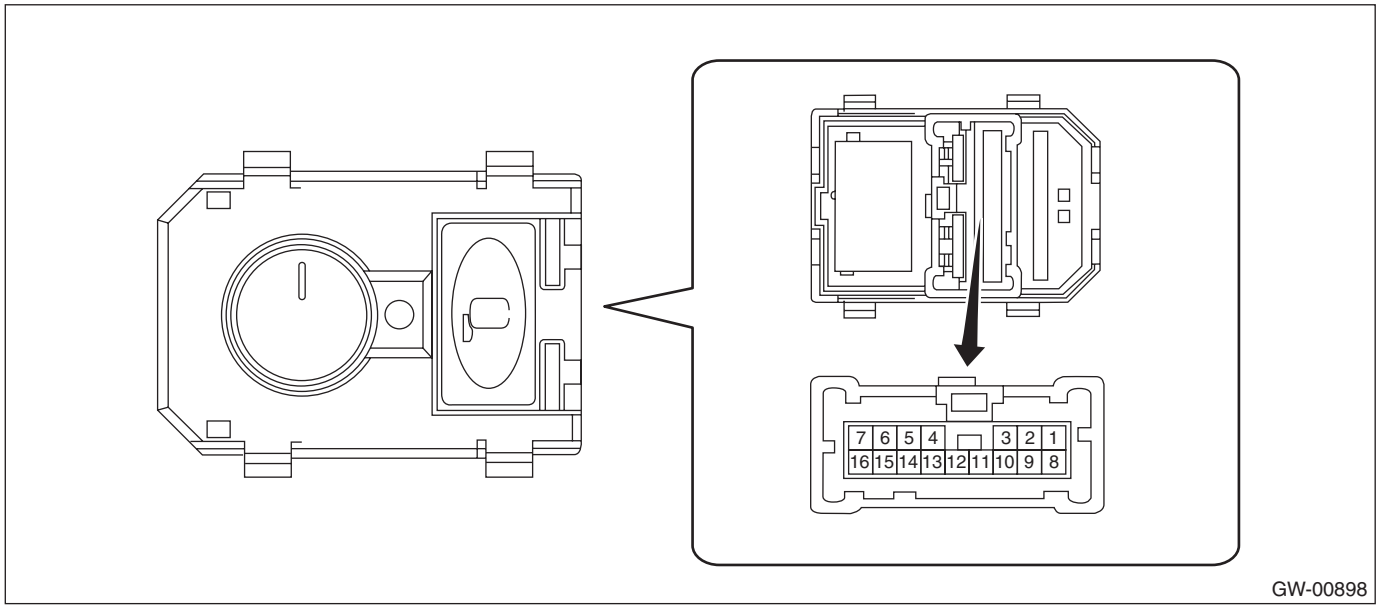
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Disconnect the remote control mirror switch connector.
2) Check the resistance between remote control mirror switch terminals.

Preparation tool:
Circuit tester



- Changeover switch RH

Terminal No.	Inspection conditions	Standard
1 — 10 1 — 11 1 — 12 7 — 9 7 — 11 7 — 12	OFF	1 MΩ or more
1 — 12 11 — 7	UP	Less than 1 Ω
1 — 11 12 — 7	DOWN	Less than 1 Ω
1 — 9 12 — 7	LEFT	Less than 1 Ω
1 — 12 9 — 7	RIGHT	Less than 1 Ω

- Changeover switch LH

Terminal No.	Inspection conditions	Standard
1 — 8 1 — 10 1 — 14 7 — 10 7 — 14 7 — 15	OFF	1 MΩ or more
1 — 14 10 — 7	UP	Less than 1 Ω
1 — 10 14 — 7	DOWN	Less than 1 Ω
1 — 8 14 — 7	LEFT	Less than 1 Ω
1 — 14 8 — 7	RIGHT	Less than 1 Ω

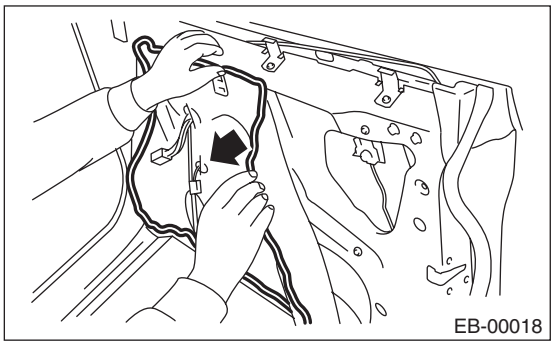
3) Replace the remote control mirror switch if the inspection result is not within the standard value.

10.Rear Door Glass

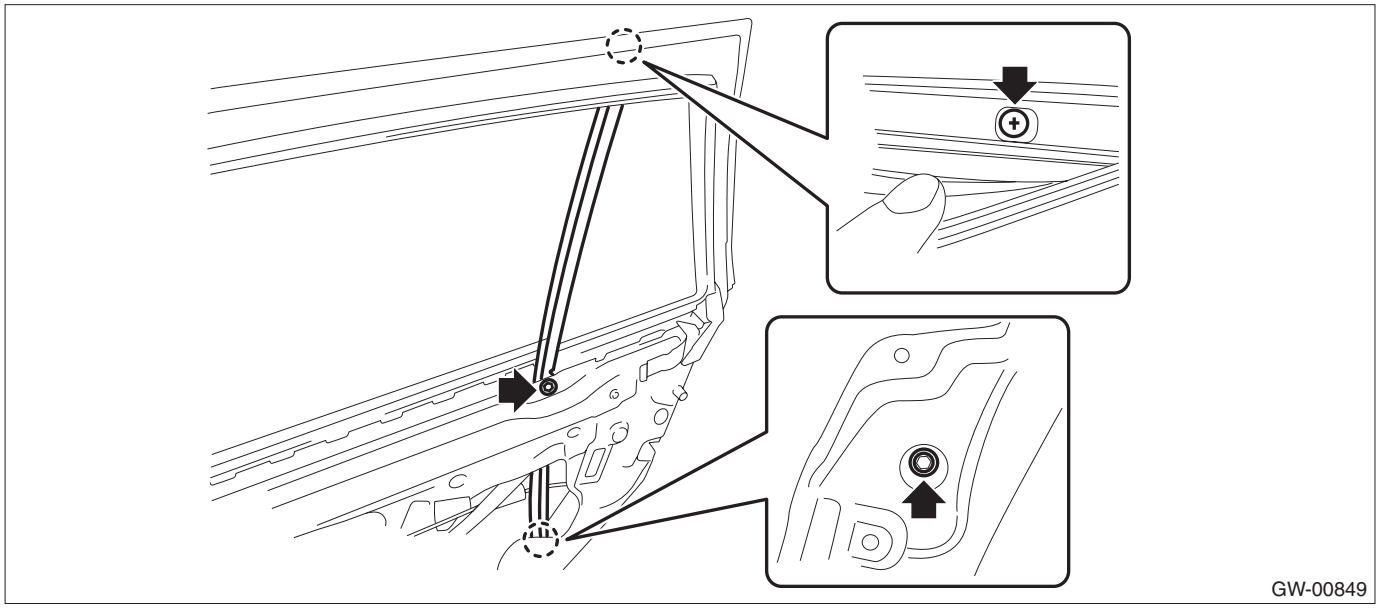
A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>
2) Remove the sealing cover.

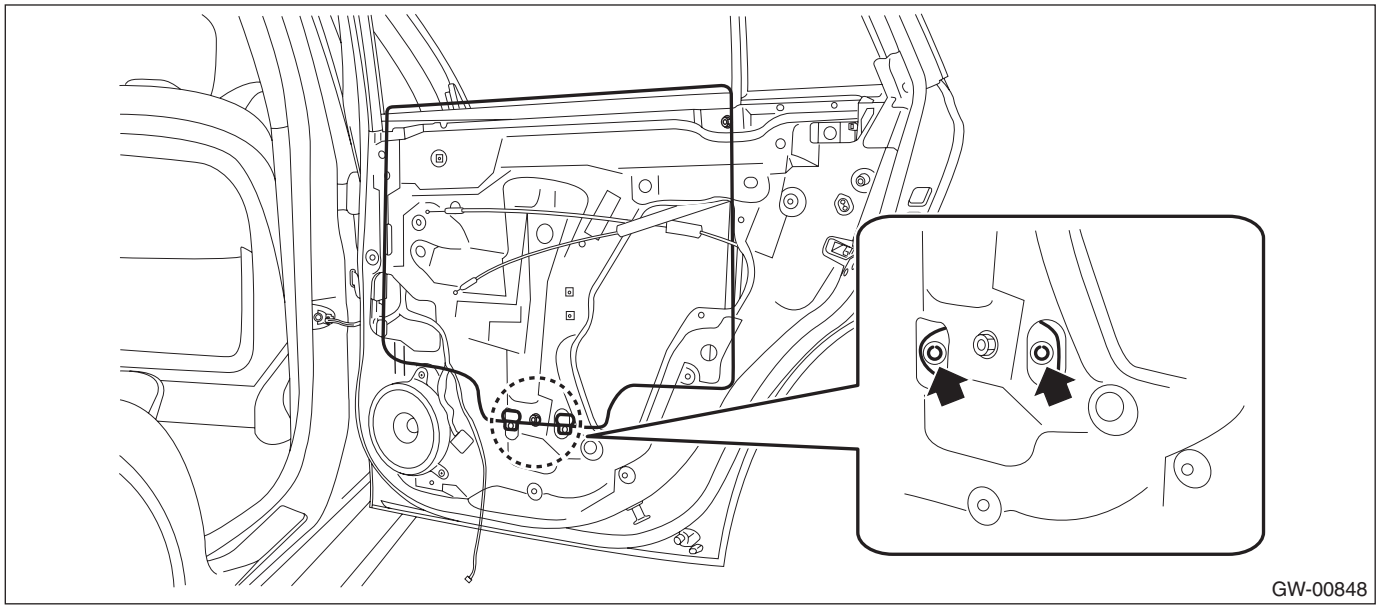
CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If cover gets broken, replace it with a new part.**



3) Attach the battery ground cable and power window switch and turn the ignition to ON.
4) Remove the rear door glass.
   (1) Operate the power window switch to move the rear door glass to the lowest position where the mounting bolts can be seen.
   (2) Remove the screw and bolt and remove the door sash.

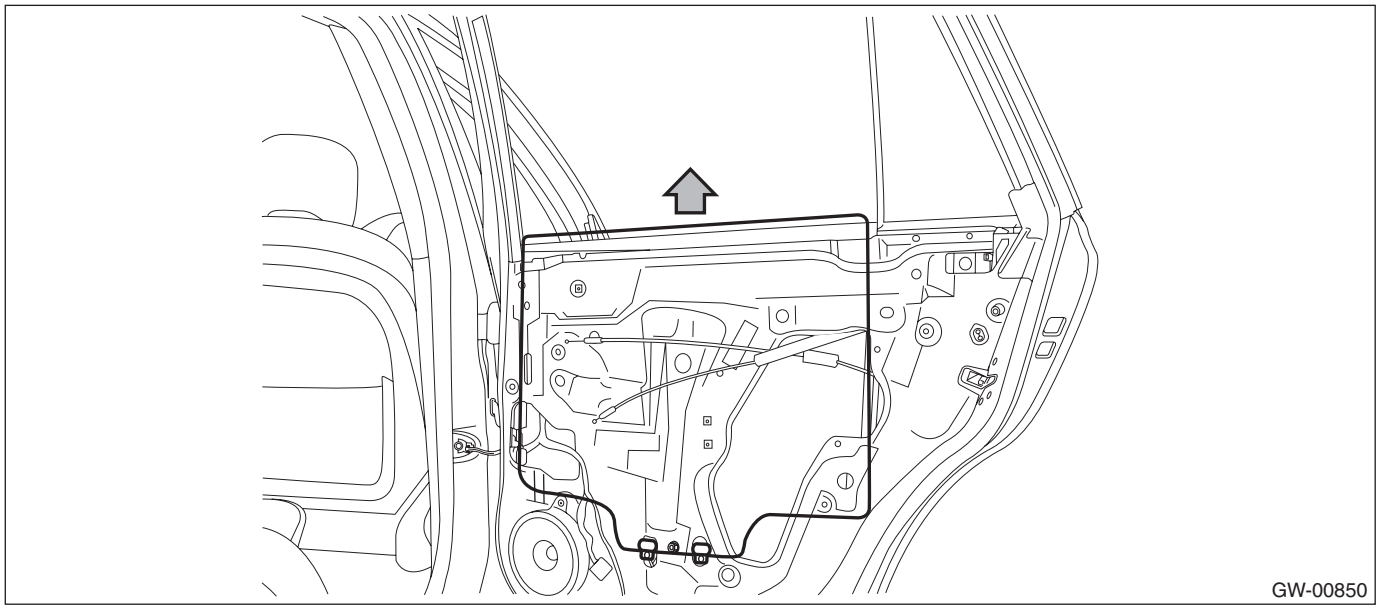


(3) Remove the bolt.



(4) Remove the rear door glass.

CAUTION:
Avoid impact and damage to the glass.



B: INSTALLATION

CAUTION:
Make sure that the glass run rubber is placed securely in the door frame and sash.
Install each part in the reverse order of removal.

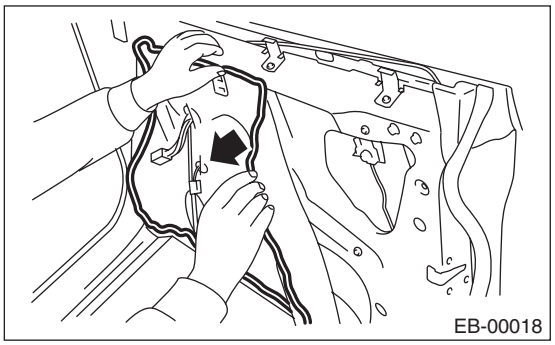
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-5, REAR DOOR GLASS, COMPONENT, General Description.>

11.Rear Regulator and Motor Assembly

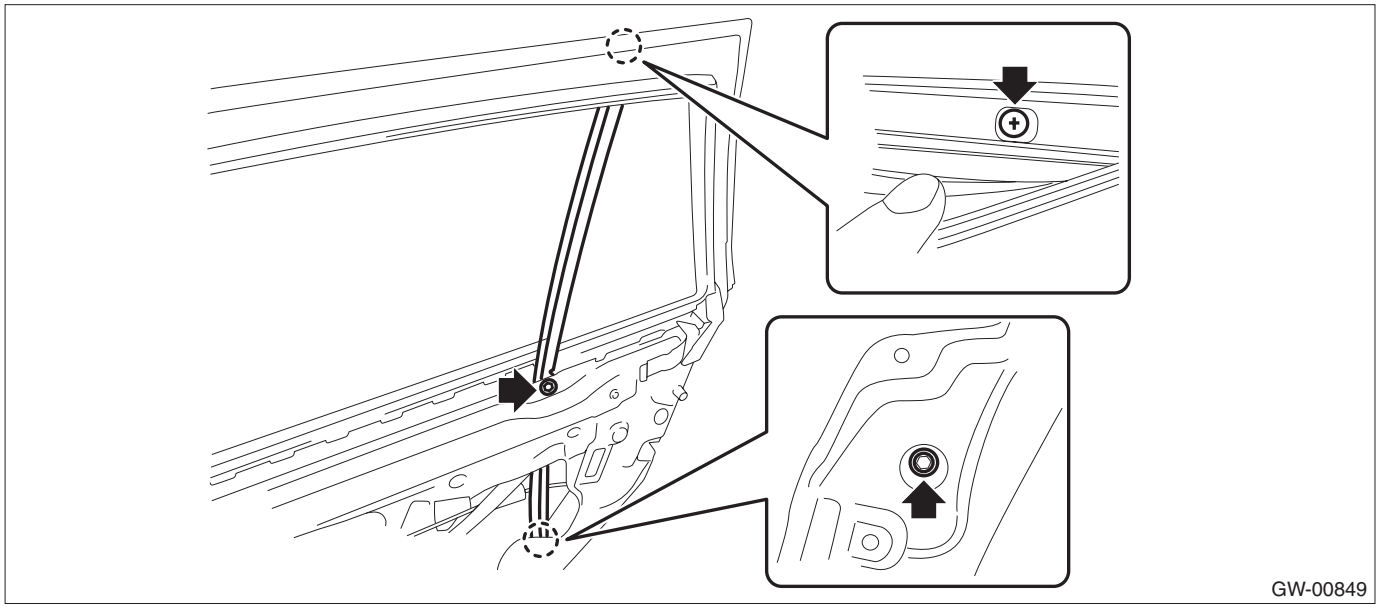
A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>
2) Remove the sealing cover.

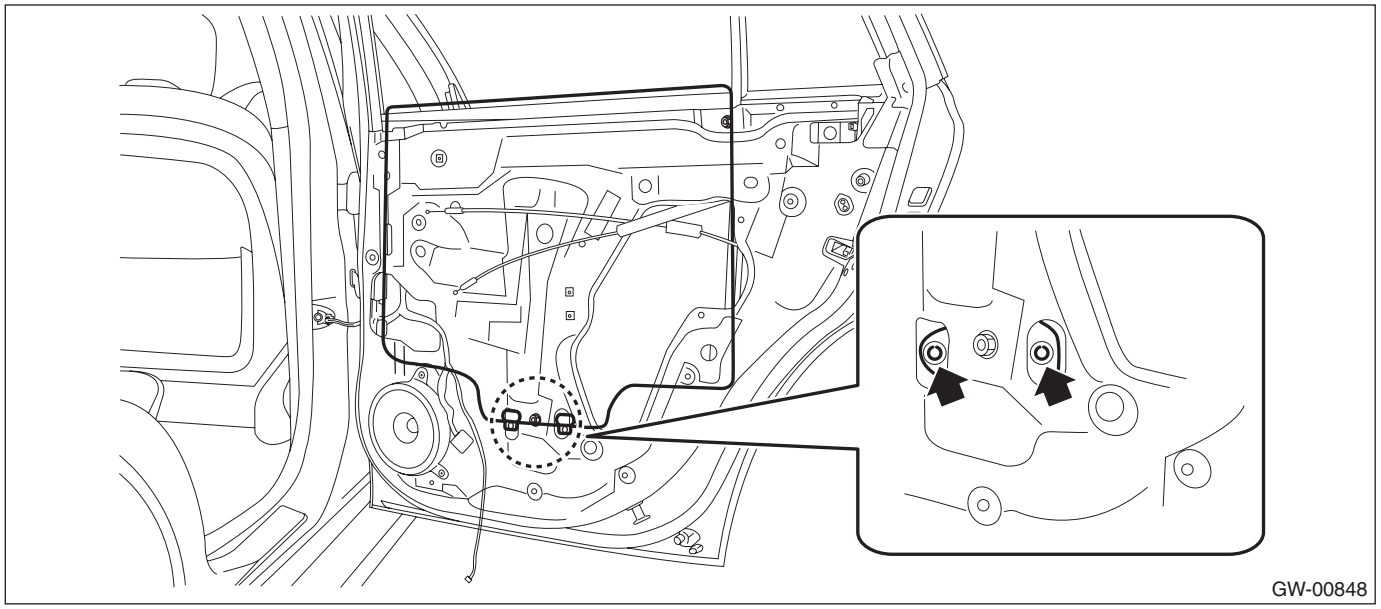
CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If cover gets broken, replace it with a new part.**



3) Attach the battery ground cable and power window switch and turn the ignition to ON.
4) Remove the rear door glass. <Ref. to GW-30, REMOVAL, Rear Door Glass.>
   (1) Operate the power window switch to move the rear door glass to the lowest position where the mounting bolts can be seen.
   (2) Remove the screw and bolt and remove the door sash.

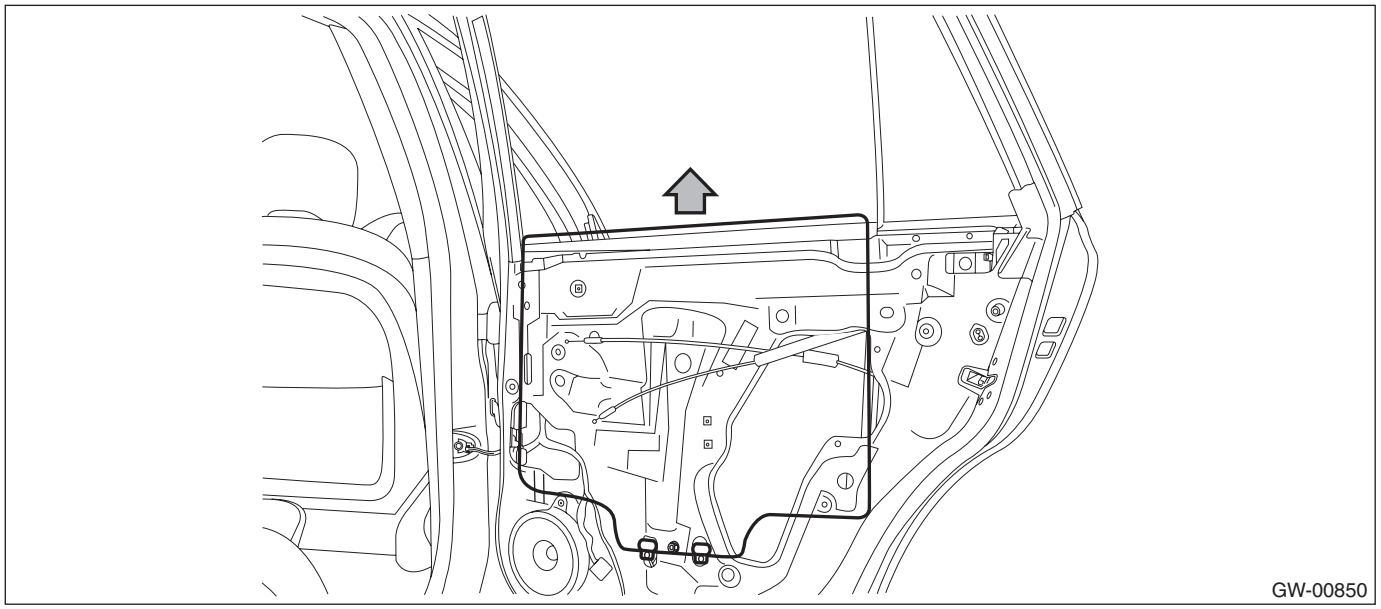


(3) Remove the bolt.

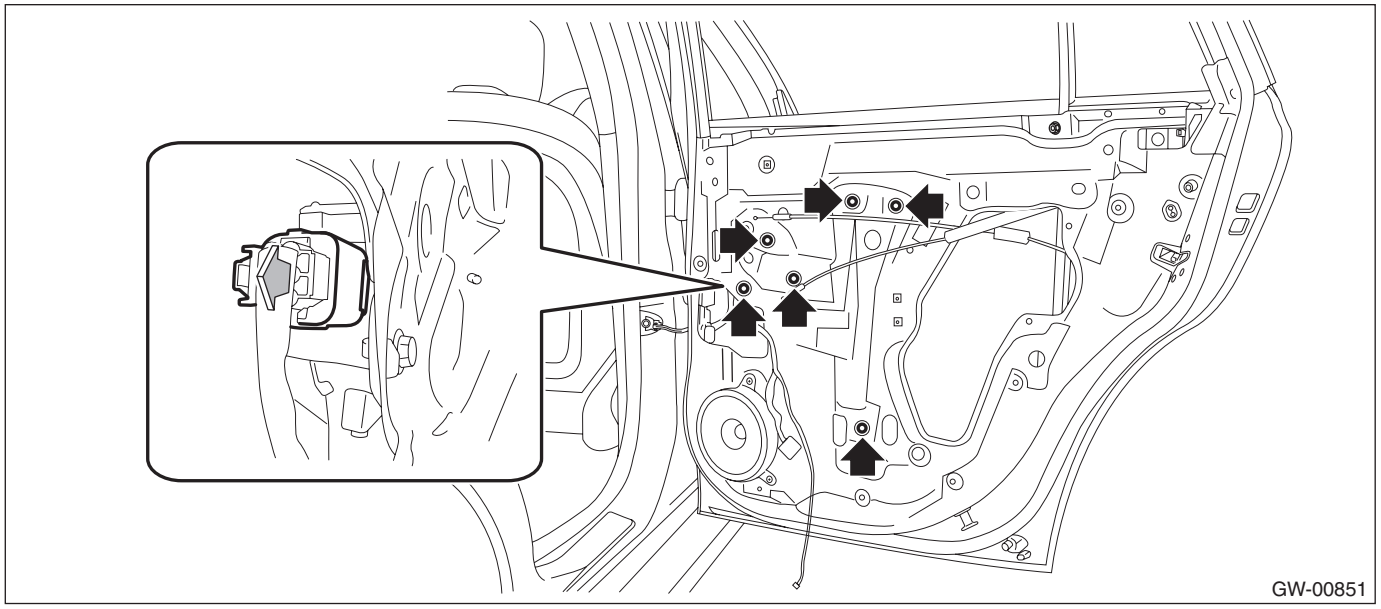


(4) Remove the rear door glass.

CAUTION:
Avoid impact and damage to the glass.



5) Remove the rear regulator and motor assembly.
   (1) Disconnect the connector.
   (2) Remove the bolts, and then remove the rear regulator and motor assembly.



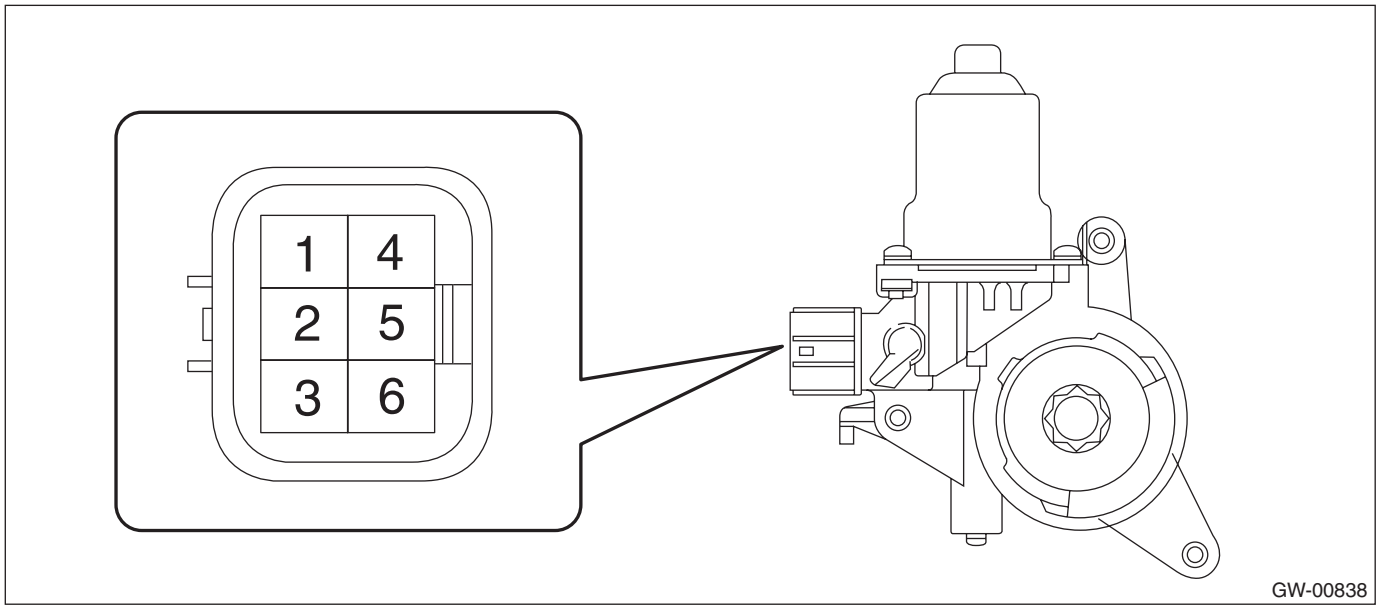
B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-5, REAR DOOR GLASS, COMPONENT, General Description.>

C: INSPECTION

1) Disconnect the motor connector.
2) Apply battery voltage between the motor connector terminals and check the motor operation. Check to ensure that the motor rotates in reverse direction when the terminal to which battery voltage is applied is changed.



Terminal No.	Inspection conditions	Standard
1 (+) — 4 (–)	Apply battery voltage between terminals.	Increase
4 (+) — 1 (–)	Apply battery voltage between terminals.	Decrease

3) If the inspection results in improper operation, replace the rear regulator and motor assembly.

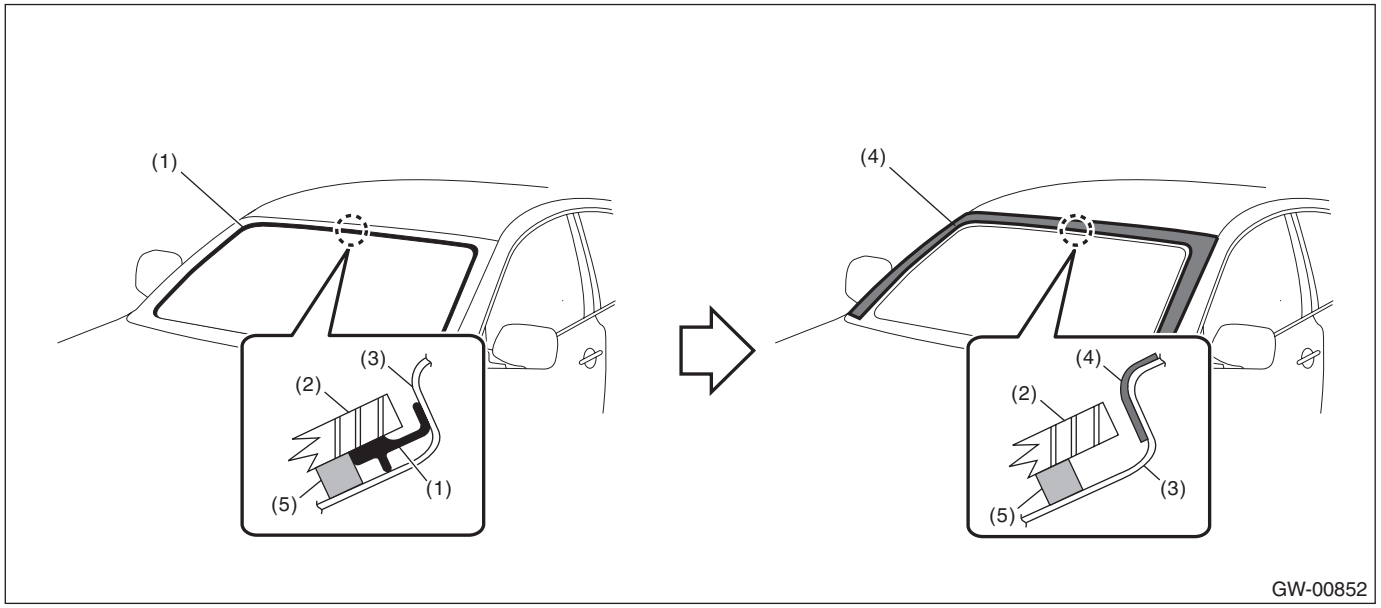
12.Windshield Glass

A: REMOVAL

CAUTION:
• For model with EyeSight, always use Subaru genuine windshield glass specially designed for EyeSight. (If the windshield glass other than the glass specially designed for EyeSight is used, the visibility of the camera is blocked or the distortion of the glass prevents the correct measurement of the object, resulting in the EyeSight abnormal operation.)
• For model with EyeSight, if the windshield glass is installed after removal or replaced, always perform the "Inspection" and "Adjustment and check" of the stereo camera.
Inspection:<Ref. to ES(diag)-8, INSPECTION, General Description.>
Adjustment and check:<Ref. to ES(diag)-45, Camera Adjustment, Inspection.>
• For model with EyeSight, if the damage is found in the glass repair prohibited area, always replace the glass. Damage in the prohibited area can affect the recognition of the stereo camera even if it is repaired, and thereby EyeSight function may not operate properly.

1. USING WINDSHIELD GLASS KNIFE

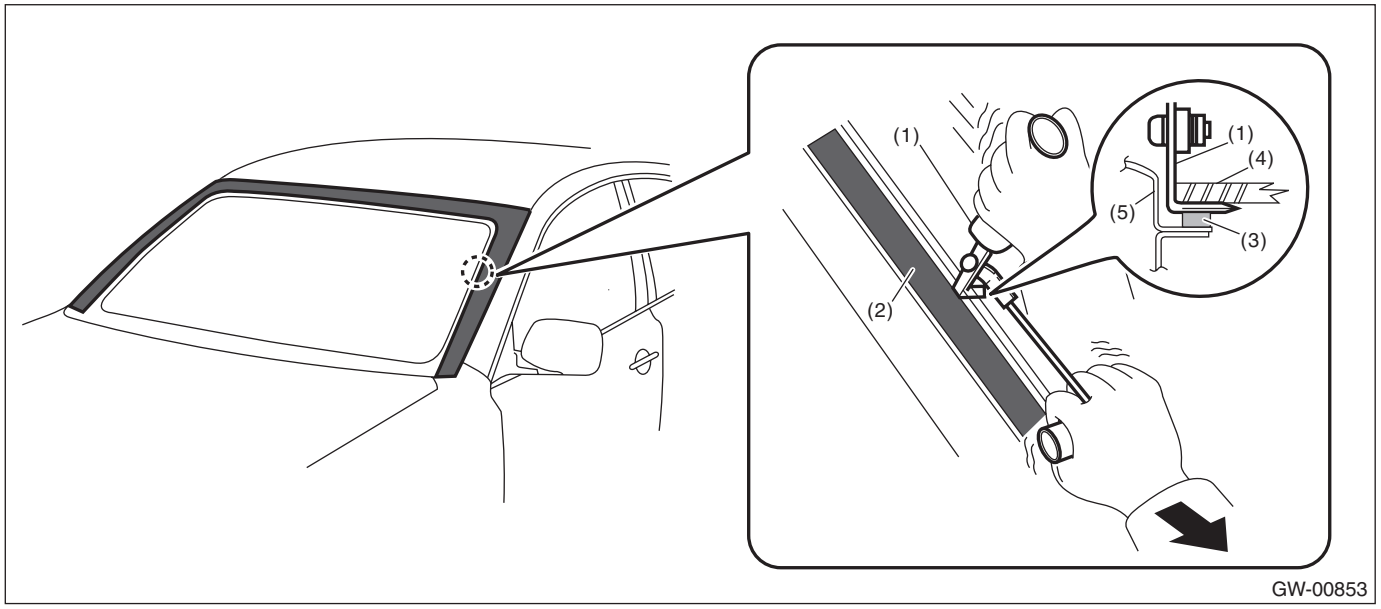
1) Disconnect the ground cable from battery. (Models with wiper deicer)
2) Remove the front pillar trim. <Ref. to EI-103, REMOVAL, Upper Inner Trim.>
3) Disconnect the wiper deicer connector. (Models with wiper deicer)
4) Remove the stereo camera cover and stereo camera. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>
5) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
6) Remove the molding from the glass and tape the body side of the circumference of windshield glass for protection.



(1) Molding
(2) Windshield glass
(3) Body panel
(4) Protective tape
(5) Adhesive

7) Remove the windshield glass.
(1) Apply sufficient amount of soapy water to the adhesive part and insert the windshield glass knife.
(2) While holding the knife edge and windshield glass edge at a right angle, move the windshield glass knife parallel to the windshield glass edge along the surface and edge of windshield glass to cut the adhesive.

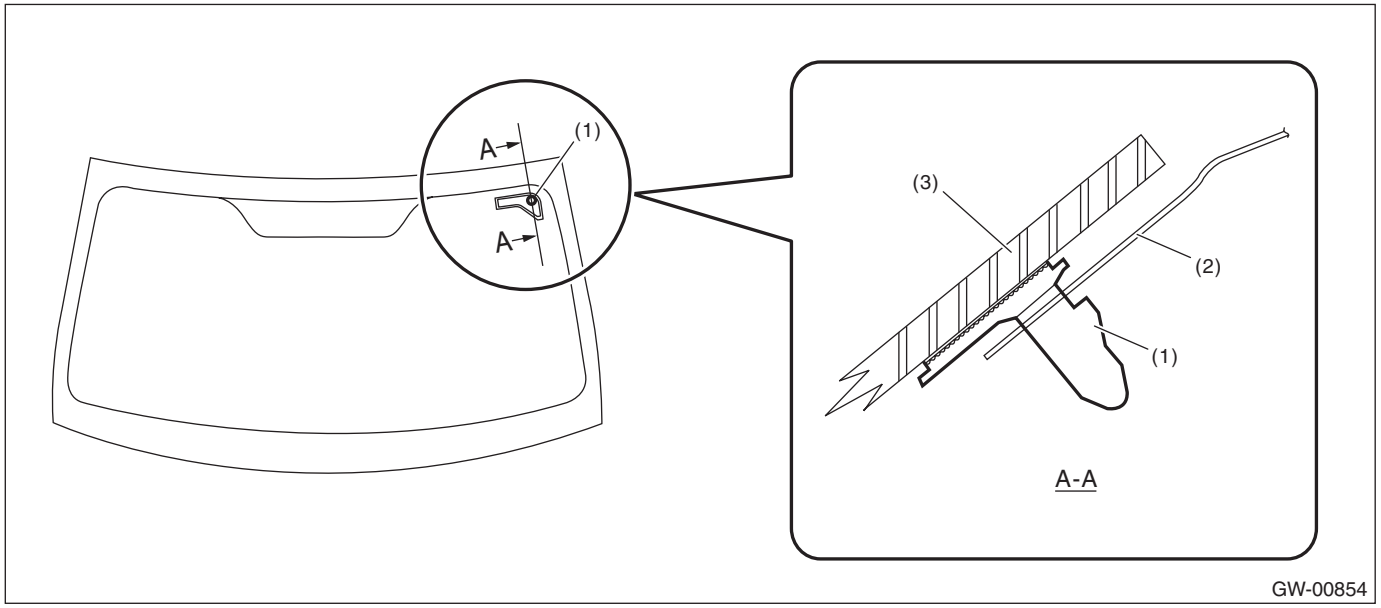
CAUTION:
- **Cutting of adhesive part should be started with wider gap between windshield glass and body.**
- **Never twist the windshield glass knife.**



(1) Windshield glass knife
(2) Protective tape
(3) Adhesive
(4) Windshield glass
(5) Body panel

(3) Disconnect the locating pin and remove the windshield glass.

NOTE:
The locating pins are bonded to the corners of glass. Use piano wire to disconnect the pins.

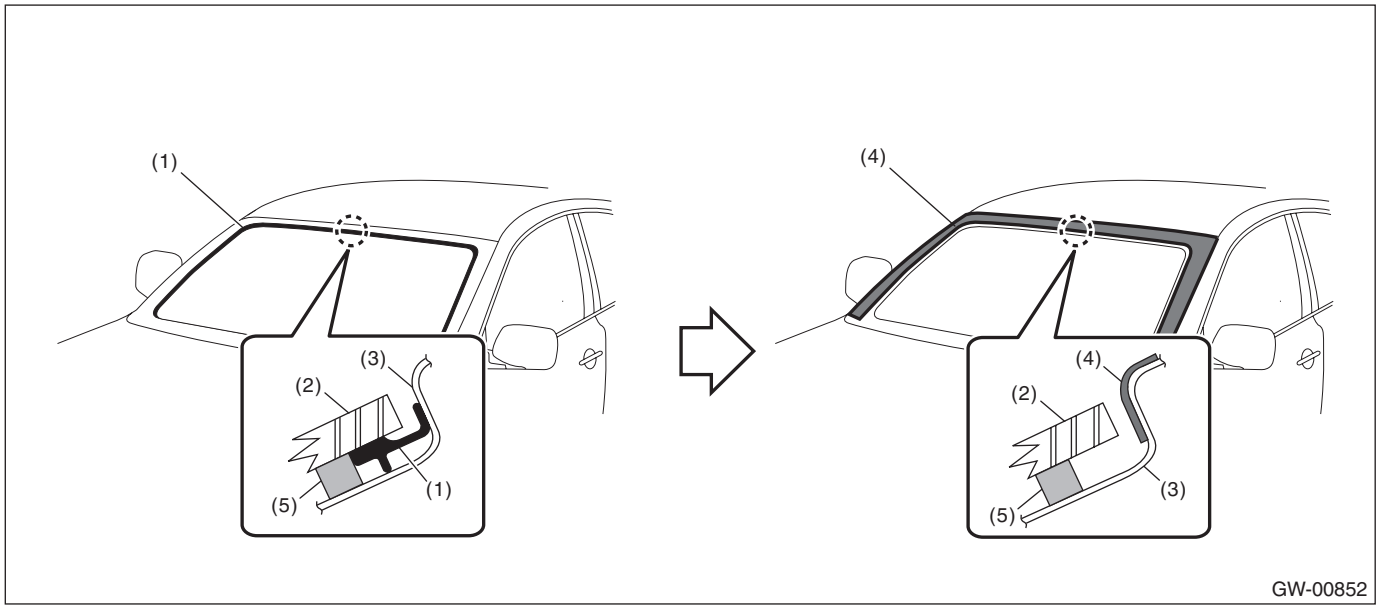


(1) Locating pin
(2) Body panel
(3) Windshield glass

2. USING PIANO WIRE

CAUTION:
- **Do not tightly pull the piano wire against the windshield glass edge.**
- **Apply protective tape, etc, and be careful that the inner and outer components of the vehicle are not damaged.**
- **Do not cross piano wires. Otherwise they may be cut.**

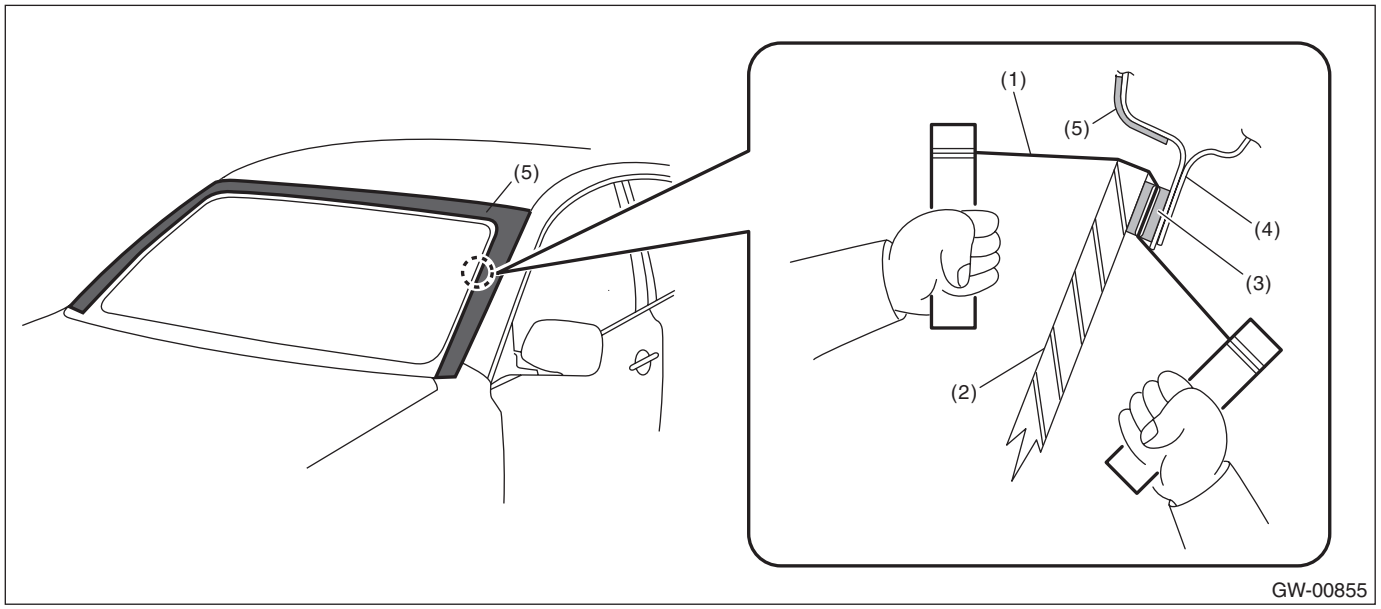
1) Disconnect the ground cable from battery. (Models with wiper deicer)
2) Remove the front pillar trim. <Ref. to EI-103, REMOVAL, Upper Inner Trim.>
3) Disconnect the wiper deicer connector. (Models with wiper deicer)
4) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
5) Remove the stereo camera cover and stereo camera. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>
6) Remove the molding from the glass and tape the body side of the circumference of windshield glass for protection.



(1) Molding
(2) Windshield glass
(3) Body panel
(4) Protective tape
(5) Adhesive

7) Remove the windshield glass.
(1) Using a drill, make a hole in the adhesive part.
(2) Pass the piano wire through the hole, and pull the wire ends alternately to cut off the adhesive part and locating pin.

CAUTION:
Attach a piece of wood to both piano wire ends.

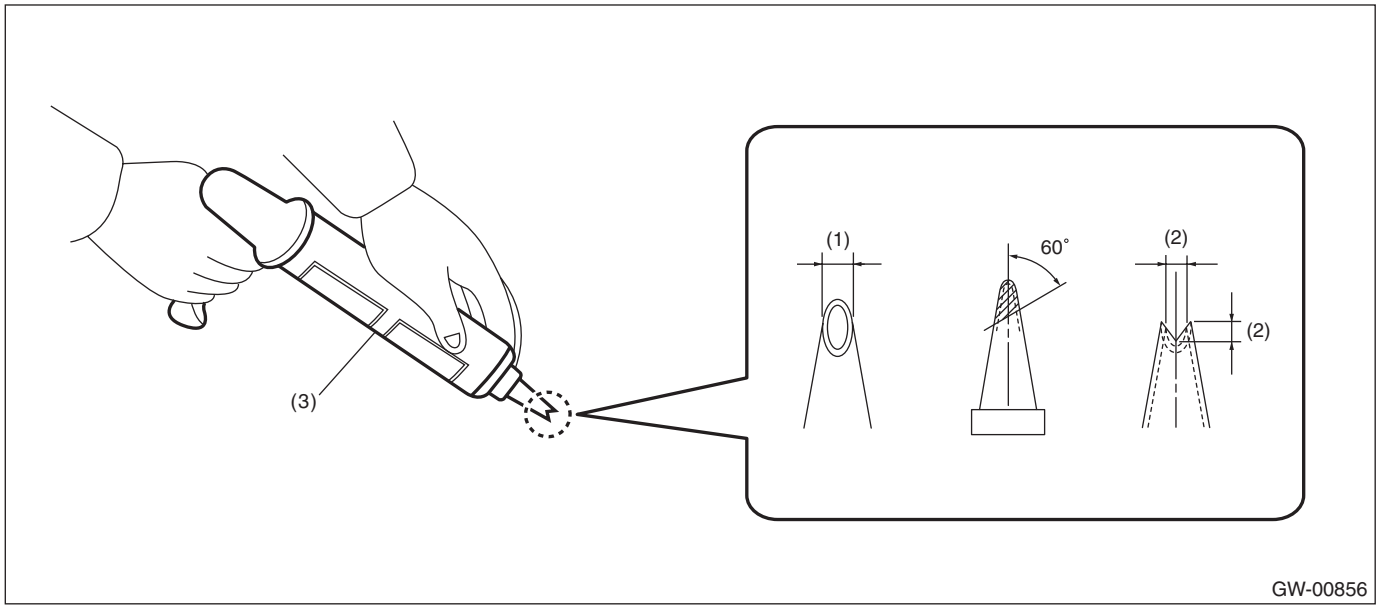


(1) Piano wire
(2) Windshield glass
(3) Adhesive
(4) Body panel
(5) Protective tape

B: INSTALLATION

CAUTION:
• For model with EyeSight, always use Subaru genuine windshield glass specially designed for EyeSight. (If the windshield glass other than the glass specially designed for EyeSight is used, the visibility of the camera is blocked or the distortion of the glass prevents the correct measurement of the object, resulting in the EyeSight abnormal operation.)
• For model with EyeSight, if the windshield glass is installed after removal or replaced, always perform the "Inspection" and "Adjustment and check" of the stereo camera.
Inspection:<Ref. to ES(diag)-8, INSPECTION, General Description.>
Adjustment and check:<Ref. to ES(diag)-45, Camera Adjustment, Inspection.>
• For model with EyeSight, if the damage is found in the glass repair prohibited area, always replace the glass. Damage in the prohibited area can affect the recognition of the stereo camera even if it is repaired, and thereby EyeSight function may not operate properly.

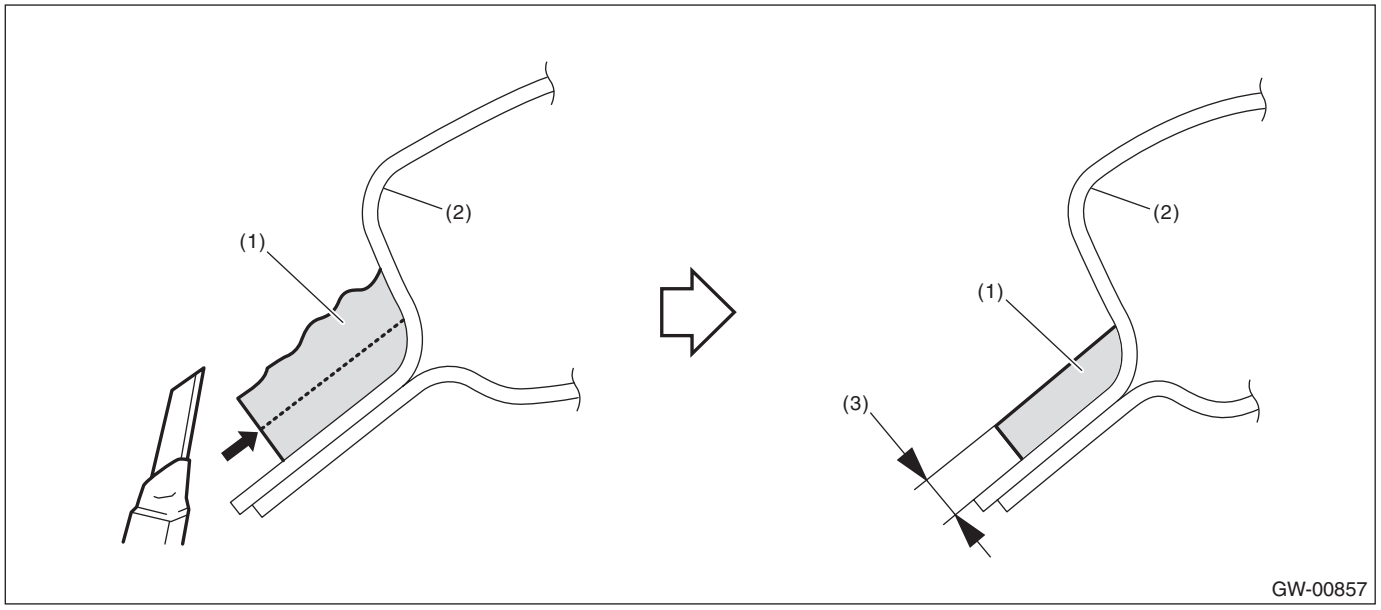
1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(1) 10 mm (0.39 in) (2) 8 mm (0.31 in) (3) Sealant gun

2) Remove the adhesive layer on the body using cutter knife to obtain smooth face of 2 mm (0.08 in) thick.

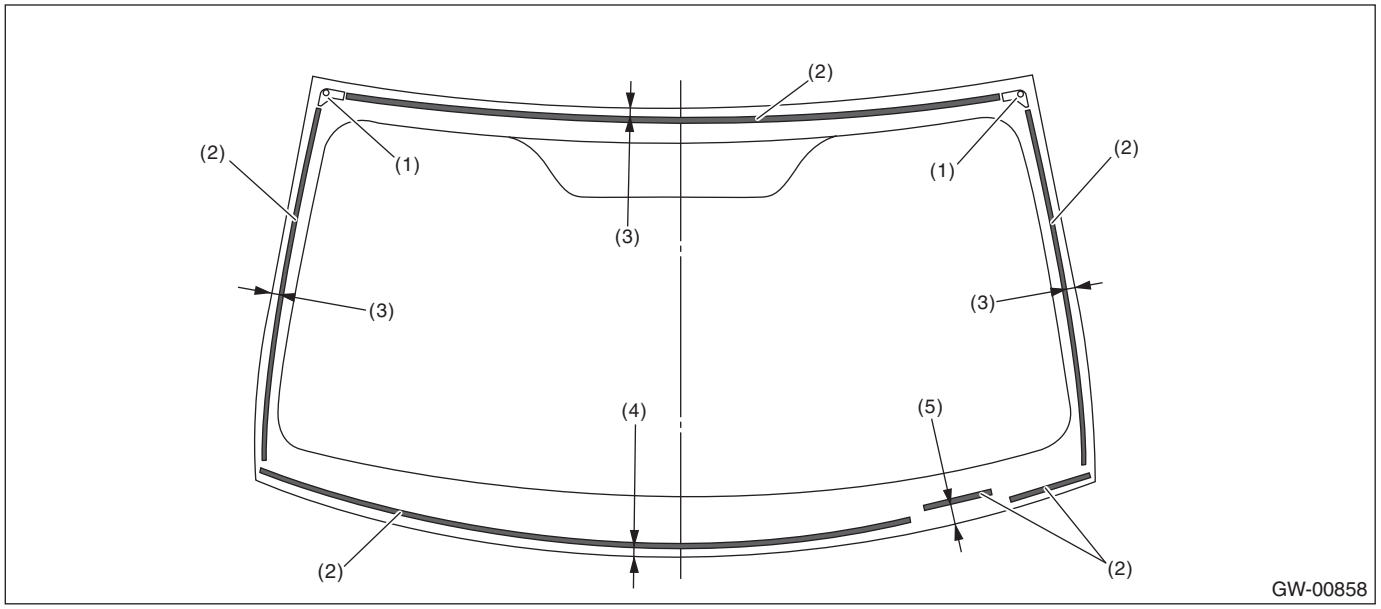
CAUTION:
- **Be careful not to damage the body and paint surface.**
- **Be sure to keep some of old adhesive.**



(1) Adhesive (2) Body panel (3) 2 mm (0.08 in)

3) Clean the glass and the body with alcohol or appropriate cleaning solvent to completely eliminate cutting powder, dust and dirt.

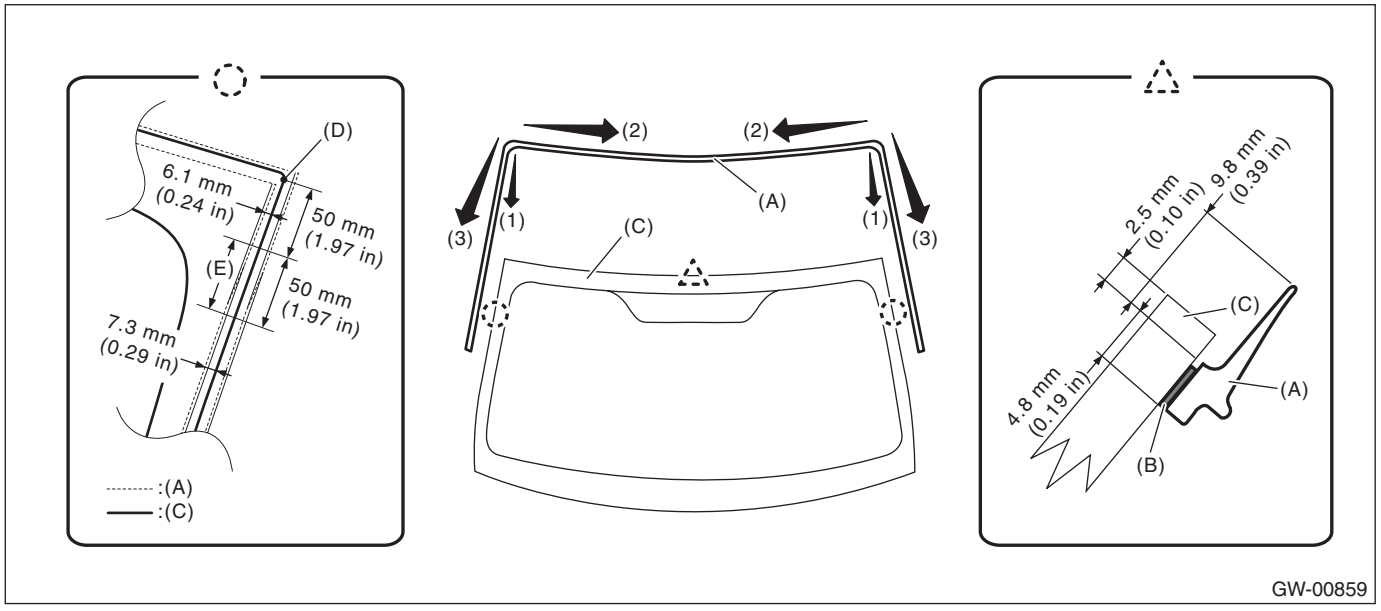
4) Attach the dam rubber to the glass.



(1) Locating pin
(2) Dam rubber
(3) 15 mm (0.59 in)
(4) 13.5 mm (0.53 in)
(5) 23.5 mm (0.92 in)

5) Install the molding to the glass.

CAUTION:
Be careful to attach the molding so that the molding has no loose or undulating part.



(1) Align the molding (A) with both ends of the upper edge of the windshield glass (C).
(2) Install the molding from both corners of the upper edge toward the center.
(3) Install the molding from both corners of the upper edge toward the lower side.

NOTE:
Change the molding installation width within the gradual change range (E) based on the curve end point on the upper end of side area (D).

(4) Firmly apply the double sided tape (B) of the molding evenly to the glass surface.

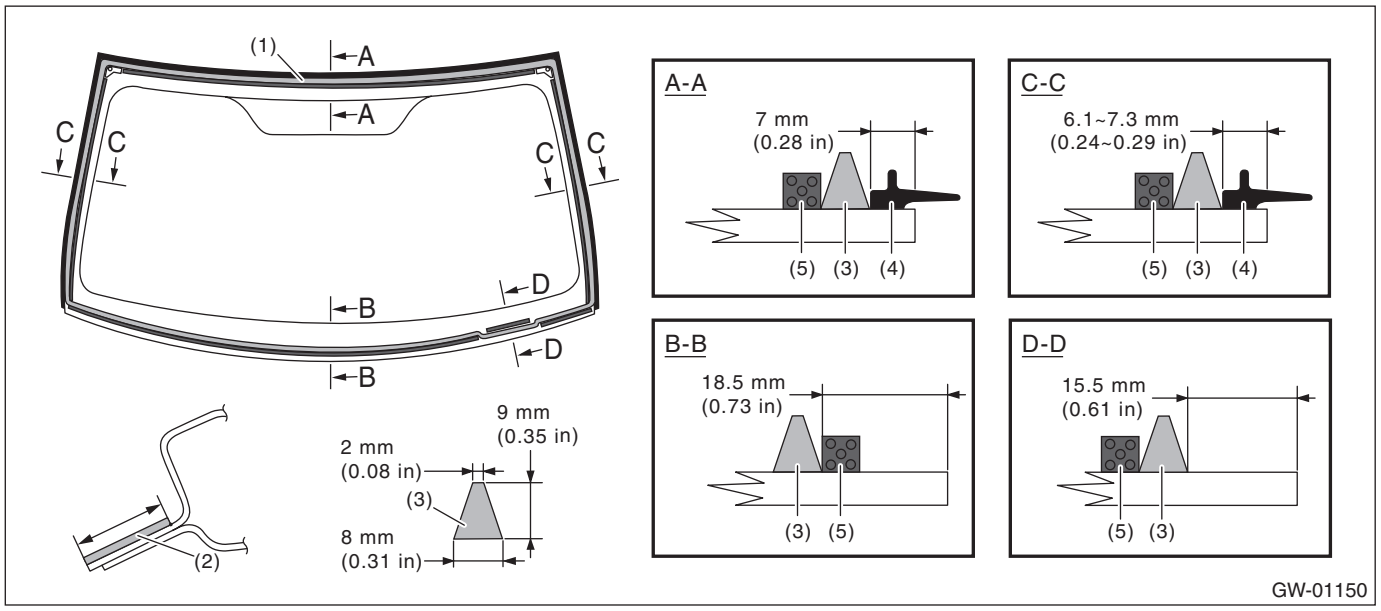
6) Install the windshield glass.
(1) Apply the primer to the adhesive surface of glass side and body side using sponge.

Glass primer:
Dow Automotive's
ESSEX U-401, U-402 or equivalent

Painted surface primer:
Dow Automotive's
ESSEX U-413 or equivalent

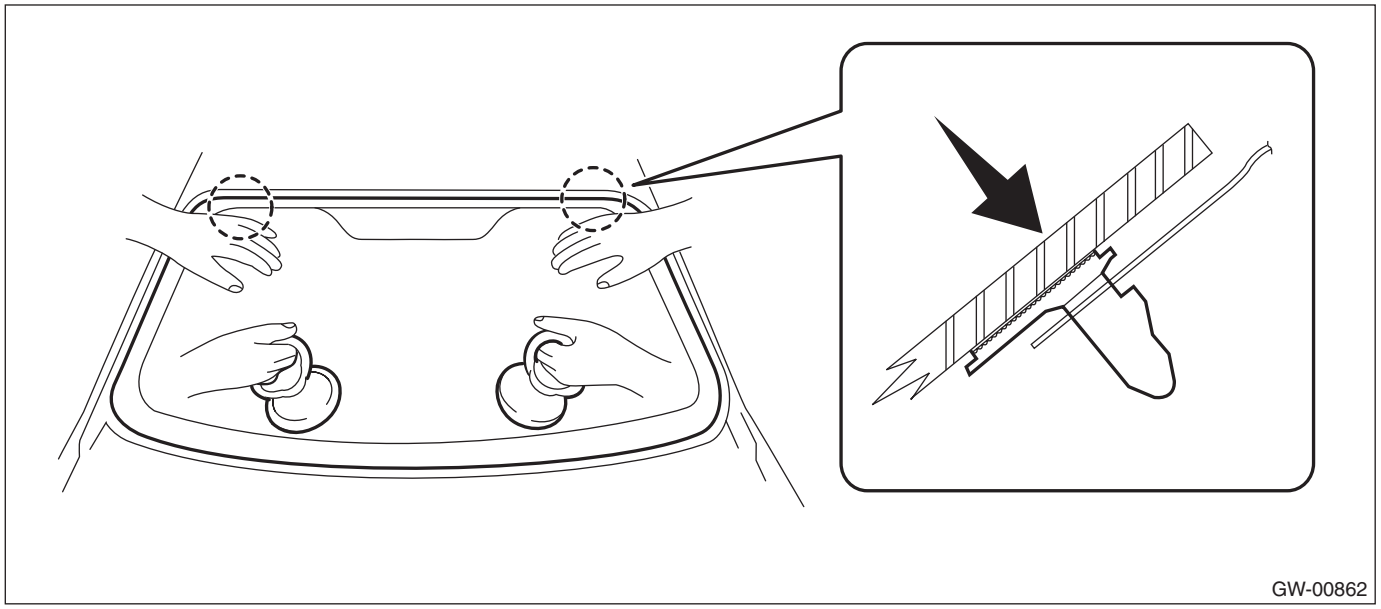
NOTE:
• Primer once attached to the painted surface of the body and internal trim is hard to wipe off. Mask the circumference of such area.
• Let primer dry for about ten minutes before installing the glass.
• Do not touch the surface coated with primer.
(2) Apply adhesive to the glass end back surface.

Adhesive:
Dow Automotive's
ESSEX U-400HV or equivalent



(1) Application of primer (glass side)
(2) Application of primer (body side)
(3) Adhesive
(4) Molding
(5) Dam rubber

(3) Fit the locating pins to vehicle body using suction rubber cup to install the windshield glass.



(4) Lightly press the entire perimeter of windshield glass for tight fit.
(5) Make flush the adhesive surface jutted out using spatula.

7) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
- When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
- Move the vehicle slowly.
- For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

8) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

9) Install the cowl panel. <Ref. to EI-32, INSTALLATION, Cowl Panel.>
10) Connect the wiper deicer connector. (Models with wiper deicer)
11) Install the stereo camera cover and stereo camera. (Models with EyeSight)<Ref. to ES-12, INSTALLATION, Stereo Camera.>
12) Install the front pillar trim. <Ref. to EI-108, INSTALLATION, Upper Inner Trim.>
13) Connect the battery ground terminal. (Models with wiper deicer)

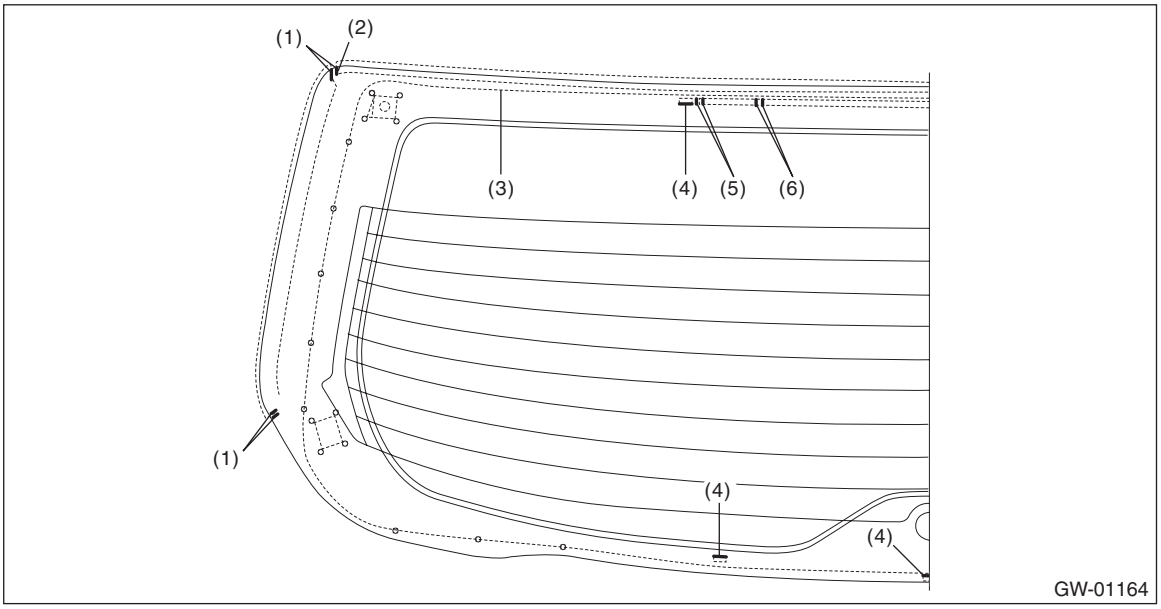
13.Rear Gate Glass

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-166, REMOVAL, Rear Gate Trim.>
3) Remove the rear gate garnish. <Ref. to EI-171, REMOVAL, Rear Gate Garnish.>
4) Remove the rear wiper arm and rear wiper motor. <Ref. to WW-40, REMOVAL, Rear Wiper Motor.>
5) Disconnect the rear defogger connector and radio antenna connector.
6) Remove the rear gate glass in the same procedure as for windshield glass. <Ref. to GW-36, REMOVAL, Windshield Glass.>

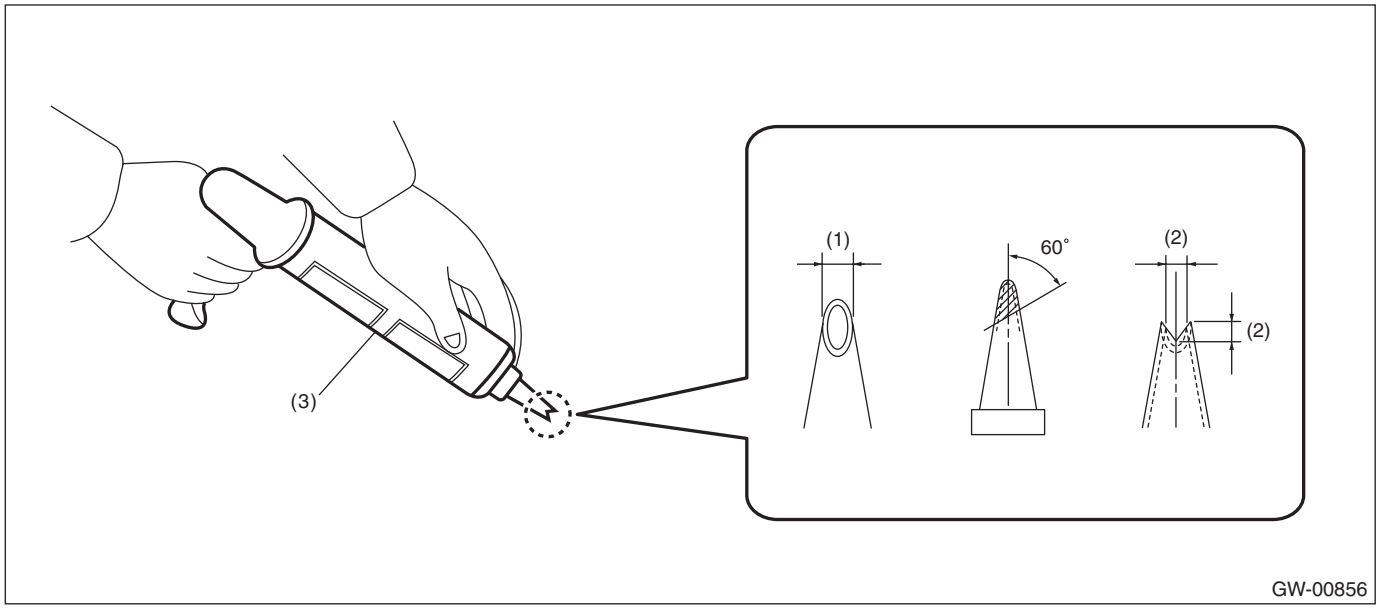
B: INSTALLATION

NOTE:
When applying adhesive and installing the dam rubber and molding, refer to Ag printing as a mark.



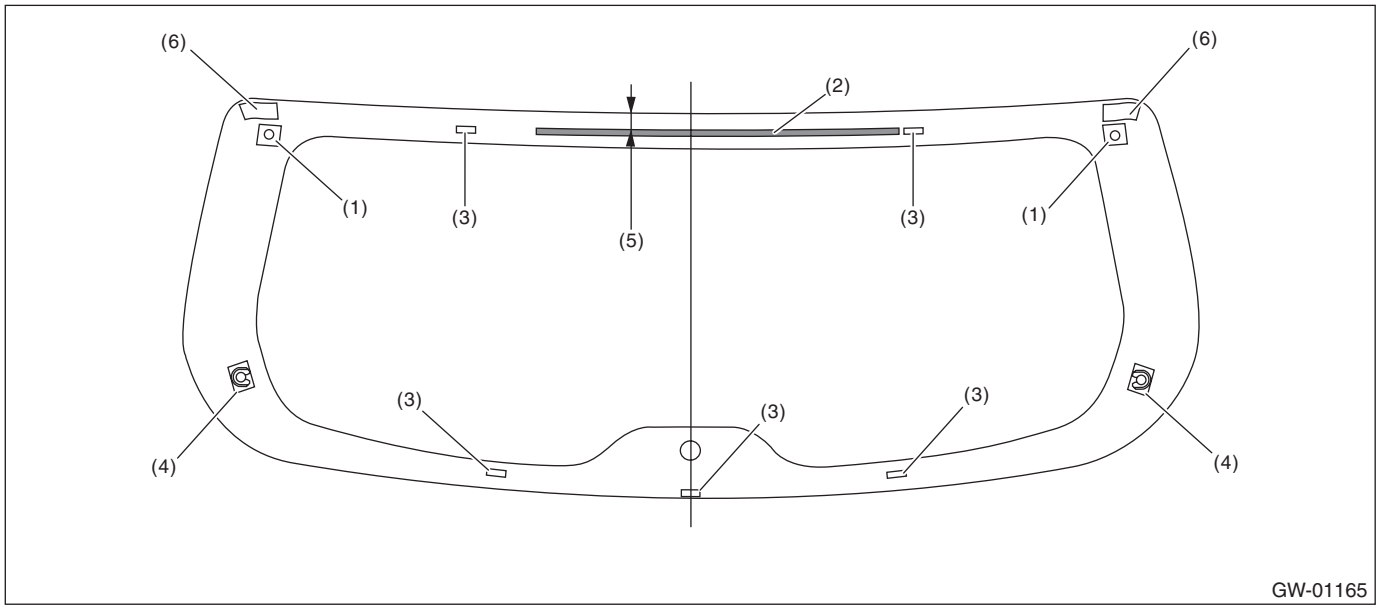
(1) Molding edge
(2) EPT sealer edge
(3) Adhesive line
(4) Spacer edge
(5) Dam rubber edge (LH)
(6) Dam rubber edge (RH)

1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(1) 10 mm (0.39 in) (2) 8 mm (0.31 in) (3) Sealant gun

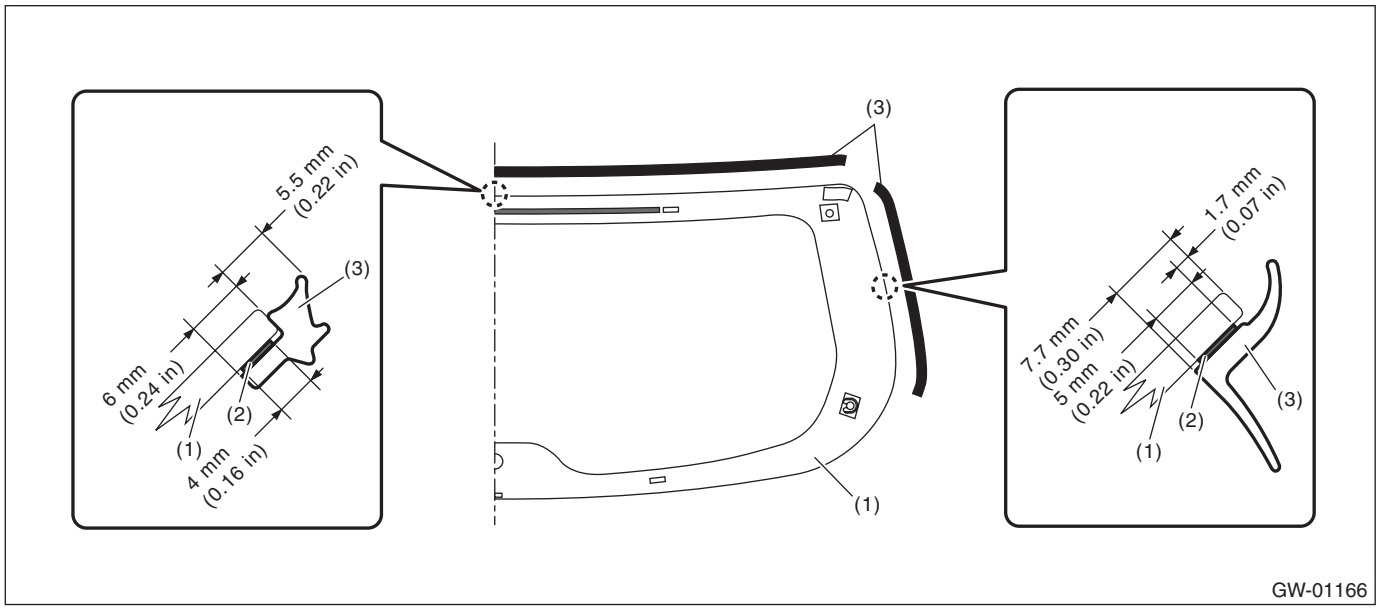
2) Prepare and clean the adhesion surfaces of the glass and body using the same procedures as for the windshield glass. <Ref. to GW-39, INSTALLATION, Windshield Glass.>
3) Attach the dam rubber to the glass.



(1) Locating pin (3) Spacer (5) 15 mm (0.59 in)
(2) Dam rubber (4) Holder (6) EPT sealer

4) Install the molding to the glass.

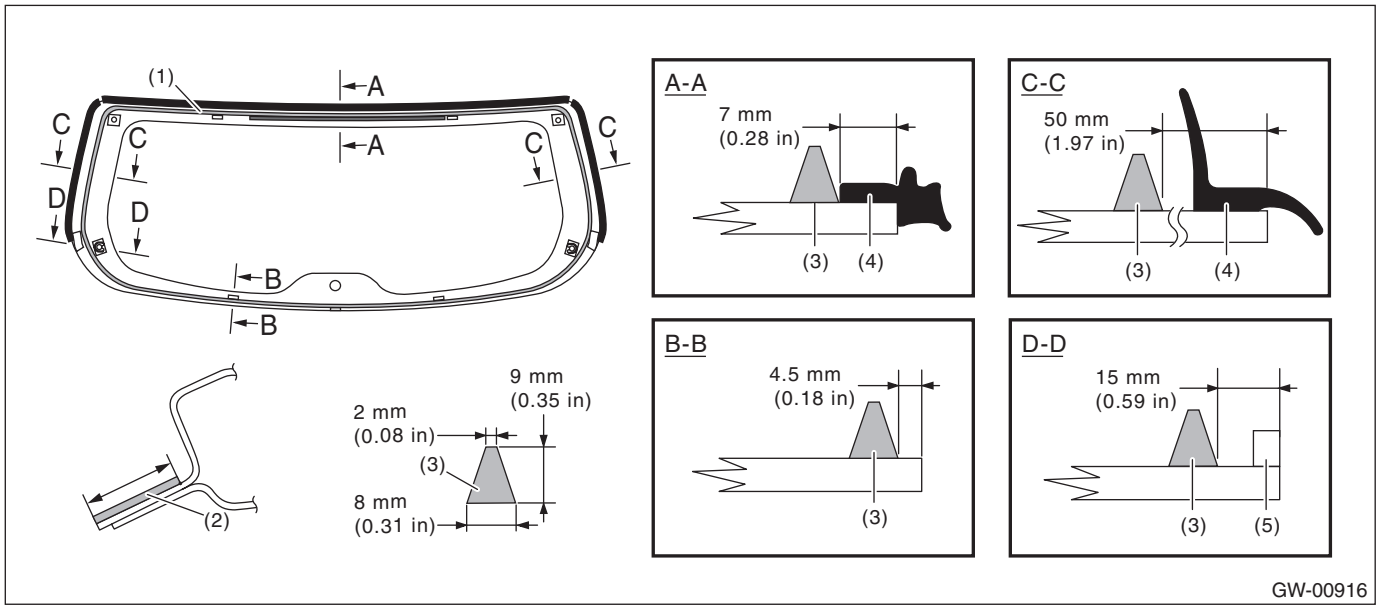
CAUTION:
Be careful to attach the molding so that the molding has no loose or undulating part.



(1) Rear gate glass (2) Double-sided tape (3) Molding

5) Install the rear gate glass in the same procedure as for windshield glass. <Ref. to GW-39, INSTALLATION, Windshield Glass.>

(1) Apply the primer to the adhesive surface of glass side and body side using sponge.
(2) Apply adhesive to the glass end back surface.



(1) Application of primer (glass side) (3) Adhesive (5) EPT sealer
(2) Application of primer (body side) (4) Molding

(3) Attach the clip to the rear gate glass holder.
(4) Insert the glass locating pins in the rear gate panel holes and install the rear gate glass.
(5) Lightly press the entire perimeter of rear gate glass for tight fit.
(6) Make flush the adhesive surface jutted out using spatula.

6) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

7) Connect the rear defogger connector and radio antenna connector.
8) Install the rear wiper arm and rear wiper motor. <Ref. to WW-43, INSTALLATION, Rear Wiper Motor.>
9) Install the rear gate garnish. <Ref. to EI-173, INSTALLATION, Rear Gate Garnish.>
10) Install the rear gate trim. <Ref. to EI-167, INSTALLATION, Rear Gate Trim.>
11) Connect the battery ground terminal.
12) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

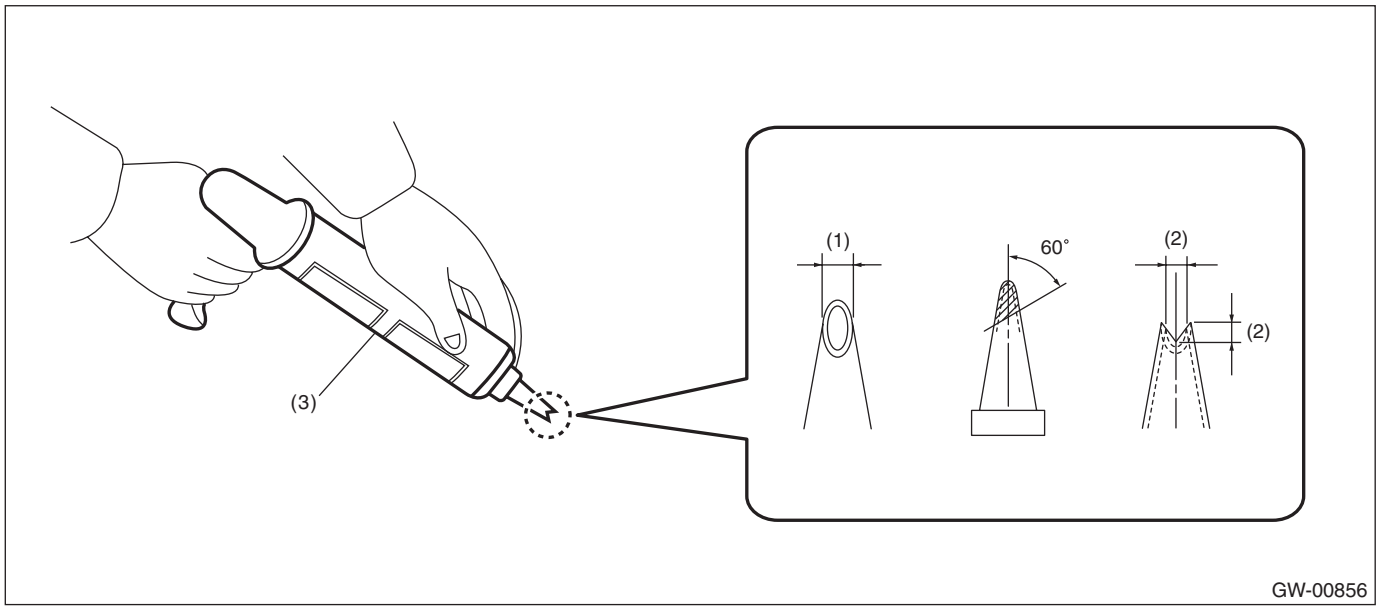
14.Rear Window Glass

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Disconnect the rear defogger connector and radio antenna connector.
3) Remove the rear window glass in the same procedure as for windshield glass. <Ref. to GW-36, REMOVAL, Windshield Glass.>

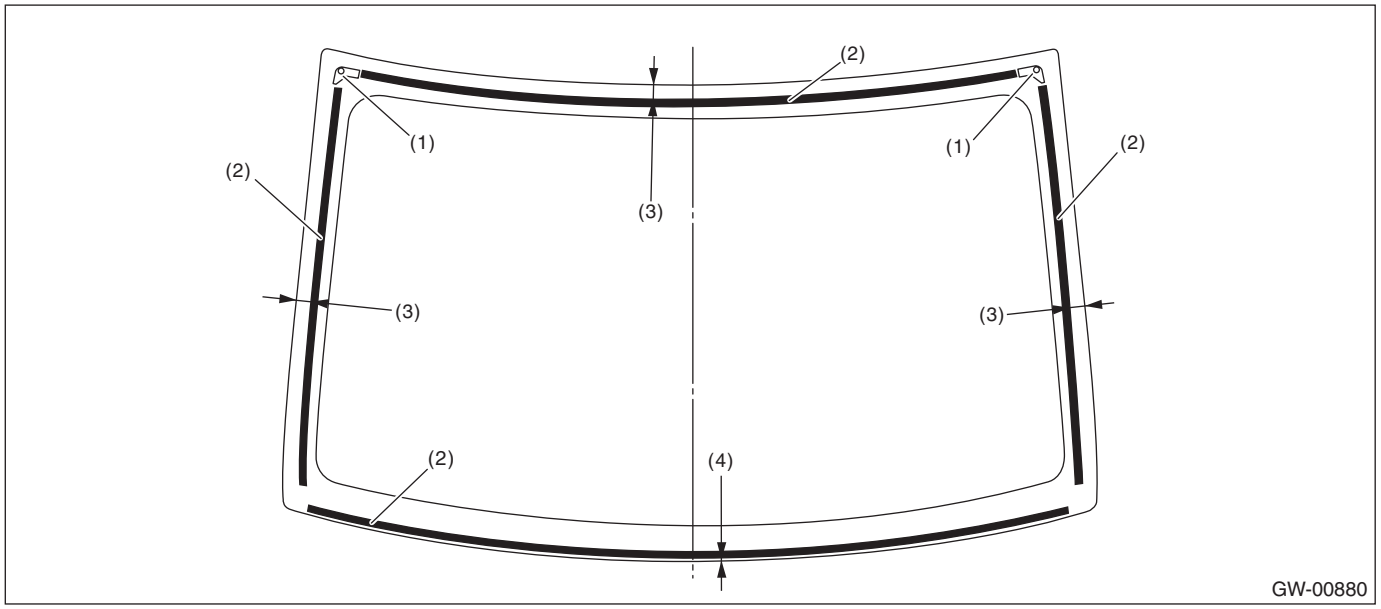
B: INSTALLATION

1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(1) 10 mm (0.39 in) (2) 8 mm (0.31 in) (3) Sealant gun

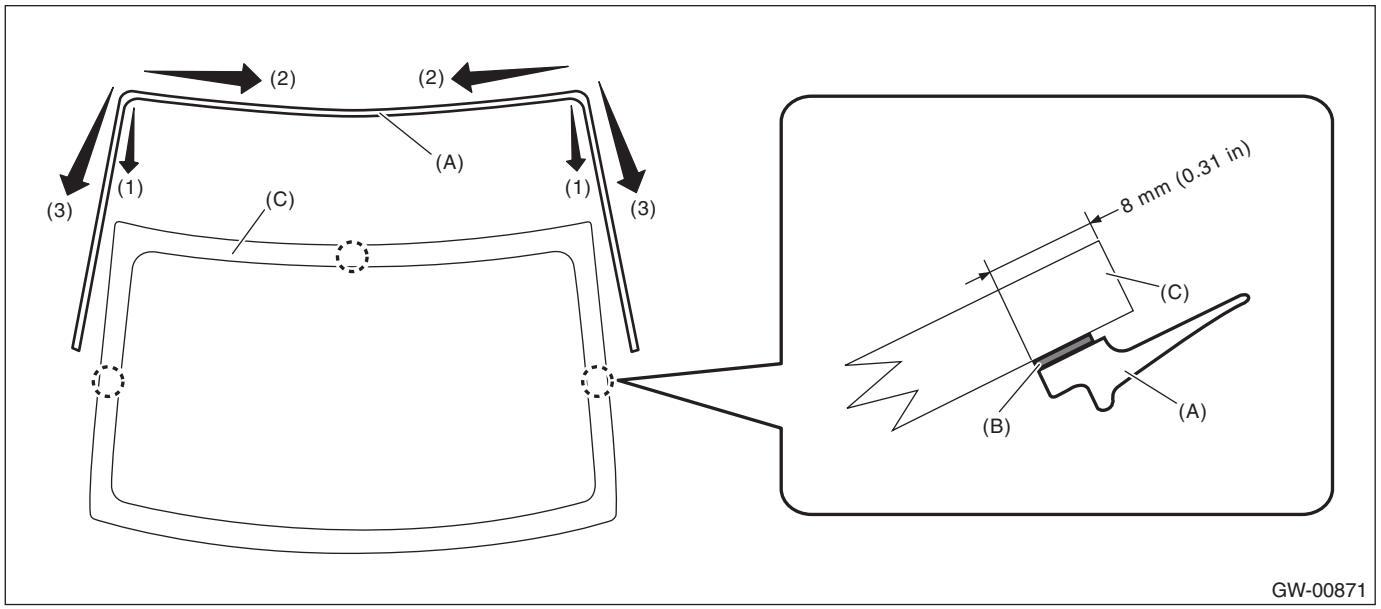
2) Prepare and clean the adhesion surfaces of the glass and body using the same procedures as for the windshield glass. <Ref. to GW-39, INSTALLATION, Windshield Glass.>
3) Attach the dam rubber to the glass.



(1) Locating pin (3) 16 mm (0.63 in) (4) 1 mm (0.04 in)
(2) Dam rubber

4) Install the molding to the glass.

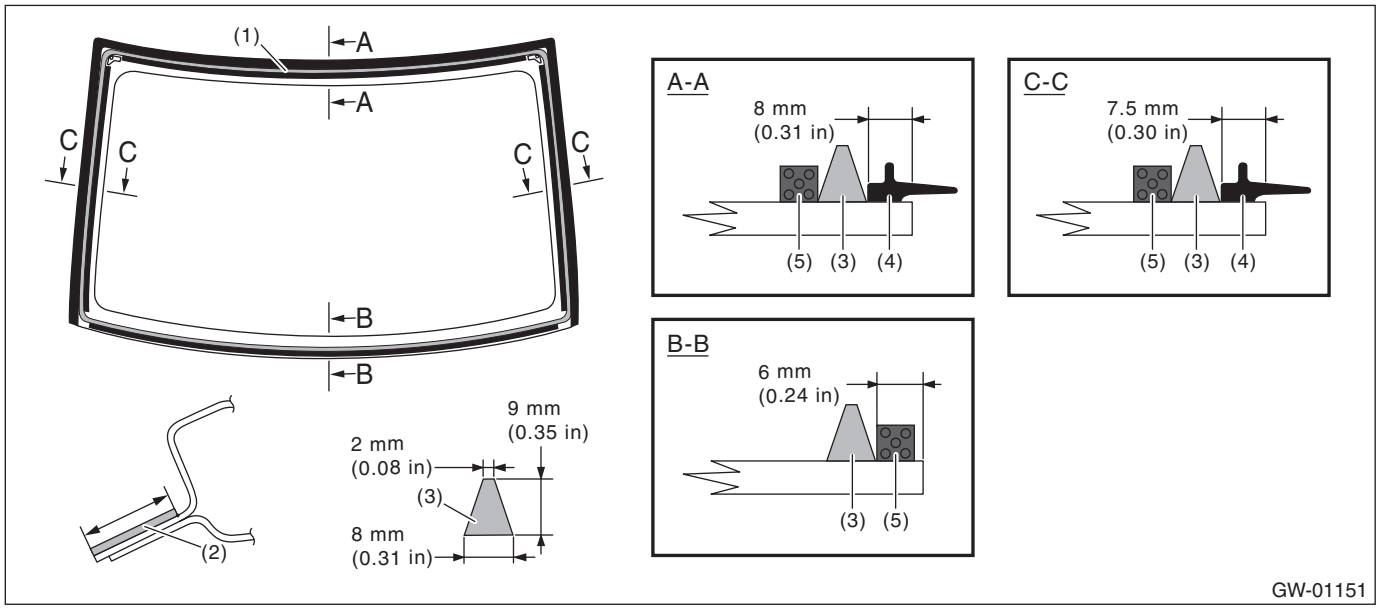
CAUTION:
Be careful to attach the molding so that the molding has no loose or undulating part.



(1) Align the molding (A) to the upper ends of the glass (C).
(2) Install the molding from both corners of the upper edge toward the center.
(3) Install the molding from both corners of the upper edge toward the lower side.
(4) Firmly apply the double sided tape (B) of the molding evenly to the glass surface.

5) Install the rear glass in the same procedure as for windshield glass. <Ref. to GW-39, INSTALLATION, Windshield Glass.>

(1) Apply the primer to the adhesive surface of glass side and body side using sponge.
(2) Apply adhesive to the glass end back surface.



(1) Application of primer (glass side)
(2) Application of primer (body side)
(3) Adhesive
(4) Molding
(5) Dam rubber

(3) Insert the glass locating pins in the rear panel holes and install the rear glass.
(4) Lightly press the entire perimeter of rear glass for tight fit.
(5) Make flush the adhesive surface jutted out using spatula.

6) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

7) Connect the rear defogger connector and radio antenna connector.
8) Connect the battery ground terminal.
9) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

15.Rear Window Defogger System

A: WIRING DIAGRAM

Refer to “Rear Defogger System” in the wiring diagram. <Ref. to WI-252, WIRING DIAGRAM, Rear Defogger System.>

B: INSPECTION

1. CHECK SYSTEM

Symptoms	Inspection order
Rear window defogger does not operate.	1. Check the fuse. 2. Check the rear defogger relay. 3. Check the rear window defogger switch. 4. Check the heat wire. 5. Check the wiring harness. 6. Check body integrated unit.

NOTE:
Rear window defogger system can be customized using the Subaru Select Monitor, when the customize setting {A/C ECM setting} of the body integrated unit is set to With.

System name	Initial setting	Customize setting
Rr Defogger op. mode	OFF after 15 min.	Repeat 15 min. operation and 2 min. stop.

2. CHECK WITH SUBARU SELECT MONITOR

CAUTION:
Check whether the rear defogger operation mode setting is in initial setting or customize setting before performing inspection.

1) Check the input signal when the rear window defogger switch is operated using Subaru Select Monitor.
   (1) Prepare the Subaru Select Monitor. <Ref. to GW-7, PREPARATION TOOL, General Description.>
   (2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”.
   (3) On «System Selection Menu» display, select {Integ. unit mode}.
   (4) Select the {Rr defogger output} on {Current Data Display & Save}.
   (5) Check the displayed data (ON/OFF) by operating the rear window defogger switch.
2) Check the operation with rear window defogger switch ON.
• When customize setting is set as “Continuous”, it is normal if the 15-minute operation and 2-minute stop repeats.
• When customize setting is “Normal”, it is normal if the operation lasts for 15 minutes and then turns OFF.
3) When the operation in 2) above fails, replace the body integrated unit.

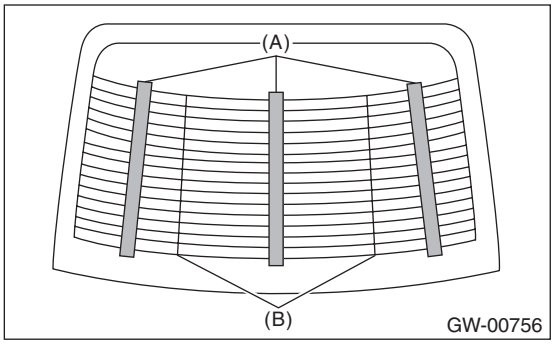
3. HEAT WIRE INSPECTION

CAUTION:
Use a dry soft cloth to wipe off dirt on the glass along the heat wires with care not to damage the heat wires.

1) Prepare the following checking items.
- Liquid crystal thermograph sheet (Approximate Size: 300 × 300 mm (11.8 × 11.8 in) and thermal temperature: 35 — 40°C (95 — 104°F))
- Aluminum foil

2) Turn the ignition switch to ON.
3) Turn the defogger switch to ON.
4) Push the liquid crystal thermograph sheet from the outside of the rear glass.

NOTE:
Use the liquid crystal thermograph sheet every range it is separated with the separate line.



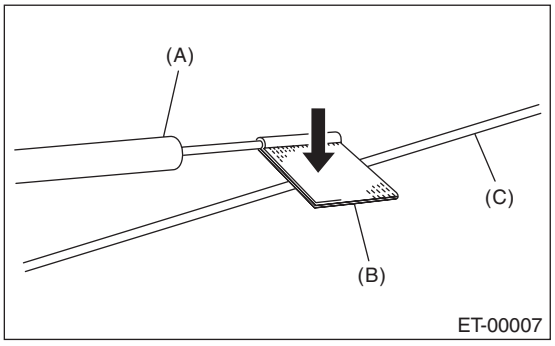
(A) Liquid crystal thermograph sheet
(B) Separate line

5) Determine the faulty heat wire by checking the color of the liquid crystal thermograph sheet.

Liquid crystal thermograph sheet	Criteria
Change occurred (red → blue)	Normal
No change (black)	Open

NOTE:
- Check from the inside of the glass if the liquid crystal thermograph sheet does not change.
- The time for the color change may differ depends on the surface temperature of the glass.

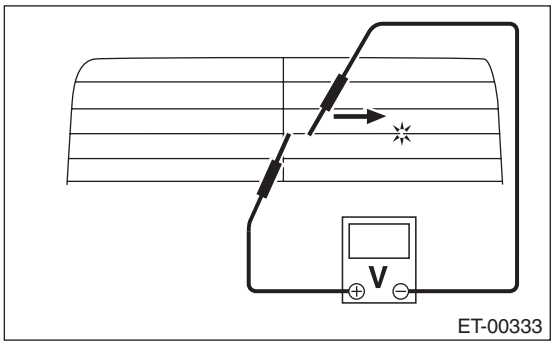
6) Wrap a piece of aluminum foil around the tip of tester probe and press it against the heat wire with your finger.



(A) Tester probe
(B) Aluminum foil
(C) Heat wire

7) To both ends of the section that has been found to include an open in the step 5), apply the tester positive (+) probe and the negative (–) probe.

8) Move the tester probe on the negative (–) side slowly along the heat wire. If voltage changes from zero while moving the tester probe, heat wire is open at the voltage change point.

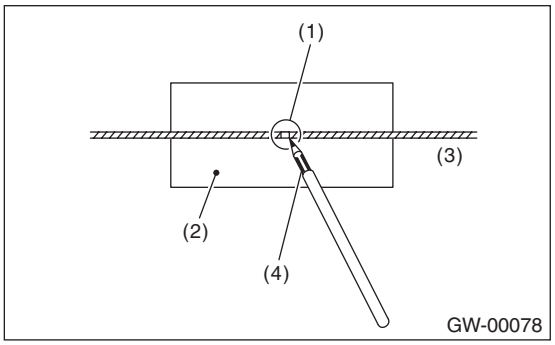


9) Repair the heat wire that determines the place of the open circuit. <Ref. to GW-53, REPAIR, Rear Window Defogger System.>

C: REPAIR

1) Clean the broken portion with alcohol or appropriate cleaning solvent.
2) Mask both side of wire with masking tape.
3) Apply the conductive silver composition to the broken portion.

Conductive silver composition:
By Permatex
QUICK GRID



(1) Broken portion
(2) Masking tape
(3) Broken wire
(4) Conductive silver composition

4) Dry using a dryer after applying the composition.
5) After repair, check the wire.

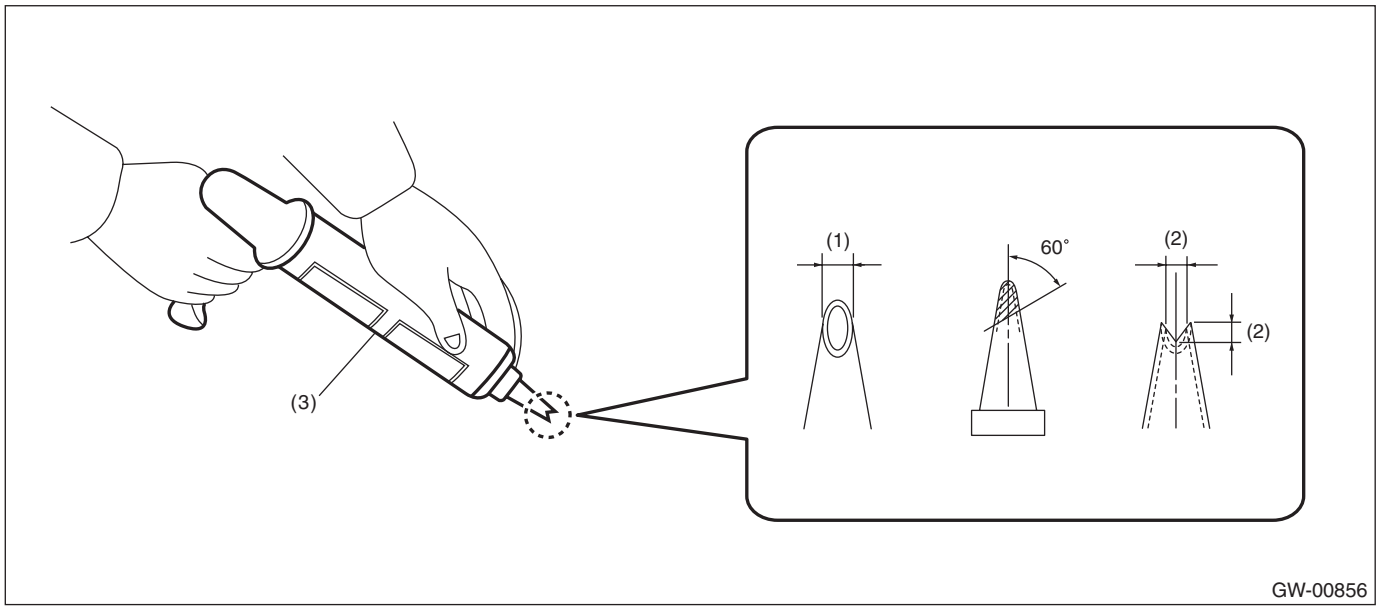
16.Rear Quarter Glass

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear quarter trim. <Ref. to EI-115, OUTBACK MODEL, REMOVAL, Rear Quarter Trim.>
3) Remove the rear quarter glass in the same procedure as for windshield glass. <Ref. to GW-36, REMOVAL, Windshield Glass.>

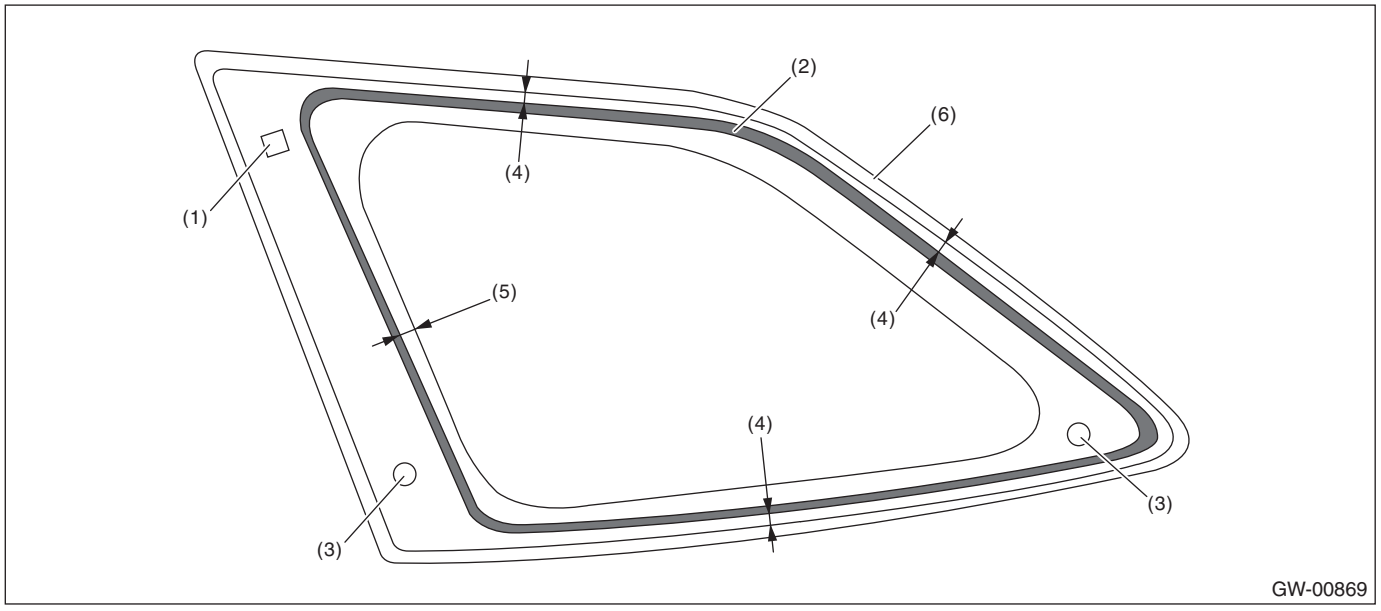
B: INSTALLATION

1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(1) 10 mm (0.39 in) (2) 8 mm (0.31 in) (3) Sealant gun

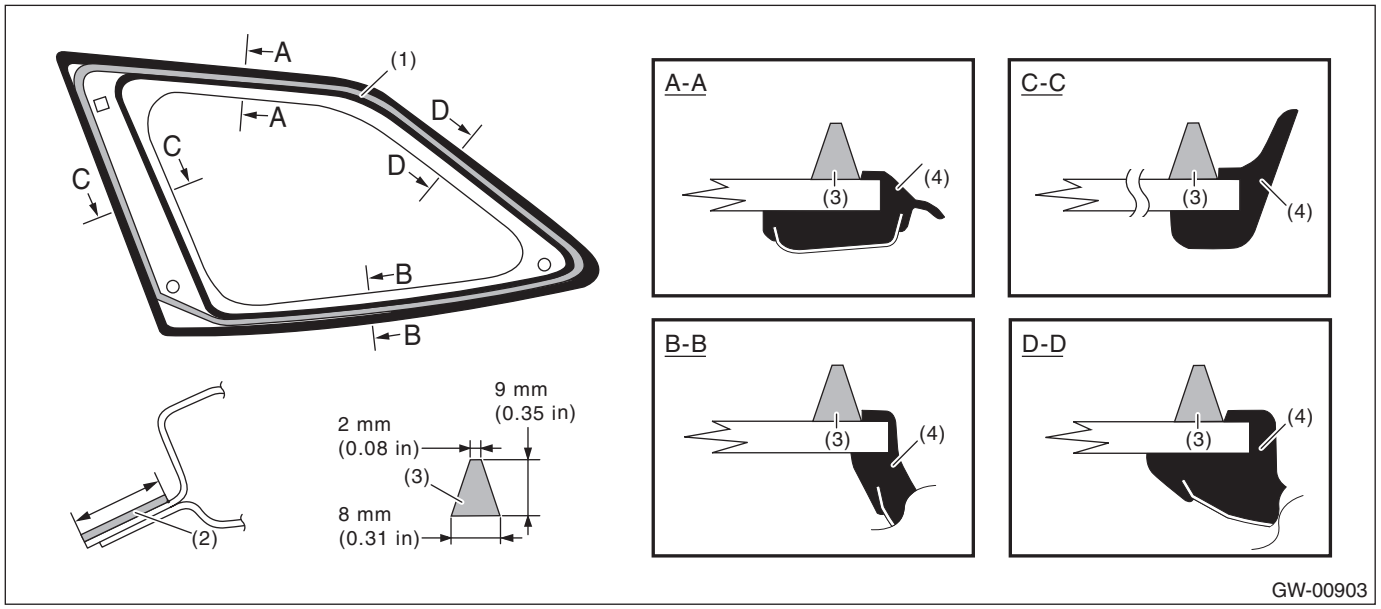
2) Prepare and clean the adhesion surfaces of the glass and body using the same procedures as for the windshield glass. <Ref. to GW-39, INSTALLATION, Windshield Glass.>
3) Attach the dam rubber to the glass.



(1) Fastener (3) Clip (5) 12 mm (0.47 in)
(2) Dam rubber (4) 8 mm (0.31 in) (6) Molding

4) Install the rear quarter glass in the same procedure as for windshield glass. <Ref. to GW-39, INSTALLATION, Windshield Glass.>
(1) Apply the primer to the adhesive surface of glass side and body side using sponge.
(2) Apply adhesive to the glass end back surface.

NOTE:
Use the molding terminal as a reference.



(1) Application of primer (glass side) (3) Adhesive (4) Molding
(2) Application of primer (body side)

(3) Mount the fastener on the vehicle body.
(4) Insert the clips in the side panel holes and install the rear quarter glass.
(5) Lightly press the entire perimeter of rear quarter glass for tight fit.
(6) Make flush the adhesive surface jutted out using spatula.

5) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

6) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

7) Install the rear quarter trim. <Ref. to EI-122, INSTALLATION, Rear Quarter Trim.>
8) Connect the battery ground terminal.

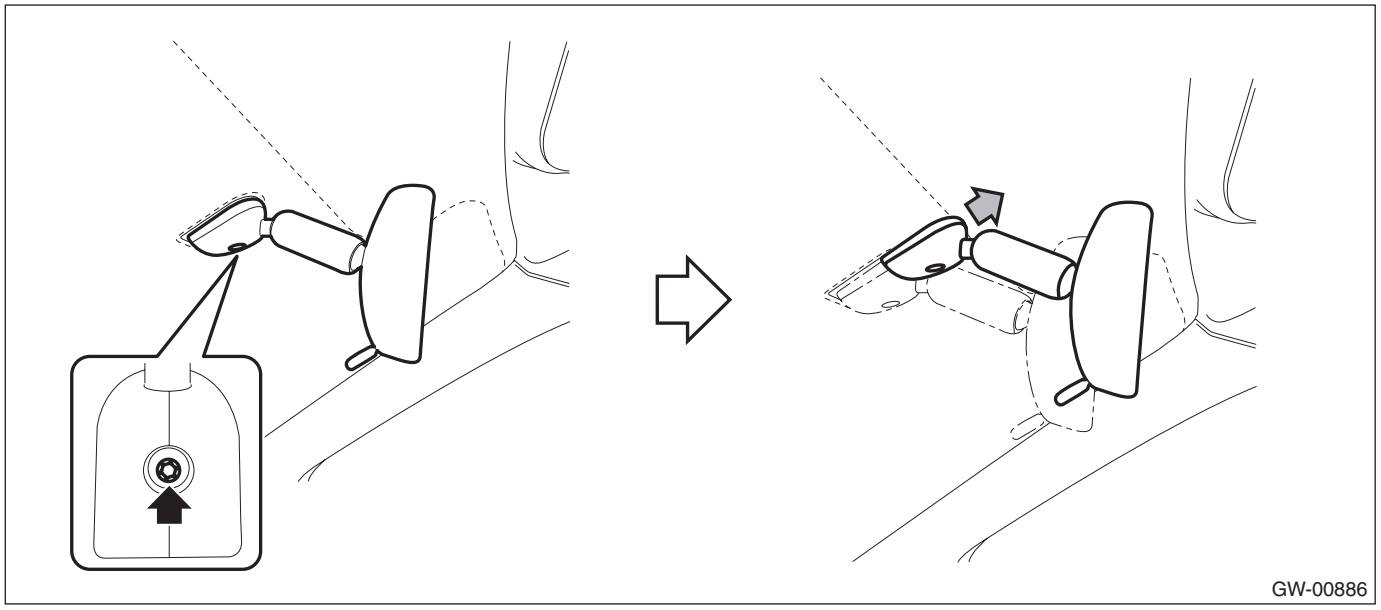
17.Rearview Mirror

A: REMOVAL

1. NORMAL MIRROR TYPE

CAUTION:
Be careful not to damage the mirror surface and windshield glass.
1) Remove the TORX® bolt, and then slide the rear view mirror to remove.

Preparation tool:
TORX® T20



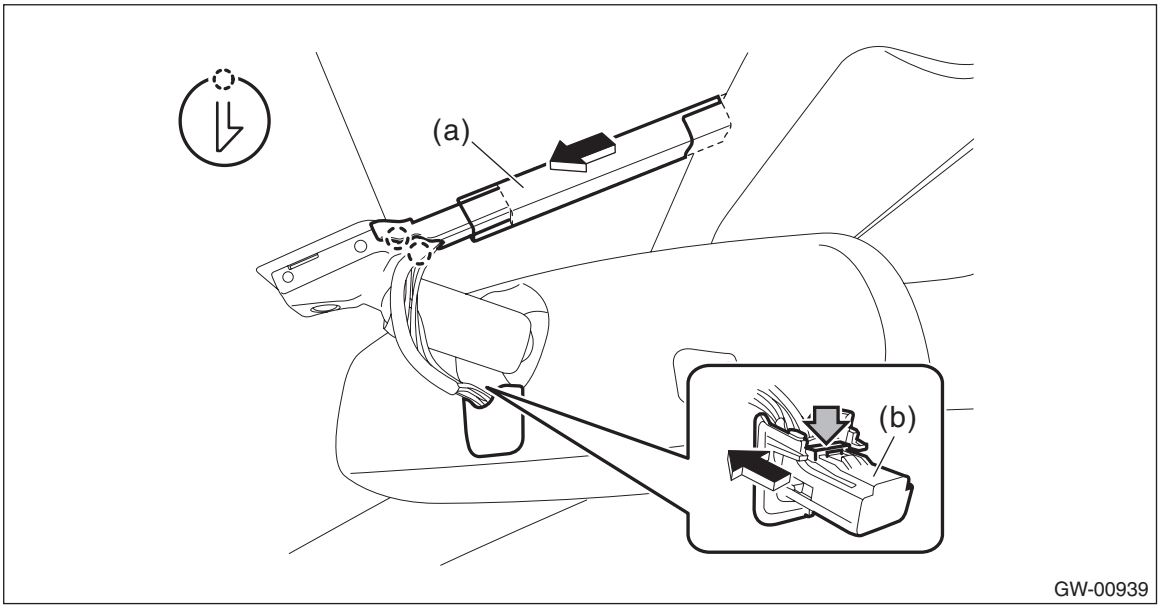
2) If the mirror mounting is damaged, replace the windshield glass.

2. HOME LINK TYPE

CAUTION:
Be careful not to damage the mirror surface and windshield glass.

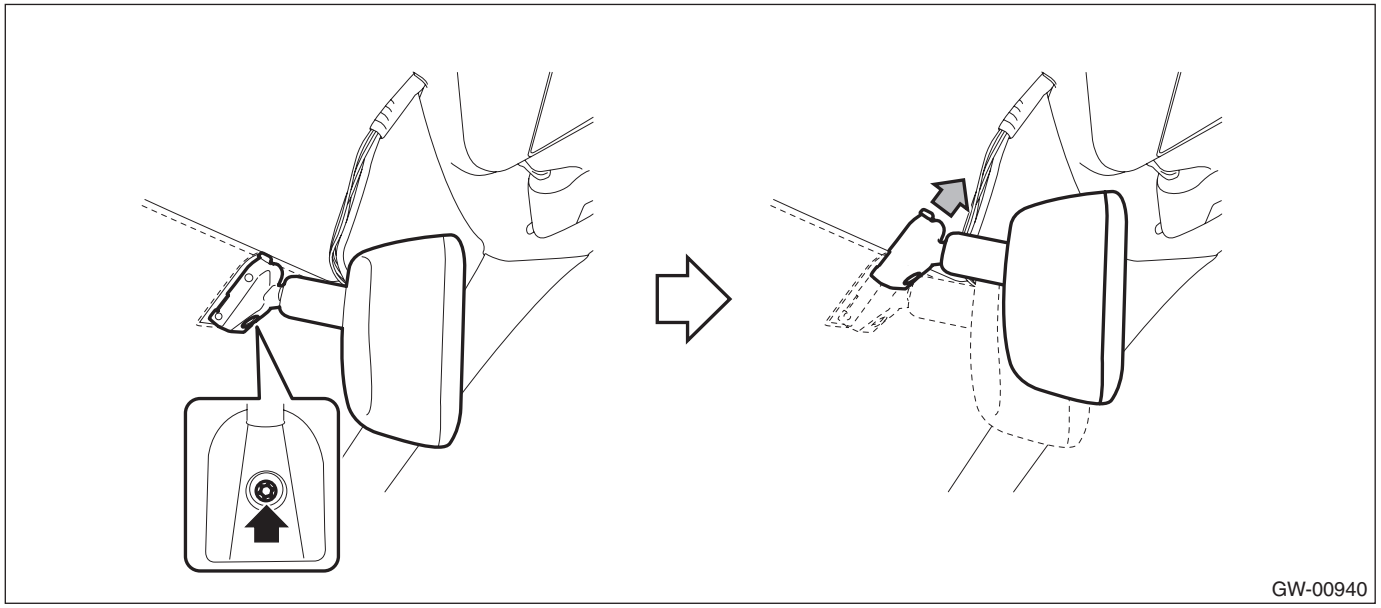
1) Disconnect the ground cable from battery.
2) Remove the rearview mirror.
   (1) Slide the upper section of the cover, and release the claws in the lower section, then remove the harness cover (a).
   (2) Disconnect the rearview mirror connector (b).

CAUTION:
Be careful not to pull the harness.



(3) Remove the TORX® bolt, and then slide the rear view mirror to remove.

Preparation tool:
TORX® T20



3) If the mirror mounting is damaged, replace the windshield glass.

B: INSTALLATION

CAUTION:
When tightening the mounting TORX® screw, be sure to observe the tightening torque. Otherwise, the mount may be damaged in over-torque conditions.
Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-6, MIRROR, COMPONENT, General Description.>

C: INSPECTION

Check the mirror and mirror mount for damage.

18.Wiper Deicer System

A: WIRING DIAGRAM

Refer to “Wiper Deicer System” in the wiring diagram. <Ref. to WI-302, Wiper Deicer System.>

B: INSPECTION

1. CHECK SYSTEM

NOTE:
- The wiper deicer does not operate when the ambient temperature becomes 5°C (41°F) or more.
- The wiper deicer operates with the rear window defogger at the same time.
- It is possible to perform a forced operation if you keep holding the rear window defogger switch for 3 seconds or more.

Symptoms	Inspection order
Wiper deicer does not operate.	1. Check the fuse. 2. Check the wiper deicer relay. 3. Check the rear window defogger switch. 4. Check the heat wire. 5. Check the wiring harness. 6. Check body integrated unit.

NOTE:
- Wiper deicer system can be customized using the Subaru Select Monitor, when the customize setting {A/C ECM setting} of the body integrated unit is set to With.
- Set the system using the Rr Defogger op. mode, and setting will be the same as rear defogger system setting.

System name	Initial setting	Customize setting
Rr Defogger op. mode	OFF after 15 min.	Continuous operation*

*: When one of the following conditions occurs, continuous operation is suspended and turned off after 15 minutes.
- Ambient temperature at 5°C (41°F) or more continues for 10 seconds.
- Malfunction occurs on ambient sensor.
- Vehicle speed of 15 km/h (9 MPH) or less continues 15 minutes (OFF when conditions are met)
- Battery voltage remains at 10 V or less for 30 seconds.
- Malfunction occurs in CAN communication.

2. CHECK WITH SUBARU SELECT MONITOR

CAUTION:
Before performing the inspection, check the following settings.
- **Wiper deicer setting → “support”. If “no support”, set to “support” using customize setting.**
- **Rr defogger op. mode setting → Initial setting or customize setting.**

1) Check the input signal when the rear window defogger switch is operated using Subaru Select Monitor.
   (1) Prepare the Subaru Select Monitor. <Ref. to GW-7, PREPARATION TOOL, General Description.>
   (2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”.
   (3) On «System Selection Menu» display, select {Integ. unit mode}.
   (4) Select the {wiper deicer output} on {Current Data Display & Save}.
   (5) Check the displayed data (ON/OFF) by operating the rear window defogger switch.
2) Check the operation with rear window defogger switch ON.
- When customize setting is set as “Continuous”, it is normal if the 15-minute operation and 2-minute stop repeats.
- When customize setting is “Normal”, it is normal if the operation lasts for 15 minutes and then turns OFF.

3) When the operation in 2) above fails, replace the body integrated unit.

3. HEAT WIRE INSPECTION

Refer to “HEAT WIRE INSPECTION” of “Rear Window Defogger System”. <Ref. to GW-52, HEAT WIRE INSPECTION, INSPECTION, Rear Window Defogger System.>

NOTE:
Heat wire inspection needs removing/installing procedure of instrument panel assembly.

C: REPAIR

Refer to “REPAIR” of “Rear Window Defogger System”. <Ref. to GW-53, REPAIR, Rear Window Defogger System.>

NOTE:
Heat wire repair needs removing/installing procedure of instrument panel assembly.

BODY STRUCTURE

BS

Page
1. General Description 2

1. Basic Diagnostic Procedure

A: PROCEDURE

NOTE:
When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as sensor having an open circuit. Always perform the inspection in direct sunlight.

	Step	Check	Yes	No
1	**START INSPECTIONS.** 1) Prepare the tools. <Ref. to AC-18, PREPARATION TOOL, General Description.> 2) Perform the pre-inspection. <Ref. to AC(diag)-3, INSPECTION, General Description.>	Is any malfunction found in pre-inspection?	Fix the malfunction found in pre-inspection, and go to the next inspection step. Go to step **2**.	Go to step **2**.
2	**PREPARE SUBARU SELECT MONITOR.** Prepare the Subaru Select Monitor.	Is the Subaru Select Monitor ready?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Under the failure condition, leave the vehicle for one minute or more. 2) Read the DTC using Subaru Select Monitor. NOTE: • If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to AC(diag)-50, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure for Subaru Select Monitor Communication.> • Record the freeze frame data recorded together with the DTC.	Is DTC displayed?	<Ref. to AC(diag)-52, LIST, List of Diagnostic Trouble Code (DTC).>	Refer to Diagnostics with Phenomenon. <Ref. to AC(diag)-15, INSPECTION, Diagnostics with Phenomenon.>
4	**A/C CONTROL PANEL SELF-DIAGNOSIS.** 1) Under the failure condition, leave the vehicle for one minute or more. 2) Perform the self-diagnosis of A/C control panel. <Ref. to AC(diag)-8, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Are other codes except “20” displayed?	<Ref. to AC(diag)-10, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Refer to Diagnostics with Phenomenon. <Ref. to AC(diag)-15, INSPECTION, Diagnostics with Phenomenon.>

2. General Description

A: CAUTION

1) Never connect the battery in reverse polarity.
• Doing so may immediately damage the A/C CM.
2) Do not disconnect the battery terminals while the engine is running.
• A large counter electromotive force will be generated in the generator, and this voltage may damage electronic parts such as A/C CM etc.
3) Before disconnecting the connectors of sensors and the A/C CM, be sure to turn off the ignition switch.
• A/C CM may be damaged.
4) Every A/C-related part is a precision part. Do not drop them.
5) Airbag system wiring harness is routed near the A/C control panel and junction box.

CAUTION:
• Do not use electrical test equipment on the airbag system wiring harness and connector.
• Be careful not to damage the airbag system wiring harness when servicing the A/C control panel and junction box.

B: INSPECTION

Before performing the diagnosis, check the following items which may cause problems in the A/C system.

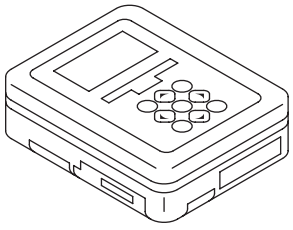
1. BATTERY

Check the battery. <Ref. to SC(H4DO)-51, INSPECTION, Battery.> <Ref. to SC(H6DO)-20, INSPECTION, Battery.>

NOTE:
If the battery voltage does not reach the specified value, recharge or replace the battery.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

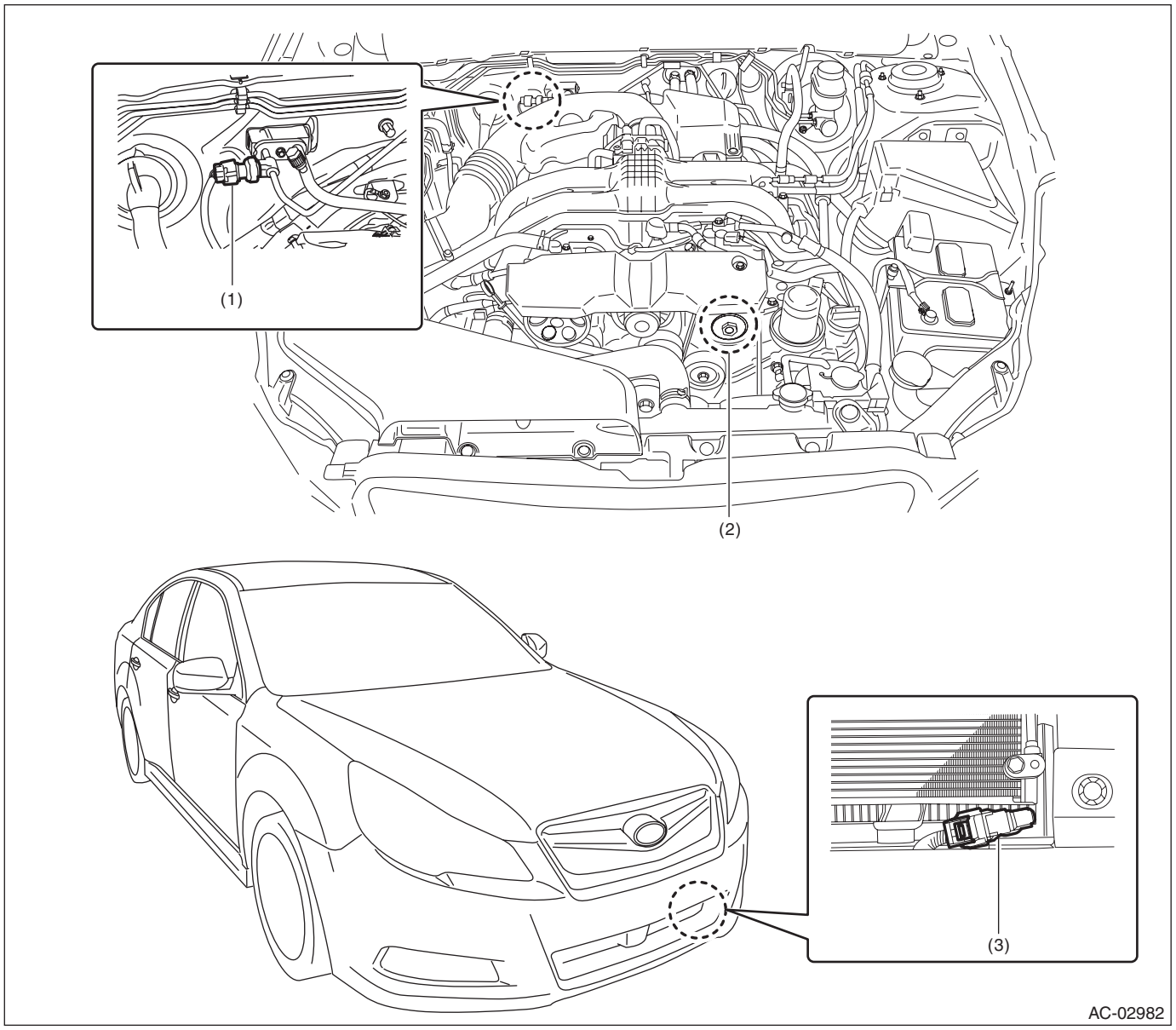
2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

3. Electrical Component Location

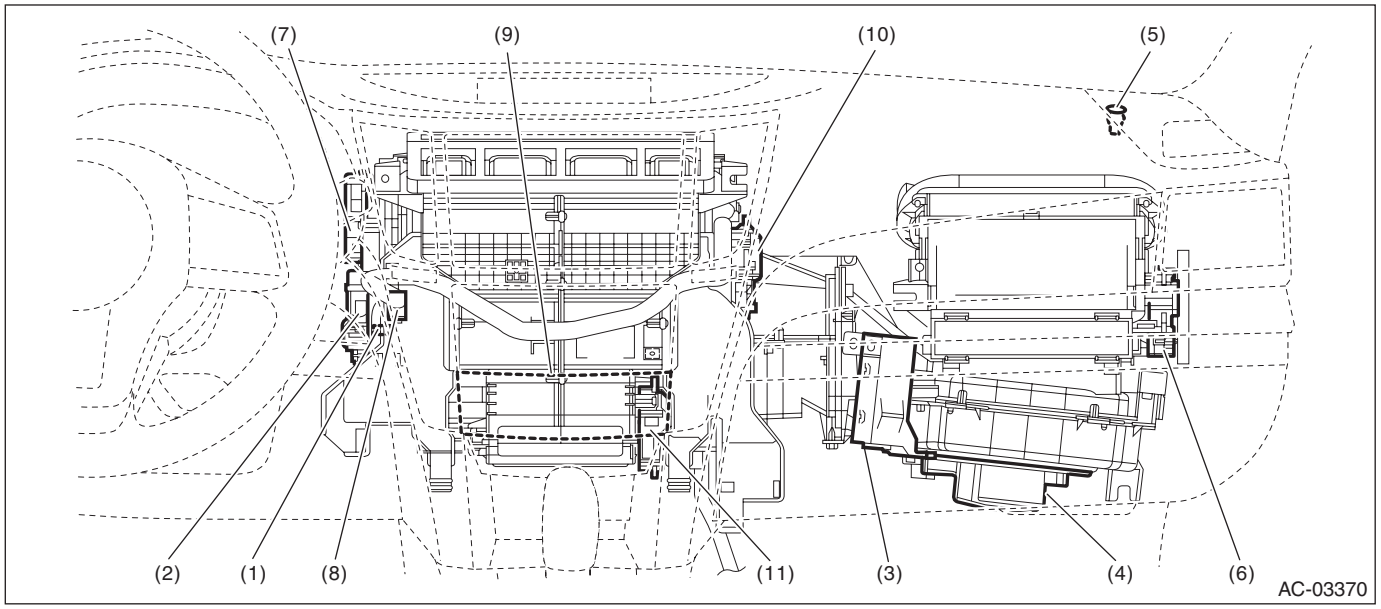
A: LOCATION

1. ENGINE COMPARTMENT



(1) Pressure sensor
(2) A/C compressor (Refrigerant flow sensor, variable flow change solenoid)
(3) Ambient sensor

2. COMPARTMENT

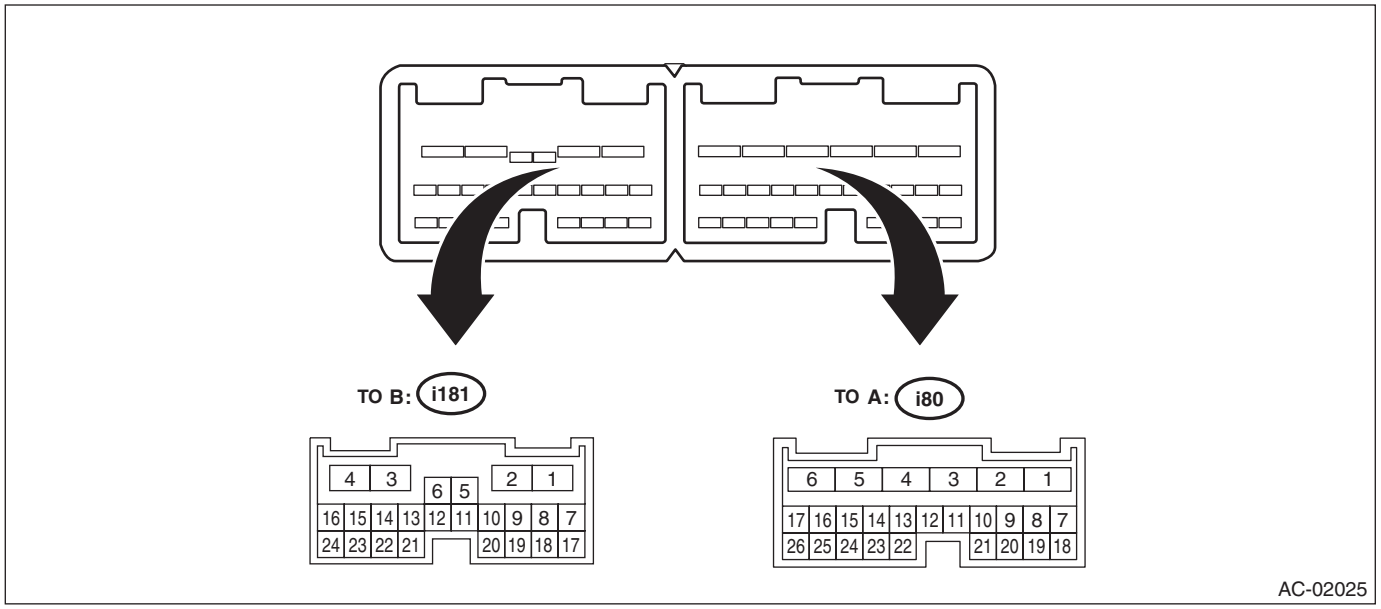


(1) Evaporator sensor
(2) Air mix door actuator*1 or air mix door actuator (driver's seat)*2
(3) A/C CM
(4) Blower motor
(5) Sunload sensor
(6) Intake door actuator
(7) Mode door actuator
(8) In-vehicle sensor
(9) A/C control panel
(10) Air mix door actuator (passenger's seat)*2
(11) Rear vent actuator*3

*1: Manual A/C
*2: Auto A/C
*3: With rear seat A/C

4. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Terminal No.	Description	Measuring condition	Standard
A1	Battery power supply	Always	Battery voltage
A2	Ignition power supply	Ignition switch: ON	Battery voltage
A3	ACC power supply	Ignition switch: ACC	Battery voltage
A4	CAN communication (Hi)	Digital signal; can not be measured	*1
A5	CAN communication (Lo)	Digital signal; can not be measured	*1
A6	Ground	Always	0V
A7	A/C control panel communication	Digital signal; can not be measured	*1
A11	In-vehicle sensor	Ignition switch: ON	25°C: Approx. 1.5 V 40°C: Approx. 1.0 V
A13	Flow sensor	Ignition switch: ON	0.3 — 4.7 V
A14	Air mix door position signal *2 or air mix door (driver's seat) position signal *3	Ignition switch: ON, Air mix door: maximum cool position	4 V
		Ignition switch: ON, Air mix door: maximum hot position	1 V
A16	Each potentiometer and sensor power supply	Ignition switch: ON	5 V
A17	Rear vent actuator position signal*4	Ignition switch: ON, Air mix door: maximum cool position	1.8 V
		Ignition switch: ON, Air mix door: maximum hot position	4.1 V
A18	A/C control panel communication	Digital signal; can not be measured	*1
A21	After-evaporator sensor signal	Ignition switch: ON, fluctuates depending on temperature after the evaporator.	1 — 4.5 V
A22	Pressure sensor	Ignition switch: ON	0.5 — 4.9 V
A24	Sunload sensor (with automatic light)*3	Ignition switch: ON (0 V: No sunload)	0 — 4.9 V
A25	Air mix door actuator (passenger's seat) position signal*3	Ignition switch: ON, Air mix door: maximum cool position	4 V
		Ignition switch: ON, Air mix door: maximum hot position	1 V
A26	Mode door actuator position signal	Ignition switch: ON, Mode door: FACE position	4 V
		Ignition switch: ON, Mode door: DEF position	1 V
B1	Sensor GND	Always	Less than 0.5 V
B2	Variable compressor solenoid valve	Ignition switch: ON, Blower switch: ON, A/C switch: ON	2 — 12 V

Terminal No.	Description	Measuring condition	Standard
B3	Intake door actuator drive signal (FRESH)	Intake door actuator operating on the FRESH side	0.7 V or less
B4	Air mix door actuator (passenger's seat) drive signal (HOT)*3	Turning towards HOT side: B4 is 12 V, B16 is GND	While operating: 12 V While not operating: 0 V
B16	Air mix door actuator (passenger's seat) drive signal (COOL)*3	Turning towards COOL side: B16 is 12 V, B4 is GND	
B6	Intake door actuator drive signal (RECIRC)	Intake door actuator operating on the RECIRC side	0.7 V or less
B8	Blower motor voltage feedback*3	Ignition switch: ON, Blower switch: ON	0.45 — 10 V
B9	Blower motor control signal*3	Ignition switch: ON, Blower switch: ON	9.05 V
B11	Mode servo drive signal (FACE)	When turning towards FACE side: B11 is 12 V, B13 is GND	While operating: 12 V While not operating: 0 V
B13	Mode servo drive signal (DEF)	When turning towards DEF side: B13 is 12 V, B11 is GND	
B20	Heater main relay drive signal*3	Ignition switch: ON, Blower switch: ON	0.7 V or less
B21	Air mix door actuator drive signal (COOL)*2 or air mix door actuator (driver's seat) drive signal (COOL)*3	Turning towards COOL side: B21 is 12 V, B22 is GND	While operating: 12 V While not operating: 0 V
B22	Air mix door actuator drive signal (HOT)*2 or air mix door actuator (driver's seat) drive signal (HOT)*3	Turning towards HOT side: B22 is 12 V, B21 is GND	
B23	Rear vent actuator drive signal (HOT)*4	Turning towards HOT side: B23 is 12 V, B24 is GND	While operating: 12 V While not operating: 0 V
B24	Rear vent actuator drive signal (COOL)*4	Turning towards COOL side: B24 is 12 V, B23 is GND	

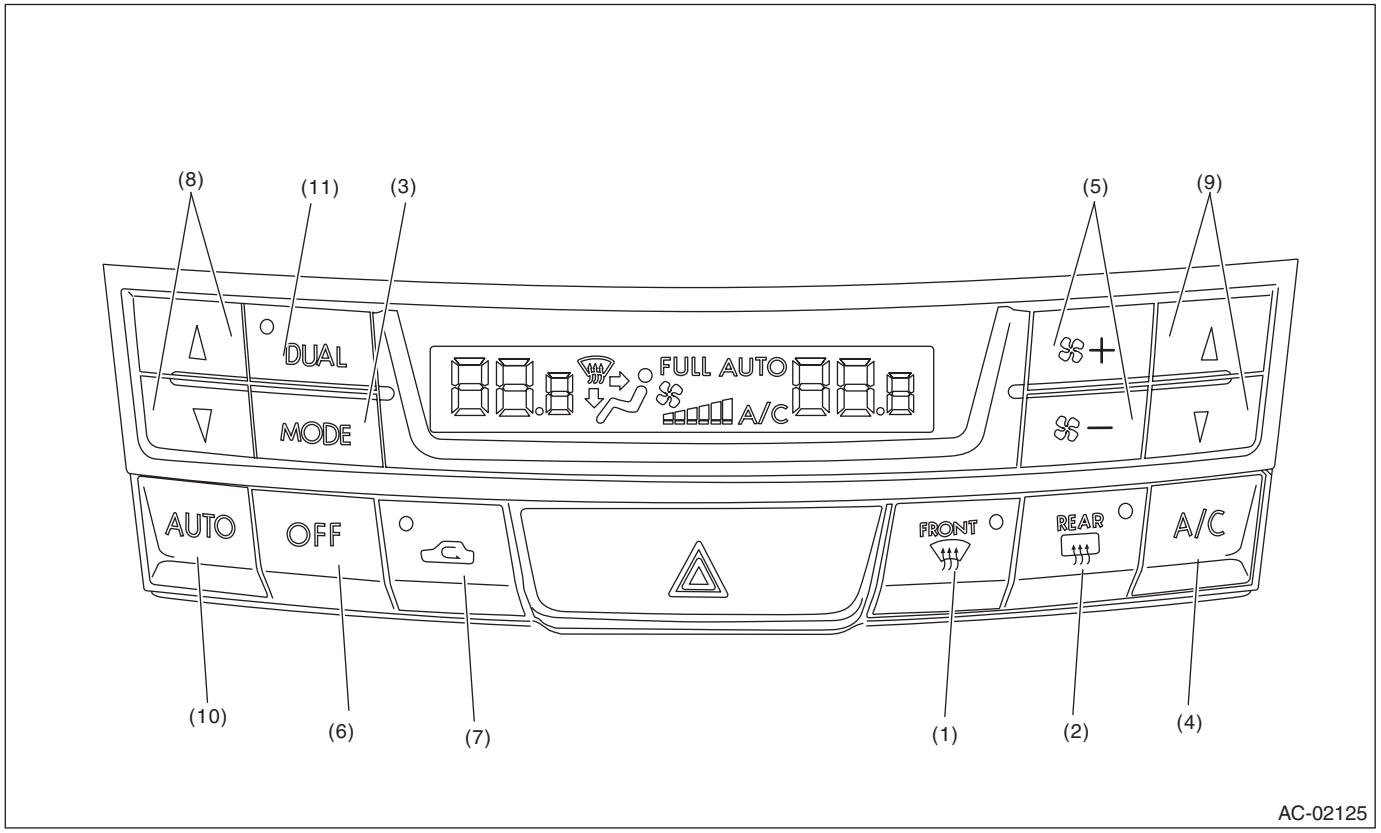
*1: Battery voltage cannot be measured because of digital signal.
*2: Manual A/C
*3: Auto A/C
*4: With rear seat A/C

B: WIRING DIAGRAM

<Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>

5. Diagnostic Chart for Self-Diagnosis

A: OPERATION



(1) Defroster switch
(2) Rear window defogger switch
(3) Mode change switch
(4) A/C switch
(5) FAN switch
(6) OFF switch
(7) FRESH/RECIRC switch
(8) Temperature control switch (for driver's seat)
(9) Temperature control switch (for passenger's seat)
(10) AUTO switch
(11) DUAL switch

1. A/C CONTROL SYSTEM SELF-DIAGNOSIS

	Step	Check	Yes	No
1	**SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.** 1) Turn the ignition switch to OFF. 2) Start the engine while holding down the AUTO switch and FRESH/RECIRC switch. NOTE: Self-diagnosis can also be performed with ignition switch ON, but start the engine because observing the compressor operation is difficult. 3) All the indicators blink four times.	Does the self-diagnosis function operate and do all the indicators flash four times?	Go to step **2**.	<Ref. to AC(diag)-14, DIAGNOSTIC PROCEDURE WHEN SELF DIAGNOSIS USING A/C CONTROL PANEL DOES NOT OPERATE, OPERATION, Diagnostic Chart for Self-Diagnosis.>
2	**CHECK EACH SENSOR AND POTENTIOMETER.** 1) After the indicators stop blinking, automatically change to the Inspection Mode of sensor and potentiometer. NOTE: Display items can be changed each time the A/C switch is pressed. (Step Operation) 2) Read the code appeared on the display. When no open circuit or short-circuit is found in each sensor and potentiometer, code “20” is displayed on the screen. When open circuit or short-circuit is found in each sensor and potentiometer, codes except “20” are displayed on the screen. NOTE: It takes one minute or more to complete all diagnostic steps after the engine has started.	Are other codes except “20” displayed?	Repair the defective circuit. <Ref. to AC(diag)-10, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Go to step **3**.
3	**CHECK EACH ACTUATOR, BLOWER FAN AND COMPRESSOR.** 1) After completing each sensor and potentiometer inspection, change to the Inspection Mode of actuator, blower fan and compressor by pressing the defroster switch. 2) Each mode will change and operate automatically every four seconds. NOTE: Operation mode items can be changed each time the A/C switch is pressed. (Step Operation) 3) Check the operation of actuator, blower fan and compressor in each mode according to the operating mode table. <Ref. to AC(diag)-13, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Do the actuator, blower fan and compressor operate as described in the operating mode table?	A/C control system is normal. Press the OFF switch and complete the self-diagnosis function.	Repair each defective part.

2. SENSOR CHECK TABLE

NOTE:
• When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor with the sun shining on it.
• When currently malfunctioning, AUTO flashes on display.
• Past malfunction can be cleared by disconnecting the battery ground cable.

Display screen	Sensor	Trouble contents	Note
21	Open circuit in in-vehicle sensor	In-vehicle air temperature sensor circuit is open.	<Ref. to AC(diag)-55, DTC B1602 IN-VEHICLE SENSOR OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–21	Short-circuit in in-vehicle sensor	In-vehicle air temperature sensor circuit is shorted.	<Ref. to AC(diag)-54, DTC B1601 IN-VEHICLE SENSOR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
22	Ambient sensor trouble or communication failure	Sensor trouble or communication failure	<Ref. to AC(diag)-85, DTC B1635 OUT SIDE TEMPERATURE SENSOR CIRCUIT ABNORMALITY (AIR CONDITIONER), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
23	Open circuit in evaporator sensor	Post evaporator sensor circuit is open.	<Ref. to AC(diag)-57, DTC B1604 EVAPORATOR SENSOR OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–23	Short-circuit in evaporator sensor	Post evaporator sensor circuit is shorted.	<Ref. to AC(diag)-56, DTC B1603 EVAPORATOR SENSOR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
24	Engine coolant temperature sensor trouble or communication failure	Sensor trouble or communication failure	—
25	Open circuit in sunload sensor	Sunload sensor circuit is open. *1	<Ref. to AC(diag)-62, DTC B1608 SUNLOAD SENSOR OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–25	Short-circuit in sunload sensor	Sunload sensor circuit is shorted.	<Ref. to AC(diag)-61, DTC B1607 SUNLOAD SENSOR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Display screen	Sensor	Trouble contents	Note
26	Open circuit in air mix door actuator — potentiometer (driver's)	Air mix door actuator potentiometer circuit is open.	<Ref. to AC(diag)-64, DTC B1610 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (DRIVER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–26	Open circuit in air mix door actuator — potentiometer (passenger's)	Air mix door actuator potentiometer circuit is open.	<Ref. to AC(diag)-69, DTC B1613 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (PASSENGER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
27	Short-circuit in air mix door actuator — potentiometer (driver's)	Air mix door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-66, DTC B1611 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (DRIVER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–27	Short-circuit in air mix door actuator — potentiometer (passenger's)	Air mix door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-71, DTC B1614 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (PASSENGER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
28	Open circuit in mode door actuator — potentiometer	Mode door actuator potentiometer circuit is open.	<Ref. to AC(diag)-75, DTC B1620 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
29	Short-circuit in mode door actuator — potentiometer	Mode door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-77, DTC B1621 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
41	Open circuit in rear vent door actuator — potentiometer*2	Rear vent door actuator potentiometer circuit is open.	<Ref. to AC(diag)-80, DTC B1630 REAR VENT DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Display screen	Sensor	Trouble contents	Note
–41	Short-circuit in rear vent door actuator — potentiometer*2	Rear vent door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-82, DTC B1631 REAR VENT DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
42	Open circuit in refrigerant pressure sensor	Pressure sensor circuit is open. *1	<Ref. to AC(diag)-58, DTC B1605 REFRIGERANT FLOW SENSOR CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–42	Short-circuit in refrigerant pressure sensor	Pressure sensor circuit is shorted. *1	<Ref. to AC(diag)-60, DTC B1606 REFRIGERANT FLOW SENSOR CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
43	Open circuit in refrigerant flow sensor	Refrigerant flow circuit is open. *1	<Ref. to AC(diag)-88, DTC B1642 REFRIGERANT FLOW SENSOR CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–43	Short-circuit in refrigerant flow sensor	Refrigerant flow sensor circuit is shorted. *1	<Ref. to AC(diag)-87, DTC B1641 REFRIGERANT FLOW SENSOR CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
44	Refrigerant flow sensor circuit failure	Refrigerant flow sensor is faulty.	—
45	Open circuit in sunload sensor (auto light control)	Sunload sensor circuit is open.	<Ref. to AC(diag)-62, DTC B1608 SUNLOAD SENSOR OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
–45	Short-circuit in sunload sensor (auto light control)	Sunload sensor circuit is shorted. *1	<Ref. to AC(diag)-61, DTC B1607 SUNLOAD SENSOR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
46	Variable flow change solenoid duty circuit failure	Variable flow change solenoid duty circuit is open or shorted. *1	<Ref. to AC(diag)-90, DTC B1643 VARIABLE FLOW CHANGE SOLENOID DUTY CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Display screen	Sensor	Trouble contents	Note
47	Air mix door actuator — lock (driver's)	Air mix door actuator does not operate due to being stuck or other reasons.	<Ref. to AC(diag)-67, DTC B1612 AIRMIX DOOR ACTUATOR LOCK (DRIVER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
48	Air mix door actuator — lock (passenger's)	Air mix door actuator does not operate due to being stuck or other reasons.	<Ref. to AC(diag)-73, DTC B1615 AIRMIX DOOR ACTUATOR LOCK (PASSENGER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
49	Mode door actuator — lock	Mode door actuator does not operate due to being stuck or other reasons.	<Ref. to AC(diag)-78, DTC B1622 MODE DOOR ACTUATOR LOCK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
53	Heater control panel communication failure	Communication with heater control panel is impossible. *1	<Ref. to AC(diag)-94, DTC U0028 HEATER CONTROL PANEL COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
54	CAN communication bus off	Bus off*1	<Ref. to AC(diag)-93, DTC U0001 CAN COMMUNICATION BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
55	CAN communication error	Communication error*1	<Ref. to AC(diag)-93, DTC U0002 CAN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
20 blinking	When all conditions are normal		—

*1: Displays current malfunction only.
*2: Displays for vehicles with rear seat air conditioning only.

3. OPERATING MODE TABLE

Display screen	Blower fan	Mode door	FRESH/RECIRC door	A/C compressor	Air mix door
31	LO	FACE	FRESH	OFF	Maximum cool
32	LO	FACE	RECIRC	ON	Maximum cool
33	M1	FACE	RECIRC	ON	Maximum cool
34	M1	B/L	FRESH	ON	50%
35	M1	FOOT	FRESH	ON	50%
36	M3	FOOT	FRESH	ON	Maximum hot
37	M3	F/D	FRESH	ON	Maximum hot
38	HI	DEF	FRESH	ON	Maximum hot

4. DIAGNOSTIC PROCEDURE WHEN SELF DIAGNOSIS USING A/C CONTROL PANEL DOES NOT OPERATE

NOTE:
For diagnostic procedure, refer to “Nothing is displayed on the screen or indicators do not illuminate.” in Diagnostics with Phenomenon. <Ref. to AC(diag)-16, NOTHING IS DISPLAYED ON THE SCREEN OR INDICATORS DO NOT ILLUMINATE, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

6. Diagnostics with Phenomenon

A: INSPECTION

1. Perform diagnosis according to the diagnosis procedure for the corresponding symptom listed in the symptom table.
2. If there are multiple symptoms, perform the diagnosis in the order of symptom number (1 → 2 →... → 13).

1. SYMPTOM TABLE

Symptoms		Diagnosis procedure
1	Nothing is displayed on the screen or indicators do not illuminate.	<Ref. to AC(diag)-16, NOTHING IS DISPLAYED ON THE SCREEN OR INDICATORS DO NOT ILLUMINATE, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
2	Air conditioner does not stop even when the OFF switch is pressed. (vehicles with fully automatic air conditioner)	<Ref. to AC(diag)-20, AIR CONDITIONER DOES NOT STOP EVEN WHEN THE OFF SWITCH IS PRESSED (VEHICLES WITH FULLY AUTOMATIC AIR CONDITIONER), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
3	The windshield glass is not cleared even when the DEF switch is pressed. (vehicles with fully automatic air conditioner)	<Ref. to AC(diag)-21, THE WINDSHIELD GLASS IS NOT CLEARED EVEN WHEN THE DEF SWITCH IS PRESSED (VEHICLES WITH FULLY AUTOMATIC AIR CONDITIONER), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	Cold air not emitted.	<Ref. to AC(diag)-22, COLD AIR NOT EMITTED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
5	Warm air not emitted.	<Ref. to AC(diag)-24, WARM AIR NOT EMITTED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
6	Compartment temperature is excessively lower than setting temperature.	<Ref. to AC(diag)-27, COMPARTMENT TEMPERATURE IS EXCESSIVELY LOWER THAN SETTING TEMPERATURE, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
7	Compartment temperature is excessively higher than setting temperature.	<Ref. to AC(diag)-29, COMPARTMENT TEMPERATURE IS EXCESSIVELY HIGHER THAN SETTING TEMPERATURE, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
8	Air does not come out, or airflow capacity is insufficient. (Blower motor does not rotate.)	<Ref. to AC(diag)-31, AIR DOES NOT COME OUT, OR AIRFLOW CAPACITY IS INSUFFICIENT, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	Air goes out of control. (Blower motor rotates at high speed.)	<Ref. to AC(diag)-36, AIR GOES OUT OF CONTROL, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
10	Cold air does not come out even when the A/C switch is pressed. The glass cannot be defogged. (Compressor does not operate. (variable))	<Ref. to AC(diag)-39, COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED (COMPRESSOR DOES NOT OPERATE (VARIABLE)), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
11	Unable to switch suction vents.	<Ref. to AC(diag)-41, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
12	Unable to switch blow vents.	<Ref. to AC(diag)-43, UNABLE TO SWITCH VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
13	Illumination does not come on, or cannot dim.	<Ref. to AC(diag)-44, ILLUMINATION DOES NOT COME ON OR CANNOT DIM, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

B: DIAGNOSTIC PROCEDURE WITH PHENOMENON

1. NOTHING IS DISPLAYED ON THE SCREEN OR INDICATORS DO NOT ILLUMINATE

TROUBLE SYMPTOM:

- When the AUTO button is pressed with IGN ON, nothing is displayed on the screen or indicators do not illuminate.
- Self diagnosis using A/C control panel does not operate.

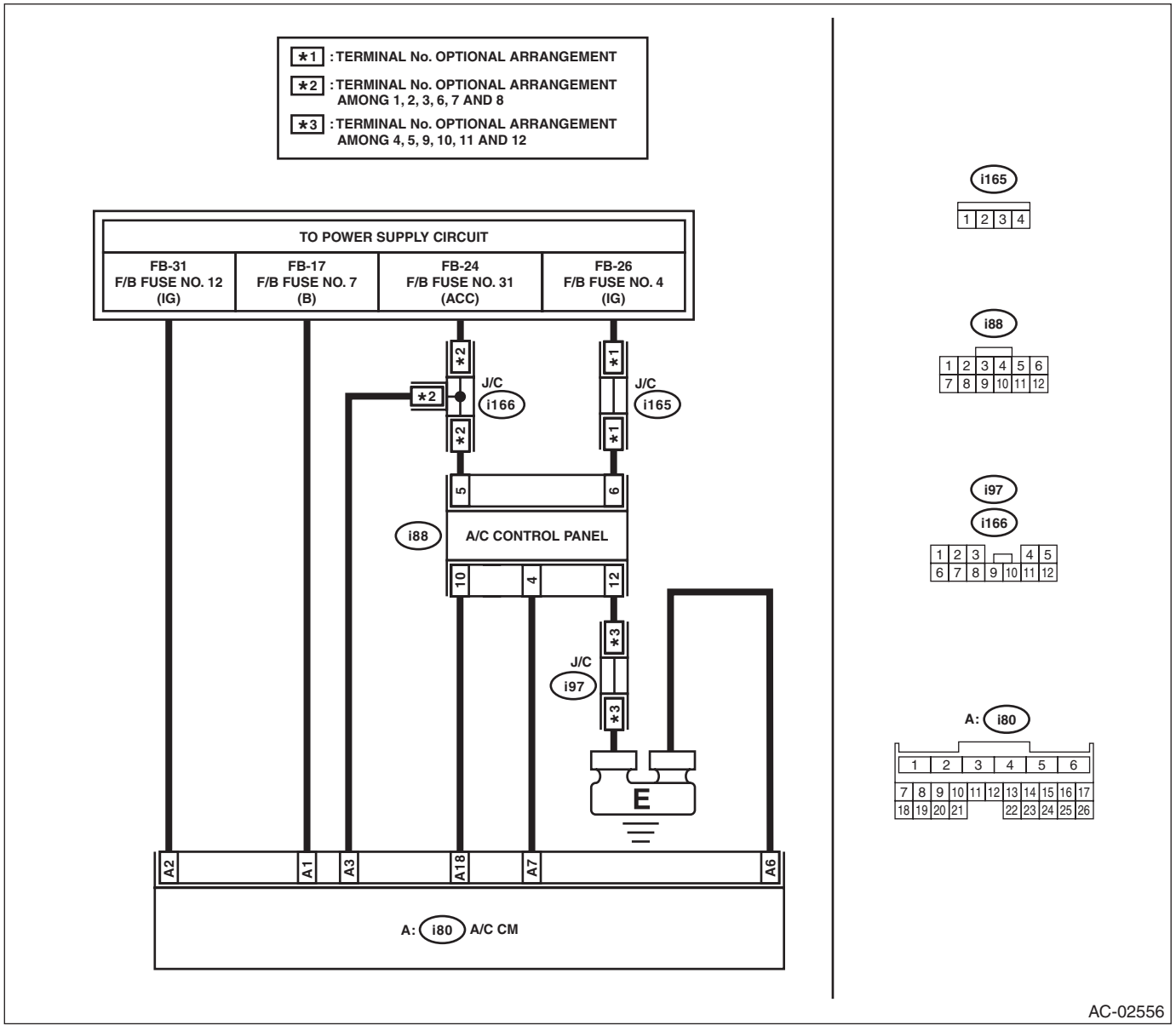
Trouble causes:

- Control module power supply circuit failure
- A/C control panel power supply failure
- UART communication failure

WIRING DIAGRAM:

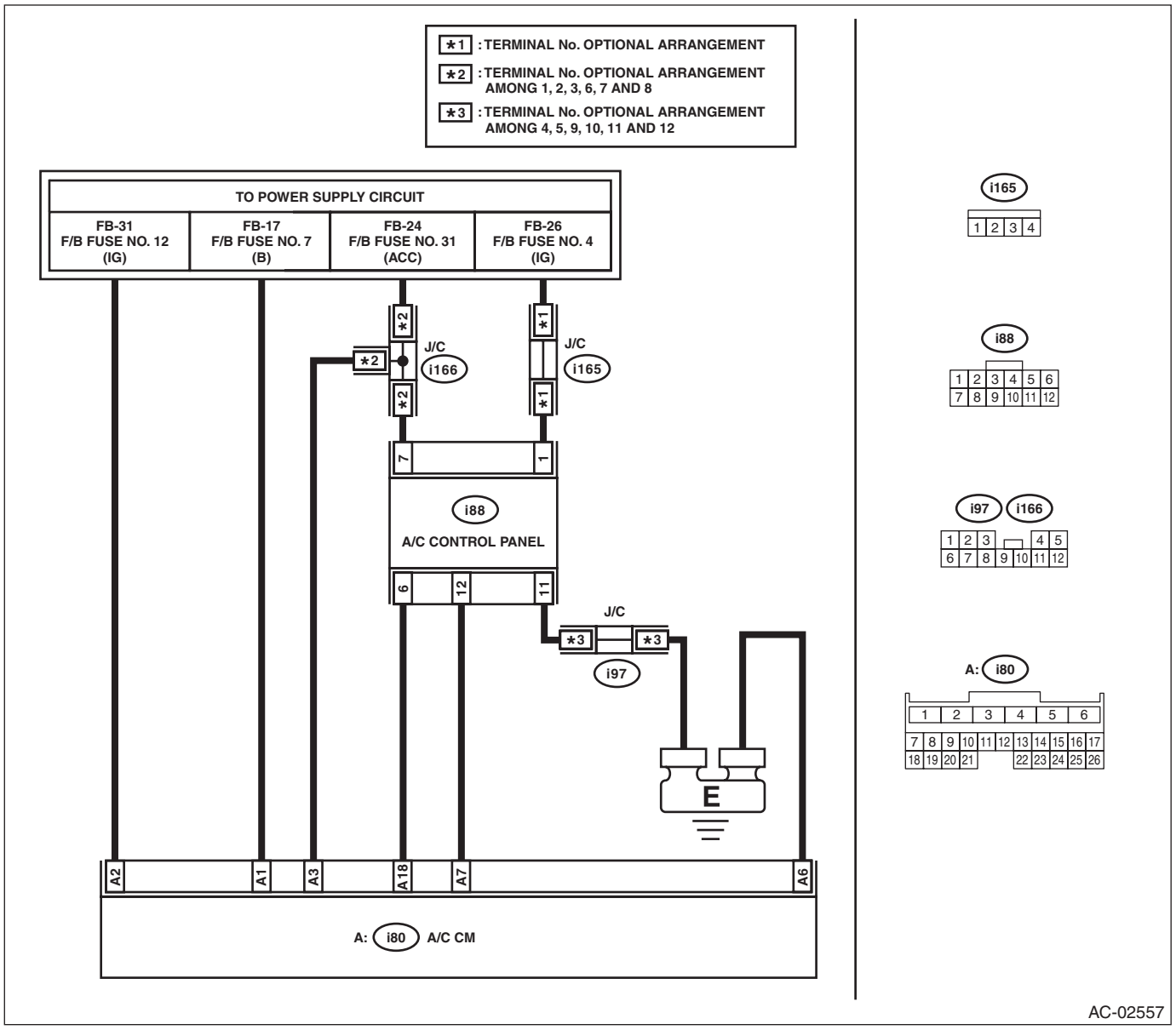
- Auto A/C

Air Conditioning System <Ref. to WI-55, AUTO A/C, WIRING DIAGRAM, Air Conditioning System.>



- Manual A/C

Air Conditioning System <Ref. to WI-51, MANUAL A/C, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove fuse No. 4, 31, 7 and 12 from the fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **2**.
2	**CHECK CONNECTOR.** Check the connectors (i166), (i165), (i88), (i97) and (i80) for poor contact.	Is there poor contact of connector?	Repair the connector.	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK A/C CONTROL PANEL POWER CIRCUIT.** 1) Remove the A/C control panel. 2) Disconnect the A/C control panel connector. 3) Measure the voltage between A/C control panel connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***Auto A/C*** ***(i88) No. 5 (+) — Chassis ground (–):*** ***(i88) No. 6 (+) — Chassis ground (–):*** ***Manual A/C*** ***(i88) No. 1 (+) — Chassis ground (–):*** ***(i88) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check for open or short circuit in the harness between A/C control panel and fuse.
4	**CHECK A/C CONTROL PANEL GROUND CIRCUIT.** Measure the resistance of harness between A/C control panel and chassis ground after turning the ignition switch to OFF. ***Connector & terminal*** ***Auto A/C*** ***(i88) No. 12 — Chassis ground:*** ***Manual A/C*** ***(i88) No. 11 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the harness for ground line.
5	**CHECK A/C CM POWER SUPPLY CIRCUIT.** 1) Install the A/C control panel. 2) Disconnect the A/C CM connector. 3) Measure the voltage between A/C CM connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***(i80) No. 1 (+) — Chassis ground (–):*** ***(i80) No. 2 (+) — Chassis ground (–):*** ***(i80) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Check for open or short circuit in the harness between A/C CM and fuse.
6	**CHECK A/C CM GROUND CIRCUIT.** Measure the resistance of harness between A/C CM and chassis ground. ***Connector & terminal*** ***(i80) No. 6 — Chassis ground:***	Is the resistance less than 5 Ω?	Go to step **7**.	Repair the harness for ground line.
7	**CHECK COMMUNICATION CIRCUIT.** Measure the resistance of harness between A/C control panel and air conditioner control module. ***Connector & terminal*** ***Auto A/C*** ***(i88) No. 10 — (i80) No. 18:*** ***(i88) No. 4 — (i80) No. 7:*** ***Manual A/C*** ***(i88) No. 6 — (i80) No. 18:*** ***(i88) No. 12 — (i80) No. 7:***	Is there continuity?	Go to step **8**.	Repair the harness.
8	**CHECK COMMUNICATION CIRCUIT HARNESS.** Measure the resistance between communication circuit harness and chassis ground. ***Connector & terminal*** ***(i80) No. 18 — Chassis ground:*** ***(i80) No. 7 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **9**.

Step		Check	Yes	No
9	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal (i80) No. 18 — No. 7:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **10**.
10	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to OFF. 2) Replace the A/C control panel with a properly functioning part.	Does the A/C control panel operate normally?	Since the A/C control panel has an internal error, replace A/C control panel with a new one. <Ref. to AC-46, REMOVAL, Control Panel.>	Since the A/C CM has an internal error, replace A/C CM with a new one. <Ref. to AC-54, REMOVAL, Control Unit.>

2. AIR CONDITIONER DOES NOT STOP EVEN WHEN THE OFF SWITCH IS PRESSED (VEHICLES WITH FULLY AUTOMATIC AIR CONDITIONER)

TROUBLE SYMPTOM:
Even when the OFF switch is pressed, the blower fan does not turn off, the inlet opening remains in FRESH mode, and the compressor does not turn off.

Trouble causes:
- UART communication failure
- A/C control panel failure
- Blower motor failure
- Intake door actuator failure
- Compressor failure

	Step	Check	Yes	No
1	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to ON. 2) Press the OFF switch of the A/C control panel. 3) Using Subaru Select Monitor, check the following data in “Read Current Data”. • Blower Fan Level • Variable Flow Change Solenoid Duty (vehicles with variable air conditioner) • Fresh/Recircle Air Door Actuator Position Target	Does “Blower Fan Level” indicate 0, “Variable Flow Change Solenoid Duty” indicate 0% and “Fresh/Recircle Air Door Actuator Position Target” indicate 100% respectively?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
2	**CHECK BLOWER MOTOR.** With the OFF switch pressed, check the blower motor operation.	Is the blower motor stopped?	Go to step **3**.	<Ref. to AC(diag)-36, AIR GOES OUT OF CONTROL, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
3	**CHECK INTAKE DOOR ACTUATOR.** With the OFF switch pressed, check the FRESH/RECIRC door operation.	Does the FRESH/RECIRC door set to FRESH?	Go to step **4**.	<Ref. to AC(diag)-41, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	**CHECK COMPRESSOR.** With the OFF switch pressed, check the compressor operation.	Is the compressor stopped?	System is normal.	<Ref. to AC(diag)-39, COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED (COMPRESSOR DOES NOT OPERATE (VARIABLE)), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

3. THE WINDSHIELD GLASS IS NOT CLEARED EVEN WHEN THE DEF SWITCH IS PRESSED (VEHICLES WITH FULLY AUTOMATIC AIR CONDITIONER)

TROUBLE SYMPTOM:

Even when the DEF switch is pressed, the defroster indicator does not illuminate, the outlet opening is not set to DEF, the compressor does not turn on and the outlet opening is not set to FRESH.

Trouble causes:

- UART communication failure
- A/C control panel failure
- Mode door actuator failure
- Compressor failure
- Intake door actuator failure

	Step	Check	Yes	No
1	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to ON. 2) Press the DEF switch of the A/C control panel. 3) Using Subaru Select Monitor, check the following data in “Read Current Data”. • Mode Door Actuator Position Target • Variable Flow Change Solenoid Duty (vehicles with variable air conditioner) • Fresh/Recircle Air Door Actuator Position Target	Does “Mode Door Actuator Position Target” indicate 100%, “Variable Flow Change Solenoid Duty” indicate 0% or more and “Fresh/Recircle Air Door Actuator Position Target” indicate 100% respectively?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
2	**CHECK MODE DOOR ACTUATOR.** With the DEF switch ON, check the mode door operation.	Does the air come out from the DEF outlet opening?	Go to step **3**.	<Ref. to AC(diag)-43, UNABLE TO SWITCH VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
3	**CHECK INTAKE DOOR ACTUATOR.** With the DEF switch ON, check the FRESH/RECIRC door operation.	Does the FRESH/RECIRC door operate normally?	Go to step **4**.	<Ref. to AC(diag)-41, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	**CHECK COMPRESSOR.** With the DEF switch ON, check the compressor operation.	Does the compressor operate?	System is normal.	<Ref. to AC(diag)-39, COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED (COMPRESSOR DOES NOT OPERATE (VARIABLE)), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

4. COLD AIR NOT EMITTED

TROUBLE SYMPTOM:
Cold air not emitted.
Trouble causes:
- Airflow capacity failure
- Refrigerant pressure failure
- Air mix actuator (driver's) failure
- Air mix actuator (passenger's) failure (with left/right independent air conditioner only)
- Rear vent actuator failure (with rear seat air conditioning only)
- Intake door actuator failure
- Evaporator sensor failure (vehicles with automatic air conditioner only)
- In-vehicle sensor failure (vehicles with automatic air conditioner only)
- Ambient sensor failure (vehicles with automatic air conditioner only)
- Sunload sensor failure (vehicles with automatic air conditioner only)

	Step	Check	Yes	No
1	**CHECK MAX COOL.** Set the A/C control panel switch as described below. Temperature control switch: MAX COOL FRESH/RECIRC switch: RECIRC Mode switch: VENT A/C switch: ON	Does no cold air come out?	Go to step **2**.	Go to step **4**.
2	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-31, AIR DOES NOT COME OUT, OR AIRFLOW CAPACITY IS INSUFFICIENT, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>	Is the airflow capacity normal?	Go to step **3**.	Perform repair according to inspection procedure.
3	**CHECK AMOUNT OF REFRIGERANT PRESSURE.** Check the refrigerant pressure. <Ref. to AC-22, CHECK REFRIGERANT GAS PRESSURE, PROCEDURE, Refrigerant Pressure with Manifold Gauge Set.>	Is the refrigerant pressure normal?	For vehicles with automatic air conditioner Go to step **4**. For vehicles with manual air conditioner Go to step **6**.	Perform repair according to refrigerant pressure inspection.
4	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch ▽ (driver's) and (passenger's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"? In addition, does "Rear Vent Actuator Position Target" indicate "74.5"?	Go to step **5**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
5	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch △ (driver's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"? In addition, does "Rear Vent Actuator Position Target" indicate "-5.5"?	Go to step **8**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>

	Step	Check	Yes	No
6	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX COOL. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "0%"?	Go to step **7**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
7	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX HOT. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "100%"?	Go to step **8**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
8	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX COOL, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **9**.
9	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX HOT, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **10**.
10	**CHECK INTAKE DOOR ACTUATOR.** Visually check the intake door actuator operation.	Is the intake door actuator normal?	Go to step **11**.	Check the intake door actuator. <Ref. to AC(diag)-41, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
11	**CHECK EVAPORATOR SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Perform the inspection of evaporator sensor unit. <Ref. to AC-88, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **12**.	Replace the evaporator sensor. <Ref. to AC-87, REMOVAL, Evaporator Sensor.>
12	**CHECK IN-VEHICLE SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check in-vehicle sensor. <Ref. to AC-84, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor normal?	Go to step **13**.	Replace the in-vehicle sensor. <Ref. to AC-82, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
13	**CHECK AMBIENT SENSOR (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check the ambient sensor. <Ref. to AC-79, INSPECTION, Ambient Sensor.>	Is the ambient sensor normal?	Go to step **14**.	Replace the ambient sensor. <Ref. to AC-78, REMOVAL, Ambient Sensor.>

	Step	Check	Yes	No
14	**CHECK SUNLOAD SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check the sunload sensor unit. <Ref. to AC-81, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-80, REMOVAL, Sunload Sensor (Auto A/C Model).>

5. WARM AIR NOT EMITTED

TROUBLE SYMPTOM:
Warm air not emitted.
Trouble causes:
- Airflow capacity failure
- Coolant failure
- UART communication failure
- A/C control panel failure
- Air mix actuator (driver's) failure
- Air mix actuator (passenger's) failure (with left/right independent air conditioner only)
- Rear vent actuator failure (with rear seat air conditioning only)
- Intake door actuator failure
- Evaporator sensor failure (vehicles with automatic air conditioner only)
- In-vehicle sensor failure (vehicles with automatic air conditioner only)
- Ambient sensor failure (vehicles with automatic air conditioner only)
- Sunload sensor failure (vehicles with automatic air conditioner only)

	Step	Check	Yes	No
1	**CHECK MAX HOT.** Set the A/C control panel switch as described below. Temperature control switch: MAX HOT FRESH/RECIRC switch: FRESH Mode switch: HEAT A/C switch: OFF	Does no warm air come out?	Go to step **2**.	Go to step **4**.
2	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-31, AIR DOES NOT COME OUT, OR AIRFLOW CAPACITY IS INSUFFICIENT, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>	Is the airflow capacity normal?	Go to step **3**.	Perform repair according to inspection procedure.
3	**CHECK ENGINE COOLANT.** Check engine coolant amount.	Is the engine coolant amount normal?	For vehicles with automatic air conditioner Go to step **4**. For vehicles with manual air conditioner Go to step **6**.	Fill engine coolant. If there is coolant leakage, repair the leaks according to Engine Cooling System Trouble in General. <Ref. to CO(H4DO)-44, Engine Cooling System Trouble in General.> <Ref. to CO(H6DO)-27, Engine Cooling System Trouble in General.>

	Step	Check	Yes	No
4	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch ▽ (driver's) and (passenger's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"? In addition, does "Rear Vent Actuator Position Target" indicate "74.5"?	Go to step **5**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
5	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch △ (driver's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"? In addition, does "Rear Vent Actuator Position Target" indicate "-5.5"?	Go to step **8**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
6	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX COOL. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "0%"?	Go to step **7**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
7	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX HOT. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "100%"?	Go to step **8**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
8	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX COOL, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **9**.
9	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX HOT, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **10**.

	Step	Check	Yes	No
10	**CHECK INTAKE DOOR ACTUATOR.** Visually check the intake door actuator operation.	Is the intake door actuator normal?	Go to step **11**.	Check the intake door actuator. <Ref. to AC(diag)-41, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
11	**CHECK EVAPORATOR SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Perform the inspection of evaporator sensor unit. <Ref. to AC-88, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **12**.	Replace the evaporator sensor. <Ref. to AC-87, REMOVAL, Evaporator Sensor.>
12	**CHECK IN-VEHICLE SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check in-vehicle sensor circuit. <Ref. to AC-84, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor circuit normal?	Go to step **13**.	Replace the in-vehicle sensor. <Ref. to AC-82, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
13	**CHECK AMBIENT SENSOR (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check the ambient sensor. <Ref. to AC-79, INSPECTION, Ambient Sensor.>	Is the ambient sensor normal?	Go to step **14**.	Replace the ambient sensor. <Ref. to AC-78, REMOVAL, Ambient Sensor.>
14	**CHECK SUNLOAD SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check the sunload sensor unit. <Ref. to AC-81, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-80, REMOVAL, Sunload Sensor (Auto A/C Model).>

6. COMPARTMENT TEMPERATURE IS EXCESSIVELY LOWER THAN SETTING TEMPERATURE

TROUBLE SYMPTOM:
Compartment temperature is excessively lower than setting temperature.
Trouble causes:
- Large airflow capacity
- Refrigerant pressure failure
- UART communication failure
- A/C control panel failure
- Air mix actuator (driver's) failure
- Air mix actuator (passenger's) failure (with left/right independent air conditioner only)
- Rear vent actuator failure (with rear seat air conditioning only)
- Evaporator sensor failure (vehicles with automatic air conditioner only)
- In-vehicle sensor failure (vehicles with automatic air conditioner only)
- Ambient sensor failure (vehicles with automatic air conditioner only)
- Sunload sensor failure (vehicles with automatic air conditioner only)

	Step	Check	Yes	No
1	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-36, AIR GOES OUT OF CONTROL, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>	Is the airflow capacity normal?	Go to step **2**.	Perform repair according to inspection procedure.
2	**CHECK AMOUNT OF REFRIGERANT PRESSURE.** Check the refrigerant pressure. <Ref. to AC-22, CHECK REFRIGERANT GAS PRESSURE, PROCEDURE, Refrigerant Pressure with Manifold Gauge Set.>	Is the refrigerant pressure normal?	For vehicles with automatic air conditioner Go to step **3**. For vehicles with manual air conditioner Go to step **5**.	Perform repair according to refrigerant pressure inspection.
3	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch ▽ (driver's) and (passenger's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"? In addition, does "Rear Vent Actuator Position Target" indicate "74.5"?	Go to step **4**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
4	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch △ (driver's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"? In addition, does "Rear Vent Actuator Position Target" indicate "-5.5"?	Go to step **5**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>

	Step	Check	Yes	No
5	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX COOL. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "0%"?	Go to step **6**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
6	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX HOT. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "100%"?	Go to step **7**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
7	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX COOL, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **8**.
8	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX HOT, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **9**.
9	**CHECK EVAPORATOR SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Perform the inspection of evaporator sensor unit. <Ref. to AC-88, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **10**.	Replace the evaporator sensor. <Ref. to AC-87, REMOVAL, Evaporator Sensor.>
10	**CHECK IN-VEHICLE SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check in-vehicle sensor circuit. <Ref. to AC-84, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor circuit normal?	Go to step **11**.	Replace the in-vehicle sensor. <Ref. to AC-82, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
11	**CHECK AMBIENT SENSOR (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check ambient sensor circuit. <Ref. to AC-79, INSPECTION, Ambient Sensor.>	Is the ambient sensor circuit normal?	Go to step **12**.	Replace the ambient sensor. <Ref. to AC-78, REMOVAL, Ambient Sensor.>
12	**CHECK SUNLOAD SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check the sunload sensor unit. <Ref. to AC-81, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-80, REMOVAL, Sunload Sensor (Auto A/C Model).>

7. COMPARTMENT TEMPERATURE IS EXCESSIVELY HIGHER THAN SETTING TEMPERATURE

TROUBLE SYMPTOM:
Compartment temperature is excessively higher than setting temperature.
Trouble causes:
- Large airflow capacity
- UART communication failure
- A/C control panel failure
- Air mix actuator (driver's) failure
- Air mix actuator (passenger's) failure (with left/right independent air conditioner only)
- Rear vent actuator failure (with rear seat air conditioning only)
- Intake door actuator failure
- Evaporator sensor failure (vehicles with automatic air conditioner only)
- In-vehicle sensor failure (vehicles with automatic air conditioner only)
- Ambient sensor failure (vehicles with automatic air conditioner only)
- Sunload sensor failure (vehicles with automatic air conditioner only)

	Step	Check	Yes	No
1	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-36, AIR GOES OUT OF CONTROL, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>	Is the airflow capacity normal?	For vehicles with automatic air conditioner Go to step **2**. For vehicles with manual air conditioner Go to step **4**.	Perform repair according to inspection procedure.
2	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch ▽ (driver's) and (passenger's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"? In addition, does "Rear Vent Actuator Position Target" indicate "74.5"?	Go to step **3**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
3	**CHECK A/C CONTROL PANEL (VEHICLES WITH AUTOMATIC AIR CONDITIONER).** 1) Continue clicking the temperature control switch △ (driver's). 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Heater Control Panel Setting Value (Driver's) • Heater Control Panel Setting Value (Passenger's) • Rear Vent Actuator Position Target (with rear seat air conditioning only)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"? In addition, does "Rear Vent Actuator Position Target" indicate "-5.5"?	Go to step **4**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
4	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX COOL. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "0%"?	Go to step **5**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>

	Step	Check	Yes	No
5	**CHECK A/C CONTROL PANEL (VEHICLES WITH MANUAL AIR CONDITIONER).** 1) Set the temperature control switch dial to MAX HOT. 2) Using Subaru Select Monitor, display the following data in "Read Current Data". • Target air mix door actuator position (driver's side)	Does "Target air mix door actuator position (driver's side)" indicate "100%"?	Go to step **6**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
6	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX COOL, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **7**.
7	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Set the temperature control switch to MAX HOT, and wait for 16 seconds or more. (For vehicles with left/right independent air conditioner, perform setting on both sides.) 3) Read the DTC using Subaru Select Monitor.	Are DTCs B1610, B1611, B1612, B1613, B1614, B1615, B1630, B1631 and B1632 displayed?	Perform the diagnosis according to DTC.	Go to step **8**.
8	**CHECK INTAKE DOOR ACTUATOR.** Visually check the intake door actuator operation.	Is the intake door actuator normal?	Go to step **9**.	Check the intake door actuator. <Ref. to AC(diag)-41, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	**CHECK EVAPORATOR SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Perform the inspection of evaporator sensor unit. <Ref. to AC-88, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **10**.	Replace the evaporator sensor. <Ref. to AC-87, REMOVAL, Evaporator Sensor.>
10	**CHECK IN-VEHICLE SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check in-vehicle sensor circuit. <Ref. to AC-84, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor circuit normal?	Go to step **11**.	Replace the in-vehicle sensor. <Ref. to AC-82, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
11	**CHECK AMBIENT SENSOR (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check ambient sensor circuit. <Ref. to AC-79, INSPECTION, Ambient Sensor.>	Is the ambient sensor circuit normal?	Go to step **12**.	Replace the ambient sensor. <Ref. to AC-78, REMOVAL, Ambient Sensor.>
12	**CHECK SUNLOAD SENSOR UNIT (VEHICLES WITH AUTOMATIC AIR CONDITIONER ONLY).** Check the sunload sensor unit. <Ref. to AC-81, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-80, REMOVAL, Sunload Sensor (Auto A/C Model).>

8. AIR DOES NOT COME OUT, OR AIRFLOW CAPACITY IS INSUFFICIENT

TROUBLE SYMPTOM:

- Airflow capacity is insufficient.
- No air comes out even when the fan switch or fan dial is operated.
- There is a fan speed at which no air comes out.

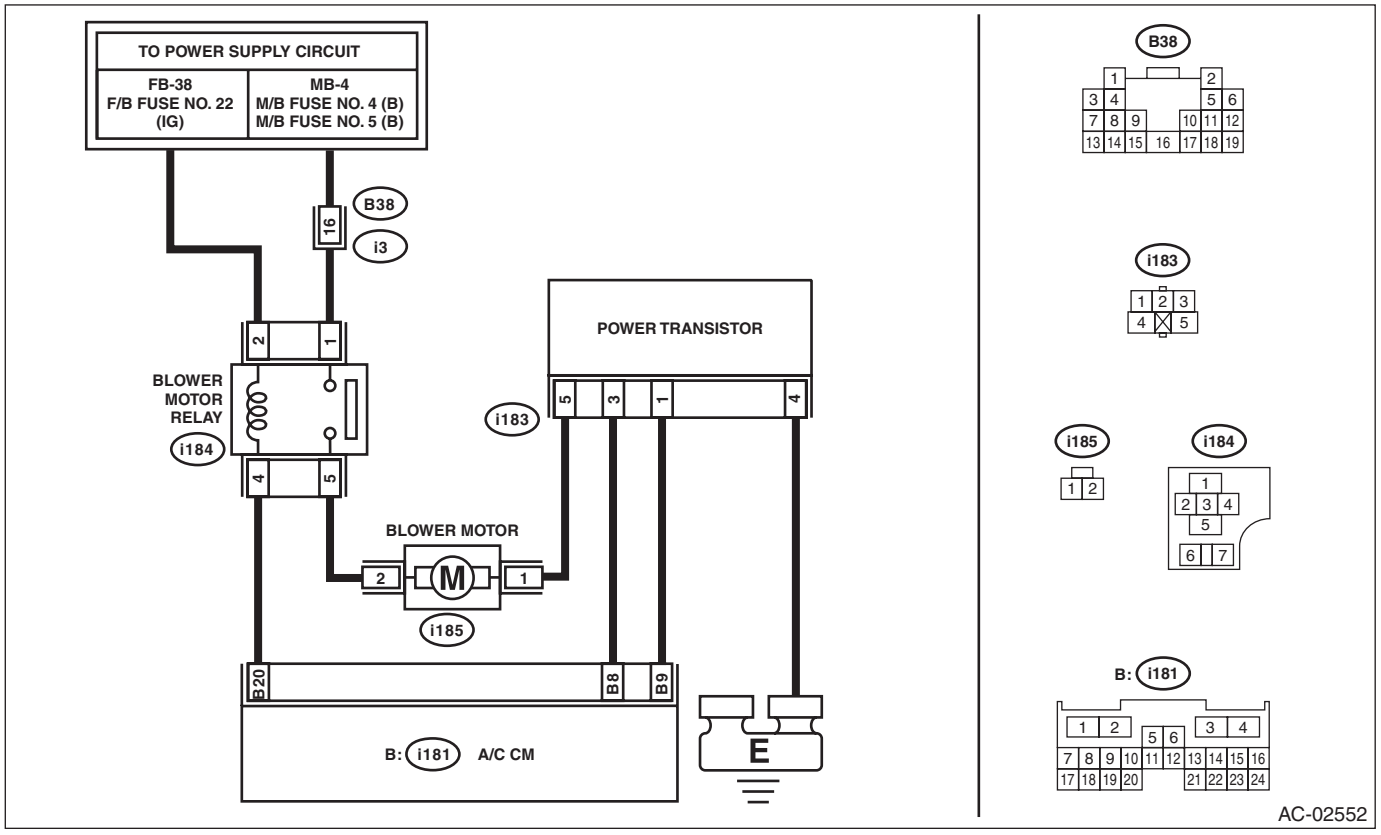
Trouble causes:

- Airflow capacity failure
- UART communication failure
- A/C control panel failure
- Blower motor failure

Auto A/C

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-55, AUTO A/C, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK BLOWER OPERATION.** 1) Using Subaru Select Monitor, display the following data in "Read Current Data". • Air mix door actuator position (driver's side) • Air mix door actuator position (passenger's side) (with left/right independent air conditioner) • Blower Fan Level 2) Set the temperature control switch to MAX COOL, and increase or decrease the A/C control panel fan switch. (For vehicles with left/right independent air conditioner, perform setting on both sides.)	Do "Air mix door actuator position (driver's side)" and "Air mix door actuator position (passenger's side)" (with left/right independent air conditioner) indicate "0%"? Does "Blower Fan Level" increase or decrease in accordance with the fan switch operation?	Go to step **2**.	Go to step **5**.

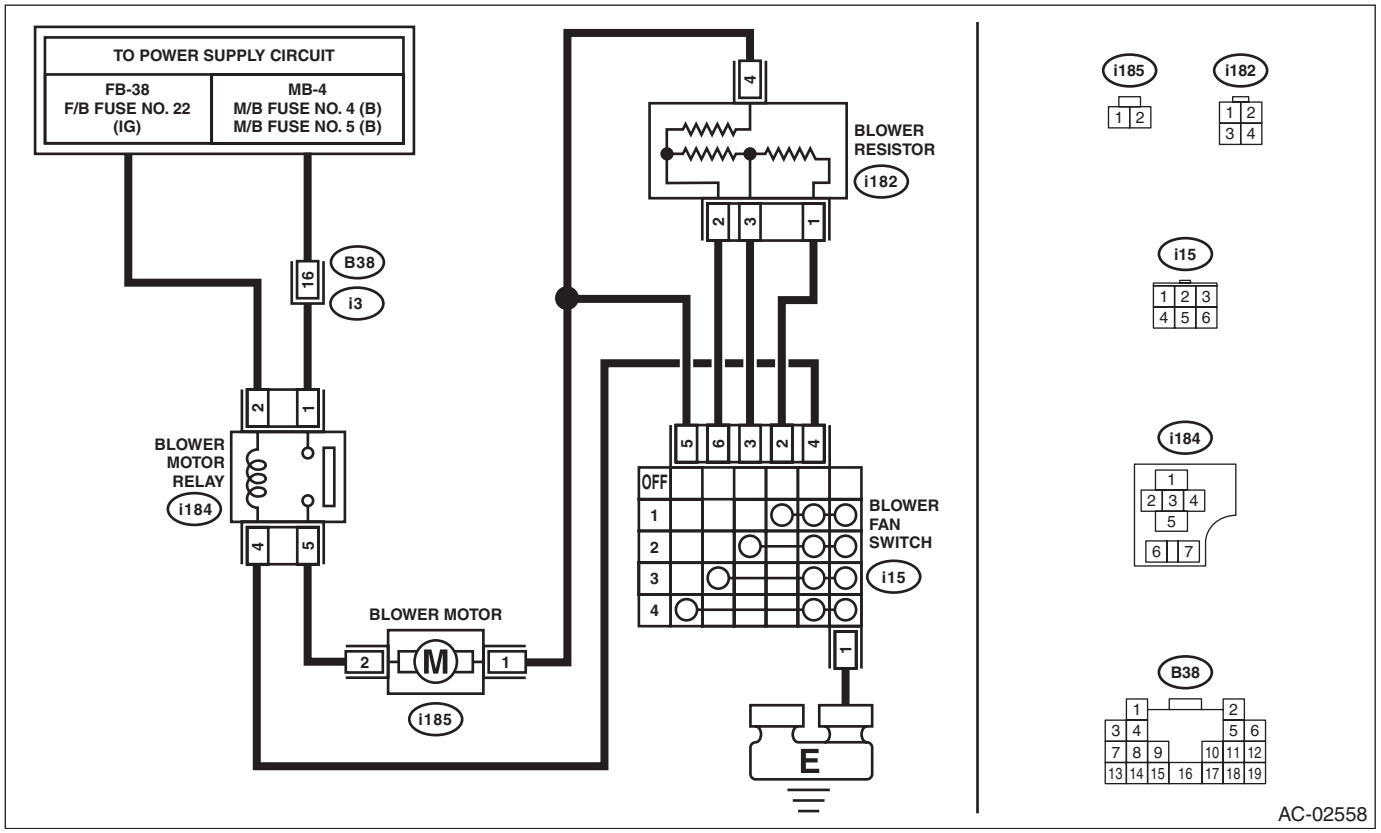
	Step	Check	Yes	No
2	**CHECK AIRFLOW CAPACITY.** Set the temperature control switch to LO (For vehicles with left/right independent air conditioner, perform setting on both seats.), and set the fan switch of the A/C control panel to MAX and set the FRESH/RECIRC switch to RECIRC.	Is the airflow capacity insufficient for the same model?	Go to step **3**.	System is normal.
3	**CHECK A/C FILTER.** Check the A/C filter. <Ref. to AC-109, INSPECTION, A/C Filter.>	Is the A/C filter normal?	Go to step **4**.	Clean or replace the A/C filter.
4	**CHECK EACH DUCT.** Check each duct joint for disconnection or clogging. <Ref. to AC-104, INSPECTION, Air Vent Grille.> <Ref. to AC-106, INSPECTION, Heater Duct.> <Ref. to AC-107, INSPECTION, Heater Vent Duct.>	Is each duct normal?	Go to step **5**.	Repair the faulty duct.
5	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to ON. 2) Set the fan switch to maximum position. 3) Using the Subaru Select Monitor, check "Blower Fan Level" of the current data from the A/C diagnosis.	Does "Blower Fan Level" indicate "31"?	Go to step **6**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
6	**CHECK A/C CONTROL PANEL.** 1) Set the fan switch to minimum position. 2) Using the Subaru Select Monitor, check "Blower Fan Level" of the current data from the A/C diagnosis.	Does "Blower Fan Level" indicate "1"?	Go to step **7**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
7	**CHECK CONNECTOR.** Check the connectors (i80) and (i181) for poor contact.	Is there poor contact of connector?	Repair the connector.	Go to step **8**.
8	**CHECK FUSE.** 1) Remove fuse No. 22 and 7 from fuse & relay box, and fuse No. 4 and 5 from the main fuse box. 2) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **9**.
9	**CHECK BLOWER MOTOR RELAY ON SIGNAL.** 1) Stop the engine. 2) Turn the fan switch to OFF. 3) Turn the ignition switch to ON. 4) Using a tester, measure the voltage between the A/C CM connector (i181) and chassis ground. ***Connector & terminal*** ***(i181) No. 20 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **10**.	• Check for an open or short circuit in the harness between the F/B fuse No. 22 and ECM. • Check the blower relay connector and relay unit. <Ref. to AC-32, CHECK RELAY, INSPECTION, Relay and Fuse.>
10	**CHECK BLOWER MOTOR RELAY ON SIGNAL.** 1) Start the engine. 2) Turn the fan switch to ON. 3) Using a tester, measure the voltage between the A/C CM connector (i181) and chassis ground. ***Connector & terminal*** ***(i181) No. 20 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **11**.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

	Step	Check	Yes	No
11	**CHECK BLOWER MOTOR POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Turn the fan switch to ON. 3) Use a tester, measure the voltage between the blower motor connector (i185) and chassis ground. ***Connector & terminal*** ***(i185) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **12**.	• Check for an open in the blower motor power supply line harness and for disconnection of the connectors (B38) and (i3). • Check the blower relay connector and relay unit. <Ref. to AC-32, CHECK RELAY, INSPECTION, Relay and Fuse.>
12	**CHECK BLOWER MOTOR UNIT.** Check the blower motor. <Ref. to AC-38, INSPECTION, Blower Motor.>	Is the blower motor OK?	Go to step **13**.	Replace the blower motor. <Ref. to AC-37, REMOVAL, Blower Motor.>
13	**CHECK HARNESS.** 1) Disconnect the power transistor and A/C CM connector. 2) Using a tester, measure the resistance between harness terminals. ***Connector & terminal*** ***(i185) No. 1 — (i183) No. 5:*** ***(i183) No. 3 — (i181) No. 8:*** ***(i183) No. 1 — (i181) No. 9:*** ***(i183) No. 4 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **14**.	Repair or replace the open circuit of harness.
14	**CHECK HARNESS.** Use a tester to measure the resistance of harness between the power transistor connector (i183) and chassis ground. ***Connector & terminal*** ***(i183) No. 1 — Chassis ground:*** ***(i183) No. 3 — Chassis ground:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit of the harness.	Go to step **15**.
15	**CHECK POWER TRANSISTOR.** Replace the power transistor with a properly functioning part.	Does the blower motor rotate?	Replace the power transistor. <Ref. to AC-39, REMOVAL, Power Transistor (Auto A/C Model).>	Replace the A/C CM <Ref. to AC-54, REMOVAL, Control Unit.>

Manual A/C

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-51, MANUAL A/C, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK BLOWER OPERATION.** Set the temperature control dial to MAX COOL, and increase or decrease the fan dial.	Does the airflow capacity increase or decrease in accordance with the dial operation?	Go to step **2**.	Go to step **5**.
2	**CHECK AIRFLOW CAPACITY.** Set the temperature control switch to MAX COOL, set the fan switch to MAX and set the FRESH/RECIRC switch to RECIRC.	Is the airflow capacity insufficient for the same model?	Go to step **3**.	System is normal.
3	**CHECK A/C FILTER.** Check the A/C filter. <Ref. to AC-109, INSPECTION, A/C Filter.>	Is the A/C filter normal?	Go to step **4**.	Clean or replace the A/C filter.
4	**CHECK EACH DUCT.** Check each duct joint for disconnection or clogging. <Ref. to AC-104, INSPECTION, Air Vent Grille.> <Ref. to AC-106, INSPECTION, Heater Duct.> <Ref. to AC-107, INSPECTION, Heater Vent Duct.>	Is each duct normal?	Go to step **5**.	Repair the faulty duct.
5	**CHECK CONNECTOR.** Check the connectors (i184), (i185), (i182), (i15) and (B38) for poor contact.	Is there poor contact of connector?	Repair the connector.	Go to step **6**.
6	**CHECK FUSE.** 1) Remove the fuse No. 22 of the fuse & relay box and the fuses No. 4 and No. 5 of the main fuse box. 2) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **7**.

	Step	Check	Yes	No
7	**CHECK BLOWER MOTOR RELAY ON SIGNAL.** 1) Stop the engine. 2) Turn the fan switch to OFF. 3) Turn the ignition switch to ON. 4) Use a tester to measure the voltage between the blower fan switch and chassis ground. ***Connector & terminal*** ***(i15) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **8**.	• Check for an open or short circuit between the F/B fuse No. 22 and blower fan switch. • Check the blower relay connector and relay unit.
8	**CHECK BLOWER MOTOR RELAY ON SIGNAL.** 1) Start the engine. 2) Turn the fan switch to OFF. 3) Turn the ignition switch to ON. 4) Use a tester to measure the voltage between the blower fan switch and chassis ground. ***Connector & terminal*** ***(i15) No. 4 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **9**.	Replace the A/C control panel. <Ref. to AC-49, MANUAL A/C MODEL, REMOVAL, Control Panel.>
9	**CHECK BLOWER MOTOR POWER SUPPLY.** 1) Turn the ignition switch to ON. 2) Turn the blower switch to ON. 3) Use a tester to measure the voltage between the blower motor connector and chassis ground. ***Connector & terminal*** ***(i185) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **10**.	• Check for an open in the blower motor power supply harness, and check the connectors (B38) and (i3). • Check the blower relay connector and relay unit.
10	**CHECK BLOWER MOTOR.** Check the blower motor. <Ref. to AC-38, INSPECTION, Blower Motor.>	Is the blower motor OK?	Go to step **11**.	Replace the blower motor. <Ref. to AC-37, REMOVAL, Blower Motor.>
11	**CHECK HARNESS.** 1) Disconnect the connector from blower motor, blower resistor and blower fan switch. 2) Use a tester to measure the resistance of the harness between terminals. ***Connector & terminal*** ***(i185) No. 1 — (i182) No. 4:*** ***(i185) No. 1 — (i15) No. 4:*** ***(i182) No. 1 — (i15) No. 2:*** ***(i182) No. 2 — (i15) No. 6:*** ***(i182) No. 1 — (i15) No. 3:***	Is the resistance less than 1 Ω?	Go to step **12**.	Repair or replace the open circuit of harness.
12	**CHECK BLOWER RESISTOR.** Check the blower resistor. <Ref. to AC-41, INSPECTION, Blower Resistor (Manual A/C Model).>	Is the blower resistor OK?	Replace the A/C control panel. <Ref. to AC-49, MANUAL A/C MODEL, REMOVAL, Control Panel.>	Replace the blower resistor. <Ref. to AC-40, REMOVAL, Blower Resistor (Manual A/C Model).>

9. AIR GOES OUT OF CONTROL

TROUBLE SYMPTOM:

- The blower rotates even though the blower switch is not turned on.
- The blower motor continues to rotate at high speed. (Not adjustable.)

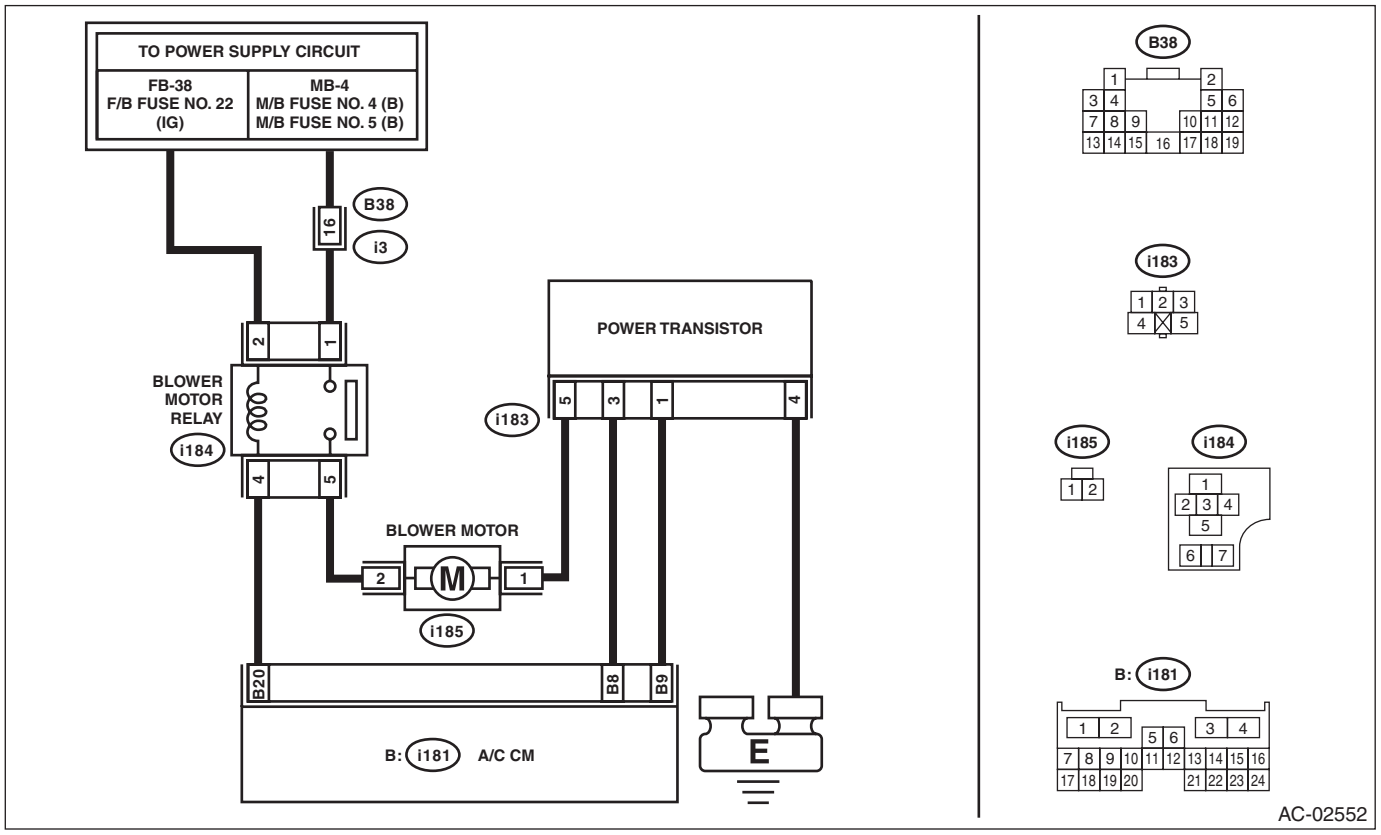
Trouble causes:

- Airflow capacity failure
- UART communication failure
- A/C control panel failure
- Blower motor failure

Auto A/C

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-55, AUTO A/C, WIRING DIAGRAM, Air Conditioning System.>



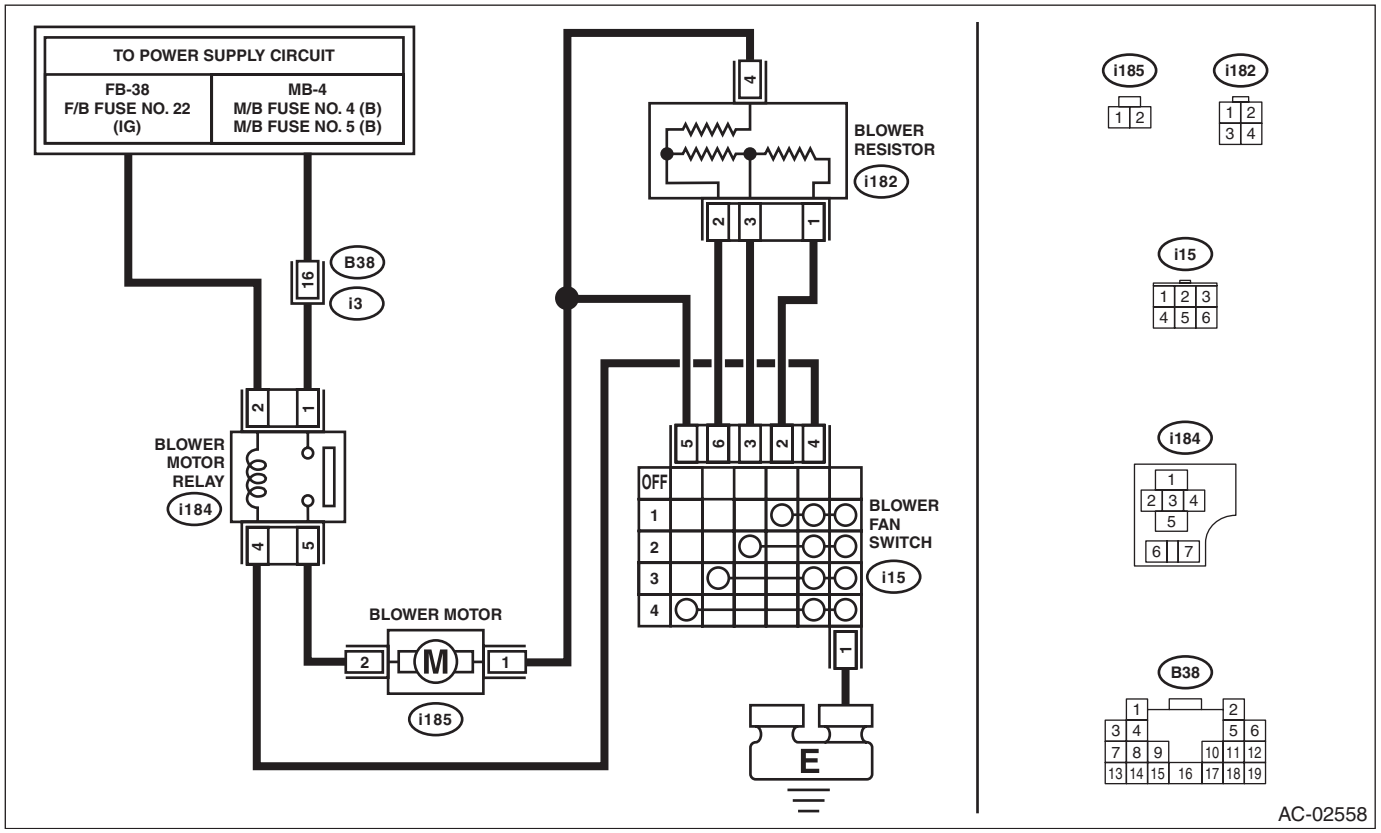
Step		Check	Yes	No
1	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to ON. 2) Set the fan switch to maximum position. 3) Using the Subaru Select Monitor, check "Blower Fan Level" of the current data from the A/C diagnosis.	Does "Blower Fan Level" indicate "31"?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
2	**CHECK A/C CONTROL PANEL.** 1) Set the fan switch to minimum position. 2) Using the Subaru Select Monitor, check "Blower Fan Level" of the current data from the A/C diagnosis.	Does "Blower Fan Level" indicate "1"?	Go to step **3**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>

	Step	Check	Yes	No
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the power transistor connector. 3) Use a tester to measure the resistance between the power transistor connector and chassis ground. ***Connector & terminal*** ***(i183) No. 5 — Chassis ground:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit portion of the harness (i183) No. 5 — (i185) No. 1 between blower motor and power transistor.	Go to step **4**.
4	**CHECK HARNESS.** 1) Remove the A/C CM. 2) Turn the ignition switch to ON. 3) Use a tester to measure the resistance between the power transistor connector and chassis ground. ***Connector & terminal*** ***(i183) No. 1 — Chassis ground:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit portion of the harness (i183) No. 1 — (i181) No. 9 between A/C CM and power transistor.	Go to step **5**.
5	**CHECK HARNESS.** 1) Connect the disconnected connectors. 2) Turn the ignition switch to ON. 3) Use a tester to measure the voltage between the power transistor connector and chassis ground. ***Connector & terminal*** ***(i183) No. 1 (+) — Chassis ground (–):***	Is the voltage approx. 10 V when the fan switch is set to 1st, and approx. 1 V when set to 6th?	Replace the power transistor. <Ref. to AC-39, REMOVAL, Power Transistor (Auto A/C Model).>	Go to step **6**.
6	**CHECK A/C CM.** 1) Turn the fan switch to OFF. 2) Disconnect the power transistor connector. 3) Use a tester to measure the resistance between the power transistor connector and chassis ground. ***Connector & terminal*** ***(i183) No. 1 — Chassis ground:***	When the fan switch is OFF and other than OFF, does the resistance change?	Replace the power transistor. <Ref. to AC-39, REMOVAL, Power Transistor (Auto A/C Model).>	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

Manual A/C

WIRING DIAGRAM:

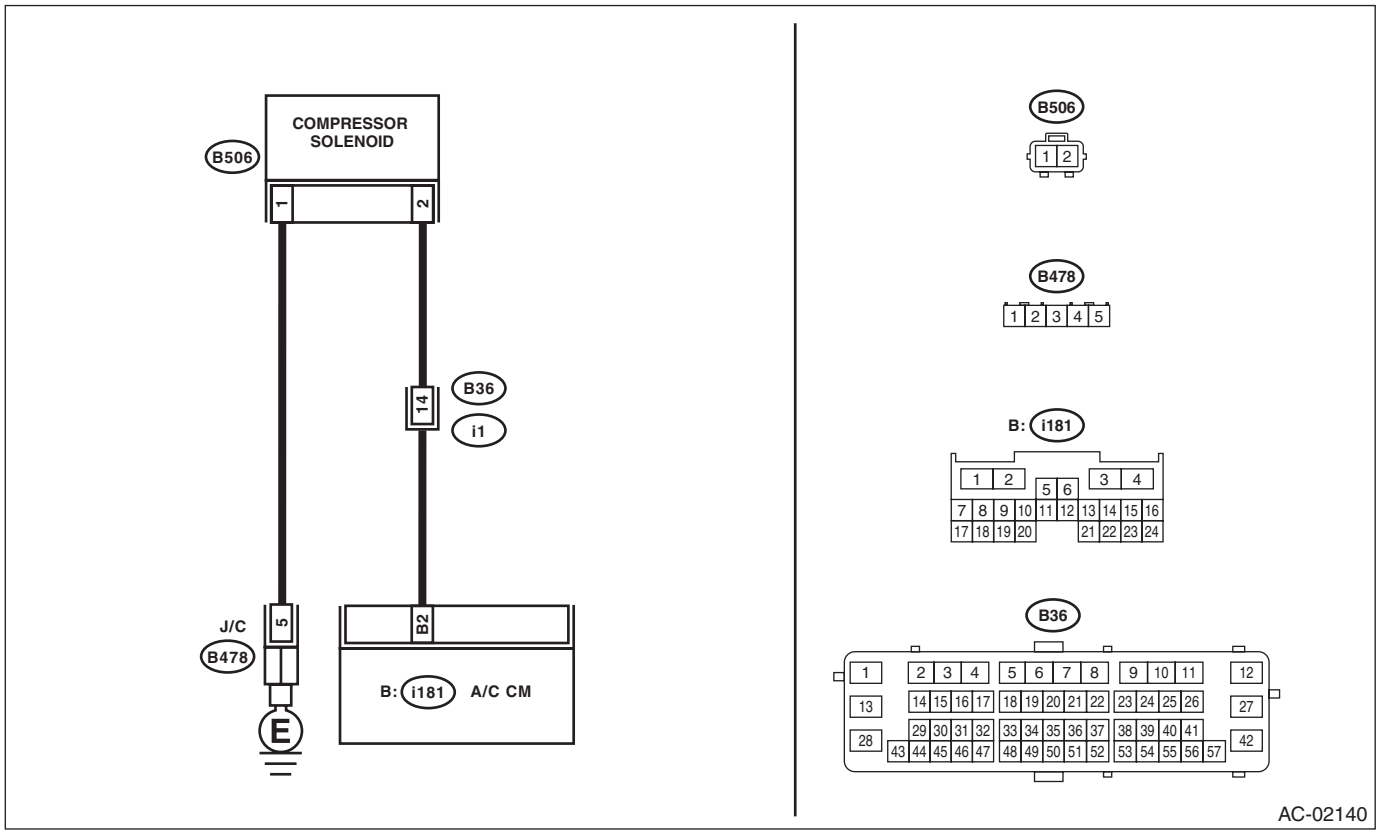
Air Conditioning System <Ref. to WI-51, MANUAL A/C, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK BLOWER MOTOR CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the blower fan switch connector and blower resistor connector. 3) Use a tester to measure the resistance between each terminal and chassis ground. ***Connector & terminal*** ***(i182) No. 4 — Chassis ground:*** ***(i15) No. 5 — Chassis ground:*** ***(i15) No. 6 — Chassis ground:*** ***(i15) No. 3 — Chassis ground:*** ***(i15) No. 2 — Chassis ground:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit of the harness.	Go to step **2**.
2	**CHECK BLOWER RESISTOR.** Check the blower resistor. <Ref. to AC-41, INSPECTION, Blower Resistor (Manual A/C Model).>	Is the blower resistor OK?	Replace the A/C control panel. <Ref. to AC-49, MANUAL A/C MODEL, REMOVAL, Control Panel.>	Replace the blower resistor. <Ref. to AC-40, REMOVAL, Blower Resistor (Manual A/C Model).>

10.COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED (COMPRESSOR DOES NOT OPERATE (VARIABLE))

TROUBLE SYMPTOM:
Compressor does not operate even when the A/C switch is turned on and the fan switch is set to LO — HI.
Trouble causes:
Compressor failure
WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK A/C CONTROL PANEL.** 1) Leave the vehicle under the condition at ambient temperature of 15°C (59°F) or more. 2) Turn the ignition switch to ON. 3) Set the fan switch to maximum position. 4) Press the A/C switch.	Is "A/C" displayed on the A/C control panel? Or does the A/C switch indicator illuminate?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
2	**CHECK VARIABLE FLOW CHANGE SOLENOID DUTY VALUE.** Using the Subaru Select Monitor, check "Variable Flow Change Solenoid Duty" of the current data from the A/C diagnosis.	Does the data indicate the value greater than zero?	Go to step **7**.	Go to step **3**.
3	**CHECK EVAPORATOR SENSOR.** Using the Subaru Select Monitor, check "Evaporator Temp." of the current data from the A/C diagnosis.	Does the data indicate -0.5 degree or more?	Go to step **5**.	Go to step **4**.
4	**CHECK EVAPORATOR SENSOR.** Check the evaporator sensor. <Ref. to AC-88, INSPECTION, Evaporator Sensor.>	Is the sensor normal?	Go to step **5**.	Replace the evaporator sensor.

	Step	Check	Yes	No
5	**CHECK REFRIGERANT PRESSURE SENSOR.** Using the Subaru Select Monitor, check “Refrigerant Pressure” of the current data from the A/C diagnosis.	Does the data indicate 0.21 Mpa — 3.03 Mpa?	Go to step **7**.	Go to step **6**.
6	**CHECK AMOUNT OF REFRIGERANT PRESSURE.** Check the refrigerant pressure. <Ref. to AC-22, CHECK REFRIGERANT GAS PRESSURE, PROCEDURE, Refrigerant Pressure with Manifold Gauge Set.>	Is the refrigerant pressure normal?	Go to step **7**.	Perform repair according to refrigerant pressure inspection.
7	**CHECK FLOW SENSOR CIRCUIT.** 1) Turn the ignition switch to ON. 2) Wait at least 1 seconds. 3) Read the DTC using Subaru Select Monitor.	Are B1641 and B1642 displayed?	Perform the diagnosis according to DTC.	Go to step **8**.
8	**CHECK VARIABLE SOLENOID CIRCUIT.** 1) Start the engine. 2) Turn the A/C switch to ON. 3) Set the fan switch to maximum position. 4) Set the temperature control switch to LO, and wait for 30 seconds or more. 5) Read the DTC using Subaru Select Monitor.	Is B1643 displayed?	Perform the diagnosis according to DTC.	Replace the compressor. <Ref. to AC-55, REMOVAL, Compressor.>

11.UNABLE TO SWITCH SUCTION VENTS

TROUBLE SYMPTOM:

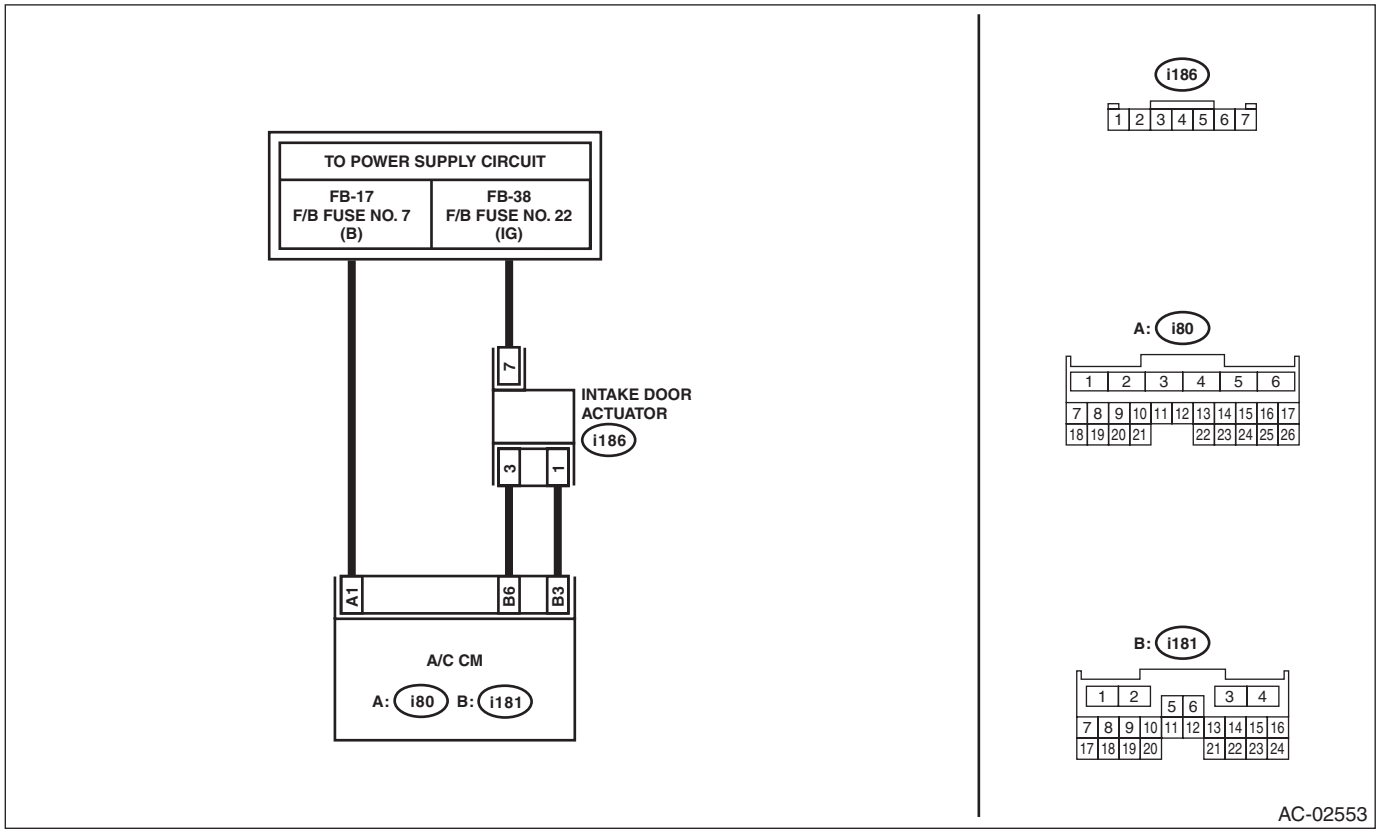
Even when the FRESH/RECIRC switch is pressed, the inlet opening does not switch to RECIRC → FRESH or FRESH → RECIRC.

Trouble causes:

Intake door actuator failure

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**VISUALLY CHECK FRESH/RECIRC DOOR OPERATION.** 1) Remove the glove box. <Ref. to EI-65, REMOVAL, Glove Box.> 2) Operate the FRESH/RECIRC switch, and visually check the intake door operation.	Does the intake door operate normally? Is the position between the intake door and intake door case sealed completely?	System is normal.	Go to step **2**.
2	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check "Fresh/Recircle Air Door Actuator Position Target" of the current data from the A/C diagnosis. 3) Operate the FRESH/RECIRC switch.	Does "Fresh/Recircle Air Door Actuator Position Target" indicate 0 ←→ 100?	Go to step **3**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
3	**CHECK CONNECTOR.** Check the connecting condition of connectors (i186), (i181) and (i80).	Is there poor contact?	Repair the connector.	Go to step **4**.
4	**CHECK FUSE.** 1) Remove the fuse No. 7 and No. 22 from fuse & relay box. 2) Check the fuse.	Is the fuse OK?	Go to step **5**.	Replace the fuse.

	Step	Check	Yes	No
5	**CHECK POWER SUPPLY FOR INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the intake door actuator connector (i186). 3) Turn the ignition switch to ON. 4) Measure the voltage between intake door actuator connector (i186) and chassis ground. ***Connector & terminal*** ***(i186) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Check for open or short circuit in the harness between intake door actuator and fuse.
6	**CHECK HARNESS BETWEEN A/C CM AND INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the A/C CM connector (i181). 3) Measure the resistance between intake door actuator connector (i186) and A/C CM connector (i181). ***Connector & terminal*** ***(i186) No. 1 — (i181) No. 3:*** ***(i186) No. 3 — (i181) No. 6:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair the open circuit of harness between A/C CM and intake door actuator.
7	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Connect the intake door actuator connector (i186). 2) Ground the A/C CM connector (i181) with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal*** ***(i181) No. 3 — Chassis ground:***	Does the actuator move to the FRESH side?	Go to step **8**.	Replace the intake door actuator. <Ref. to AC-90, REMOVAL, FRESH/RECIRC Door Actuator.>
8	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Ground the A/C CM connector (i181) with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal:*** ***(i181) No. 6 — Chassis ground:***	Does the actuator move to the RECIRC side?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Replace the intake door actuator. <Ref. to AC-90, REMOVAL, FRESH/RECIRC Door Actuator.>

12.UNABLE TO SWITCH VENTS

TROUBLE SYMPTOM:

Unable to switch blow vents.

- Auto dual

Even when the mode switch is operated, outlet opening does not switch to FACE → B/L → FOOT → F/D.

- Manual A/C

Selected mode does not work even when each mode switch is operated.

Trouble causes:

Mode door actuator failure

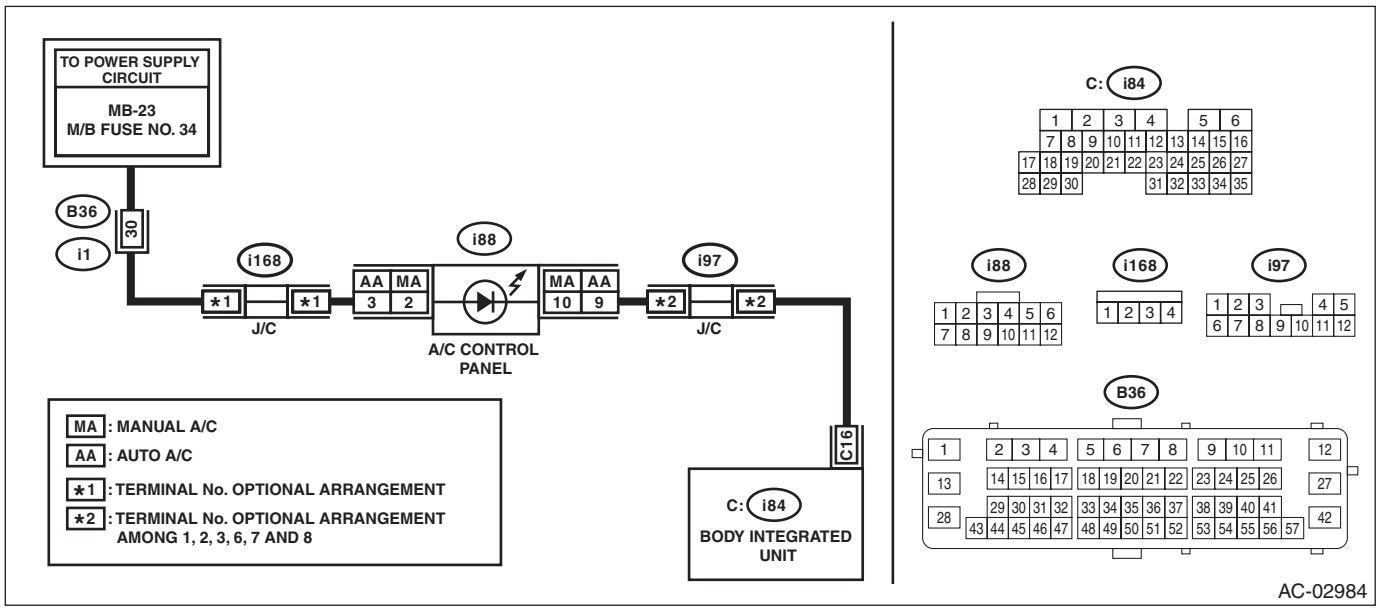
	Step	Check	Yes	No
1	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check "Mode Door Actuator Position Target" of the current data from the A/C diagnosis. 3) Operate the mode change switch.	Does the value for "Mode Door Actuator Position Target" change?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>
2	**CHECK DTC.** 1) Set the mode change switch to DEF, and wait for 16 seconds or more. 2) Read the DTC using Subaru Select Monitor.	Are B1620, B1621 and B1622 displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** 1) Set the mode change switch to VENT, and wait for 16 seconds or more. 2) Using the Subaru Select Monitor, read DTC of A/C CM.	Are B1620, B1621 and B1622 displayed?	Perform the diagnosis according to DTC.	System is normal.

13.ILLUMINATION DOES NOT COME ON OR CANNOT DIM

TROUBLE SYMPTOM:
Even when the lighting switch is operated, the illumination does not come on. Even when the illumination control is operated, the illumination does not dim.

TROUBLE SYMPTOM:
Open circuit in illumination circuit

WIRING DIAGRAM:
Clearance Light and Illumination Light System <Ref. to WI-87, WIRING DIAGRAM, Clearance Light and Illumination Light System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** Check for poor contact of connector.	Is there poor contact?	Repair the connector.	Go to step **2**.
2	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using a tester, measure the voltage between the A/C control panel connector (i88) and chassis ground. ***Connector & terminal*** ***Auto A/C*** ***(i88) No. 3 (+) — Chassis ground (–):*** ***Manual A/C*** ***(i88) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between A/C control panel connector (i88) and body integrated unit connector (i84). ***Connector & terminal*** ***Auto A/C*** ***(i88) No. 9 — (i84) No. 16:*** ***Manual A/C*** ***(i88) No. 10 — (i84) No. 16:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK A/C CONTROL PANEL UNIT.** Check the A/C control panel. <Ref. to AC-52, INSPECTION, Control Panel.>	Is A/C control panel OK?	A/C control panel illumination circuit is normal.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>

7. Subaru Select Monitor

A: OPERATION

For details of basic operations, refer to “PC application help for Subaru Select Monitor”.

NOTE:
When initialization communication using Select Monitor is impossible, perform diagnosis according to “Diagnostic Procedure Used When Abnormal Communication with Subaru Select Monitor Occurs”.

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details concerning the operation procedure, refer to “PC application help for Subaru Select Monitor”.

9. Clear Memory Mode

A: OPERATION

For details concerning the operation procedure, refer to “PC application help for Subaru Select Monitor”.

10.Read Current Data

A: OPERATION

For details concerning the operation procedure, refer to “PC application help for Subaru Select Monitor”.

B: LIST

Items to be displayed	Unit of measure	Remarks	Note
Engine Speed	rpm	Data value received by CAN	—
Heater Control Panel Setting Value (Driver’s)	LO: 18°C (64°F) HI: 32°C (90°F)	Control panel display value	Auto A/C
Heater Control Panel Setting Value (Passenger’s)	LO: 18°C (64°F) HI: 32°C (90°F)	Control panel display value	Auto A/C
Blower outlet Door Request Temperature	°C (°F)	A/C CM internal setting value	Auto A/C
Blower outlet request temperature (Driver’s)	°C (°F)	A/C CM internal setting value	Auto A/C
Blower outlet request temperature (Passenger’s)	°C (°F)	A/C CM internal setting value	Auto A/C
Blower Fan Operating Condition	MANU/AUTO	A/C CM input value	Auto A/C
A/C Operating Condition	MANU/AUTO	A/C CM input value	Auto A/C
Fresh/Recircle Air Operating Condition	MANU/AUTO	A/C CM input value	Auto A/C
Mode Operating Condition	MANU/AUTO	A/C CM input value	Auto A/C
Rear Defogger	ON/OFF	A/C CM input value	—
In-vehicle Sensor Temperature	°C (°F)	A/C CM input value	Auto A/C
Evaporator Temperature	°C (°F)	A/C CM input value	—
Quantity of Sunload	W/m^2	A/C CM input value	Auto A/C
Refrigerant Pressure	MPa	A/C CM input value	—
Refrigerant Flow	kg/h	A/C CM input value	—
Air mix door actuator position (driver’s side)	%	A/C CM input value	—
Air mix door actuator position (passenger’s side)	%	A/C CM input value	Auto A/C
Fresh/Recircle Air Door Actuator Position	%	A/C CM input value	—
Mode Door Actuator Position	%	A/C CM input value	—
Heater Water Temperature	°C (°F)	Data value received by CAN	—
Ambient Air Temperature	°C (°F)	Data value received by CAN	—
Vehicle Speed	km/h	Data value received by CAN	—
Accel. Opening Angle	%	Data value received by CAN	—
Target air mix door actuator position (driver’s side)	%	A/C CM input value	—
Target air mix door actuator position (passenger’s side)	%	A/C CM input value	Auto A/C
Fresh/Recircle Air Door Actuator Position Target	%	A/C CM input value	—
Mode Door Actuator Position Target	%	A/C CM input value	—
Blower Fan Level	Level	A/C CM output value	Auto A/C
Compressor operating conditions (CAN transmission signal)	ON/OFF	CAN transmitted data value	Auto A/C
Variable Flow Change Solenoid Duty	%	A/C CM output value	—
Evaporator Temperature Target	°C (°F)	A/C CM input value	—
Variable Load Compressor Torque Value	Nm	A/C CM input value	—
Request idle engine speed	rpm	A/C CM output value	—
Request engine speed	0: Without Request 1: Cooler H 2: Heater H 3: Cooler L 4: Heater L	A/C CM output value	—
Discharge pressure	MPa	A/C CM input value	—
Intake pressure	MPa	A/C CM input value	—

Items to be displayed	Unit of measure	Remarks	Note
Cooler request distinction	Without Request/With Request	A/C CM output value	—
Heater request distinction	Without Request/With Request	A/C CM output value	—

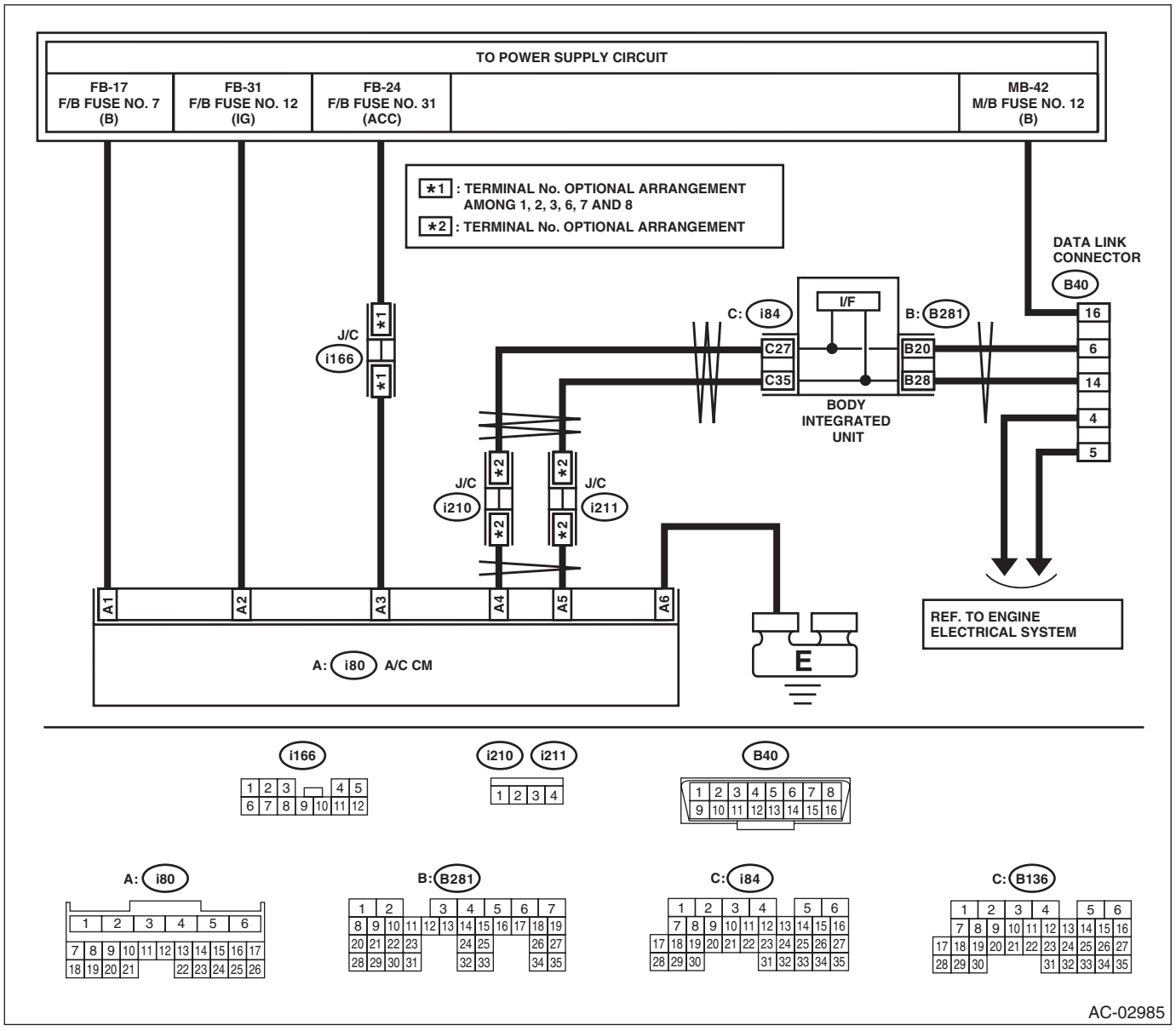
NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

11.Diagnostic Procedure for Subaru Select Monitor Communication

A: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DIAGNOSIS:
Defective CAN communication circuit
TROUBLE SYMPTOM:
- LAN system is abnormal.
- Communication failure between Subaru Select Monitor and A/C CM

WIRING DIAGRAM:
- Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>
- CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



AC-02985

Step		Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** Connect SDI (Subaru Diagnosis Interface) to the data link connector.	Is SDI powered on?	Go to step **4**.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK POWER SUPPLY CIRCUIT.** Measure the voltage between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 16 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Repair the power supply circuit. NOTE: In this case, repair the following item: • Open or ground short circuit of harness between battery and data link connector • Blown out of fuse (M/B No. 12)
3	**CHECK HARNESS BETWEEN DATA LINK CONNECTOR AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 4 — Chassis ground:*** ***(B40) No. 5 — Chassis ground:***	Is the resistance less than 5 Ω?	Repair the poor contact of data link connector.	Repair the harness and connector.
4	**CHECK SUBARU SELECT MONITOR.** 1) Connect the Subaru Select Monitor to a normal vehicle. 2) Start the engine and perform communication between the Subaru Select Monitor and vehicle.	Is communication possible?	Go to step **5**.	Use another Subaru Select Monitor because the CAN communication circuit of the Subaru Select Monitor is faulty.
5	**CHECK CAN COMMUNICATION CIRCUIT.** Check the CAN communication circuit. <Ref. to LAN(diag)-11, CAN Communication Circuit Check.>	Is the CAN communication circuit normal?	Go to step **6**.	Repair the CAN communication circuit.
6	**CHECK CONNECTOR.** Check the power supply circuit connectors (i166) and (i80) for poor contact.	Is there poor contact of connector?	Repair the connector.	Go to step **7**.
7	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuses No. 7, No. 12 and No. 31 from main fuse box. 3) Check the fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **8**.
8	**CHECK A/C CM POWER SUPPLY CIRCUIT.** 1) Install the A/C control panel. 2) Disconnect the A/C CM connector. 3) Measure the voltage between A/C CM connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***(i80) No. 1 (+) — Chassis ground (–):*** ***(i80) No. 2 (+) — Chassis ground (–):*** ***(i80) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **9**.	Check for open or short circuit in the harness between A/C CM and fuse.
9	**CHECK A/C CM GROUND CIRCUIT.** Measure the resistance of harness between A/C CM and chassis ground. ***Connector & terminal*** ***(i80) No. 6 — Chassis ground:***	Is the resistance less than 5 Ω?	Check the connection between the data link connector and Subaru Select Monitor.	Repair the harness for ground line.

12.List of Diagnostic Trouble Code (DTC)

A: LIST

NOTE:
When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor in direct sunlight.

DTC	Item	Content of diagnosis	Note
B1601	In-Vehicle Sensor Short	In-vehicle air temperature sensor circuit is shorted.	<Ref. to AC(diag)-54, DTC B1601 IN-VEHICLE SENSOR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1602	In-Vehicle Sensor Open	In-vehicle air temperature sensor circuit is open.	<Ref. to AC(diag)-55, DTC B1602 IN-VEHICLE SENSOR OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1603	Evaporator Sensor Short	Post evaporator sensor circuit is shorted.	<Ref. to AC(diag)-56, DTC B1603 EVAPORATOR SENSOR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1604	Evaporator Sensor Open	Post evaporator sensor circuit is open.	<Ref. to AC(diag)-57, DTC B1604 EVAPORATOR SENSOR OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1605	Refrigerant Flow Sensor Circuit Open	Pressure sensor circuit is open.	*2 <Ref. to AC(diag)-58, DTC B1605 REFRIGERANT FLOW SENSOR CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1606	Refrigerant Flow Sensor Circuit Short	Pressure sensor circuit is shorted.	*2 <Ref. to AC(diag)-60, DTC B1606 REFRIGERANT FLOW SENSOR CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1607	Sunload Sensor Short	Sunload sensor circuit is shorted.	*1 <Ref. to AC(diag)-61, DTC B1607 SUNLOAD SENSOR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1608	Sunload Sensor Open	Sunload sensor circuit is open.	*1, *2 <Ref. to AC(diag)-62, DTC B1608 SUNLOAD SENSOR OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1610	Airmix Door Actuator Potentiometer Circuit Open (Driver's)	Airmix door actuator potentiometer circuit is open.	<Ref. to AC(diag)-64, DTC B1610 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (DRIVER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1611	Airmix Door Actuator Potentiometer Circuit Short (Driver's)	Airmix door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-66, DTC B1611 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (DRIVER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1612	Airmix Door Actuator Lock (Driver's)	Mode door actuator is locked.	<Ref. to AC(diag)-67, DTC B1612 AIRMIX DOOR ACTUATOR LOCK (DRIVER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1613	Airmix Door Actuator Potentiometer Circuit Open (Passenger's)	Airmix door actuator potentiometer circuit is open.	<Ref. to AC(diag)-69, DTC B1613 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (PASSENGER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1614	Airmix Door Actuator Potentiometer Circuit Short (Passenger's)	Airmix door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-71, DTC B1614 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (PASSENGER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1615	Airmix Door Actuator Lock (Passenger's)	Mode door actuator is locked.	<Ref. to AC(diag)-73, DTC B1615 AIRMIX DOOR ACTUATOR LOCK (PASSENGER'S), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
B1620	Mode Door Actuator Potentiometer Circuit Open	Mode door actuator potentiometer circuit is open.	<Ref. to AC(diag)-75, DTC B1620 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1621	Mode Door Actuator Potentiometer Circuit Short	Mode door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-77, DTC B1621 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1622	Mode Door Actuator Lock	Mode door actuator is locked.	<Ref. to AC(diag)-78, DTC B1622 MODE DOOR ACTUATOR LOCK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1630	Rear Vent Door Actuator Potentiometer Circuit Open	Rear vent door actuator potentiometer circuit is open.	<Ref. to AC(diag)-80, DTC B1630 REAR VENT DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1631	Rear Vent Door Actuator Potentiometer Circuit Short	Rear vent door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-82, DTC B1631 REAR VENT DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1632	Rear Vent Door Actuator Lock	Rear vent door actuator is locked.	<Ref. to AC(diag)-83, DTC B1632 REAR VENT DOOR ACTUATOR LOCK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1635	Out Side Temperature Sensor Circuit Abnormality (Air Conditioner)	Ambient air temperature sensor circuit is abnormal.	<Ref. to AC(diag)-85, DTC B1635 OUT SIDE TEMPERATURE SENSOR CIRCUIT ABNORMALITY (AIR CONDITIONER), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1641	Refrigerant Flow Sensor Circuit Short	Refrigerant flow sensor circuit is shorted.	*2 <Ref. to AC(diag)-87, DTC B1641 REFRIGERANT FLOW SENSOR CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1642	Refrigerant Flow Sensor Circuit Open	Refrigerant flow sensor circuit is open.	*2 <Ref. to AC(diag)-88, DTC B1642 REFRIGERANT FLOW SENSOR CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1643	Variable Flow Change Solenoid Duty Circuit Abnormal	Variable flow change solenoid duty circuit is open or shorted.	*2 <Ref. to AC(diag)-90, DTC B1643 VARIABLE FLOW CHANGE SOLENOID DUTY CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1644	Refrigerant Not Sealed Drive Error	Compressor is rotated before filling refrigerant.	Displays when delivery mode only. <Ref. to AC(diag)-92, DTC B1644 REFRIGERANT NOT SEALED DRIVE ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0001	CAN Communication Bus Off	CAN communication bus off	*2 <Ref. to AC(diag)-93, DTC U0001 CAN COMMUNICATION BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0002	CAN Communication Error	CAN communication error	*2 <Ref. to AC(diag)-93, DTC U0002 CAN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0028	Heater Control Panel Communication Error	Communication with heater control panel is faulty.	*2 <Ref. to AC(diag)-94, DTC U0028 HEATER CONTROL PANEL COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

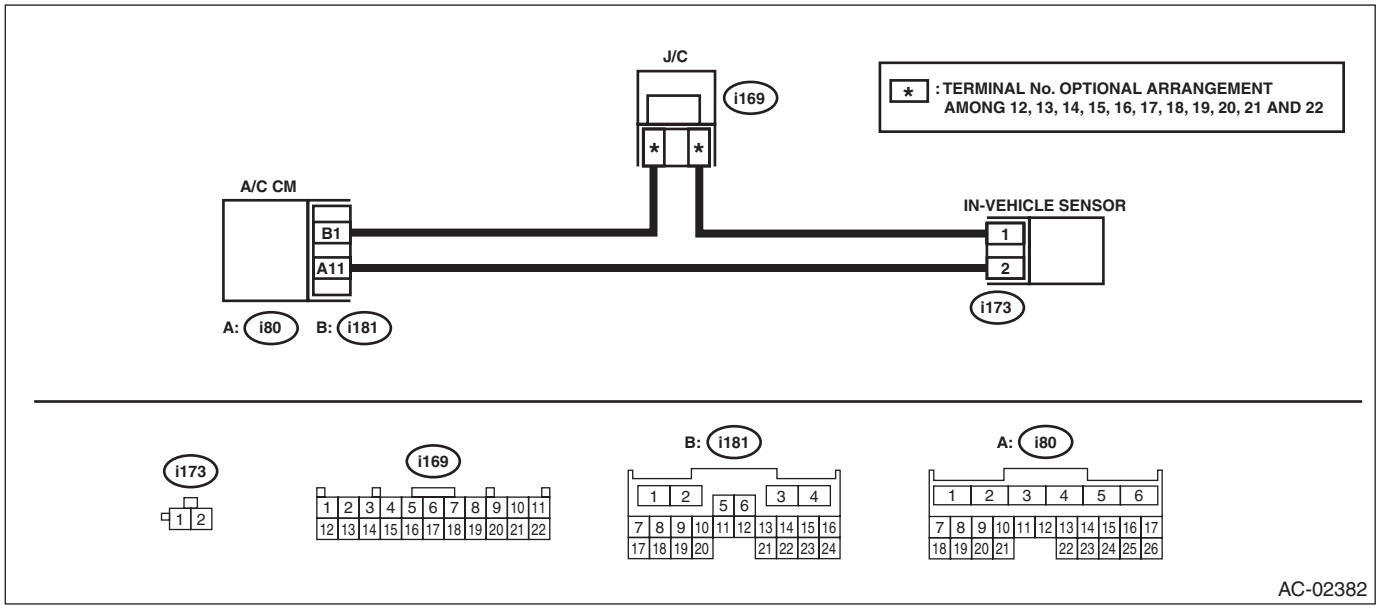
NOTE:
*1: When the sunload sensor inspection is performed indoors or in the shade, it may be diagnosed as having an open circuit due to an insufficient light volume. In this case, check the sunload sensor at a location exposed to direct sunlight.
*2: Displays current malfunction only.

13.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1601 IN-VEHICLE SENSOR SHORT

DTC DETECTING CONDITION:
In-vehicle sensor circuit is shorted.
TROUBLE SYMPTOM:
- In-vehicle air temperature is falsely recognized as 25°C (77°F), and the compartment temperature is adjusted.
- DTC “B1601” Short-circuit in in-vehicle sensor was detected.
- DTC “-21” Short-circuit in in-vehicle sensor was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



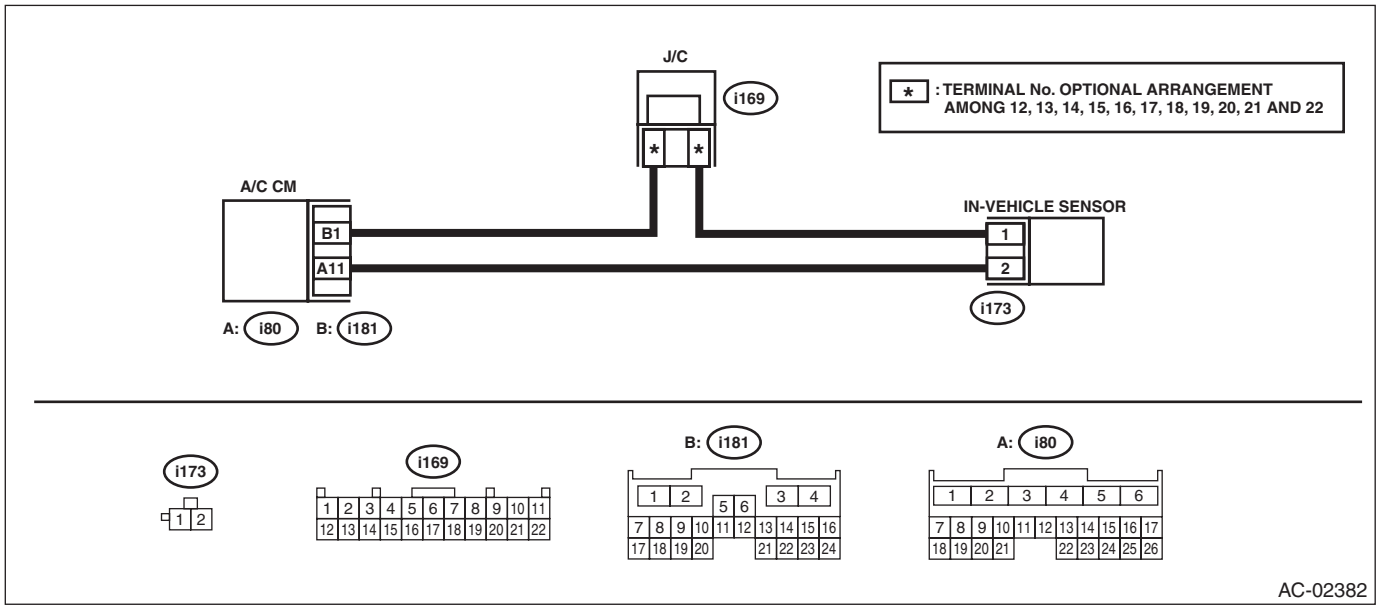
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1601 displayed?	Go to step **2**.	Check the connection of the in-vehicle sensor circuit.
2	**CHECK IN-VEHICLE SENSOR.** 1) Disconnect the in-vehicle sensor. <Ref. to AC-82, REMOVAL, In-Vehicle Sensor (Auto A/C Model).> 2) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1602 displayed?	Replace the in-vehicle sensor. <Ref. to AC-82, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i173) No. 2 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Check the connection of the in-vehicle sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i173) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

B: DTC B1602 IN-VEHICLE SENSOR OPEN

DTC DETECTING CONDITION:
In-vehicle sensor circuit is open.

TROUBLE SYMPTOM:
- In-vehicle air temperature is falsely recognized as 25°C (77°F), and the compartment temperature is adjusted.
- DTC “B1602” Open circuit in in-vehicle sensor was detected.
- DTC “21” Open circuit in in-vehicle sensor was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



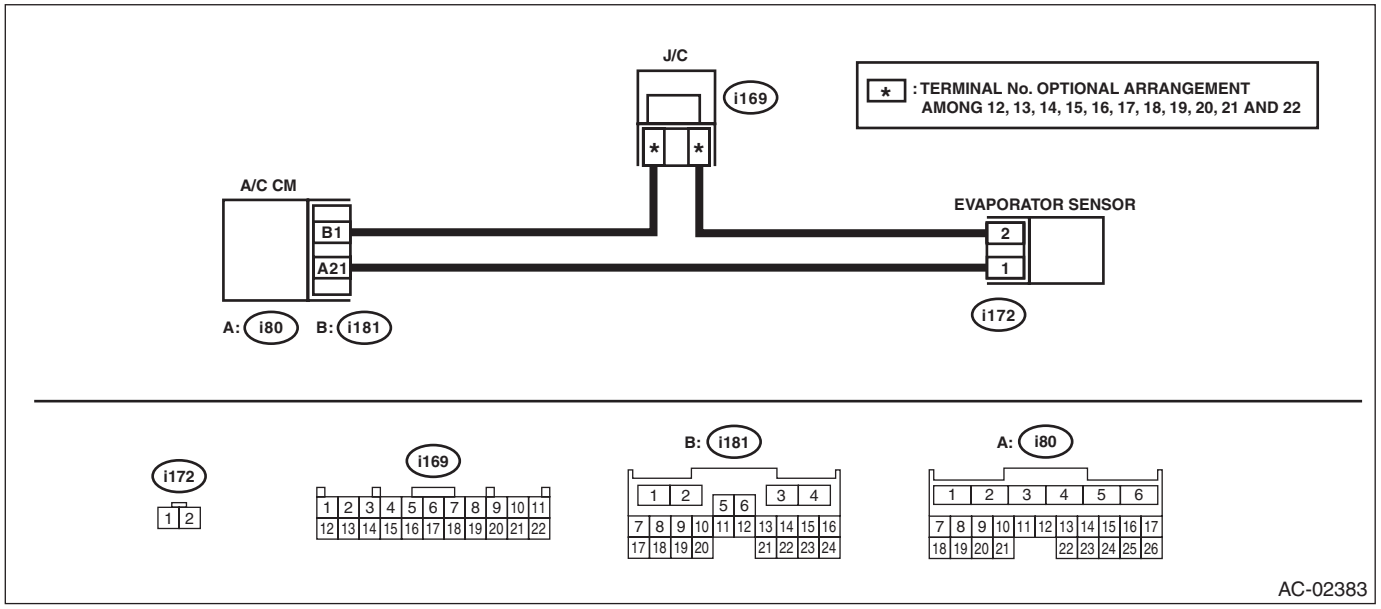
	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1602 displayed?	Go to step **2**.	Check the connection of the in-vehicle sensor circuit.
2	**CHECK IN-VEHICLE SENSOR.** 1) Disconnect the in-vehicle sensor. 2) Short the connector i173. 3) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1601 displayed?	Replace the in-vehicle sensor. <Ref. to AC-82, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i173) No. 2 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i173) No. 1 — (i181) No. 1:*** ***(i173) No. 2 — (i80) No. 11:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

C: DTC B1603 EVAPORATOR SENSOR SHORT

DTC DETECTING CONDITION:
Evaporator sensor circuit is shorted.

TROUBLE SYMPTOM:
- Compressor does not operate. (Variable compressor)
- Evaporator temperature is falsely recognized as high, and the compartment temperature is adjusted.
- DTC “B1603” Short-circuit in evaporator sensor was detected.
- DTC “-23” Short-circuit in evaporator sensor was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



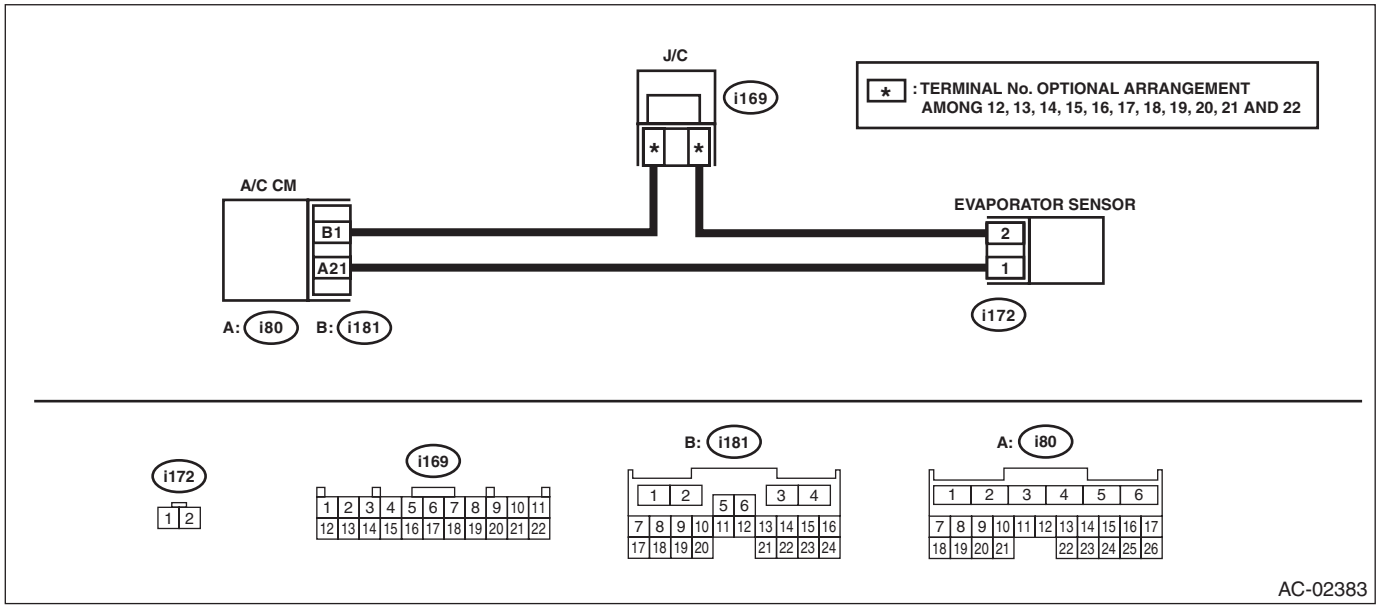
	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1603 displayed?	Go to step **2**.	Check the connection of the evaporator sensor circuit.
2	**CHECK EVAPORATOR SENSOR.** 1) Disconnect the evaporator sensor. 2) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1604 displayed?	Replace the evaporator sensor. <Ref. to AC-67, REMOVAL, Evaporator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i172) No. 1 (+) — No. 2 (–):***	Is the voltage 4.5 — 5.0 V?	Check the connection of the evaporator sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i172) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

D: DTC B1604 EVAPORATOR SENSOR OPEN

DTC DETECTING CONDITION:
Evaporator sensor circuit is open.

TROUBLE SYMPTOM:
- Compressor does not operate.
- Evaporator temperature is falsely recognized as low, and the compartment temperature is adjusted.
- DTC “B1604” Open circuit in evaporator sensor was detected.
- DTC “23” Open circuit in evaporator sensor was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



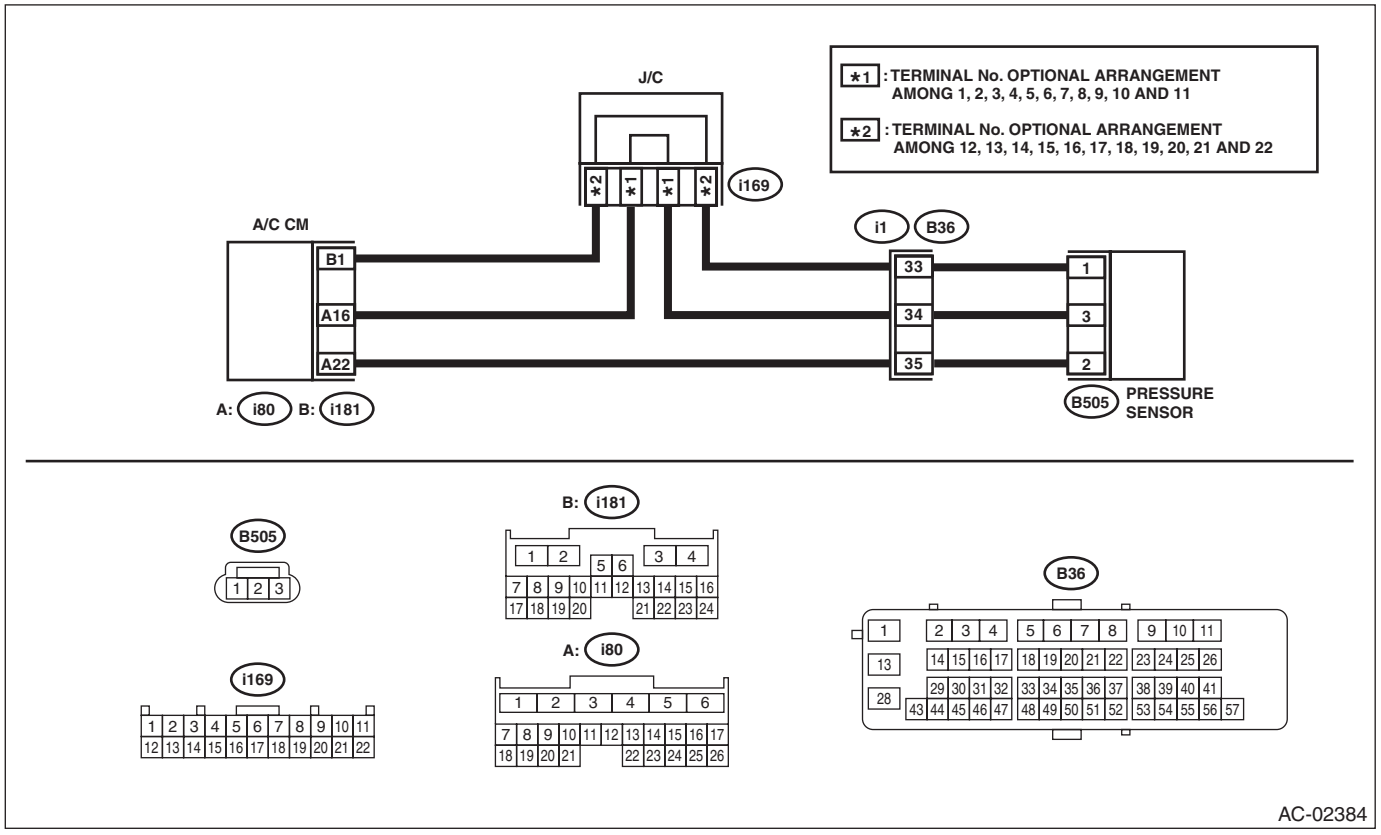
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1604 displayed?	Go to step **2**.	Check the connection of the evaporator sensor circuit.
2	**CHECK EVAPORATOR SENSOR.** 1) Disconnect the evaporator sensor. 2) Short the i172 connector. 3) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1603 displayed?	Replace the evaporator sensor. <Ref. to AC-67, REMOVAL, Evaporator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i172) No. 1 (+) — No. 2 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i172) No. 1 — (i80) No. 21:*** ***(i172) No. 2 — (i181) No. 1:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

E: DTC B1605 REFRIGERANT FLOW SENSOR CIRCUIT OPEN

DTC DETECTING CONDITION:
Refrigerant pressure sensor circuit is open.

TROUBLE SYMPTOM:
- Compressor does not operate. (Variable compressor)
- DTC “B1605” Open circuit in refrigerant pressure sensor was detected.
- DTC “42” Open circuit in refrigerant pressure sensor was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1605 displayed?	Go to step **2**.	Check the connection of the refrigerant pressure sensor circuit.
2	**CHECK PRESSURE SENSOR.** 1) Disconnect the pressure sensor. 2) Short No. 1 and No. 2 of B505 connector. 3) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1606 displayed?	Replace the refrigerant pressure sensor. <Ref. to AC-76, REMOVAL, Hose and Pipe.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (B505) No. 3 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.

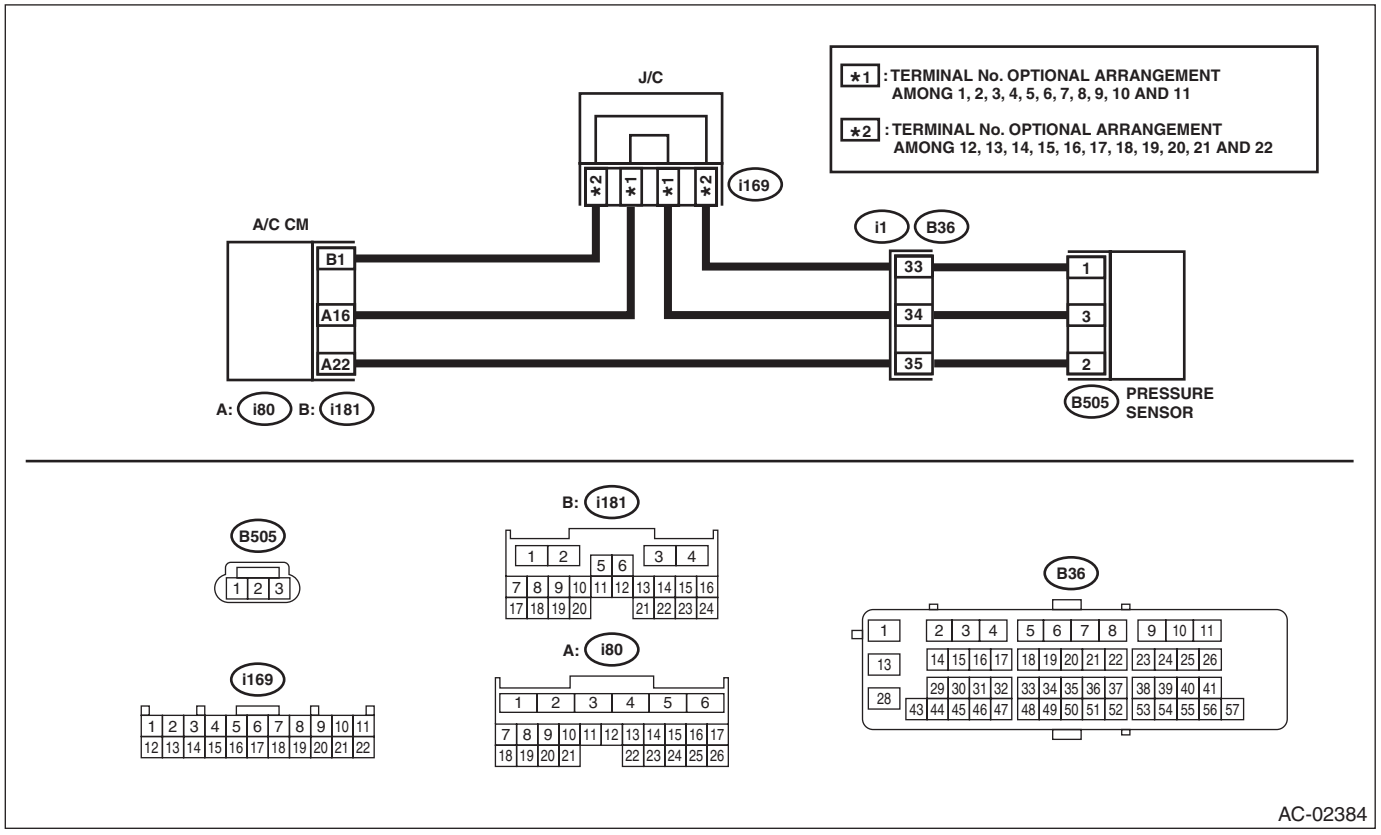
	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B505) No. 1 — (i181) No. 1:*** ***(B505) No. 2 — (i80) No. 22:*** ***(B505) No. 3 — (i80) No. 16:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

F: DTC B1606 REFRIGERANT FLOW SENSOR CIRCUIT SHORT

DTC DETECTING CONDITION:
Refrigerant pressure sensor circuit is shorted.

TROUBLE SYMPTOM:
- Compressor does not operate. (Variable compressor)
- DTC “B1606” Short-circuit in refrigerant pressure sensor was detected.
- DTC “-42” Short-circuit in refrigerant pressure sensor was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



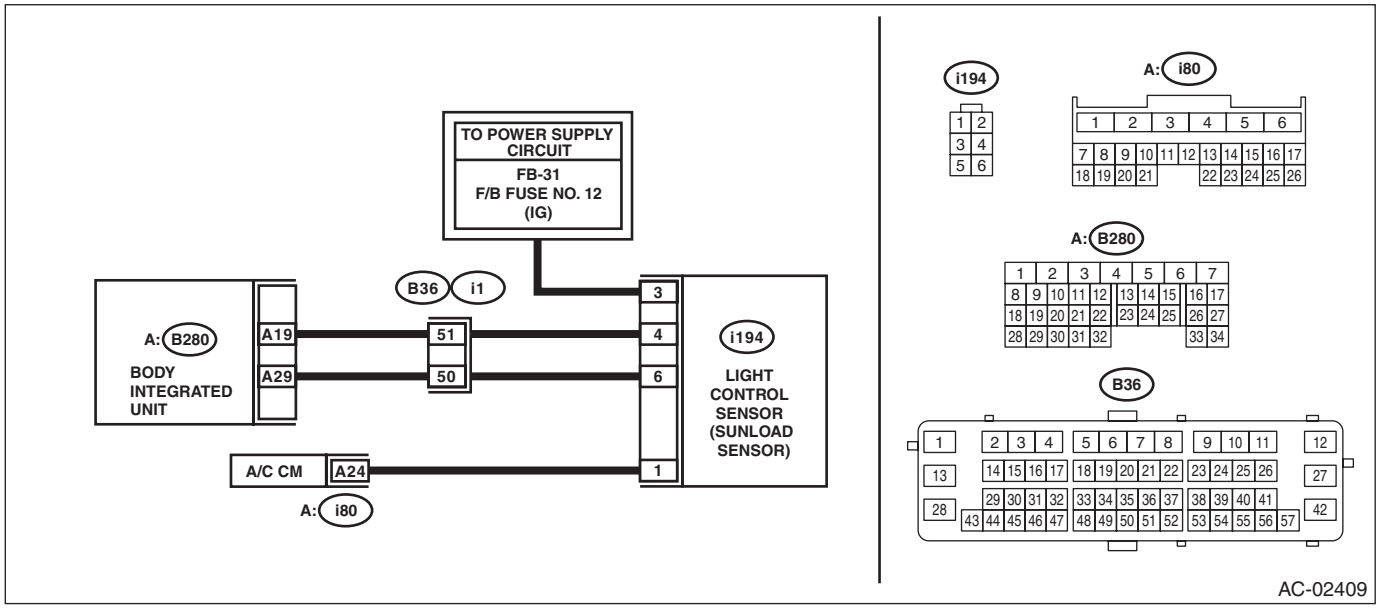
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1606 displayed?	Go to step **2**.	Check the connection of the refrigerant pressure sensor circuit.
2	**CHECK REFRIGERANT PRESSURE SENSOR.** 1) Disconnect the refrigerant pressure sensor. 2) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1605 displayed?	Replace the refrigerant pressure sensor. <Ref. to AC-76, REMOVAL, Hose and Pipe.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B505) No. 1 — No. 2:*** ***(B505) No. 2 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

G: DTC B1607 SUNLOAD SENSOR SHORT

DTC DETECTING CONDITION:
Sunload sensor circuit is shorted.

TROUBLE SYMPTOM:
- Operation is performed as no sunload.
- DTC “B1607” Short-circuit in sunload sensor was detected.
- DTC “-25” Short-circuit in sunload sensor was detected.
- DTC “-45” Short-circuit in sunload sensor (auto light control) was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1607 displayed?	Go to step **2**.	Check the connection of the sunload sensor circuit.
2	**CHECK SUNLOAD SENSOR.** 1) Disconnect the sunload sensor. 2) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1608 displayed?	Replace the sunload sensor. <Ref. to AC-80, REMOVAL, Sunload Sensor (Auto A/C Model).>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i194) No. 3 (+) — No. 1 (–):***	Is the voltage 10 V or more?	Check the connection of the sunload sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i194) No. 3 — 1:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

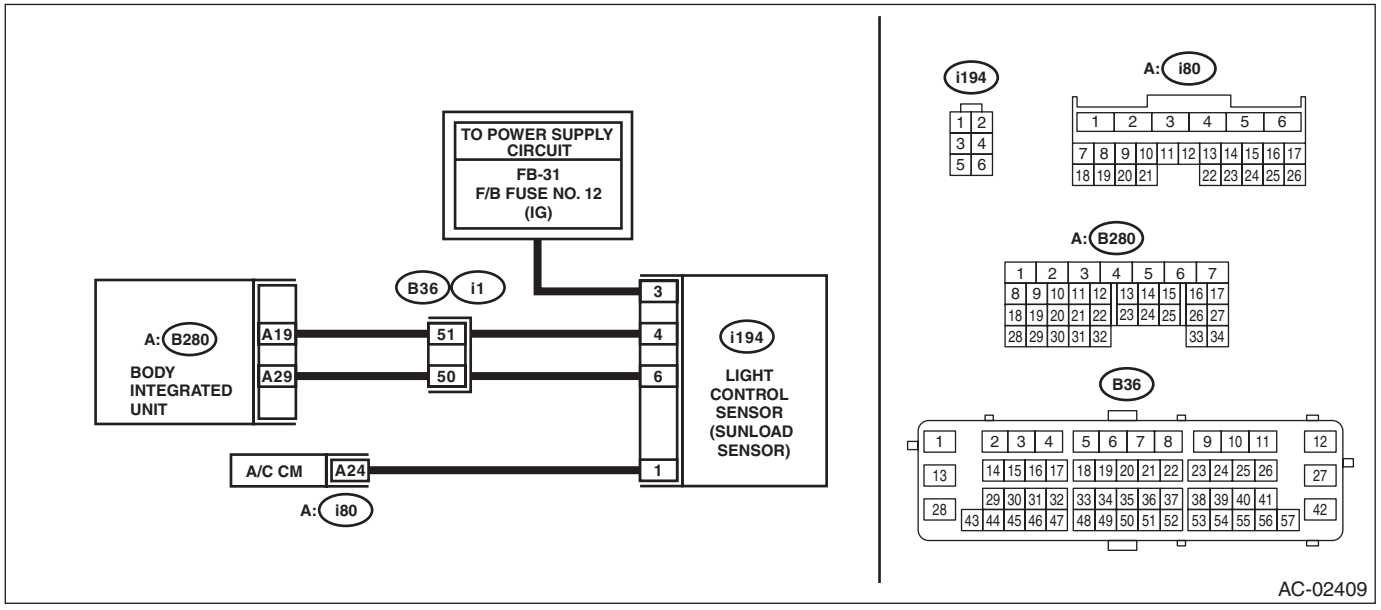
H: DTC B1608 SUNLOAD SENSOR OPEN

DTC DETECTING CONDITION:
Sunload sensor circuit is open. (Displayed for current malfunction)

NOTE:
When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor in direct sunlight.

TROUBLE SYMPTOM:
- Operation is performed as no sunload.
- DTC “B1608” Open circuit in sunload sensor was detected.
- DTC “25” Open circuit in sunload sensor was detected.
- DTC “45” Open circuit in sunload sensor (auto light control) was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



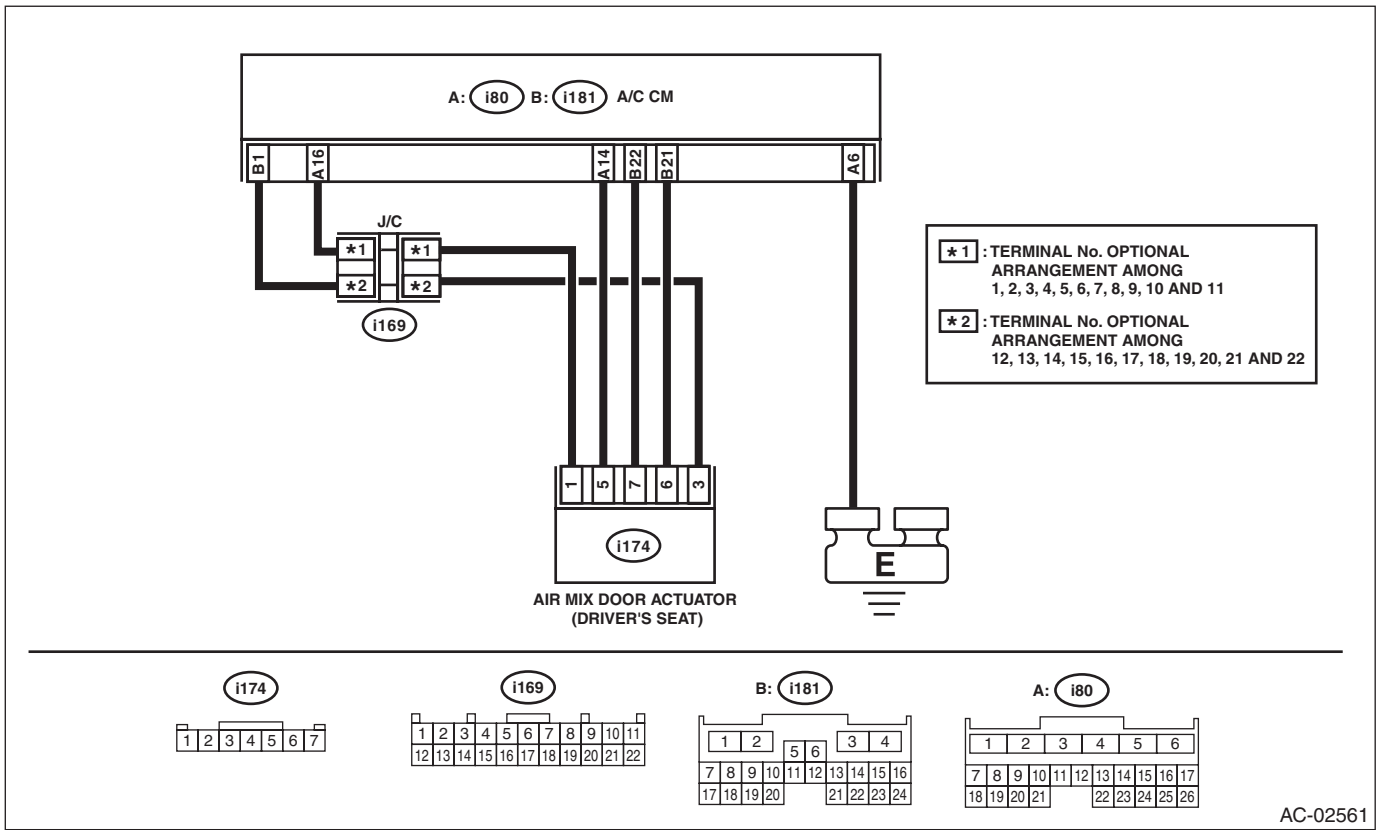
Step		Check	Yes	No
1	**CHECK CONNECTOR.** Read the DTC of the A/C CM using the Subaru Select Monitor.	Is B1608 displayed?	Go to step **2**.	Check the connection of the sunload sensor circuit.
2	**CHECK HARNESS.** 1) Disconnect the sunload sensor. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i194) No. 6 — Chassis ground:***	Is there continuity?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i194) No. 3 (+) — No. 6 (–):***	Is the voltage 10.0 — 14.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK SUNLOAD SENSOR.** 1) Connect the sunload sensor. 2) Turn the ignition switch to ON. 3) Using the tester, measure the voltage between terminals. **CAUTION:** **Because the sensor may not respond to weak light, use incandescent light for the inspection and bring it to 30 cm or less from the sensor.** ***Connector & terminal*** ***(i194) No. 1 (+) — No. 6 (–):***	0.8 V or less with no direct sunlight (covering the sensor with cloth), & 0.8 — 4.3 V±0.3 V (according to the intensity of the light) with the inspection light brought closer	Go to step **5**.	Replace the sunload sensor. <Ref. to AC-80, REMOVAL, Sunload Sensor (Auto A/C Model).>
5	**CHECK HARNESS.** 1) Disconnect the sunload sensor. 2) Disconnect the connector from A/C CM. 3) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i194) No. 1 — (i80) No. 24:***	Is there continuity?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** 1) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i194) No. 3 — (B280) No. 9:***	Is there continuity?	Repair or replace the open circuit of harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

I: DTC B1610 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (DRIVER'S)

DTC DETECTING CONDITION:
Air mix door actuator potentiometer circuit is open.
TROUBLE SYMPTOM:
- Temperature cannot be adjusted.
- Temperature of the driver's side cannot be adjusted for model with left/right independent air conditioner.
- DTC "B1610" Open circuit in air mix door actuator — potentiometer (driver's) was detected.
- DTC "26" Open circuit in air mix door actuator — potentiometer (driver's) was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



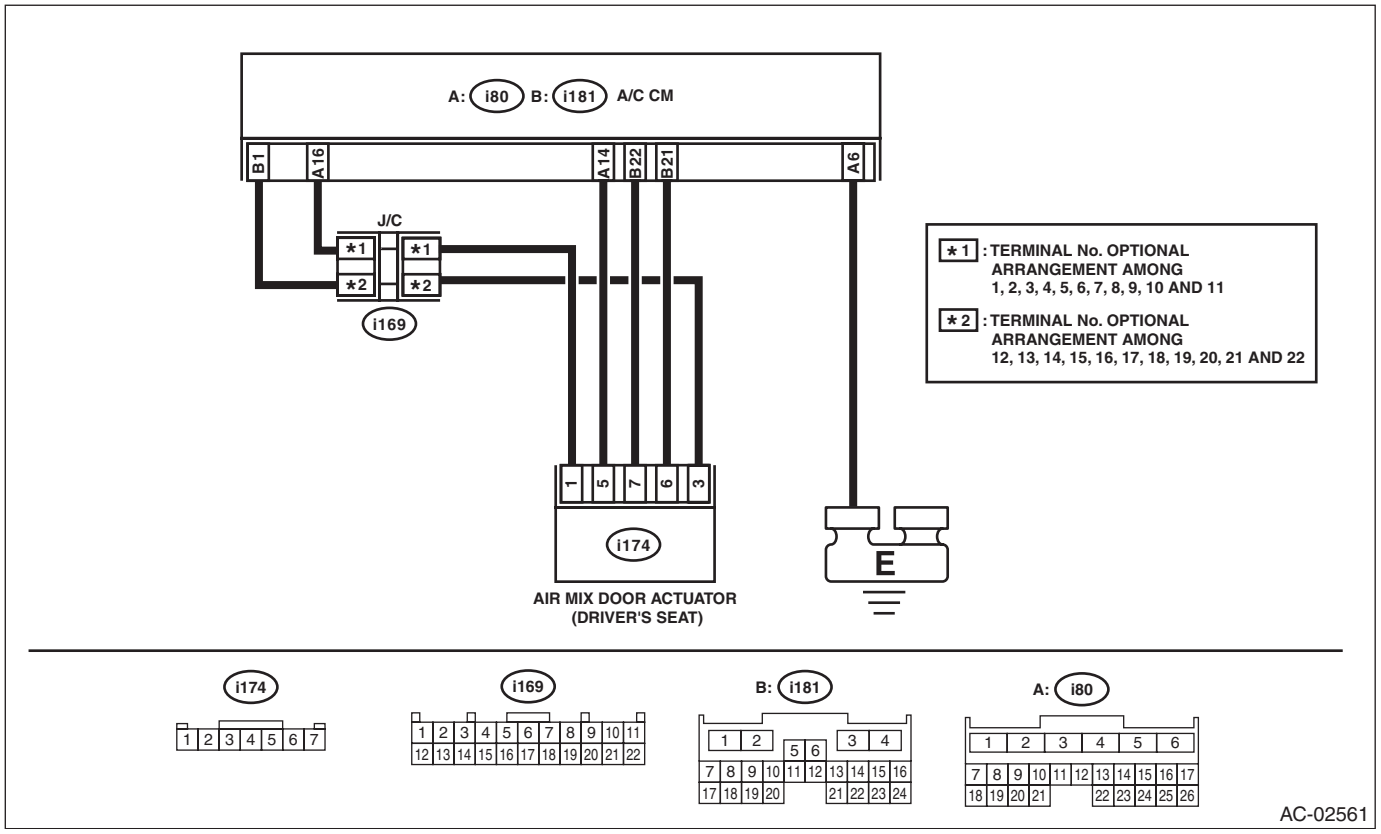
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1610 displayed?	Go to step **2**.	Repair the poor connection of the connector.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator (driver's). 2) Short No. 3 and No. 5 of i174 connector. 3) Read the DTC using Subaru Select Monitor.	Is B1611 displayed?	Replace the air mix door actuator (driver's). <Ref. to AC-95, REMOVAL, Air Mix Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i174) No. 1 (+) — No. 3 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 1 — (i80) No. 16:*** ***(i174) No. 3 — (i80) No. 1:*** ***(i174) No. 5 — (i80) No. 14:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

J: DTC B1611 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (DRIVER'S)

DTC DETECTING CONDITION:
Air mix door actuator potentiometer circuit is shorted.
TROUBLE SYMPTOM:
- Temperature cannot be adjusted.
- Temperature of the driver's side cannot be adjusted for model with left/right independent air conditioner.
- DTC "B1611" Short circuit in air mix door actuator — potentiometer (driver's) was detected.
- "27" Short circuit in air mix door actuator — potentiometer (driver's) was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1611 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator (driver's). 2) Read the DTC using Subaru Select Monitor.	Is B1610 displayed?	Replace the air mix door actuator (driver's). <Ref. to AC-95, REMOVAL, Air Mix Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 3 — (i174) No. 5:*** ***(i174) No. 5 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

K: DTC B1612 AIRMIX DOOR ACTUATOR LOCK (DRIVER'S)

DTC DETECTING CONDITION:

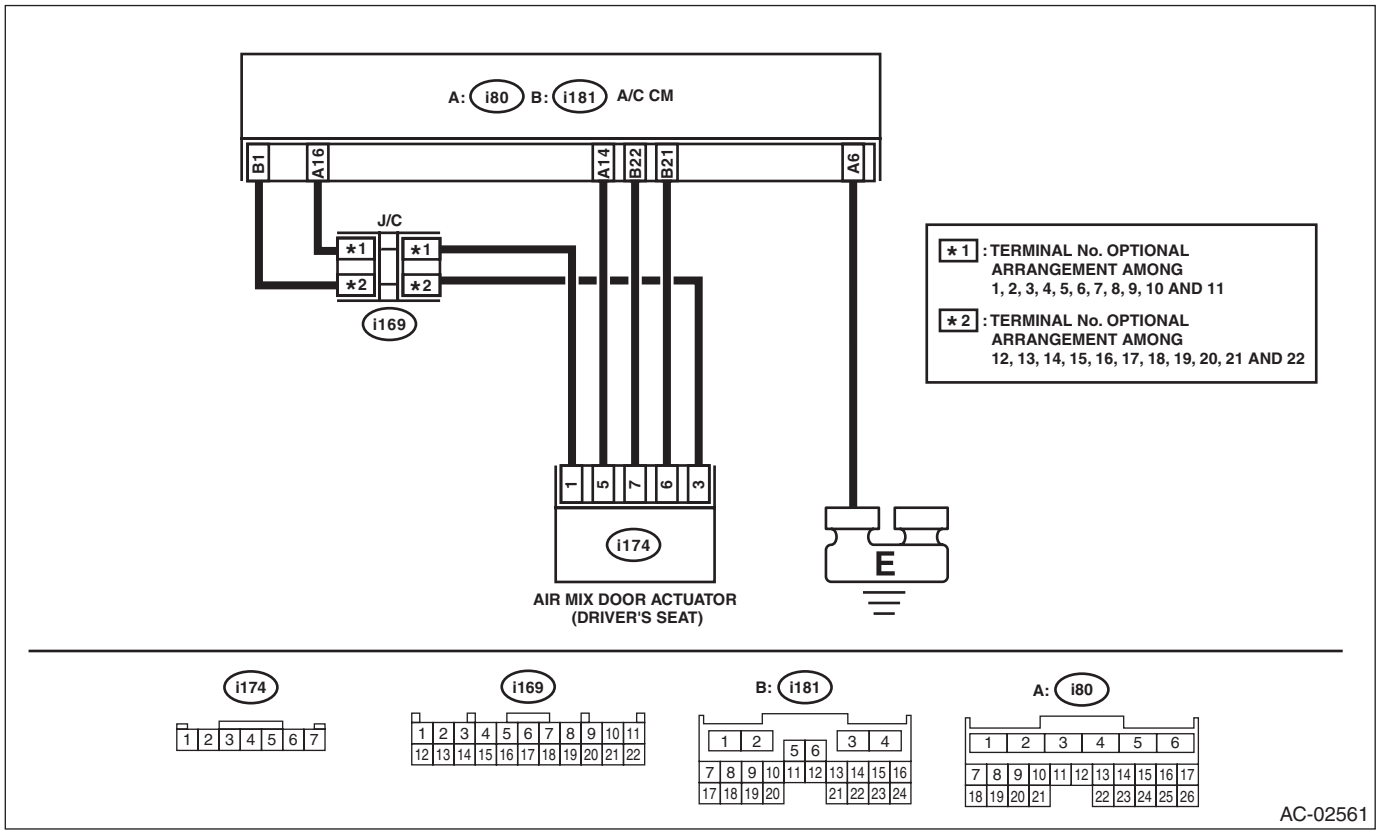
- Driver's air mix door actuator is locked.
- The potentiometer value of the actuator does not change.

TROUBLE SYMPTOM:

Temperature of the driver's side cannot be adjusted for model with left/right independent air conditioner.

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



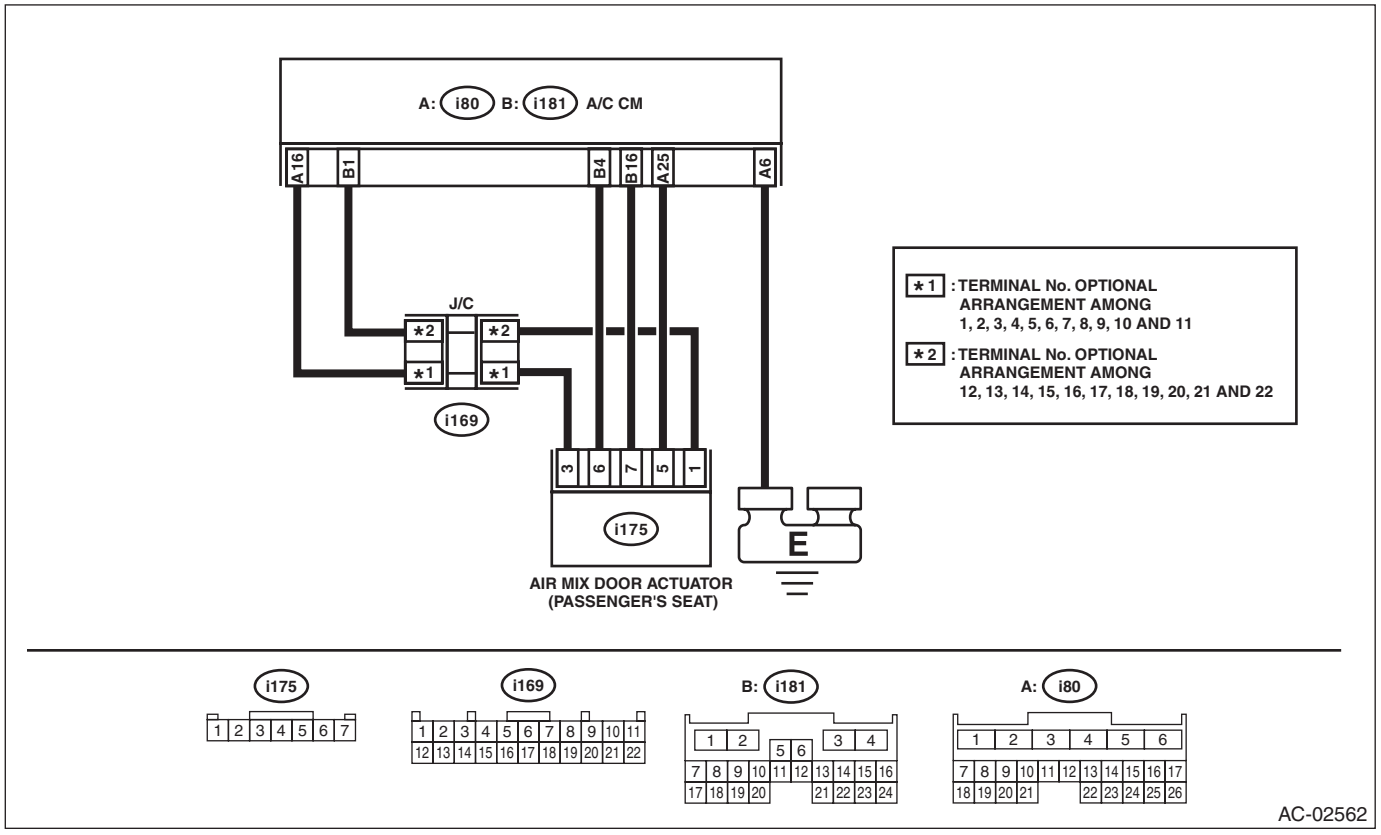
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1612 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change the setting of "Airmix Dr Act Trgt Open Angle (Driver's)" from the A/C diagnosis and perform the active test.	Did the actuator move to the specified target opening angle?	Air mix door actuator circuit is normal.	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i174) No. 1 (+) — No. 3 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open, short circuit of the harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i174) No. 5 — (i80) No. 14:*** ***(i174) No. 1 — (i80) No. 16:*** ***(i174) No. 3 — (i181) No. 1:*** ***(i174) No. 6 — (i181) No. 21:*** ***(i174) No. 7 — (i181) No. 22:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK AIR MIX DOOR ACTUATOR.** Check the air mix door actuator parts. <Ref. to AC-98, INSPECTION, Air Mix Door Actuator.>	Is air mix door actuator normal?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Replace the air mix door actuator. <Ref. to AC-95, REMOVAL, Air Mix Door Actuator.>

L: DTC B1613 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN (PASSENGER'S)

DTC DETECTING CONDITION:
Air mix door actuator potentiometer circuit is open.
TROUBLE SYMPTOM:
- Temperature of the passenger's side cannot be adjusted for model with left/right independent air conditioner.
- DTC "B1613" Open circuit in air mix door actuator — potentiometer (passenger's) was detected.
- DTC "-26" Open circuit in air mix door actuator — potentiometer (passenger's) was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1613 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator (passenger's). 2) Short No. 1 and No. 5 of connector i175. 3) Read the DTC using Subaru Select Monitor.	Is B1614 displayed?	Replace the air mix door actuator (passenger's). <Ref. to AC-95, REMOVAL, Air Mix Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i175) No. 3 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.

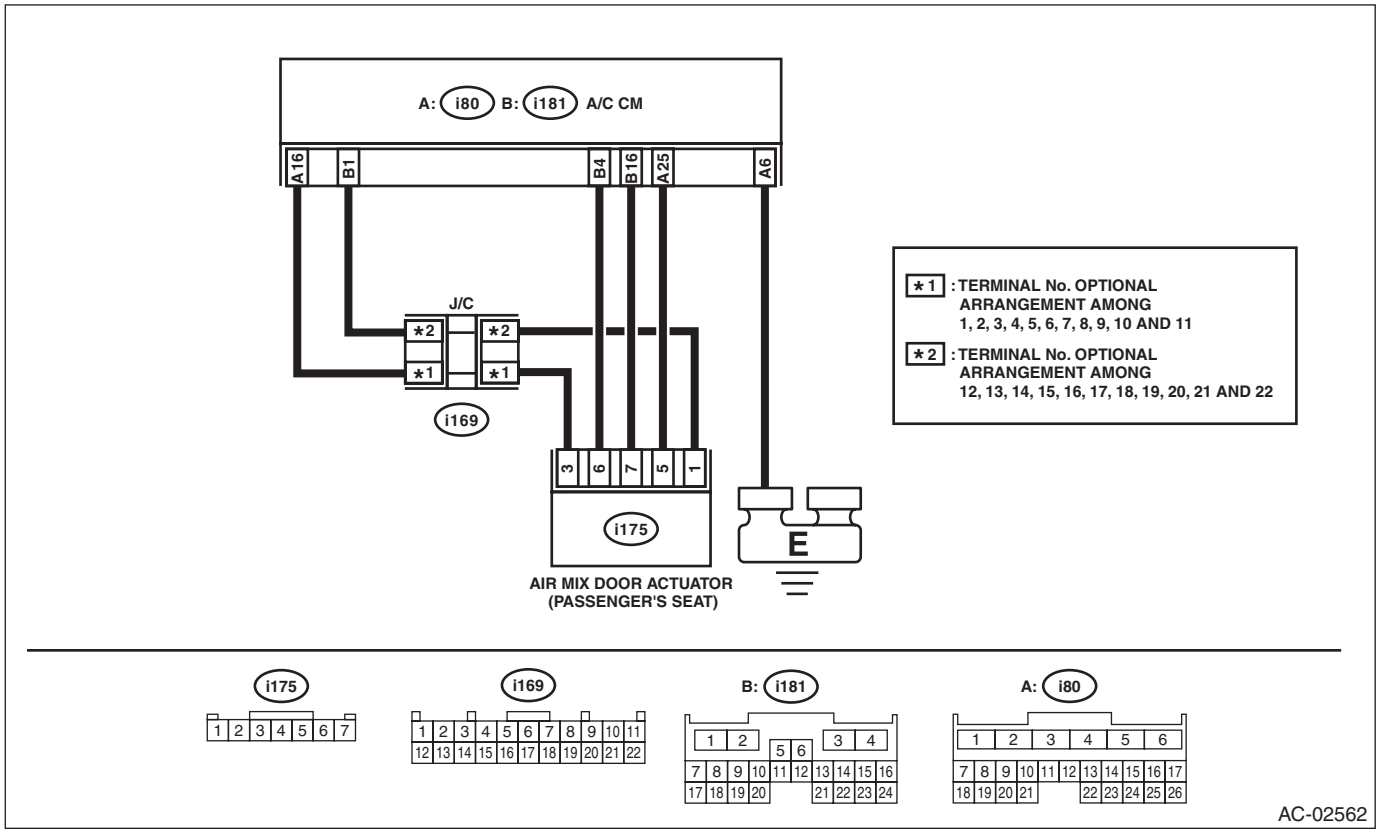
Step		Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i175) No. 1 — (i181) No. 1:*** ***(i175) No. 3 — (i80) No. 16:*** ***(i175) No. 5 — (i80) No. 25:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

M: DTC B1614 AIRMIX DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT (PASSENGER'S)

DTC DETECTING CONDITION:
Air mix door actuator potentiometer circuit is shorted.

TROUBLE SYMPTOM:
- Temperature of the passenger's side cannot be adjusted for model with left/right independent air conditioner.
- DTC "B1614" Short circuit in air mix door actuator — potentiometer (passenger's) was detected.
- DTC "-27" Short circuit in air mix door actuator — potentiometer (passenger's) was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1614 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the air mix door actuator (passenger's). 2) Read the DTC of the A/C ECM using the Subaru Select Monitor.	Is B1613 displayed?	Replace the air mix door actuator (passenger's). <Ref. to AC-95, REMOVAL, Air Mix Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i175) No. 3 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.

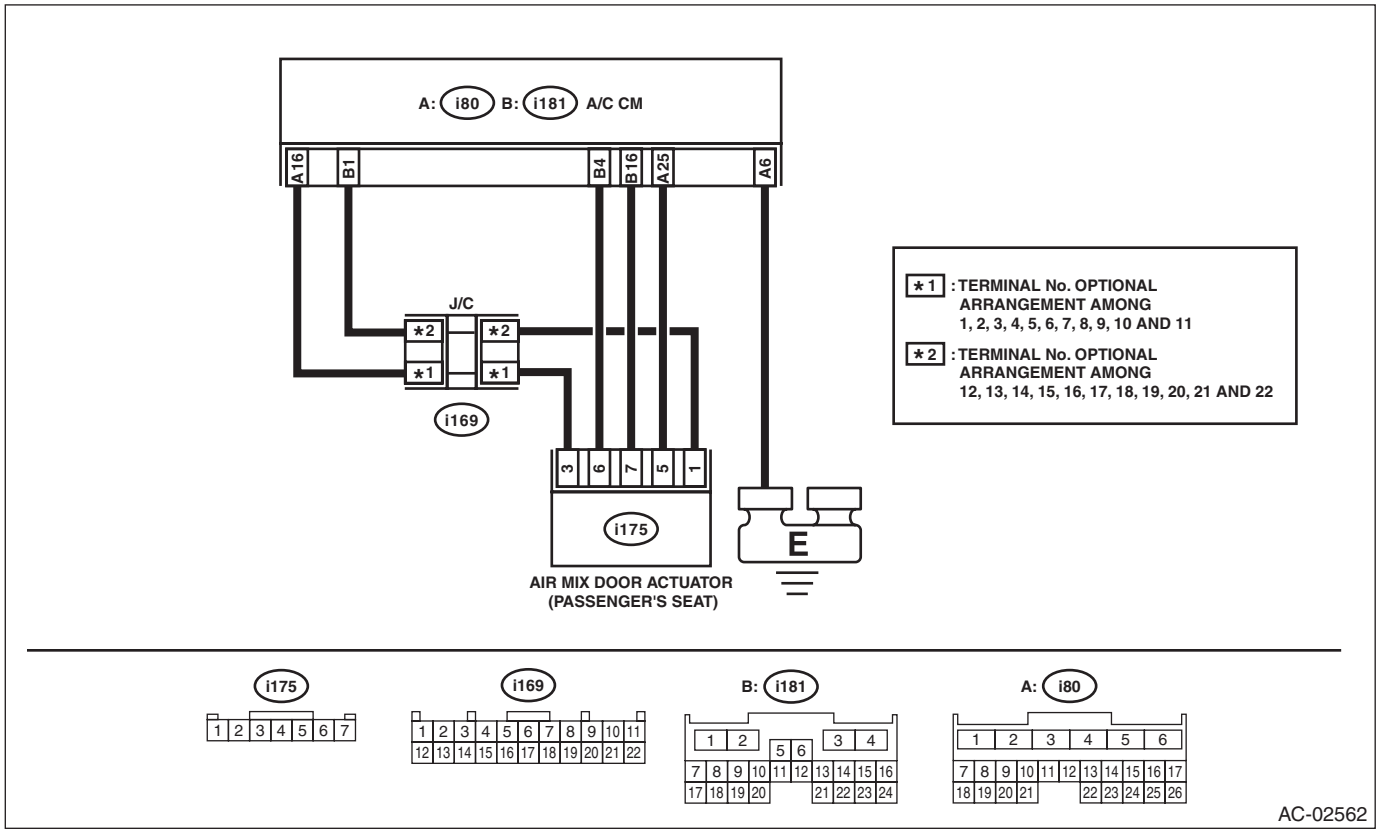
	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i175) No. 1 — No. 5:*** ***(i175) No. 5 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

N: DTC B1615 AIRMIX DOOR ACTUATOR LOCK (PASSENGER'S)

DTC DETECTING CONDITION:
Passenger's air mix door actuator is locked.

TROUBLE SYMPTOM:
- Temperature of the passenger's side cannot be adjusted for model with left/right independent air conditioner.
- DTC "B1615" Air mix door actuator — lock (passenger's) was detected.
- DTC "48" Air mix door actuator — lock (passenger's) was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1615 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change the setting of "Airmix Dr Act Trgt Open Angle (Pas's)" from the A/C diagnosis and perform the active test.	Did the actuator move to the specified target opening angle?	Air mix door actuator circuit is normal.	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i175) No. 3 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open, short circuit of the harness.

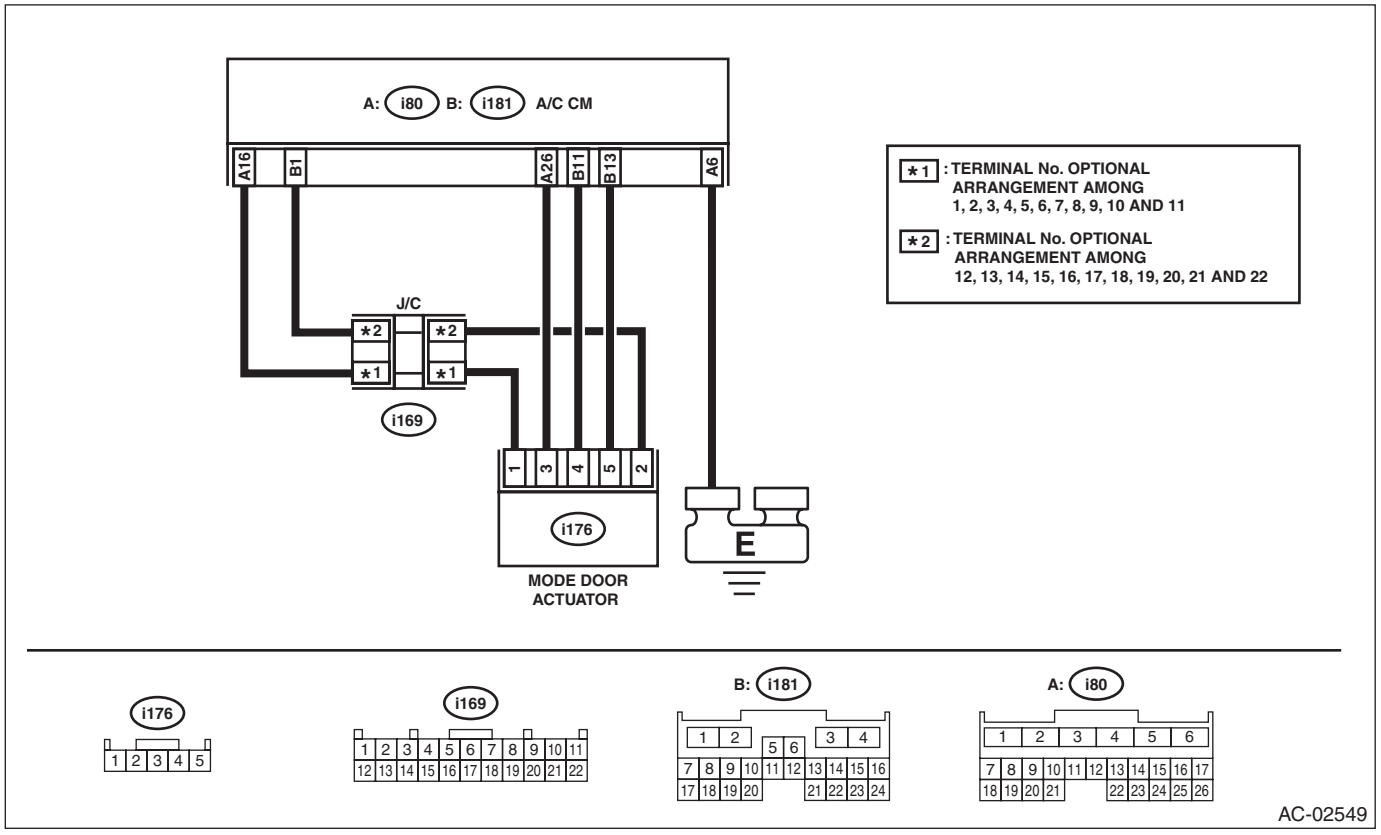
	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i175) No. 5 — (i80) No. 25:*** ***(i175) No. 3 — (i80) No. 16:*** ***(i175) No. 1 — (i181) No. 1:*** ***(i175) No. 7 — (i181) No. 16:*** ***(i175) No. 6 — (i181) No. 4:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK AIR MIX DOOR ACTUATOR.** Check the air mix door actuator parts. <Ref. to AC-98, INSPECTION, Air Mix Door Actuator.>	Is air mix door actuator normal?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Replace the air mix door actuator. <Ref. to AC-95, REMOVAL, Air Mix Door Actuator.>

O: DTC B1620 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN

DTC DETECTING CONDITION:
Mode door actuator potentiometer circuit is open.

TROUBLE SYMPTOM:
- Vent does not change.
- DTC “B1620” Open circuit in mode door actuator potentiometer was detected.
- DTC “28” Open circuit in mode door actuator potentiometer was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1620 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the mode door actuator. 2) Short No. 2 and No. 3 of (i176) connector. 3) Read the DTC using Subaru Select Monitor.	Is B1621 displayed?	Replace the mode door actuator. <Ref. to AC-92, REMOVAL, Mode Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (i176) No. 1 (+) — No. 2 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair the open circuit of harness.

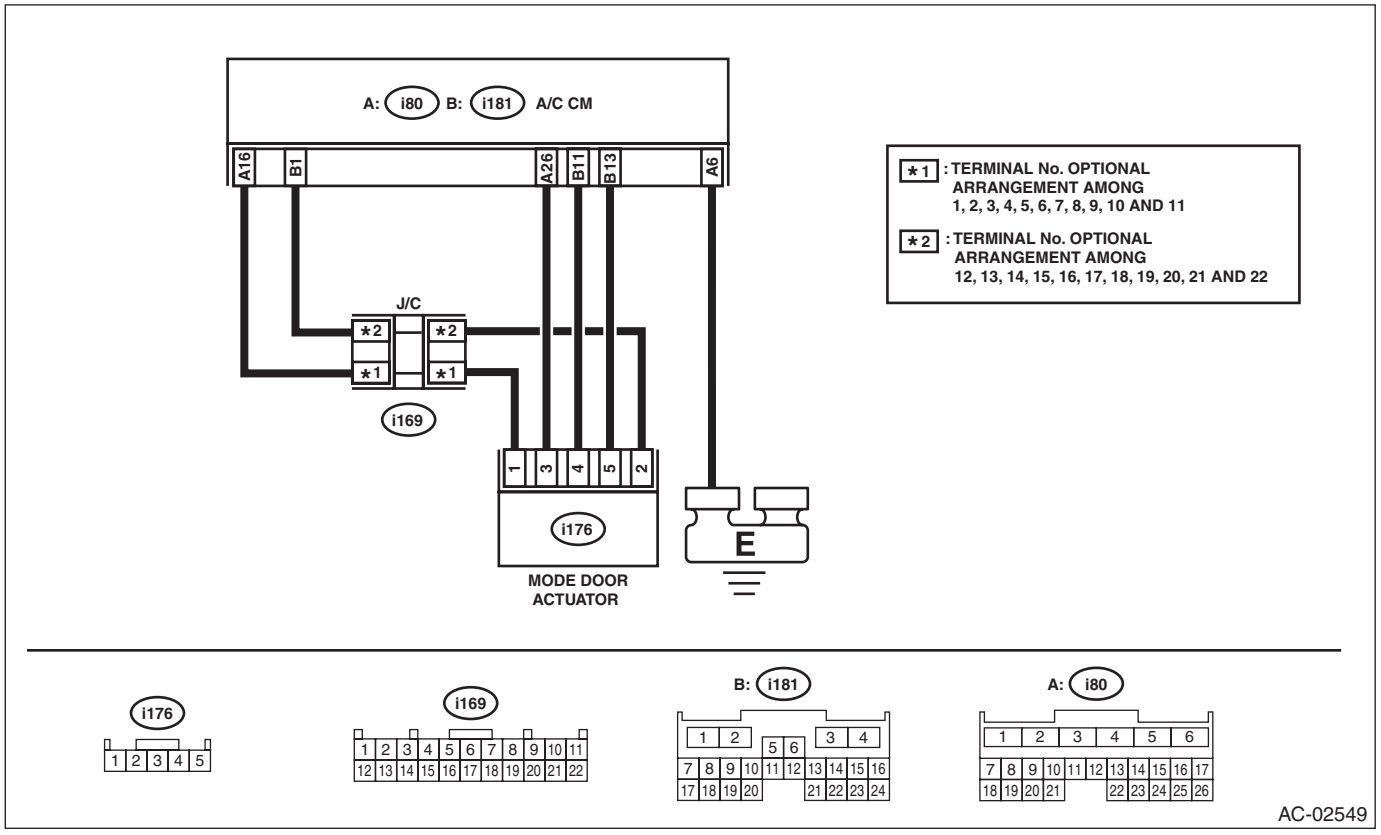
	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i176) No. 1 — (i80) No. 16:*** ***(i176) No. 2 — (i181) No. 1:*** ***(i176) No. 3 — (i80) No. 26:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

P: DTC B1621 MODE DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT

DTC DETECTING CONDITION:
Mode door actuator potentiometer circuit is shorted.

TROUBLE SYMPTOM:
- Vent does not change.
- DTC “B1621” Short circuit in mode door actuator potentiometer was detected.
- DTC “29” Short circuit in mode door actuator potentiometer was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



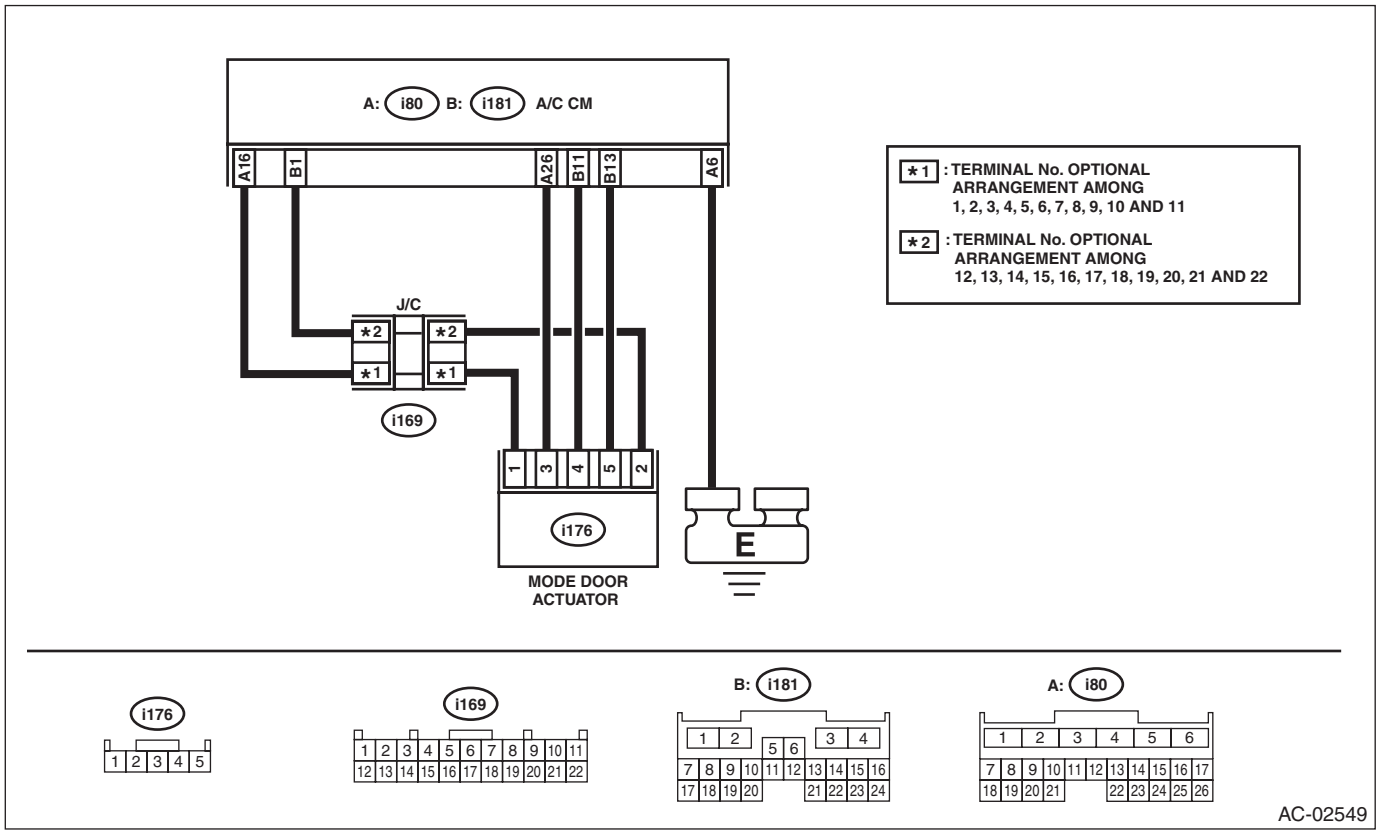
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1621 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the mode door actuator. 2) Read the DTC using Subaru Select Monitor.	Is B1620 displayed?	Replace the mode door actuator. <Ref. to AC-92, REMOVAL, Mode Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i176) No. 2 — No. 3:*** ***(i176) No. 3 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

Q: DTC B1622 MODE DOOR ACTUATOR LOCK

DTC DETECTING CONDITION:
Mode door actuator locked.

TROUBLE SYMPTOM:
- DTC “B1622” Mode door actuator lock was detected.
- DTC “49” Mode door actuator lock was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



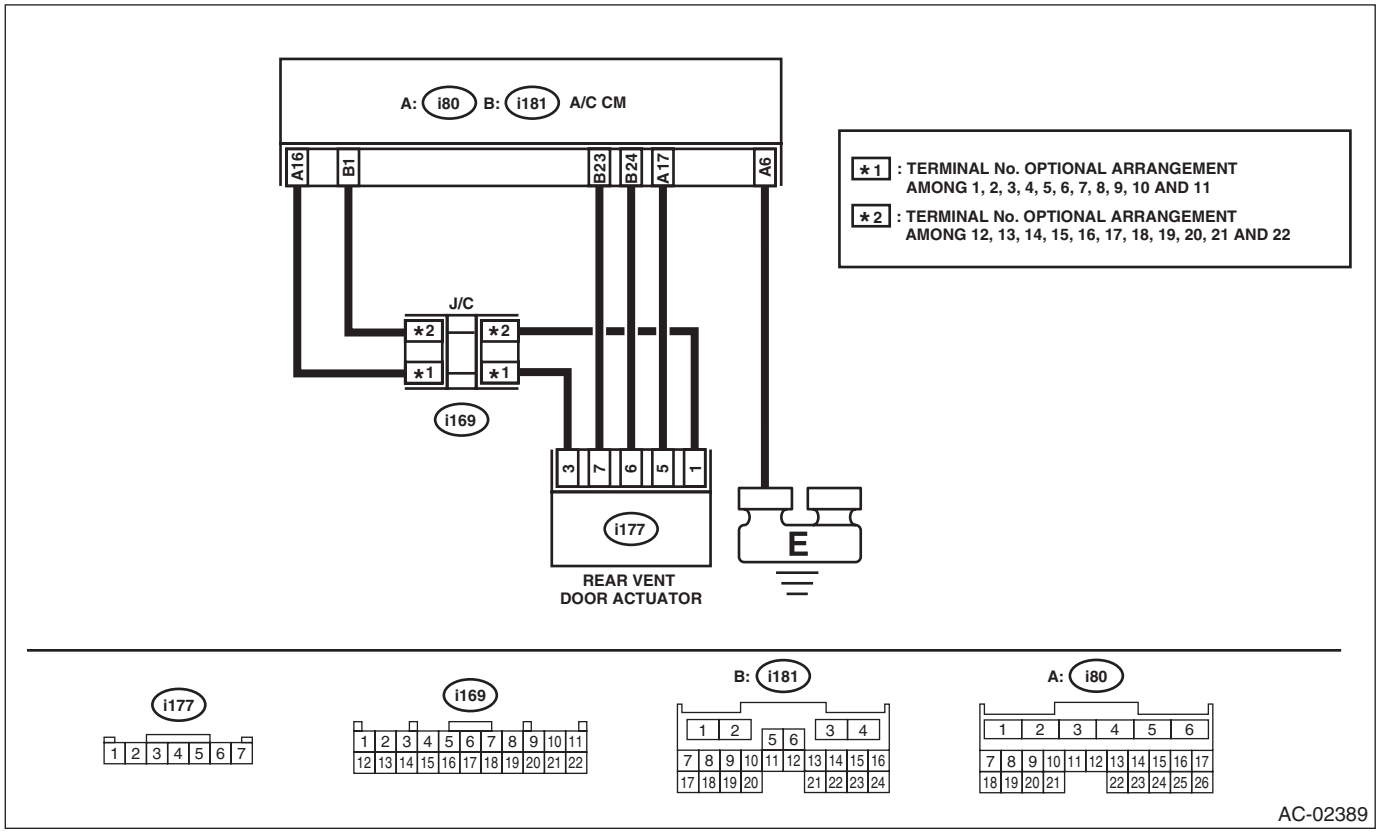
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1622 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change the setting of “Mode Door Actuator Position Target” from the A/C diagnosis and perform the active test.	Did the actuator move to the specified target opening angle?	Mode door actuator circuit is normal.	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (i176) No. 1 (+) — No. 2 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open, short circuit of the harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i176) No. 3 — (i80) No. 26:*** ***(i176) No. 1 — (i80) No. 16:*** ***(i176) No. 2 — (i181) No. 1:*** ***(i176) No. 4 — (i181) No. 11:*** ***(i176) No. 5 — (i181) No. 13:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK MODE DOOR ACTUATOR.** Check the mode door actuator parts. <Ref. to AC-93, INSPECTION, Mode Door Actuator.>	Is the mode door actuator OK?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Replace the mode door actuator. <Ref. to AC-92, REMOVAL, Mode Door Actuator.>

R: DTC B1630 REAR VENT DOOR ACTUATOR POTENTIOMETER CIRCUIT OPEN

DTC DETECTING CONDITION:
Rear vent door actuator potentiometer circuit is open.
TROUBLE SYMPTOM:
- Unable to control the rear vent temperature.
- DTC “B1630” Open circuit in rear vent door actuator potentiometer was detected.
- DTC “41” Open circuit in rear vent door actuator potentiometer was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



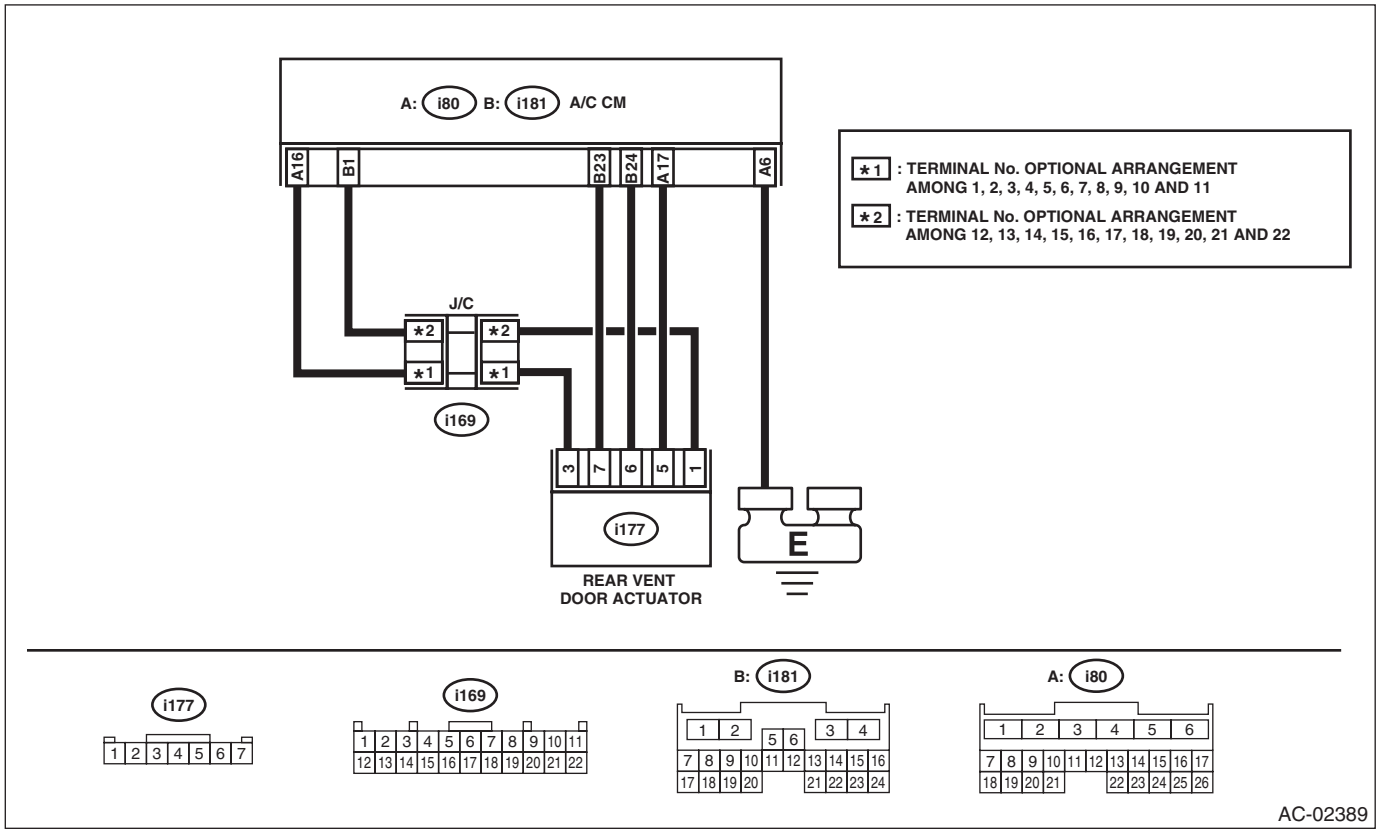
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1630 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the rear vent door actuator. 2) Short No. 1 and No. 5 of (i177) connector. 3) Read the DTC using Subaru Select Monitor.	Is B1631 displayed?	Replace the rear vent door actuator. <Ref. to AC-100, REMOVAL, Rear Vent Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i177) No. 3 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i177) No. 3 — (i80) No. 16:*** ***(i177) No. 1 — (i181) No. 1:*** ***(i177) No. 5 — (i80) No. 17:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

S: DTC B1631 REAR VENT DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT

DTC DETECTING CONDITION:
Rear vent door actuator potentiometer circuit is shorted.
TROUBLE SYMPTOM:
- Unable to control the rear vent temperature.
- DTC “B1631” Short circuit in rear vent door actuator potentiometer was detected.
- DTC “-41” Short circuit in rear vent door actuator potentiometer was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



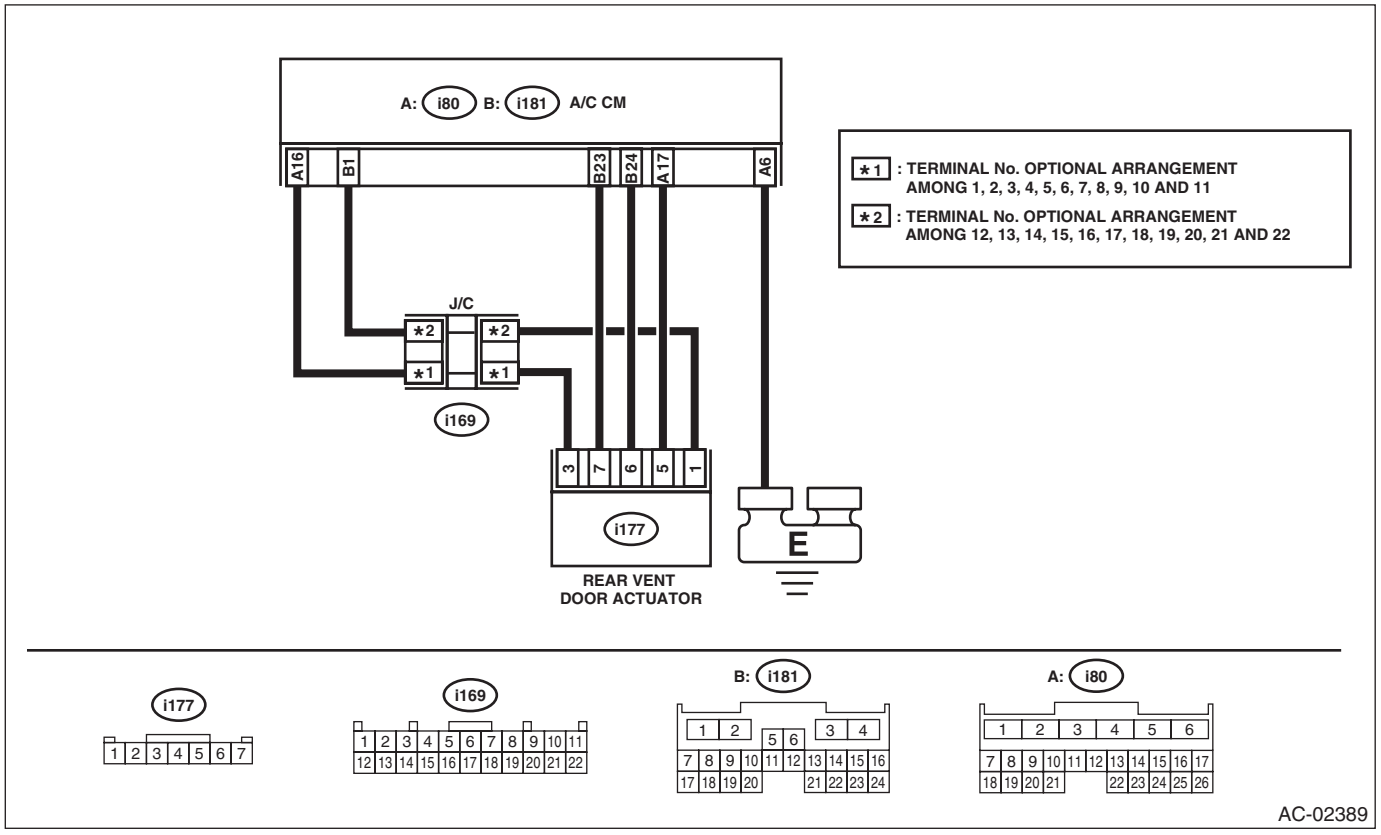
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1631 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Disconnect the rear vent door actuator. 2) Read the DTC using Subaru Select Monitor.	Is B1631 displayed?	Replace the rear vent door actuator. <Ref. to AC-100, REMOVAL, Rear Vent Door Actuator.>	Go to step **3**.
3	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i177) No. 5 — (i177) No. 1:*** ***(i177) No. 5 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

T: DTC B1632 REAR VENT DOOR ACTUATOR LOCK

DTC DETECTING CONDITION:
Rear vent door actuator is locked.

TROUBLE SYMPTOM:
- Unable to control the rear vent temperature.
- DTC “B1632” Rear vent door actuator lock was detected.
- DTC “52” Rear vent door actuator lock was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1632 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change and perform “Rear Vent Actuator Position Target” of the active test from the A/C diagnosis.	Did the actuator move to the specified target opening angle?	Rear vent door actuator circuit is normal.	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using a tester, check the voltage between terminals. ***Connector & terminal*** ***(i177) No. 3 (+) — (i80) No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open, short circuit of the harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from A/C CM. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i177) No. 5 — (i80) No. 17:*** ***(i177) No. 3 — (i80) No. 16:*** ***(i177) No. 1 — (i181) No. 1:*** ***(i177) No. 7 — (i181) No. 23:*** ***(i177) No. 6 — (i181) No. 24:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK REAR VENT DOOR ACTUATOR.** Check the rear vent door actuator parts. <Ref. to AC-101, INSPECTION, Rear Vent Door Actuator.>	Is the rear vent door actuator normal?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Replace the rear vent door actuator. <Ref. to AC-100, REMOVAL, Rear Vent Door Actuator.>

U: DTC B1635 OUT SIDE TEMPERATURE SENSOR CIRCUIT ABNORMALITY (AIR CONDITIONER)

DTC DETECTING CONDITION:

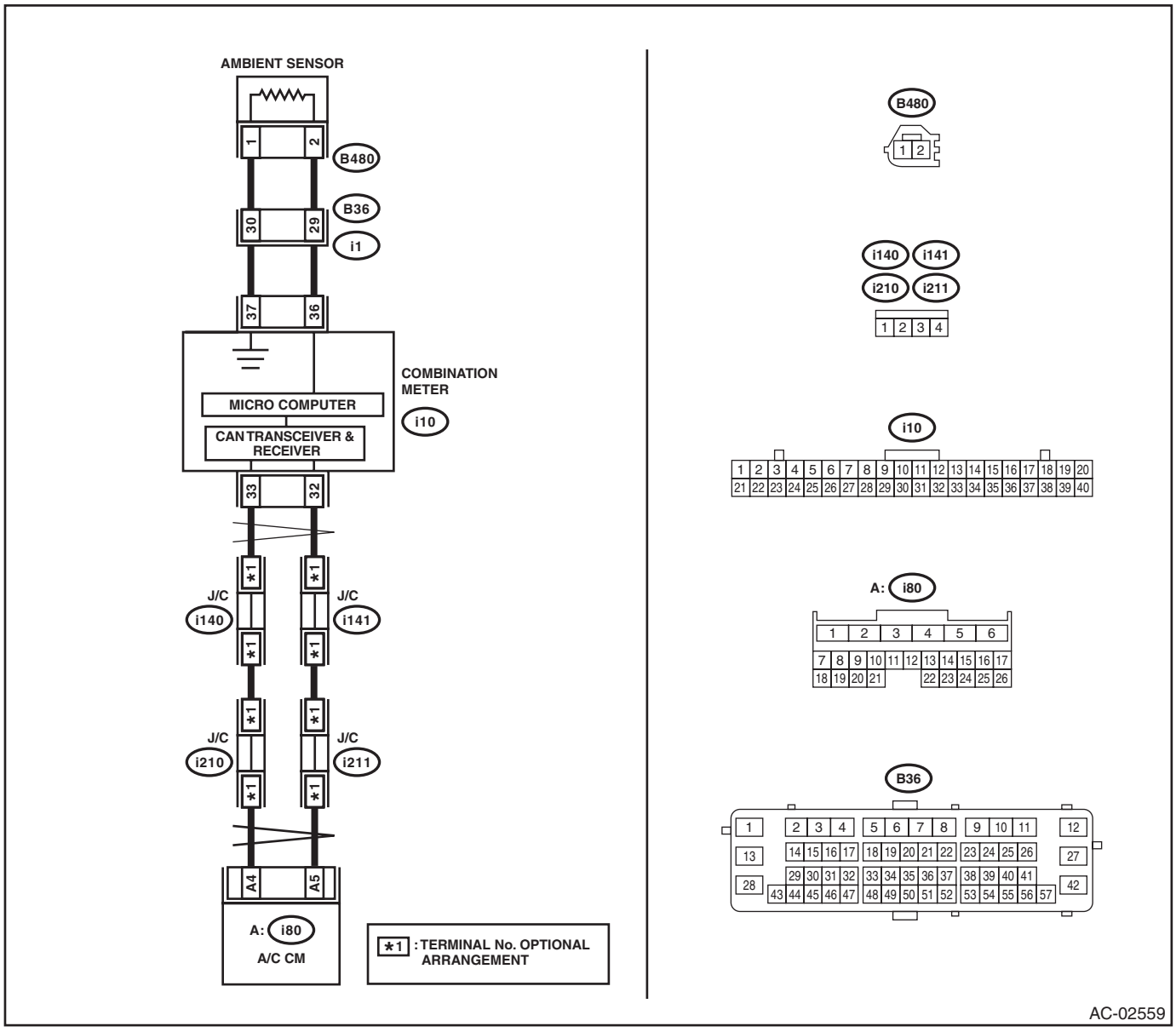
- Ambient sensor to combination meter circuit is shorted or open.
- Data to be received from the combination meter via CAN communication do not arrive.

TROUBLE SYMPTOM:

- Ambient temperature is falsely recognized as 15.2°C, and the compartment temperature is adjusted.
- DTC “22” Faulty ambient sensor, or communication failure was detected.
- DTC “B1635” OUT SIDE TEMPERATURE SENSOR CIRCUIT ABNORMALITY was detected. Or, DTC “U0002” CAN COMMUNICATION ERROR was detected along with DTC “B1635”.

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK FOR POOR CONTACT.** Check the A/C CM connector (i80) for poor contact.	Is there poor contact of connector?	Repair the connector.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Turn the ignition switch to ON. 3) Read the DTC of the CAN system using the Subaru Select Monitor.	Is DTC displayed?	Perform the diagnosis according to the DTC. <Ref. to LAN(diag)-54, List of Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK CAN COMMUNICATION CIRCUIT.** Check the CAN communication circuit. <Ref. to LAN(diag)-11, CAN Communication Circuit Check.>	Is the CAN communication circuit normal?	Go to step **4**.	Repair the CAN communication circuit. <Ref. to LAN(diag)-4, LAN SYSTEM, CAUTION, General Description.>
4	**CHECK INPUT SIGNAL FOR AMBIENT SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between terminals of ambient sensor connector (F138). Disconnect the connector. ***Connector & terminal*** ***(B480) No. 2 (+) — No. 1 (–):***	Is the voltage approx. 5 V?	Go to step **5**.	Check the ambient sensor. <Ref. to AC-79, INSPECTION, Ambient Sensor.>
5	**CHECK COMBINATION METER OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Pull out the combination meter. 3) Disconnect the ambient sensor connector (F138). 4) Turn the ignition switch to ON. 5) Measure the voltage between terminals of combination meter connector (i10). ***Connector & terminal*** ***(i10) No. 36 (+) — No. 37 (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Check the combination meter. <Ref. to IDI-7, Combination Meter System.>
6	**CHECK HARNESS CONNECTOR BETWEEN COMBINATION METER AND AMBIENT SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector (i10). 3) Measure the resistance of harness between combination meter connector (i10) and ambient sensor connector (B480). ***Connector & terminal*** ***(B480) No. 2 — (i10) No. 36:*** ***(B480) No. 1 — (i10) No. 37:***	Is the resistance less than 1 Ω?	Ambient sensor circuit is normal.	Repair the open circuit of the harness between the combination meter and ambient sensor.

V: DTC B1641 REFRIGERANT FLOW SENSOR CIRCUIT SHORT

DTC DETECTING CONDITION:

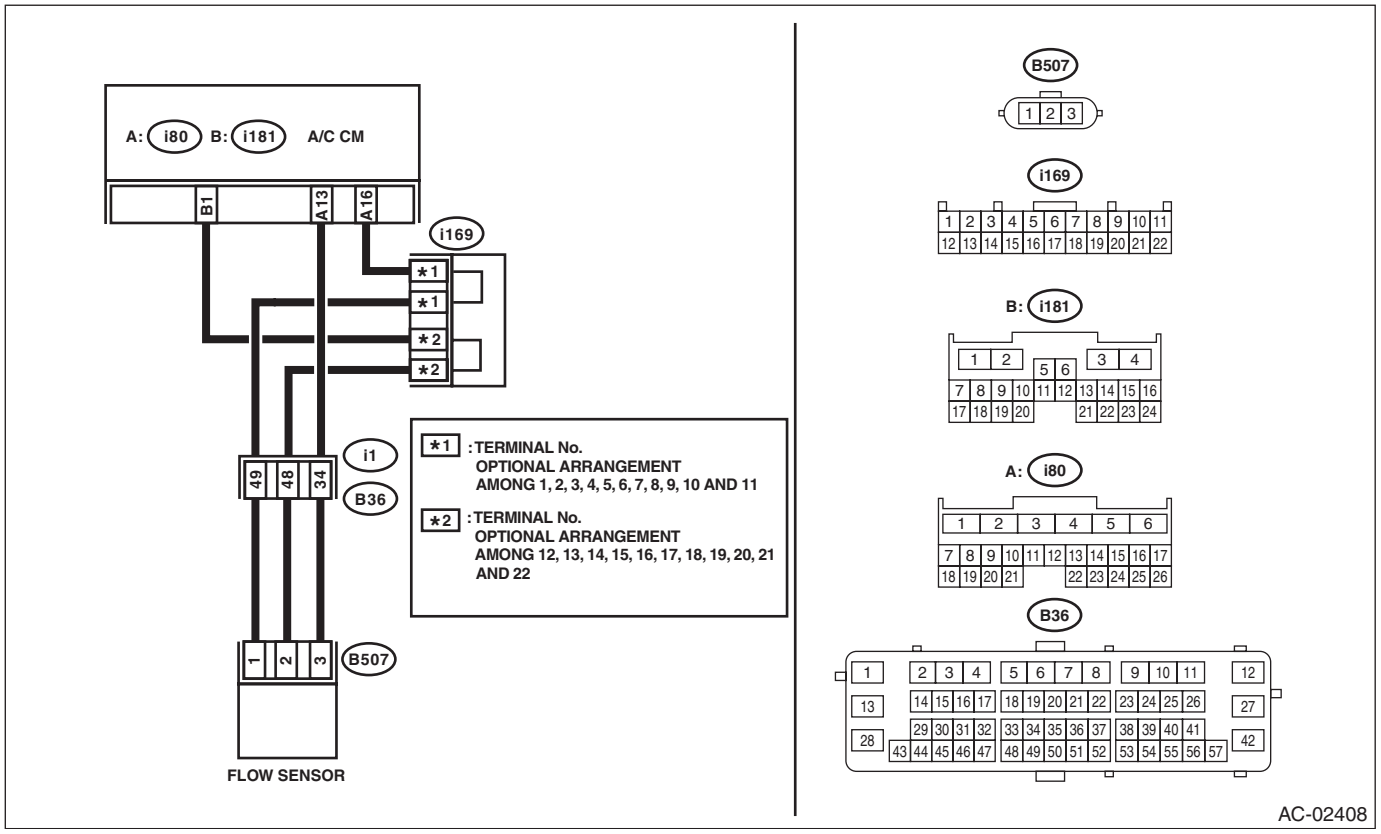
- The voltage of the sensor signal line decreased to 0.3 V or less.
- Short-circuit in flow sensor circuit

TROUBLE SYMPTOM:

- A/C does not function because refrigerant flow amount cannot be measured.
- DTC “B1641” Short-circuit in refrigerant flow sensor was detected.
- DTC “-43” Short-circuit in refrigerant flow sensor was detected.

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the connecting condition of connector. 2) Read the DTC using Subaru Select Monitor.	Is B1641 displayed?	Go to step **2**.	Repair the poor connection of the connector.
2	**CHECK FLOW SENSOR.** 1) Disconnect the refrigerant flow sensor connector. 2) Read the DTC using Subaru Select Monitor.	Is B1642 displayed?	Replace the compressor. <Ref. to AC-55, REMOVAL, Compressor.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the A/C CM connector. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 2 — (B507) No. 3:*** ***(B507) No. 3 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

W: DTC B1642 REFRIGERANT FLOW SENSOR CIRCUIT OPEN

DTC DETECTING CONDITION:

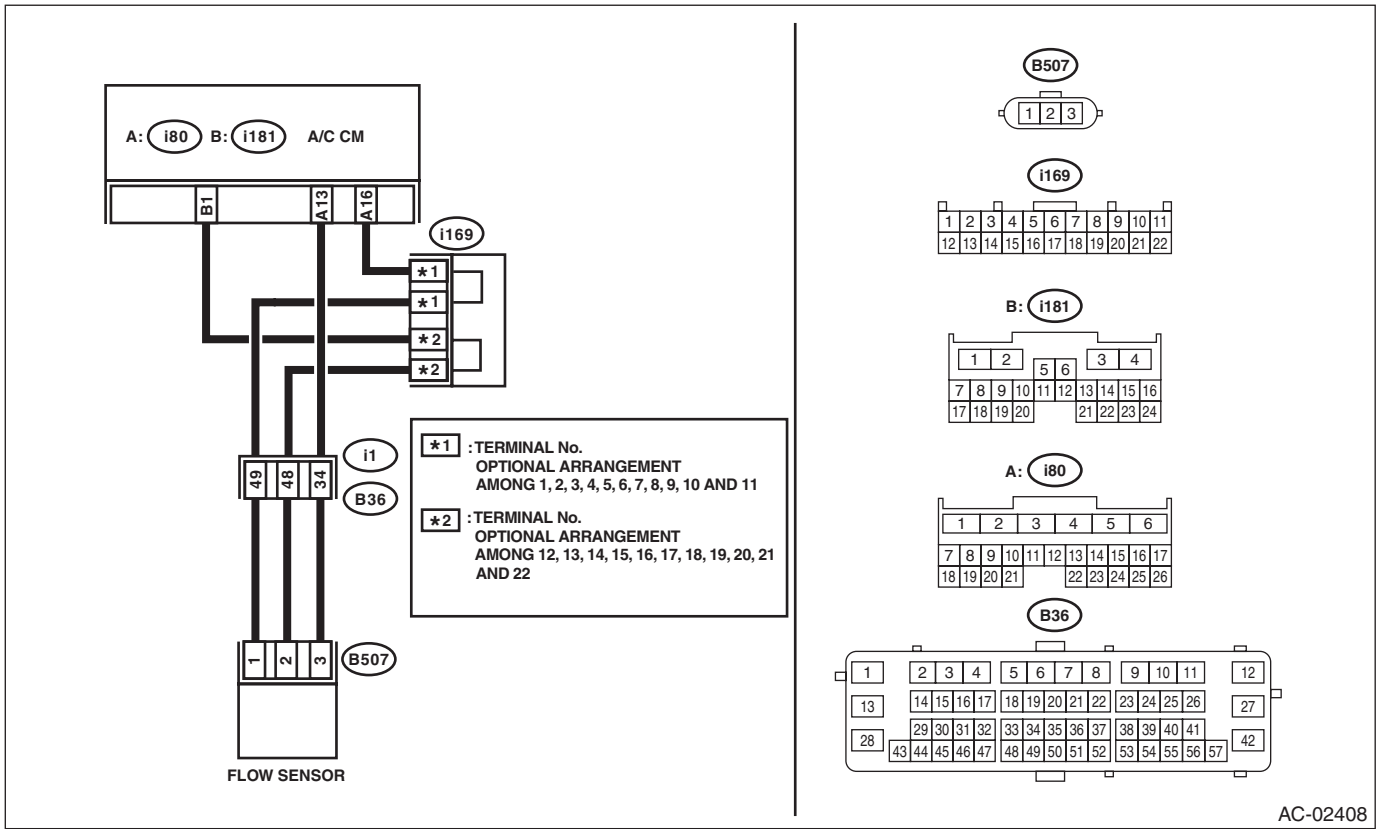
- The voltage of the sensor signal line increased to 4.7 V or more.
- Short-circuit in flow sensor circuit

TROUBLE SYMPTOM:

- A/C does not function because refrigerant flow amount cannot be measured.
- DTC “B1642” Open circuit in refrigerant flow sensor was detected.
- DTC “43” Open circuit in refrigerant flow sensor was detected.

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



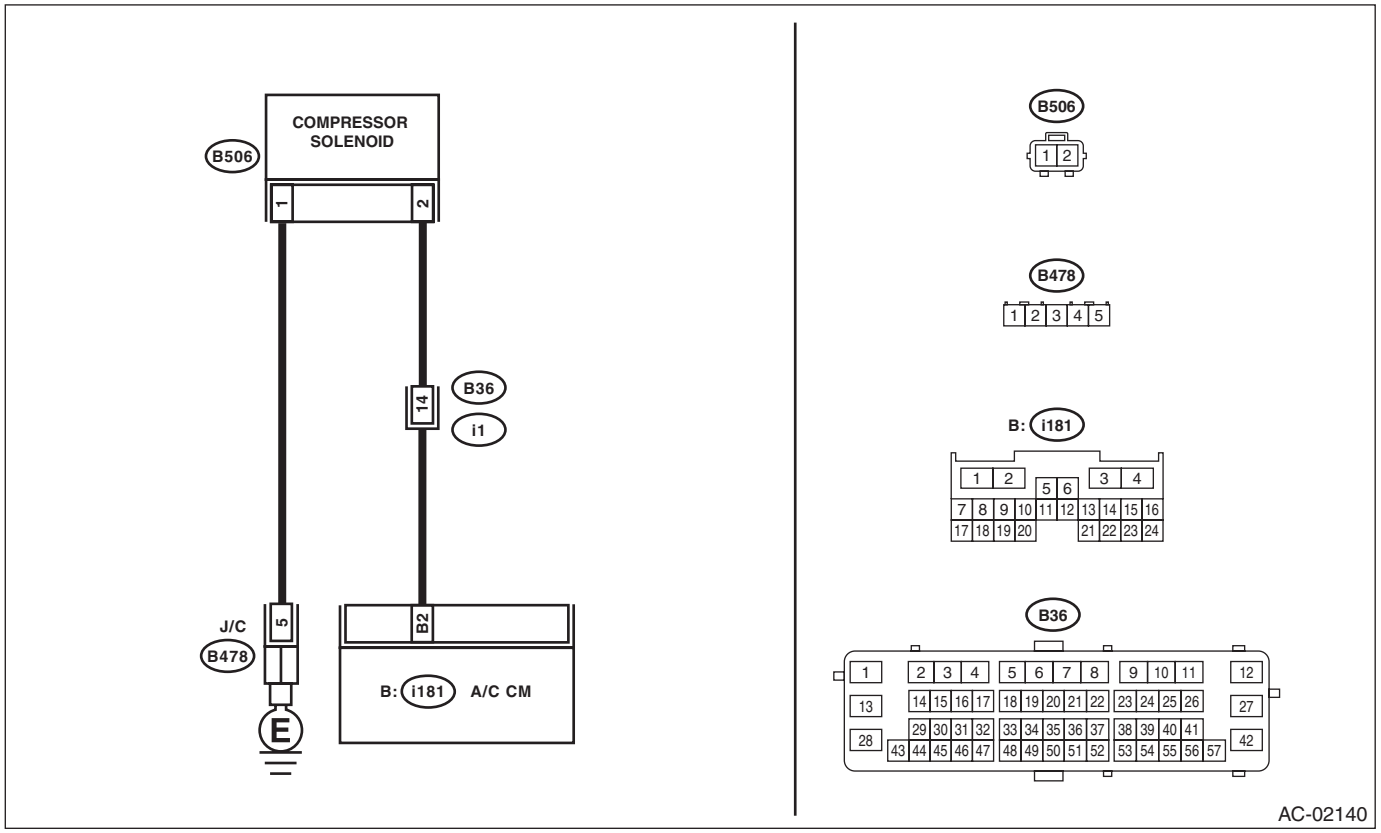
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the connecting condition of connector. 2) Read the DTC using Subaru Select Monitor.	Is B1642 displayed?	Go to step **2**.	Repair the poor connection of the connector.
2	**CHECK FLOW SENSOR.** 1) Disconnect the flow sensor connector. 2) Short No. 2 and No. 3 of the flow sensor connector (B507). 3) Read the DTC using Subaru Select Monitor.	Is B1641 displayed?	Replace the compressor. <Ref. to AC-55, REMOVAL, Compressor.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (B507) No. 1 (+) — No. 2 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the A/C CM connector. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B507) No. 3 — (i80) No. 13:*** ***(B507) No. 2 — (i181) No. 1:*** ***(B507) No. 1 — (i80) No. 16:***	Is there continuity?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Repair or replace the open circuit of harness.

X: DTC B1643 VARIABLE FLOW CHANGE SOLENOID DUTY CIRCUIT ABNORMAL

DTC DETECTING CONDITION:
Open or short circuit in variable solenoid valve
TROUBLE SYMPTOM:
- Refrigerant pressure cannot be changed.
- DTC “B1643” Variable flow change solenoid duty circuit failure was detected.
- DTC “46” Variable flow change solenoid duty circuit failure was detected.

WIRING DIAGRAM:
Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK CONNECTOR.** Check the connecting condition of connectors (B506), (B36), (i181) and (B479).	Is there poor contact?	Repair the poor contact of connector.	Go to step **2**.
2	**ACTIVE TEST.** 1) Attach the manifold gauge. 2) Using the Subaru Select Monitor, change the setting of “Variable Flow Change Sol Duty Setting” from the A/C diagnosis and perform the active test.	Did the actuator operate to the specified target, and the pressure change?	Variable flow change solenoid circuit is normal.	Go to step **3**.
3	**CHECK VARIABLE FLOW CHANGE SOLENOID.** 1) Disconnect the variable flow change solenoid connector. 2) Using a tester, measure the resistance between terminals of the solenoid. ***Connector & terminal*** ***(B506) No. 1 — No. 2:***	Is the resistance 10 — 12 Ω?	Go to step **4**.	Replace the compressor. <Ref. to AC-55, REMOVAL, Compressor.>

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the A/C CM connector. 2) Using a tester, check for continuity between the harness terminals. ***Connector & terminal*** ***(B506) No. 2 — (i181) No. 2:*** ***(B506) No. 1 — Chassis ground:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, check for continuity between the harness terminals. ***Connector & terminal*** ***(B506) No. 2 — Chassis ground:*** ***(B506) No. 1 — (B506) No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

Y: DTC B1644 REFRIGERANT NOT SEALED DRIVE ERROR

DTC DETECTING CONDITION:

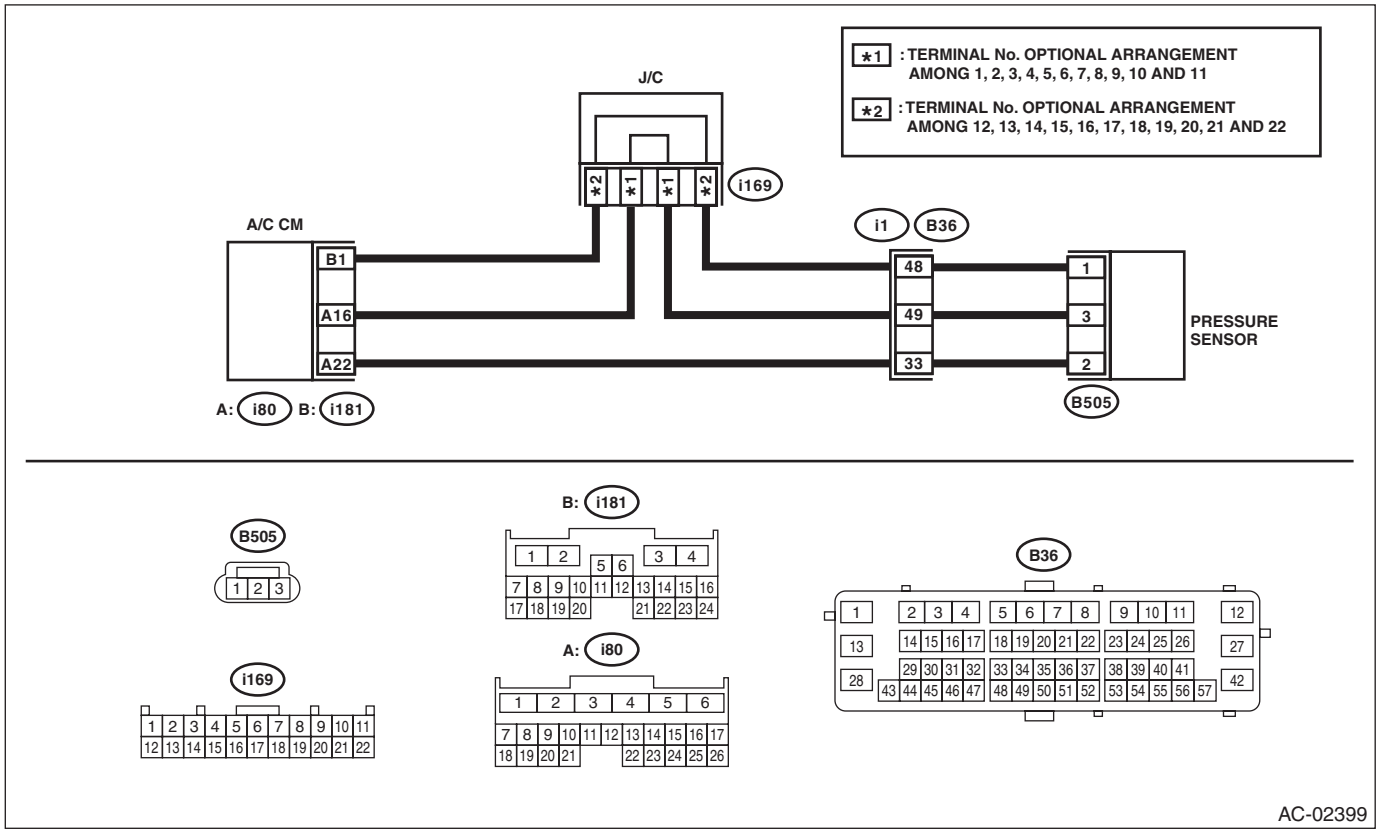
- Compressor was operated while refrigerant was low.
- Compressor was operated while refrigerant pressure was extremely low.
- Judgment is made only when the delivery mode fuse is installed.

TROUBLE SYMPTOM:

A/C does not operate.

WIRING DIAGRAM:

Air Conditioning System <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK AMOUNT OF REFRIGERANT.** Check the refrigerant pressure and filling amount. <Ref. to AC-22, PROCEDURE, Refrigerant Pressure with Manifold Gauge Set.>	Is the filling amount a standard value?	Check the refrigerant pressure sensor or refrigerant flow sensor for defect.	Replace the compressor. <Ref. to AC-55, REMOVAL, Compressor.>

Z: DTC U0001 CAN COMMUNICATION BUS OFF

DTC DETECTING CONDITION:

- Data to be received via CAN communication do not arrive.
- A/C cooperation control does not operate.

TROUBLE SYMPTOM:

A/C does not operate fully automatically.

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of the CAN system using the Subaru Select Monitor.	Is a DTC of the CAN system detected?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK A/C CM.** 1) Replace with a normally operating A/C CM. 2) Read the DTC using Subaru Select Monitor.	Is U0001 detected?	Go to step **3**.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>
3	**CHECK CAN COMMUNICATION CIRCUIT.** Check the CAN communication circuit. <Ref. to LAN(diag)-16, LIST, CAN Communication Circuit Check.>	Is the CAN communication circuit normal?	It is possible that temporary poor communication occurs. Clear the memory.	Repair or replace the CAN communication circuit.

AA:DTC U0002 CAN COMMUNICATION ERROR

DTC DETECTING CONDITION:

- Data to be received via CAN communication do not arrive.
- A/C cooperation control does not operate.

TROUBLE SYMPTOM:

A/C does not operate fully automatically.

	Step	Check	Yes	No
1	**CHECK CURRENT DATA.** Read the DTC of the CAN system using the Subaru Select Monitor.	Is a DTC of the CAN system detected?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK A/C CM.** 1) Replace with a normally operating A/C CM. 2) Read the DTC using Subaru Select Monitor.	Is U0002 detected?	Go to step **3**.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>
3	**CHECK CAN COMMUNICATION CIRCUIT.** Check the CAN communication circuit. <Ref. to LAN(diag)-16, LIST, CAN Communication Circuit Check.>	Is the CAN communication circuit normal?	It is possible that temporary poor communication occurs. Clear the memory.	Repair or replace the CAN communication circuit.

AB:DTC U0028 HEATER CONTROL PANEL COMMUNICATION ERROR

DTC DETECTING CONDITION:

UART communication failure

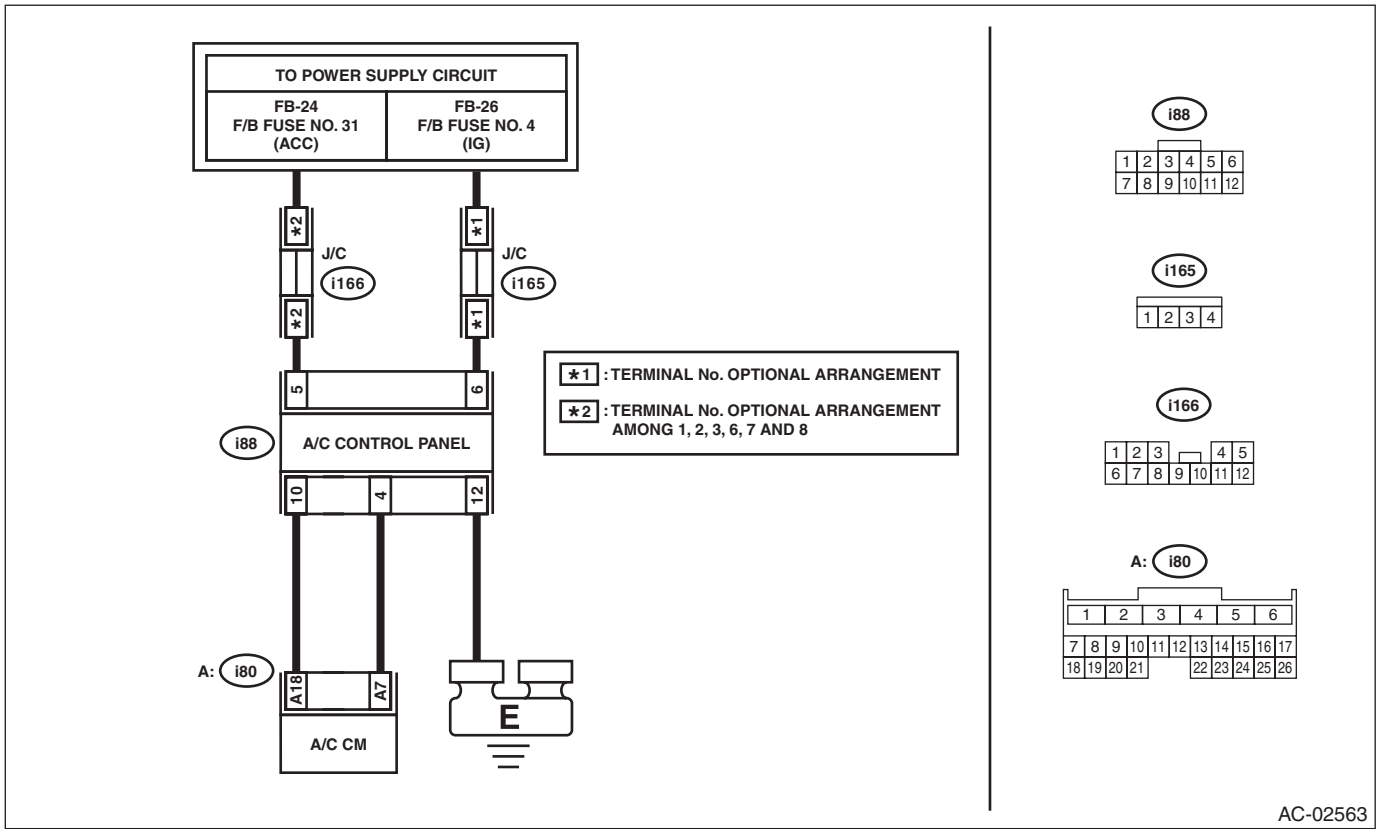
TROUBLE SYMPTOM:

- Unable to operate A/C.
- DTC “U0028” Heater control panel communication failure was detected.
- DTC “53” Heater control panel communication failure was detected.

WIRING DIAGRAM:

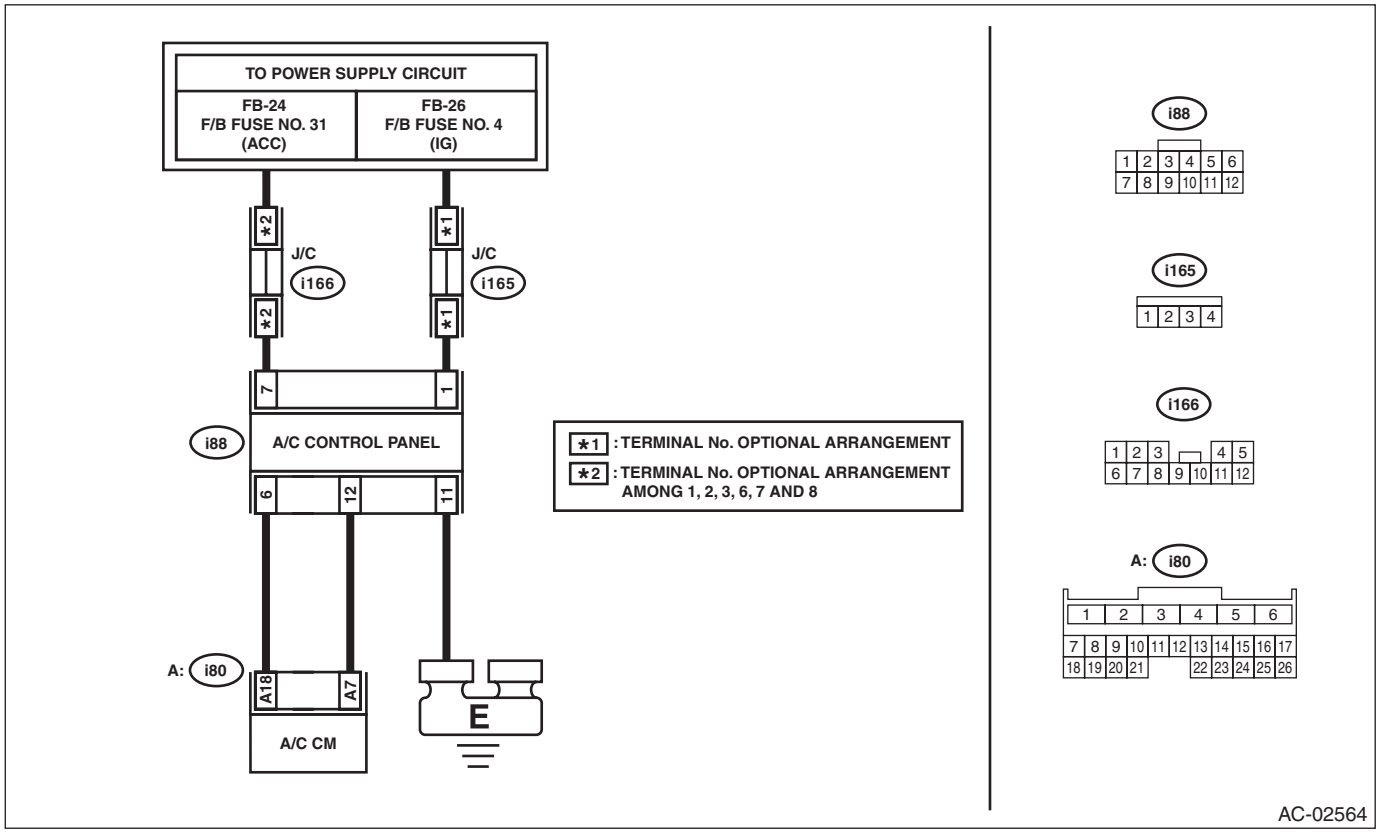
- Auto A/C

Air Conditioning System <Ref. to WI-55, AUTO A/C, WIRING DIAGRAM, Air Conditioning System.>



• Manual A/C

Air Conditioning System <Ref. to WI-51, MANUAL A/C, WIRING DIAGRAM, Air Conditioning System.>



	Step	Check	Yes	No
1	**CHECK CONNECTOR.** Check the power supply circuit connectors for poor contact.	Is there poor contact?	Repair the connector.	Go to step **2**.
2	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 4 and No. 31 from the main fuse box or fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **3**.
3	**CHECK A/C CONTROL PANEL POWER CIRCUIT.** 1) Remove the A/C control panel. 2) Disconnect the A/C control panel connector. 3) Measure the voltage between A/C control panel connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***Auto A/C*** ***(i88) No. 5 (+) — Chassis ground (–):*** ***(i88) No. 6 (+) — Chassis ground (–):*** ***Manual A/C*** ***(i88) No. 1 (+) — Chassis ground (–):*** ***(i88) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check for open or short circuit in the harness between A/C control panel and fuse.

	Step	Check	Yes	No
4	**CHECK A/C CONTROL PANEL GROUND CIRCUIT.** Measure the resistance of harness between A/C control panel and chassis ground after turning the ignition switch to OFF. ***Connector & terminal*** ***Auto A/C*** ***(i88) No. 12 — Chassis ground:*** ***Manual A/C*** ***(i88) No. 11 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the harness for ground line.
5	**CHECK COMMUNICATION CIRCUIT HARNESS.** 1) Disconnect the connector from A/C control panel and A/C CM. 2) Using a tester, check for continuity between the harness terminals. ***Connector & terminal*** ***Auto A/C*** ***(i80) No. 18 — (i88) No. 10:*** ***(i80) No. 7 — (i88) No. 4:*** ***Manual A/C*** ***(i80) No. 18 — (i88) No. 6:*** ***(i80) No. 7 — (i88) No. 12:***	Is there continuity?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i80) No. 18 — No. 7:*** ***(i80) No. 18 — Chassis ground:*** ***(i80) No. 7 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-46, REMOVAL, Control Panel.>

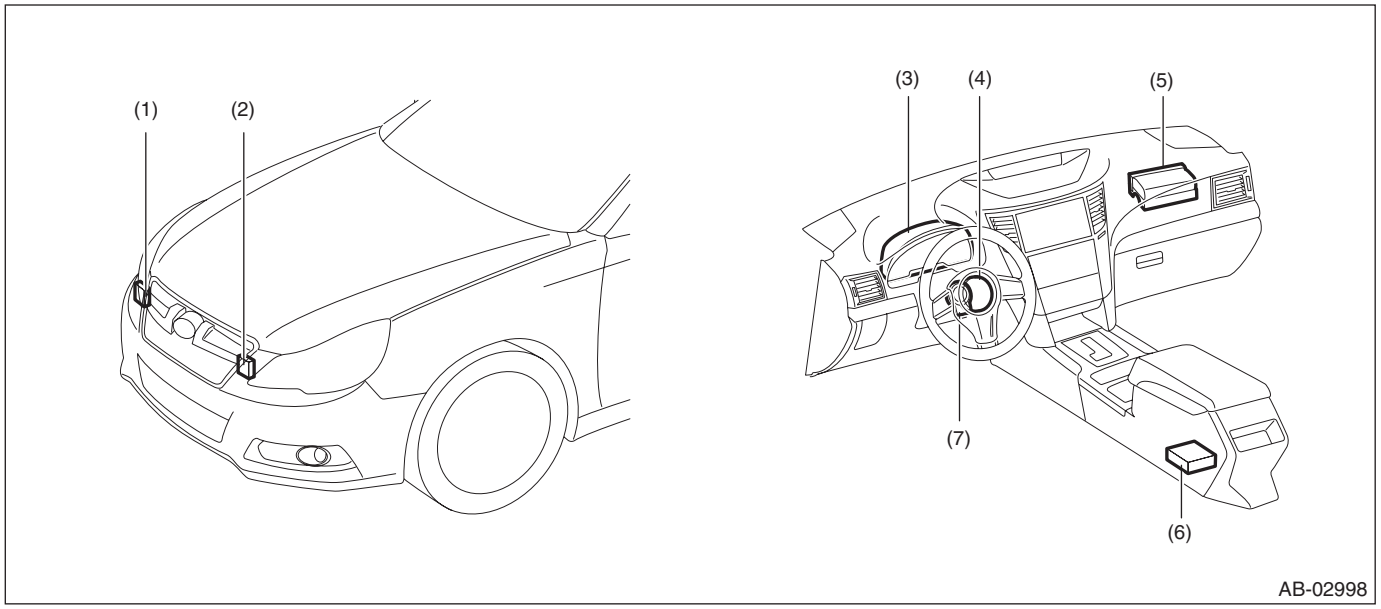
AIRBAG SYSTEM

AB

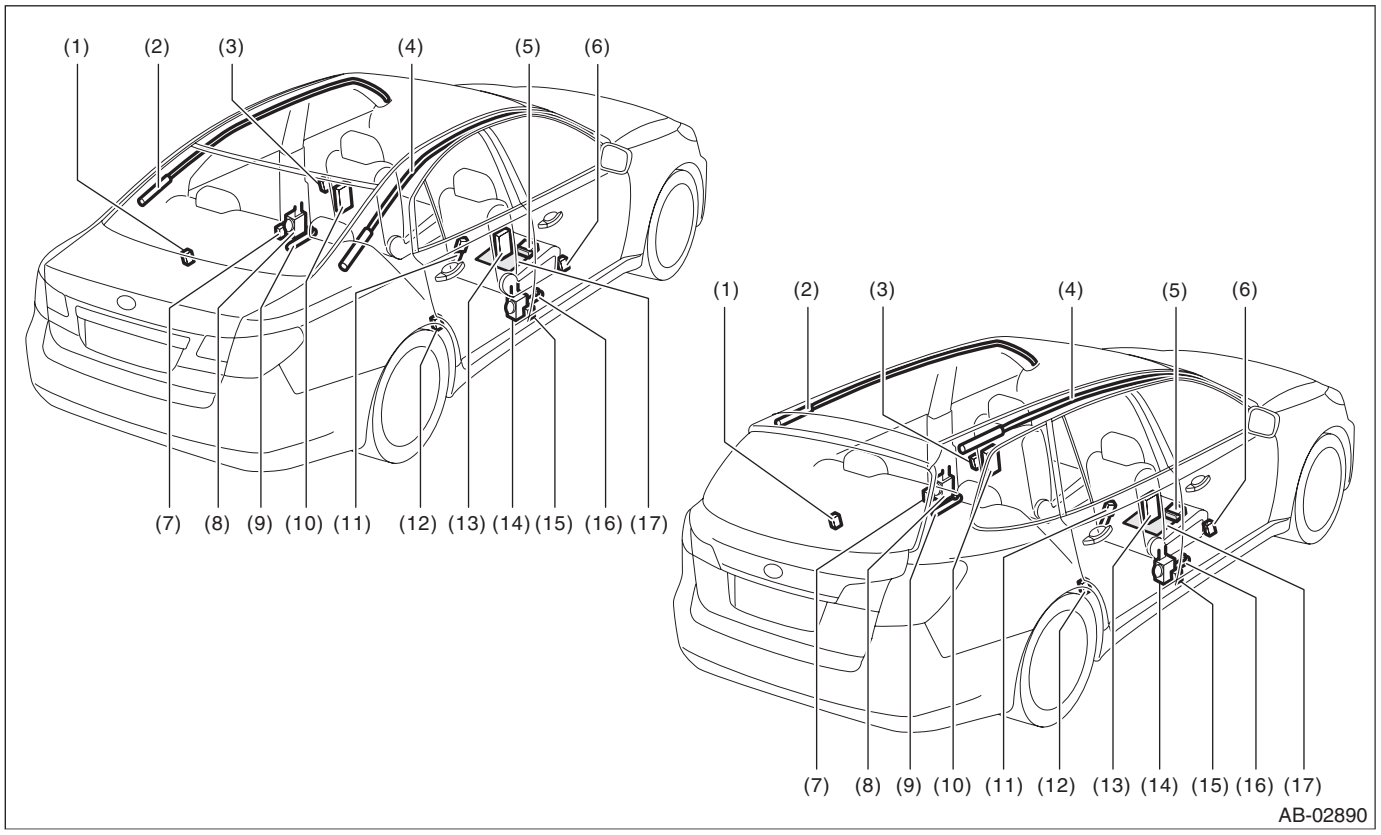
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1. General Description

A: COMPONENT



(1) Front sub sensor RH
(2) Front sub sensor LH
(3) Airbag warning light (in combination meter)
(4) Airbag module ASSY (driver)
(5) Airbag module ASSY (passenger)
(6) Airbag control module
(7) Steering roll connector



(1) Curtain airbag sensor LH
(2) Curtain airbag module LH
(3) Front door impact sensor LH
(4) Curtain airbag module RH
(5) Occupant detection control module
(6) Front door impact sensor RH
(7) Side airbag sensor LH
(8) Seat belt pretensioner LH
(9) Lap seat belt pretensioner LH
(10) Side airbag module LH
(11) Buckle switch RH
(12) Curtain airbag sensor RH
(13) Side airbag module RH
(14) Seat belt pretensioner RH
(15) Side airbag sensor RH
(16) Lap seat belt pretensioner RH
(17) Occupant detection sensor

1. General Description

A: SPECIFICATION

1. HEATER SYSTEM

Item		Specifications	Condition
Heating capacity		4.8 kW (4,127 kcal/h, 16,377 BTU/h) or more	• Air flow control switch: FOOT • Temperature control switch or dial: HI (MAX HOT) • Temperature difference between hot water and inlet air: 65°C (149°F) • Hot water flow rate: 360 L (95.1 US gal, 79.2 Imp gal)/h
Air flow rate		300 m^3 (10,596 cu ft)/h	FOOT mode (FRESH), MAX HOT at 12.5 V
Max air flow rate		495 m^3 (17,483 cu ft)/h	• Temperature control switch or dial: LO (MAX COOL) • Fan switch or dial: HI (MAX) Auto A/C model: 6th position Manual A/C model: 4th position • FRESH/RECIRC switch: RECIRC
Heater core size (height × length × width)		264 × 100 × 27 mm (10.4 × 3.94 × 1.06 in)	—
Blower motor	Type	Magnet motor 260 W or less	12 V
	Fan type and size (diameter × width)	Sirocco fan type 150 × 75 mm (5.91 × 2.95 in)	—

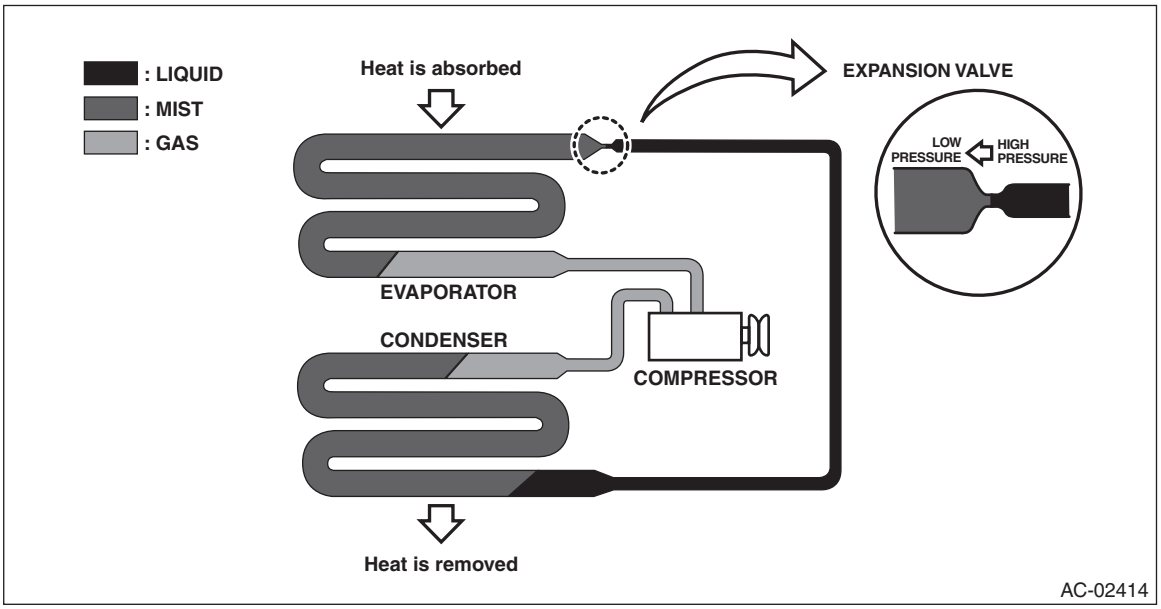
2. A/C SYSTEM

Item		Specifications
Type of air conditioner		Reheat air-mix type
Cooling capacity		4.18 kW [at 500 m^3 (17,660 cu ft)/h] (3,594 kcal/h, 14,262 BTU/h)
Refrigerant		HFC-134a (CH_2FCF_3) [0.425±0.025 kg (0.94±0.06 lb)]
Compressor	Type	H4 model: Swash plate, variable volume (TSE14F) H6 model: Swash plate, variable volume (TSE14C)
	Discharge	140.6 cc (8.58 cu in)/rev
	Max. permissible speed	6,000 rpm
Pulley	Type of belt	V-belt 6 PK
	Pulley dia. (effective dia.)	110 mm (4.33 in)
	Pulley ratio	1.3
Condenser	Type	Corrugated fin (sub cool type)
	Core face area	0.186 m^2 (2.002 sq ft)
	Core thickness	16 mm (0.63 in)
	Radiation area	5.49 m^2 (59.09 sq ft)
Receiver drier	Effective inner capacity	190 cm^3 (11.6 cu in)
Expansion valve	Type	Internally equalizing
Evaporator	Type	Double tank
	Dimensions (W × H × T)	293.1 × 171 × 38 mm (11.54 × 6.73 × 1.50 in)
Blower fan	Fan type	Sirocco fan
	Outer diameter × Width	150 × 75 mm (5.91 × 2.95 in)
	Power consumption	260 W
Condenser fan (sub fan)	Motor type	Magnet
	Power consumption	H4 model: 90 W H6 model: 200 W
	Fan outer diameter	H4 model: 300 mm (11.8 in) H6 model: 320 mm (12.6 in)

Item			Specifications
Radiator fan (main fan)		Motor type	Magnet
		Power consumption	H4 model: 90 W H6 model: 200 W
		Fan outer diameter	H4 model: 300 mm (11.8 in) H6 model: 320 mm (12.6 in)
Idle speed	MPFI model	No load	H4 MT model: 650±100 rpm H4 CVT model: 675±100 rpm H6 model: 700±100 rpm
		A/C ON	H4 MT model: 800 — 850±100 rpm H4 CVT model: 700±100 rpm H6 model: 700 — 910±100 rpm

3. BASIC OPERATION

The cooling system cools down the compartment by using the pipes connecting parts and cycling the evaporable liquid (refrigerant) within the sealed system in a repeated process of “vaporization — liquefaction — re-vaporization”.

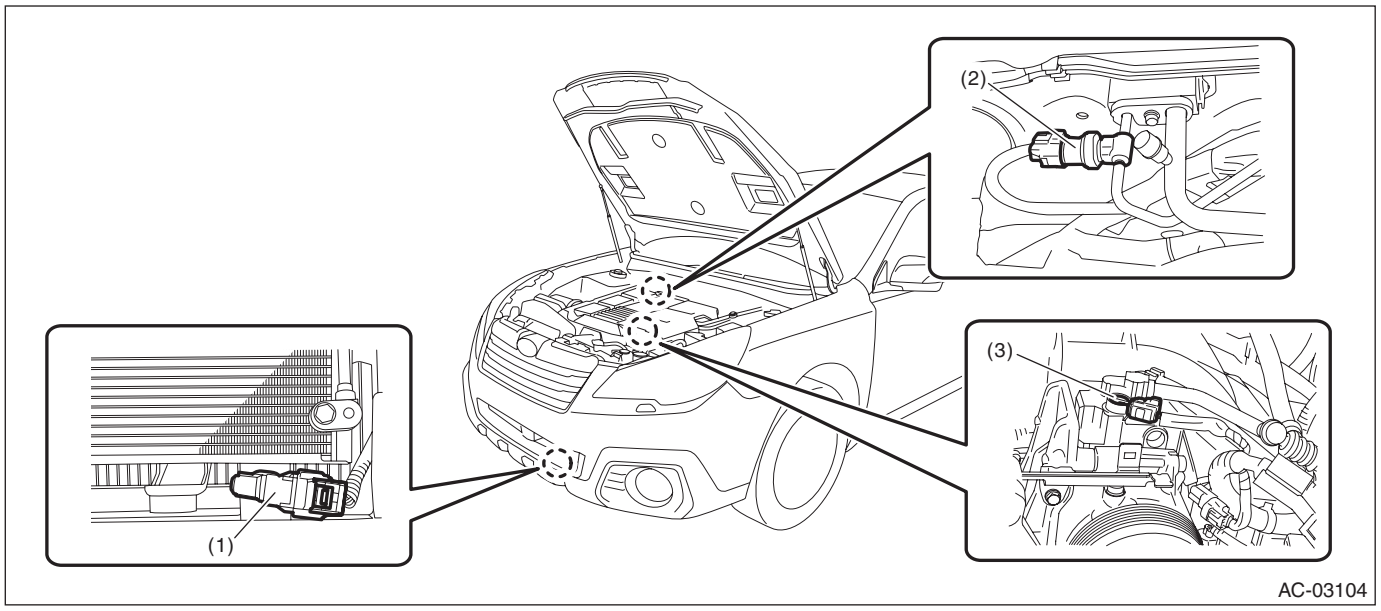


Item	Operation
Compressor	Sucks and pressurizes the low temperature, low pressure refrigerant gas that was vaporized at the evaporator by absorbing heat from the compartment, and sends the high temperature, high pressure refrigerant gas to the condenser.
Condenser	Cools the high temperature, high pressure refrigerant gas sent from the compressor for condense and liquefaction.
Expansion valve	• Sprays the high temperature, high pressure liquid refrigerant from the small hole in order to let the refrigerant expand rapidly to turn it into low temperature, low pressure mist. • The refrigerant amount is adjusted according to the refrigerant vaporization condition in the evaporator.
Evaporator	The evaporator turns into a low temperature condition when the mist refrigerant that was turned into a low temperature, low pressure condition at the expansion valve is vaporized in large quantity in the evaporator. Passing air flow through the low temperature evaporator emits cold air.

B: LOCATION

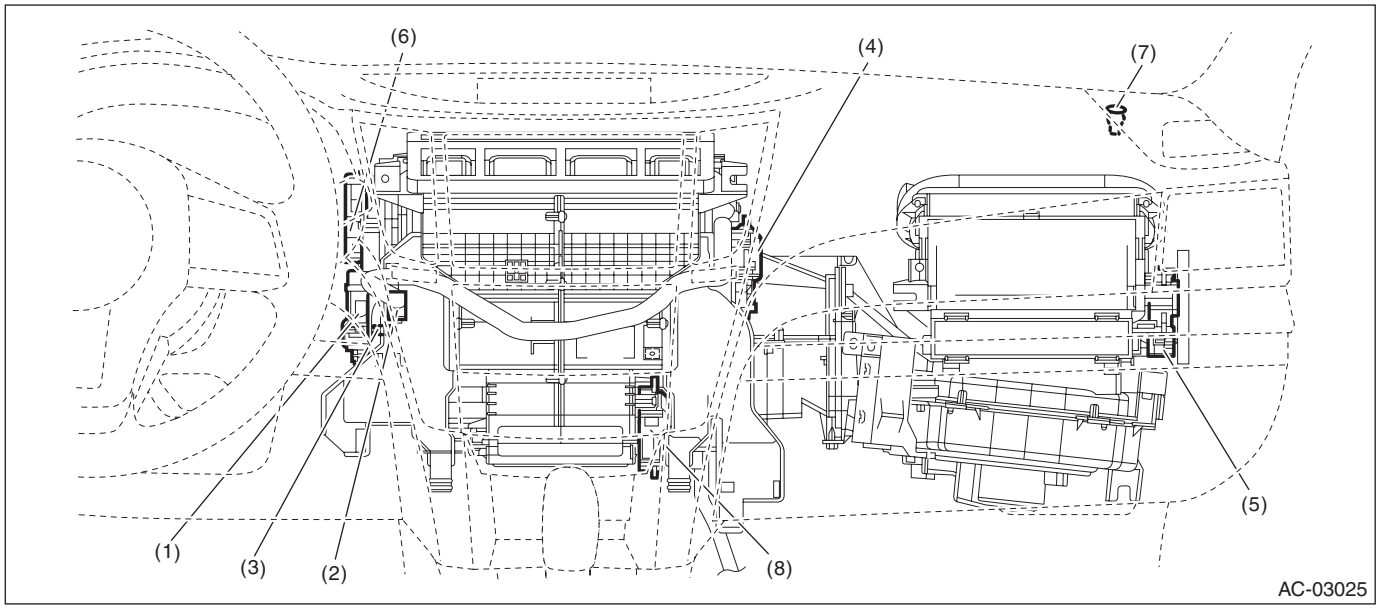
1. ELECTRICAL PARTS (ACTUATORS AND SENSORS)

- Engine compartment



(1) Ambient sensor
(2) Pressure sensor
(3) Refrigerant flow sensor

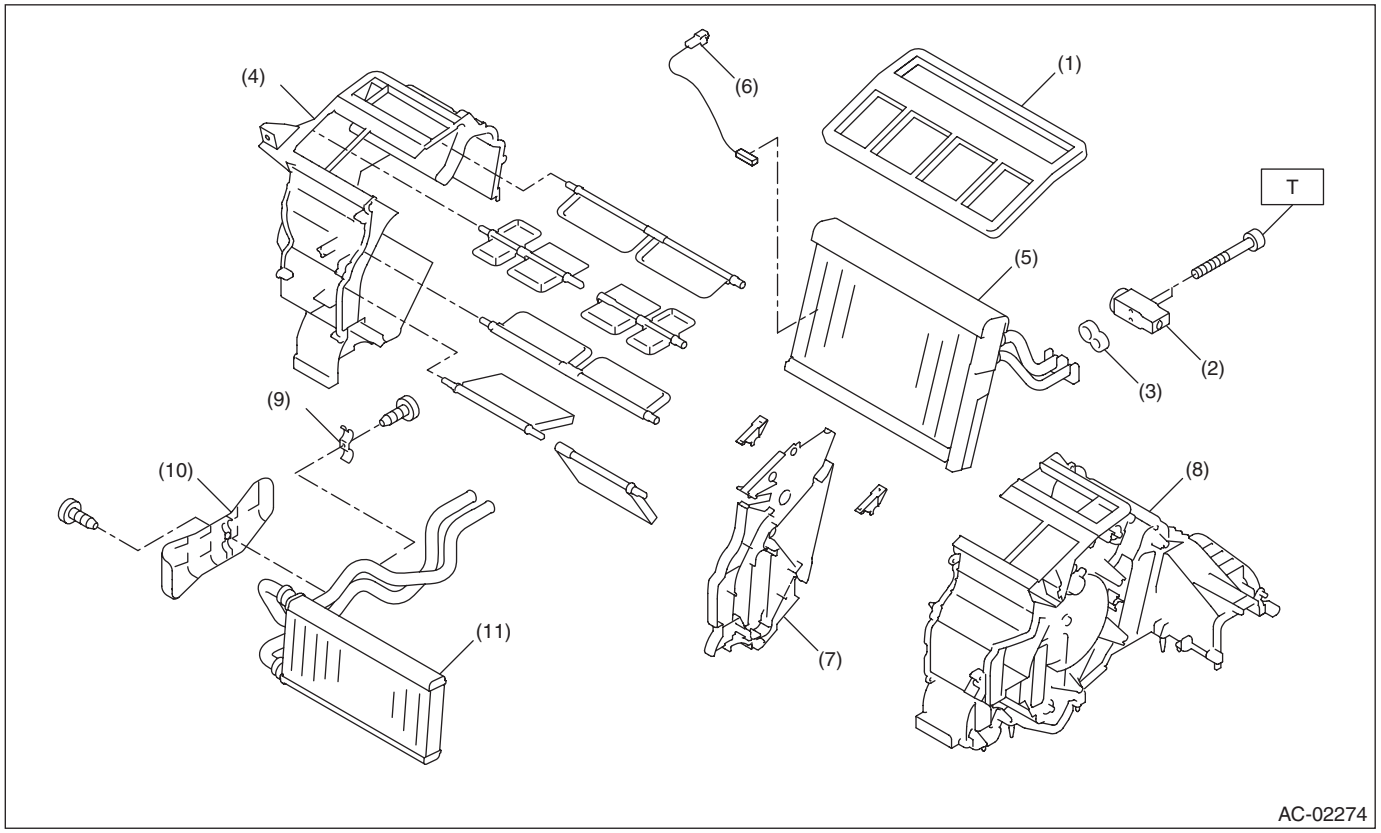
- Compartment



(1) Air mix door actuator (driver's seat)
(2) In-vehicle sensor
(3) Evaporator sensor
(4) Air mix door actuator (passenger's seat)
(5) Intake door actuator
(6) Mode door actuator
(7) Sunload sensor
(8) Rear vent actuator

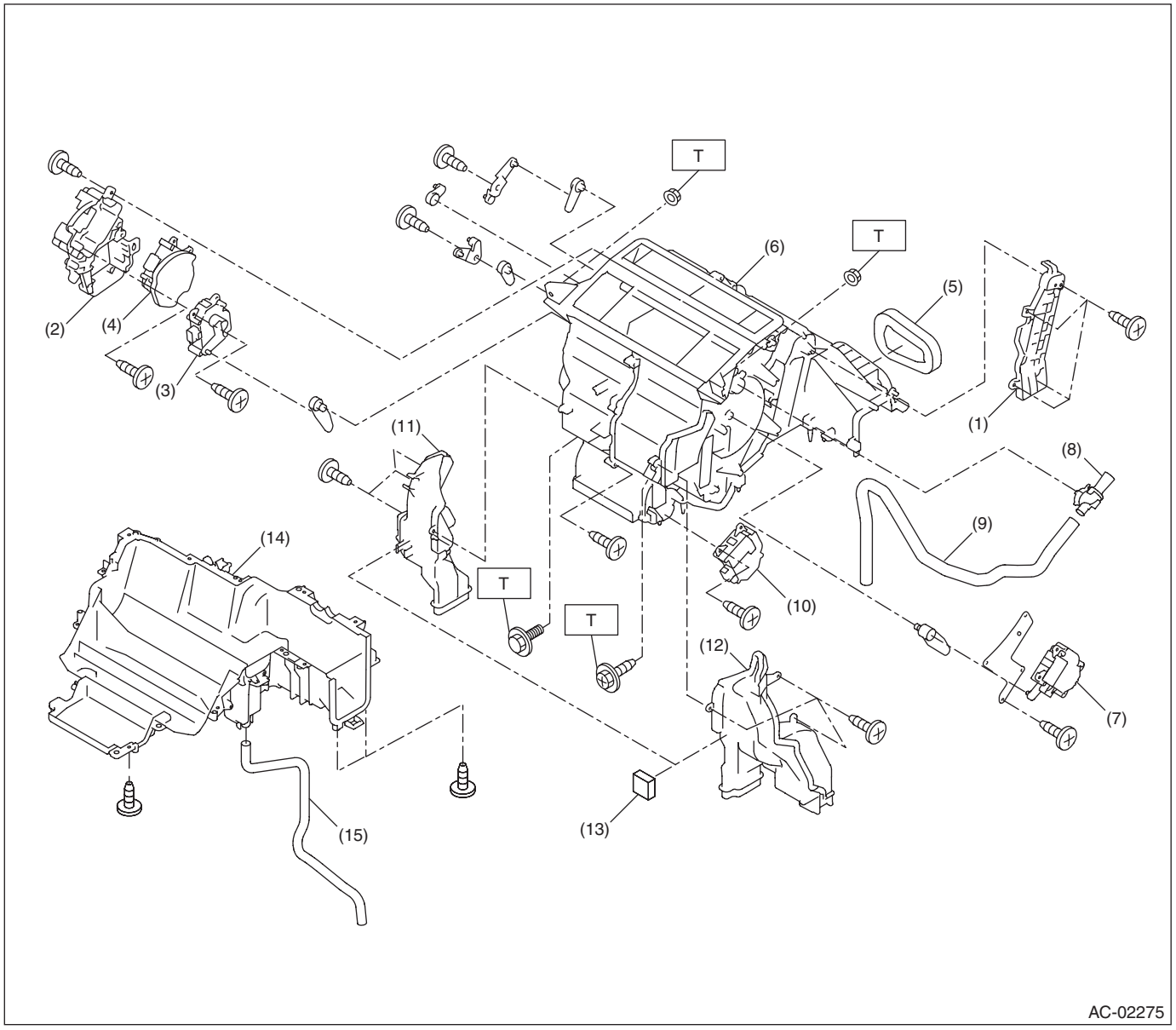
C: COMPONENT

1. HEATER COOLING UNIT



(1) Lining
(2) Expansion valve
(3) Gasket
(4) Heater case LH
(5) Evaporator
(6) Evaporator sensor
(7) Center plate
(8) Heater case RH
(9) Heater pipe clamp
(10) Heater pipe cover
(11) Heater core ASSY

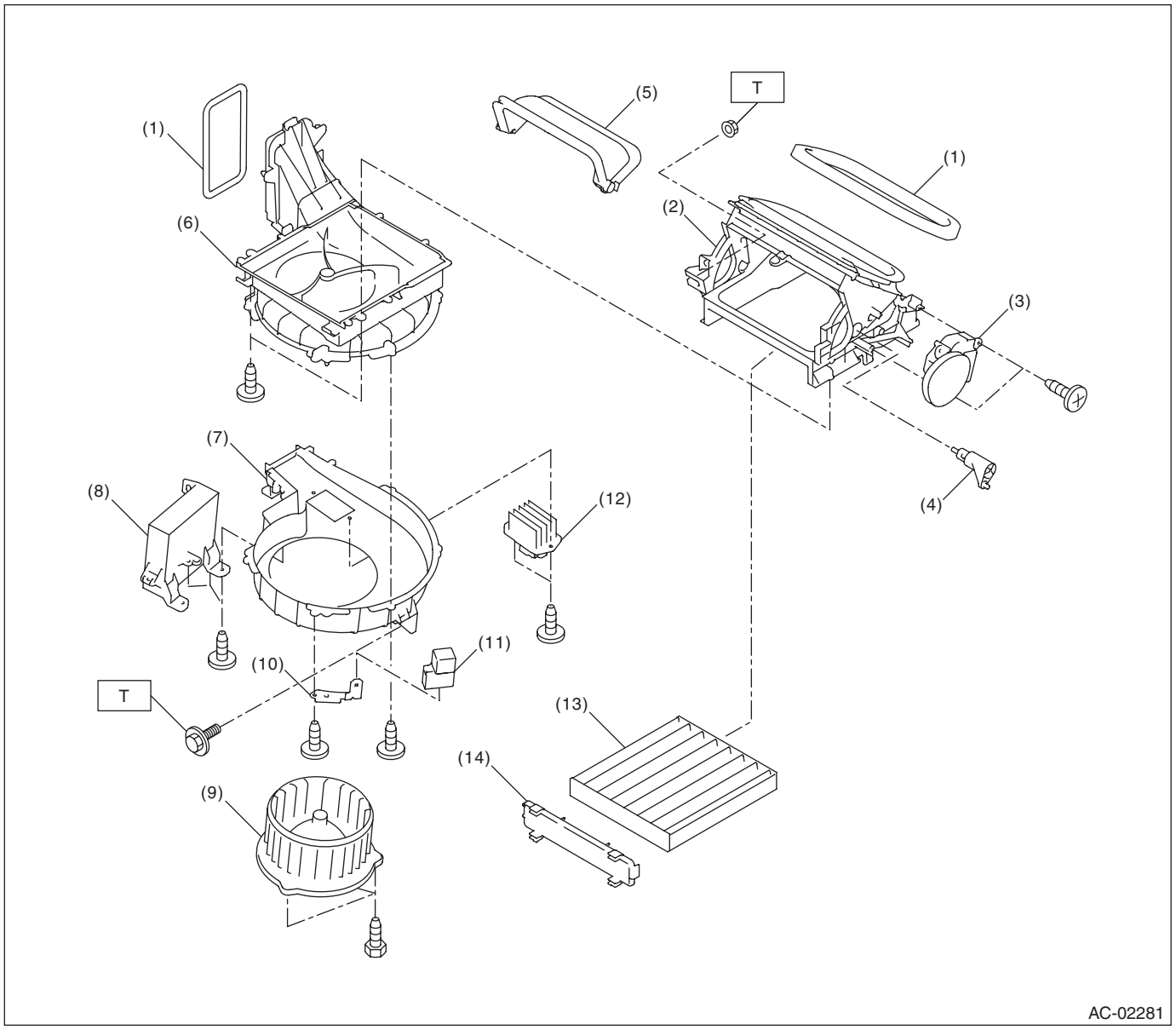
Tightening torque: N·m (kgf-m, ft-lb)
T: 3.5 (0.36, 2.6)



(1)	Evaporator cover	(7)	Air mix door actuator (passenger's seat)	(13)	Gasket
(2)	Actuator cover	(8)	Aspirator	(14)	Heater case lower
(3)	Air mix door actuator (driver's seat)	(9)	Aspirator hose	(15)	Drain hose
(4)	Mode door actuator	(10)	Rear vent actuator		
(5)	Gasket	(11)	Foot duct LH		
(6)	Unit ASSY	(12)	Foot duct RH		

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

2. BLOWER MOTOR UNIT

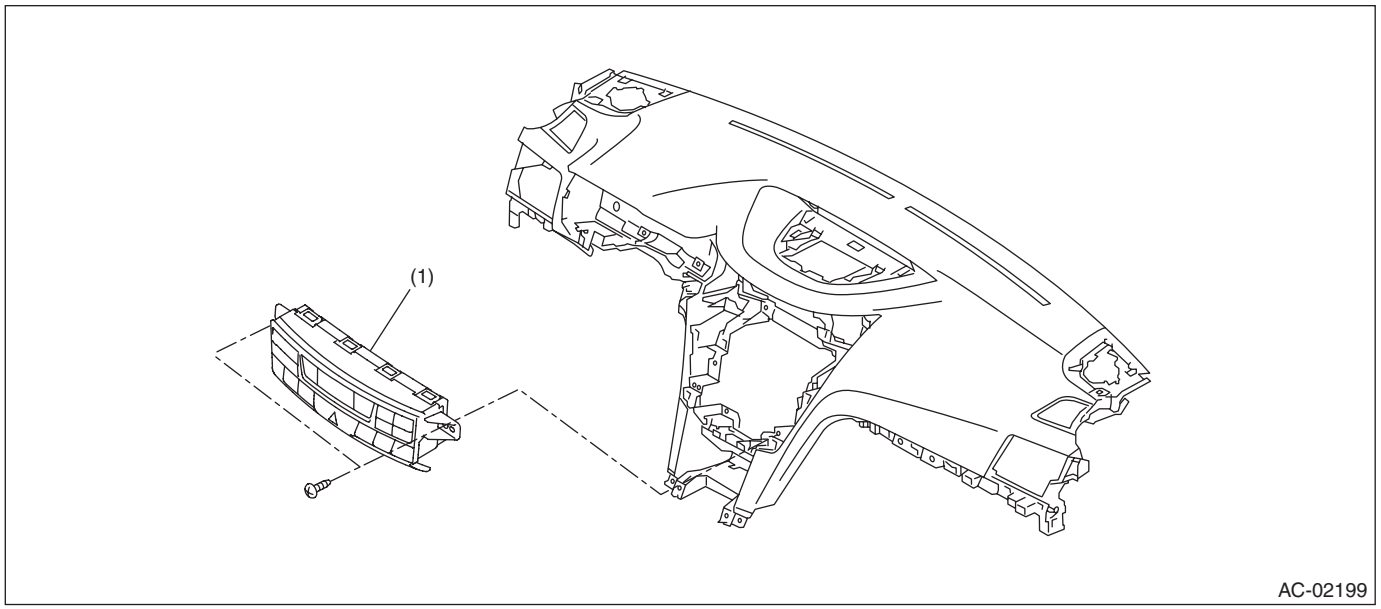


(1) Packing
(2) Air duct cover ASSY
(3) Intake door actuator
(4) Intake door link
(5) FRESH/RECIRC door
(6) Upper case
(7) Lower case
(8) Control module
(9) Blower motor ASSY
(10) Relay holder bracket
(11) Blower motor relay
(12) Power transistor (auto A/C model) or resistor (manual A/C model)
(13) Filter
(14) Filter cover

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

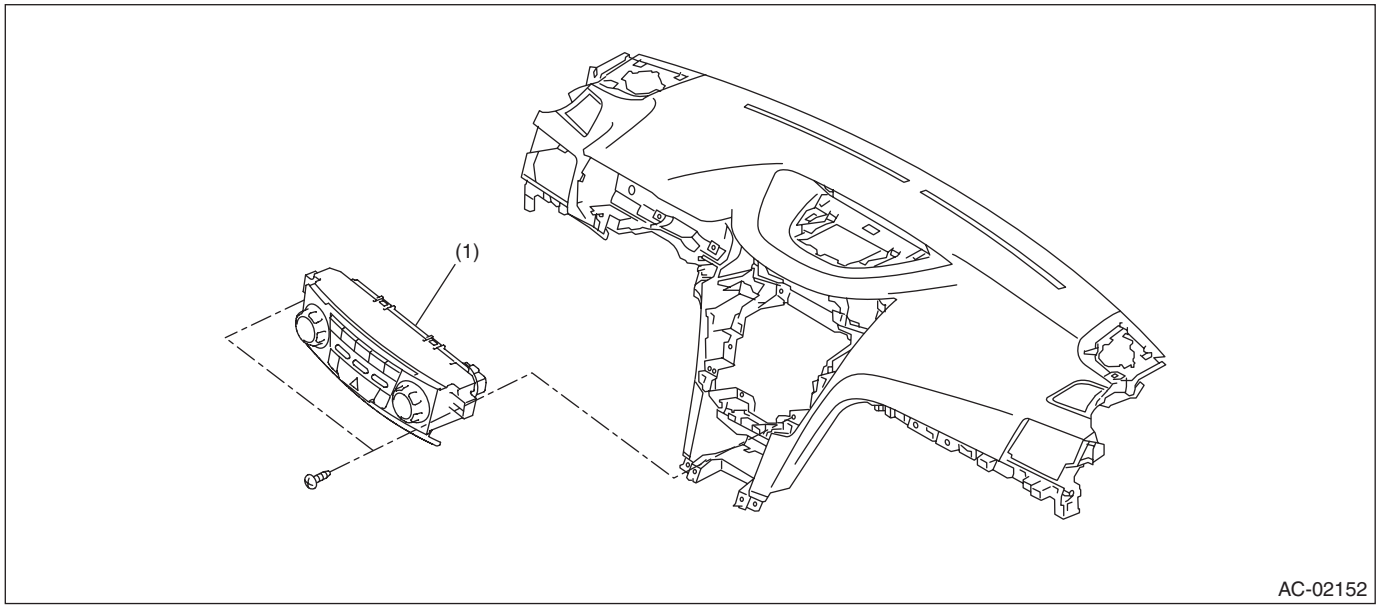
3. CONTROL MODULE

- Auto A/C model



(1) Control module

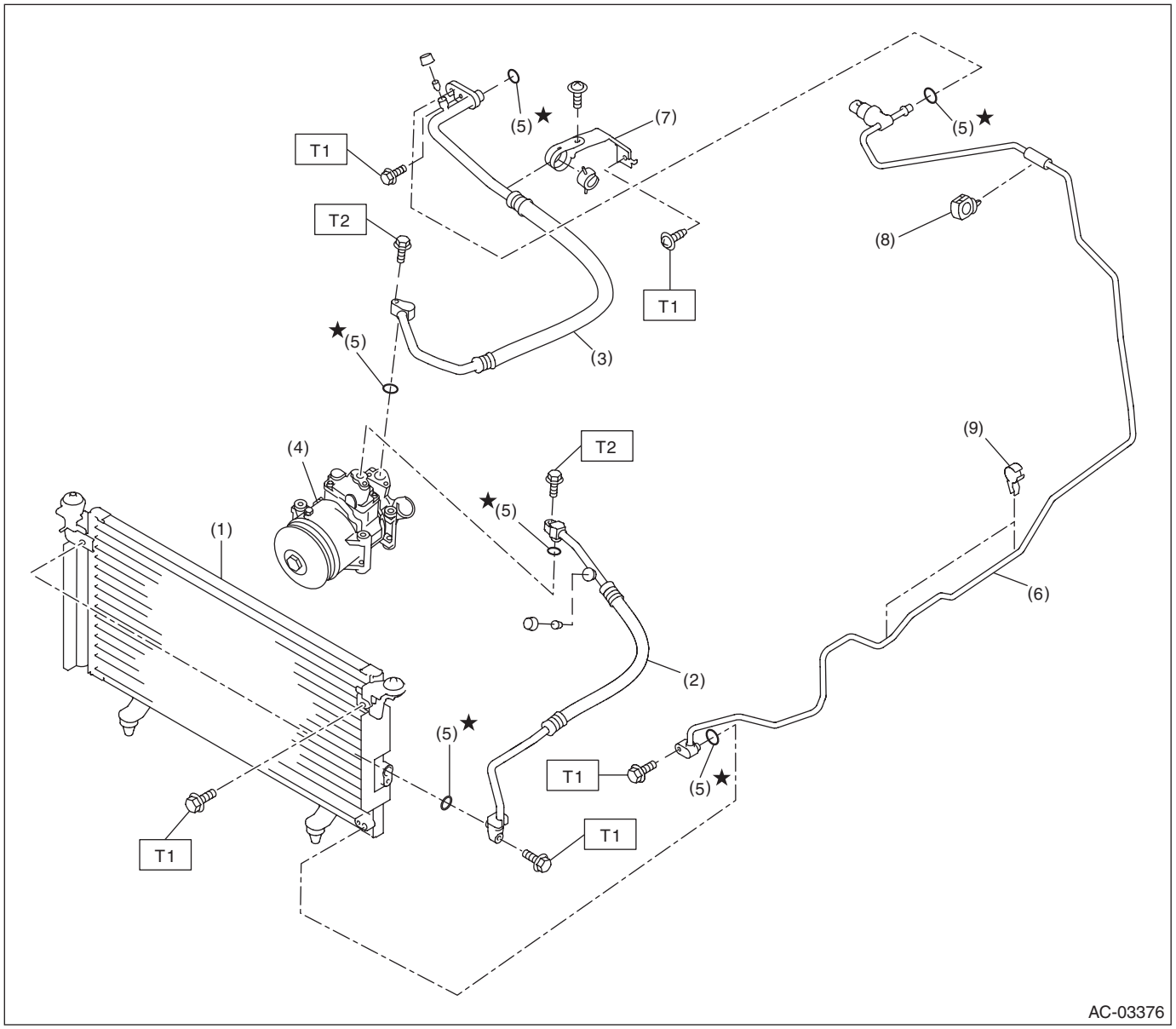
- Manual A/C model



(1) Control module

4. AIR CONDITIONING UNIT

- H4 model

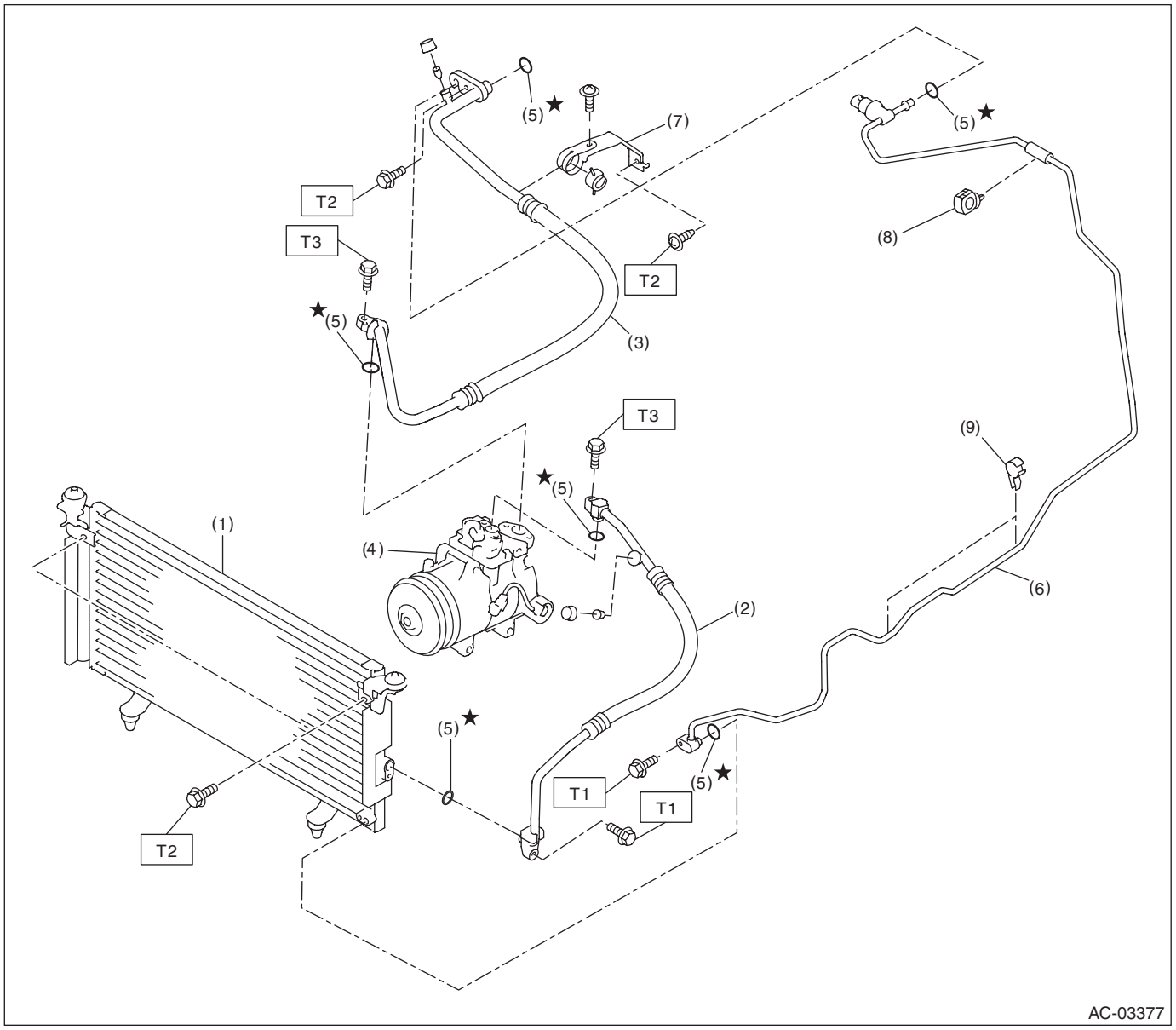


AC-03376

(1) Condenser
(2) Hose (high-pressure)
(3) Hose (low-pressure)
(4) Compressor
(5) O-ring
(6) Pipe
(7) Bracket
(8) Pipe clip
(9) Pipe clip

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 10 (1.02, 7.4)

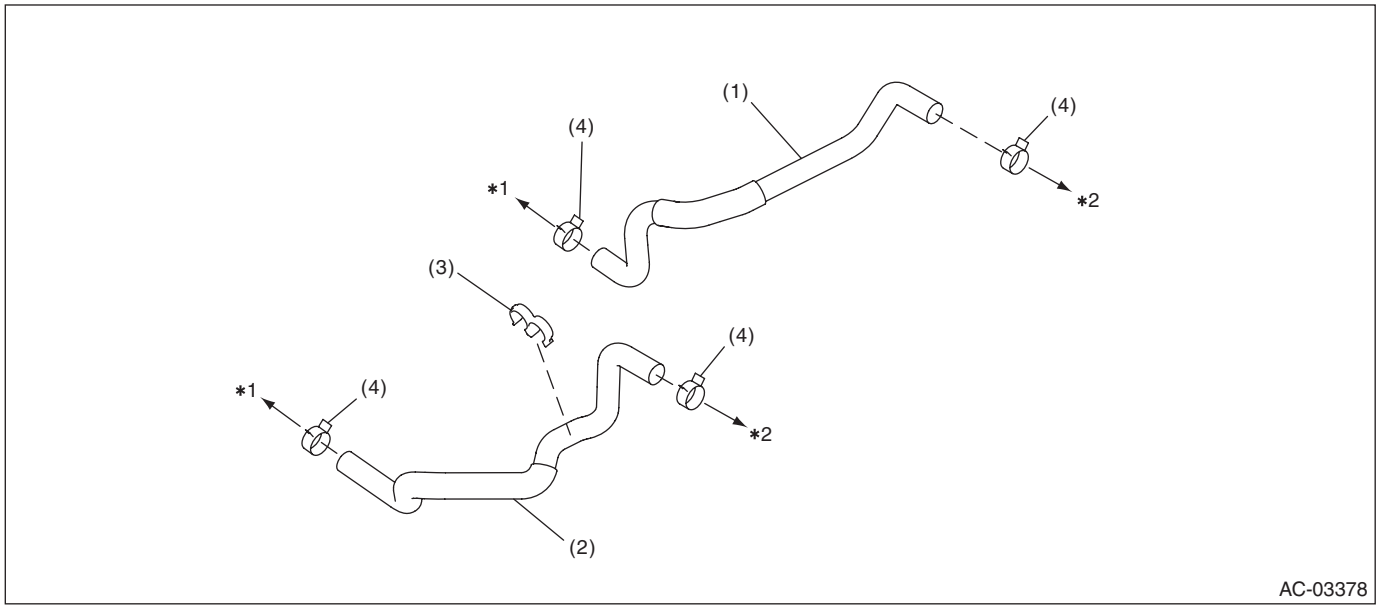
- H6 model



(1) Condenser
(2) Hose (high-pressure)
(3) Hose (low-pressure)
(4) Compressor
(5) O-ring
(6) Pipe
(7) Bracket
(8) Pipe clip
(9) Pipe clip

Tightening torque: N·m (kgf-m, ft-lb)
T1: 5 (0.51, 3.7)
T2: 7.5 (0.76, 5.5)
T3: 10 (1.02, 7.4)

5. HEATER HOSE

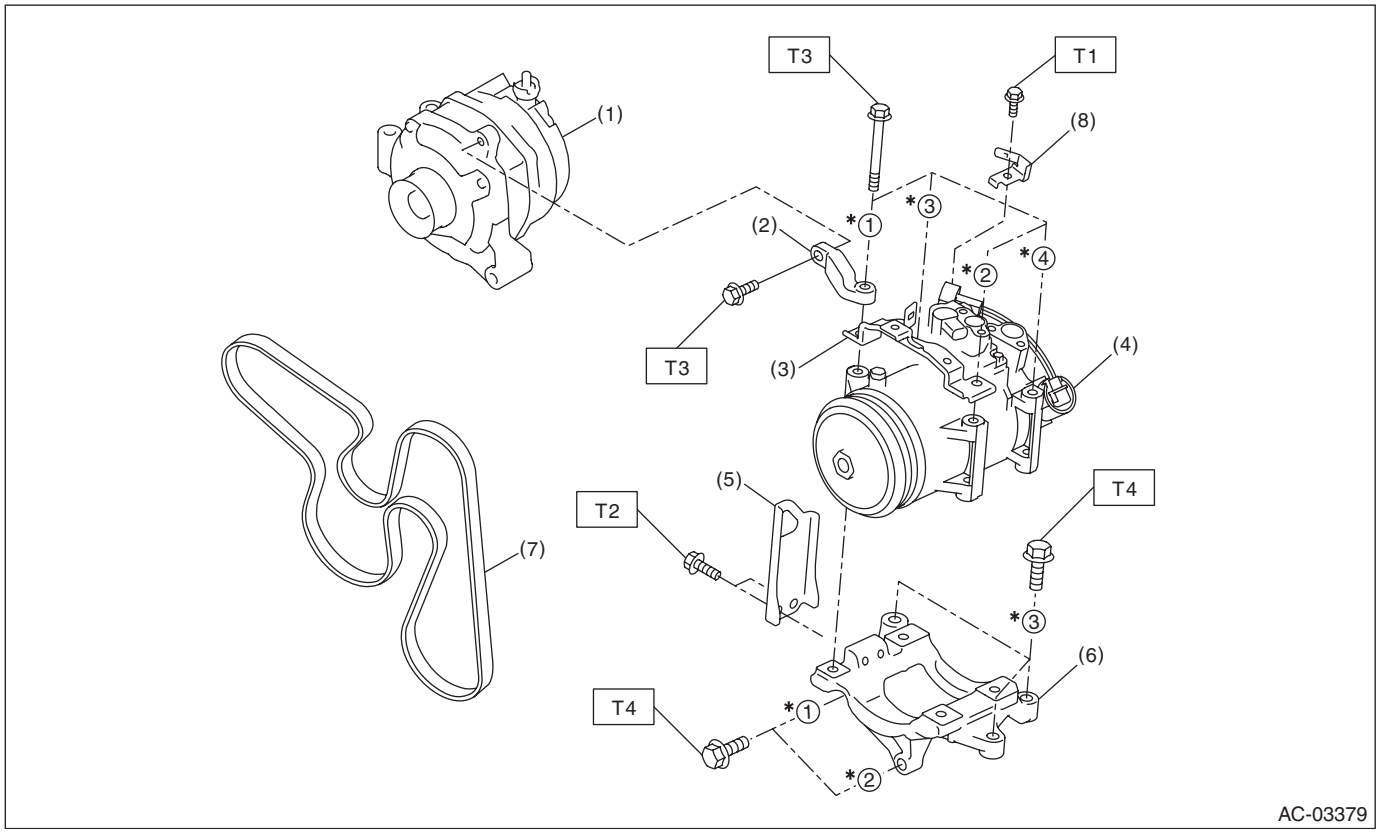


(1) Heater outlet hose
(2) Heater inlet hose
(3) Clip
(4) Clamp

*1: Engine side
*2: Heater core side

6. COMPRESSOR

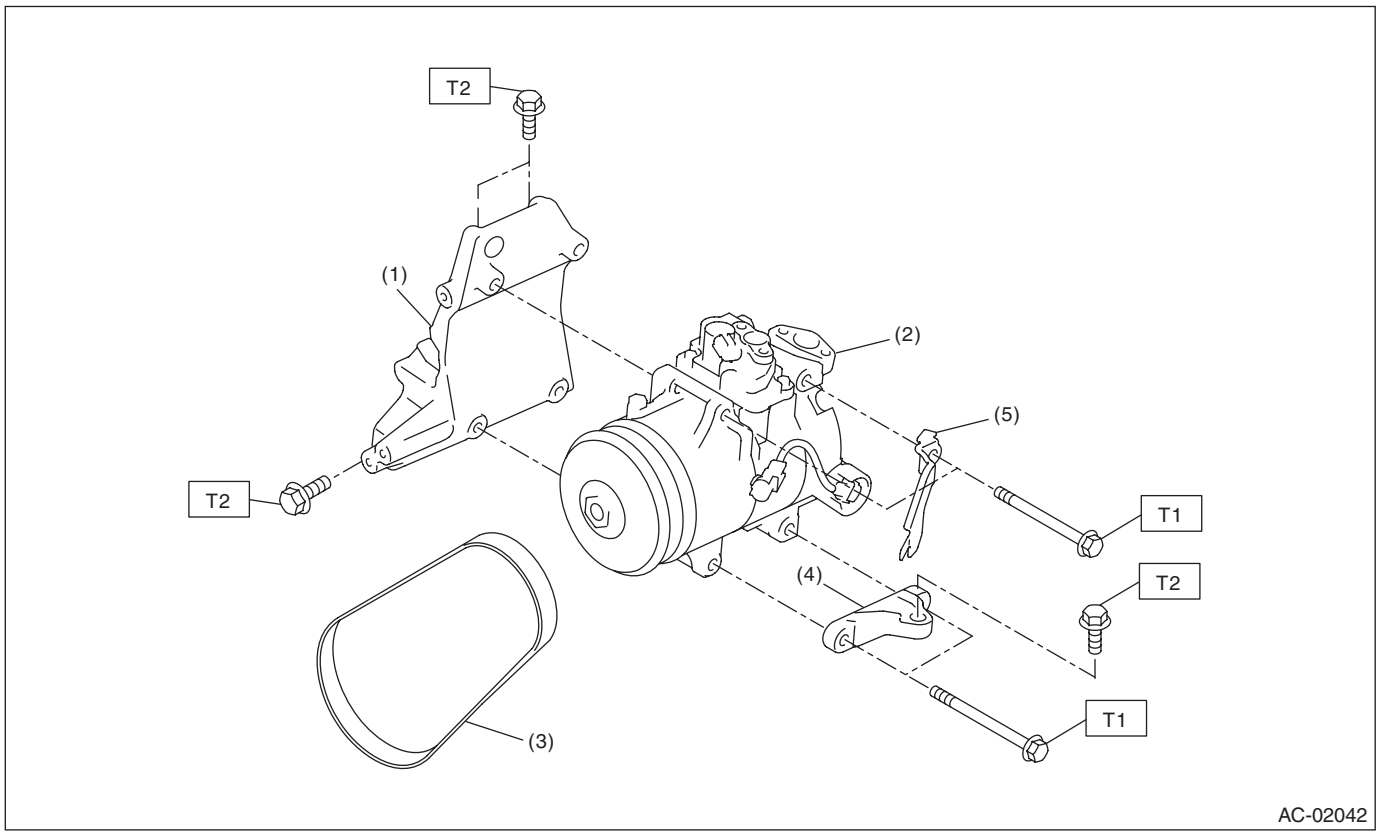
- H4 model



(1)	Generator	(5)	Front engine hanger	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Generator bracket	(6)	Compressor bracket	***T1: 6.4 (0.65, 4.7)***
(3)	V-belt cover bracket stay	(7)	V-belt (6 PK)	***T2: 20 (2.04, 14.8)***
(4)	Compressor	(8)	Connector bracket	***T3: 25 (2.55, 18.4)***
				T4: 36 (3.67, 26.6)

* Tighten the compressor and the compressor bracket in the numerical order as shown in the figure.

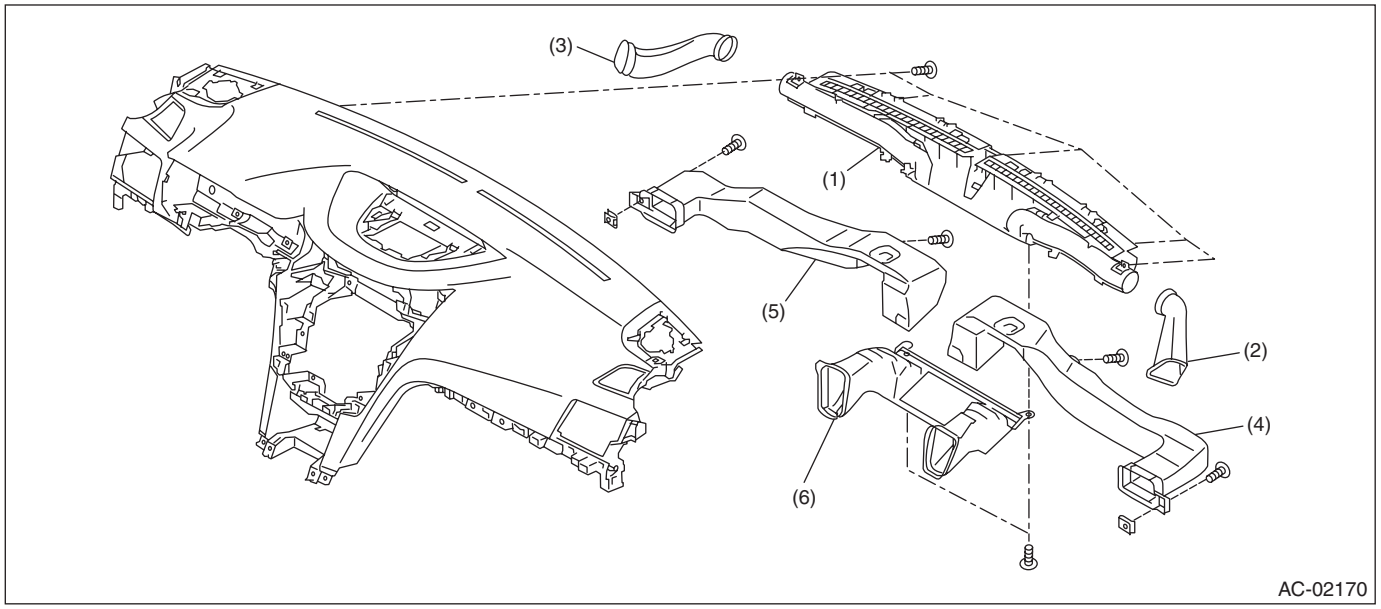
- H6 model



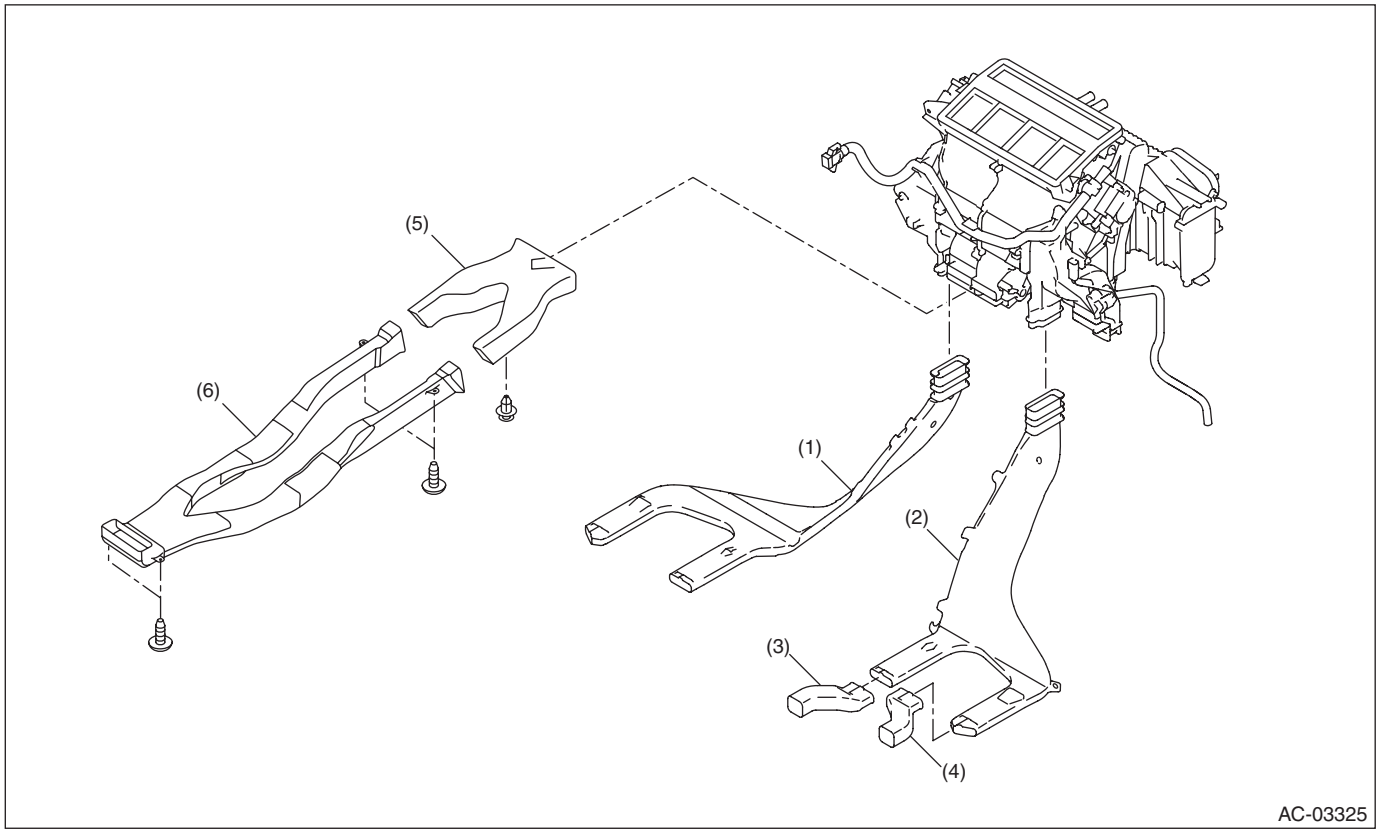
(1) A/C compressor stay
(2) Compressor
(3) V-belt (6 PK)
(4) Compressor bracket
(5) Connector bracket

Tightening torque: N·m (kgf-m, ft-lb)
T1: 26.5 (2.70, 19.5)
T2: 36 (3.67, 26.6)

7. HEATER DUCT



(1) Defroster nozzle ASSY
(2) Side defroster duct RH
(3) Side defroster duct LH
(4) Side vent duct RH
(5) Side vent duct LH
(6) Front vent duct



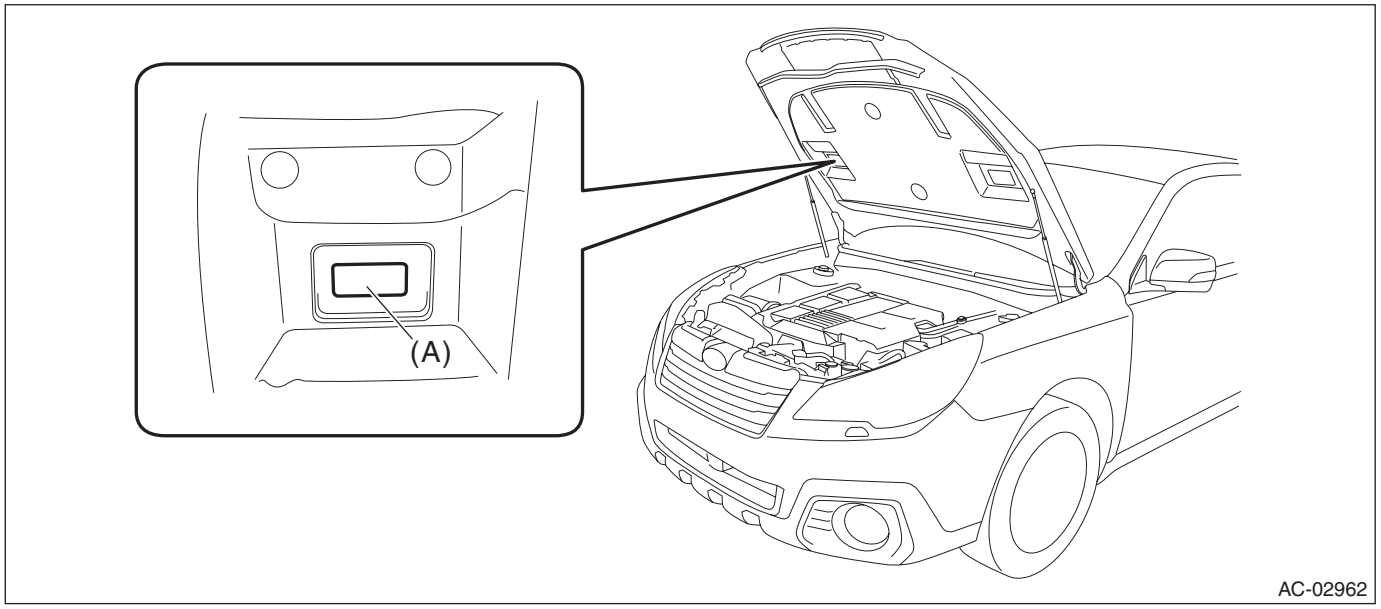
(1) Rear heater duct LH
(2) Rear heater duct RH
(3) Extension duct LH
(4) Extension duct RH
(5) Console front duct
(6) Center console duct

D: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the radio, control module, and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.

1. HFC-134A A/C SYSTEM

• The cooling system components for the HFC-134a system such as the refrigerant and compressor oil are different from the conventional CFC-12 system components and they are incompatible with each other.
• Vehicles with the HFC-134a system can be identified by the label (A) attached to the vehicle.
Before maintenance, check A/C system which is installed to the vehicle.



2. COMPRESSOR OIL

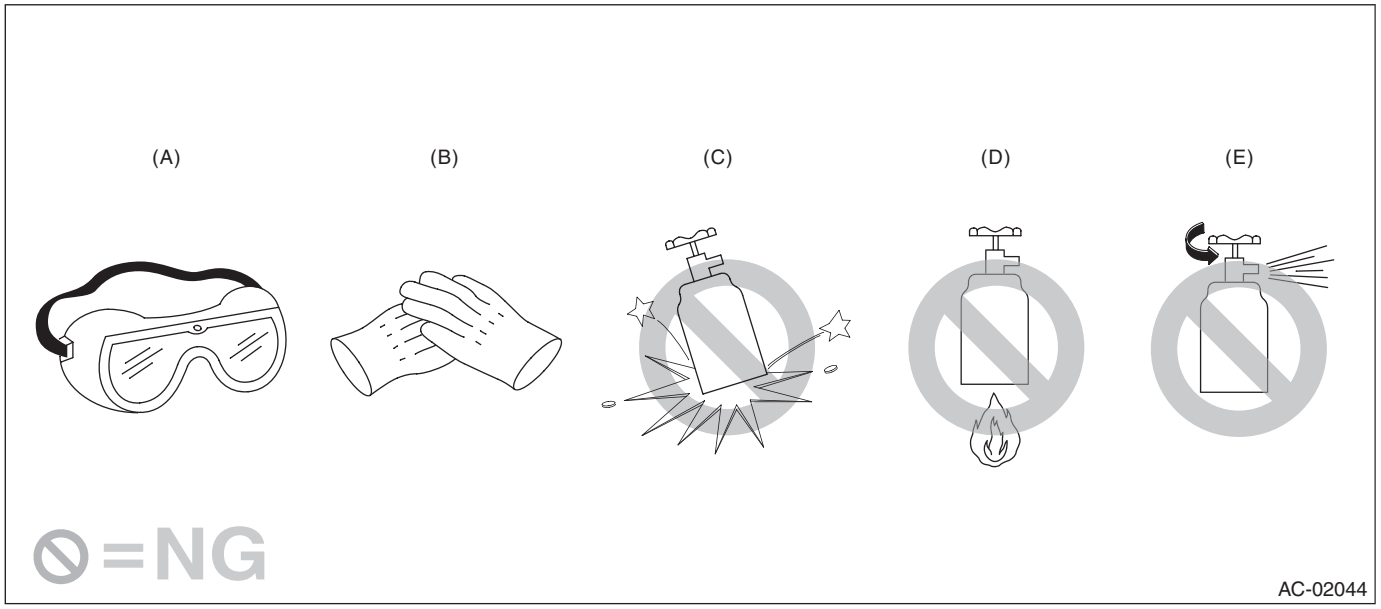
• HFC-134a compressor oil has no compatibility with that of CFC-12 system.
• Use only the manufacturer-authorized compressor oil, ND-OIL8, for the HFC-134a system.
• Do not mix multiple compressor oils.
If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may become stuck due to poor lubrication, or the refrigerant may leak due to swelling of rubber parts.
On the other hand, if HFC-134a compressor oil is used in a CFC-12 A/C system, the durability of the A/C system will be lowered.
• HFC-134a compressor oil is very hygroscopic. When replacing or installing/removing A/C parts, immediately isolate the oil from atmosphere using a plug or tape. In order to avoid moisture, store the oil in a container with its cap tightly closed.

3. REFRIGERANT

• CFC-12 refrigerant cannot be used in a HFC-134a A/C system. HFC-134a refrigerant, also cannot be used in a CFC-12 A/C system.
• If an incorrect or no refrigerant is used, it will result in poor lubrication and the compressor itself may be damaged.

4. HANDLING OF REFRIGERANT

• The refrigerant boils at approx. –30°C (–22°F). When handling it, be sure to wear protective goggles and protective gloves. Direct contact of the refrigerant with skin may cause frostbite.
If the refrigerant gets into your eye, avoid rubbing your eyes with your hands. Wash your eye with plenty of water, and receive medical treatment from an eye doctor.
• Do not heat a service can. If a service can is directly heated, or put into boiling water, the inside pressure will become extremely high. This may cause the can to explode. If a service can must be warmed up, use warm water of 40°C (104°F) or less.
• Do not drop or impact a service can. (Observe the precautions and operation procedure described on the refrigerant can.)
• When the engine is running, do not open the high-pressure valve of manifold gauge. The high-pressure gas will back-flow resulting in an explosion of the can.
• Provide good ventilation and do not work in a closed area.
• In order to prevent global warming, avoid releasing HFC-134a into the atmosphere. Using a refrigerant recovery system, discharge and recycle the gas.

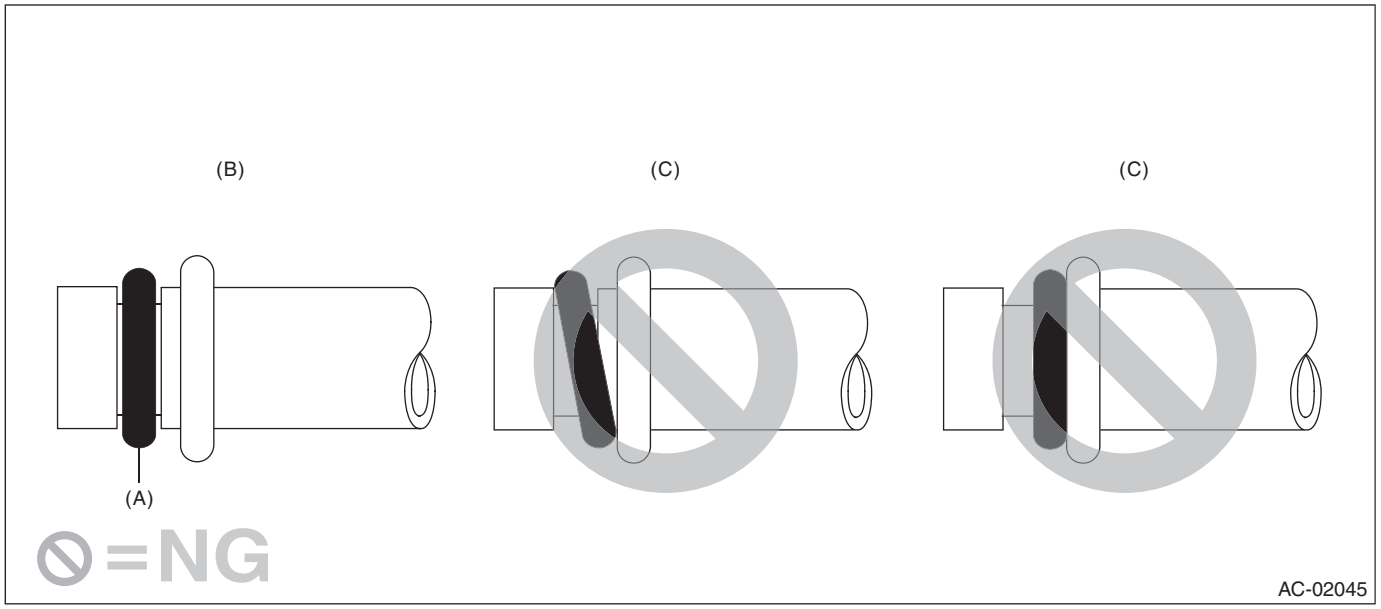


(A) Goggles
(B) Gloves
(C) Do not apply impact.
(D) No direct heat on container
(E) Do not discharge

5. O-RING CONNECTIONS

• Always use a new O-ring.
• In order to keep the O-rings free of lint which will cause a refrigerant gas leak, perform work without using gloves or waste cloths.
• Apply compressor oil to O-rings to avoid sticking, before installation.
• Use a torque wrench to tighten the O-ring fittings. Over-tightening will result in damage of the O-ring and deformation of the pipe end.
• If the work is interrupted before completing pipe connections, recap the pipes, components and fittings with a plug or tape to prevent foreign matter from entering.
• Visually check the surfaces and mating surfaces of O-rings, threads and connecting points. If a failure is found, replace the applicable parts.

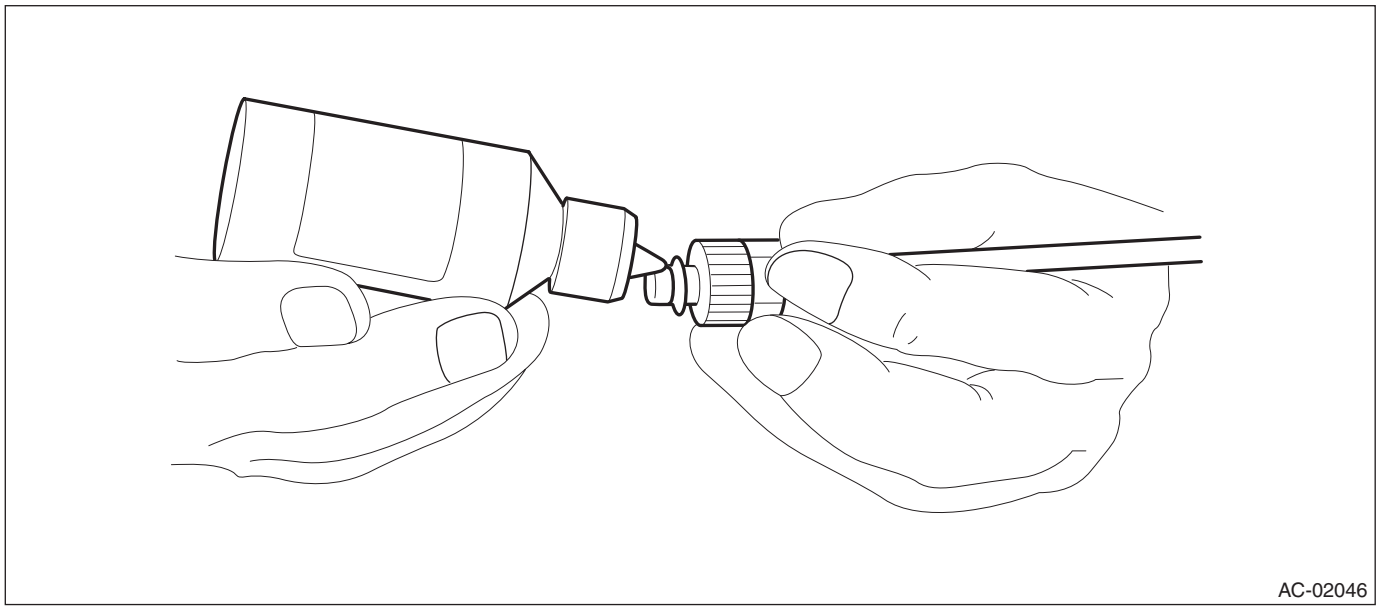
- Install the O-rings straight against the pipe groove.



(A) O-ring (B) OK (C) NG

- Use compressor oil specified in the service manual to lubricate the O-rings.

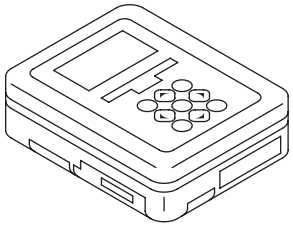
Apply oil to the top and sides of O-rings before installation.
Apply compressor oil to the pipe grooves.



- After tightening, use a clean cloth to remove excess compressor oil from the connections and any oil which may have run on the vehicle body or other parts.
- If any leakage is suspected after tightening, do not tighten the connections further, but disconnect the connections, remove the O-rings, and check the O-rings, threads, and connections.

E: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

CAUTION:
When working on vehicles with a HFC-134a system, only use HFC-134a specified tools and parts. Do not mix CFC-12 tools and parts. If HFC-134a and CFC-12 refrigerant or compressor oil is mixed, it will result in poor lubrication and the compressor itself may be damaged.
In order to prevent the mixture of HFC-134a and CFC-12 parts and liquid, the type of tool and screw, and the replacement valves used are different. The gas leak detectors for the HFC-134a and CFC-12 systems must also not be interchanged.

	HFC-134a	CFC-12
Tool & screw type	Millimeter size	Inch size
Valve type	Quick joint type	Screw-in type

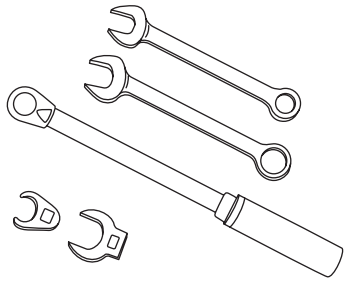
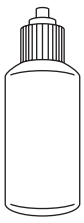
Illustration	Tools and Equipment
 AC-00213	Wrench Various **WRENCHES** will be required to service any A/C system.7 — 40 N·m (0.7 to 4.1 kgf-m, 5 to 30 ft-lb) torque wrench and various crow-foot wrenches will be needed. Open end or flare nut wrenches will be needed to affix the pipe and hose fittings.
 AC-00012	Applicator bottle A small **APPLICATOR BOTTLE** is recommended to apply compressor oil to the various parts. It can be available at a hardware store.

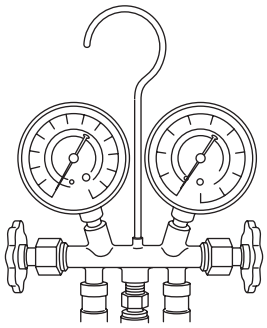
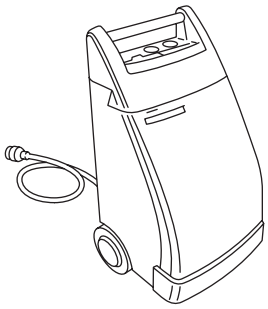
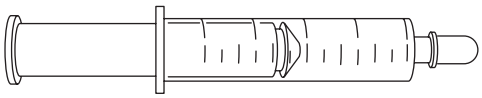
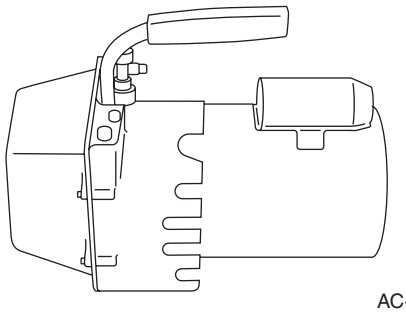
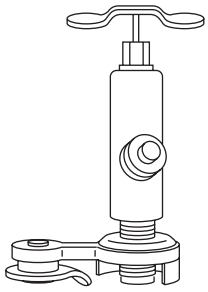
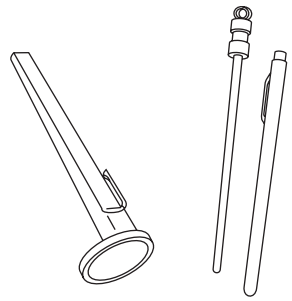
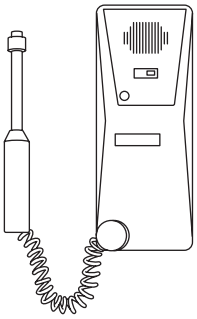
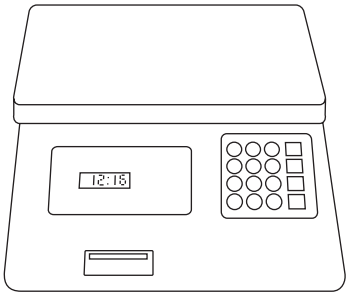
Illustration	Tools and Equipment
 AC-00013	Manifold gauge set A **MANIFOLD GAUGE SET** (with hoses) is available at either a refrigerant supplier or an automotive equipment supplier.
 AC-00014	Refrigerant recovery system A **REFRIGERANT RECOVERY SYSTEM** is used for the recovery and recycling of A/C system refrigerant after contaminants and moisture have been removed from the refrigerant.
 AC-00015	Syringe A graduated plastic **SYRINGE** will be needed to add oil into the system again. A syringe can be available at a pharmacy or drug store.
 AC-00016	Vacuum pump A **VACUUM PUMP** is necessary (for a good working condition), and may be available at either a refrigerant supplier or an automotive equipment supplier.
 AC-00017	Can tap A **CAN TAP** for the 397 g (14 oz.) can is available at an automotive equipment supplier.

Illustration	Tools and Equipment
 AC-00018	Thermometer A Pocket **THERMOMETER** is available at either a industrial hardware store or a refrigerant supplier.
 AC-00019	Electronic leak detector An **ELECTRONIC LEAK DETECTOR** can be available at either a specialty tool supplier or an A/C equipment supplier.
 AC-00020	Weight scale A **WEIGHT SCALE** such as an electronic charging scale or a bathroom scale with digital display will be needed, if a 13.6 kg (30 lb) refrigerant container is used.

2. Air Conditioning System

A: WIRING DIAGRAM

Refer to “Air Conditioning System” in the wiring diagram. <Ref. to WI-51, WIRING DIAGRAM, Air Conditioning System.>

B: ELECTRICAL SPECIFICATION

Refer to “Auto A/C Control Module I/O Signal” of “HVAC SYSTEM (DIAGNOSTICS)” section. <Ref. to AC(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

Refer to “Basic Diagnostic Procedure” of “HVAC SYSTEM (DIAGNOSTICS)” section. <Ref. to AC(diag)-2, Basic Diagnostic Procedure.>

D: NOTE

For procedure of each component in the air conditioning system, refer to the respective section.

- Blower motor unit assembly: <Ref. to AC-34, Blower Motor Unit Assembly.>
- Blower motor: <Ref. to AC-37, Blower Motor.>
- Power transistor (auto A/C model): <Ref. to AC-39, Power Transistor (Auto A/C Model).>
- Blower resistor (manual A/C model): <Ref. to AC-40, Blower Resistor (Manual A/C Model).>
- Control panel: <Ref. to AC-46, Control Panel.>
- Control module: <Ref. to AC-54, Control Unit.>
- Compressor: <Ref. to AC-55, Compressor.>
- Condenser: <Ref. to AC-60, Condenser.>
- Heater and cooling unit: <Ref. to AC-64, Heater and Cooling Unit.>
- Evaporator: <Ref. to AC-67, Evaporator.>
- Expansion valve: <Ref. to AC-74, Expansion Valve.>
- Hose & pipe: <Ref. to AC-76, Hose and Pipe.>
- Ambient sensor: <Ref. to AC-78, Ambient Sensor.>
- Sunload sensor (auto A/C model): <Ref. to AC-80, Sunload Sensor (Auto A/C Model).>
- In-vehicle sensor (auto A/C model): <Ref. to AC-82, In-Vehicle Sensor (Auto A/C Model).>
- Evaporator sensor: <Ref. to AC-87, Evaporator Sensor.>
- Intake door actuator: <Ref. to AC-90, FRESH/RECIRC Door Actuator.>
- Mode door actuator: <Ref. to AC-92, Mode Door Actuator.>
- Air mix door actuator: <Ref. to AC-95, Air Mix Door Actuator.>
- Rear vent actuator: <Ref. to AC-100, Rear Vent Door Actuator.>

3. Refrigerant Pressure with Manifold Gauge Set

A: PROCEDURE

1. CHECK REFRIGERANT GAS PRESSURE

Preparation tool:
Manifold gauge set
Thermometer and hygrometer

1) Prepare the vehicle.

NOTE:
Check that the ambient temperature is 25 — 40°C (77 — 104°F) and that the humidity is 30% — 80%.

- Place the vehicle in the shade and windless condition, and open the front hood.
- Open all windows and close all doors.

2) Connect the manifold gauge set, and then check the refrigerant pressure.
   (1) Connect the manifold gauge set, and start the engine.
   (2) Set the vehicle to the following conditions.

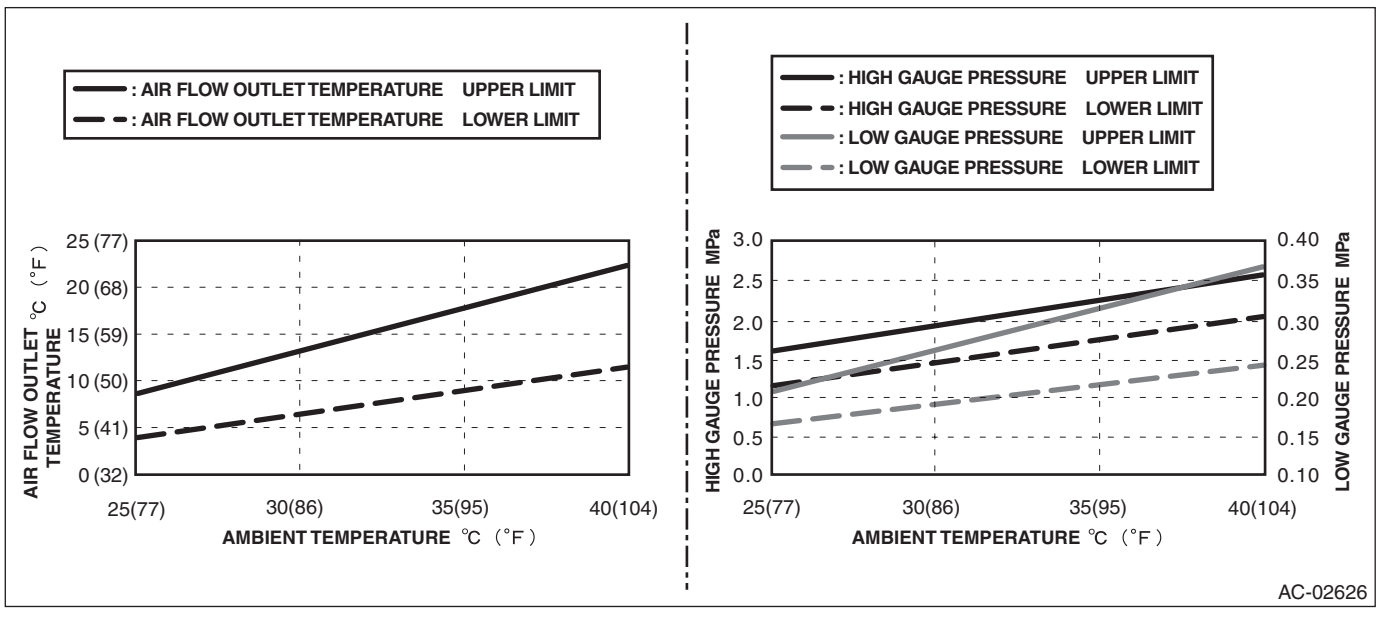
Item	Condition
Engine	Warmed up (Engine coolant temperature indicator light: OFF)
Air vent grille	Shutter is fully open.
AC switch	ON
Temperature control switch or dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control switch	VENT
Fan switch (auto A/C model)	4 — 6 levels
Fan dial (manual A/C model)	3 — 4 levels

   (3) In the condition of step (2), idle the engine for 30 minutes.
   (4) Read the gauge values on both high pressure side and low pressure side for manifold gauge.

3) Measure the air vent grille outlet opening temperature, ambient temperature and humidity.

NOTE:
For outlet opening temperature, measure the average temperature of center grille assembly and side grille assembly.

4) Check that the high and low pressures and outlet opening temperature for ambient temperature and humidity is within the standard value described in the chart below.



5) Refer to “DIAGNOSIS WITH SYMPTOM” if the inspection result is not within the standard value. <Ref. to AC-23, INSPECTION WITH PRESSURE SYMPTOM, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>

B: INSPECTION

1. INSPECTION WITH PRESSURE SYMPTOM

Symptoms	Reference
Both high and low pressure sides are low	<Ref. to AC-23, BOTH HIGH AND LOW PRESSURE SIDES ARE LOW, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
Both high and low pressure sides are high	<Ref. to AC-23, BOTH HIGH AND LOW PRESSURE SIDES ARE HIGH, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
High and low pressure sides are equal, high-pressure side is low	<Ref. to AC-24, HIGH AND LOW PRESSURE SIDES ARE EQUAL, OR HIGH-PRESSURE SIDE IS LOW, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
High-pressure side is high	<Ref. to AC-24, HIGH-PRESSURE SIDE IS HIGH, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
Low-pressure side is low	<Ref. to AC-25, LOW-PRESSURE SIDE IS LOW, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
Low-pressure side is high	<Ref. to AC-25, LOW-PRESSURE SIDE IS HIGH, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>

2. BOTH HIGH AND LOW PRESSURE SIDES ARE LOW

	Step	Check	Yes	No
1	**CHECK REFRIGERANT LEAKS.** Check the refrigerant for leaks. <Ref. to AC-30, INSPECTION, Refrigerant Leak Check.> NOTE: When high-pressure side is less than 0.69Mpa: Go to step 2.	Are there refrigerant leaks?	Repair the refrigerant leaking points.	Go to step **2**.
2	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain all refrigerant, and refill proper amount of refrigerant. • Recovery: <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.> • Fill: <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Perform corresponding “INSPECTION WITH PRESSURE SYMPTOM”.

3. BOTH HIGH AND LOW PRESSURE SIDES ARE HIGH

	Step	Check	Yes	No
1	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain all refrigerant, and refill proper amount of refrigerant. • Recovery: <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.> • Fill: <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Perform corresponding “INSPECTION WITH PRESSURE SYMPTOM”.

4. HIGH AND LOW PRESSURE SIDES ARE EQUAL, OR HIGH-PRESSURE SIDE IS LOW

	Step	Check	Yes	No
1	**CHECK REFRIGERANT LEAKS.** Check the refrigerant for leaks. <Ref. to AC-30, INSPECTION, Refrigerant Leak Check.> NOTE: When high-pressure side is less than 0.69Mpa: Go to step 2.	Are there refrigerant leaks?	Repair the refrigerant leaking points.	Go to step **2**.
2	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain all refrigerant, and refill proper amount of refrigerant. • Recovery: <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.> • Fill: <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Inspect the compressor. <Ref. to AC(diag)-39, COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED (COMPRESSOR DOES NOT OPERATE (VARIABLE)), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

5. HIGH-PRESSURE SIDE IS HIGH

	Step	Check	Yes	No
1	**CHECK CONDENSER.** Check the condenser. <Ref. to AC-63, INSPECTION, Condenser.>	Is condenser OK?	Go to step **2**.	Clean or replace the condenser.
2	**CHECK RADIATOR FAN.** Check the radiator fan system. • H4 model: <Ref. to CO(H4DO)-7, Radiator Fan System.> • H6 model: <Ref. to CO(H6DO)-8, Radiator Fan System.>	Is radiator fan system normal?	Go to step **3**.	Repair the radiator fan system or replace the faulty parts.
3	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain all refrigerant, and refill proper amount of refrigerant. • Recovery: <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.> • Fill: <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Check the high-pressure hose and condenser for kinks or clogging, and replace if defective.

6. LOW-PRESSURE SIDE IS LOW

	Step	Check	Yes	No
1	**CHECK REFRIGERANT LEAKS.** Check the refrigerant for leaks. <Ref. to AC-30, INSPECTION, Refrigerant Leak Check.> NOTE: When high-pressure side is less than 0.69Mpa: Go to step 2.	Are there refrigerant leaks?	Repair the refrigerant leaking points.	Go to step **2**.
2	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain all refrigerant, and refill proper amount of refrigerant. • Recovery: <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.> • Fill: <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Go to step **3**.
3	**REPLACE EXPANSION VALVE.** Replace the expansion valve. <Ref. to AC-74, REMOVAL, Expansion Valve.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Inspect the compressor. <Ref. to AC(diag)-39, COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED (COMPRESSOR DOES NOT OPERATE (VARIABLE)), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

7. LOW-PRESSURE SIDE IS HIGH

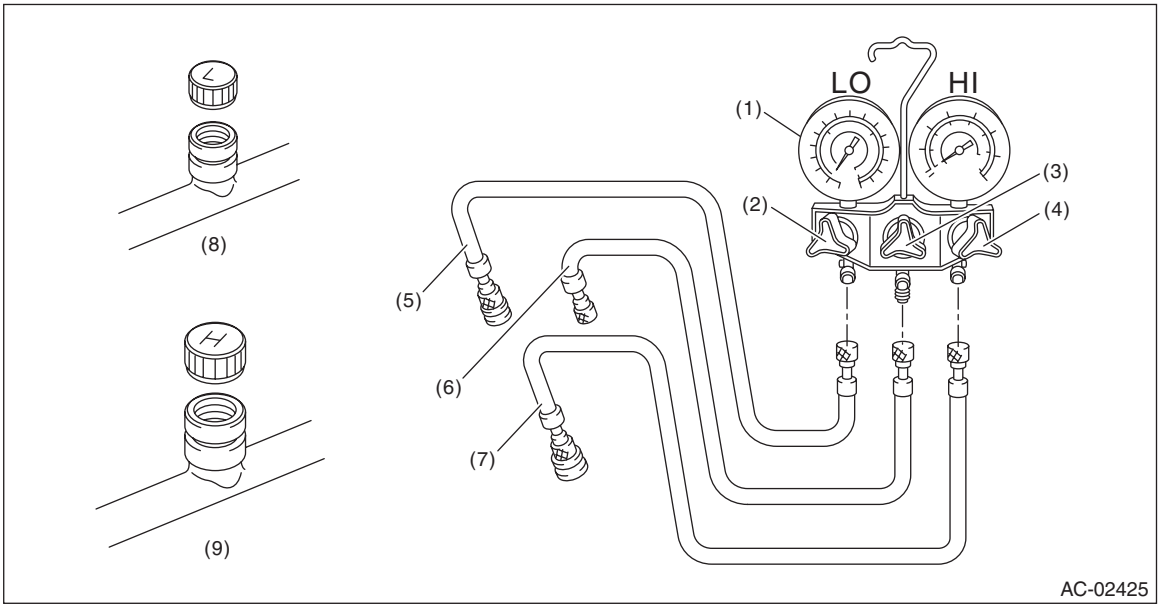
	Step	Check	Yes	No
1	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain all refrigerant, and refill proper amount of refrigerant. • Recovery: <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.> • Fill: <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Go to step **2**.
2	**REPLACE EXPANSION VALVE.** Replace the expansion valve. <Ref. to AC-74, REMOVAL, Expansion Valve.>	Is refrigerant pressure within the standard value?	Refrigerant pressure is normal.	Replace the evaporator. <Ref. to AC-67, REMOVAL, Evaporator.>

4. Refrigerant Recovery Procedure

A: PROCEDURE

Preparation tool:
Manifold gauge set
Refrigerant recovery system

CAUTION:
• During operation, be sure to wear protective goggles and protective gloves.
• Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and recycle the gas.
• When recycling the discharged refrigerant, keep service cans on hand. Because the recovery rate with the recovery system is approx. 90%, service cans are necessary to charge the refrigerant.
• Follow the detailed operation procedure described in the operation manual attached to the refrigerant recovery system.



(1)	Manifold gauge	(4)	High pressure valve	(7)	High-pressure hose
(2)	Low pressure valve	(5)	Low-pressure hose	(8)	Low-pressure side service port
(3)	Center valve	(6)	Center manifold hose (vacuum pump and charge)	(9)	High-pressure side service port

1) Perform compressor oil return operation. <Ref. to AC-33, PROCEDURE, Compressor Oil.>
2) Stop the engine.
3) Attach the manifold gauge set.
   (1) Check that all valves are fully closed.
   (2) Install the low/high pressure hoses to the service ports on the low/high pressure sides of the vehicle respectively.

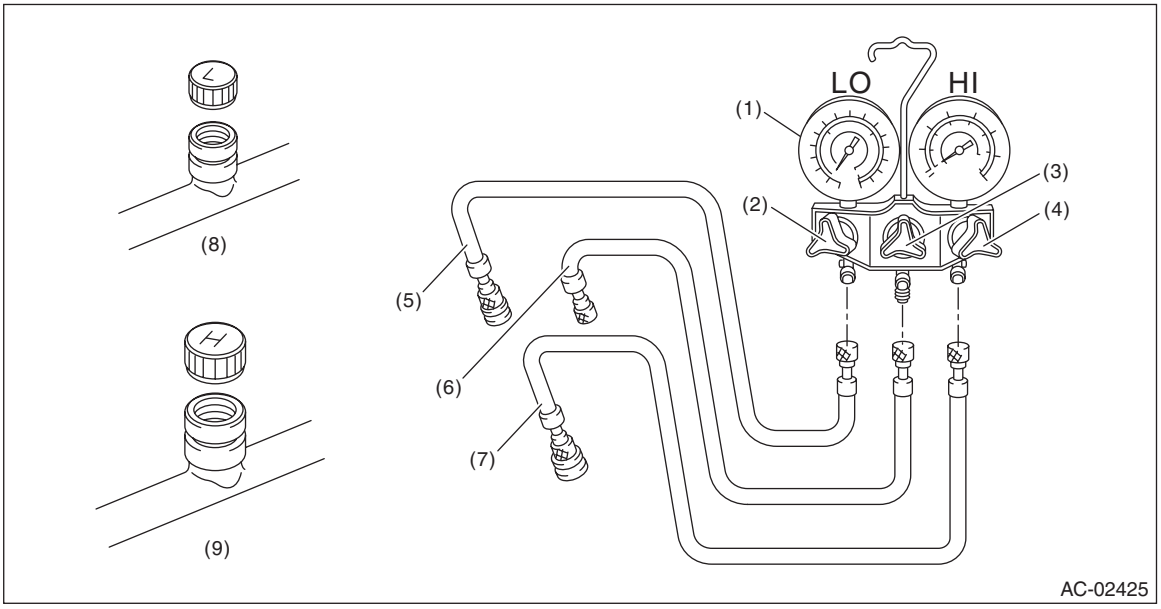
CAUTION:
Confirm that the connections are secure.
   (3) Connect the center manifold hose to the refrigerant recovery system.
4) Follow the operation manual attached to the refrigerant recovery system to collect the refrigerant.

5. Refrigerant Charging Procedure

A: PROCEDURE

Preparation tool:
Manifold gauge set
Vacuum pump
Can tap
Weight scale

CAUTION:
• While working, be sure to wear protective goggles and protective gloves.
• Air in the cycle can cause insufficient air conditioning, and water in the cycle can cause clogging in the cycle (icing) and rust. To remove this air and water content, use a vacuum pump to perform evacuation before filling with refrigerant. By making the inside of the cycle a vacuum, the water content will evaporate even at normal temperatures, and can be removed.



(1)	Manifold gauge	(4)	High pressure valve	(7)	High-pressure hose
(2)	Low pressure valve	(5)	Low-pressure hose	(8)	Low-pressure side service port
(3)	Center valve	(6)	Center manifold hose (vacuum pump and charge)	(9)	High-pressure side service port

1) Attach the manifold gauge set.
(1) Check that all valves are fully closed.
(2) Install the low/high pressure hoses to the service ports on the low/high pressure sides of the vehicle respectively.

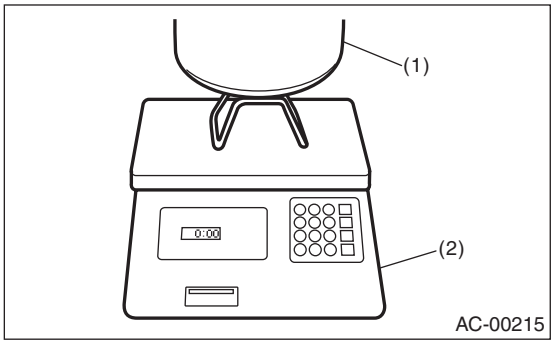
CAUTION:
Confirm that the connections are secure.
(3) Connect the center manifold hose of the manifold gauge to the vacuum pump.
2) Perform evacuation.

CAUTION:
Make sure to perform evacuation using a vacuum pump.
(1) Open the low-pressure valve, high-pressure valve and center valve.
(2) Operate the vacuum pump.
(3) Perform evacuation for 5 minutes or more, and when the low pressure gauge needle reaches -0.1 MPa (1.0 kgf/cm^2, 14 psi), close the center manifold hose valve, and stop the vacuum pump.

(4) Leave alone for 5 to 10 minutes after closing the low pressure side and high pressure side valves, and check whether there is any change in the low pressure gauge needle indication. If the needle position changes, this indicates a leak. Check the pipe and hose connections, and repair the location with the problem. In this case, repeat again from step 1).
(5) If there is no leakage, continue evacuation for additional 20 — 30 minutes, close all valves and then stop the vacuum pump.

3) Charge refrigerant.
(1) Follow the can tap operation manual to attach it to the refrigerant can.
(2) Disconnect the center manifold hose from the vacuum pump, and connect the hose to the tap valve.

NOTE:
When a 13.6 kg (30 lb) refrigerant container (1) is used, measure the amount of refrigerant with a refrigerant charging scale (2), and connect with the center manifold hose.



(3) Open the tap valve of HFC-134a supply container (refrigerant can or refrigerant container).
(4) Loosen the center manifold hose connection on the manifold gauge for a few seconds (if there is a purge valve on the manifold gauge, push this instead) to allow the air in the center manifold hose to be bled by the refrigerant pressure.
(5) Open the low-pressure side and high-pressure side valves of the manifold gauge to fill with refrigerant.

NOTE:
If the HFC-134a supply container is empty, close all valves of manifold gauge and tap valve of HFC-134a supply container, and replace the empty container. After replacing with a new HFC-134a supply container, perform air purge, and resume the filling operation.

(6) If the low pressure gauge indicates approximately 0.2 MPa (2.0 kgf/cm^2, 29 psi) or refrigerant filling efficiency drops, close the low-pressure side valve and high-pressure side valve.
(7) Check that the low-pressure side valve and high-pressure side valve are closed, turn off the A/C switch and start the engine.

CAUTION:
When filling with the engine running, do not open the high pressure side valve. Always fill from the low pressure side.

(8) To prevent damage to the compressor, push the A/C switch ON-OFF quickly a few times.
(9) Set the vehicle to the following conditions.

Item	Condition
Engine speed	1,500 rpm
AC switch	ON
Temperature control switch or dial	LO (MAX COOL)
Fan switch or dial	HI (MAX)
FRESH/RECIRC switch	RECIRC
Air flow control switch	VENT
Window	Open

(10) Open the low-pressure side valve, check the refrigerant pressure with a manifold gauge and fill with refrigerant up to the specified amount. <Ref. to AC-23, INSPECTION WITH PRESSURE SYMPTOM, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>

4) Using an electronic leak detector (leak tester), check for refrigerant leaks in the system. <Ref. to AC-30, INSPECTION, Refrigerant Leak Check.>
5) After filling with refrigerant, close all valves and remove the manifold gauge set.
6) Attach cap to the service port of the low-pressure side and high-pressure side.

6. Refrigerant Leak Check

A: INSPECTION

Preparation tool:
Manifold gauge set
Electronic leak detector (leak tester)

1) Attach the manifold gauge set.
   (1) Check that all valves are fully closed.
   (2) Install the low/high pressure hoses to the service ports on the low/high pressure sides of the vehicle respectively.

CAUTION:
Confirm that the connections are secure.

   (3) Start the engine, operate the A/C system for approx. 10 minutes, and check that the high-pressure side indicates 0.69 MPa (7.0 kgf/cm^2, 100 psi) or more.

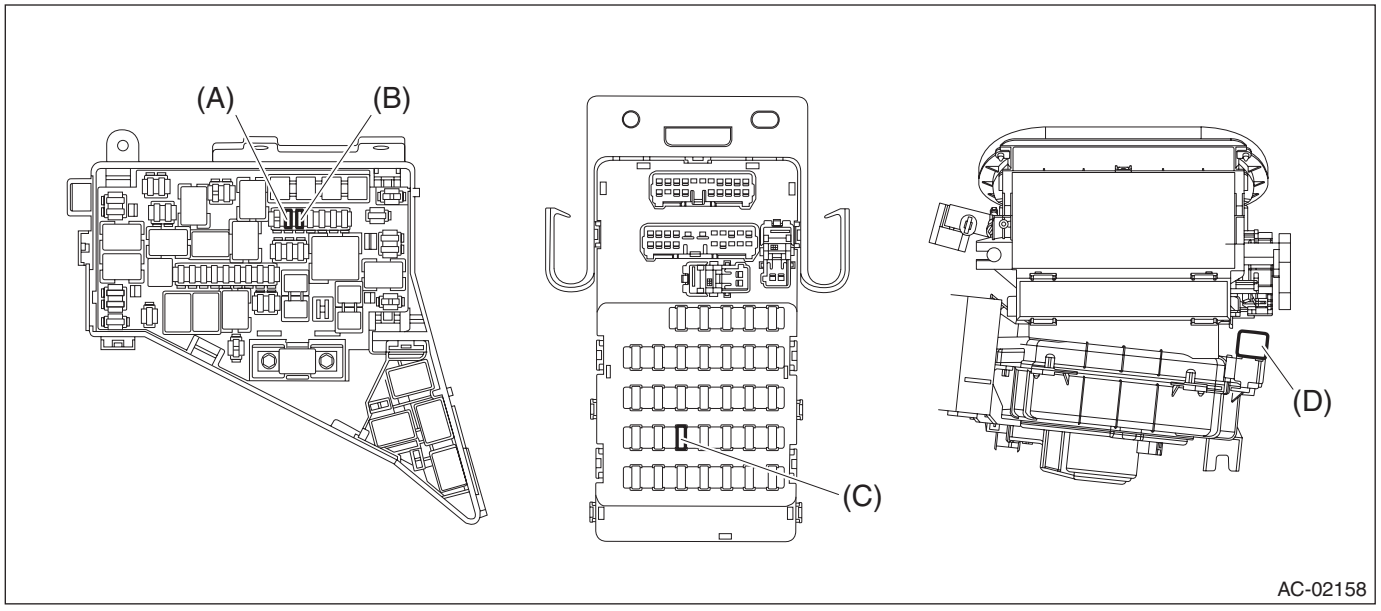
2) Stop the engine to start the leak test.

Items	Condition	Corrective action
Pipe	Check the connections of pipe and expansion valve.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between pressure switch or pressure sensor and high-pressure pipe.	Replace the pressure switch or pressure sensor.
	Check the connection between pipe and condenser.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
Condenser	Check the welded part of condenser and core.	Replace the condenser.
Hose (high-pressure)	Check the connection between hose (high-pressure) and compressor.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between hose (high-pressure) and condenser.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the rubber part of the flexible hose and pipe seam. **CAUTION:** **Carefully check the external surface of flexible hoses and pipes at approx. 25 mm (0.98 in) per second.**	Replace the hose (high pressure).
	Check the valve and cap in the service port.	Check the rubber seal of the valve and cap. If necessary, replace the hose (high pressure).
Compressor	Check the compressor pulley and vicinity of shaft seal. **CAUTION:** **Some shaft seals will show a slight amount of leakage, about 3 g (0.1 oz) per year. This is not a problem.**	Replace the compressor.
Hose (low-pressure)	Check the connection between hose (low pressure) and expansion valve.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between hose (low pressure) and compressor.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the rubber part of the flexible hose and pipe seam. **CAUTION:** **Carefully check the external surface of flexible hoses and pipes at approx. 25 mm (0.98 in) per second.**	Replace the hose (low pressure).
	Check the valve and cap in the service port.	Check the rubber seal of the valve and cap. If necessary, replace the hose (low pressure).

Items	Condition	Corrective action
Evaporator	Remove the drain hose from the heater case, and check the end part for 10 seconds or more.	Replace the evaporator.
	Check the air vent grille. NOTE: Turn the ignition switch to ON, and run the blower at high speed for approx. 1 minute. Stop the blower to check the air vent grille on the instrument panel. While moving the tester closer to the grille, run the blower for 1 or 2 seconds, then stop it. Check the grille at that position for at least 10 seconds.	Replace the evaporator.

7. Relay and Fuse

A: LOCATION



Main fuse box	Fuse 15 A (Blower motor relay)	(A)
	Fuse 15 A (Blower motor relay)	(B)
Relay & fuse box	Fuse 15 A (Bower motor relay, intake door actuator)	(C)
Blower motor unit	Blower motor relay	(D)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

B: INSPECTION

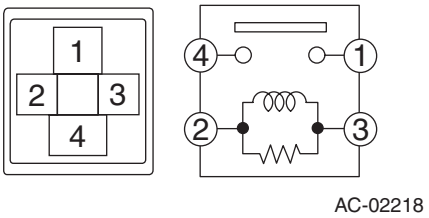
1. CHECK FUSE

1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

NOTE:
If the fuse is blown again, check the system wiring harness.

2. CHECK RELAY

1) Measure the resistance between blower motor relay terminals.

Terminal No.	Inspection conditions	Standard	Circuit
1 — 4	Always	1 MΩ or more	
1 — 4	Apply battery voltage between terminals 2 and 3.	Less than 1 Ω	

2) Replace the blower motor relay if the inspection result is not within the standard value.

8. Compressor Oil

A: PROCEDURE

NOTE:
Before making repairs, perform the oil return operation to return the compressor oil in circulation with the refrigerant to the compressor.
1) Increase the engine to 1,500 rpm.
2) Turn the A/C switch to ON.
3) Set the temperature control switch or dial to LO (MAX COOL).
4) Turn the FRESH/RECIRC switch to RECIRC position.
5) Turn the fan switch or dial to HI (MAX).
6) Leave in this condition for 10 minutes.

B: ADJUSTMENT

• If a component has been replaced, add an appropriate amount of compressor oil (same as the amount of remaining oil in removed component).
• When replacing the compressor, the new compressor will already have the specified amount of oil in it. Adjust the oil amount (so that the amount remains the same as that of the removed compressor) and install the new compressor.

NOTE:
• Since the hygroscopicity of compressor oil is high, perform this series of works quickly.

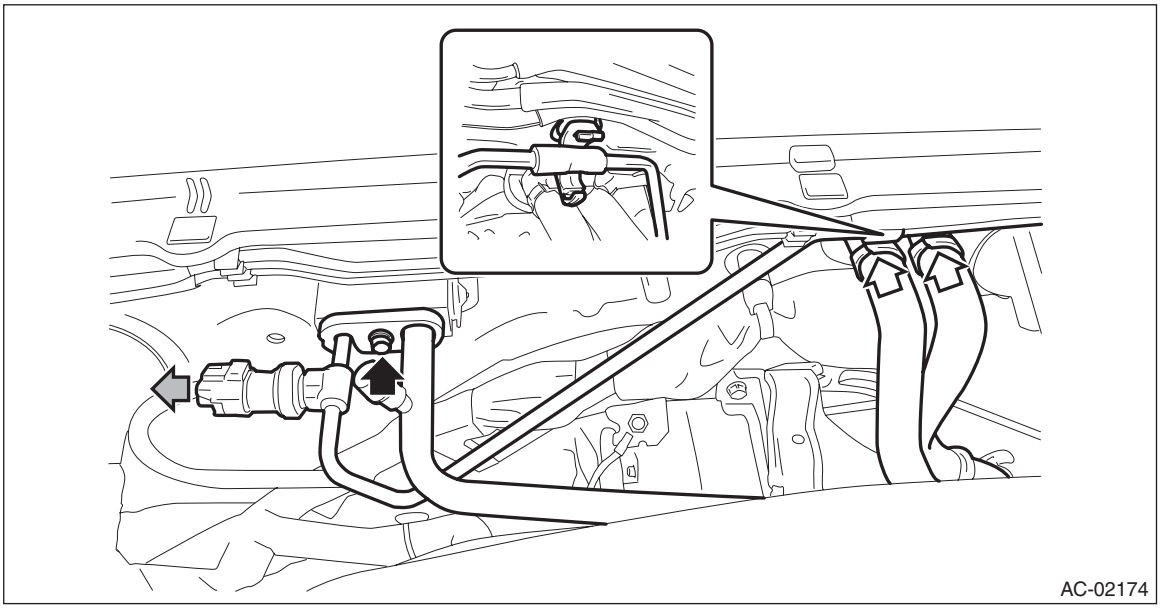
9. Blower Motor Unit Assembly

A: REMOVAL

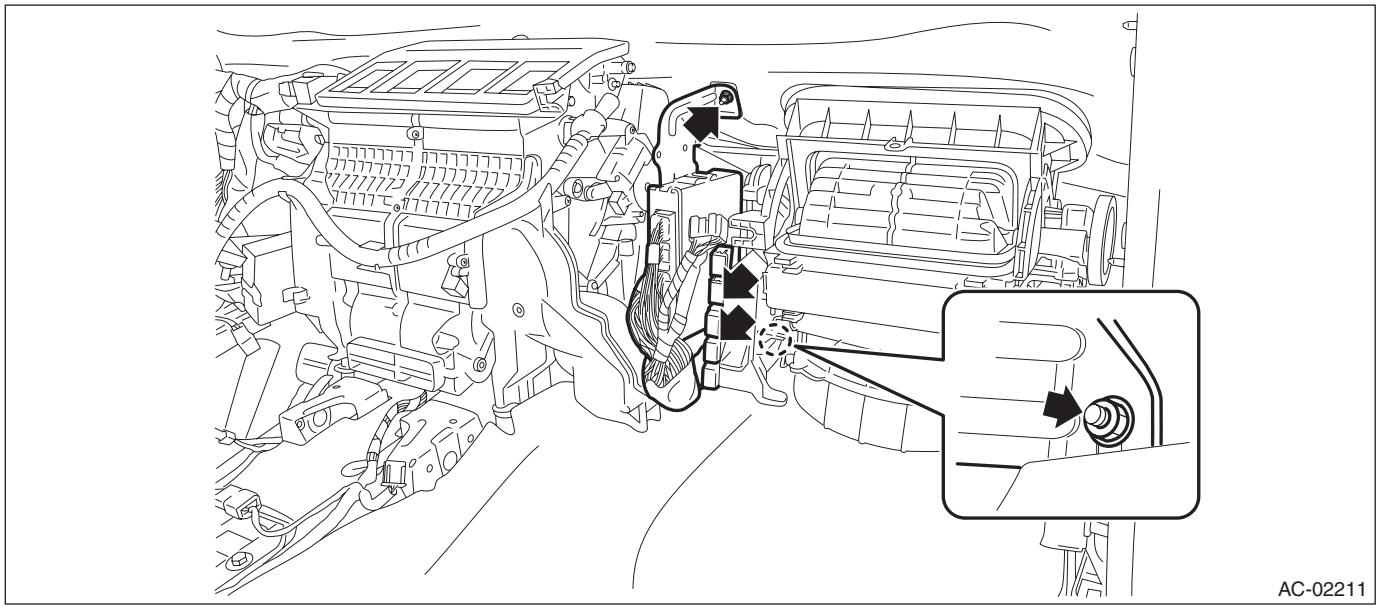
1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain the coolant from the radiator.
- H4 model: <Ref. to CO(H4DO)-14, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model: <Ref. to CO(H6DO)-12, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

4) Remove the connector and bolts, and remove the high-pressure hose and AC pipe from the expansion valve.
5) Loosen the heater hose clamps and remove the hoses.

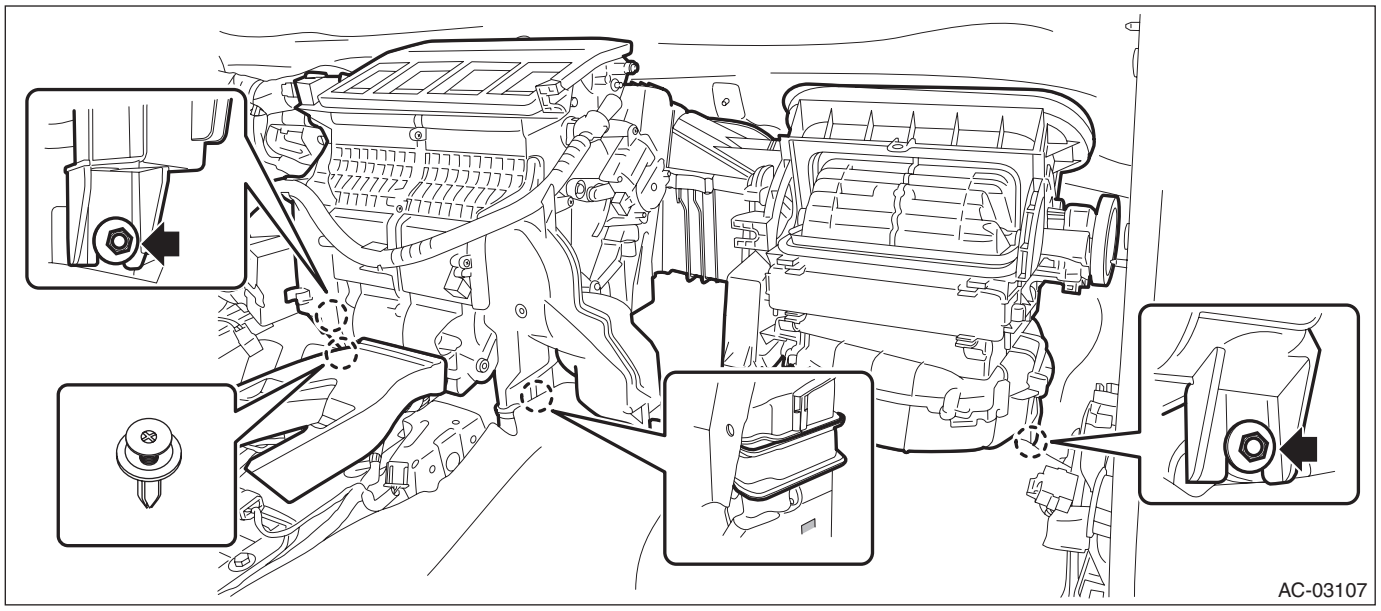
NOTE:
Put alignment marks to hoses, clamps, etc. and remove them.



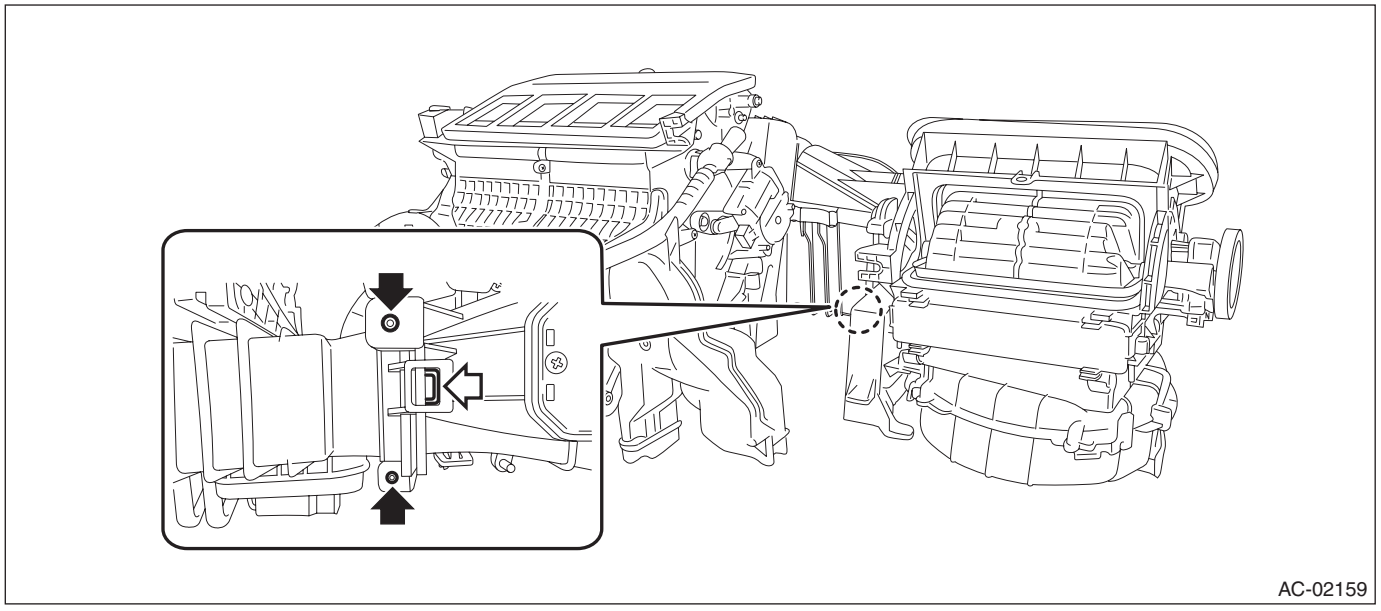
6) Remove the instrument panel assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
7) Remove the engine control module (ECM).
   (1) Release the lock and remove the relay holder.
   (2) Remove the nuts, and remove the engine control module (ECM).



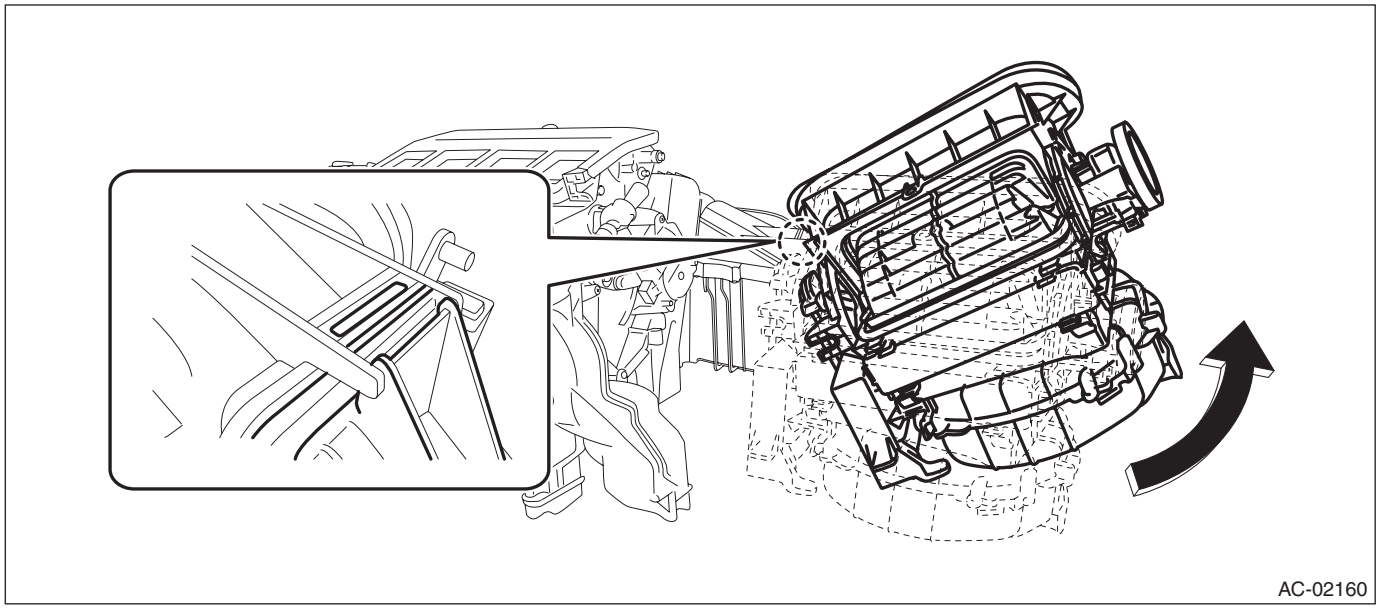
8) Remove the heater and cooling unit.
   (1) Remove the clip, and remove the rear center duct.
   (2) Turn over the floor carpet and remove the rear heater duct slide locks on the left and right.
   (3) Remove the bolt and remove the heater and cooling unit.


AC-03107

9) Remove the blower motor unit assembly.
   (1) Release the claws and remove the bolts.


AC-02159

(2) Remove the blower motor unit assembly as shown in the figure.



B: INSTALLATION

CAUTION:
- **After installing the compressor, do not start the engine until the A/C system is charged with refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **Replace O-rings and pipe clamps with new parts and install securely.**

1) Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Instrument Panel Assembly”. <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>

2) Fill engine coolant.
- H4 model: <Ref. to CO(H4DO)-15, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model: <Ref. to CO(H6DO)-12, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

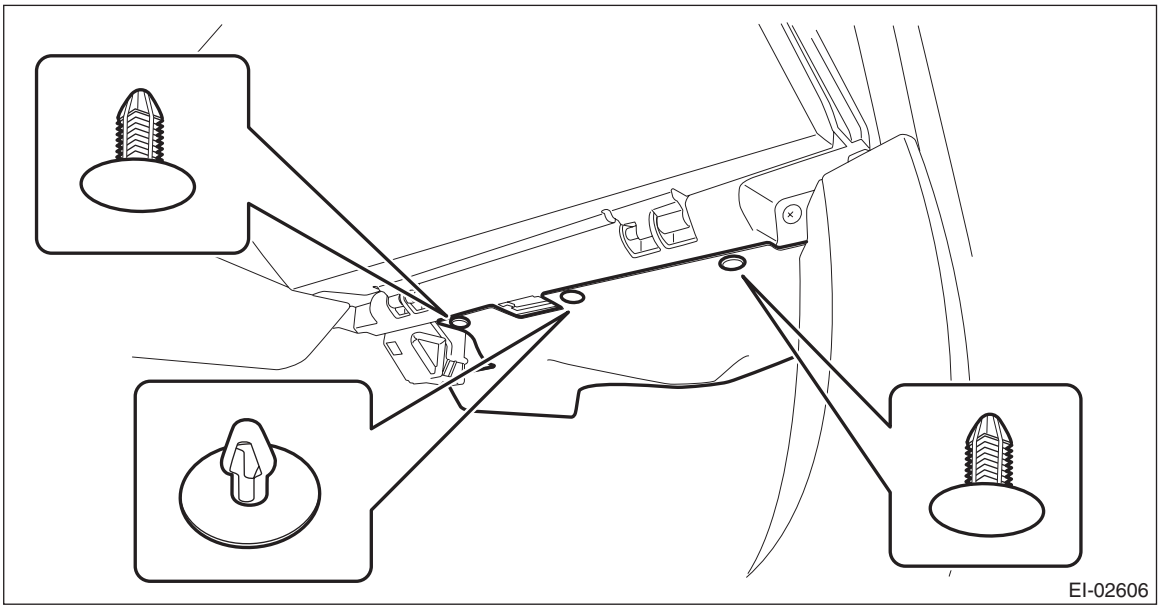
3) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Heater cooling unit: <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>
Blower motor unit: <Ref. to AC-7, BLOWER MOTOR UNIT, COMPONENT, General Description.>
Air conditioning unit: <Ref. to AC-9, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Engine control module (ECM): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

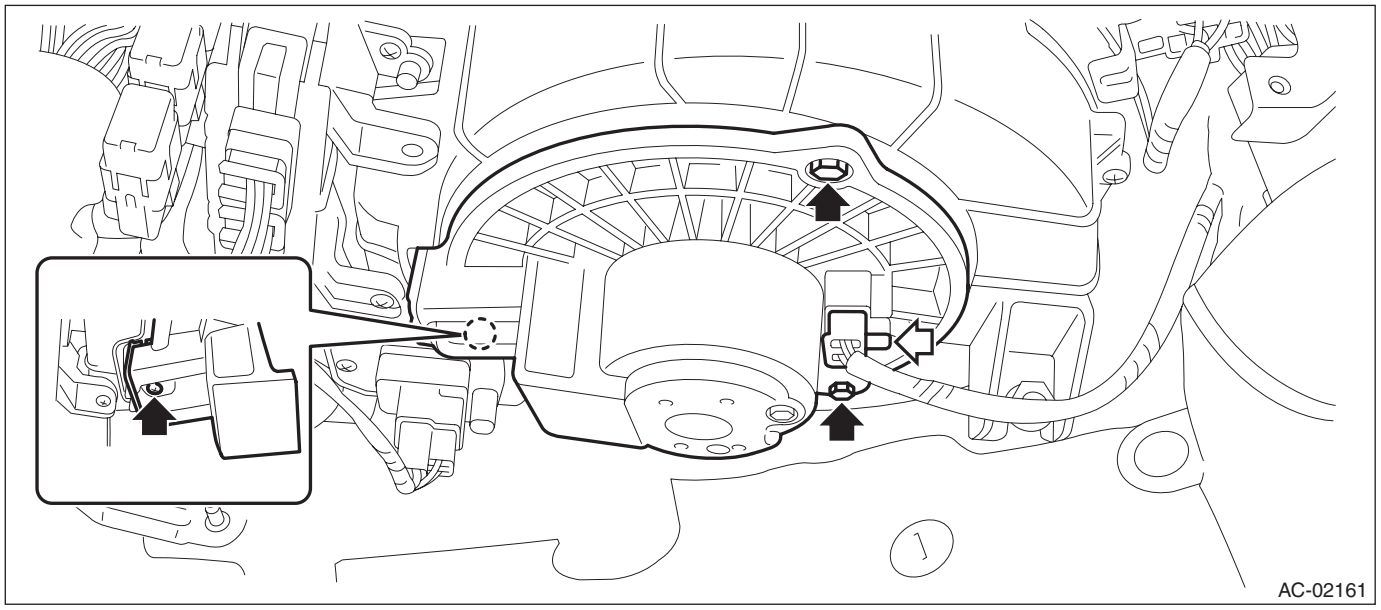
10.Blower Motor

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the clips, and remove the glove box under cover.



3) Remove the blower motor.
   (1) Disconnect the connector.
   (2) Remove the screw and remove the blower motor.

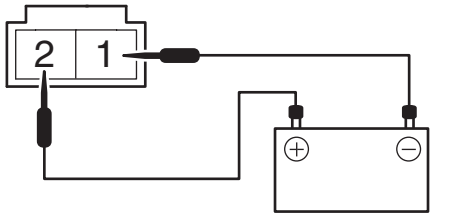


B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Check the blower motor operation when battery voltage is applied between the terminals of blower motor.

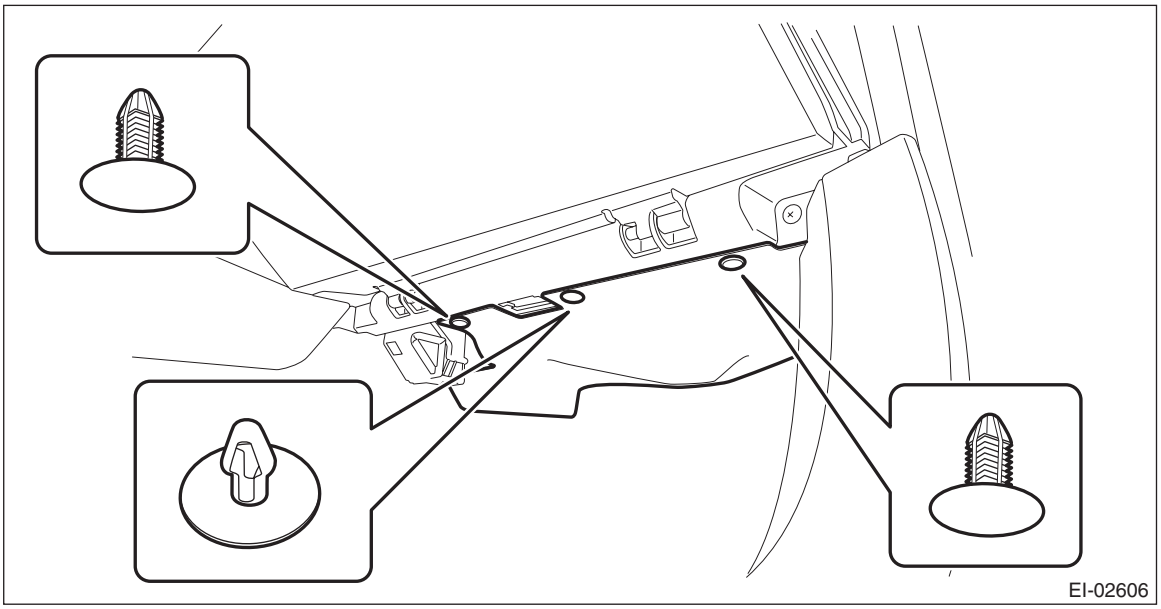
Terminal No.	Inspection conditions	Specification	Connection diagram
2 (+) — 1 (–)	Connect battery to the terminals	Rotation	 AC-02576

2) If the blower motor does not operate normally, replace the blower motor.

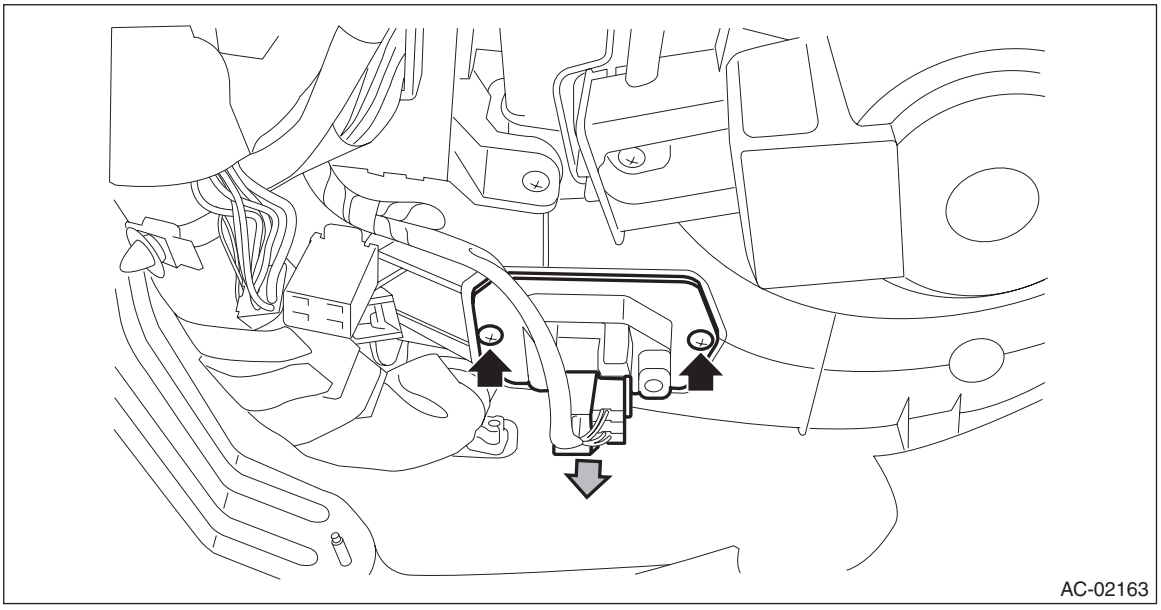
11.Power Transistor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the clips, and remove the glove box under cover.



3) Remove the power transistor.
   (1) Disconnect the connector.
   (2) Remove the screws and remove the power transistor.



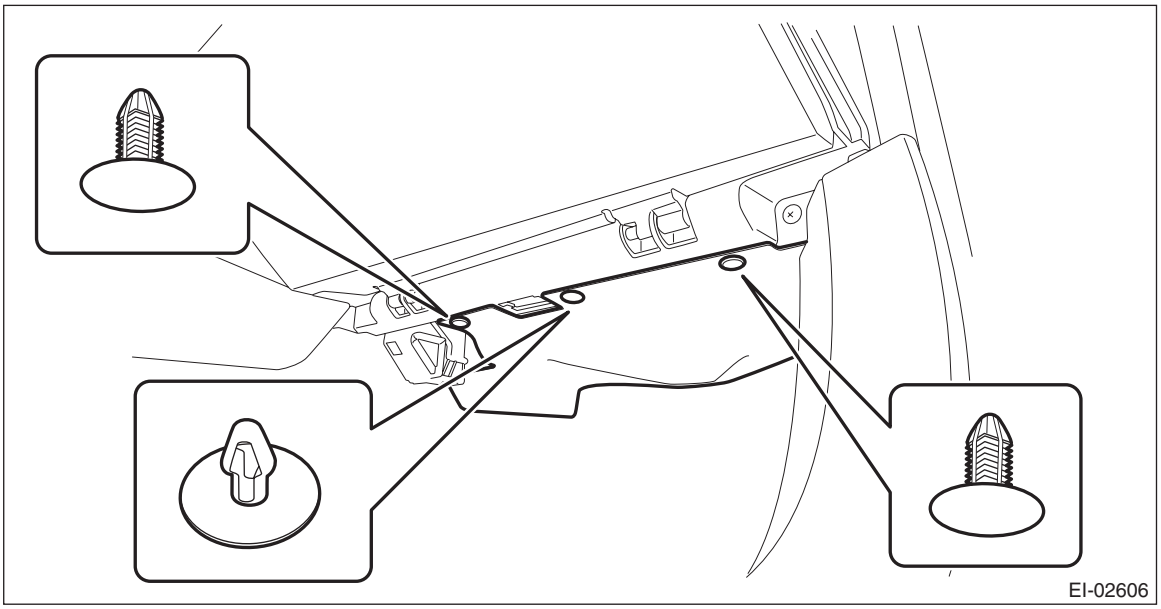
B: INSTALLATION

Install each part in the reverse order of removal.

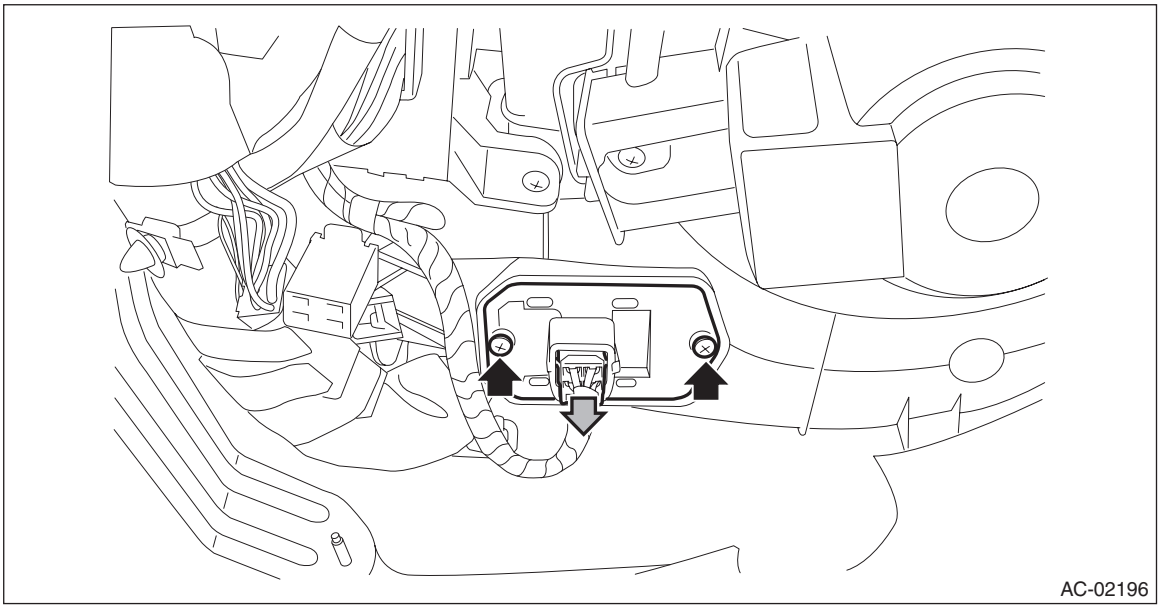
12.Blower Resistor (Manual A/C Model)

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the clips, and remove the glove box under cover.



3) Remove the blower resistor.
   (1) Disconnect the connector.
   (2) Remove the screw and remove the blower resistor.



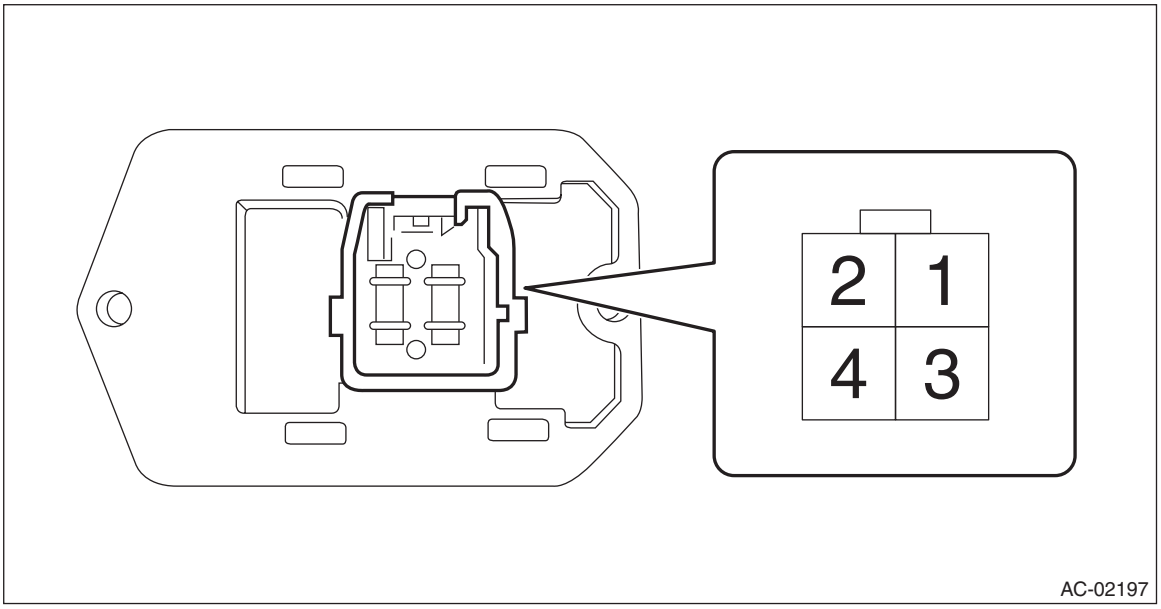
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Disconnect the blower resistor connector.
2) Check the resistance between blower resistor terminals.

Preparation tool: Circuit tester



Terminal No.	Standard
4 — 2	Approx. 0.44 Ω
4 — 3	Approx. 1.12 Ω
4 — 1	Approx. 2.92 Ω

3) Replace the blower resistor if the inspection result is not within the standard value.

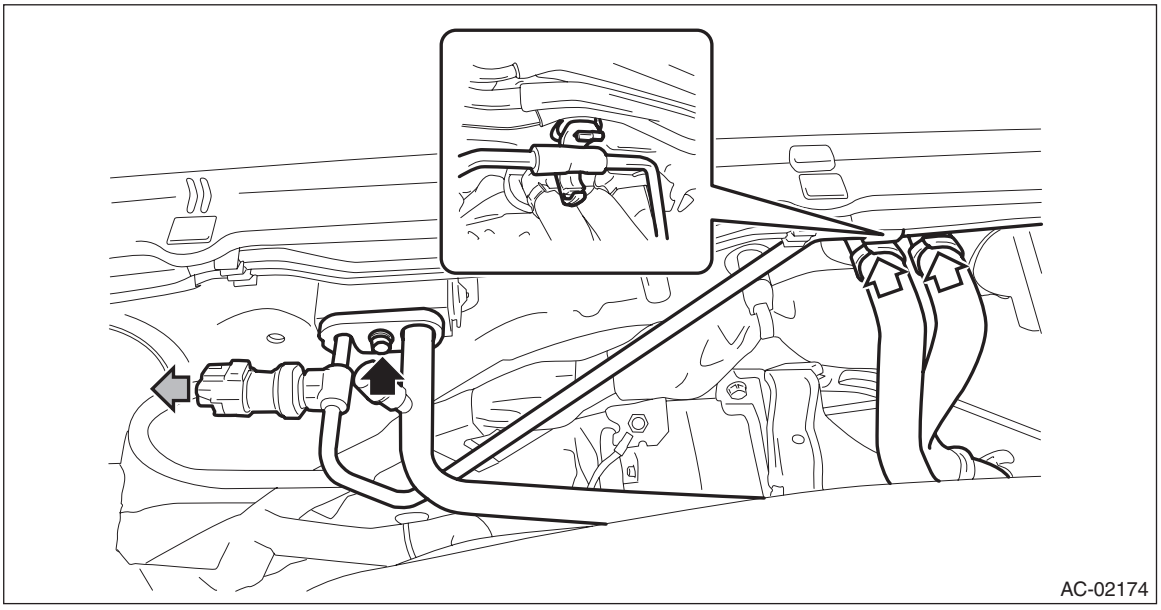
13.Heater Core

A: REMOVAL

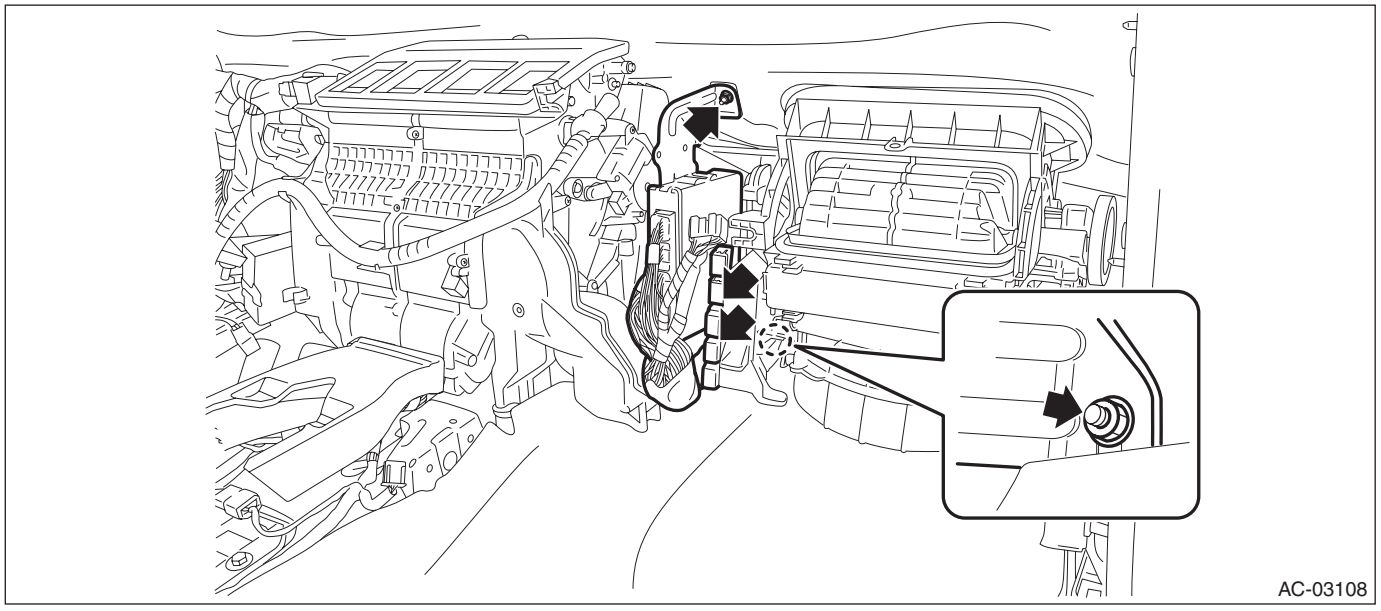
1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain the coolant from the radiator.
- H4 model: <Ref. to CO(H4DO)-14, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model: <Ref. to CO(H6DO)-12, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

4) Remove the connector and bolts, and remove the high-pressure hose and AC pipe from the expansion valve.
5) Loosen the heater hose clamps and remove the hoses.

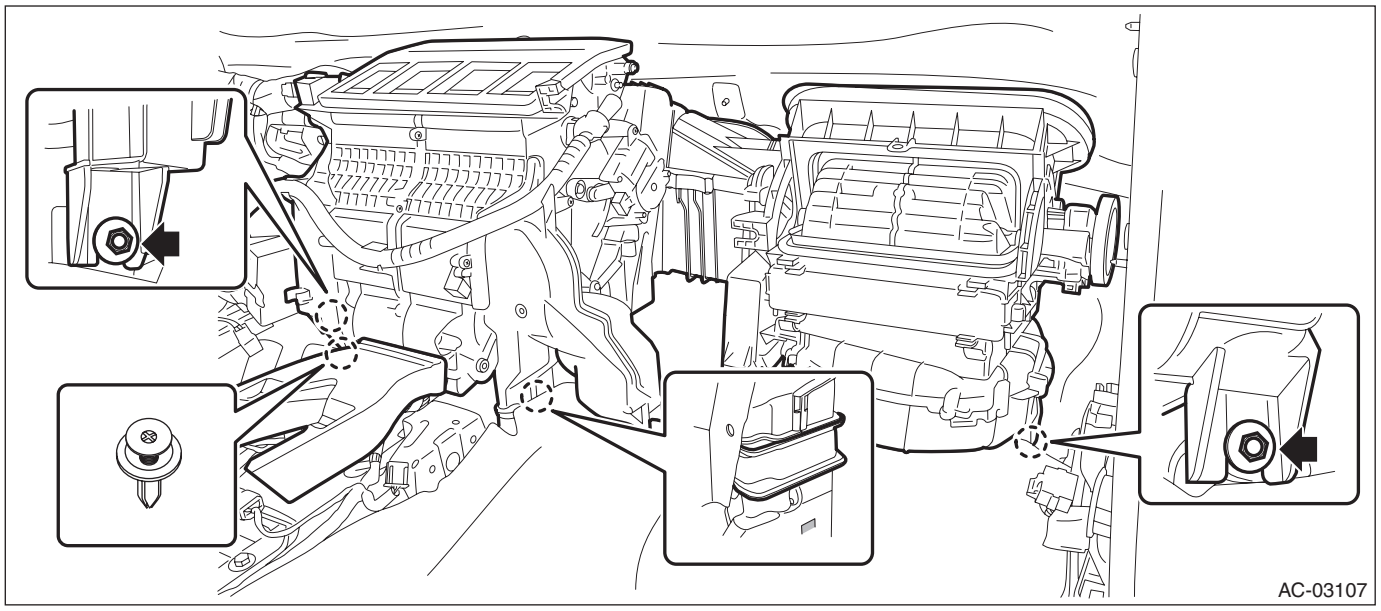
NOTE:
Put alignment marks to hoses, clamps, etc. and remove them.



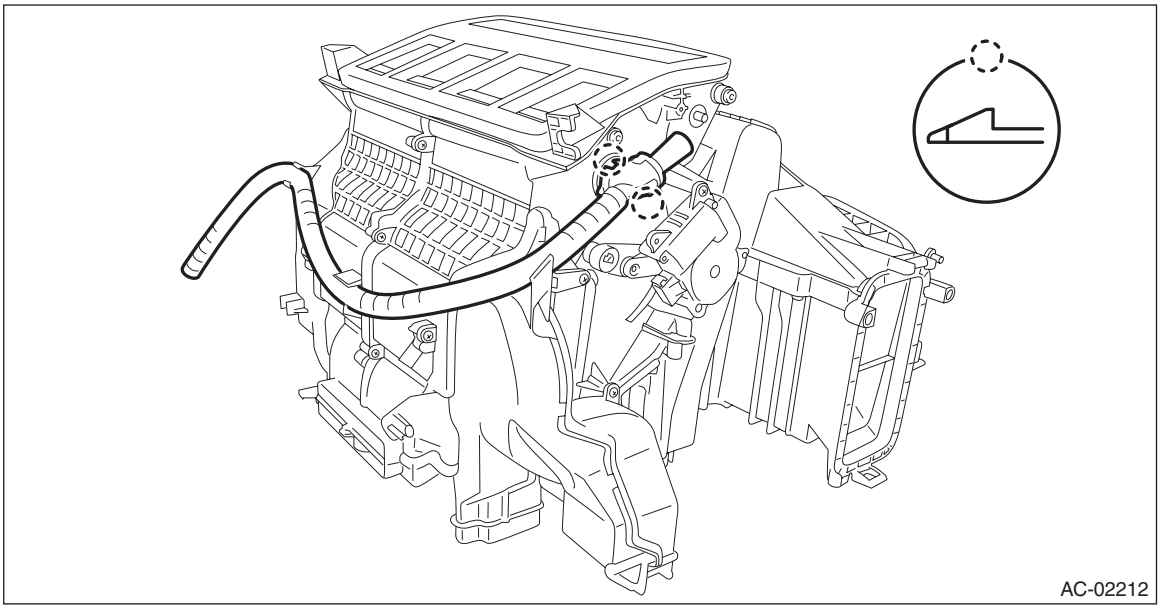
6) Remove the instrument panel assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
7) Remove the engine control module (ECM).
   (1) Release the lock and remove the relay holder.
   (2) Remove the nuts, and remove the engine control module (ECM).



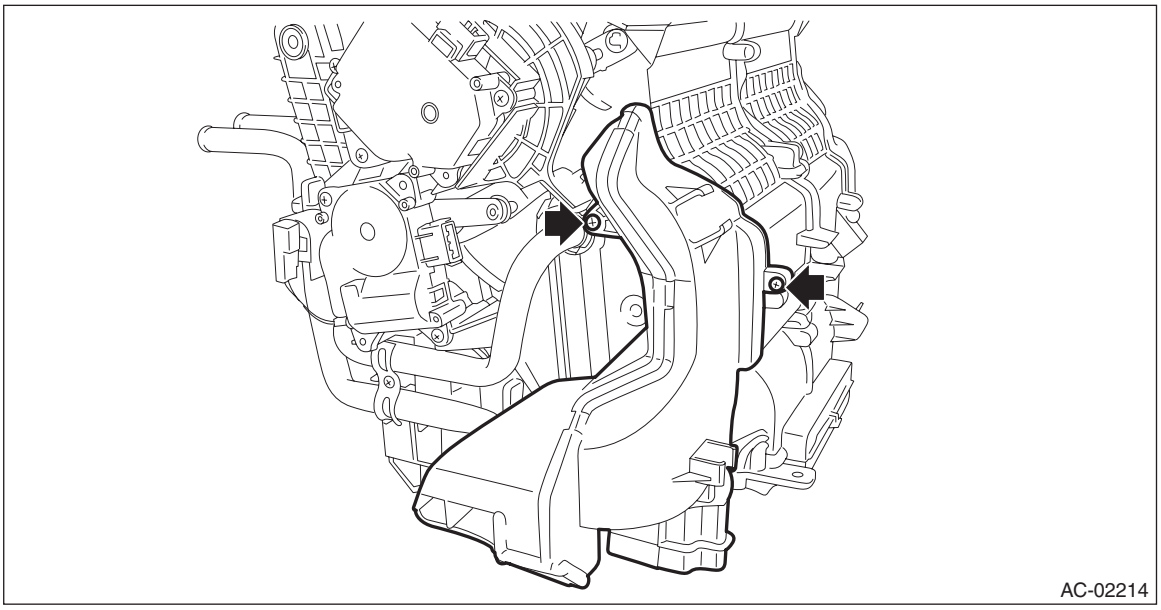
8) Remove the heater and cooling unit.
(1) Remove the clip, and remove the rear center duct.
(2) Turn over the floor carpet and remove the rear heater duct slide locks on the left and right.
(3) Remove the bolt and remove the heater and cooling unit.



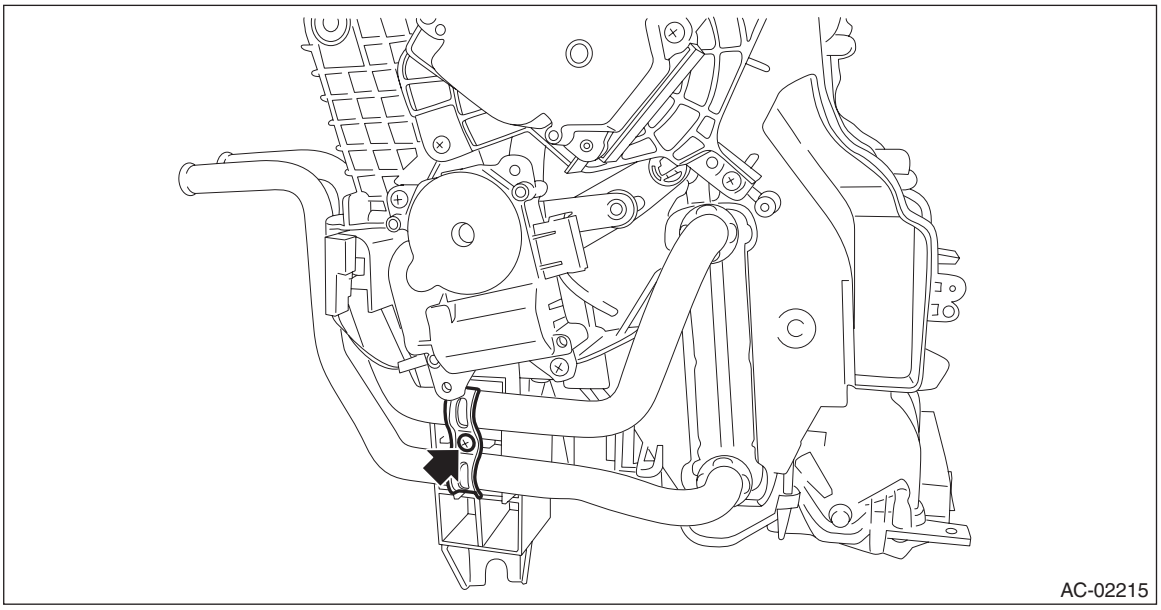
9) Disconnect the claws and then remove the aspirator hose.



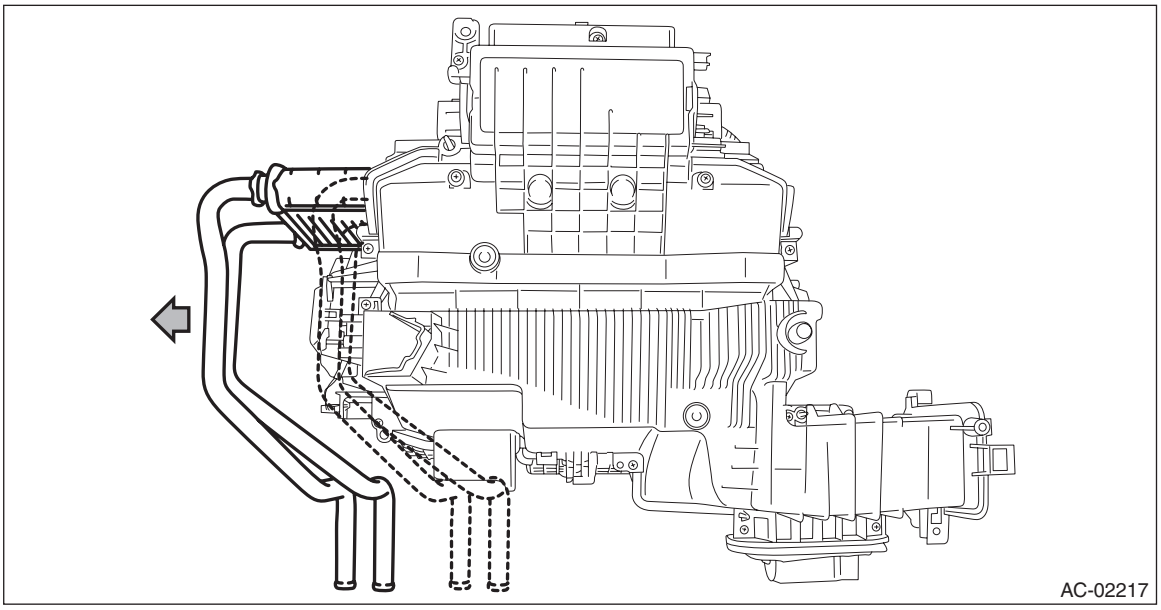
10) Remove the screws and remove the foot duct (LH).



11) Remove the heater core.
(1) Remove the screw and remove the heater pipe clamp.



(2) Pull out the heater core from the heater and cooling unit assembly.



B: INSTALLATION

CAUTION:
- **Do not start the engine before charging refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **Replace O-rings and pipe clamps with new parts and install securely.**

1) Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Instrument Panel Assembly”. <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>

2) Fill engine coolant.
- H4 model: <Ref. to CO(H4DO)-15, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model: <Ref. to CO(H6DO)-12, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

3) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Heater cooling unit: <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>
Blower motor unit: <Ref. to AC-7, BLOWER MOTOR UNIT, COMPONENT, General Description.>
Air conditioning unit: <Ref. to AC-9, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Engine control module (ECM): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

14.Control Panel

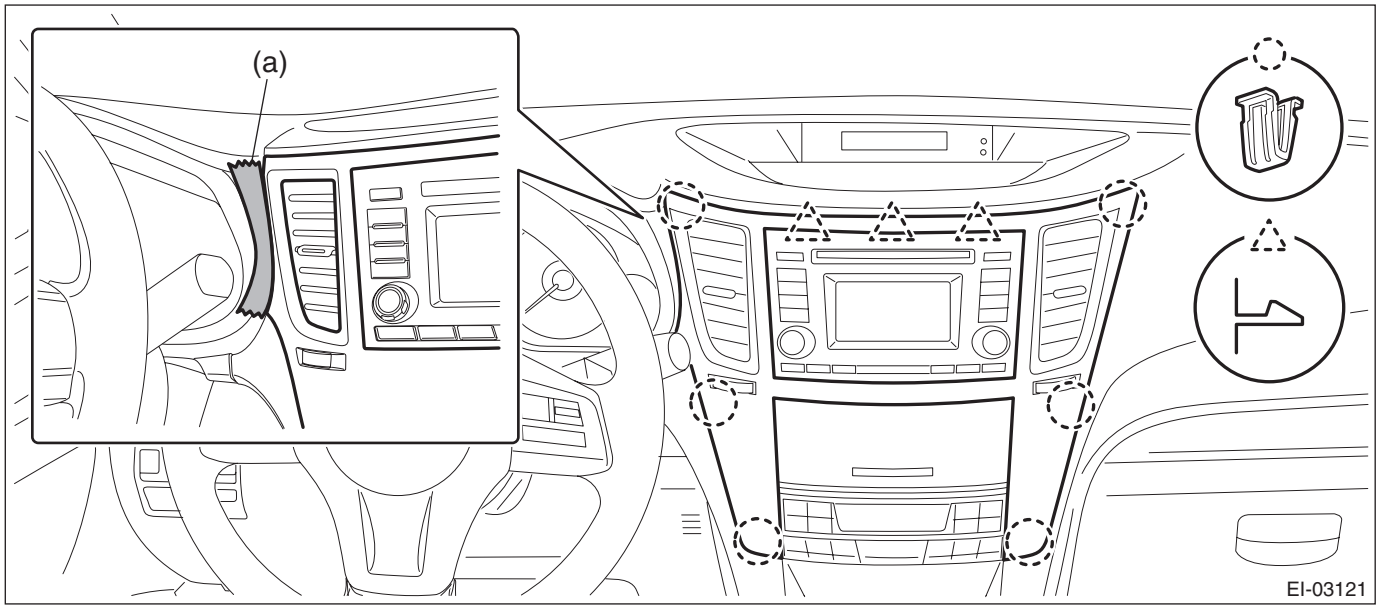
A: REMOVAL

1. AUTO A/C MODEL

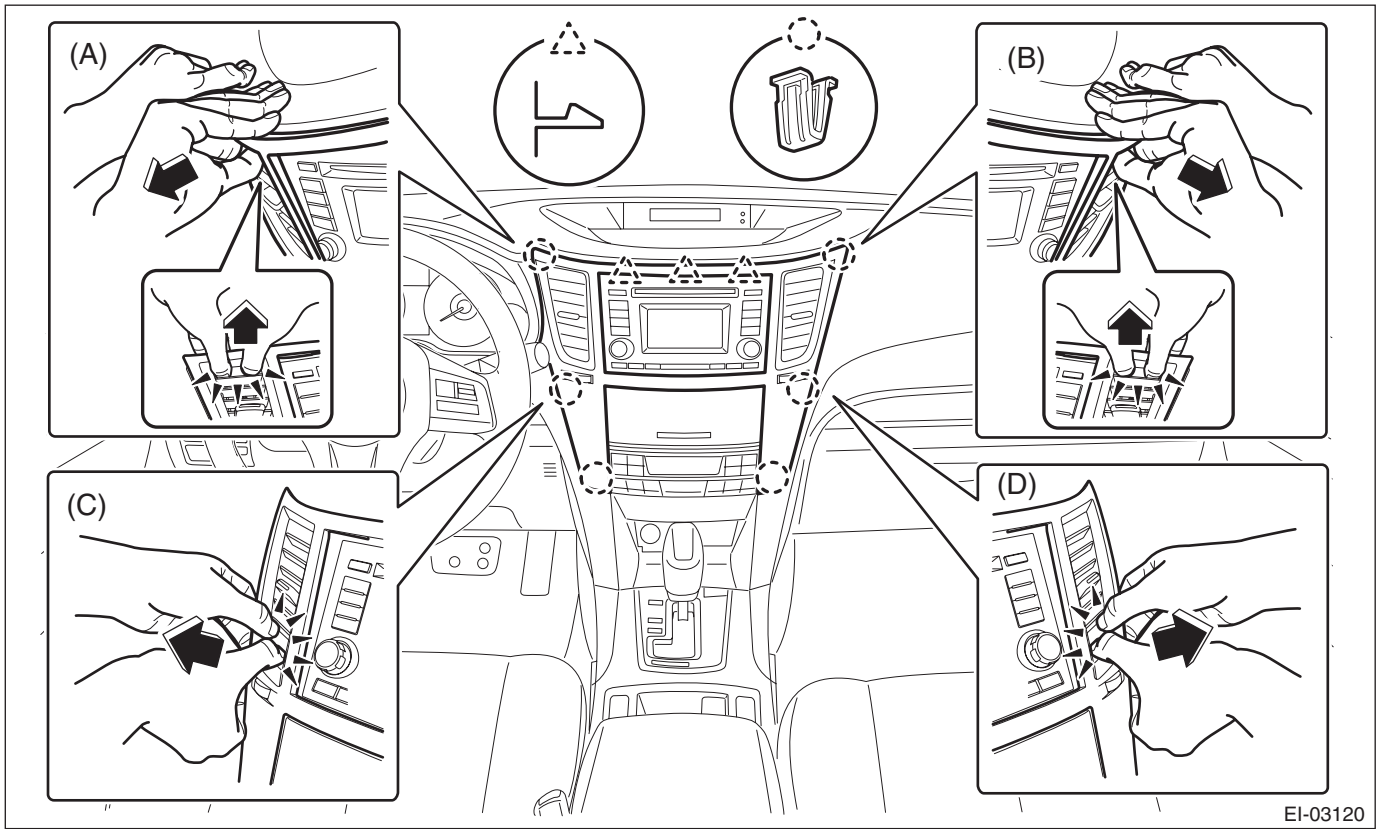
1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

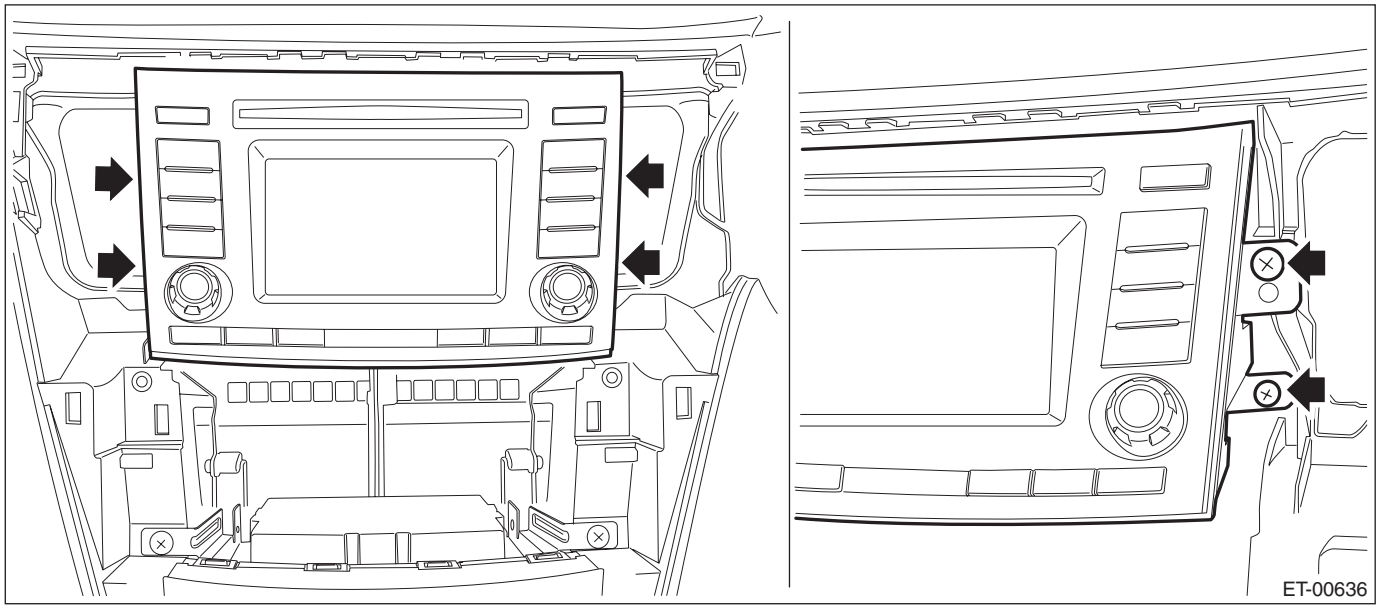
(1) Attach the protective tape (a) to the meter visor.



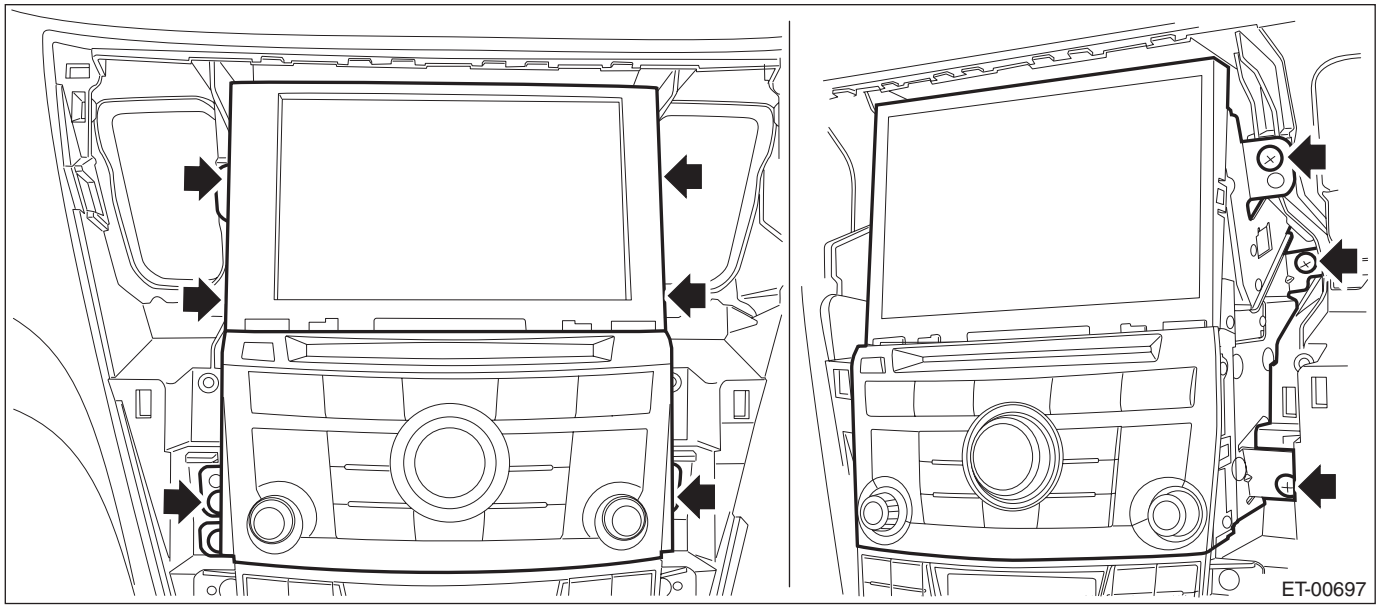
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



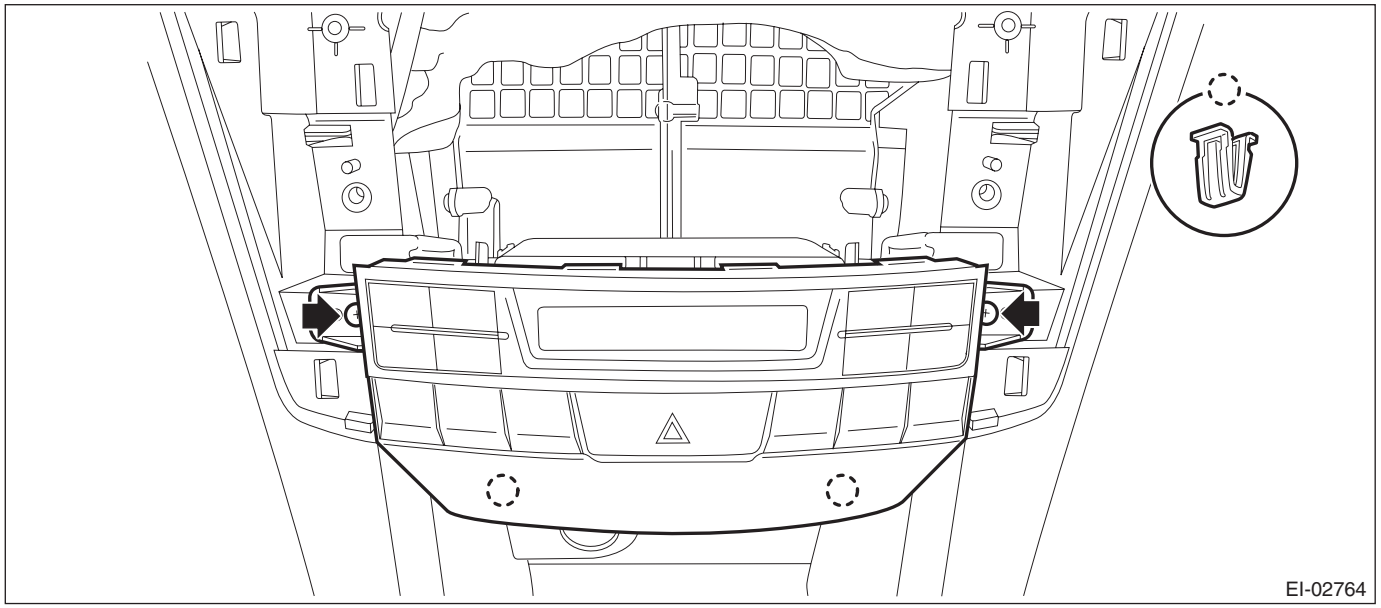
3) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



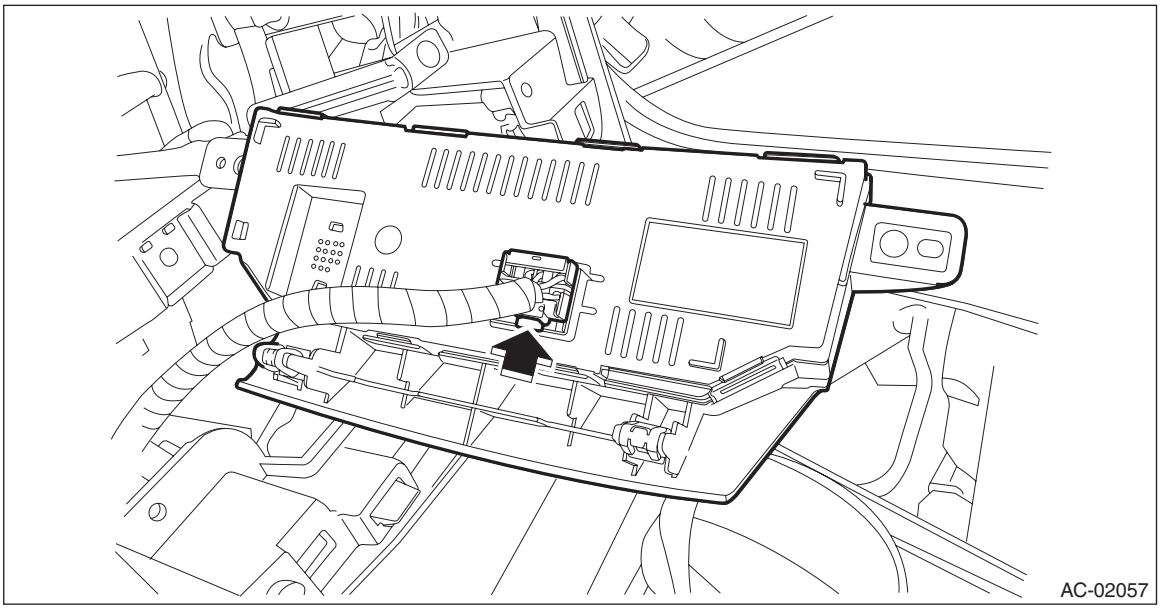
4) Remove the navigation assembly. (model with navigation)
   (1) Remove the left and right screws.
   (2) Disconnect the connectors, and remove the navigation assembly.



5) Remove the control panel.
   (1) Remove the screws and release the clip.



(2) Pull forward the control module and disconnect the connector.

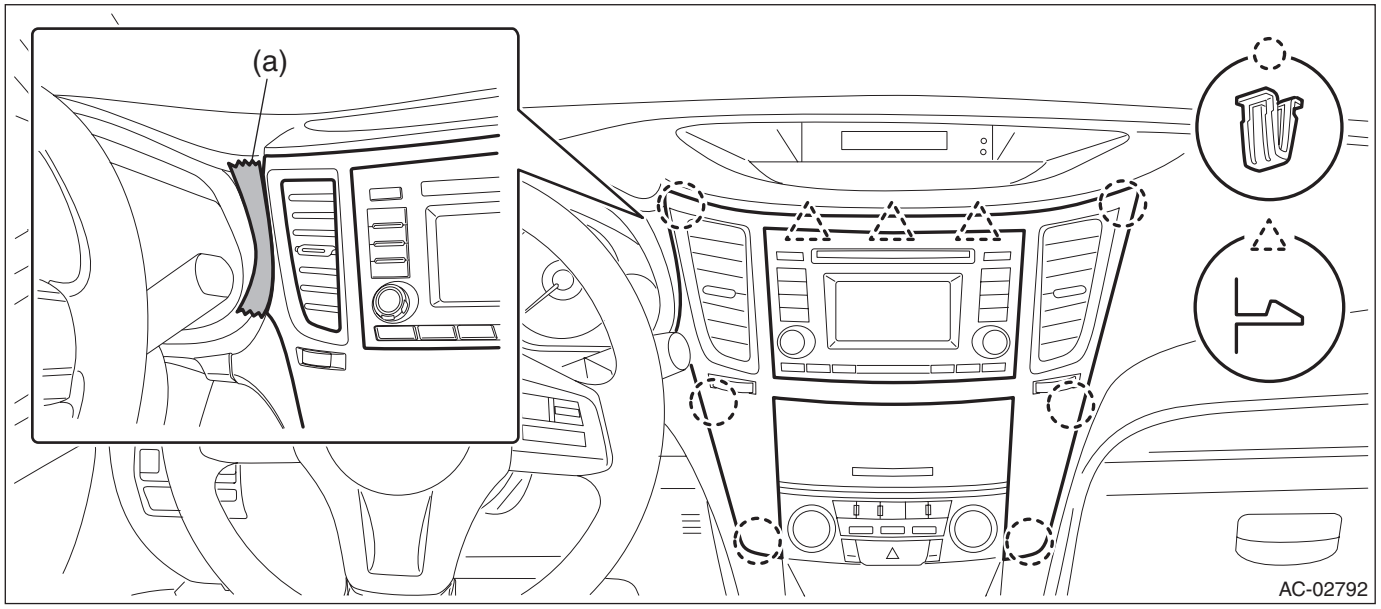


2. MANUAL A/C MODEL

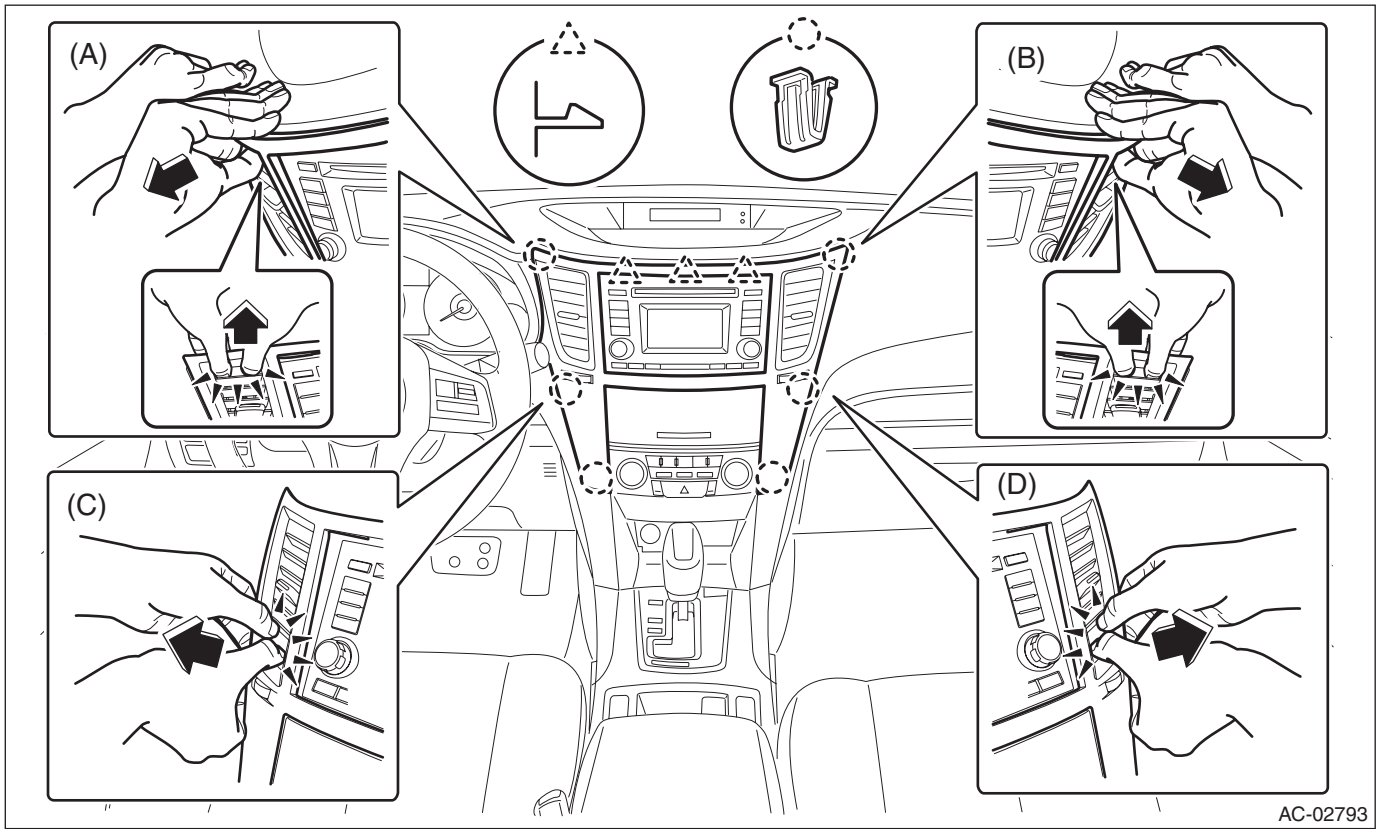
1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

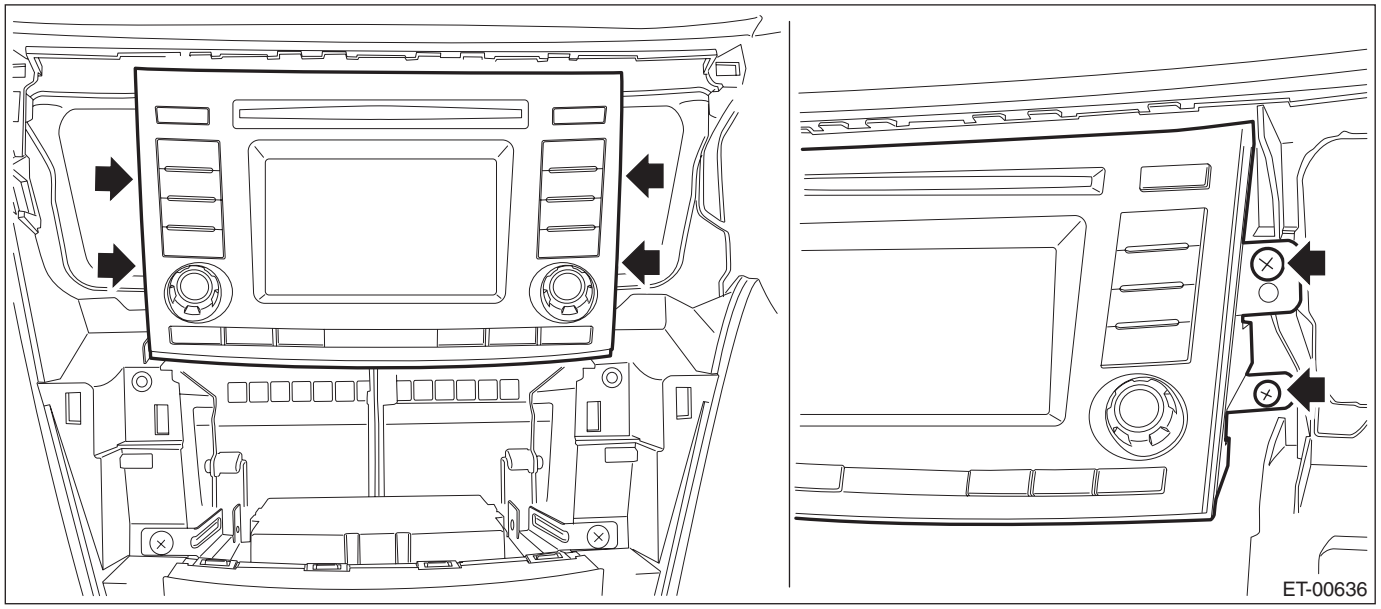
(1) Attach the protective tape (a) to the meter visor.



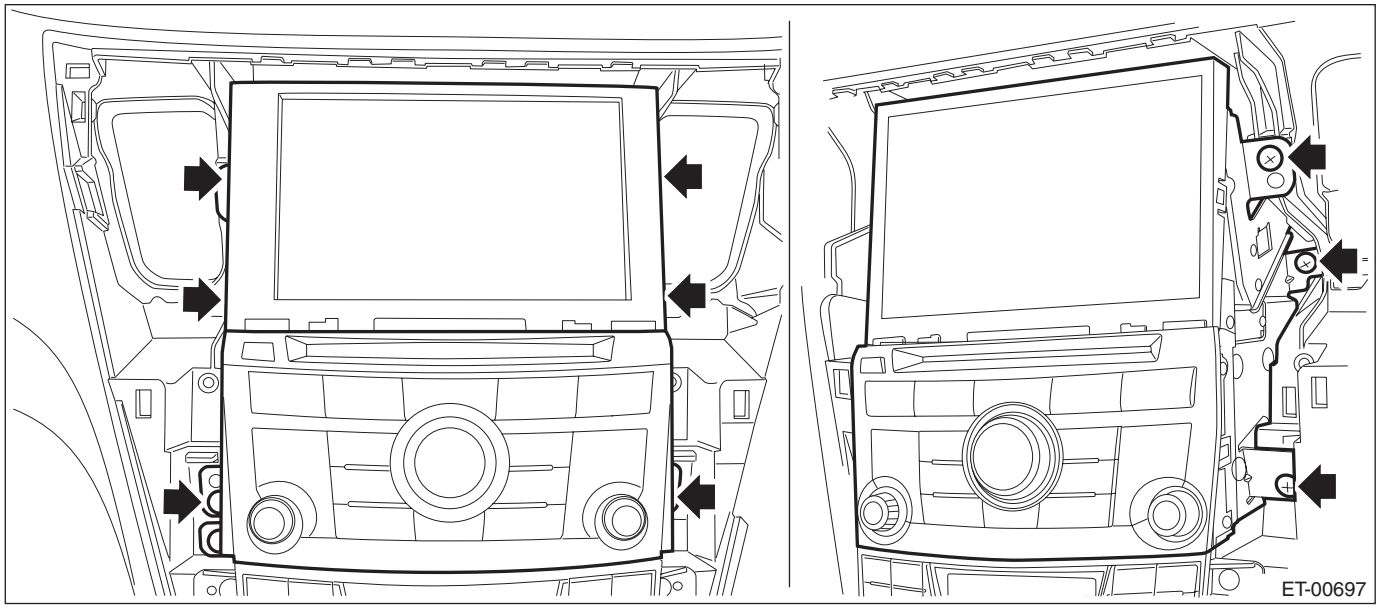
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



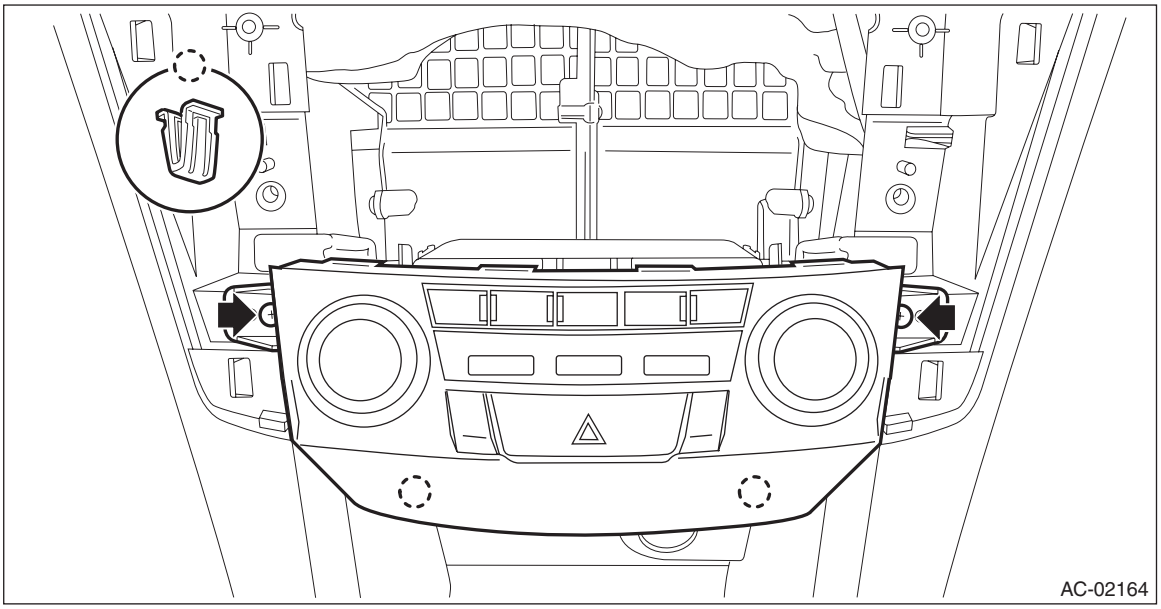
3) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



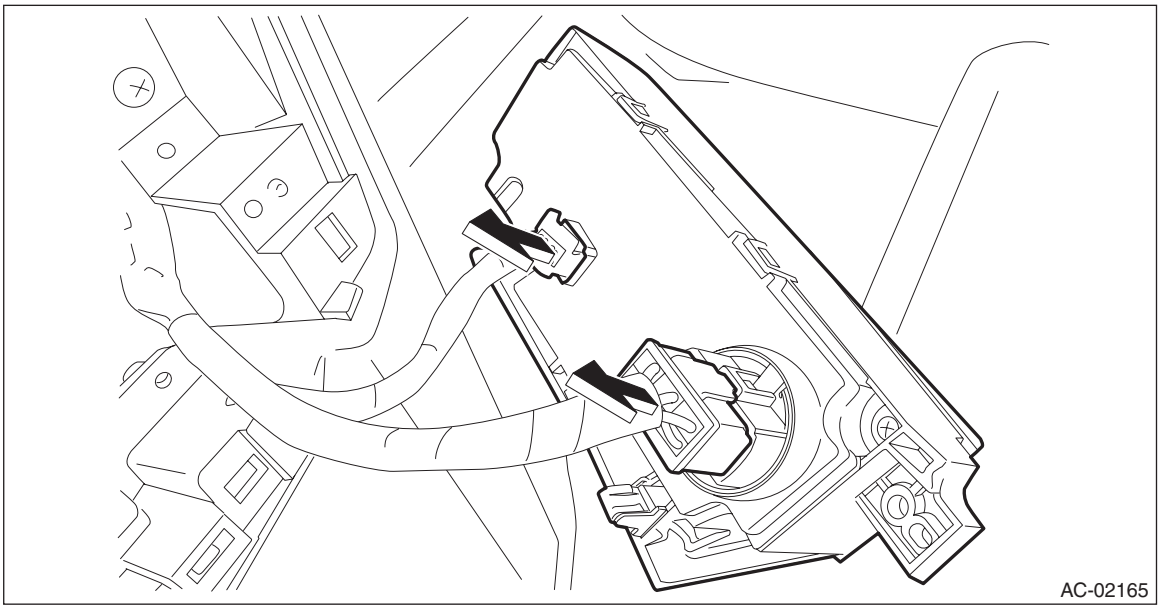
4) Remove the navigation assembly. (model with navigation)
   (1) Remove the left and right screws.
   (2) Disconnect the connectors, and remove the navigation assembly.



5) Remove the control panel.
   (1) Remove the screws and release the clip.



(2) Pull the control panel and disconnect the connector.



B: INSTALLATION

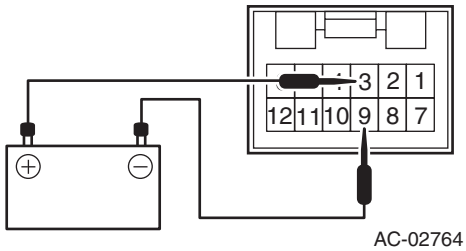
Install each part in the reverse order of removal.

C: INSPECTION

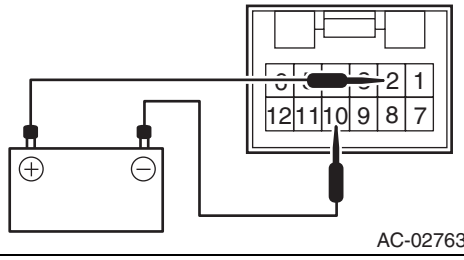
1. CHECK ILLUMINATION

1) Check the illumination operation when battery voltage is applied between the terminals of control panel.

- Auto A/C model

Terminal No.	Inspection conditions	Specification	Connection diagram
3 (+) — 9 (–)	Connect battery to the terminals	Light ON	

- Manual A/C model

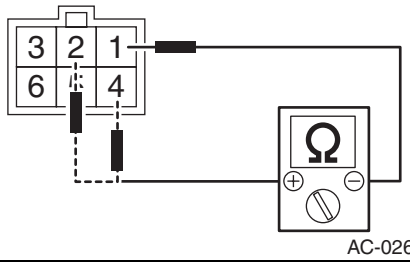
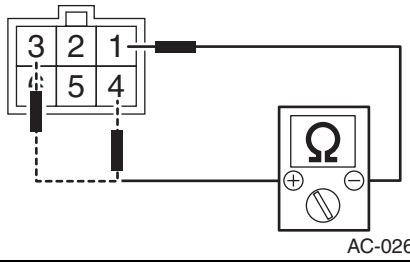
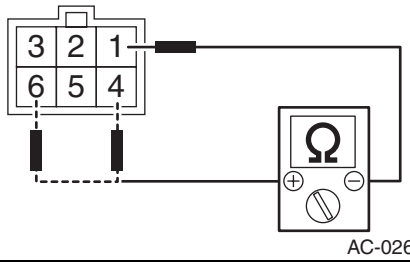
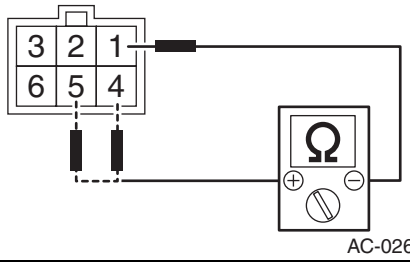
Terminal No.	Inspection conditions	Specification	Connection diagram
2 (+) — 10 (–)	Connect battery to the terminals	Light ON	

2) If the illumination does not operate normally, replace the control panel.

2. BLOWER SWITCH (MANUAL A/C MODEL)

Preparation tool: Circuit tester

1) Check the resistance between terminals of the control panel.

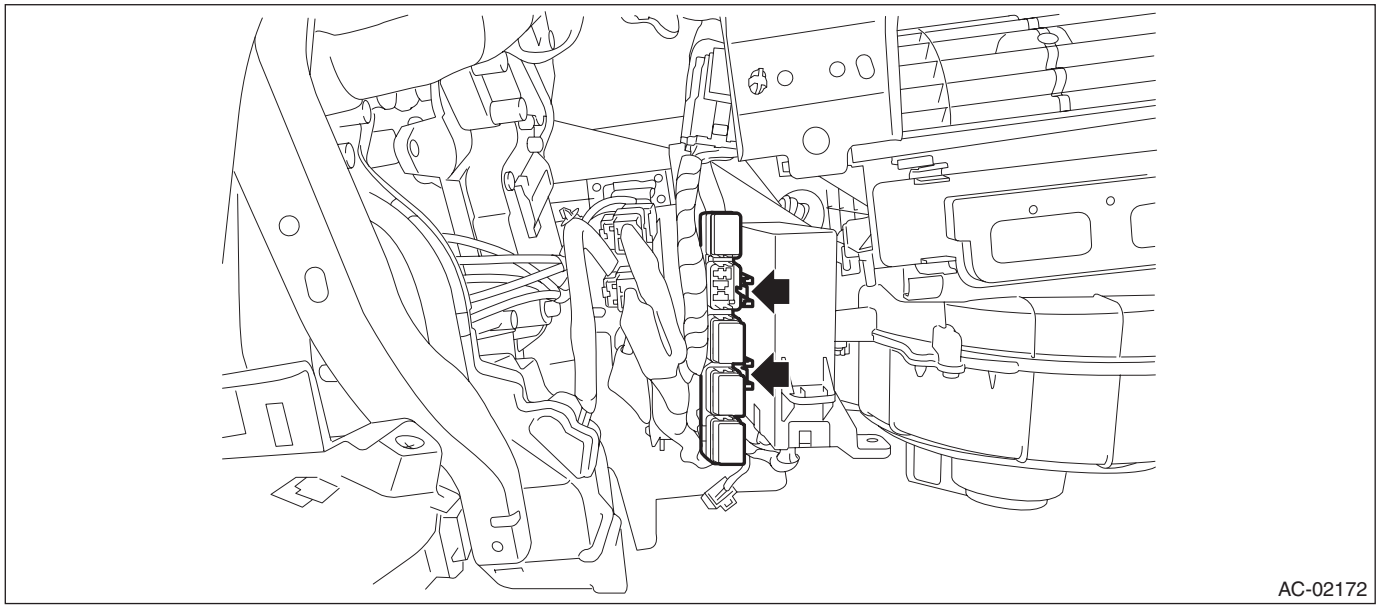
Terminal No.	Inspection conditions	Standard	Connection diagram
—	OFF	—	—
1 — 2, 4	1 (LO)	Less than 1 Ω	 AC-02628
1 — 3, 4	2 (M1)	Less than 1 Ω	 AC-02629
1 — 4, 6	3 (M2)	Less than 1 Ω	 AC-02630
1 — 4, 5	4 (HI)	Less than 1 Ω	 AC-02631

2) Replace the control panel if the inspection result is not within the standard value.

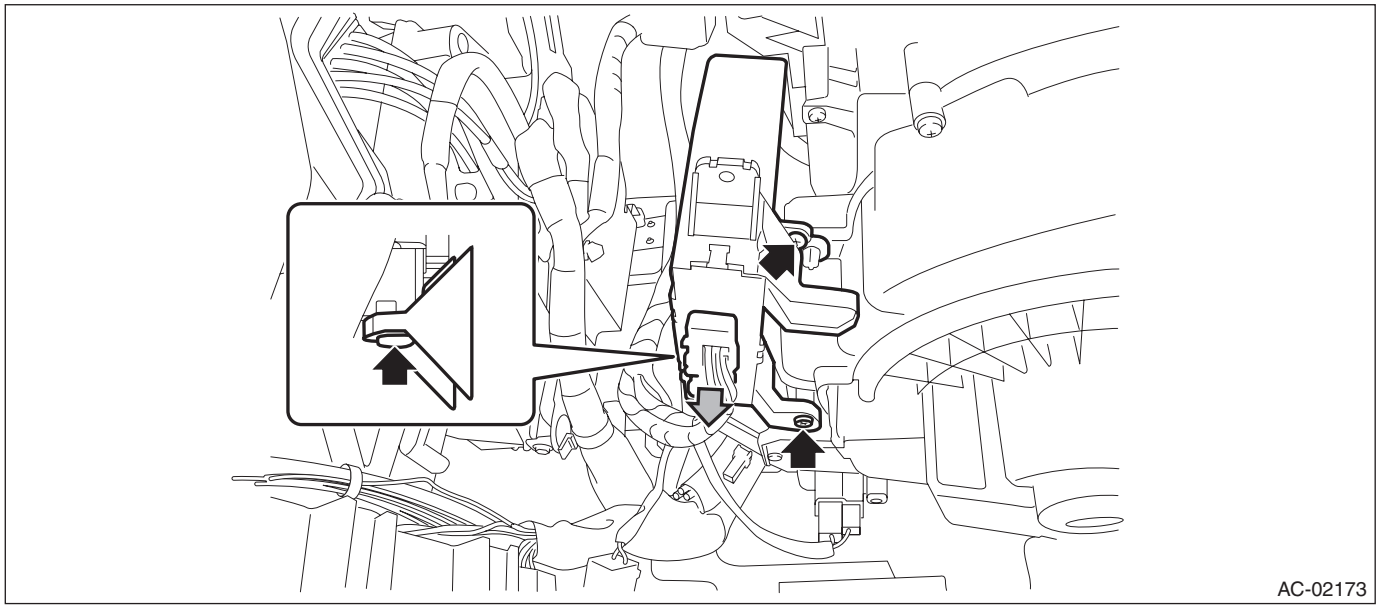
15.Control Unit

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-65, REMOVAL, Glove Box.>
3) Remove the control module.
   (1) Release the lock and remove the relay bracket.



   (2) Disconnect the connector.
   (3) Remove the screws, and remove the control module.



B: INSTALLATION

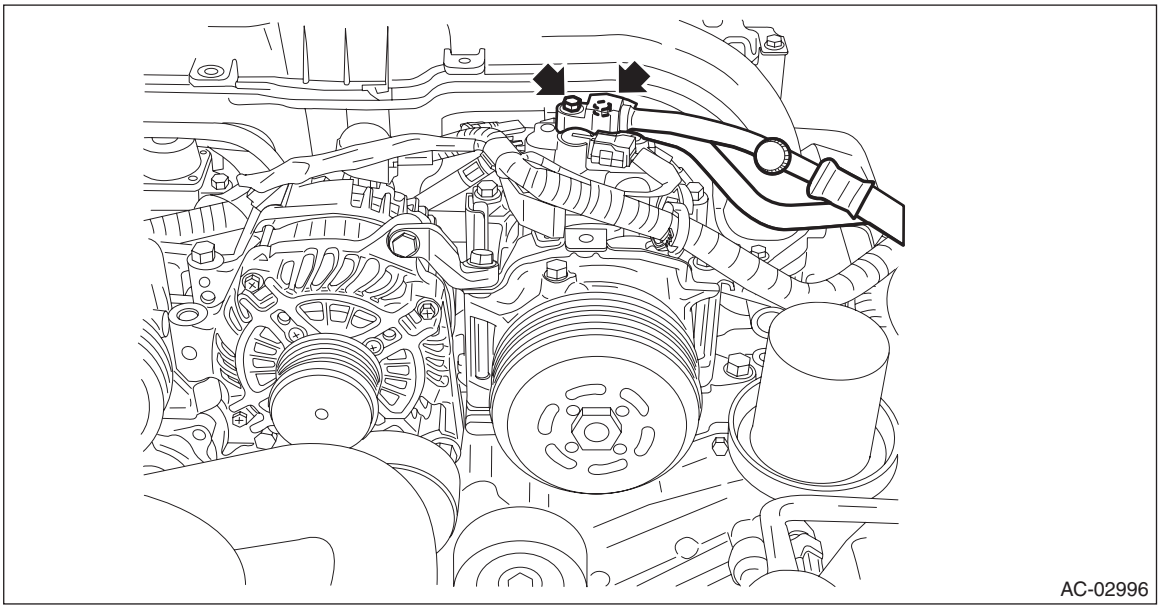
Install each part in the reverse order of removal.

16.Compressor

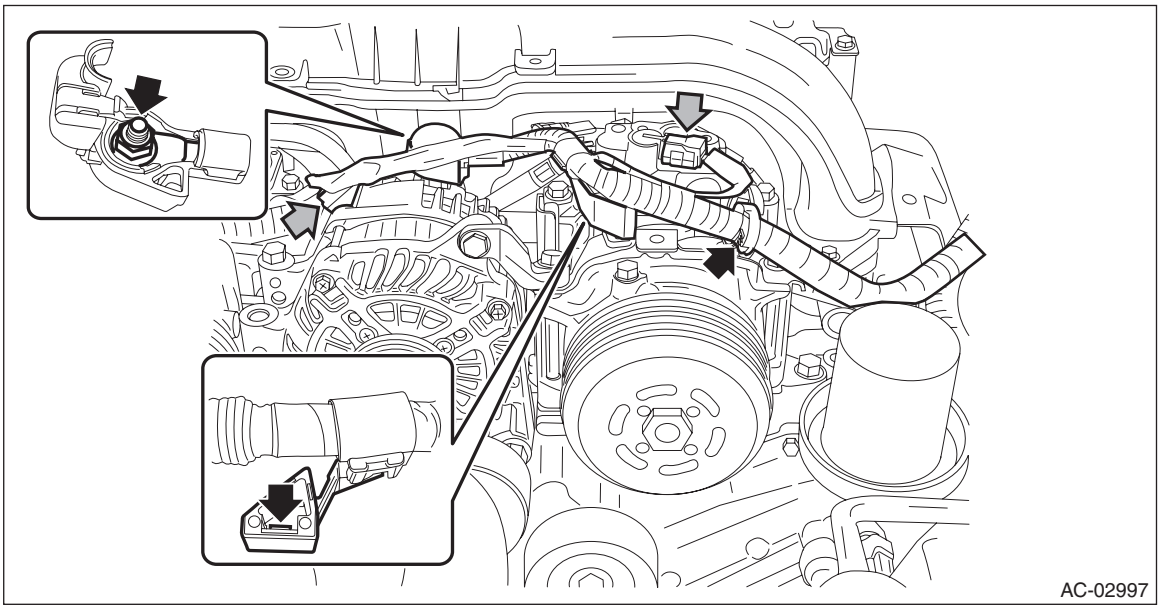
A: REMOVAL

1. H4 MODEL

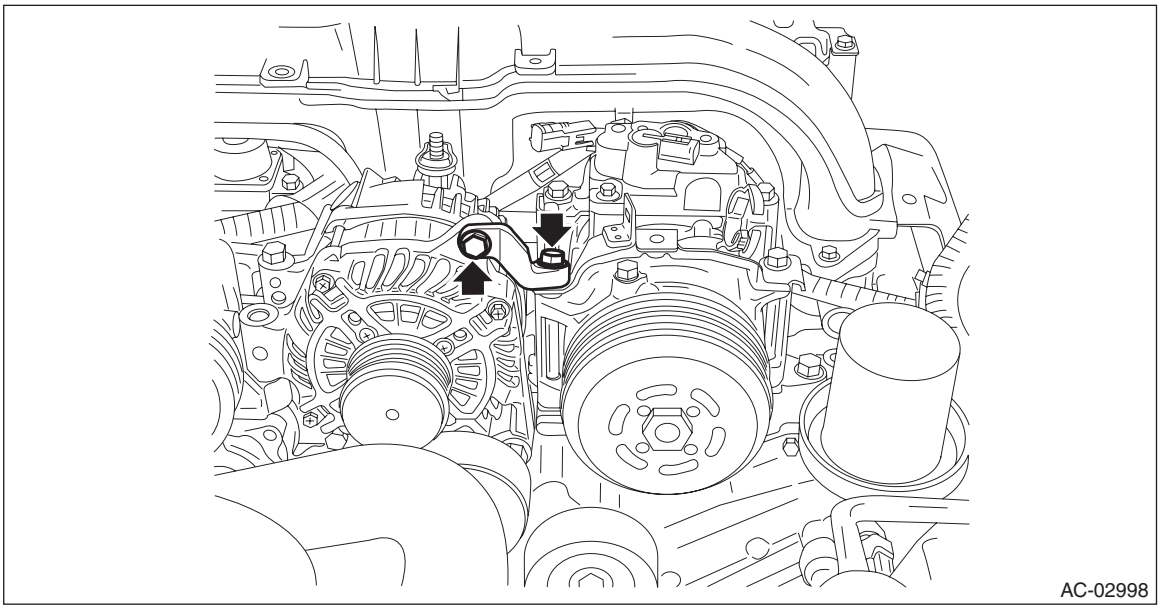
1) Perform compressor oil return operation. <Ref. to AC-33, PROCEDURE, Compressor Oil.>
2) Turn the A/C switch to OFF and stop the engine.
3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from battery.
5) Remove the V-belts. <Ref. to ME(H4DO)-80, REMOVAL, V-belt.>
6) Remove the bolts and remove the V-belt cover bracket. <Ref. to SC(H4DO)-29, REMOVAL, Generator.>
7) Remove the bolt and remove the low-pressure hose and high-pressure hose.


AC-02996

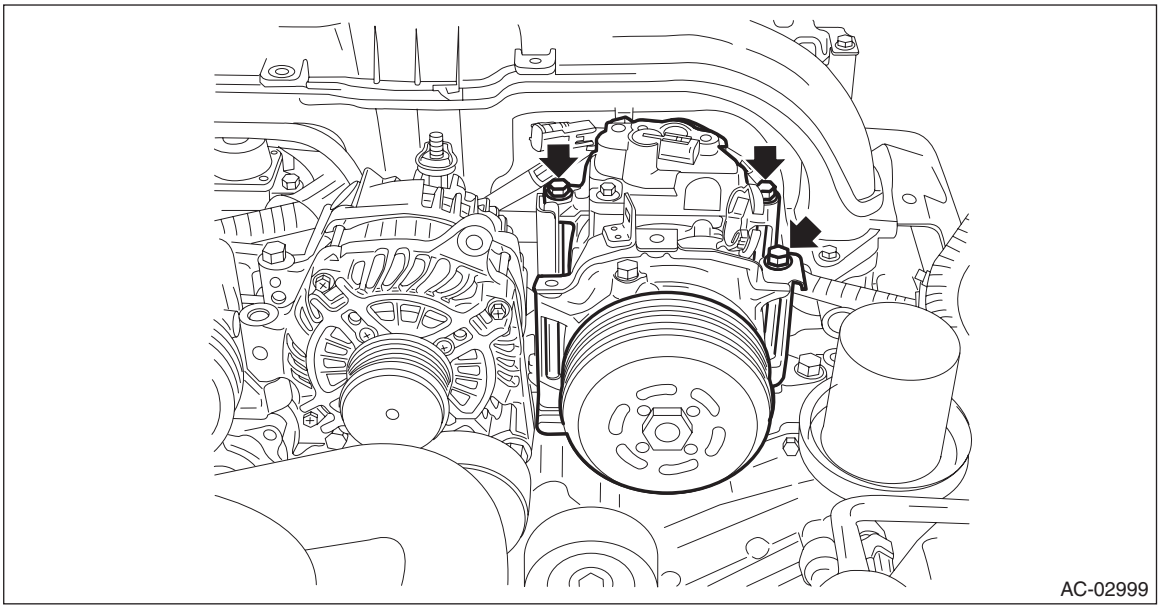
8) Move the alternator harness to the right.
   (1) Remove the nut, washer and each connector.
   (2) Release the lock and move the alternator harness to the right.


AC-02997

9) Remove the bolts, and then remove the generator bracket.

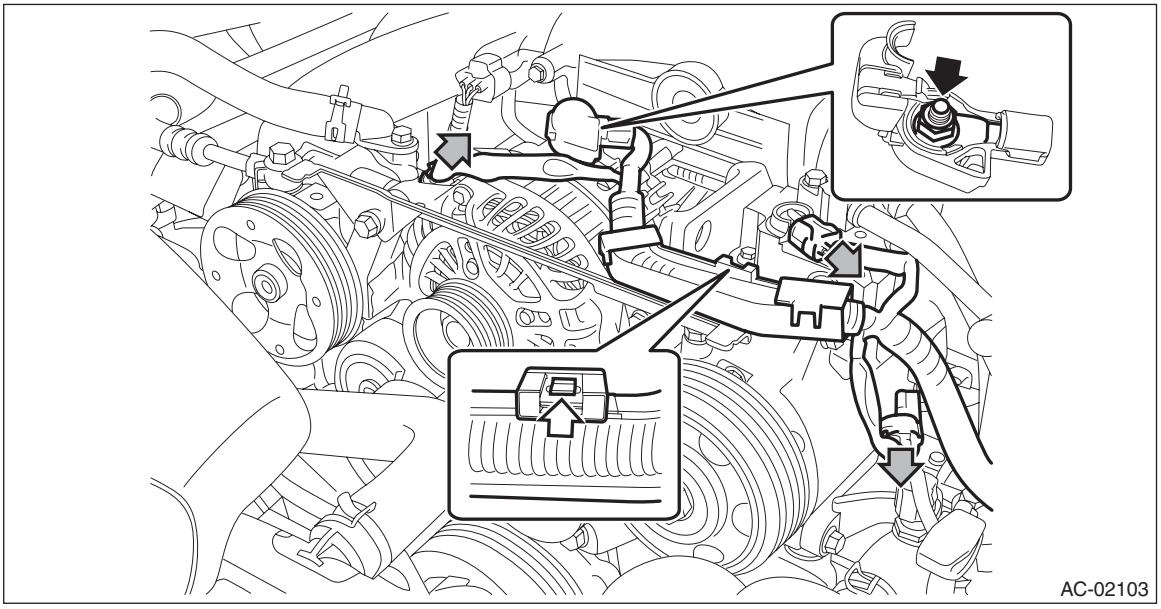


10) Remove the bolts and remove the compressor.

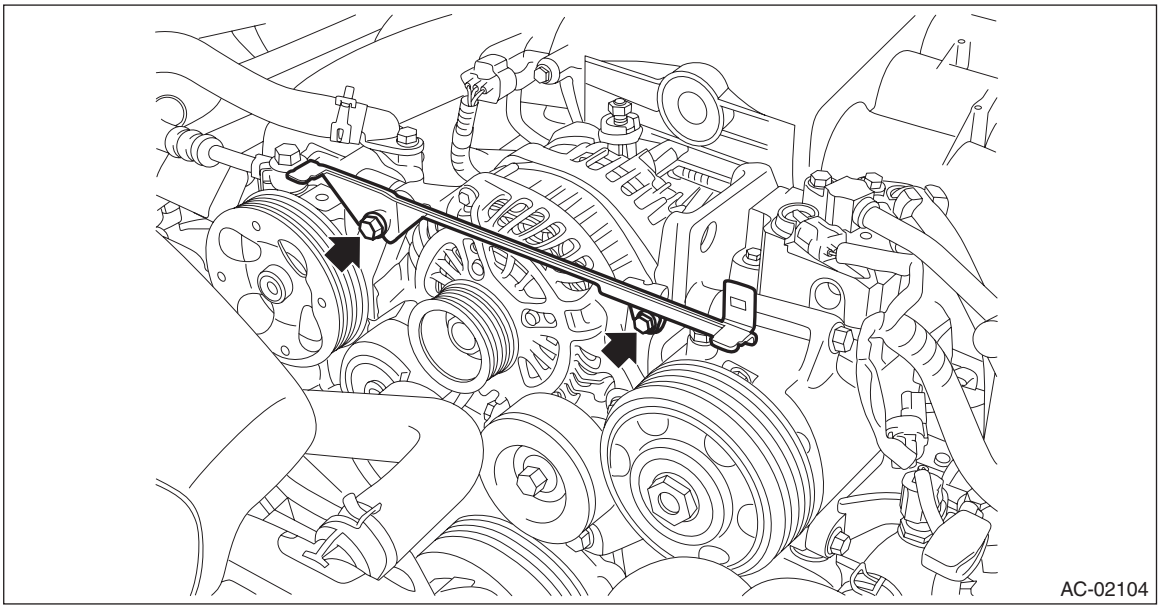


2. H6 MODEL

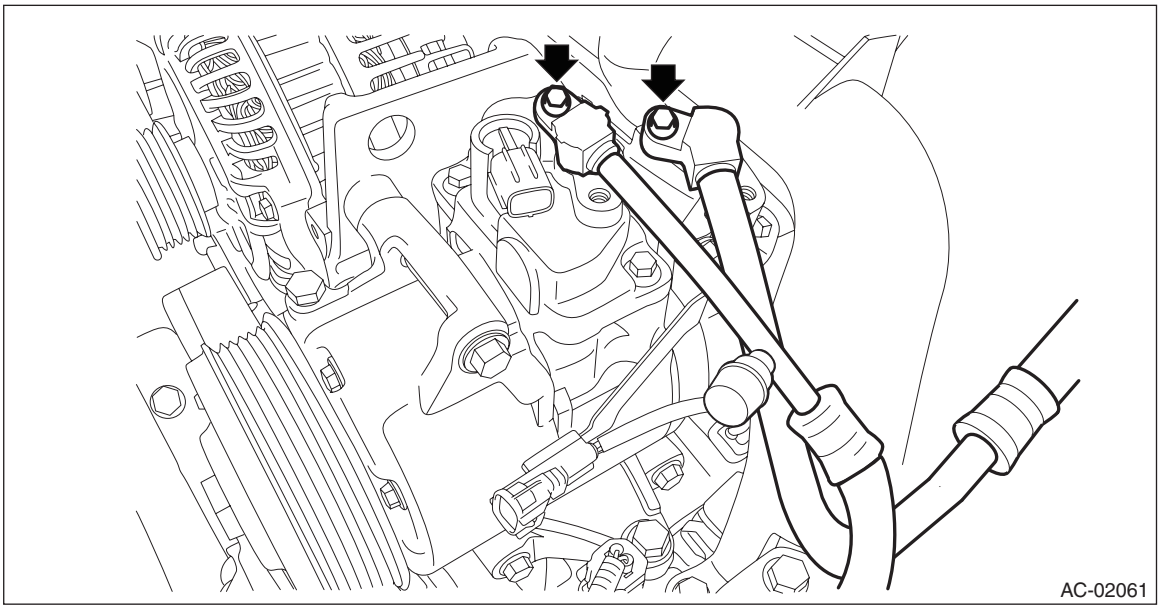
1) Perform compressor oil return operation. <Ref. to AC-33, PROCEDURE, Compressor Oil.>
2) Turn the A/C switch to OFF and stop the engine.
3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from battery.
5) Remove the V-belts. <Ref. to ME(H6DO)-51, REMOVAL, V-belt.>
6) Move the alternator harness to the right.
   (1) Remove the nuts and connector.
   (2) Release the lock and move the alternator harness to the right.



7) Remove the bolts and then remove the collector cover bracket.

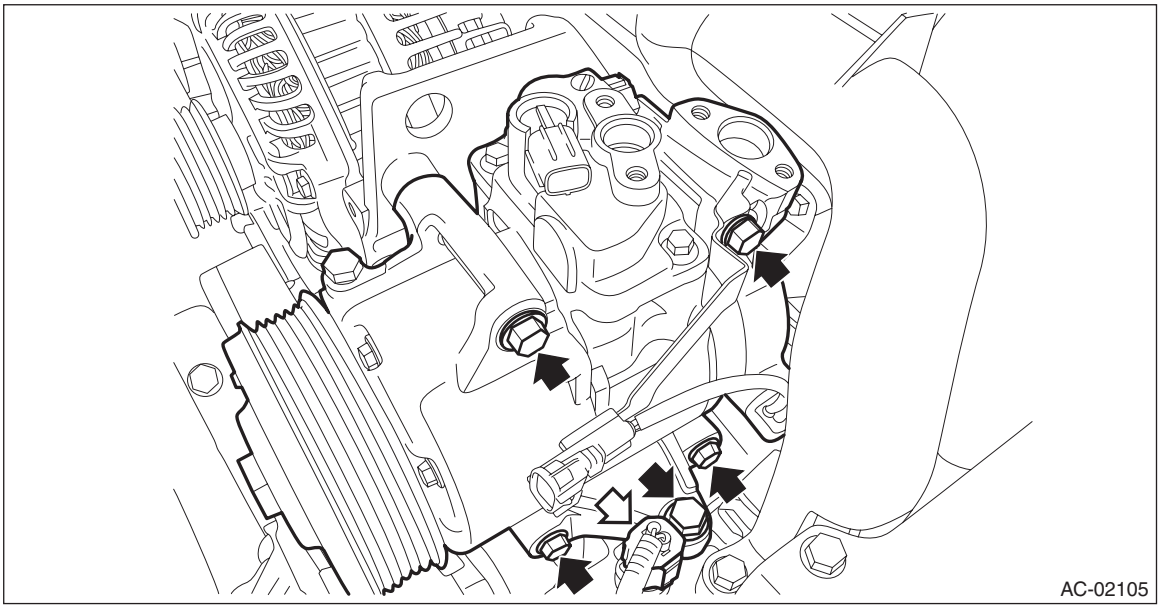


8) Remove the bolt and remove the low-pressure hose and high-pressure hose.



9) Remove the compressor.
   (1) Disconnect the water temperature sensor connector.
   (2) Remove the bolts and remove the compressor.

NOTE:
• Since the compressor cannot be removed by itself, remove it with the loosened bolts inserted in the bracket.
• Be careful not to damage the pulley and sensor.



B: INSTALLATION

CAUTION:
- **Replace the O-rings on low/high pressure hoses with new parts, and apply compressor oil.**
- **If the compressor is replaced, adjust the amount of the compressor oil. <Ref. to AC-33, ADJUSTMENT, Compressor Oil.>**
- **After installing the compressor, do not start the engine until the A/C system is charged with refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**

1) Install each part in the reverse order of removal.

NOTE:
Tighten the compressor for H4 model in the numerical order as shown in the figure. <Ref. to AC-12, COMPRESSOR, COMPONENT, General Description.>

2) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

3) After installing the compressor, perform a break-in operation according to the following steps.

NOTE:
Do not increase the engine speed to and above 4,000 rpm unless the break-in operation finishes.

(1) Check that all connectors are locked securely.
(2) Reset the control module. (Disconnect and then connect the connector)
(3) Attach a delivery (test) mode fuse to the main fuse box.
(4) Set the airflow adjustment dial to MAX (4th position). (manual A/C model)
(5) Connect the Subaru Select Monitor, select {Variable compressor break-in drive} mode and display the current data {Variable compressor break-in drive finish status} by following the procedure.
(6) Start and idle the engine at or below 1,800 rpm. (The compressor operation is automatically changed to the break-in operation mode.)
(7) When {Variable compressor break-in drive finish status} changes from “incomplete” to “Finished”, stop the engine.

CAUTION:
If the engine may have been started with no refrigerant charge, check for any diagnosis code (DTC) using Subaru Select Monitor. If the code B1644 (Refrigerant not sealed drive error) is output, replace the compressor.

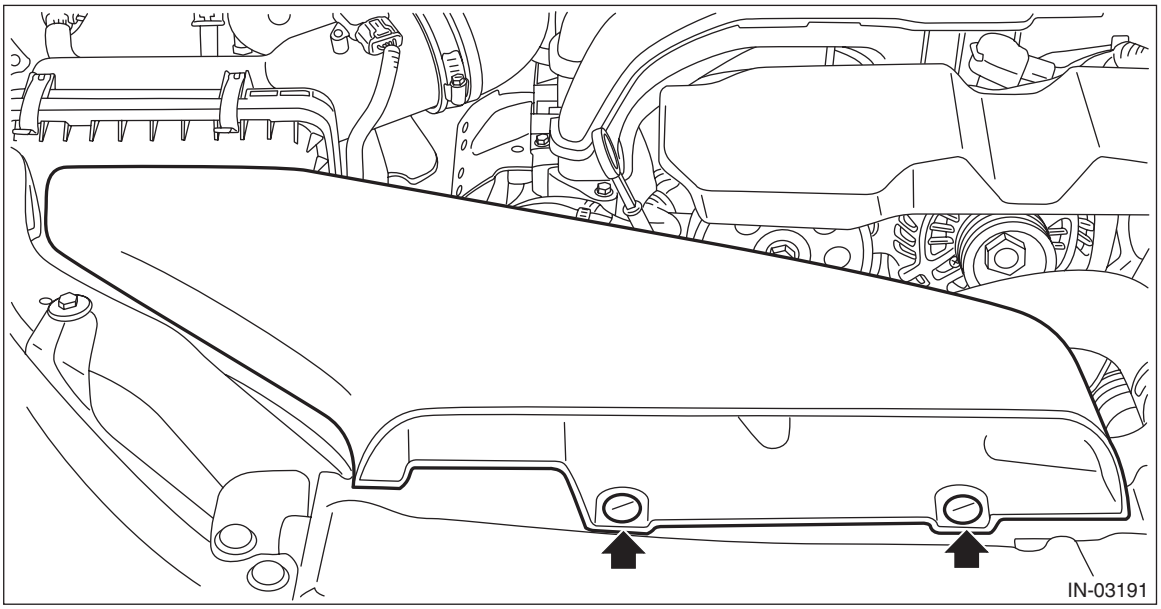
(8) Remove the delivery (test) mode fuse from the main fuse box.
(9) The break-in operation finishes.

Tightening torque:
Air conditioning unit:<Ref. to AC-9, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Compressor:<Ref. to AC-12, COMPRESSOR, COMPONENT, General Description.>
Generator & generator bracket (H4 model):<Ref. to SC(H4DO)-5, GENERATOR BRACKET, COMPONENT, General Description.>
Generator bracket (H6 model):<Ref. to SC(H6DO)-5, GENERATOR BRACKET, COMPONENT, General Description.>

17.Condenser

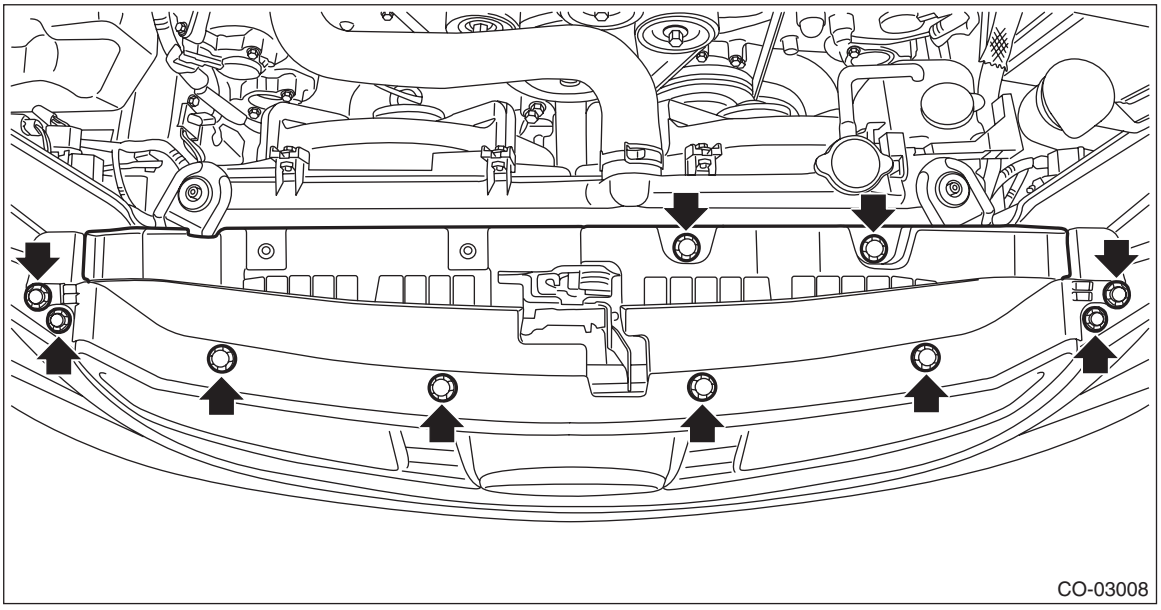
A: REMOVAL

1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
2) Remove the clips and remove the air intake duct.

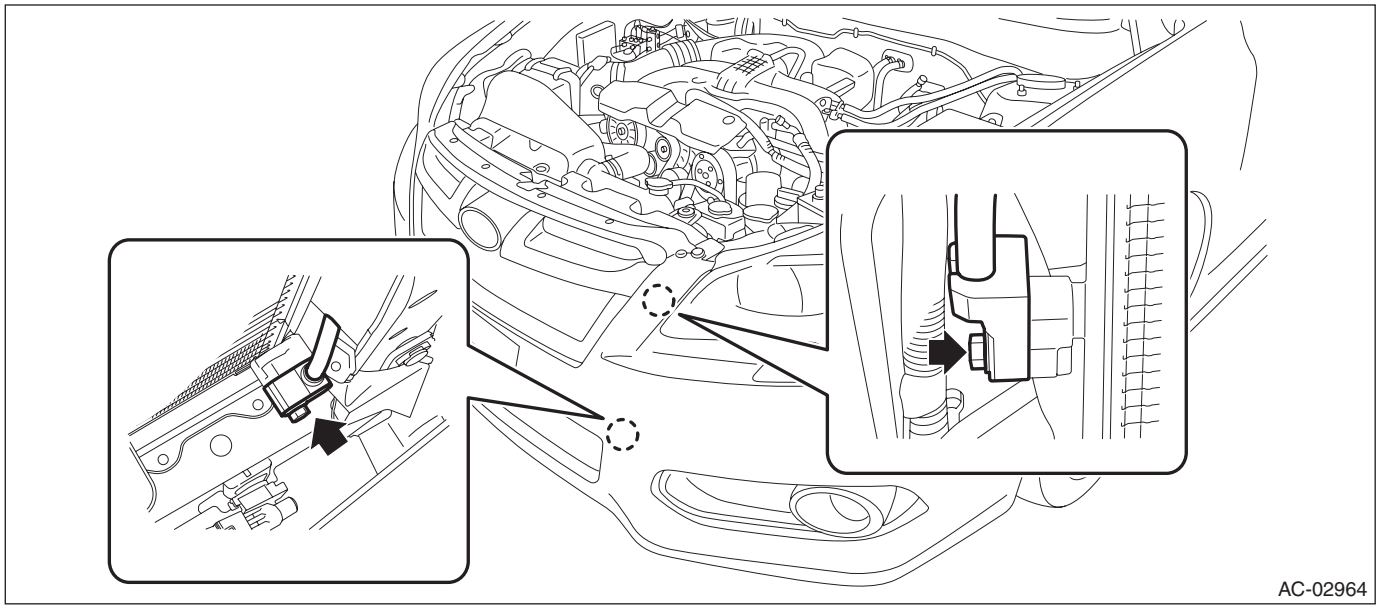


3) Remove the clips and remove the grille bracket.

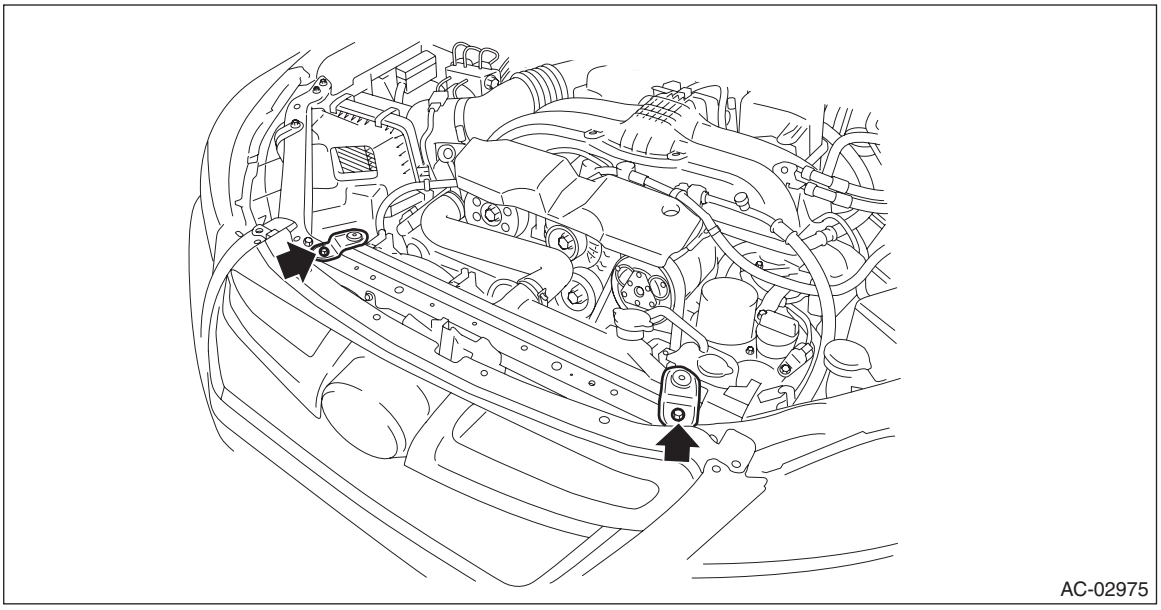
NOTE:
To prevent damage to the grille bracket, make sure to remove all clips.



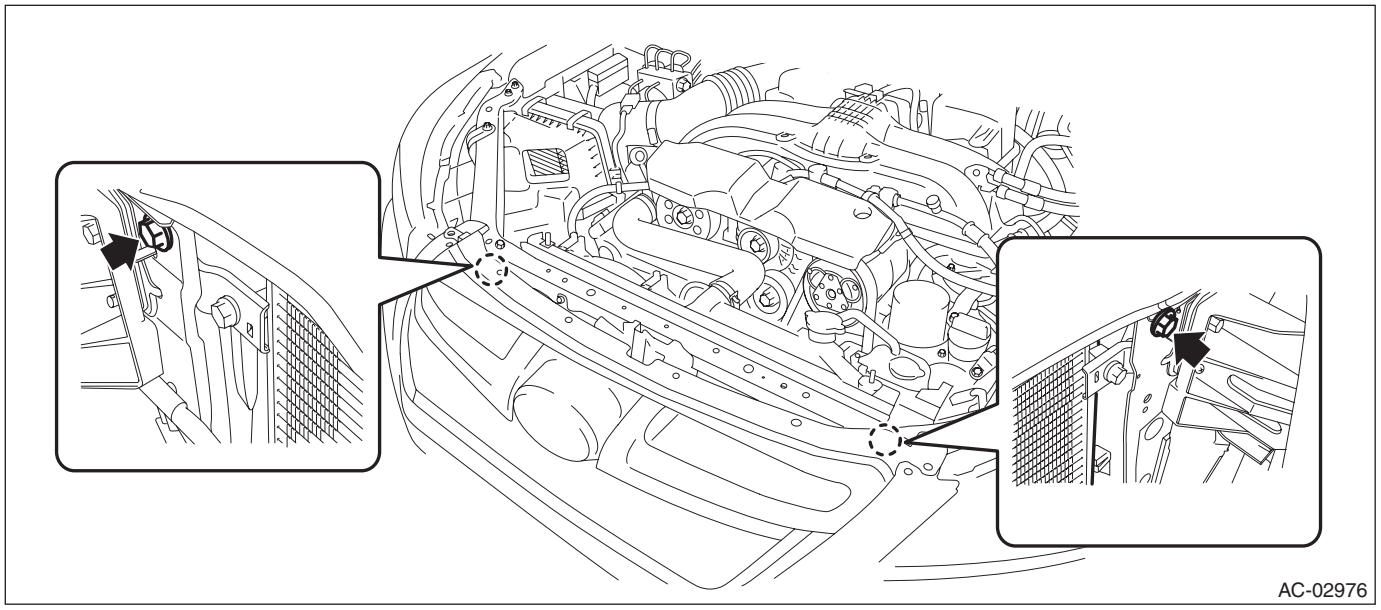
4) Remove the bolts and disconnect the high pressure hose and A/C pipe from the condenser.



5) Remove the bolts and remove the radiator upper bracket.

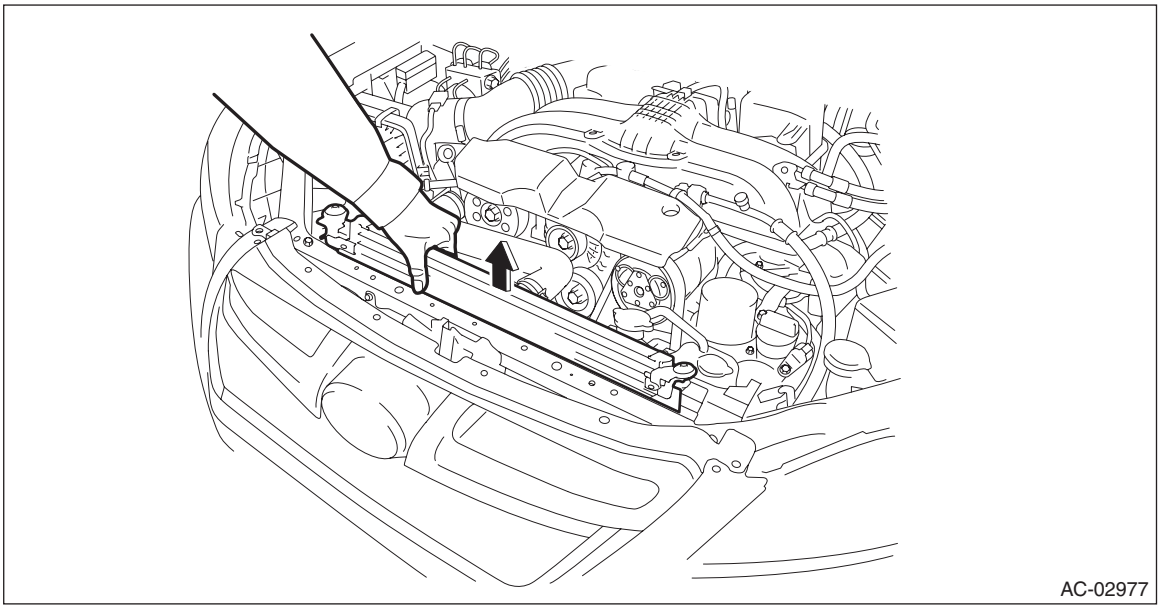


6) Remove the condenser.
(1) Remove the bolt.


AC-02976

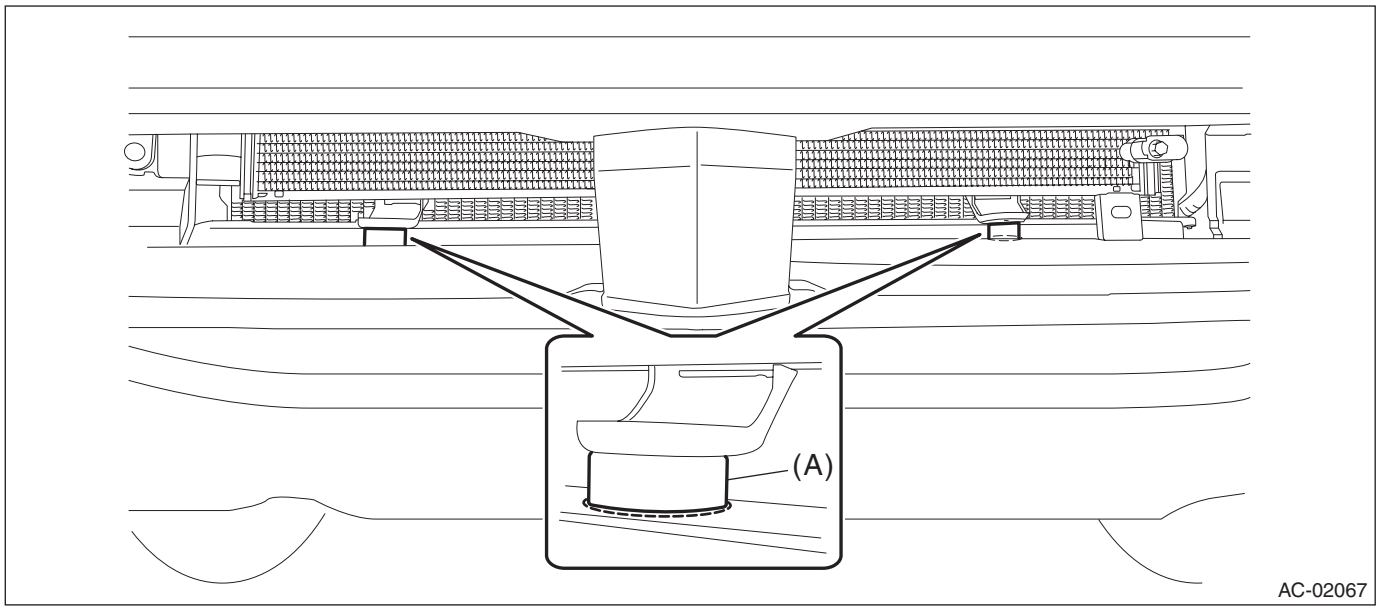
(2) By lifting the condenser, pull it out through the space between the radiator and the radiator panel.

CAUTION:
Be careful not to damage the condenser fins. If a damaged fin is found, repair it using a thin screwdriver.


AC-02977

B: INSTALLATION

CAUTION:
- **Do not start the engine before charging refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **If the condenser has been replaced, add an appropriate amount of compressor oil to the compressor. <Ref. to AC-33, ADJUSTMENT, Compressor Oil.>**
- **Replace the O-rings with new parts, and then apply compressor oil.**
- **Confirm that lower guide (A) of condenser fits into holes on radiator panel.**



1) Install each part in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Air conditioning unit:<Ref. to AC-9, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Radiator upper bracket: 12 N·m (1.2 kgf-m, 8.9 ft-lb)

C: INSPECTION

1) Check to see that the condenser fins are not clogged with debris or insects. Blow with compressed air or flush fins with water as needed.
2) If any oil leak is found from the condenser, replace the condenser.

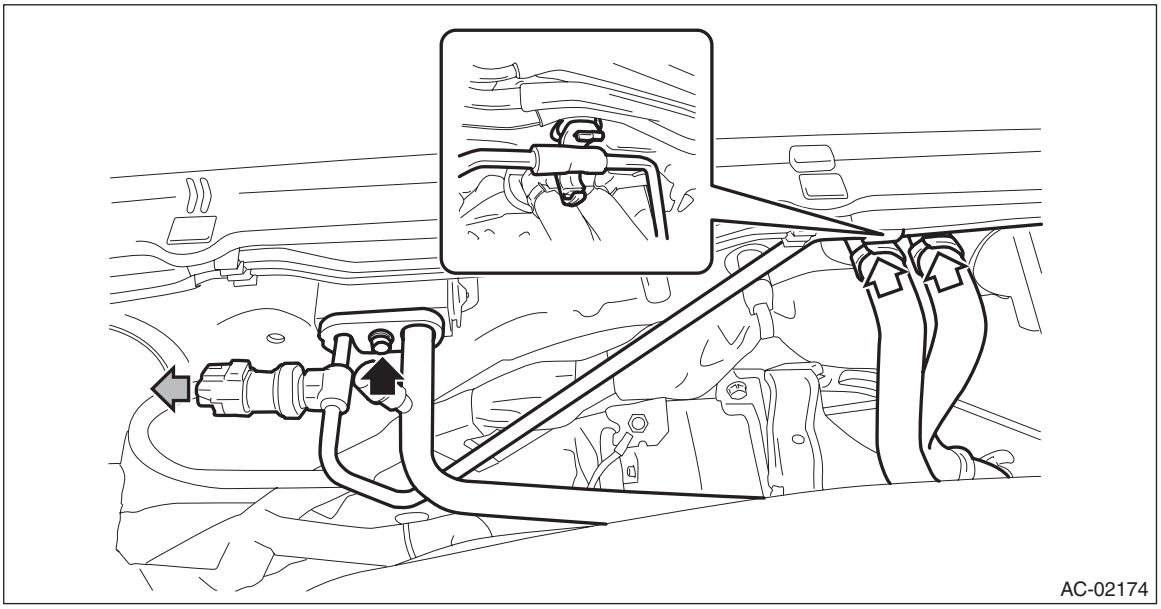
18.Heater and Cooling Unit

A: REMOVAL

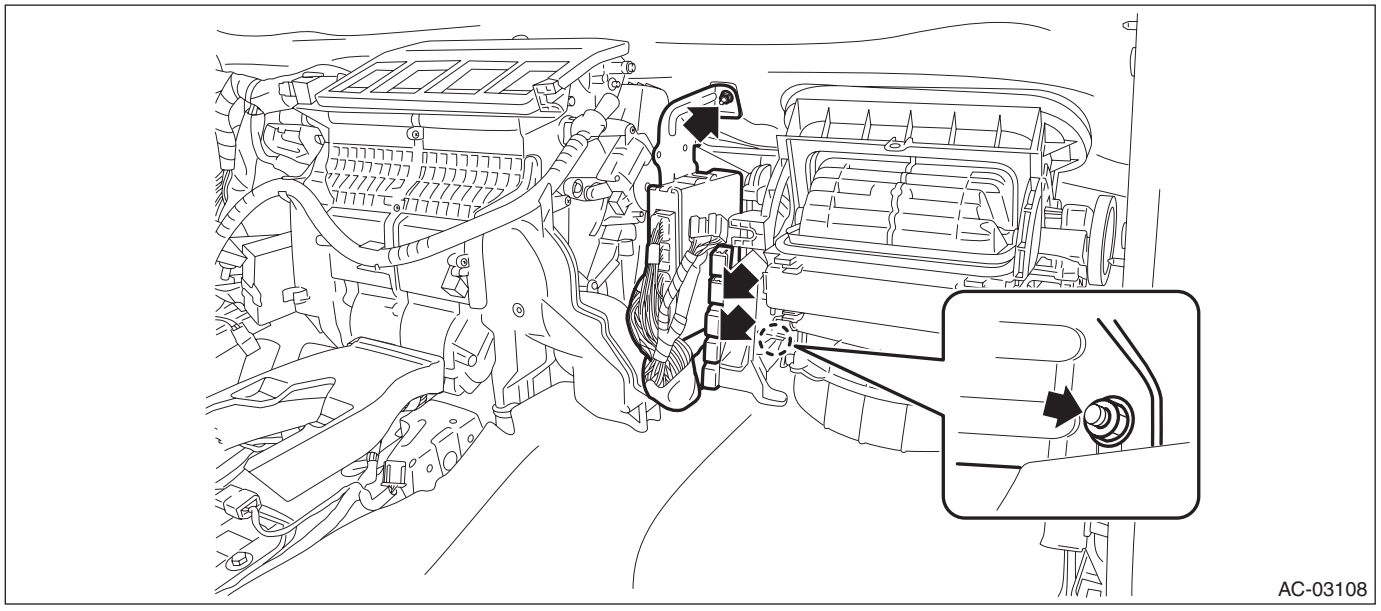
1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain the coolant from the radiator.
- H4 model: <Ref. to CO(H4DO)-14, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model: <Ref. to CO(H6DO)-12, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

4) Remove the connector and bolts, and remove the high-pressure hose and AC pipe from the expansion valve.
5) Loosen the heater hose clamps and remove the hoses.

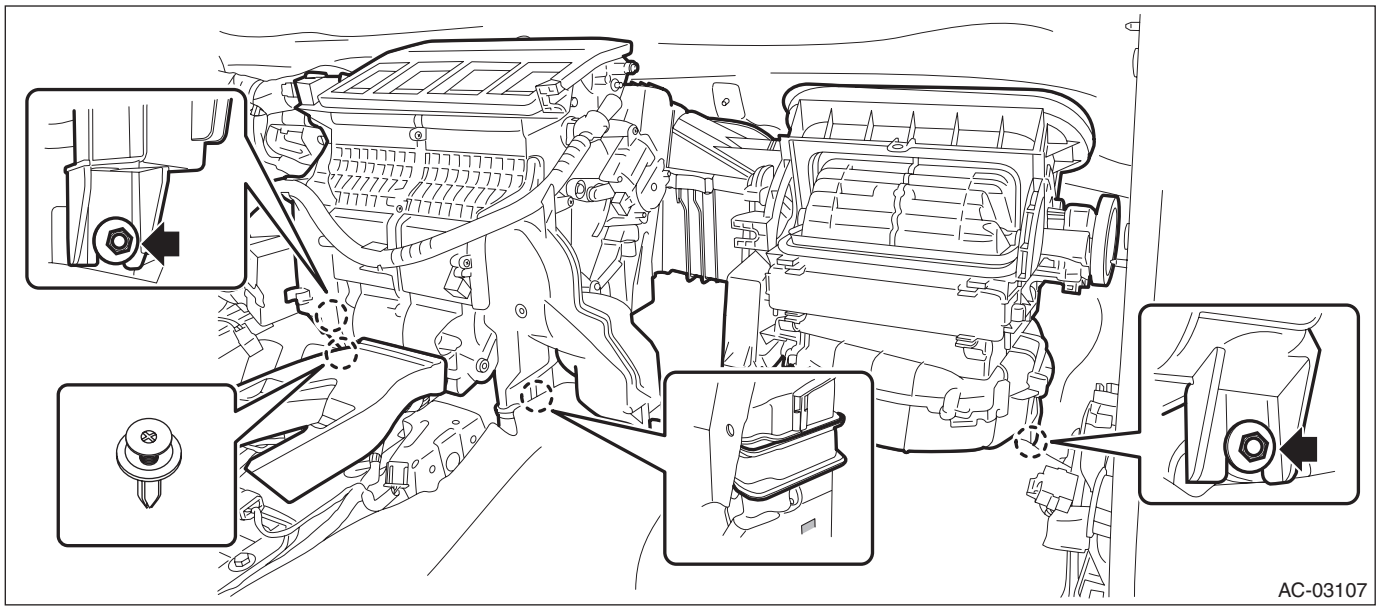
NOTE:
Put alignment marks to hoses, clamps, etc. and remove them.


AC-02174

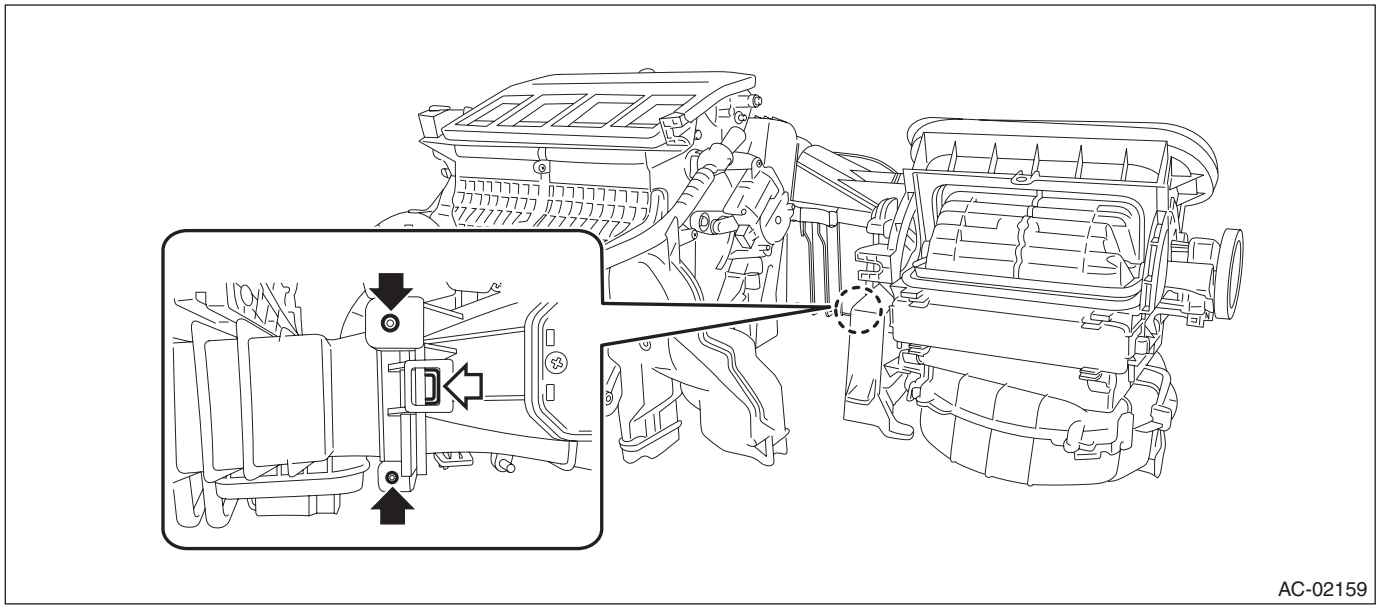
6) Remove the instrument panel assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
7) Remove the engine control module (ECM).
   (1) Release the lock and remove the relay holder.
   (2) Remove the nuts, and remove the engine control module (ECM).


AC-03108

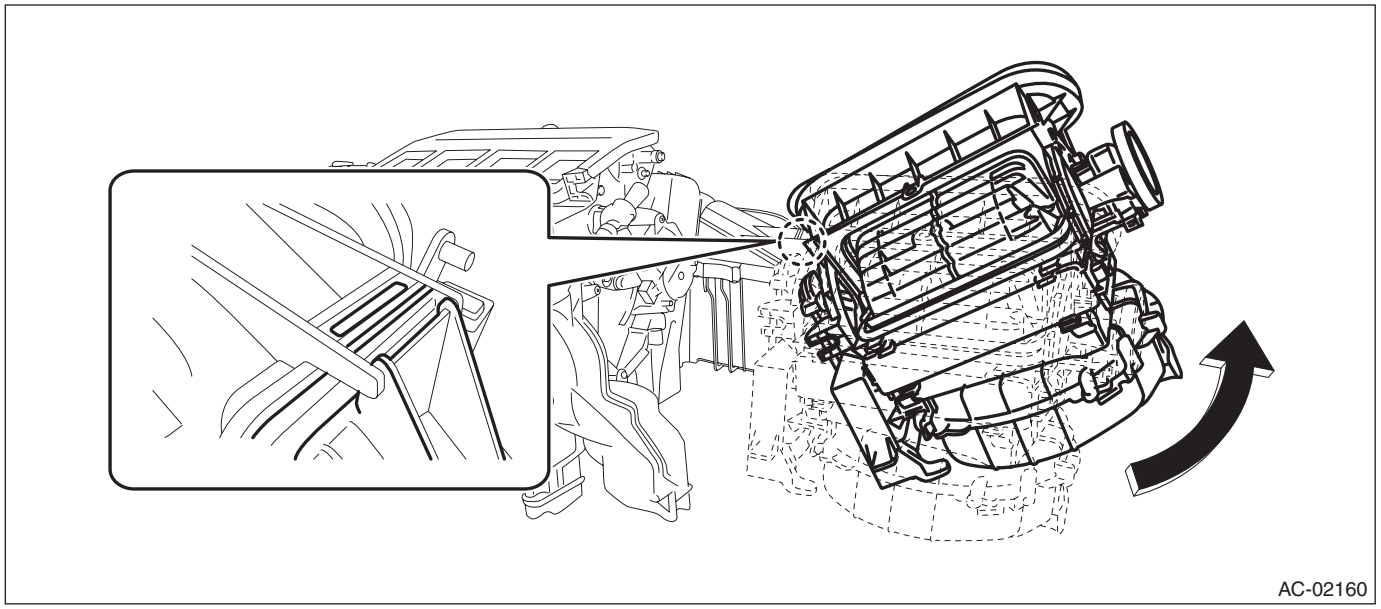
8) Remove the heater and cooling unit.
(1) Remove the clip, and remove the rear center duct.
(2) Turn over the floor carpet and remove the rear heater duct slide locks on the left and right.
(3) Remove the bolt and remove the heater and cooling unit.


AC-03107

9) Remove the blower motor unit assembly.
(1) Release the claws and remove the bolts.


AC-02159

(2) Remove the blower motor unit assembly as shown in the figure.



B: INSTALLATION

CAUTION:
- **Do not start the engine before charging refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **Replace O-rings and pipe clamps with new parts and install securely.**

1) Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Instrument Panel Assembly”. <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>

2) Fill engine coolant.
- H4 model: <Ref. to CO(H4DO)-15, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model: <Ref. to CO(H6DO)-12, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

3) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Heater cooling unit: <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>
Blower motor unit: <Ref. to AC-7, BLOWER MOTOR UNIT, COMPONENT, General Description.>
Engine control module (ECM): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

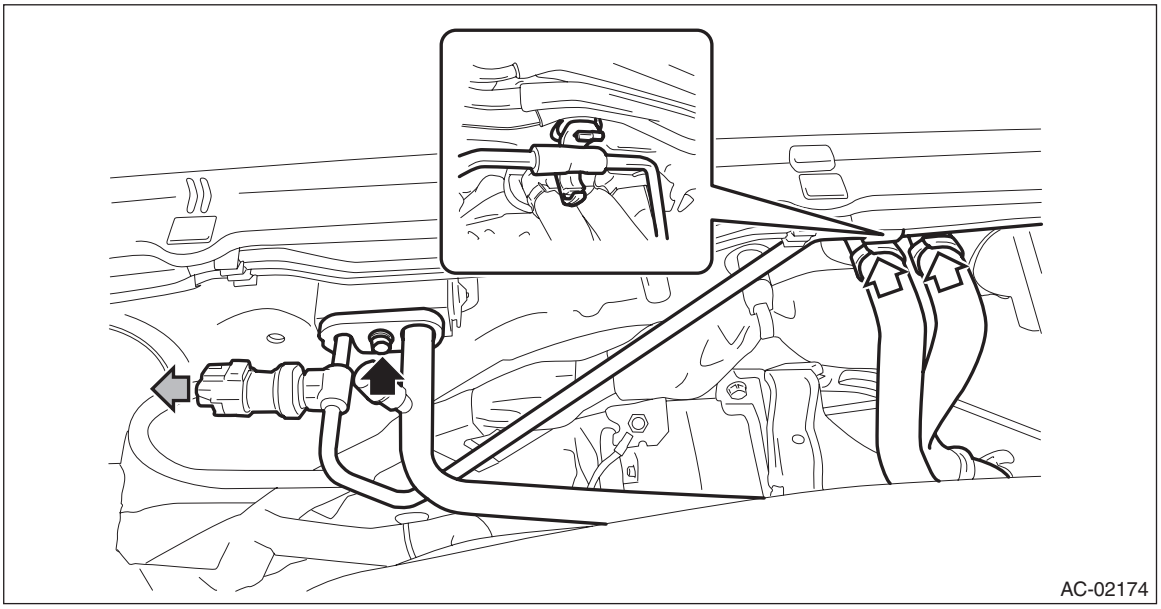
19.Evaporator

A: REMOVAL

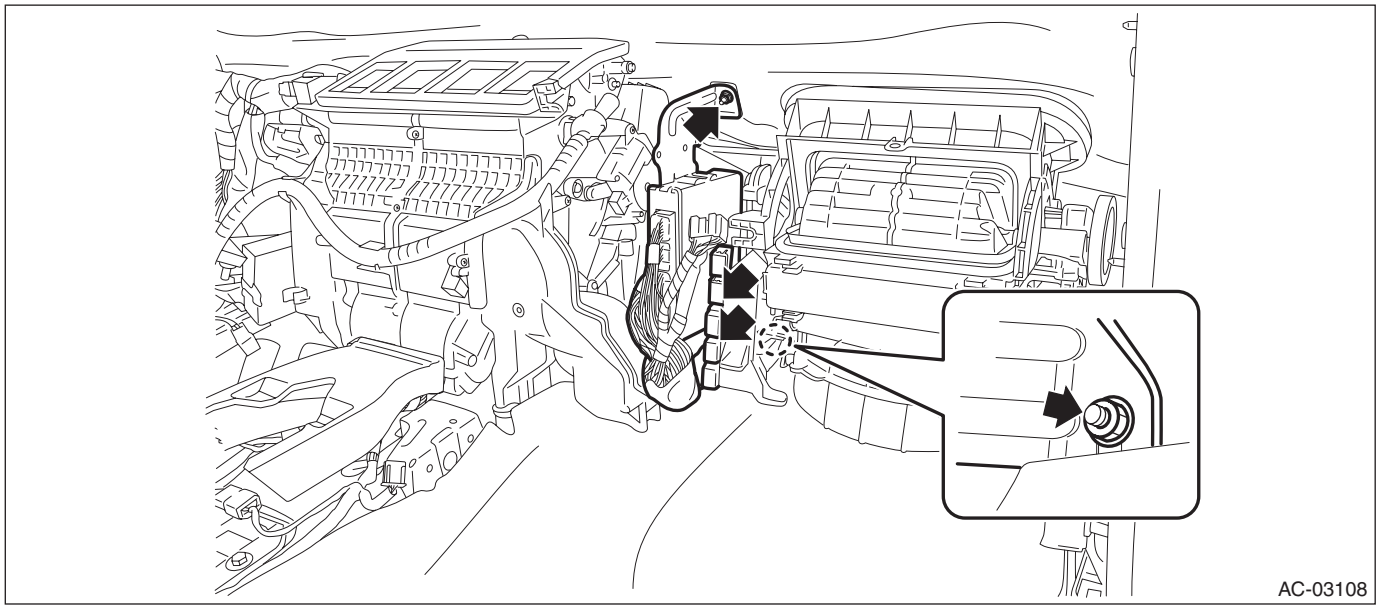
1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain the coolant from the radiator.
- H4 model: <Ref. to CO(H4DO)-14, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model: <Ref. to CO(H6DO)-12, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

4) Remove the connector and bolts, and remove the high-pressure hose and AC pipe from the expansion valve.
5) Loosen the heater hose clamps and remove the hoses.

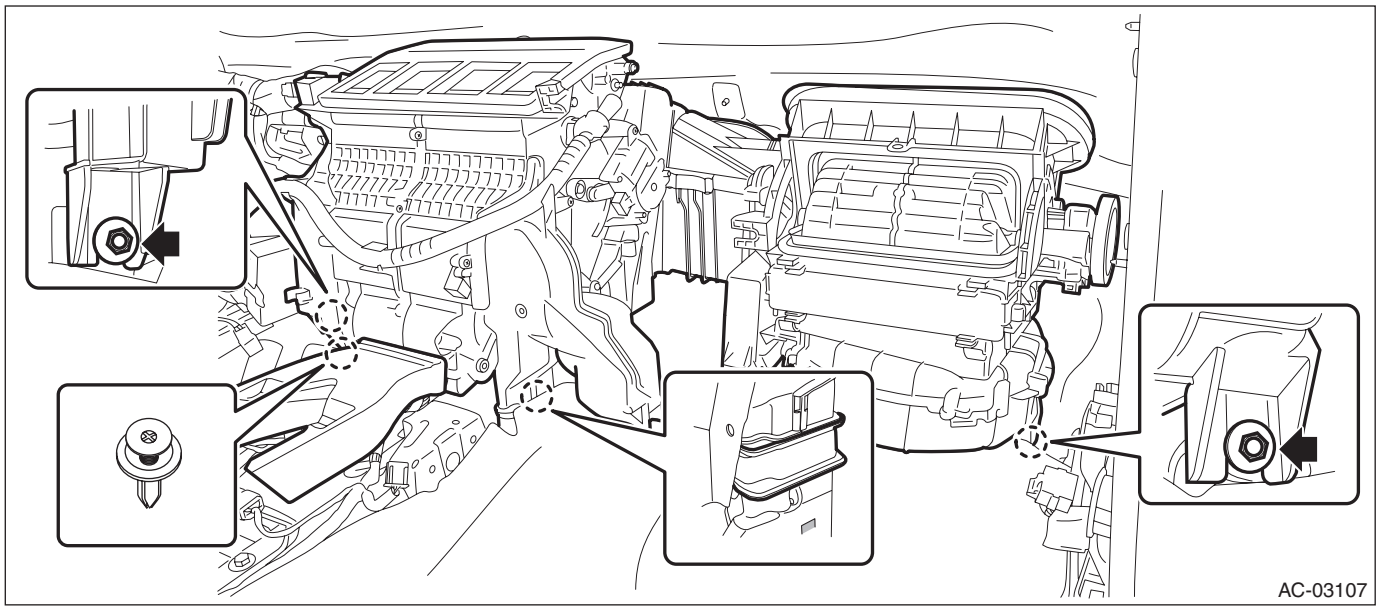
NOTE:
Put alignment marks to hoses, clamps, etc. and remove them.



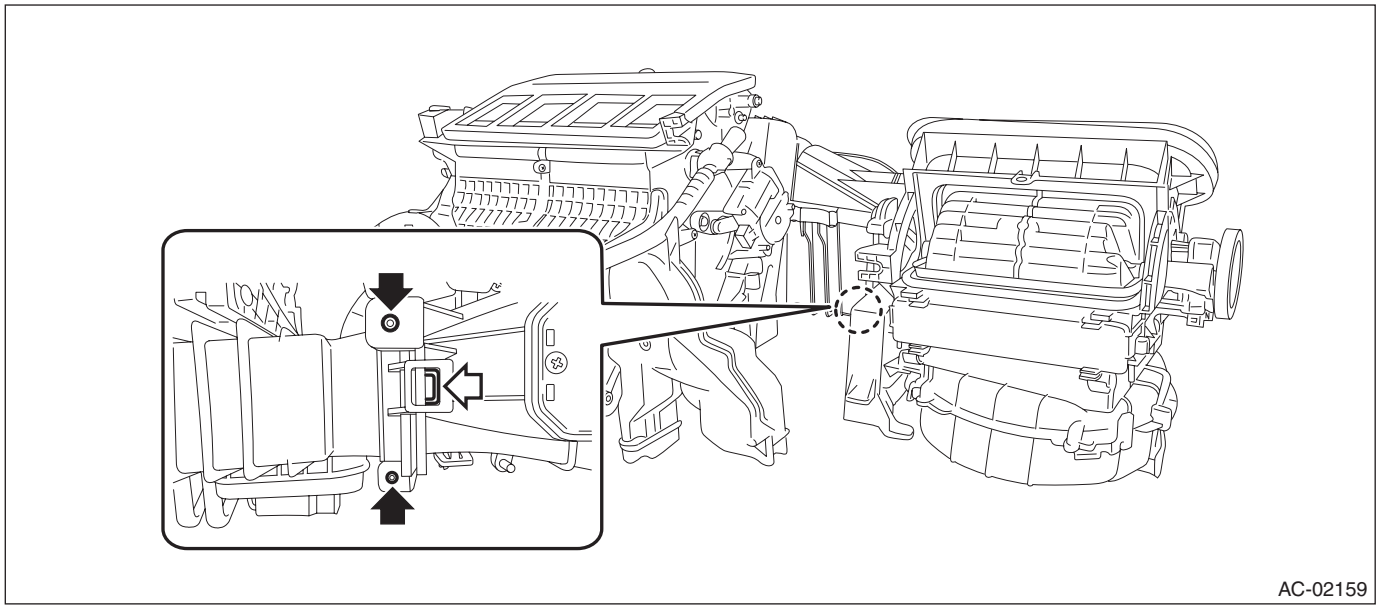
6) Remove the instrument panel assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
7) Remove the engine control module (ECM).
   (1) Release the lock and remove the relay holder.
   (2) Remove the nuts, and remove the engine control module (ECM).



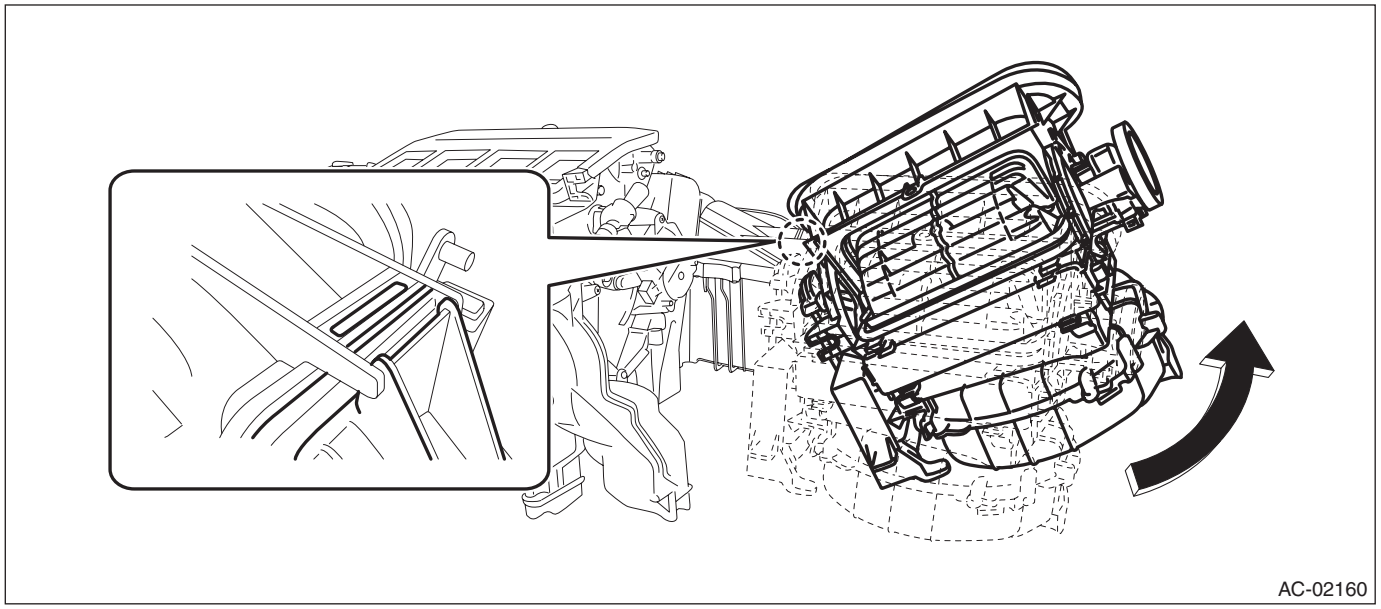
8) Remove the heater and cooling unit.
(1) Remove the clip, and remove the rear center duct.
(2) Turn over the floor carpet and remove the rear heater duct slide locks on the left and right.
(3) Remove the bolt and remove the heater and cooling unit.



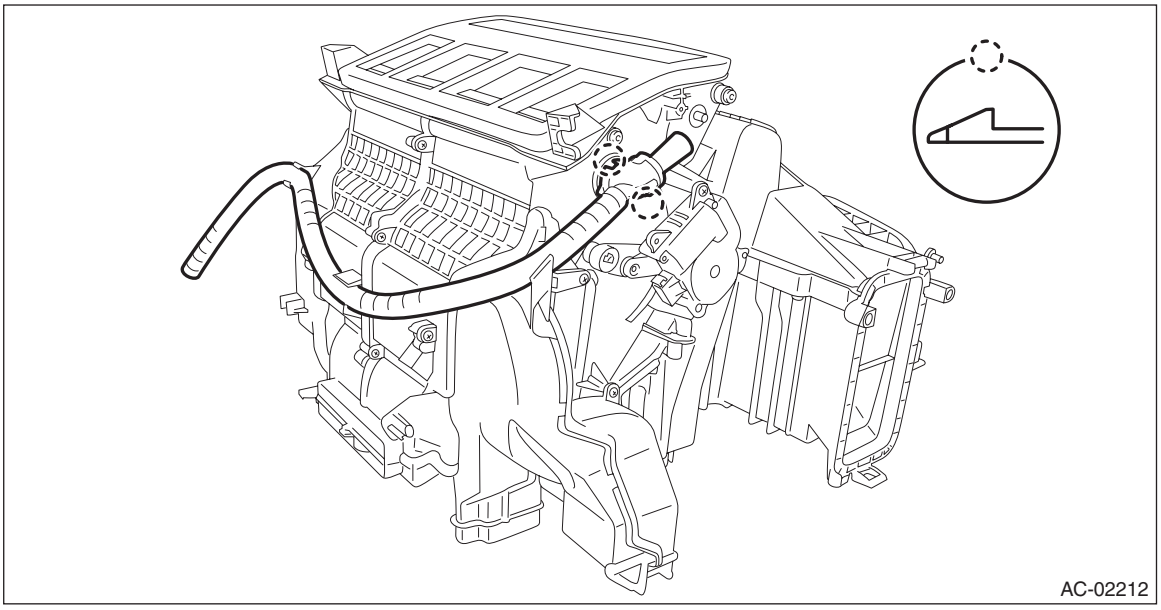
9) Remove the blower motor unit assembly.
(1) Release the claws and remove the bolts.



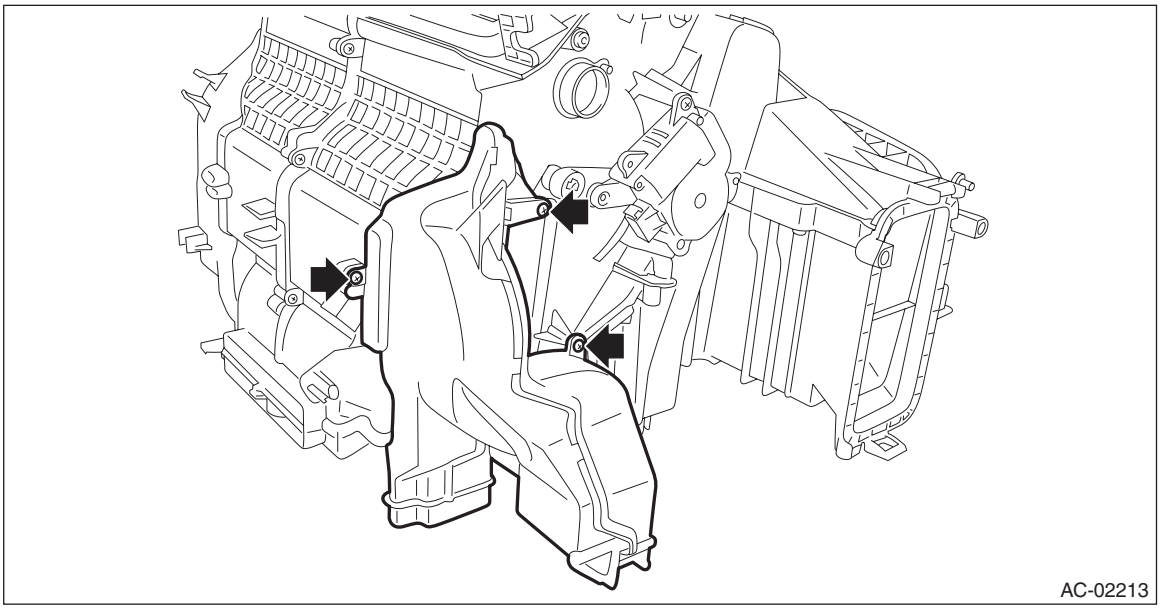
(2) Remove the blower motor unit assembly as shown in the figure.



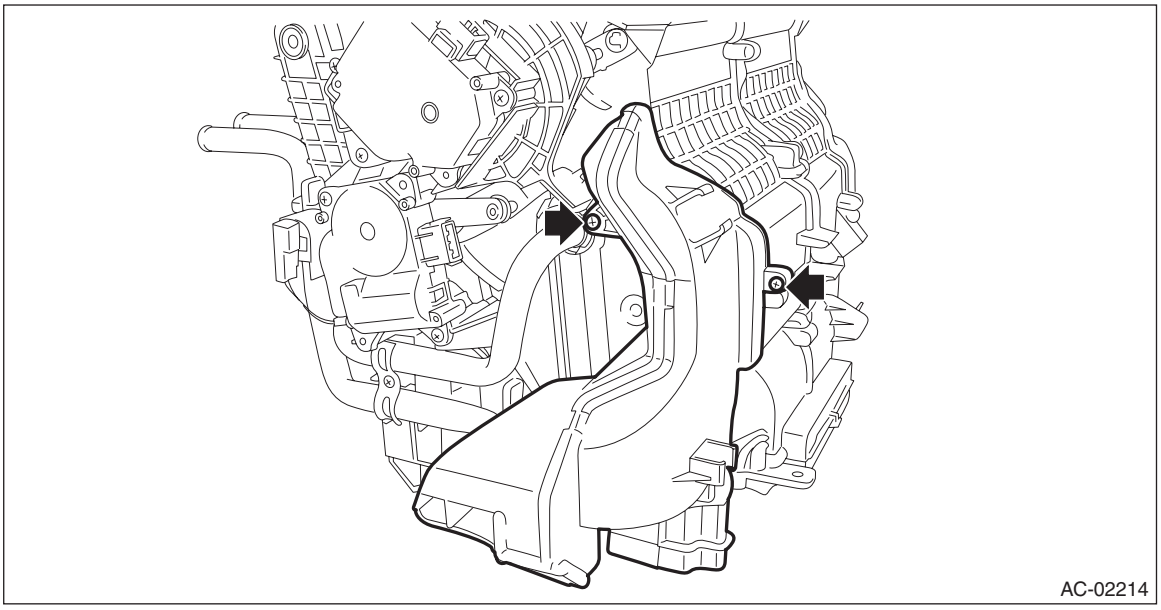
10) Disconnect the claws and then remove the aspirator hose.



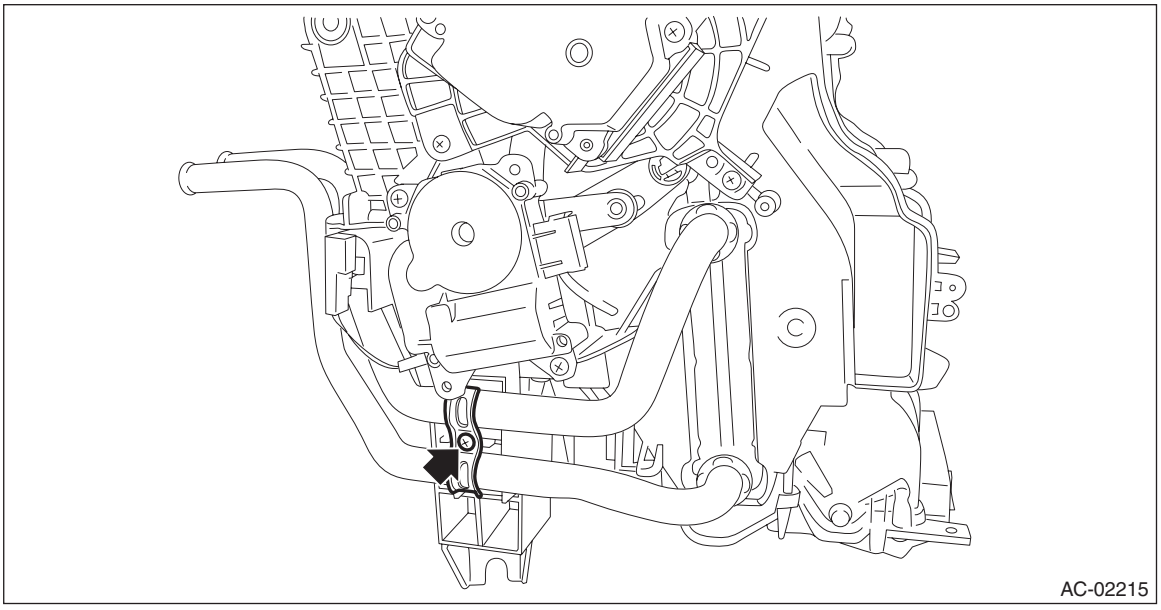
11) Remove the screw, and then remove the foot duct (RH).



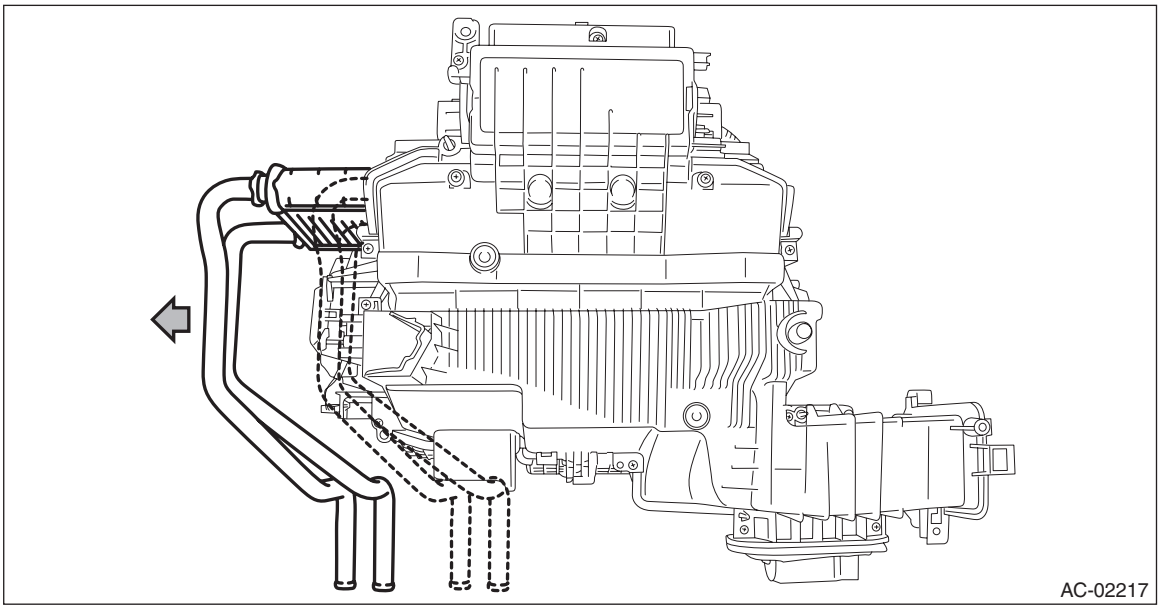
12) Remove the screws and remove the foot duct (LH).



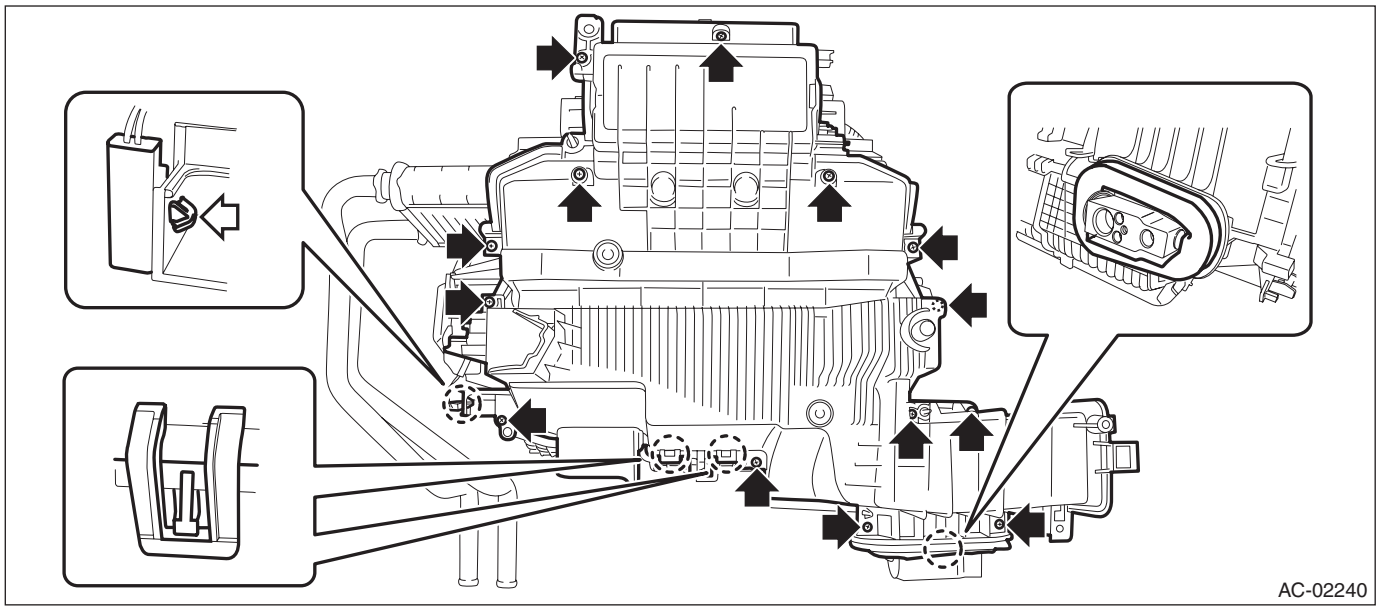
13) Pull out the heater core.
(1) Remove the screw and remove the heater pipe clamp.



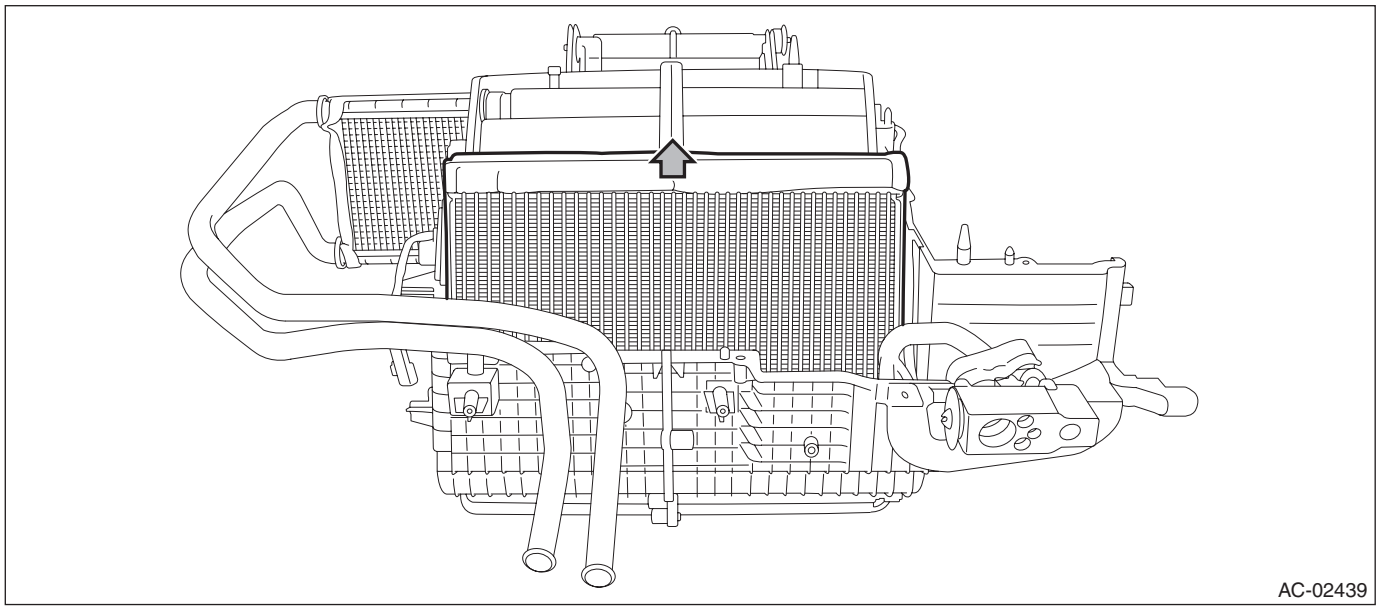
(2) Pull out the heater core from the heater and cooling unit assembly.



14) Remove the heater case lower.
(1) Remove the clip, and remove the evaporator connector.
(2) Remove the gasket.
(3) Remove the screw and lock, then remove the heater case lower.

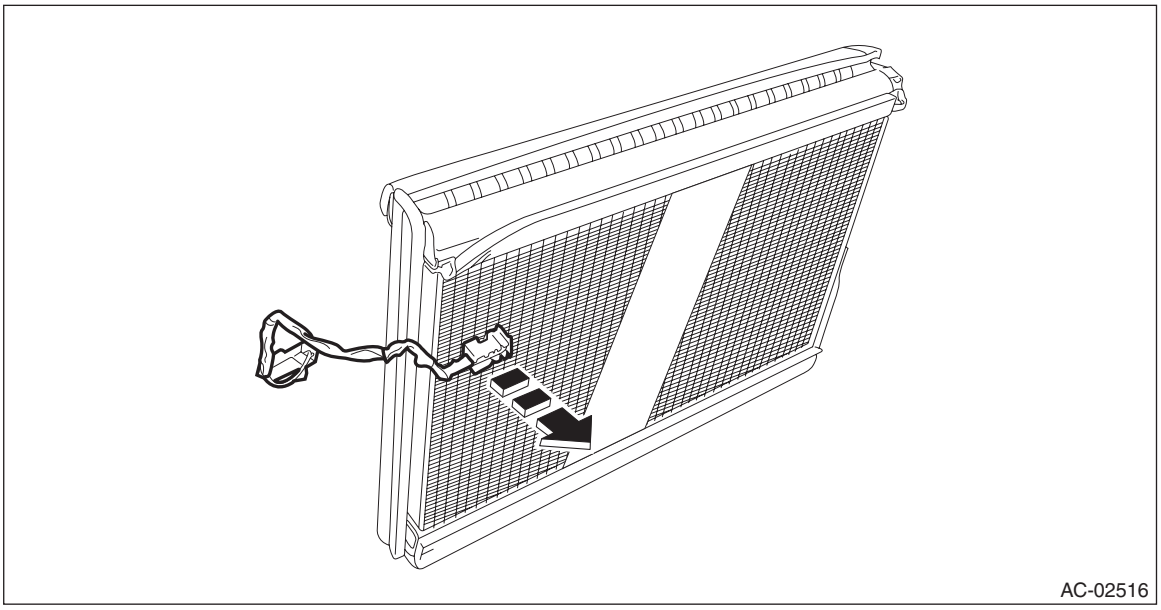


15) Remove the evaporator.



16) Remove the bolt and detach the expansion valve from the evaporator. <Ref. to AC-74, REMOVAL, Expansion Valve.>

17) Remove the evaporator sensor from the evaporator.



B: INSTALLATION

CAUTION:
- **Do not start the engine before charging refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **If the evaporator has been replaced, add an appropriate amount of compressor oil to the compressor. <Ref. to AC-33, ADJUSTMENT, Compressor Oil.>**
- **When the evaporator has been replaced, always replace the packing for expansion valve with a new one and apply the compressor oil on it.**
- **Make sure that the water seal packing on the cover attachment area is securely attached.**
- **Replace the O-rings with new parts, and then apply compressor oil.**
- **Install the evaporator sensor at the position shown in the figure below.**

1) Install the evaporator sensor to the specified location. <Ref. to AC-87, INSTALLATION, Evaporator Sensor.>
2) Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Instrument Panel Assembly”. <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>
3) Fill engine coolant.
- H4 model:<Ref. to CO(H4DO)-15, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- H6 model:<Ref. to CO(H6DO)-12, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

4) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Heater cooling unit:<Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>
Blower motor unit:<Ref. to AC-7, BLOWER MOTOR UNIT, COMPONENT, General Description.>
Air conditioning unit:<Ref. to AC-9, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Engine control module (ECM): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

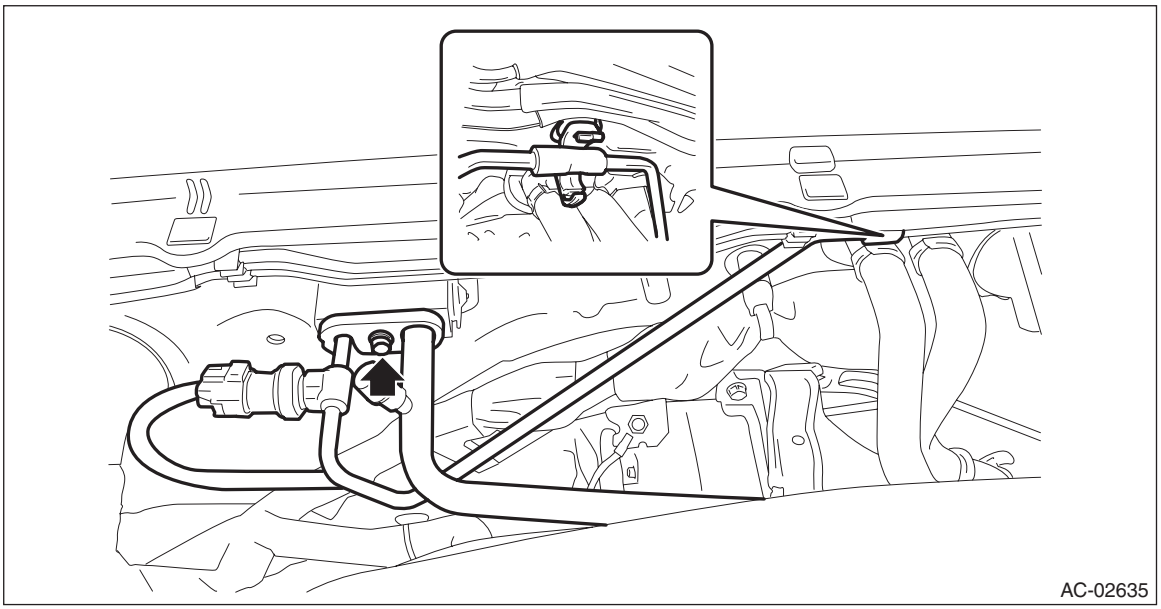
C: INSPECTION

1) Check the evaporator fin for dust. Blow with compressed air or flush fins with water as needed.
2) If any oil leak is found from the evaporator, replace the evaporator.

20.Expansion Valve

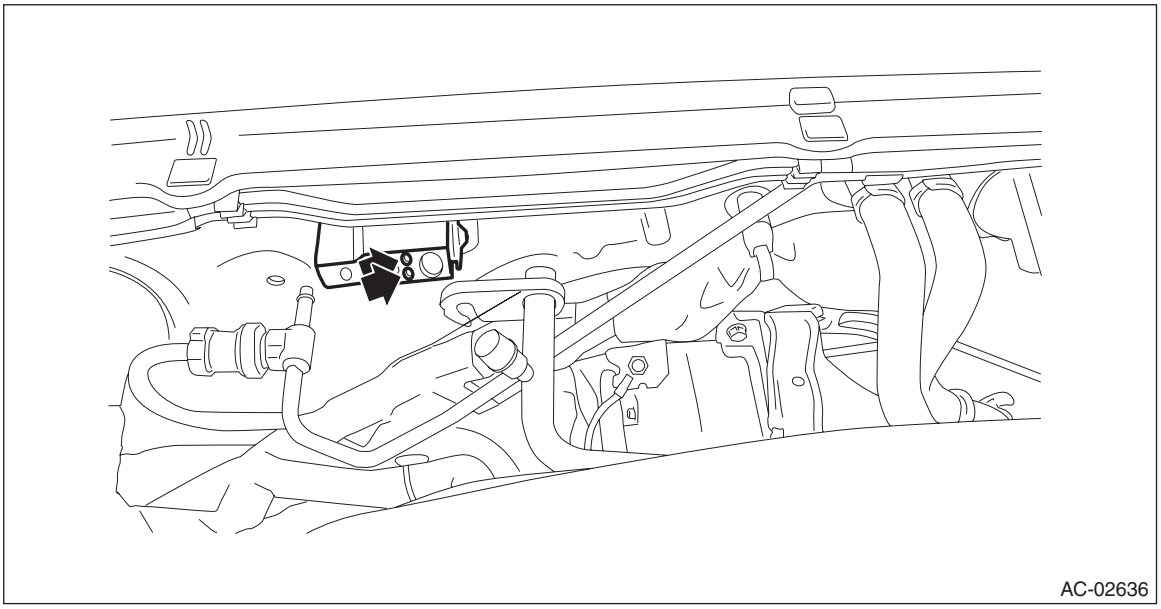
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the connector and bolts, and remove the high-pressure hose and AC pipe from the expansion valve.



4) Remove the bolts, then remove the expansion valve.

Preparation tool:
Hexagon wrench: 4 mm (0.16 in)



B: INSTALLATION

CAUTION:
- **Do not start the engine before charging refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **Replace the gasket and O-rings with new parts, and then apply compressor oil.**

1) Install each part in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

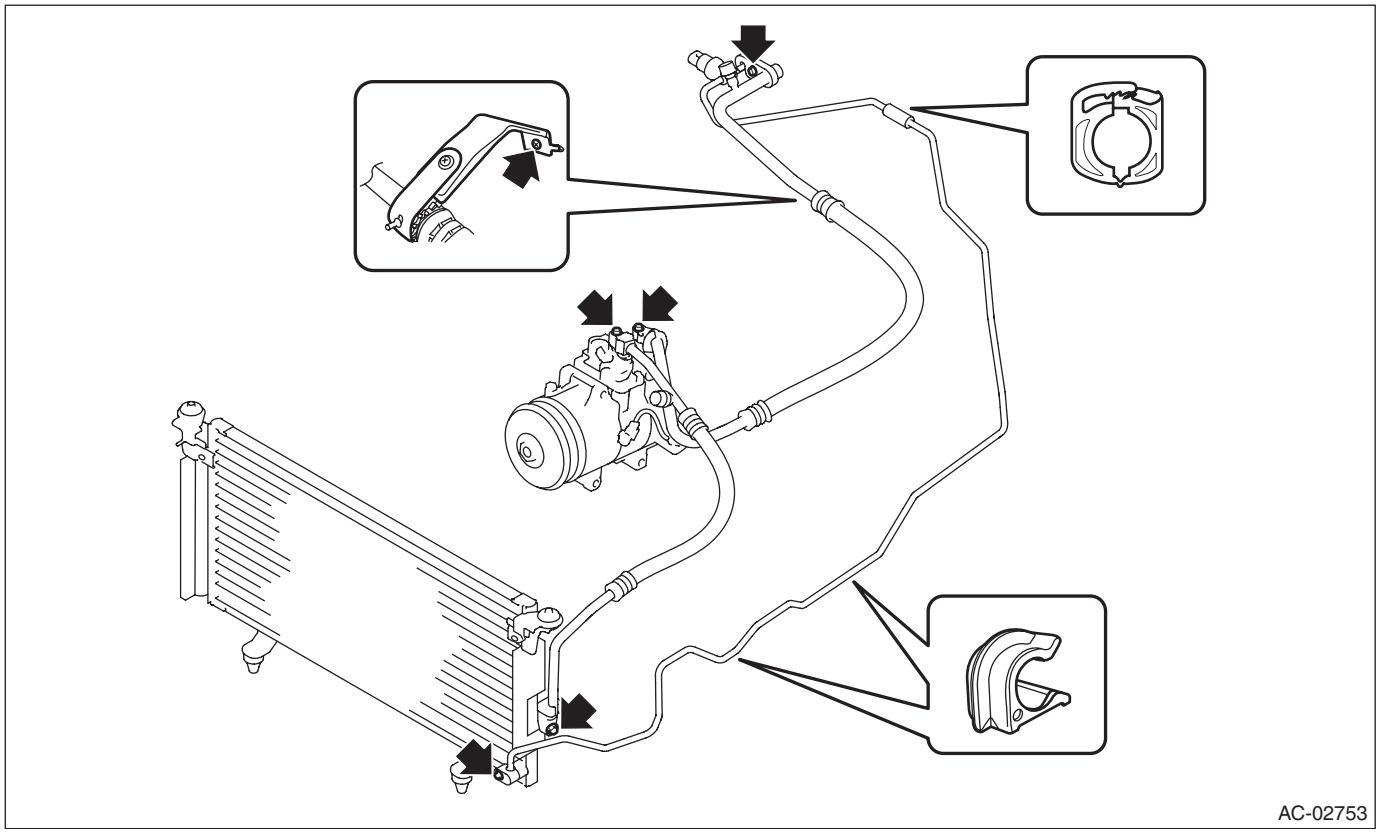
Tightening torque:
Heater cooling unit: <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>
Air conditioning unit: <Ref. to AC-9, AIR CONDITIONING UNIT, COMPONENT, General Description.>

21.Hose and Pipe

A: REMOVAL

CAUTION:
- **When disconnecting hoses, do not apply excessive force.**
- **Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.**

1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-26, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the bolts and screws and detach the hoses and pipes.



B: INSTALLATION

CAUTION:
- **If the hose and pipe has been replaced, add an appropriate amount of compressor oil to the compressor. <Ref. to AC-33, ADJUSTMENT, Compressor Oil.>**
- **Do not start the engine before charging refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **Replace the O-rings with new parts, and then apply compressor oil.**
- **When connecting hoses, do not apply an excessive force to them. After installing, check that no torsion or excessive tension applied to the hoses.**

1) Install each part in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-27, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-9, AIR CONDITIONING UNIT, COMPONENT, General Description.>

C: INSPECTION

1) Check the hoses for cracks, damage and expansion. Replace the hose if faulty.
2) Check the pipes for crack or damage. Replace the pipe if faulty.

22.Pressure Sensor

A: INSPECTION

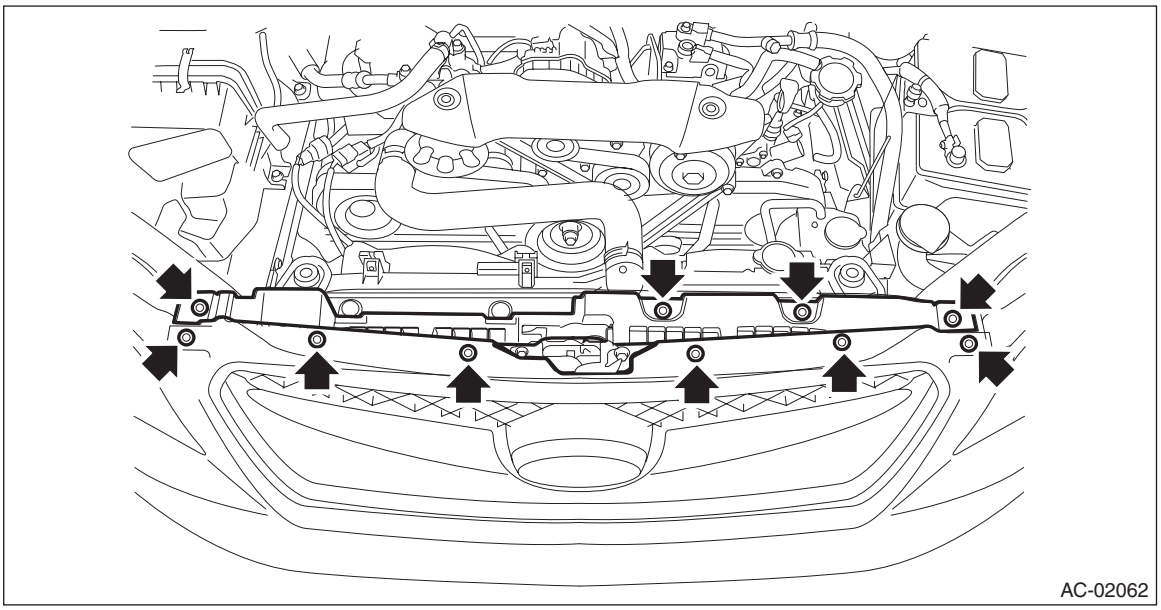
1) Perform a diagnosis code (DTC) check by connecting the Subaru Select Monitor.
2) If any diagnosis code (DTC) is displayed, refer to “List of Diagnostic Trouble Code (DTC)” in “HVAC SYSTEM (DIAGNOSTICS)” section. <Ref. to AC(diag)-52, LIST, List of Diagnostic Trouble Code (DTC).>

23.Ambient Sensor

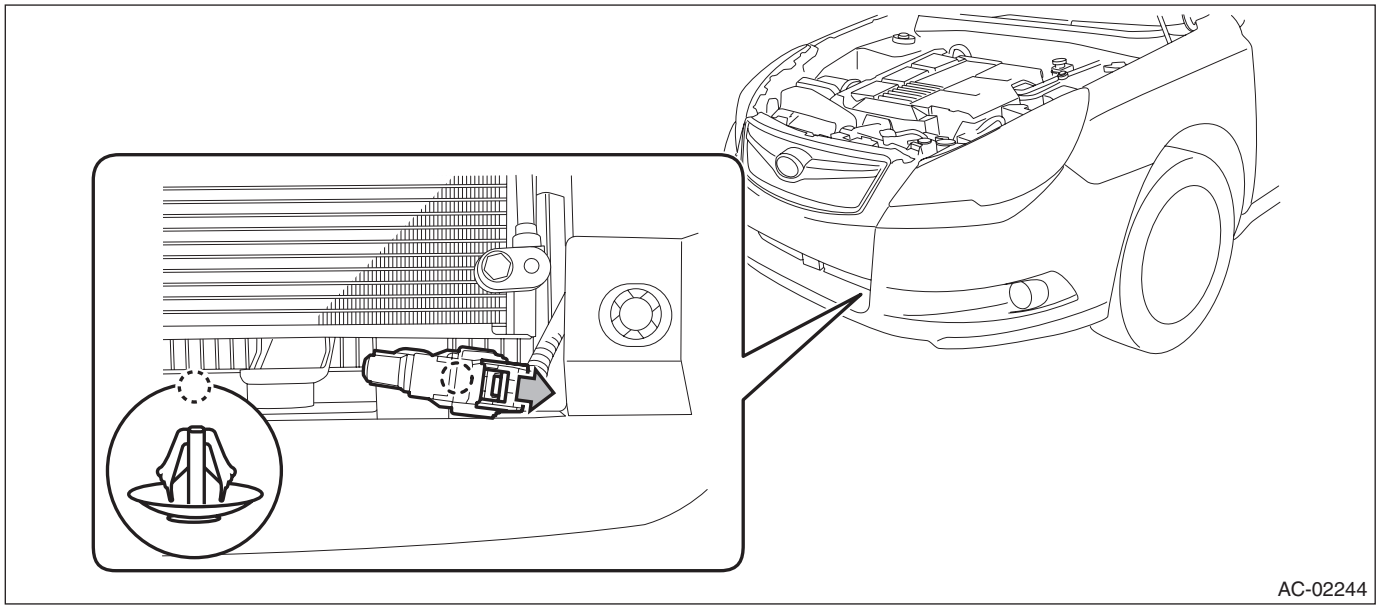
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the clips and remove the grille bracket. (Sedan model)

NOTE:
To prevent damage to the grille bracket, make sure to remove all clips.



3) Remove the ambient sensor.
   (1) Disconnect the connector.
   (2) Remove the ambient sensor from the radiator lower panel.



B: INSTALLATION

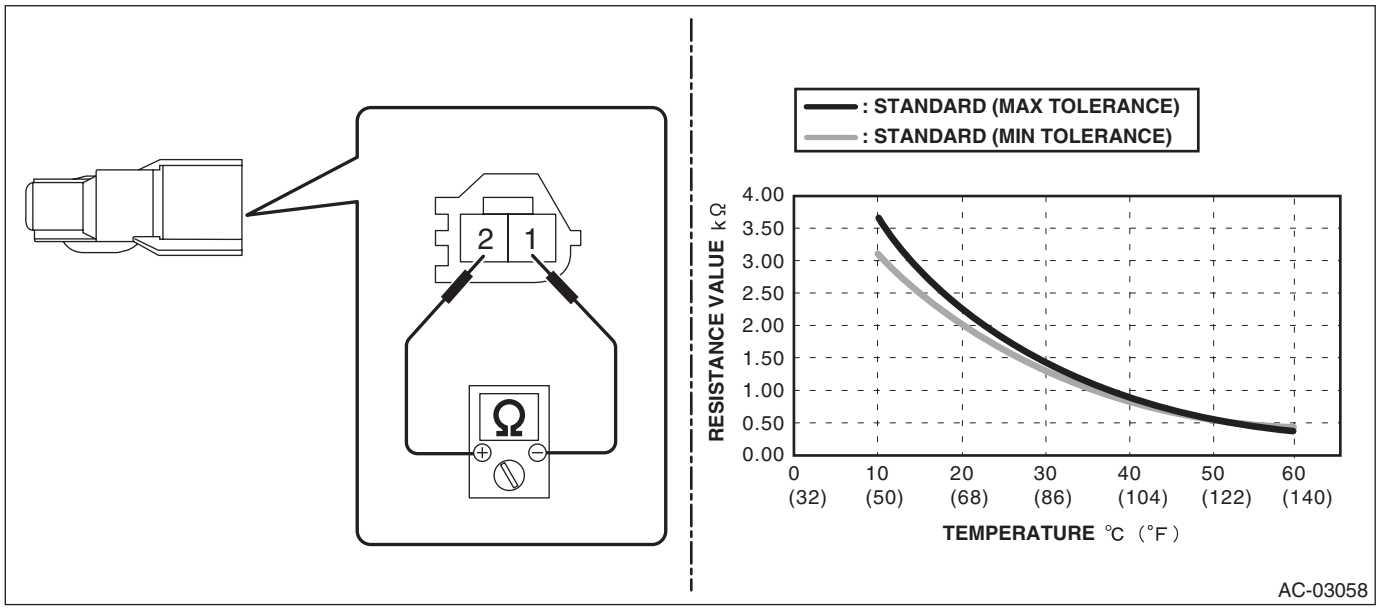
Install each part in the reverse order of removal.

C: INSPECTION

Preparation tool:
Circuit tester

1) Visually check the ambient sensor for dirt or damage, and clean or replace as necessary.
2) Check the resistance between ambient sensor terminals.

CAUTION:
During inspection, be careful not to touch the sensor end in order to avoid misjudgment due to body temperature.



Terminal No.	Inspection conditions	Standard
1 — 2	10°C	3.12 — 3.70 kΩ
	15°C	2.49 — 2.88 kΩ
	20°C	2.00 — 2.26 kΩ
	25°C	1.62 — 1.79 kΩ
	30°C	1.32 — 1.42 kΩ
	35°C	1.08 — 1.14 kΩ
	40°C	0.89 — 0.92 kΩ
	45°C	0.74 — 0.75 kΩ
	50°C	0.62 — 0.62 kΩ
	55°C	0.52 — 0.51 kΩ
	60°C	0.44 — 0.42 kΩ

3) Replace the ambient sensor if the inspection result is not within the standard value.

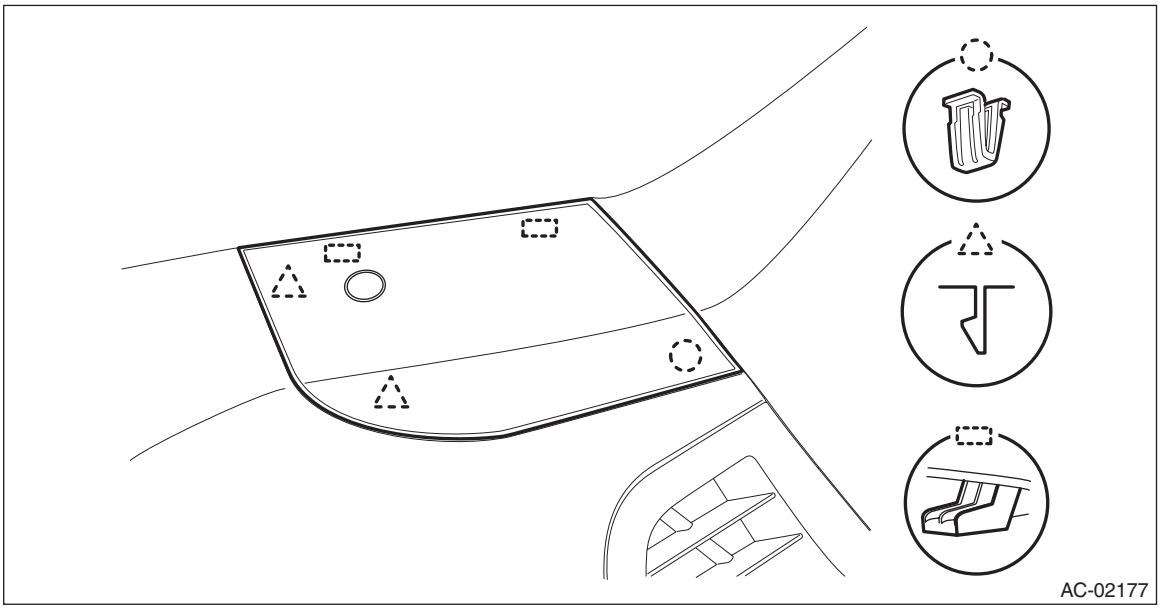
24.Sunload Sensor (Auto A/C Model)

A: REMOVAL

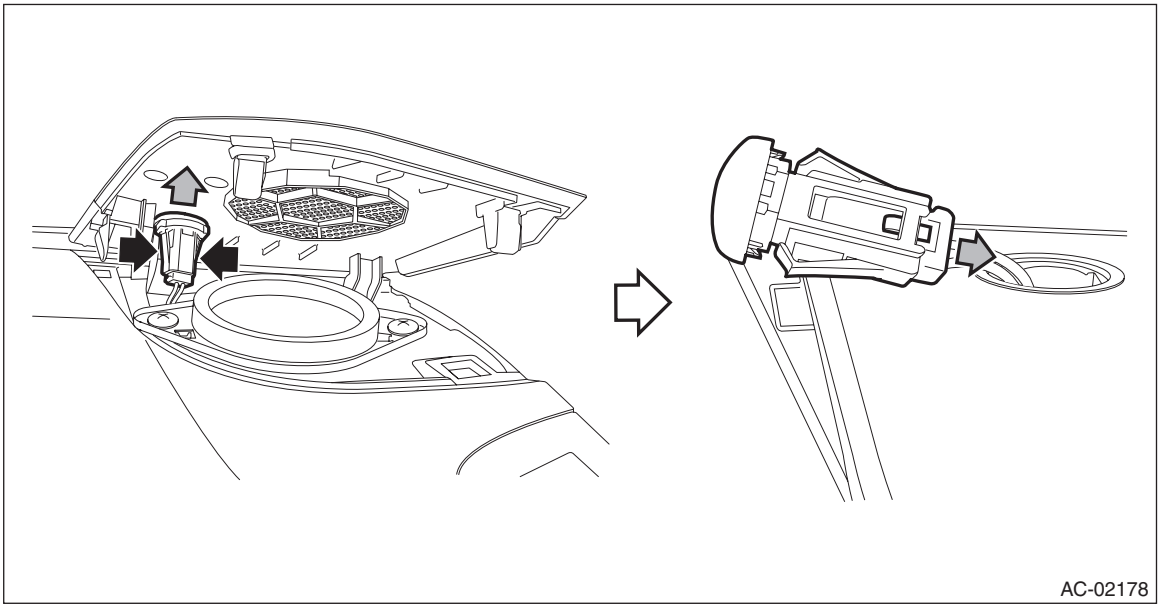
NOTE:
The sunload sensor is integrated with the light control sensor.
1) Disconnect the ground cable from battery.
2) Remove the sunload sensor.

CAUTION:
Be careful not to damage the sensors and interior trims when removing.

(1) Release the claws and clips, then detach the side speaker cover (RH).



(2) Push out the sunload sensor by pressing the left and right claws.
(3) Disconnect the connector and remove the sunload sensor.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

Preparation tool:
Subaru Select Monitor III kit

1) Check if there is anything that affects sensing, around the sunload sensor.
   (1) Is there anything placed on the sunload sensor that disturbs sensing?
   (2) Is there anything on the windshield glass, such as sticker and film, that disturbs sensing?
   - **No** → Go to step 2).
   - **Yes** → Remove everything that affects sensing.
2) Check the sunload sensor using the Subaru Select Monitor.
   (1) Prepare the Subaru Select Monitor kit.
   (2) Run the “PC application for Subaru Select Monitor”.
   (3) On «Main Menu» display, select {Each System Check}.
   (4) On «System Selection Menu» display, select {Air Condition System}.
   (5) On «Air Conditioning Diagnosis» display, select {Current Data Display & Save}.
   (6) Select {Quantity of Sunload} with UP/DOWN key and set with the [OK] key.
   (7) Cover the sunload sensor with cloth and the like to avoid direct light. Does {Quantity of Sunload} indicate 0 W/m^2?
   - **Yes** → Go to step 3).
   - **No** → Replace the sunload sensor.
3) From step 2), expose the sunload sensor to light.
   (1) Place intense light such as incandescent light at 30 cm or less from the sunload sensor.
   (2) Does the {Quantity of Sunload} indicate 2,000 W/m^2 or less?

CAUTION:
The value changes depending on the angle of light.

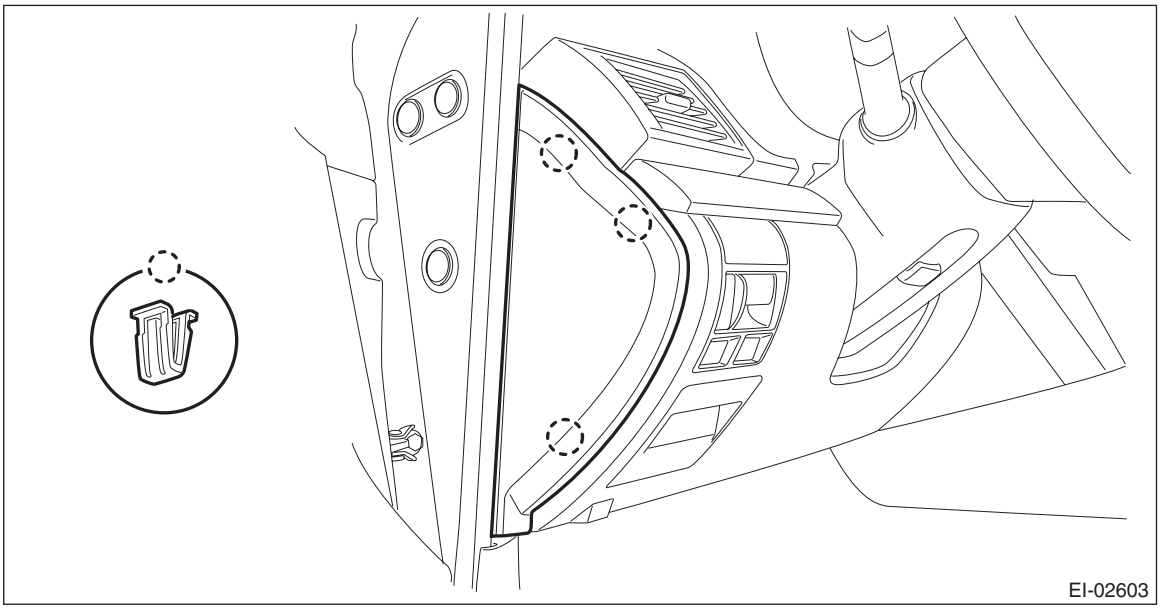
- **Yes** → The sunload sensor is normal.
- **No** → Replace the sunload sensor.

25.In-Vehicle Sensor (Auto A/C Model)

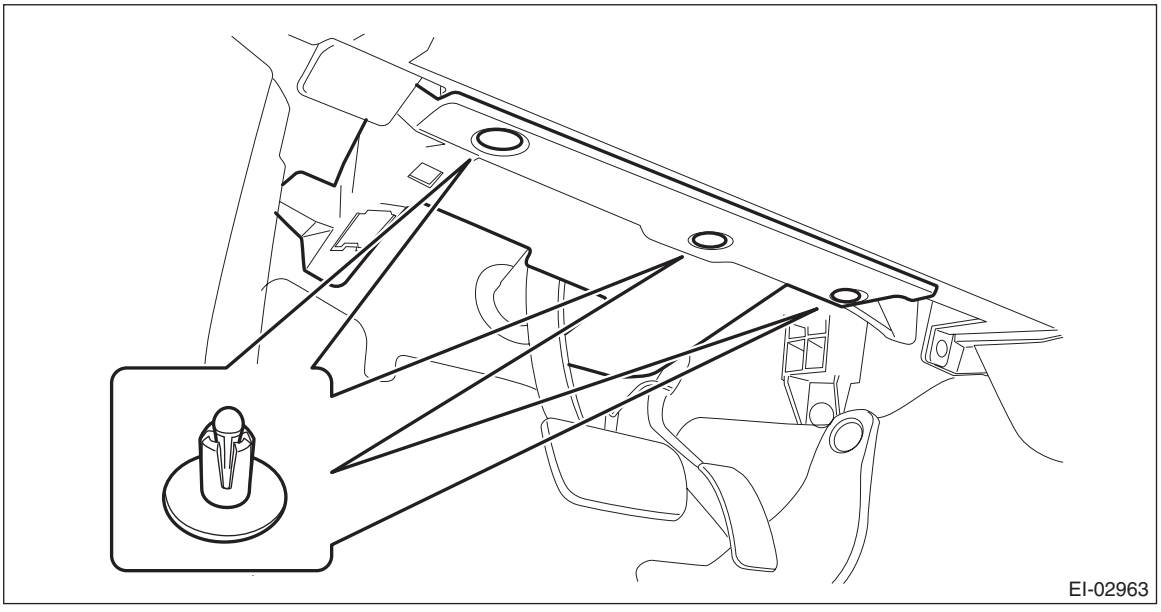
A: REMOVAL

CAUTION:
Be careful not to damage the sensors and interior trims when removing.

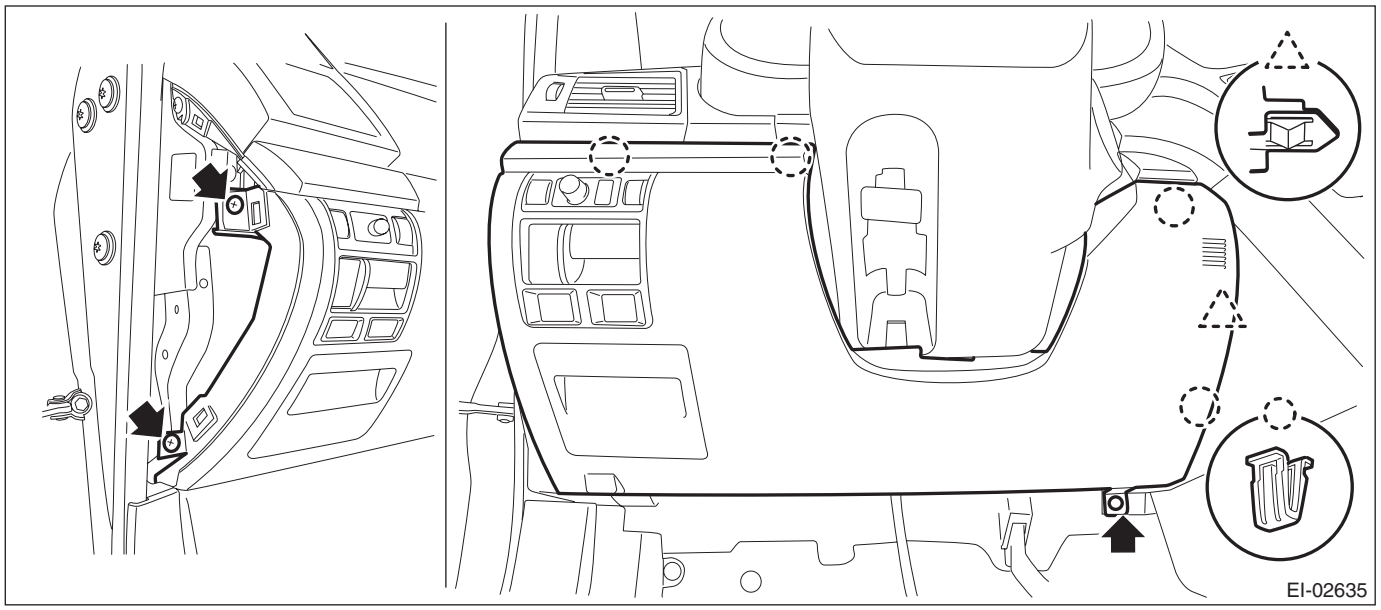
1) Disconnect the ground cable from battery.
2) Remove the clips, and remove the instrument panel side cover LH.



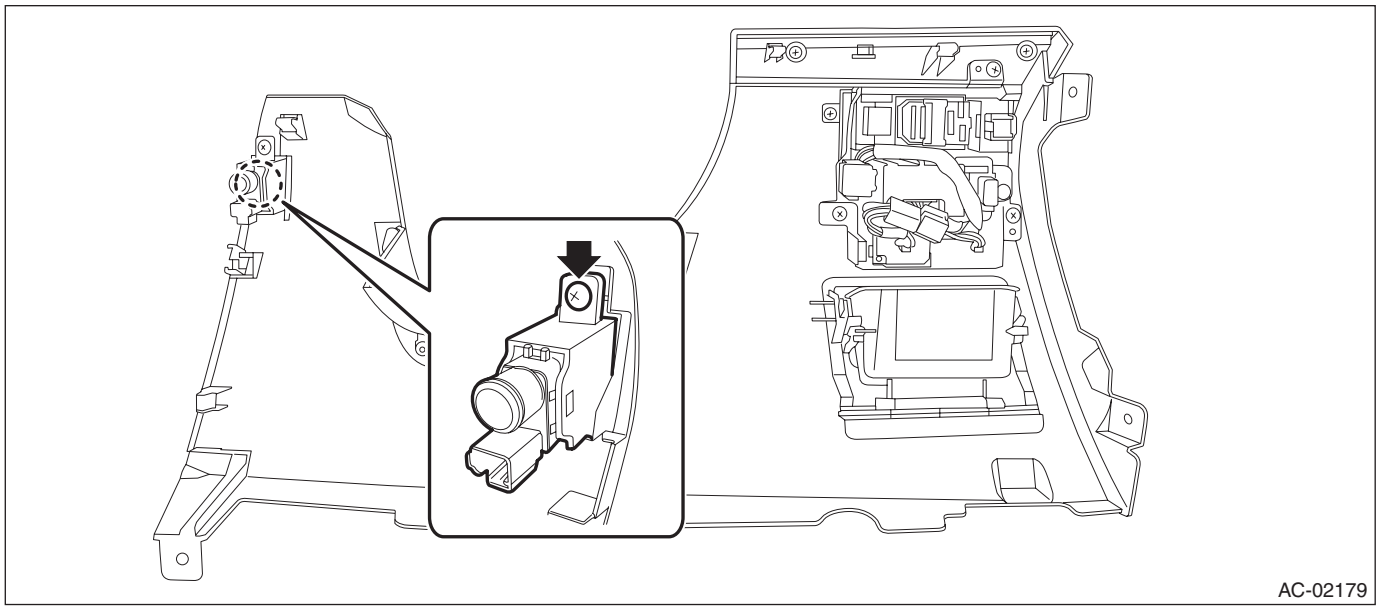
3) Remove the instrument panel lower cover.
   (1) Remove the clip.
   (2) Remove the data link connector, and remove the instrument panel lower cover under.



(3) Remove the screws and clips and release the claws, and remove the instrument panel lower cover while disconnecting the harness connectors.



4) Remove the screw and remove the in-vehicle sensor from the instrument lower cover.



B: INSTALLATION

Install each part in the reverse order of removal.

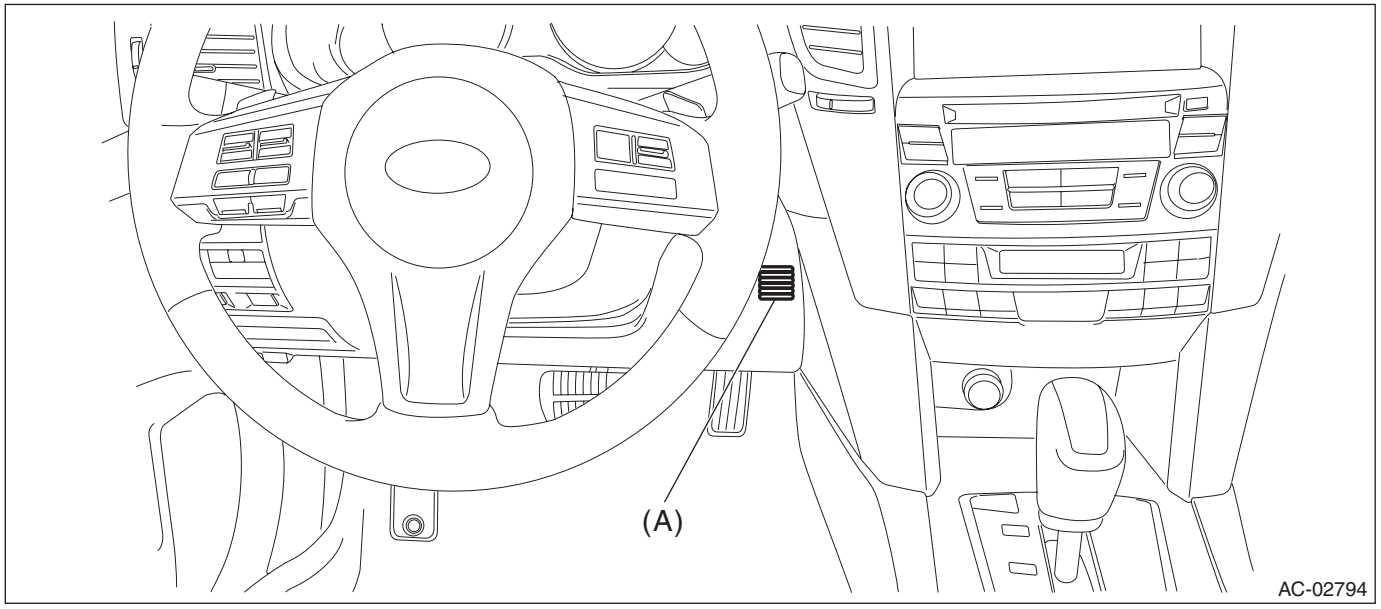
C: INSPECTION

Preparation tool:
Circuit tester

1) Set the vehicle to the following conditions.

Item	Condition
Ignition switch	ON
AC switch	ON
Temperature control switch or dial	HI (MAX HOT)
Air flow control switch	DEF
Fan switch or dial	HI (MAX)

2) Check the suction port (A) for in-vehicle sensor provided on the instrument panel lower cover.

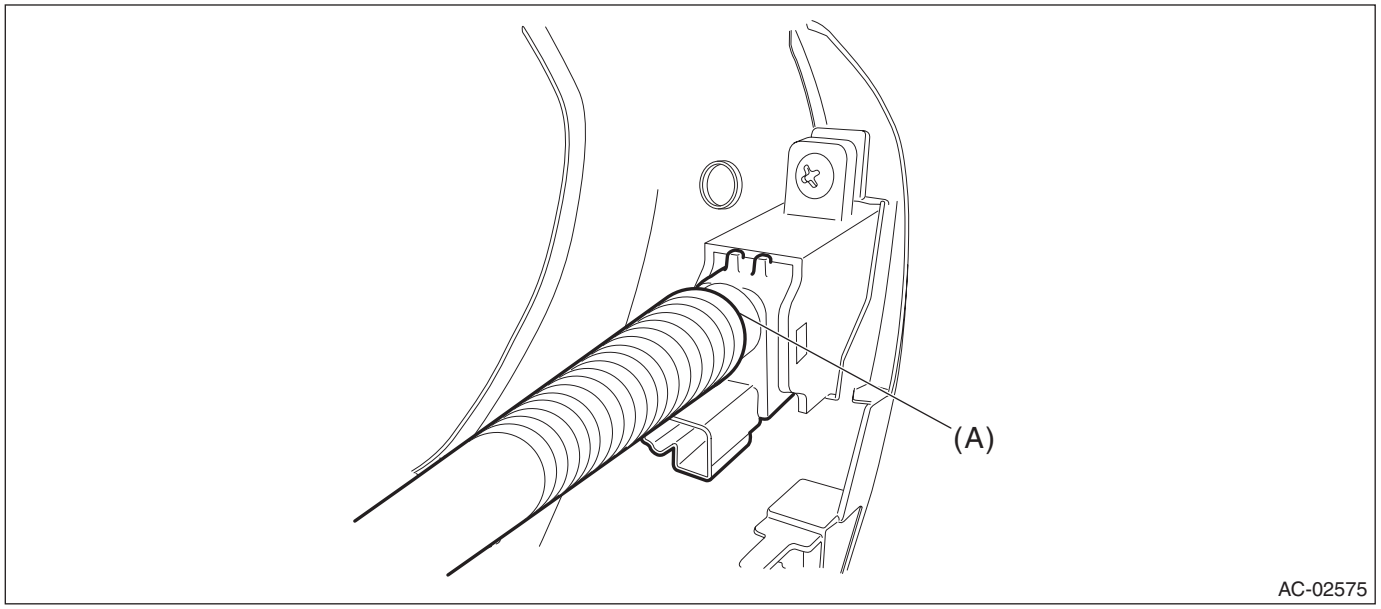


(1) Put a strip of paper close to the front side of the suction port (A).
(2) Can you see the paper moving towards the port and the air being sucked into the port?

CAUTION:
Be careful not to let the paper get sucked into the port.

- **Yes** → Go to step 5).
- **No** → Go to step 3).

3) Remove the instrument panel lower cover, and check the aspirator hose (A).

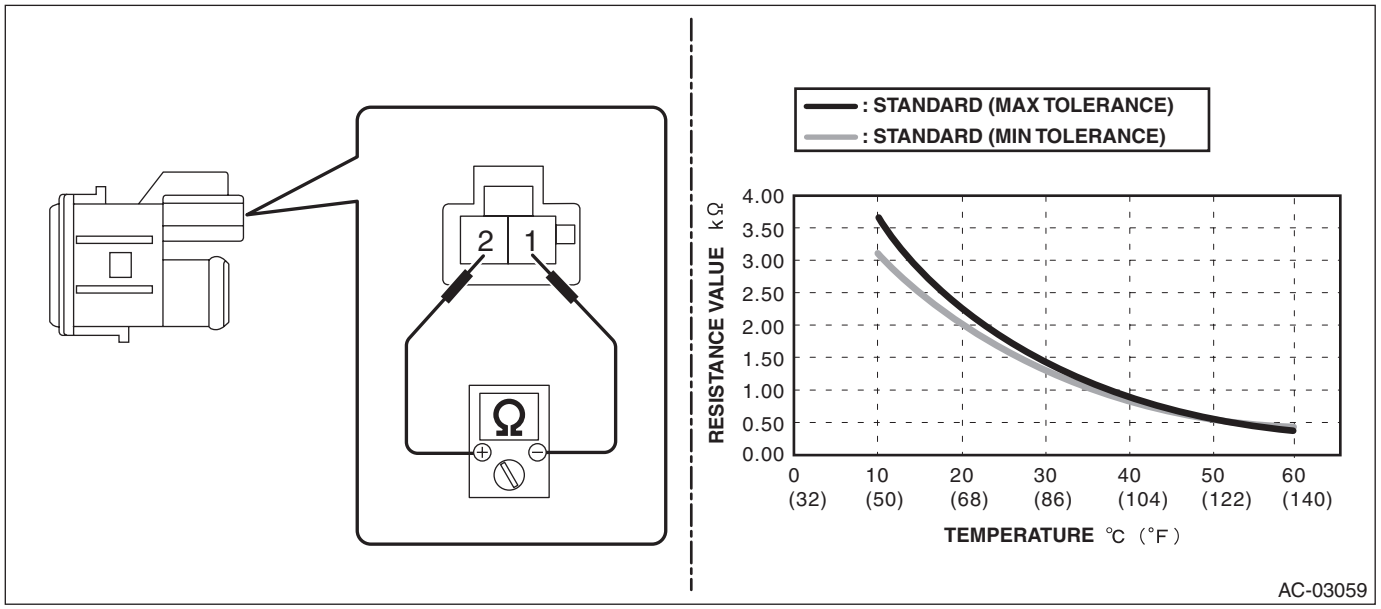


(1) Is the aspirator hose on both sides of case and sensor disconnected?
(2) Are there any kinks or cracks on the aspirator hose?
- **No** → Go to step 4).
- **Yes** → Repair or replace the aspirator hose if necessary.

4) Check if there is anything that affects sensing, around the in-vehicle sensor.
(1) Is the in-vehicle sensor hole plugged?
(2) Is there any heat-producing part (audio or navigation system, etc.) around in-vehicle sensor?
- **No** → Go to step 5).
- **Yes** → Remove everything that affects sensing.

5) Perform the inspection of in-vehicle sensor unit.
(1) Disconnect the in-vehicle sensor connector.
(2) Is the resistance between terminals of in-vehicle sensor within standard value?

CAUTION:
During inspection, be careful not to touch the sensor end in order to avoid misjudgment due to body temperature.



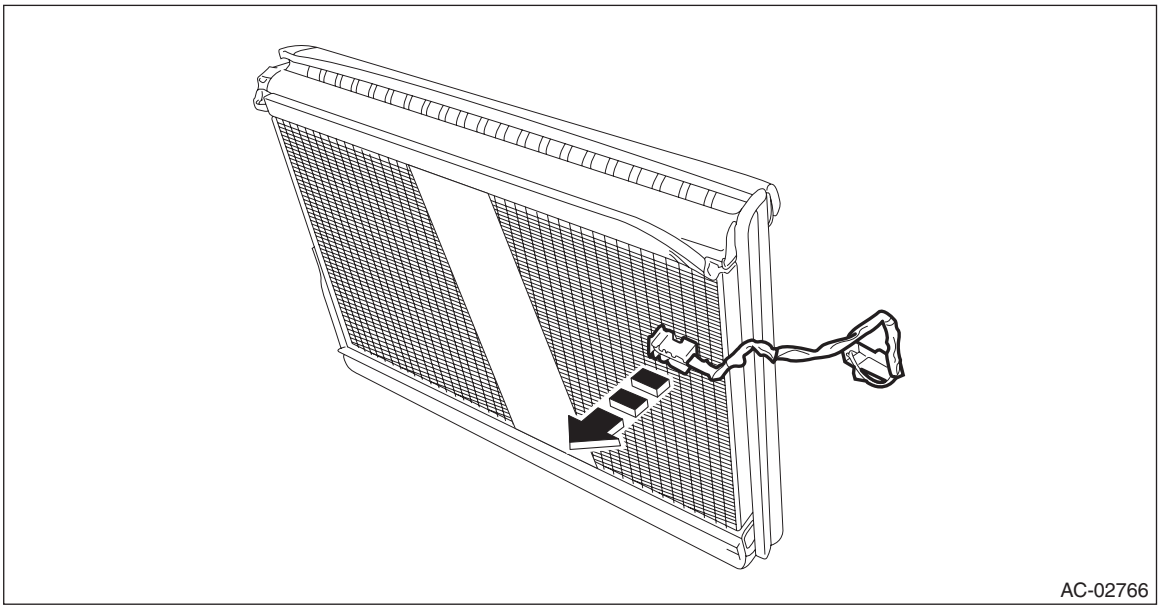
Terminal No.	Inspection conditions	Standard
1 — 2	10°C	3.12 — 3.70 kΩ
	15°C	2.49 — 2.88 kΩ
	20°C	2.00 — 2.26 kΩ
	25°C	1.62 — 1.79 kΩ
	30°C	1.32 — 1.42 kΩ
	35°C	1.08 — 1.14 kΩ
	40°C	0.89 — 0.92 kΩ
	45°C	0.74 — 0.75 kΩ
	50°C	0.62 — 0.62 kΩ
	55°C	0.52 — 0.51 kΩ
	60°C	0.44 — 0.42 kΩ

- **Yes** → The in-vehicle sensor is normal.
- **No** → Replace the in-vehicle sensor.

26.Evaporator Sensor

A: REMOVAL

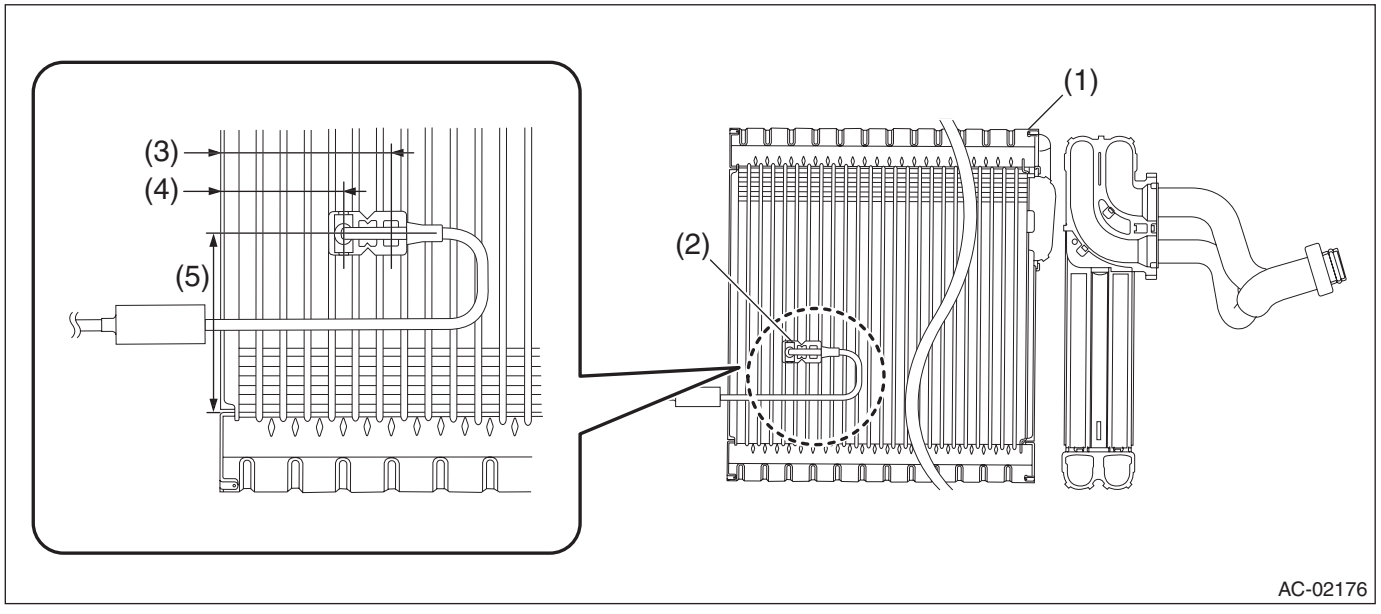
1) Remove the evaporator. <Ref. to AC-67, REMOVAL, Evaporator.>
2) Remove the evaporator sensor from the evaporator.



B: INSTALLATION

CAUTION:
- **Do not start the engine before charging refrigerant.**
- **If the engine is started with no refrigerant charge, replace the compressor.**
- **Make sure that the water seal packing on the cover attachment area is securely attached.**
- **Replace the O-rings with new parts, and then apply compressor oil.**

1) Install the evaporator sensor at the position shown in the figure below.



(1) Evaporator
(2) Evaporator sensor
(3) 47.7 mm (1.88 in)
(4) 34.3 mm (1.35 in)
(5) 50 mm (1.97 in)

2) Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Evaporator”. <Ref. to AC-73, INSTALLATION, Evaporator.>

C: INSPECTION

Preparation tool:
Subaru Select Monitor III kit
Circuit tester
Thermometer and hygrometer

1) Prepare the vehicle.

NOTE:
Check that the ambient temperature is 25 — 40°C (77 — 104°F) and that the humidity is 30% — 80%.
- Place the vehicle in the workshop or in the shade and windless condition.
- Open all windows.

2) Set the vehicle to the following conditions.

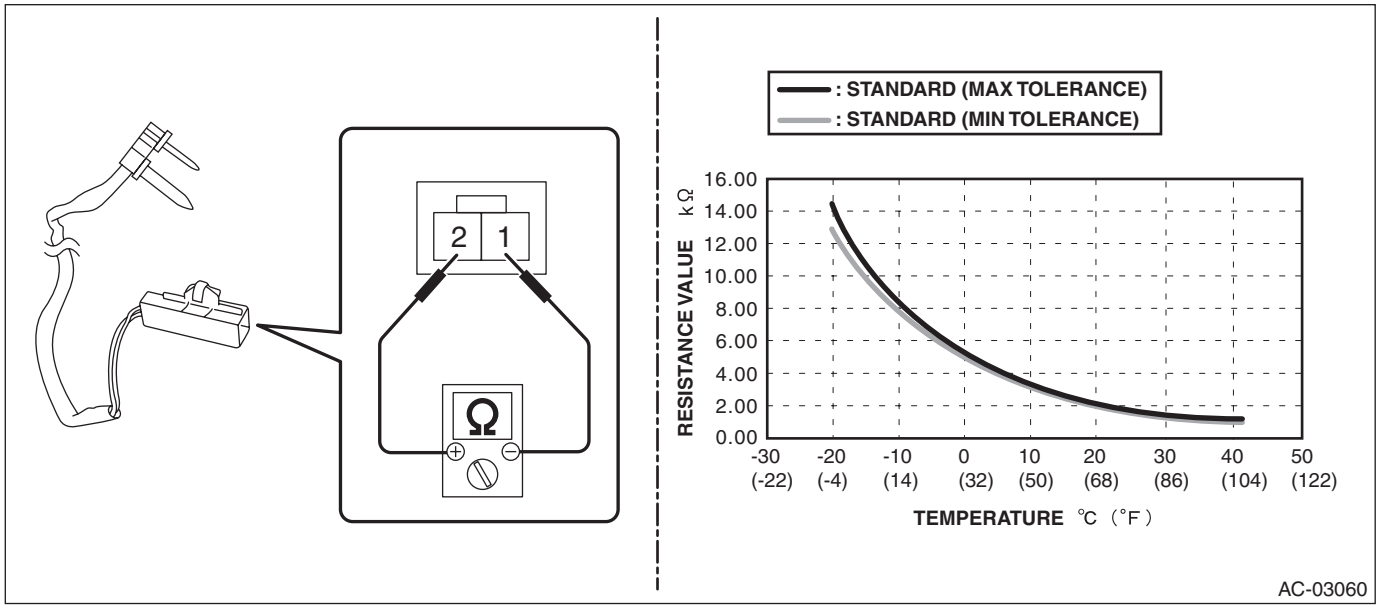
Item	Condition
Engine	Idling
Air vent grille	Shutter is fully open.
AC switch	OFF
Temperature control switch or dial	LO (MAX COOL)
FRESH/RECIRC switch	CIRC
Air flow control switch	VENT
Fan switch (auto A/C model)	4 — 6 levels
Fan dial (manual A/C model)	3 — 4 levels

3) Using the Subaru Select Monitor, check the evaporator sensor.
(1) Prepare the Subaru Select Monitor kit.
(2) Run the “PC application for Subaru Select Monitor”.
(3) On «Main Menu» display, select {Each System Check}.
(4) On «System Selection Menu» display, select {Air Condition System}.
(5) On «Air Conditioning Diagnosis» display, select {Current Data Display & Save}.
(6) Select {Evaporator Temperature} with UP/DOWN key and set with the [OK] key.
(7) Idle the engine for 15 minutes, and then compare the outlet opening temperature with {Evaporator Temperature Target}.

NOTE:
For outlet opening temperature, measure the average temperature of center grille assembly and side grille assembly.

(8) Is the difference between outlet opening temperature and {Evaporator Temperature Target} by 3°C (5.4°F) or more?
- **Yes** → Go to step 4).
- **No** → Evaporator sensor is normal.

4) Perform the inspection of evaporator sensor unit.
(1) Disconnect the evaporator sensor connector.
(2) Is the resistance between terminals of evaporator sensor within standard value?



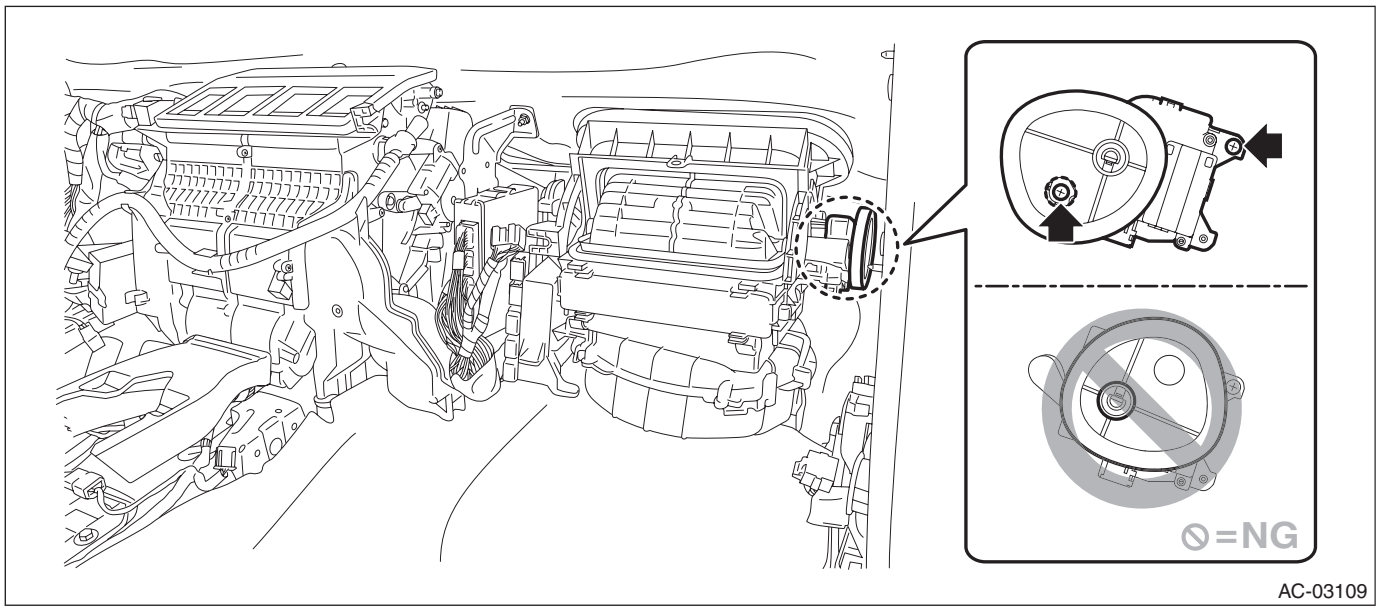
Terminal No.	Inspection conditions	Standard
1 — 2	-20°C	13.584 — 14.541 kΩ
	-15°C	10.34 — 10.946 kΩ
	-10°C	7.938 — 8.313 kΩ
	-5°C	6.143 — 6.366 kΩ
	0°C	4.79 — 4.914 kΩ
	5°C	3.718 — 3.829 kΩ
	10°C	2.889 — 3.031 kΩ
	15°C	2.247 — 2.435 kΩ
	20°C	1.785 — 1.952 kΩ
	25°C	1.427 — 1.574 kΩ
	30°C	1.149 — 1.278 kΩ
	35°C	0.931 — 1.044 kΩ
	40°C	0.759 — 0.858 kΩ

- **Yes** → Evaporator sensor is normal.
- **No** → Replace the evaporator sensor.

27.FRESH/RECIRC Door Actuator

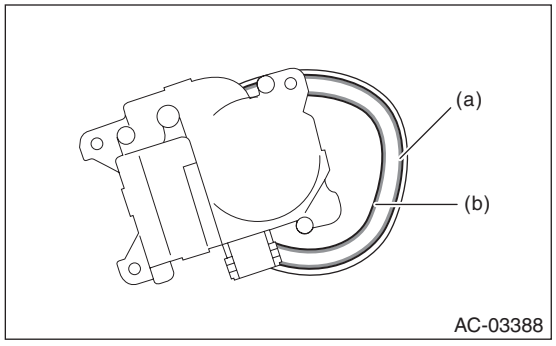
A: REMOVAL

1) Set the intake door actuator to RECIRC position.
   (1) Turn the ignition switch to ON.
   (2) Operate the control panel and switch to RECIRC mode.
   (3) In the condition of step (2), turn the ignition switch to OFF.
2) Remove the instrument panel assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
3) Remove the screw, and remove the intake door actuator.



B: INSTALLATION

1) When replacing the door actuator with a new part, apply a thin coat of grease evenly to the contact area (a) inside the rail of link plate by using approx. 5 mm (approx. 0.1 g) of grease squeezed out from a tube. Also apply a thin coat of grease evenly to the contact area (b) by using the same amount of grease.



NOTE:
After installing the door actuator, perform 3 — 5 times of break-in operation for the grease to fit in.

Grease:
SUBARU genuine grease (Part No. 72129AJ000)

2) Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Instrument Panel Assembly”. <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>

C: INSPECTION

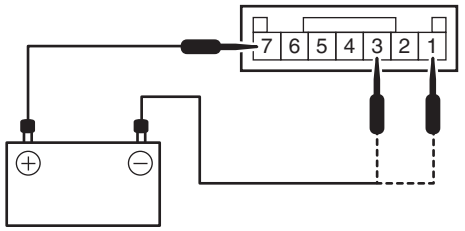
1. ACTUATOR LINK

1) Visually check the operating range of the link, and remove the foreign matter if any.
2) Operate the FRESH/RECIRC switch, and check that the link operates normally.
3) If the actuator does not operate normally, check the intake door actuator unit.

2. CHECK ACTUATOR OPERATION

1) Check the actuator operation when battery voltage is applied between the terminals of intake door actuator.

CAUTION:
Disconnect the battery immediately after the actuator stops operation. Otherwise, the motor may be damaged.

<table>
<tr><th>Terminal No.</th><th>Inspection conditions</th><th>Operating position</th><th>Connection diagram</th></tr>
<tr><td>7 (+) — 1 (–)</td><td rowspan="2">Connect battery to the terminals</td><td>FRESH</td><td rowspan="2"> 

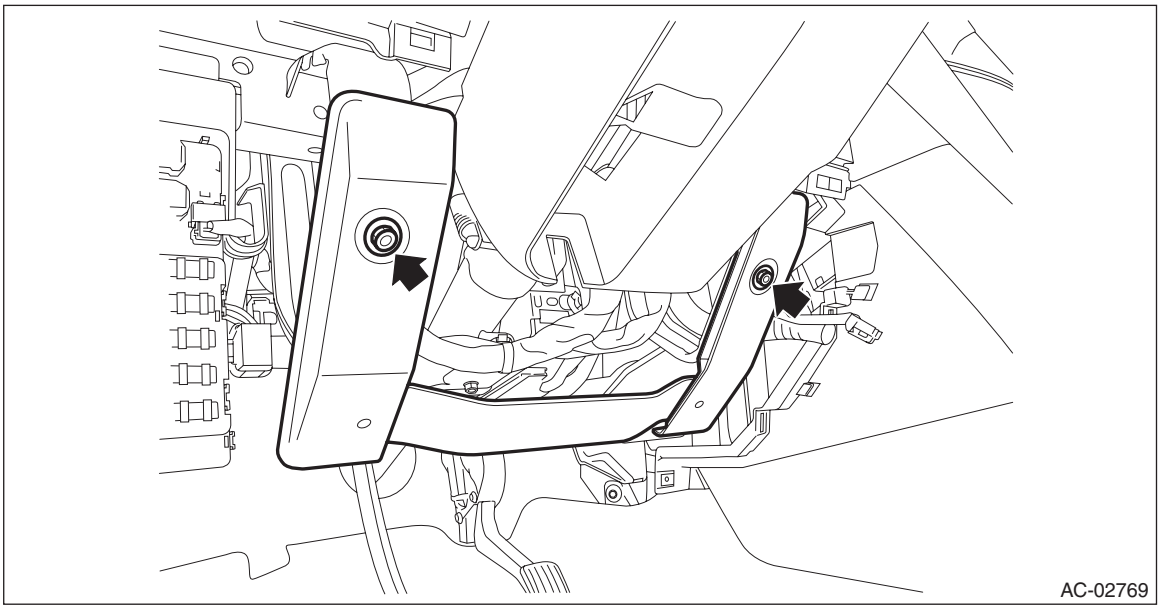
AC-02578</td></tr>
<tr><td>7 (+) — 3 (–)</td><td>RECIRC</td></tr>
</table>

2) If the actuator does not operate normally, replace the intake door actuator.

28.Mode Door Actuator

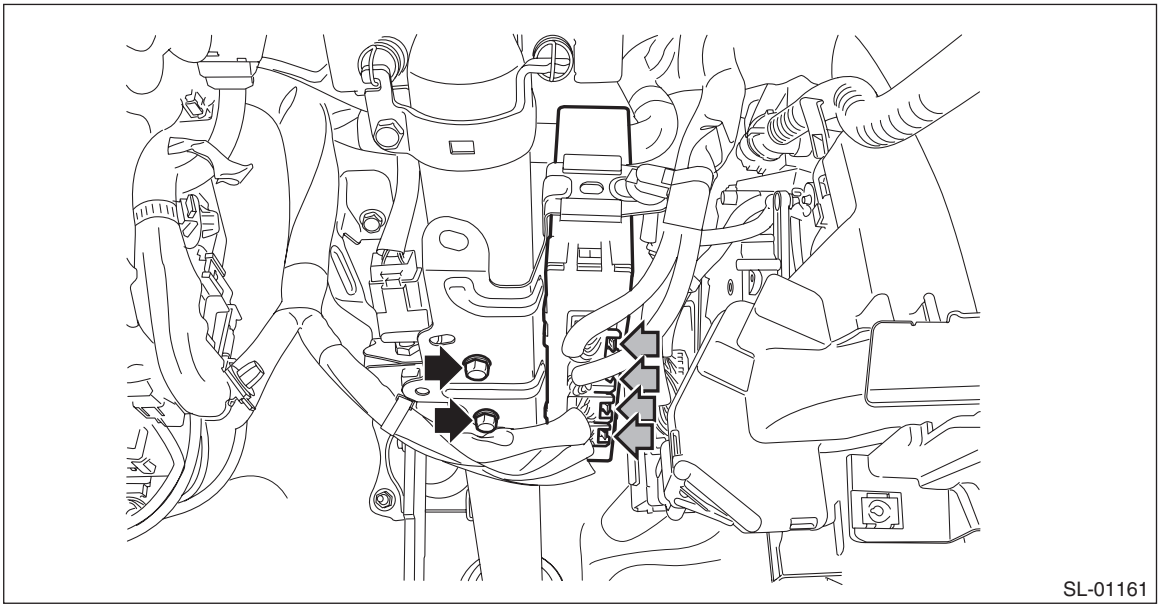
A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the bolt and detach the knee protector.

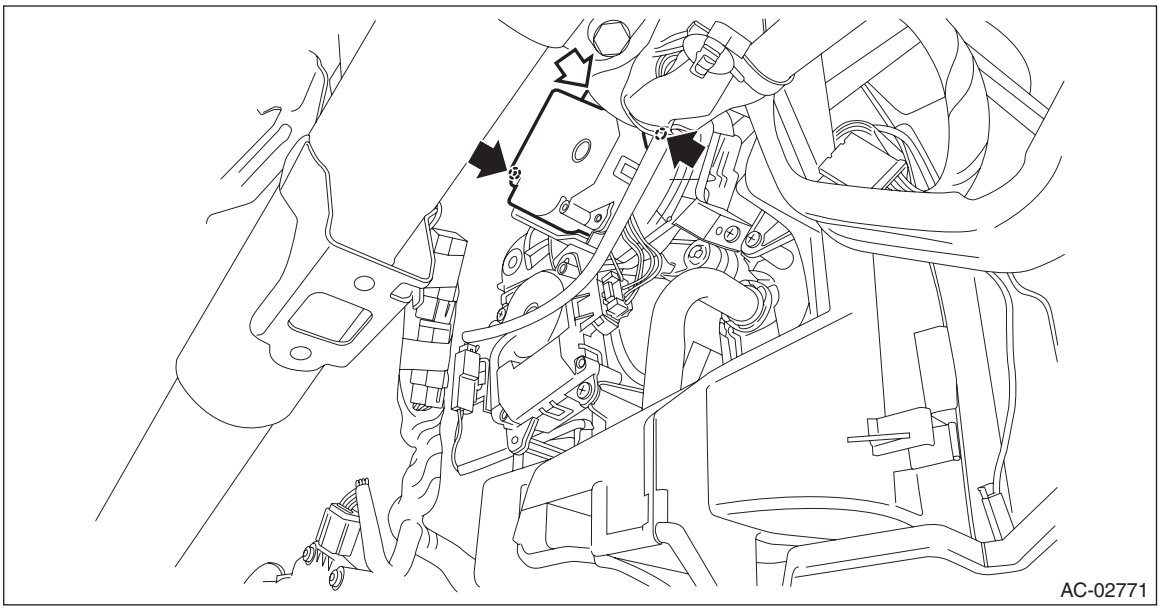


3) Remove the body integrated unit.

CAUTION:
Be careful to keep water and other foreign materials away from body integrated unit.
(1) Remove the harness clip and connector.
(2) Remove the bolts, and remove the body integrated unit.

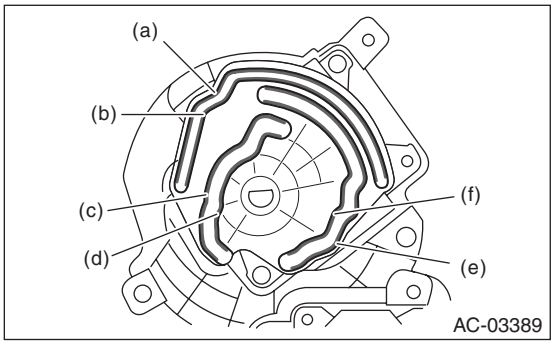


4) Remove the mode door actuator.
(1) Disconnect the connector.
(2) Remove the screws, and remove the mode door actuator.



B: INSTALLATION

1) When replacing the door actuator with a new part, apply a thin coat of grease evenly to the contact area (a) inside the rail of link plate by using approx. 5 mm (approx. 0.1 g) of grease squeezed out from a tube. Also apply a thin coat of grease evenly to the contact areas (b) through (f), by using the same amount of grease to each area.



NOTE:
After installing the door actuator, perform 3 — 5 times of break-in operation for the grease to fit in.

Grease:
SUBARU genuine grease (Part No. 72129AJ000)
2) Install each part in the reverse order of removal.

Tightening torque:
Knee protector: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Body integrated unit: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

1. ACTUATOR LINK

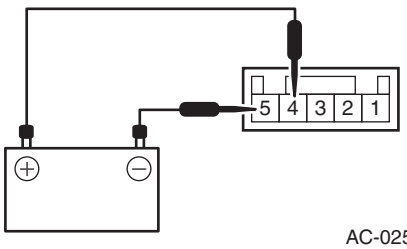
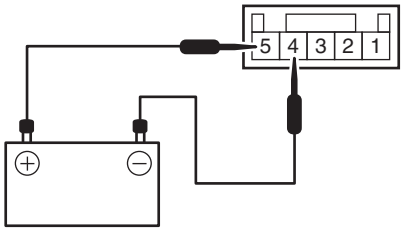
1) Visually check the operating range of the link, and remove the foreign matter if any.
2) Operate the mode change switch, and check that the link operates normally.
3) If the actuator does not operate normally, check the mode door actuator unit.

2. CHECK ACTUATOR OPERATION

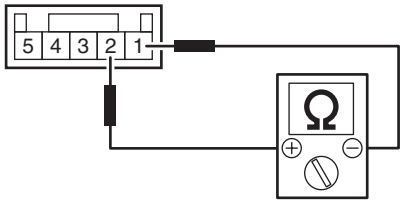
Preparation tool:
Circuit tester

1) Check the actuator operation when battery voltage is applied between the terminals of mode door actuator.

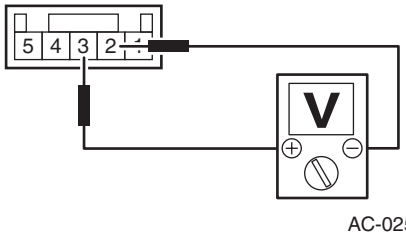
CAUTION:
Disconnect the battery immediately after the actuator stops operation. Otherwise, the motor may be damaged.

Terminal No.	Inspection conditions	Operating position	Connection diagram
4 (+) — 5 (–)	Connect battery to the terminals	FACE	 AC-02579
5 (+) — 4 (–)		DEF	 AC-02580

2) Check the resistance between terminals of the mode door actuator.

Terminal No.	Inspection conditions	Standard	Connection diagram
1 — 2	Always	4.2 — 7.8 Ω	 AC-02581

3) Connect the mode door actuator connector, turn the ignition switch to ON and check the voltage between terminals of the mode door actuator.

Terminal No.	Inspection conditions	Standard	Connection diagram
3 (+) — 2 (–)	FACE	Approx. 4.0 V	 AC-02582
	DEF	Approx. 1.0 V	

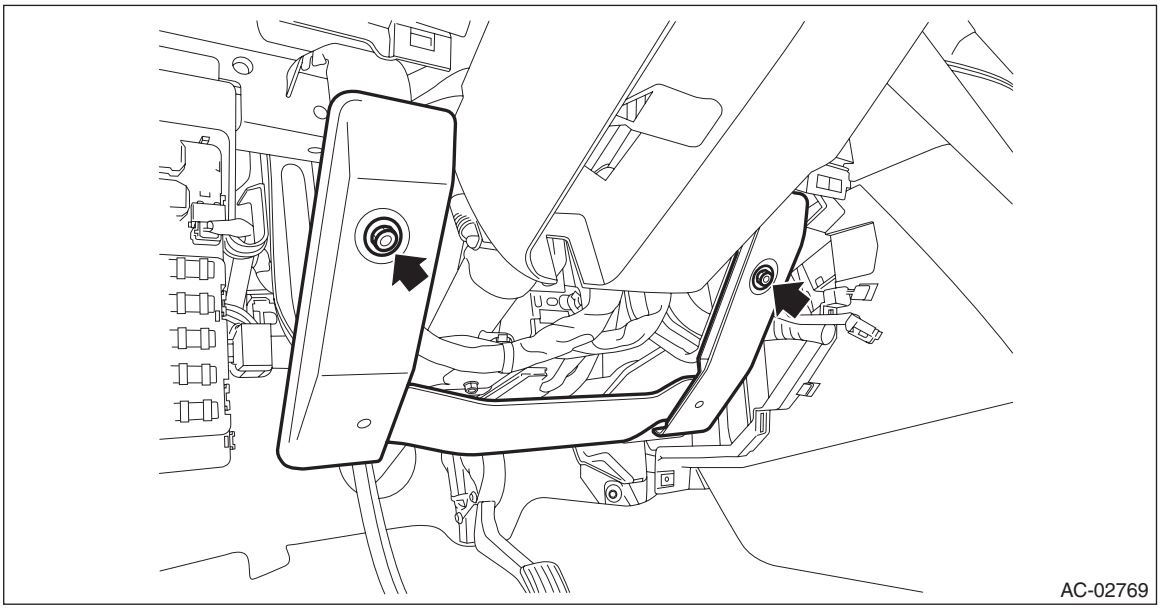
4) Replace the mode door actuator if it is found defective.

29.Air Mix Door Actuator

A: REMOVAL

1. DRIVER'S SEAT

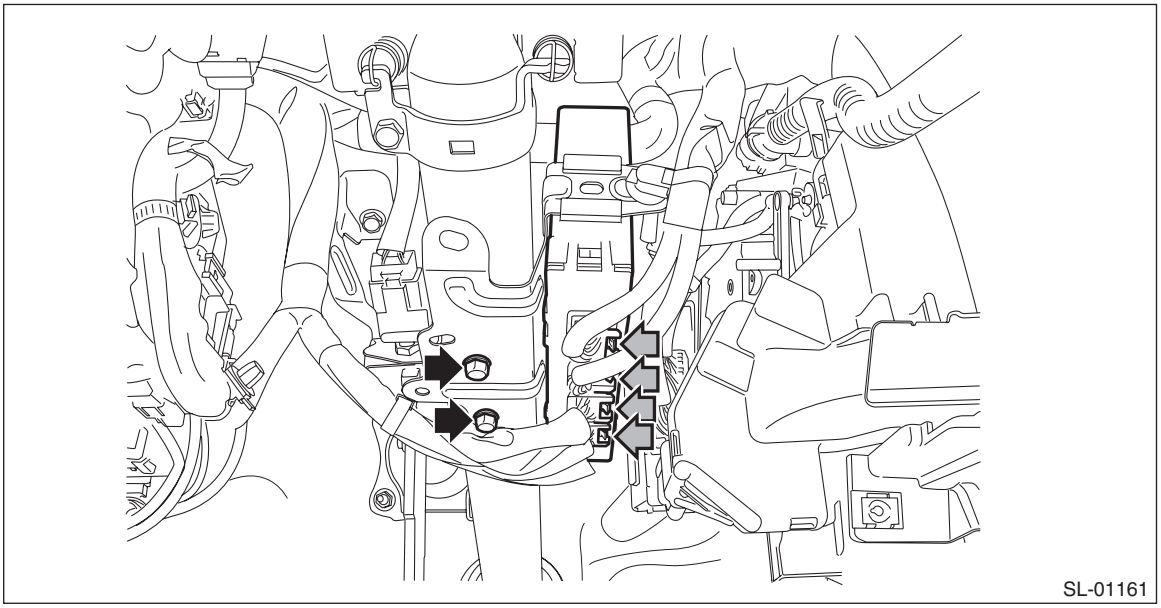
1) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the bolts, and remove the knee guard panel.



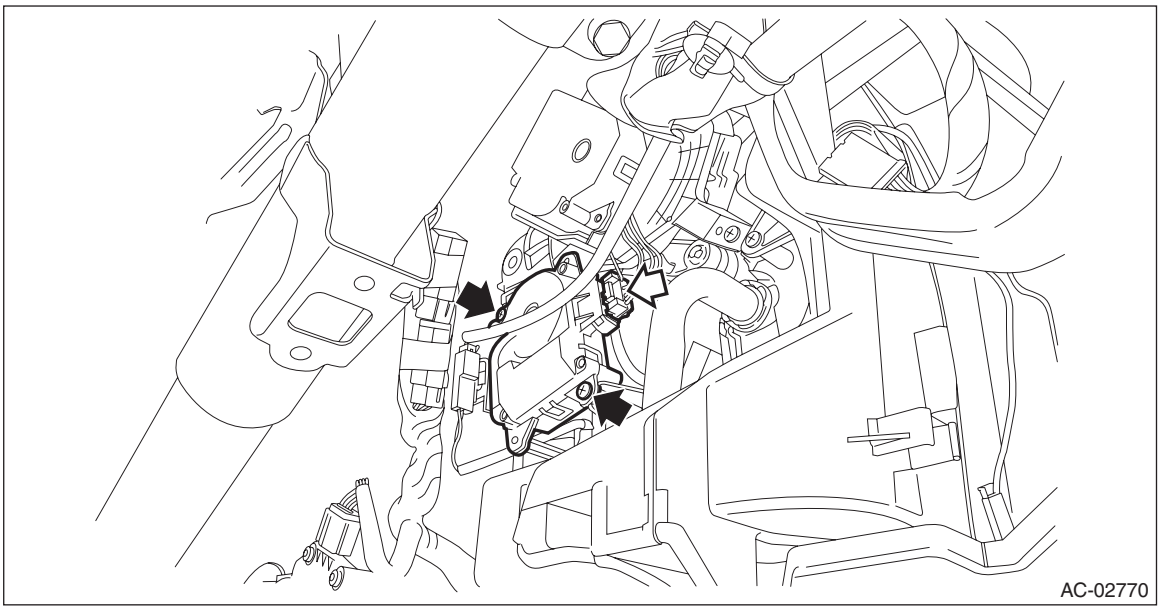
3) Remove the body integrated unit.

CAUTION:
Be careful to keep water and other foreign materials away from body integrated unit.

(1) Remove the harness clip and connector.
(2) Remove the bolts, and remove the body integrated unit.

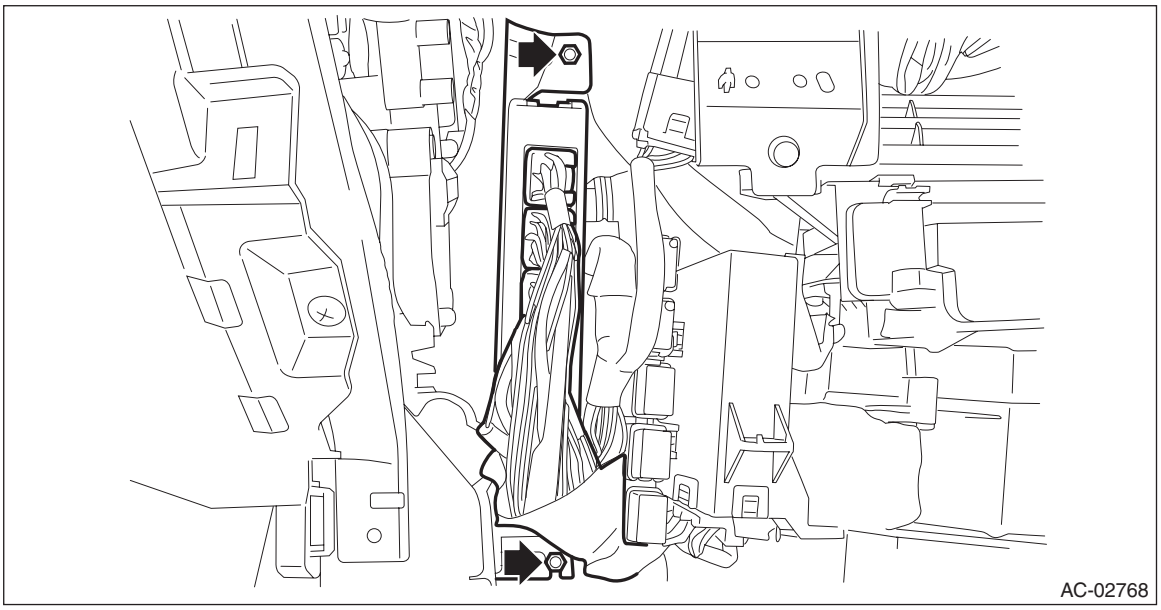


4) Remove the air mix door actuator.
   (1) Disconnect the connector.
   (2) Remove the screw, and remove the air mix door actuator.

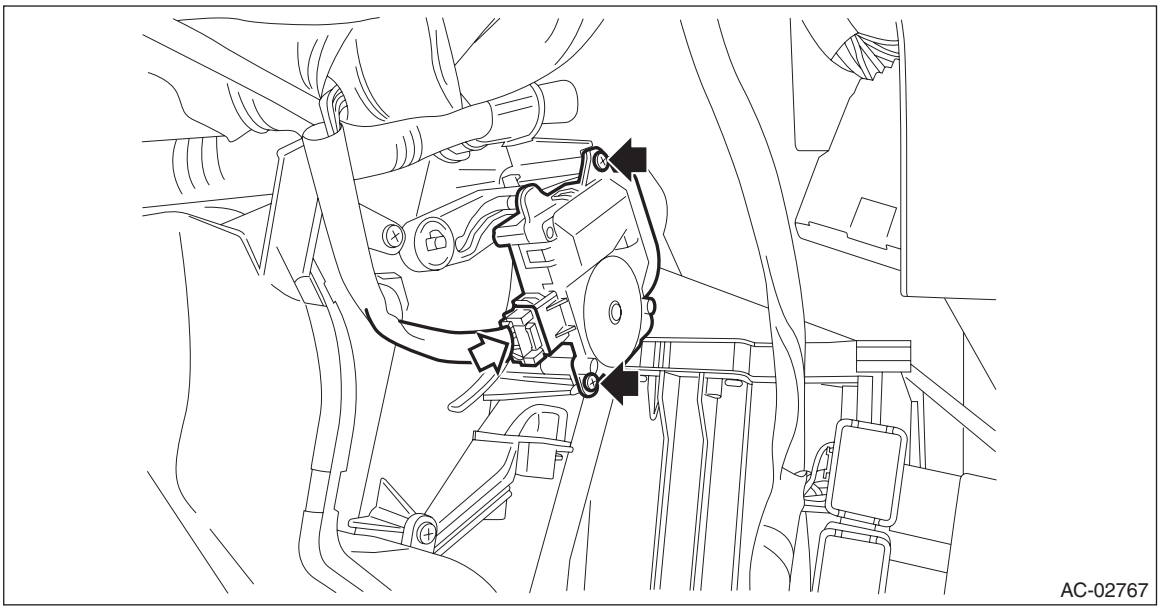


2. PASSENGER'S SEAT

1) Remove the glove box. <Ref. to EI-65, REMOVAL, Glove Box.>
2) Remove the nuts, and remove the engine control module (ECM).

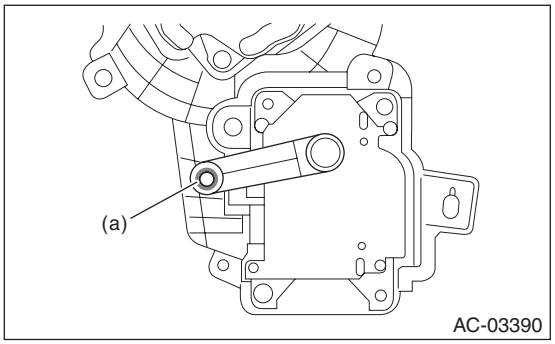


3) Remove the air mix door actuator.
(1) Disconnect the connector.
(2) Remove the screw, and remove the air mix door actuator.



B: INSTALLATION

1) When replacing the door actuator with a new part, apply a thin coat of grease evenly to the side face (a) of lever pin by using approx. 5 mm (approx. 0.1 g) of grease squeezed out from a tube.



NOTE:
After installing the door actuator, perform 3 — 5 times of break-in operation for the grease to fit in.

Grease:
SUBARU genuine grease (Part No. 72129AJ000)

2) Install each part in the reverse order of removal.

C: INSPECTION

1. ACTUATOR LINK

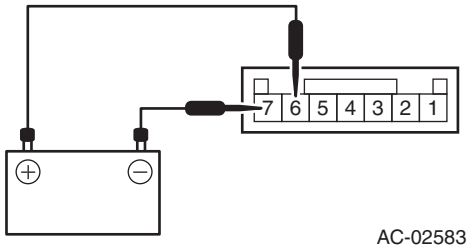
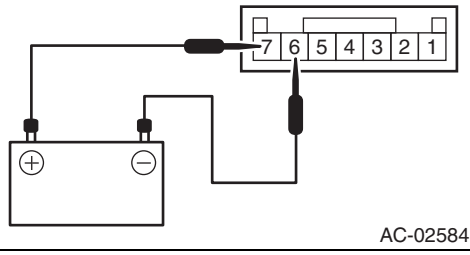
1) Visually check the operating range of the link, and remove the foreign matter if any.
2) Operate the temperature control switch, and check that the link operates normally.
3) If the actuator does not operate normally, check the air mix door actuator unit.

2. CHECK ACTUATOR OPERATION

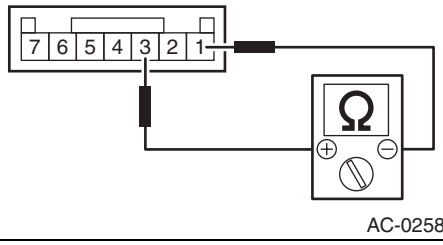
Preparation tool:
Circuit tester

1) Check the actuator operation when battery voltage is applied between the terminals of air mix door actuator.

CAUTION:
Disconnect the battery immediately after the actuator stops operation. Otherwise, the motor may be damaged.

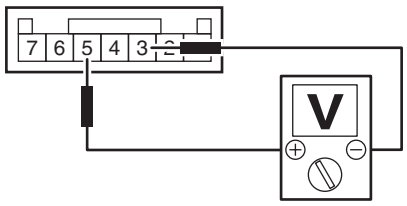
<table>
<tr><th>Terminal No.</th><th>Inspection conditions</th><th>Operating position</th><th>Connection diagram</th></tr>
<tr><td>6 (+) — 7 (–)</td><td rowspan="2">Connect battery to the terminals</td><td>•Driver's seat: COOL
•Passenger's seat: HOT</td><td> 
</td></tr>
<tr><td>7 (+) — 6 (–)</td><td>•Driver's seat: HOT
•Passenger's seat: COOL</td><td> 
</td></tr>
</table>

2) Check the resistance between terminals of the air mix door actuator.

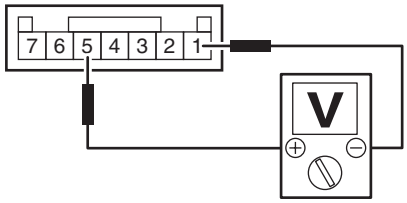
<table>
<tr><th>Terminal No.</th><th>Inspection conditions</th><th>Standard</th><th>Connection diagram</th></tr>
<tr><td>1 — 3</td><td>Always</td><td>4.2 — 7.8 Ω</td><td> 
</td></tr>
</table>

3) Connect the air mix door actuator connector, turn the ignition switch to ON and check the voltage between terminals of the air mix door actuator.

- Driver's seat

Terminal No.	Inspection conditions	Standard	Connection diagram
5 (+) — 3 (–)	HOT	Approx. 1.0 V	 AC-02587
	COOL	Approx. 4.0 V	

- Passenger's seat

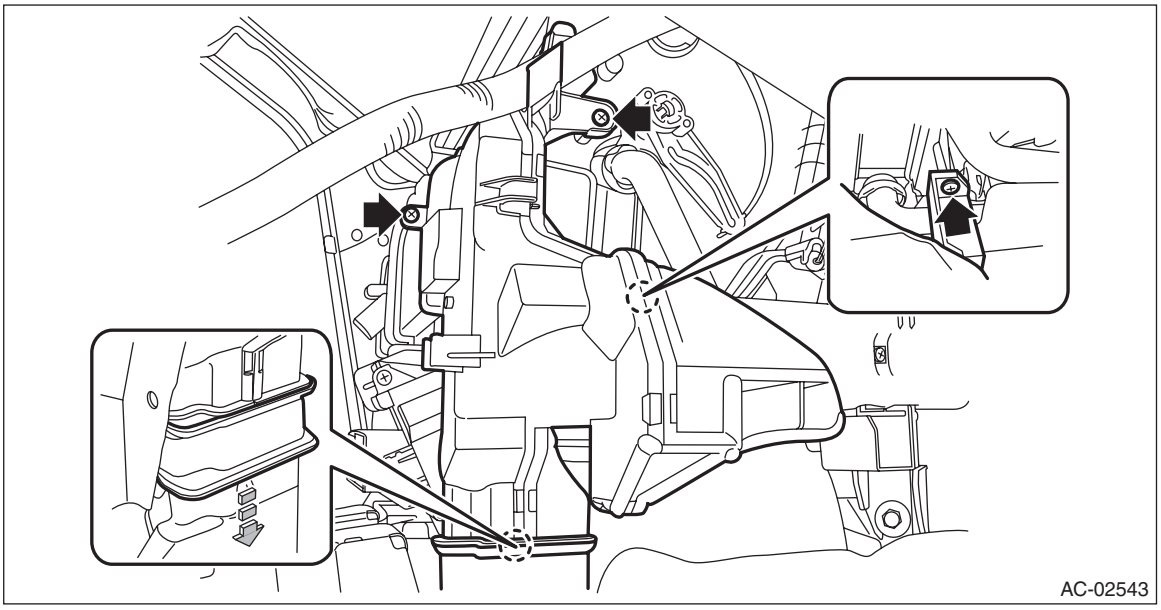
Terminal No.	Inspection conditions	Standard	Connection diagram
5 (+) — 1 (–)	HOT	Approx. 1.0 V	 AC-02586
	COOL	Approx. 4.0 V	

4) Replace the air mix door actuator if it is found defective.

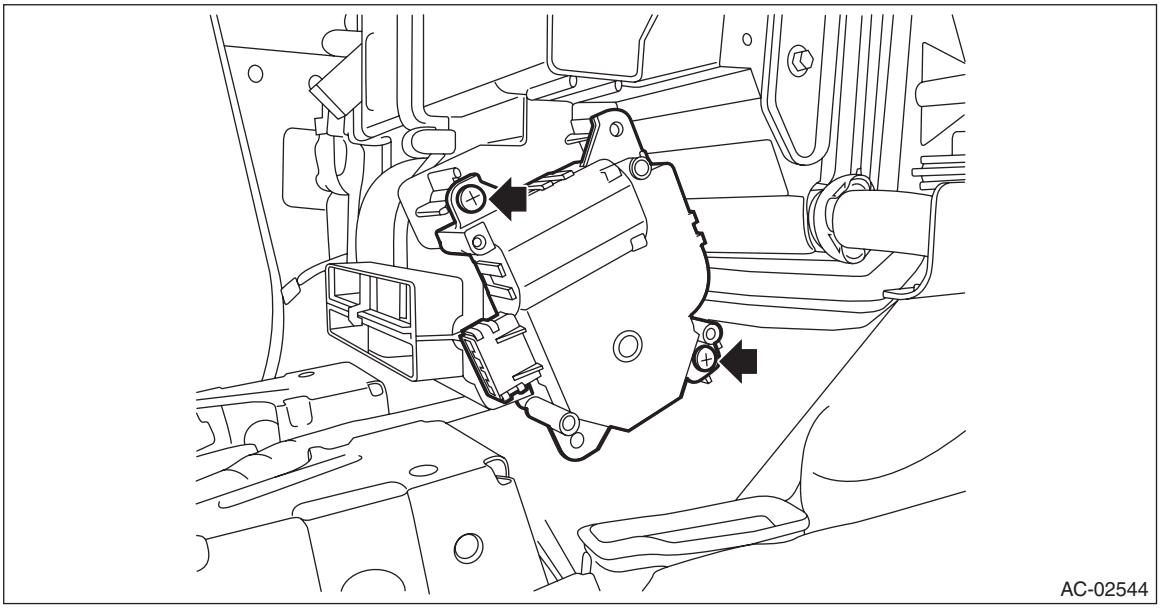
30.Rear Vent Door Actuator

A: REMOVAL

1) Remove the instrument panel assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
2) Remove the foot duct RH.
   (1) Turn over the floor carpet and remove the rear heater duct slide lock.
   (2) Remove the screws and remove the foot duct RH.



3) Remove the screws, and remove the rear vent actuator.



B: INSTALLATION

Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Instrument Panel Assembly”. <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>

C: INSPECTION

1. ACTUATOR LINK

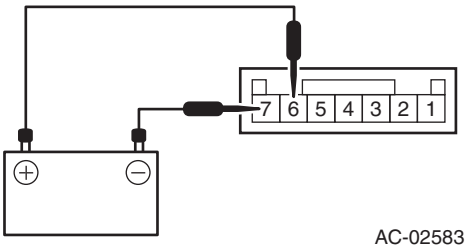
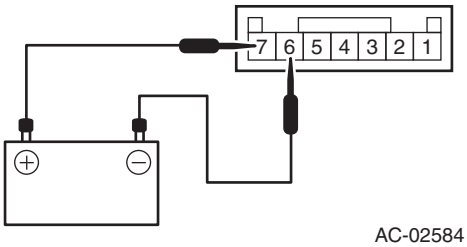
1) Visually check the operating range of the link, and remove the foreign matter if any.
2) Operate the temperature control switch, and check that the link operates normally.
3) If it does not operate normally, check the rear vent actuator unit.

2. CHECK ACTUATOR OPERATION

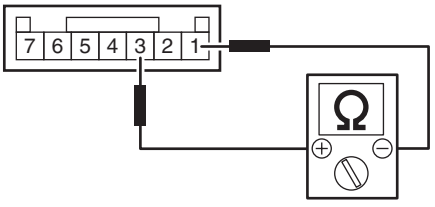
Preparation tool: Circuit tester

1) Check the actuator operation when battery voltage is applied between the terminals of rear vent actuator.

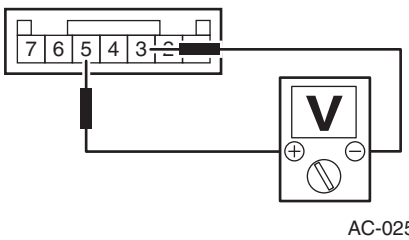
CAUTION:
Disconnect the battery immediately after the actuator stops operation. Otherwise, the motor may be damaged.

Terminal No.	Inspection conditions	Operating position	Connection diagram
6 (+) — 7 (–)	Connect battery to the terminals	COOL	 AC-02583
7 (+) — 6 (–)		HOT	 AC-02584

2) Check the resistance between terminals of rear vent actuator.

Terminal No.	Inspection conditions	Standard	Connection diagram
1 — 3	Always	4.2 — 7.8 Ω	 AC-02585

3) Connect the rear vent actuator connector, turn the ignition switch to ON and check the voltage between terminals of rear vent actuator.

Terminal No.	Inspection conditions	Standard	Connection diagram
5 (+) — 3 (–)	HOT	Approx. 1.0 V	 AC-02587
	COOL	Approx. 4.0 V	

4) Replace the rear vent actuator if it is found defective.

31.Air Vent Grille

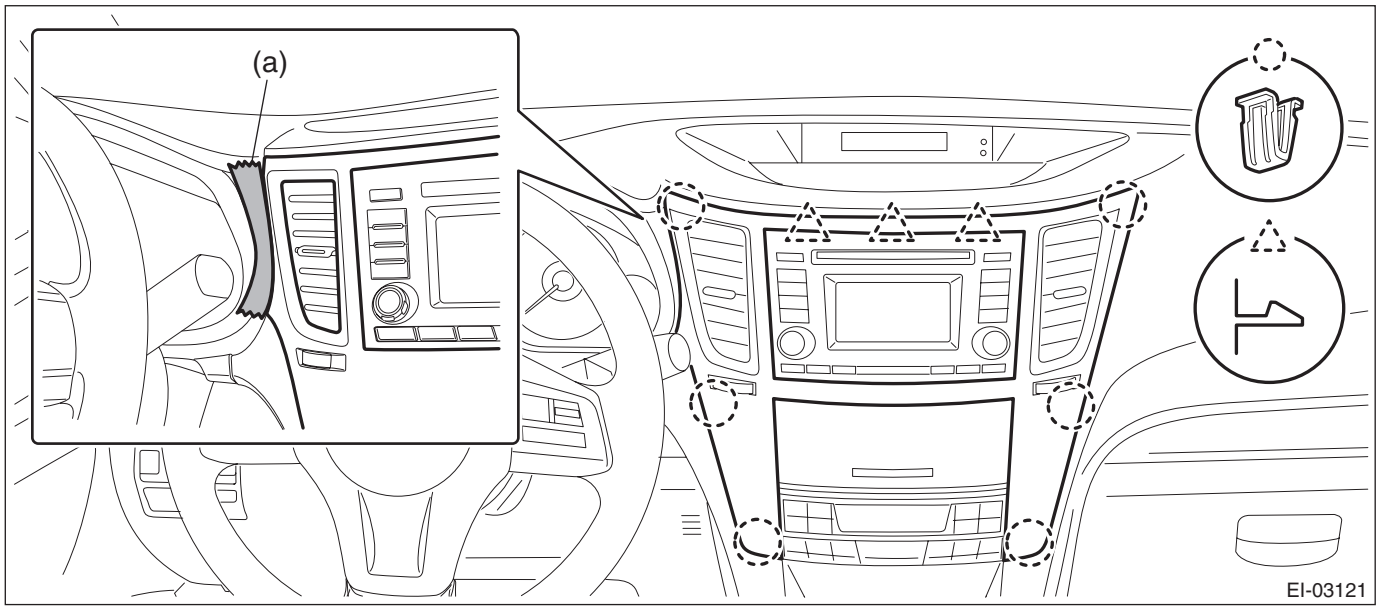
A: REMOVAL

1. CENTER GRILLE ASSEMBLY

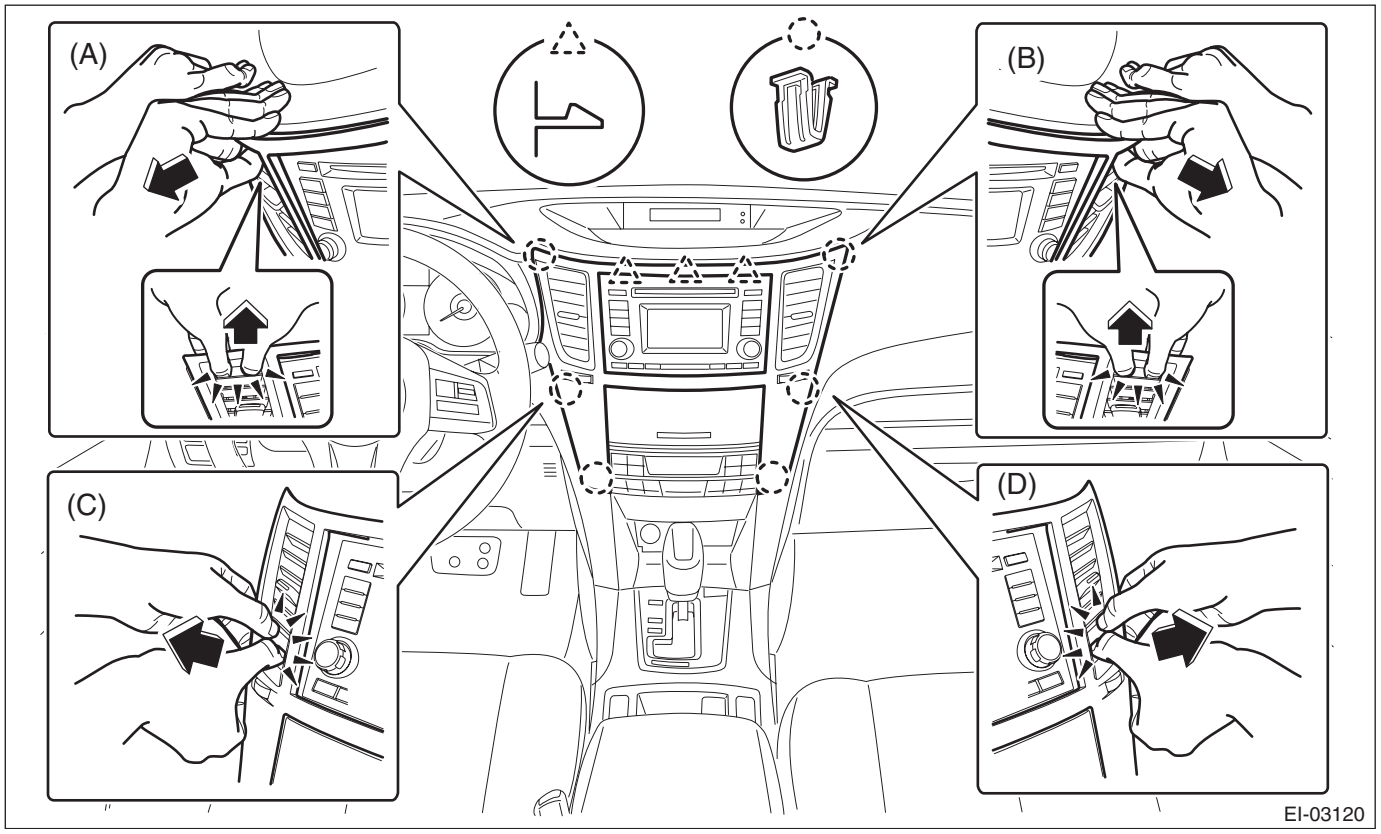
1) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

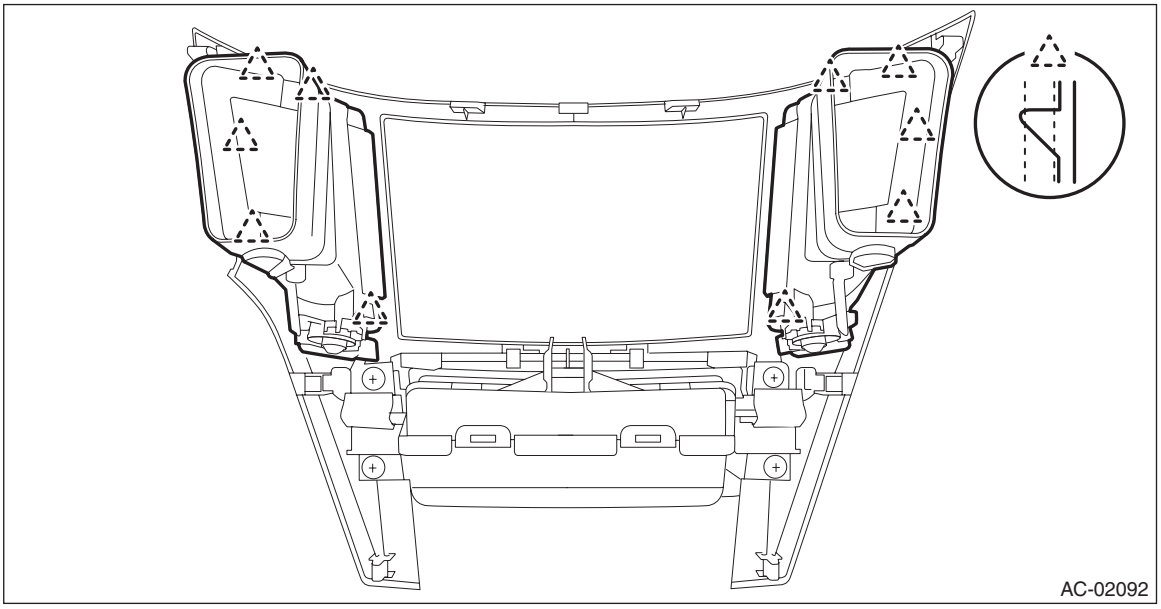
(1) Attach the protective tape (a) to the meter visor.



(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



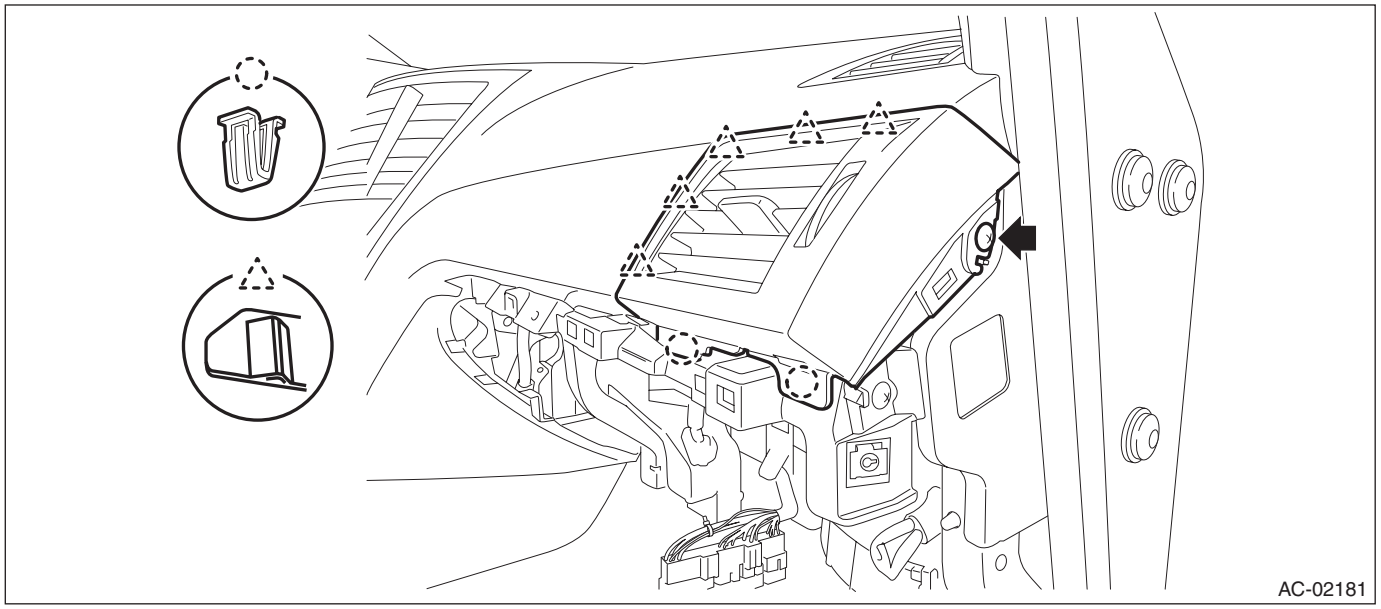
2) Release the claws, and then remove the center grille assembly.



2. SIDE GRILLE ASSEMBLY RH

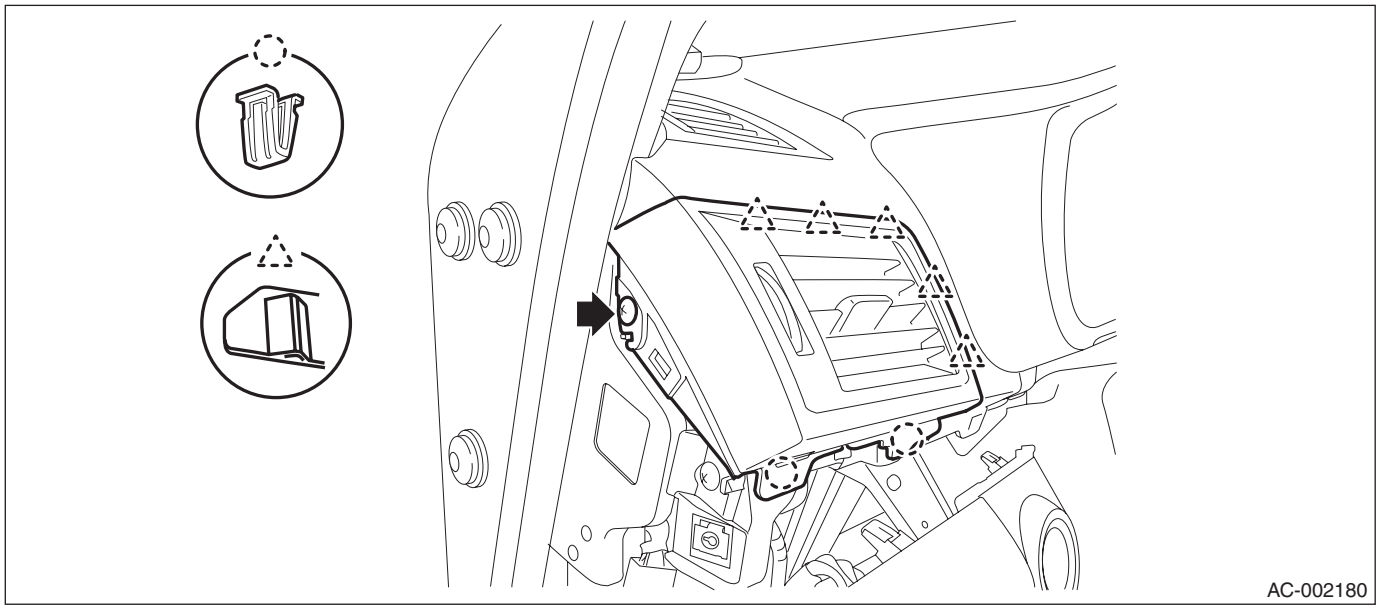
1) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the side vent grille assembly RH.
(1) Remove the screws.

(2) Release the claws and clips, then detach the side grille assembly RH.



3. SIDE GRILLE ASSEMBLY LH

1) Remove the glove box. <Ref. to EI-65, REMOVAL, Glove Box.>
2) Remove the side vent grille assembly LH.
   (1) Remove the screws.
   (2) Release the claws and clips, then detach the side grille assembly LH.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

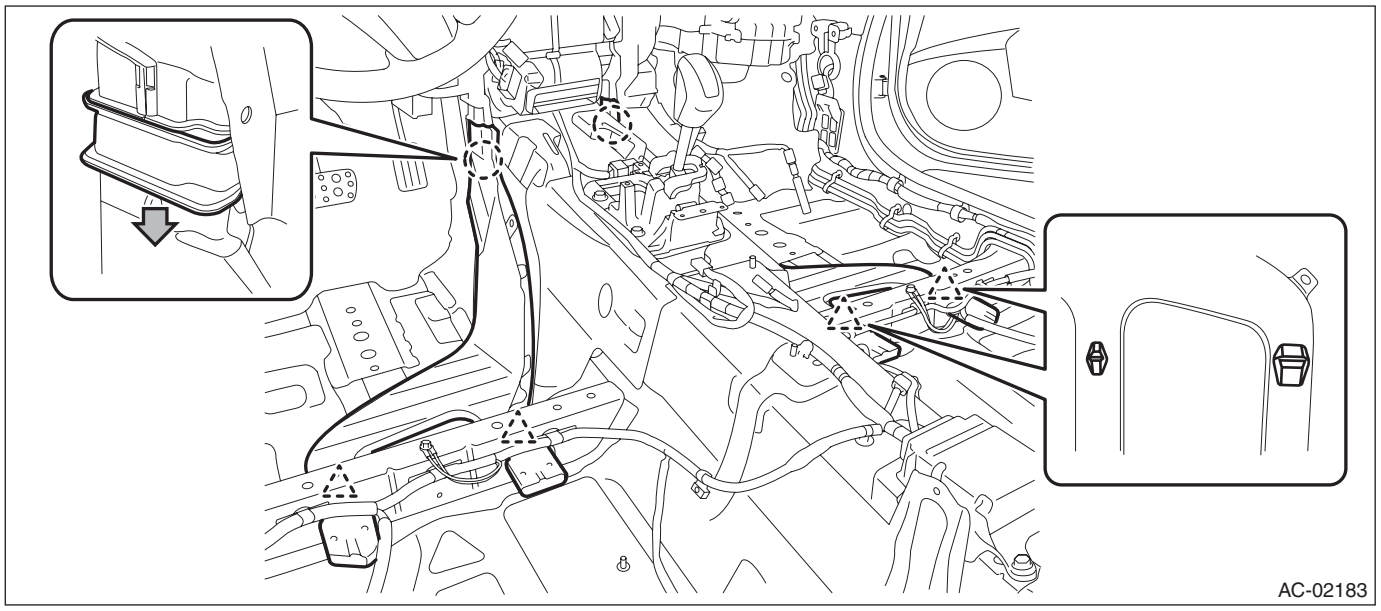
1) Check that the direction and amount of air can be adjusted smoothly. Replace the air vent grille if faulty.
2) Check that the adjustment can be maintained in each position. Replace the air vent grille if faulty.

32.Heater Duct

A: REMOVAL

1. REAR HEATER DUCT

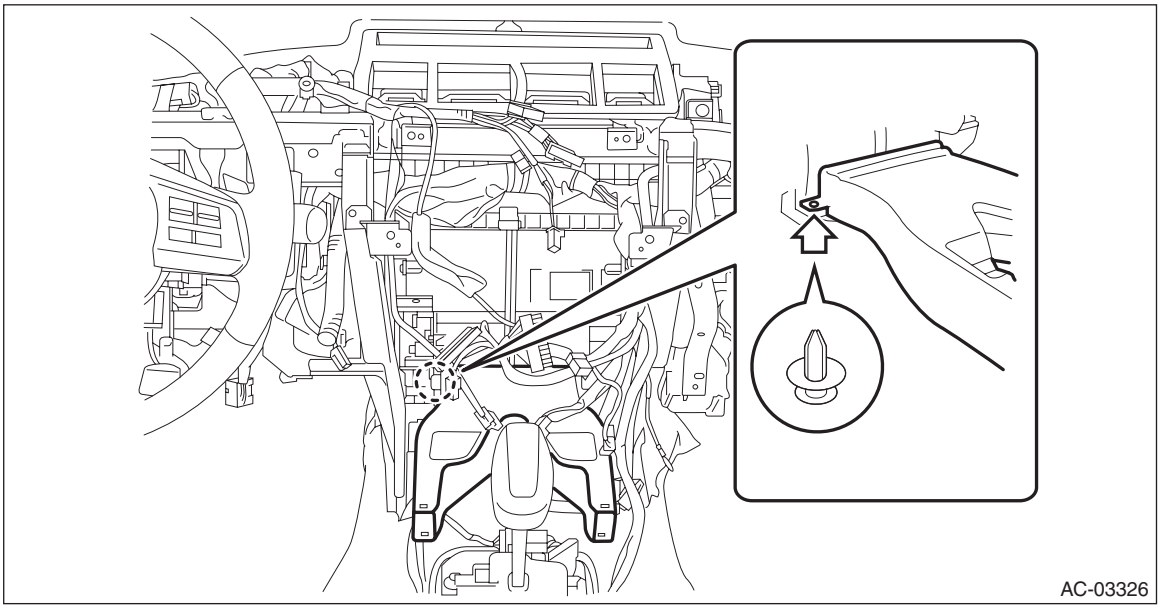
1) Remove the front seats. <Ref. to SE-10, REMOVAL, Front Seat.>
2) Remove the instrument panel pad and frame assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
3) Remove the rear heater duct.
   (1) Turn over the floor carpet and remove the rear heater duct slide lock.
   (2) Release the claws, and then remove the rear heater duct LH and RH.



NOTE:
For the model with premium audio system, remove the extension duct.

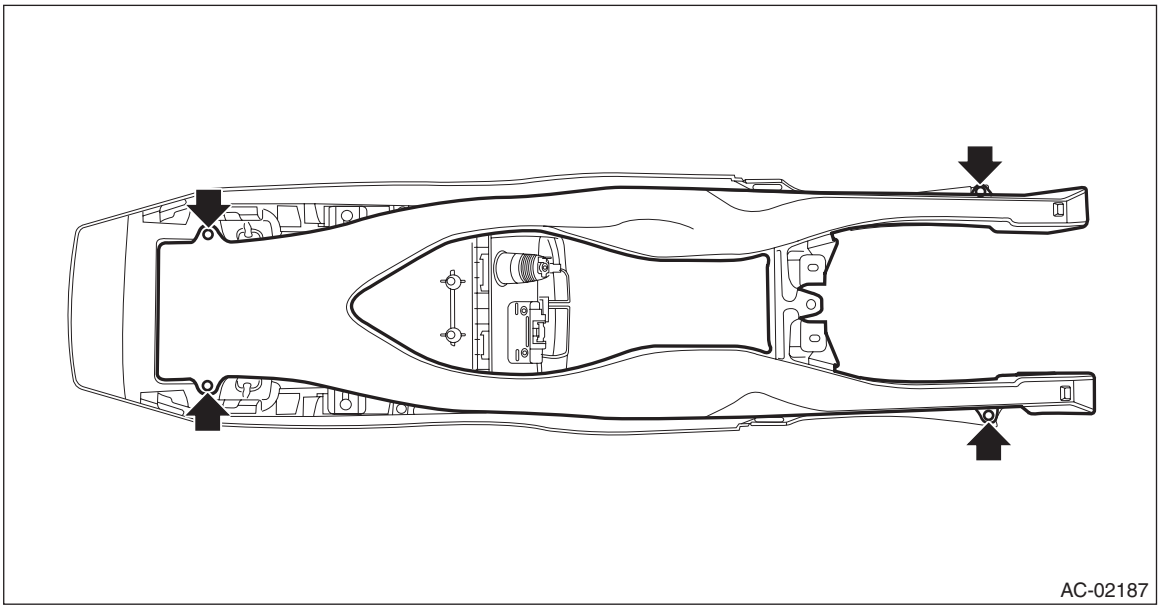
2. CONSOLE FRONT DUCT

1) Remove the instrument panel pad and frame assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
2) Remove the clip, and remove the console front duct.



3. CENTER CONSOLE DUCT

1) Remove the console box. <Ref. to EI-72, REMOVAL, Console Box.>
2) Remove the screws, and remove the center console duct.



B: INSTALLATION

Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of the following parts.
- Front seat (when removing rear heater duct): <Ref. to SE-11, INSTALLATION, Front Seat.>
- Instrument panel assembly (when removing console front duct and rear heater duct): <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>
- Console box (when removing center console duct): <Ref. to EI-74, INSTALLATION, Console Box.>

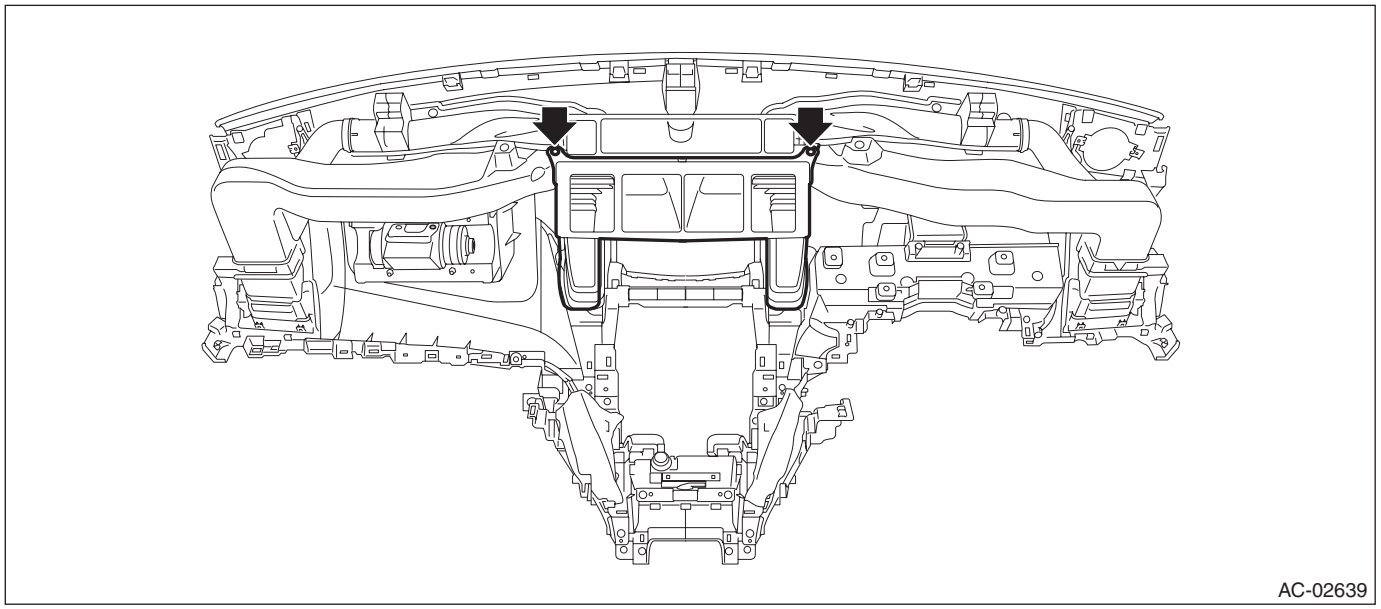
C: INSPECTION

1) Check installation condition of duct. Connect the duct properly if defective.
2) Check that no foreign matter is mixed in the duct. Remove the foreign matter if any.

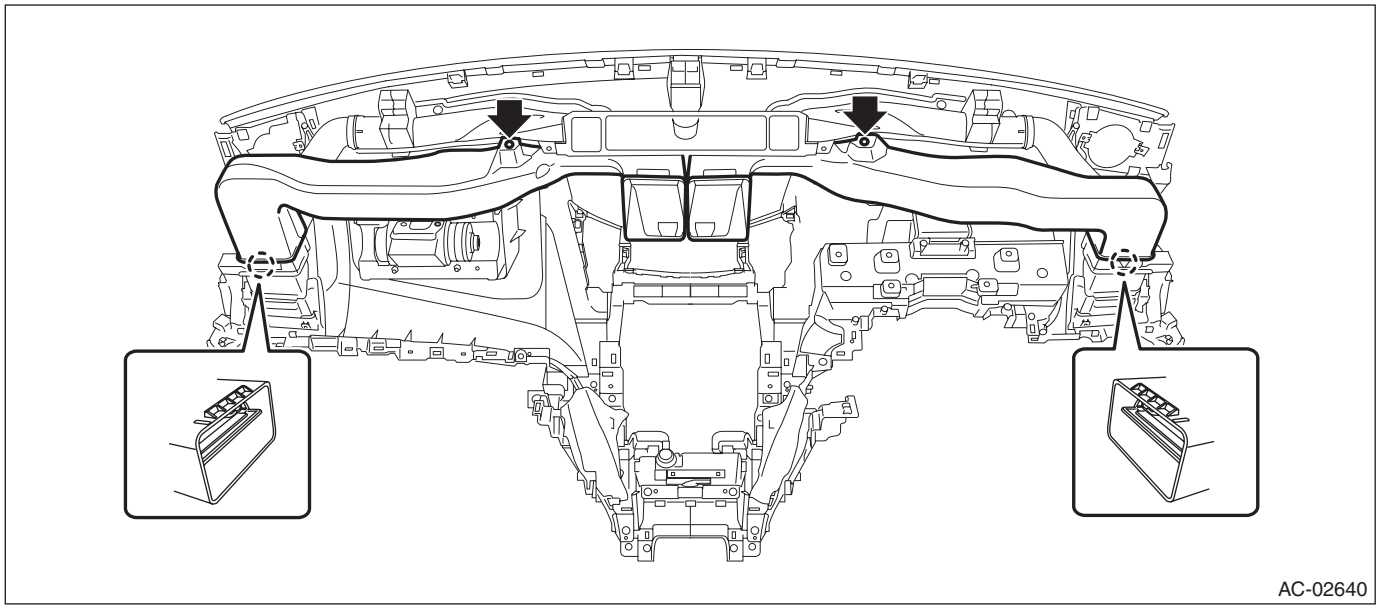
33.Heater Vent Duct

A: REMOVAL

1) Remove the instrument panel face assembly. <Ref. to EI-75, REMOVAL, Instrument Panel Assembly.>
2) Remove the heater vent duct.
   (1) Remove the screws, and then remove the front vent duct.


AC-02639

   (2) Release the claws and remove the screws, then detach the side vent duct LH and RH.


AC-02640

B: INSTALLATION

Install each part in the reverse order of removal.

NOTE:
Refer to “INSTALLATION” of “Instrument Panel Assembly”. <Ref. to EI-96, INSTALLATION, Instrument Panel Assembly.>

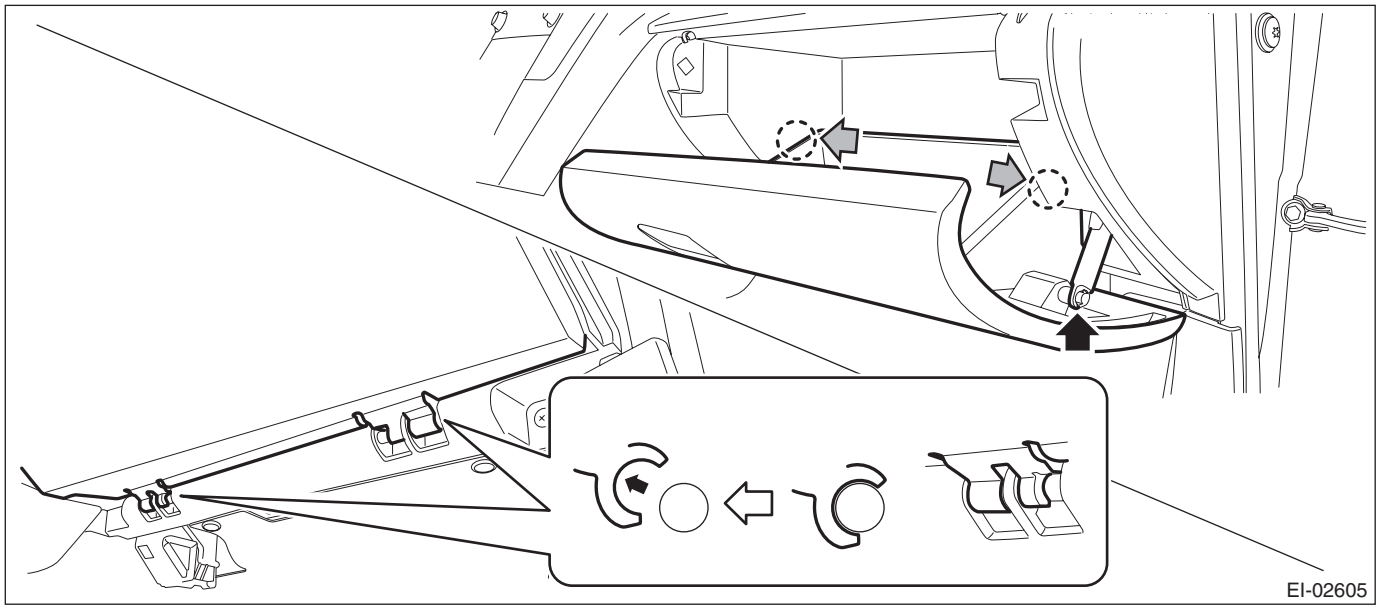
C: INSPECTION

1) Check installation condition of duct. Connect the duct properly if defective.
2) Check that no foreign matter is mixed in the duct. Remove the foreign matter if any.

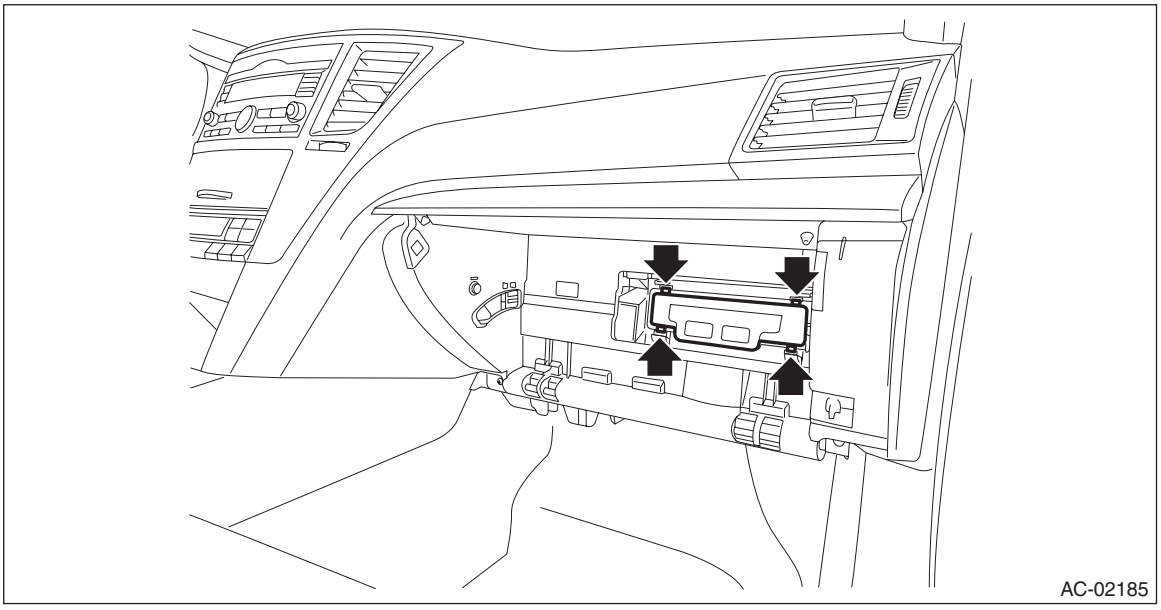
34.A/C Filter

A: REPLACEMENT

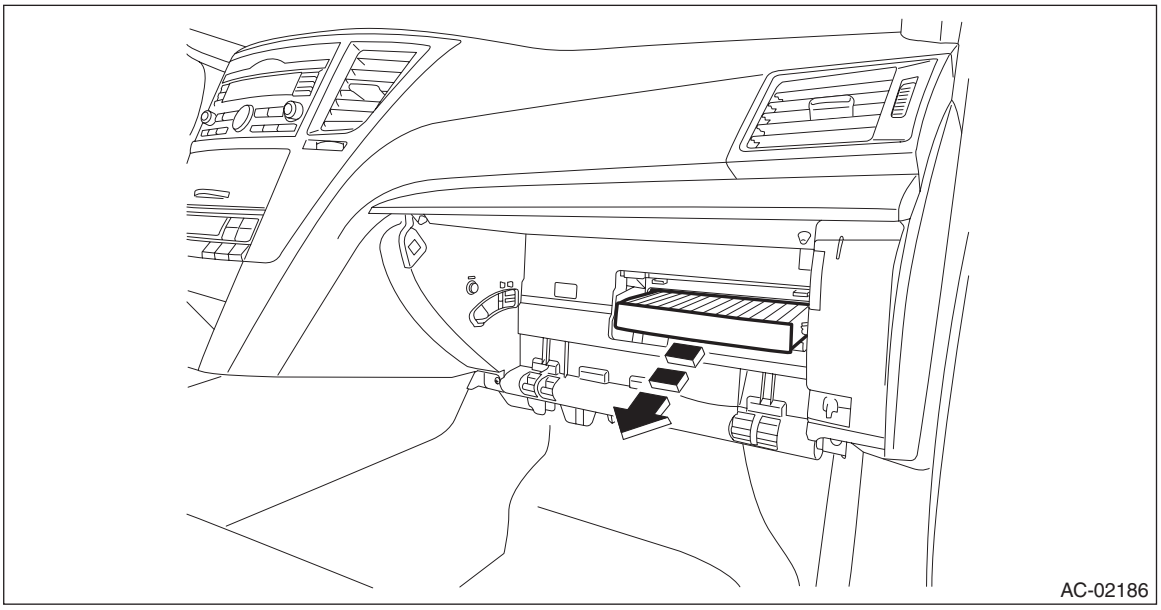
1) Remove the glove box lid assembly.
   (1) Remove the glove box damper.
   (2) Release the stoppers and remove the glove box lid assembly by pulling it toward you.



2) Remove the A/C filter.
   (1) Release the lock and remove the A/C filter cover.



(2) Remove the A/C filter.



3) Install each part in the reverse order of removal.

B: INSPECTION

Check the A/C filter for dust or dirt, and clean or replace as necessary.

35.Diagnostics with Phenomenon

A: INSPECTION

Refer to “Diagnostics with Phenomenon” of “HVAC SYSTEM (DIAGNOSTICS)” section. <Ref. to AC(diag)-15, Diagnostics with Phenomenon.>

HVAC SYSTEM (DIAGNOSTICS)

AC(diag)

		Page
1.	Basic Diagnostic Procedure	2
2.	General Description	3
3.	Electrical Component Location	4
4.	Control Module I/O Signal	6
5.	Diagnostic Chart for Self-Diagnosis	8
6.	Diagnostics with Phenomenon	15
7.	Subaru Select Monitor	45
8.	Read Diagnostic Trouble Code (DTC)	46
9.	Clear Memory Mode	47
10.	Read Current Data	48
11.	Diagnostic Procedure for Subaru Select Monitor Communication	50
12.	List of Diagnostic Trouble Code (DTC)	52
13.	Diagnostic Procedure with Diagnostic Trouble Code (DTC)	54

1. Basic Diagnostic Procedure

A: PROCEDURE

NOTE:
For diagnosis of model with keyless access, refer to “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM”. <Ref. to KPS(diag)-2, Basic Diagnostic Procedure.>

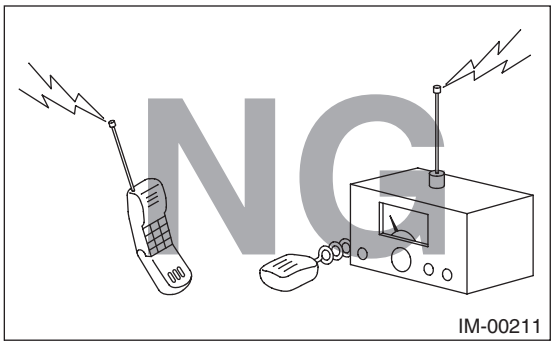
	Step	Check	Yes	No
1	**CHECK SECURITY INDICATOR LIGHT.** 1) Turn the ignition switch to “OFF” or “ACC”. 2) Wait at least 60 seconds.	Does the security indicator light blink?	Go to step **2**.	Check the security indicator light circuit. <Ref. to IM(diag)-11, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Diagnostics Chart for Security Indicator Light.>
2	**CHECK KEY SWITCH.** Remove the key from ignition switch.	Does the security indicator light begin to blink within 1 second after the key is removed?	Go to step **3**.	Check the key switch circuit. <Ref. to IM(diag)-13, CHECK KEY SWITCH CIRCUIT, INSPECTION, Diagnostics Chart for Security Indicator Light.>
3	**CHECK SECURITY INDICATOR LIGHT.** Turn the ignition switch to ON.	Does the security indicator light go off?	Go to step **5**.	Go to step **4**.
4	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Check the LAN communication system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Go to step **7**.
5	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Go to step **6**.	Check the LAN communication system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
6	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the engine start?	Immobilizer system is normal.	Go to step **8**.
7	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor. <Ref. to IM(diag)-8, Subaru Select Monitor.>	Is the DTC displayed on screen?	Go to step **10**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

	Step	Check	Yes	No
8	**CHECK DTC.** Read the DTC relating the ECM using the Subaru Select Monitor. <Ref. to IM(diag)-8, Subaru Select Monitor.>	Is the DTC displayed on screen?	Go to step **9**.	Perform the diagnosis for engine system. <Ref. to EN(H6DO)(diag)-75, PROCEDURE, Diagnostics for Engine Starting Failure.>
9	**CHECK FREEZE FRAME DATA.** Using the Subaru Select Monitor, check the Freeze Frame Data.	Was the Freeze Frame Data recorded?	Record the data. Go to step **10**.	Go to step **10**.
10	**PERFORM DIAGNOSIS.** 1) Inspect using the “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Repair the trouble cause. 3) Perform the Clear Memory Mode. 4) Read DTCs again.	Is the DTC displayed on screen?	Inspect using the “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

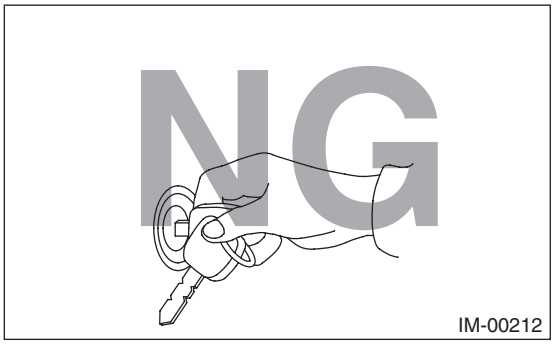
2. General Description

A: CAUTION

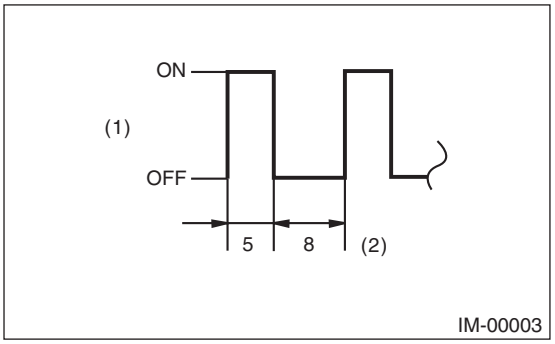
CAUTION:
• Do not use electrical test devices on any airbag system wiring harnesses and connector circuits.
• Be careful not to damage the airbag system wiring harness.
• While diagnostic items are being checked, do not operate radios, portable telephones, etc. which emit electromagnetic waves near or inside the vehicle.



• When turning the ignition switch to ON or OFF while diagnostic items are being checked, do not allow keys with different ID codes close to the ignition switch. If the ignition key is on a key holder, remove it from the key holder before performing diagnoses.



• When repeatedly turning the ignition switch to ON or OFF while diagnostic items are being checked, it should be switched in cycles of "ON" for at least 5 seconds → "OFF" for at least 8 seconds.

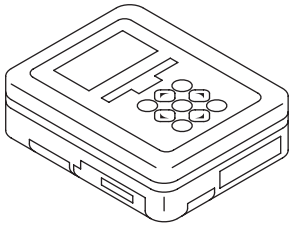


(1) Ignition switch position
(2) Sec.

• If the engine fails to start with a registered ignition key, detach the ignition key from ignition switch and wait for approx. 1 second until security indicator light begins to flash. And then start the engine again.
• Before performing the diagnostics, obtain all keys for the vehicle from the owner.
• Do not install or register a body integrated unit already registered to another vehicle to diagnose failures or inspect functions.

B: PREPARATION TOOL

1. SPECIAL TOOL

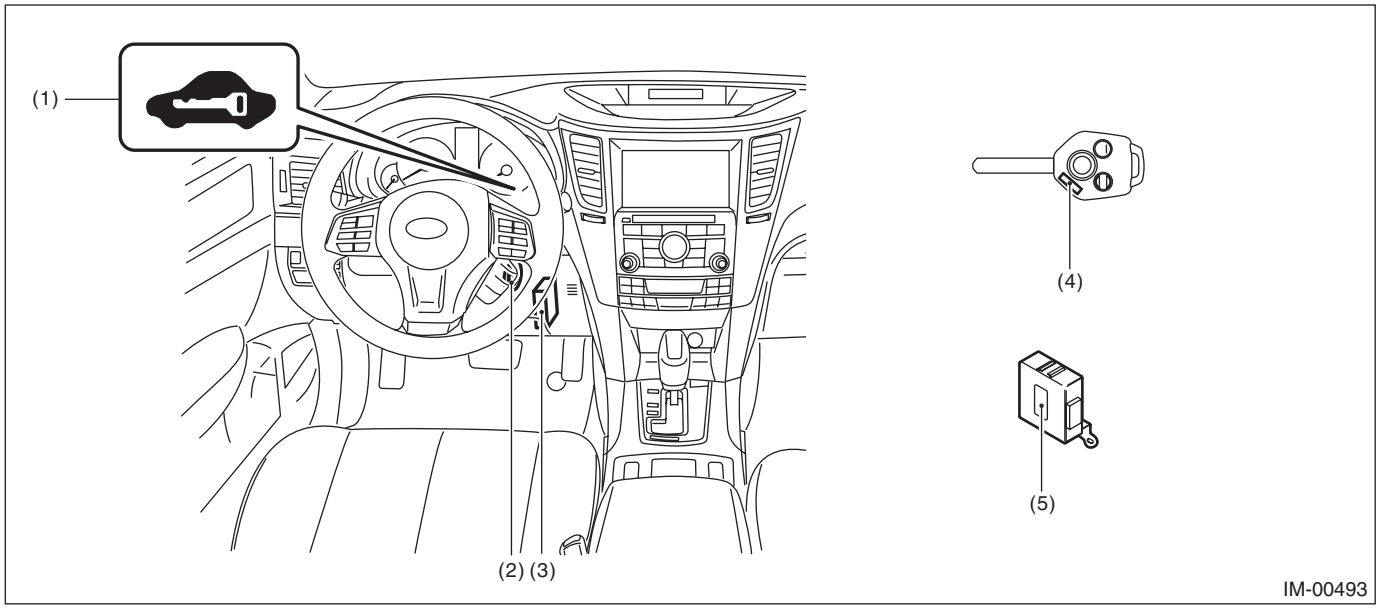
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

3. Electrical Component Location

A: LOCATION



(1) Security indicator light
(2) Antenna
(3) Body integrated unit
(4) Transponder
(5) Security control module (for C0 and C5 models)

4. Immobilizer Control Module I/O Signal

A: WIRING DIAGRAM

1. IMMOBILIZER

<Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>

5. Subaru Select Monitor

A: OPERATION

1. HOW TO USE THE SUBARU SELECT MONITOR

For the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

2. READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE AND BODY INTEGRATED UNIT

Refer to “Read Diagnostic Trouble Code” for information about how to indicate DTC. <Ref. to IM(diag)-9, Read Diagnostic Trouble Code (DTC).>

3. COMMUNICATION LINE CHECK

The communication line between ECM and body integrated unit can be checked in “System Operation Check Mode”. This is referred to as “Communication line check”.
For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
If a problem is detected, repair the trouble cause. <Ref. to IM(diag)-19, DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

6. Read Diagnostic Trouble Code (DTC)

A: OPERATION

1. ECM

For the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED UNIT

For the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

7. Clear Memory Mode

A: OPERATION

1. ECM

For the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
Initial diagnosis of electronic throttle control is performed after memory clearance. Wait for 10 seconds or more after turning the ignition switch to ON, and then start the engine.

2. BODY INTEGRATED UNIT

For the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

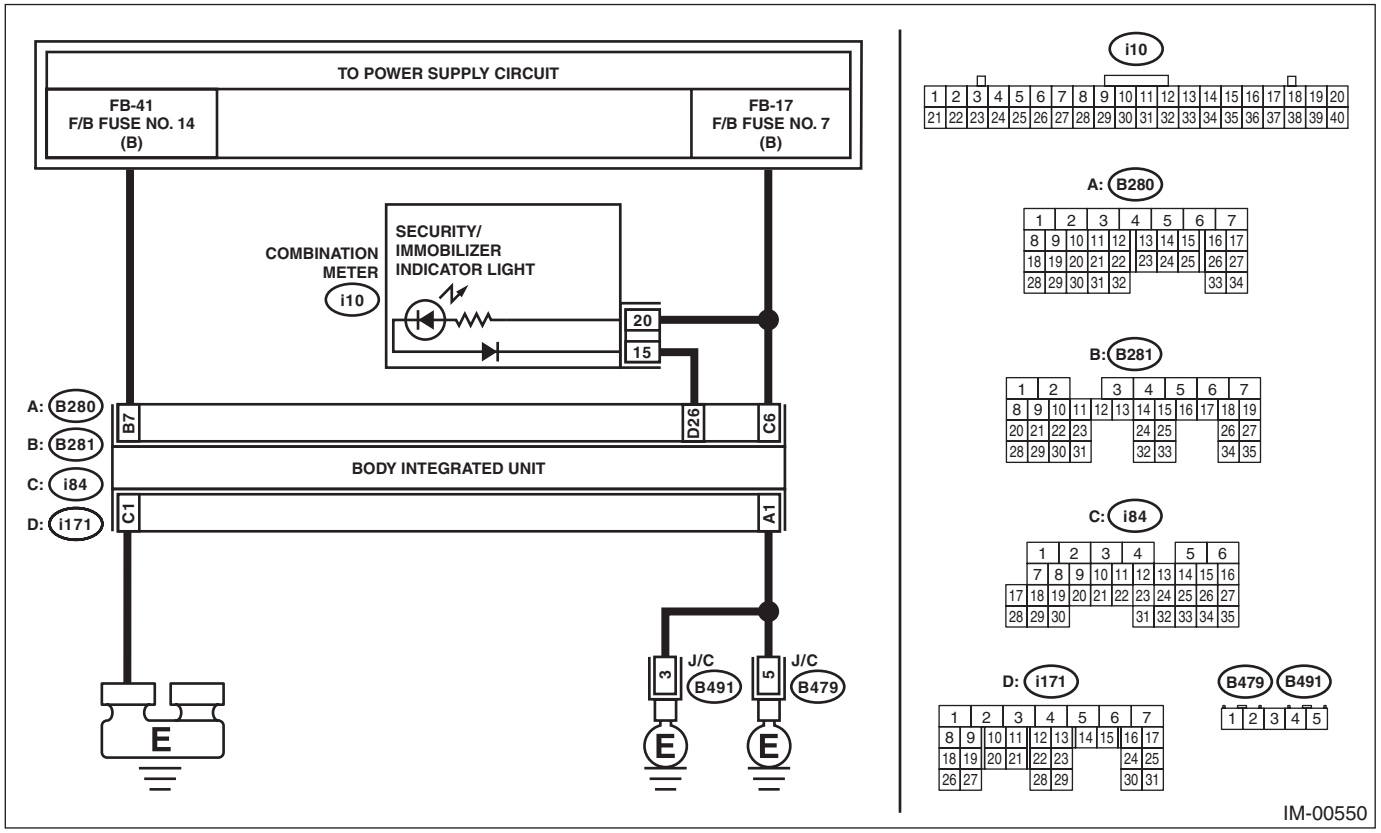
8. Diagnostics Chart for Security Indicator Light

A: INSPECTION

1. CHECK SECURITY INDICATOR LIGHT CIRCUIT

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>



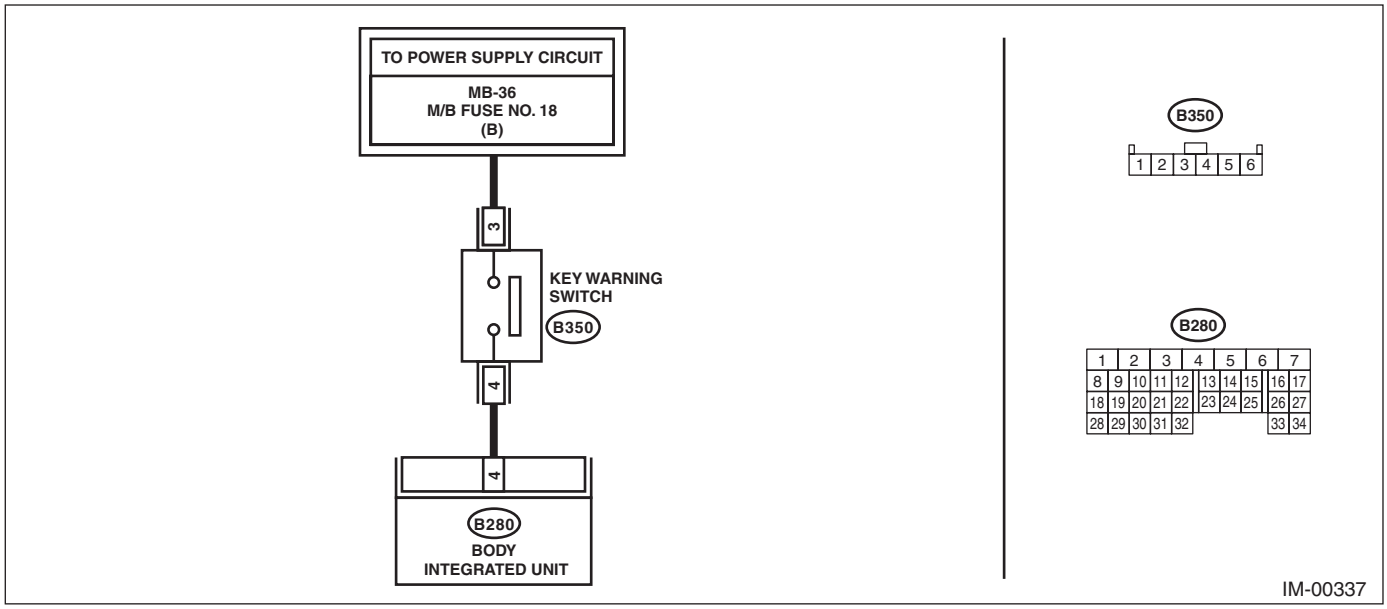
Step		Check	Yes	No
1	**CHECK FUSE.** 1) Remove the ignition key from ignition switch. 2) Check the fuse (F/B No. 14).	Is the fuse OK?	Go to step **2**.	Replace the fuse. If the replaced fuse blows out easily, repair the short circuit in the harness between the fuse and body integrated unit.
2	**CHECK SECURITY INDICATOR LIGHT.** 1) Disconnect the connector from body integrated unit. 2) Connect the resistor (100 Ω) between the body integrated unit connector terminal (i171) No. 26 and chassis ground.	Does the security indicator light illuminate?	Go to step **3**.	Go to step **5**.
3	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** Measure the resistance between the body integrated unit connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 1 — Chassis ground:*** ***(i84) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of the body integrated unit ground circuit.

	Step	Check	Yes	No
4	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** Measure the voltage between the body integrated unit connector terminal and chassis ground. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (–):*** ***(i84) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Check the harness for open or short circuit between body integrated unit and fuse.
5	**CHECK COMBINATION METER CIRCUIT.** 1) Remove the combination meter. <Ref. to IDI-25, Combination Meter.> 2) Measure the voltage between combination meter connector terminal and chassis ground. ***Connector & terminal*** ***(i10) No. 20 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Check for an open or short circuit in the harness between the combination meter and fuse.
6	**CHECK COMBINATION METER CIRCUIT.** Measure the resistance between the body integrated unit connector terminal and combination meter connector terminal. ***Connector & terminal*** ***(i171) No. 26 — (i10) No. 15:***	Is the resistance less than 10 Ω?	LED bulb is defective. Replace the combination meter case assembly. <Ref. to IDI-31, DISASSEMBLY, Combination Meter.>	Repair the harness or connector.

2. CHECK KEY SWITCH CIRCUIT

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>



Step		Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the connector from key warning switch. 2) Measure the voltage between key warning switch connector terminal and chassis ground. ***Connector & terminal*** ***(B350) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for an open or short between the key warning switch and fuse.
2	**CHECK KEY WARNING SWITCH.** 1) Insert the ignition key in the ignition switch. (OFF or ACC) 2) Measure the resistance between key warning switch connector terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **3**.	Replace the key warning switch.
3	**CHECK KEY WARNING SWITCH.** 1) Remove the ignition key from ignition switch. 2) Measure the resistance between key warning switch connector terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the key warning switch.
4	**CHECK HARNESS BETWEEN KEY WARNING SWITCH AND BODY INTEGRATED UNIT.** 1) Disconnect the connector from body integrated unit. 2) Measure the resistance between key warning switch connector terminal and body integrated unit connector terminal. ***Connector & terminal*** ***(B350) No. 4 — (B280) No. 4:***	Is the resistance less than 10 Ω?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Repair the harness between key warning switch and body integrated unit.

9. List of Diagnostic Trouble Code (DTC)

A: LIST

1. ECM

DTC	Item	Contents of diagnosis	Index No.
B1570	Antenna	Faulty antenna	<Ref. to IM(diag)-16, DTC B1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1571	Reference Code Incompatibility	Reference code incompatibility between body integrated unit and ECM	<Ref. to IM(diag)-18, DTC B1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1572	IMM Circuit Failure (Except Antenna Circuit)	Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-19, DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1574	Key Communication Failure	Communication failure between key and body integrated unit	<Ref. to IM(diag)-21, DTC B1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1575	Incorrect Immobilizer Key	Incorrect immobilizer key (Use of unregistered key in body integrated unit)	<Ref. to IM(diag)-22, DTC B1575 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to IM(diag)-22, DTC B1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1577	IMM Control Module EEPROM	Body integrated unit malfunctioning	<Ref. to IM(diag)-23, DTC B1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1578	Meter Failure (Except for model for C0 or C5)	• Reference code incompatibility between combination meter and body integrated unit • Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-24, DTC B1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	Meter Failure (Model for C0 or C5)	• Reference code incompatibility between body integrated unit and security control module • Communication failure between body integrated unit and ECM	
P0513	Incorrect Immobilizer Key	Incorrect immobilizer key (Use of unregistered key in body integrated unit)	<Ref. to IM(diag)-27, DTC P0513 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1570	Antenna	Faulty antenna	<Ref. to IM(diag)-27, DTC P1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1571	Reference Code Incompatibility	Reference code incompatibility between body integrated unit and ECM	<Ref. to IM(diag)-27, DTC P1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1572	IMM Circuit Failure (Except Antenna Circuit)	Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-27, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1574	Key Communication Failure	Communication failure between key and body integrated unit	<Ref. to IM(diag)-27, DTC P1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to IM(diag)-27, DTC P1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Contents of diagnosis	Index No.
P1577	IMM Control Module EEPROM	Body integrated unit malfunctioning	<Ref. to IM(diag)-27, DTC P1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1578	Meter Failure (Except for model for C0 or C5)	• Reference code incompatibility between combination meter and body integrated unit • Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-27, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	Meter Failure (Model for C0 or C5)	• Reference code incompatibility between body integrated unit and security control module • Communication failure between body integrated unit and ECM	

NOTE:
Perform diagnosis of engine DTC when a DTC other than an immobilizer DTC is detected. <Ref. to EN(H6DO)(diag)-97, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED UNIT

DTC	Item	Contents of diagnosis	Index No.	Relation between ECM and DTC
B1401	M Collation NG	Reference code incompatibility between combination meter and body integrated unit	<Ref. to IM(diag)-25, DTC B1401 M COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1578 P1578
B1402	Immobilizer Key Collation NG	• Incorrect immobilizer key (Use of unregistered key in body integrated unit) • Faulty antenna	<Ref. to IM(diag)-25, DTC B1402 IMMOBILIZER KEY COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1575 B1570 B1574 P0513 P1570 P1574
B1405	SCU Collation NG	Reference code incompatibility between body integrated unit and security control module	<Ref. to IM(diag)-26, DTC B1405 SCU COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1578 P1578
B1406	SCU_EEPROM_NG	Malfunction of security control module	<Ref. to IM(diag)-26, DTC B1406 SCU_EEPROM_NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1578 P1578

NOTE:
The starter relay control is performed in immobilizer system. When the body integrated unit detects a non-conformity of reference code, it immediately outputs a starter relay cut signal to ECM, and then ECM stops the starter relay operation. In this case, engine does not start, and DTC is not recorded in ECM. Check that the engine does not start on the DTC of body integrated unit.

10.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

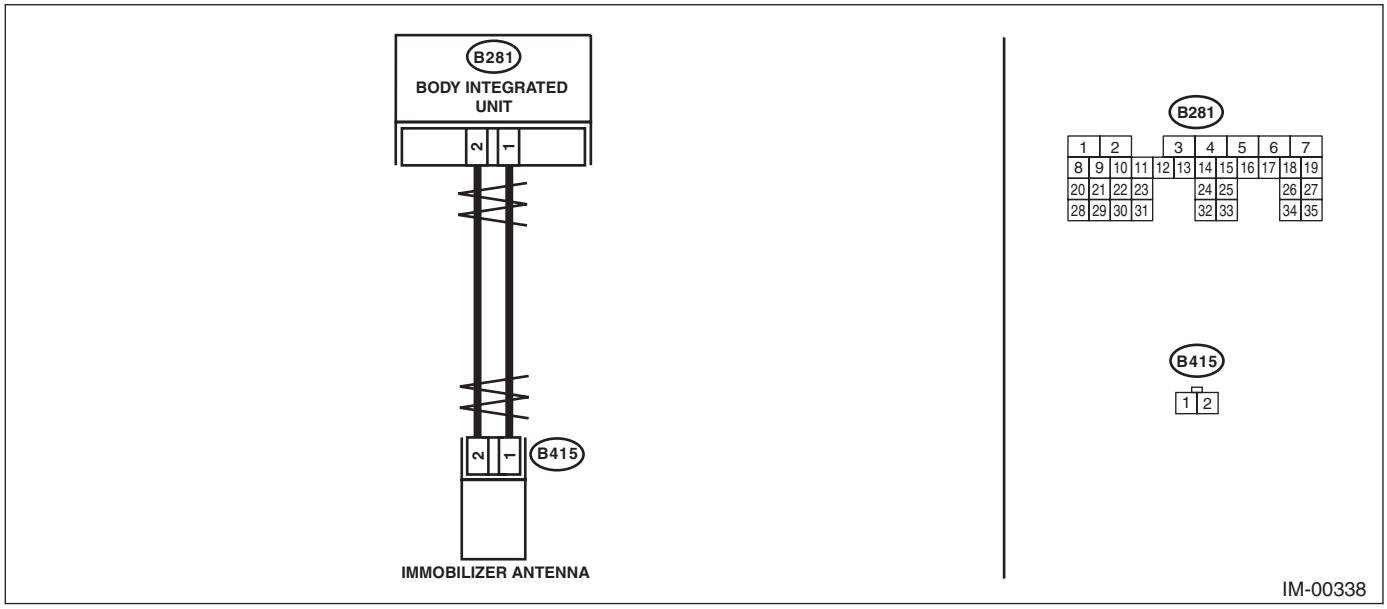
A: DTC B1570 ANTENNA

DTC DETECTING CONDITION:

Faulty antenna

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>



Step		Check	Yes	No
1	**CHECK ANTENNA CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the antenna. <Ref. to SL-86, Immobilizer Antenna.> 3) Measure the resistance of antenna circuit. ***Connector & terminal*** ***(B415) No. 1 — No. 2:***	Is the resistance 6 — 10 Ω?	Go to step **2**.	Replace the antenna. <Ref. to SL-86, Immobilizer Antenna.>
2	**CHECK ANTENNA CIRCUIT.** 1) Disconnect the connector from body integrated unit. 2) Measure the resistance between body integrated unit connector and antenna connector. ***Connector & terminal*** ***(B281) No. 1 — (B415) No. 1:*** ***(B281) No. 2 — (B415) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK ANTENNA CIRCUIT.** Measure the resistance between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B281) No. 1 — Chassis ground:*** ***(B281) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Repair the harness.

	Step	Check	Yes	No
4	**CHECK BODY INTEGRATED UNIT FUNCTION.** 1) Connect the connector to antenna. 2) Connect the connector to body integrated unit. 3) Insert the key into the ignition switch, then use an oscilloscope to measure changes in voltage between the antenna connectors. ***Connector & terminal*** ***(B281) No. 1 (+) — Chassis ground (–):***	Is the maximum voltage more than 40 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **5**.	Replace the body integrated unit <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.
5	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Replace the ignition key (transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Replace the body integrated unit <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

B: DTC B1571 REFERENCE CODE INCOMPATIBILITY

DTC DETECTING CONDITION:

Reference code incompatibility between body integrated unit and ECM

	Step	Check	Yes	No
1	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is registration of all keys complete?	Finish the diagnosis.	Go to step **2**.
2	**CHECK FOR ANY OTHER DTC ON DISPLAY.**	Is any other immobilizer DTC displayed?	Check the appropriate DTC using the “List of Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-14, List of Diagnostic Trouble Code (DTC).> Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).> Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

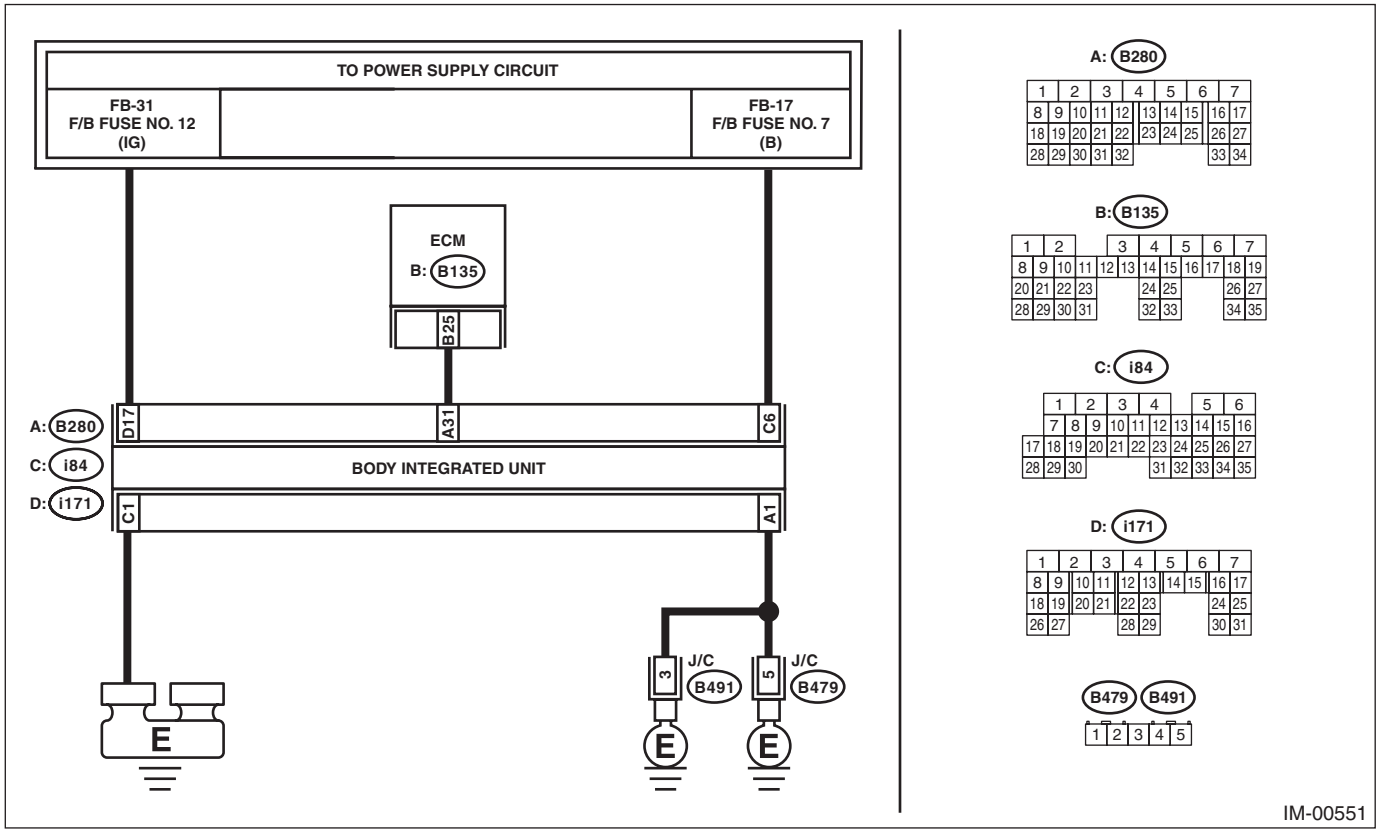
C: DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

DTC DETECTING CONDITION:

Communication failure between body integrated unit and ECM

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>



Step		Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit. 3) Measure the voltage between the body integrated unit connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short circuit between body integrated unit and fuse.
2	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between the body integrated unit connector terminal and chassis ground. ***Connector & terminal*** ***(i171) No. 17 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short circuit between the body integrated unit and ignition switch.

	Step	Check	Yes	No
3	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between the body integrated unit connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 1 — Chassis ground:*** ***(i84) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of the body integrated unit ground circuit.
4	**CHECK GROUND CIRCUIT FOR ECM.** Measure the resistance between the ECM ground terminal and engine ground.	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the ECM ground circuit.
5	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND ECM.** 1) Disconnect the connector from ECM. 2) Measure the resistance between body integrated unit connector terminal and ECM connector terminal. ***Connector & terminal*** ***(B280) No. 31 — (B135) No. 25:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the open circuit of the harness between the body integrated unit and ECM.
6	**CHECK COMMUNICATION CIRCUIT HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between the body integrated unit connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 31 (+) — Chassis ground (–):***	Is the voltage 6 V or more?	Repair the harness between body integrated unit and ECM.	Go to step **7**.
7	**CHECK COMMUNICATION CIRCUIT HARNESS.** Measure the voltage between ECM connector terminal and engine ground. ***Connector & terminal*** ***(B135) No. 25 (+) — Engine ground (–):***	Is the voltage 6 V or more?	Repair the harness between body integrated unit and ECM.	Go to step **8**.
8	**CHECK ECM BY COMMUNICATION LINE CHECK.** 1) Connect the connector to ECM only. 2) Start the communication line short check. <Ref. to IM(diag)-8, COMMUNICATION LINE CHECK, OPERATION, Subaru Select Monitor.>	Is the communication line check OK?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).> Perform the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

NOTE:
Refer to the following inspection when DTC is detected after inspection above. <Ref. to IM(diag)-24, DTC B1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

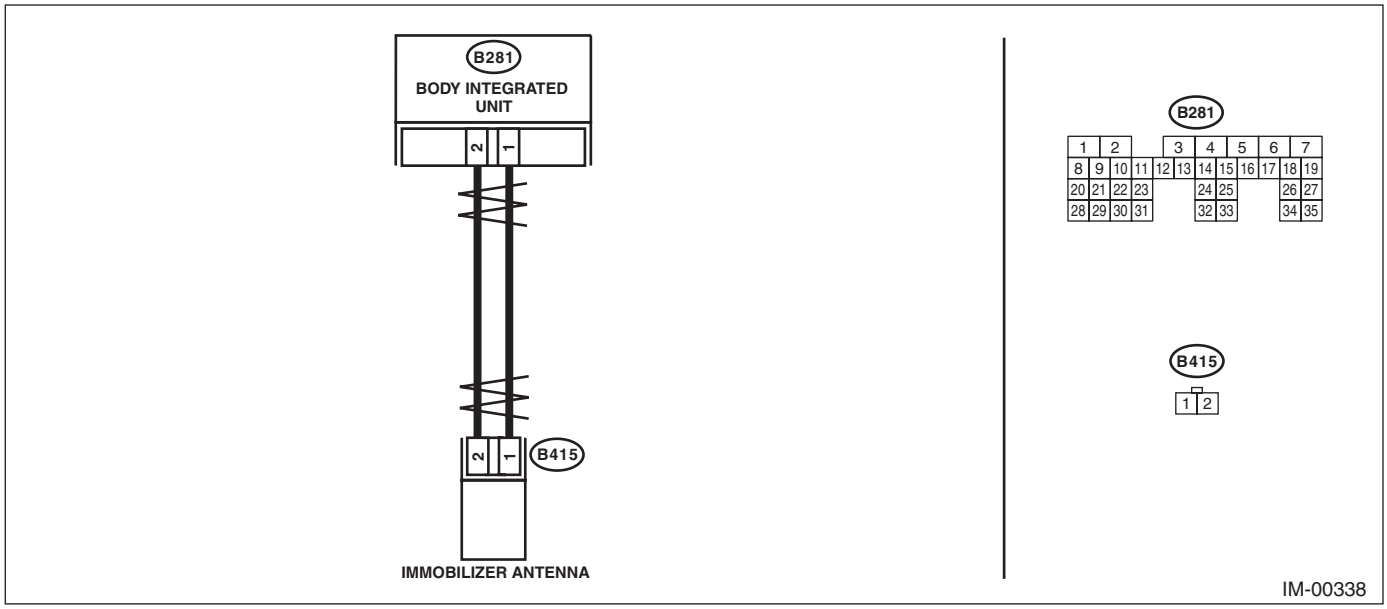
D: DTC B1574 KEY COMMUNICATION FAILURE

DTC DETECTING CONDITION:

Communication failure between key and body integrated unit

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-200, WIRING DIAGRAM, Immobilizer System.>



	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT FUNCTION.** Insert the key into the ignition switch (LOCK position), then measure changes in voltage between the antenna connector and the chassis ground. ***Connector & terminal*** ***(B415) No. 1 (+) — Chassis ground (–):***	Is the maximum voltage more than 40 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **2**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.
2	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Register ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

E: DTC B1575 INCORRECT IMMOBILIZER KEY

DTC DETECTING CONDITION:

Incorrect immobilizer key (Use of unregistered key in body integrated unit)

	Step	Check	Yes	No
1	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is registration of all keys complete?	Finish the diagnosis.	Replace ignition keys (including transponder) which cannot be registered. Go to step **2**.
2	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is registration of all keys complete?	Finish the diagnosis.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

F: DTC B1576 EGI CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- ECM malfunctioning
- Inaccessible ROM in ECM during key registration.

	Step	Check	Yes	No
1	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **2**.
2	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **3**.
3	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).>

G: DTC B1577 IMM CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- Body integrated unit malfunctioning
- Failed to access ROM inside the body integrated unit.

	Step	Check	Yes	No
1	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **2**.
2	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **3**.
3	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

H: DTC B1578 METER FAILURE

DTC DETECTING CONDITION:

- Except for C0 and C5 models

Reference code incompatibility between combination meter and body integrated unit or communication failure between body integrated unit and ECM

- For C0 and C5 models

Reference code incompatibility between security control module and body integrated unit or communication failure between body integrated unit and ECM

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is any of DTC B1401, B1405 and B1406 detected?	Go to step **2**.	<Ref. to IM(diag)-19, DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2	**CHECK LAN COMMUNICATION SYSTEM.** Inspect LAN communication system. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Is DTC U1300, U1301, U1302, B1100 or B1101 of the body integrated unit displayed?	Perform the diagnosis according to the DTC. <Ref. to LAN(diag)-54, List of Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK DTC.** Perform inspection for the diagnosis trouble code detected in step 1.	Is DTC B1401 detected?	Go to step **4**.	Perform the diagnosis for DTC B1405 or B1406.
4	**CHECK COMBINATION METER.** Perform the registration of immobilizer. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is the immobilizer registration achieved?	Go to step **5**.	Replace the combination meter and perform the registration of immobilizer again.
5	**CHECK ENGINE START.** Start the engine.	Does the engine start?	System is normal.	Replace the combination meter, perform the registration of immobilizer again and check that the engine starts normally.

NOTE:
When the combination meter and body integrated unit are replaced at a time, the immobilizer can not be registered. In this case, it is necessary to rewrite the ID into the body integrated unit.

I: DTC B1401 M COLLATION NG

NOTE:
For diagnostic procedures, refer to DTC B1578 “METER FAILURE”. <Ref. to IM(diag)-24, DTC B1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC B1402 IMMOBILIZER KEY COLLATION NG

NOTE:
For diagnostic procedures, refer to the following items.

- DTC B1575 “INCORRECT IMMOBILIZER KEY” <Ref. to IM(diag)-22, DTC B1575 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
- DTC B1570 “ANTENNA” <Ref. to IM(diag)-16, DTC B1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
- DTC P1574 “KEY COMMUNICATION FAILURE” <Ref. to IM(diag)-21, DTC B1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC B1405 SCU COLLATION NG

DTC DETECTING CONDITION:

Reference code incompatibility between security control module and body integrated unit

	Step	Check	Yes	No
1	**CHECK SCM COLLATION MODE.** Using Subaru Select Monitor, perform the function check «SCM Collation Mode» for the body integrated unit. <Ref. to BC(diag)-23, OPERATION, Function Check.>	Is there any malfunction?	Make sure it is possible to start the engine with all keys. This completes the work.	Perform the diagnosis according to the Select Monitor display.

L: DTC B1406 SCU_EEPROM_NG

DTC DETECTING CONDITION:

- Defective security control module
- ROM of security control module cannot be accessed

	Step	Check	Yes	No
1	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **2**.
2	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **3**.
3	**PERFORM IGNITION KEY REGISTRATION.** Perform registration to all keys used for the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is registration of all keys complete?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Replace the security control module. <Ref. to SL-74, Security Control Module.> Register all ignition keys (transponders). Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

NOTE:
When the security control module and body integrated unit are replaced at a time, the immobilizer can not be registered. In this case, it is necessary to rewrite the ID into the body integrated unit.

M: DTC P0513 INCORRECT IMMOBILIZER KEY

NOTE:
For diagnostic procedures, refer to DTC B1575 “INCORRECT IMMOBILIZER KEY”. <Ref. to IM(diag)-22, DTC B1575 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

N: DTC P1570 ANTENNA

NOTE:
For diagnostic procedures, refer to DTC B1570 “ANTENNA”. <Ref. to IM(diag)-16, DTC B1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

O: DTC P1571 REFERENCE CODE INCOMPATIBILITY

NOTE:
For diagnostic procedures, refer to DTC B1571 “REFERENCE CODE INCOMPATIBILITY”. <Ref. to IM(diag)-18, DTC B1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

P: DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

NOTE:
For diagnostic procedures, refer to DTC B1572 “IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)”. <Ref. to IM(diag)-19, DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Q: DTC P1574 KEY COMMUNICATION FAILURE

NOTE:
For diagnostic procedures, refer to DTC B1574 “KEY COMMUNICATION FAILURE”. <Ref. to IM(diag)-21, DTC B1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

R: DTC P1576 EGI CONTROL MODULE EEPROM

NOTE:
For diagnostic procedures, refer to DTC B1576 “EGI CONTROL MODULE EEPROM”. <Ref. to IM(diag)-22, DTC B1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

S: DTC P1577 IMM CONTROL MODULE EEPROM

NOTE:
For diagnostic procedures, refer to DTC B1577 “IMM CONTROL MODULE EEPROM”. <Ref. to IM(diag)-23, DTC B1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

T: DTC P1578 METER FAILURE

NOTE:
For diagnostic procedures, refer to DTC B1578 “METER FAILURE”. <Ref. to IM(diag)-24, DTC B1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

LAN SYSTEM (DIAGNOSTICS)

LAN(diag)

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1. General Description

A: SPECIFICATION

1. COMBINATION METER

- Model with normal meter

Meter, display	Operation method, display method	Drive control	When checking the indicator needle operation/needle reading operation
Speedometer	Stepping motor type	Combination meter	—
Tachometer			
ECO gauge			
Fuel gauge			
CVT/ATF temperature warning light	LED	Combination meter	On/Off
ABS warning light			
Seat belt warning light			
AWD warning light			
Airbag warning light			
Low engine oil warning light			
Low washer warning light			
Tire pressure warning light*			
Malfunction indicator light			
Hill hold ON indicator light			
VDC warning light/VDC operation indicator light			
VDC OFF indicator light			
High beam indicator light			
Lighting indicator light			
Front fog light indicator light			
Meter illumination back light			Light ON
LCD back light			
Engine coolant temperature warning light (red)			On (red)/Off
Engine coolant temperature indicator light (blue)			Off/On (blue)
Fuel level warning light			On/Off (area near the E mark is illuminated)
Oil pressure warning light		Oil pressure switch	Turns on or off according to module control
Charge warning light		Generator	
Turn signal indicator light		Turn signal and hazard unit	
Security/immobilizer indicator light		Body integrated unit	
Parking brake/brake fluid level/EPB warning light		Combination meter/ brake fluid level switch	On/Turns on or off according to module control
Odo/Trip indicator	LCD	Combination meter	—
Shift indicator			
Select lever position indicator			
Door open/vehicle frame indicator			
CRUISE indicator			
SET indicator			

- Model with luminescent meter

Meter, display	Operation method, display method	Drive control	When checking the indicator needle operation/needle reading operation
Speedometer	Stepping motor type	Combination meter	—
Tachometer			
Fuel gauge			
Engine coolant temperature gauge			
CVT/ATF temperature warning light	LED	Combination meter	On/Off
ABS warning light			
Seat belt warning light			
Door warning light			
AWD warning light			
Airbag warning light			
Low engine oil warning light			
Tire pressure warning light*			
Malfunction indicator light			
Hill hold ON indicator light (dimmed at one level)			
VDC warning light/VDC operation indicator light			
VDC OFF indicator light			
High beam indicator light			
Lighting indicator light			
Front fog light indicator light			
Lane departure warning OFF indicator light (models with EyeSight)			
Pre-collision brake OFF indicator light (models with EyeSight)			
Meter illumination back light			Light ON
TFT back-up light			
Fuel level warning light			On/Off (area near the E mark is illuminated)
Oil pressure warning light		Oil pressure switch	Turns on or off according to module control
Charge warning light		Generator	
Turn signal indicator light		Turn signal and hazard unit	
Security/immobilizer indicator light		Body integrated unit	
Parking brake/brake fluid level warning light/EPB warning light		Combination meter/ brake fluid level switch	On/Turns on or off according to module control

Meter, display	Operation method, display method	Drive control	When checking the indicator needle operation/needle reading operation
Odo/Trip indicator	TFT	Combination meter	—
ECO gauge			
Shift indicator			
Select lever position indicator			
Information (intervention) display & indicator			
Cruise control system indicator • Constant speed cruise • SET • Set speed			
EyeSight system indicator • Adaptive cruise • SET • READY • EyeSight warning • EyeSight temporary stop • OFF • HOLD • Preceding vehicle • Following distance setting • Set speed • Traffic lane • Steering wheel			

*: U4, U5 and U6 models

2. CLOCK

Display	Display method
Cruising distance, average fuel economy, instantaneous fuel economy, ambient temperature, current time	VFD
Passenger's airbag ON indicator	LED
Passenger's airbag OFF indicator	
Passenger's airbag indicator*	
Passenger's seat belt warning light	

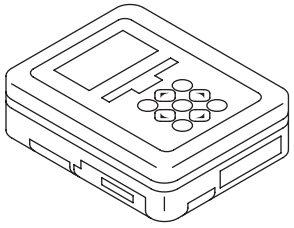
*: U4, U5 and U6 models

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.
• Do not apply an excessive force on the printed circuit.
• Do not drop or otherwise apply impact.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.
• When the combination meter of model without keyless access has been replaced, be sure to perform the registration of immobilizer.

C: PREPARATION TOOL

1. SPECIAL TOOL

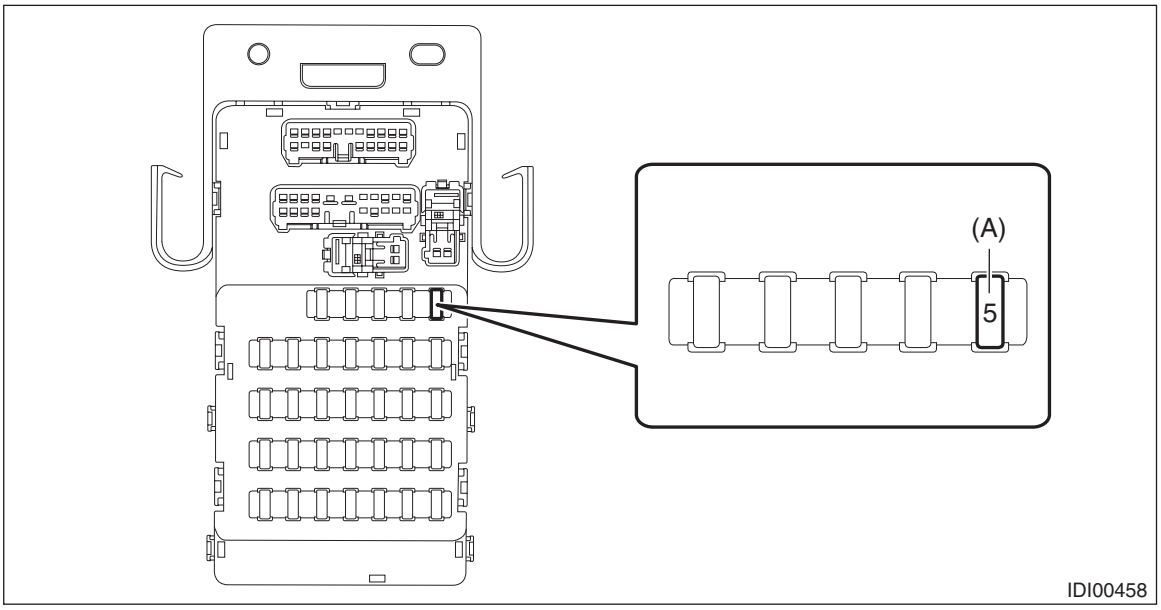
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Steering wheel puller	Used for removing the steering wheel.

2. Relay and Fuse

A: LOCATION



Relay & fuse box	Fuse 7.5A (combination meter, clock)	(A)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

B: INSPECTION

1. CHECK FUSE

1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

NOTE:
If the fuse is blown again, check the system wiring harness.

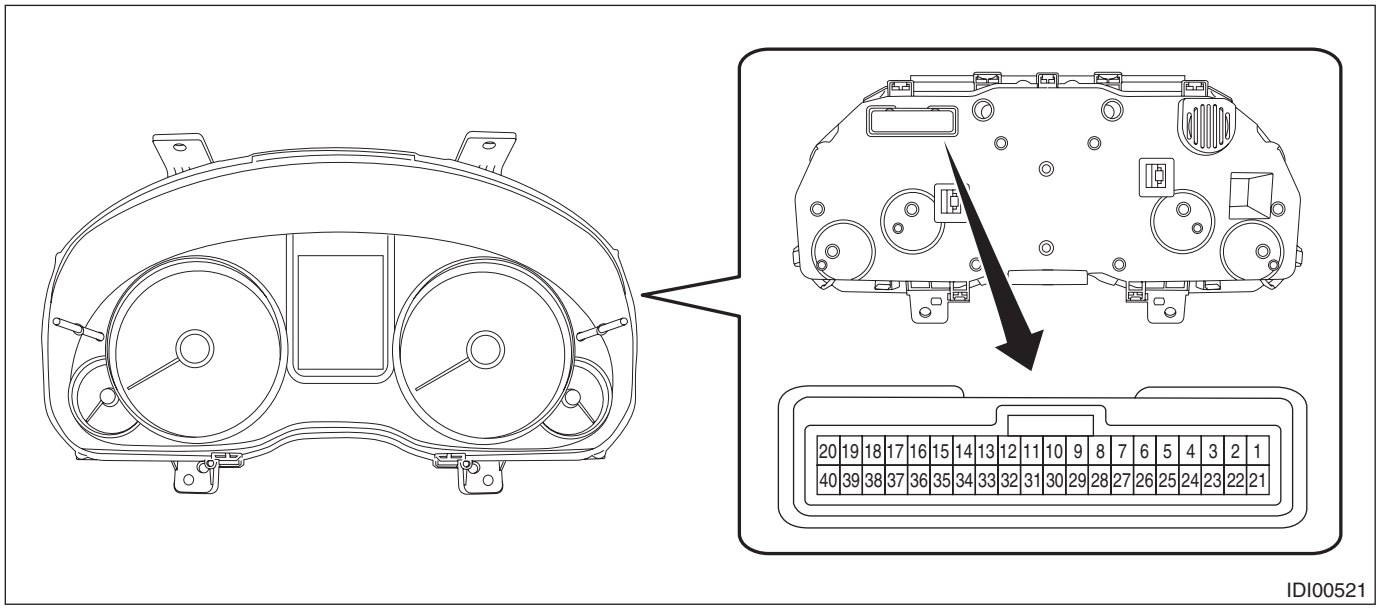
3. Combination Meter System

A: WIRING DIAGRAM

Refer to “Combination Meter System” in the wiring diagram. <Ref. to WI-96, WIRING DIAGRAM, Combination Meter System.>

B: ELECTRICAL SPECIFICATION

1. COMBINATION METER TERMINAL ARRANGEMENT



Connector

Terminal No.	Item	Measuring condition	Standard
1 ←→ Chassis ground	Voltage	Tire pressure warning light off → on	0 V → 10 — 14 V
3 (U-ART com.)	—	Cannot be measured	—
6 ←→ Chassis ground	Voltage	Malfunction indicator light off → on	0 V → 10 — 14 V
7 ←→ Chassis ground	Voltage	Charge warning light off → on	0 V → 10 — 14 V
8 ←→ Chassis ground	Voltage	Oil pressure warning light off → on	0 V → 10 — 14 V
10 ←→ Chassis ground	Voltage	LH turn indicator off → on	0 V → 10 — 14 V
11 ←→ Chassis ground	Voltage	RH turn indicator off → on	0 V → 10 — 14 V
15 ←→ Chassis ground	Voltage	Security/immobilizer indicator light off → on	0 V → 10 — 14 V
19 (IG) ←→ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
20 (+B) ←→ Chassis ground	Voltage	Always	10 — 14 V
24 ←→ Chassis ground	Voltage	Brake fluid/parking brake warning light off → on	0 V → 10 — 14 V
27 ←→ Chassis ground	Voltage	Low washer fluid warning light on → off	0 V → 10 — 14 V
29 ←→ Chassis ground	Waveform	Speedometer	Pulse generation
30 ←→ Chassis ground	Waveform	Tachometer	Pulse generation
32 (CAN–) ←→ Chassis ground	—	Cannot be measured	—
33 (CAN+) ←→ Chassis ground	—	Cannot be measured	—
34 ←→ Chassis ground*	Voltage	While operating the steering command switch	0 V → 0.1 — 5 V
36 ←→ Chassis ground	Voltage	Ambient sensor	0 V → 0.1 — 5 V
37 ←→ Chassis ground	Resistance	Always	Less than 1 Ω
39 ←→ Chassis ground	Resistance	Always	Less than 1 Ω

*: Model with luminescent meter

C: OPERATION

1. SELF-DIAGNOSIS DISPLAY MODE

The self-diagnosis (checking of each meter, warning light, indicator light, illumination, LCD or TFT) of combination meter can be performed in the following procedure.

CAUTION:
Perform the steps described in 1) through 4) within 10 seconds.
1) Within 3 seconds after turning the ignition switch to ON, set the lighting switch to tail light or headlight position.
2) Press the trip meter knob three times.
3) Turn the lighting switch to OFF, and press the trip meter knob three times.
4) Set the lighting switch to tail light or headlight position again, and press the trip meter knob three times.

NOTE:
• When pressing the trip meter knob four times, the display changes to DTC display mode. <Ref. to IDI-11, DTC DISPLAY MODE, OPERATION, Combination Meter System.>
• When pressing the trip meter knob five times, the display changes to dealer customize mode. <Ref. to IDI-12, DEALER CUSTOMIZE MODE, OPERATION, Combination Meter System.>
• When the self-diagnosis function operates, the warning light, indicator light, and LCD or TFT display checks are performed. After this, the buzzer will sound for 0.5 seconds every time the trip meter knob is pressed, and operation checks are performed in the order of meter indicator needle operation, meter indicator needle indication, and LCD or TFT. Turn the ignition switch to OFF to cancel the self-diagnosis function.
• When the engine starts during diagnosis, the self-diagnosis function is not cancelled, however, once the vehicle starts driving, the self-diagnosis function is deactivated automatically.
5) Go to “Check meter indicator operation”.
Check meter operation, warning light, indicator light, illumination and LCD or TFT.

NOTE:
• After “_S_1” is displayed on the LCD or TFT, the meter indicator operation check mode is initiated.
• Each of the meter indicator operation display and LCD or TFT display switches every 6 seconds.

Meter indicator	LCD or TFT display, illumination	Warning light, indicator light
MIN indication ↓ MAX indication	ILL1 (Min. brightness) ↓*4 ILL6 (Max. brightness)	*1, *2, *3
MAX indication ↓ MIN indication	ILL6 (Max. brightness) ↓*4 ILL1 (Min. brightness)	

*1: Warning lights and indicator lights controlled by the meter drive circuit are illuminated. <Ref. to IDI-2, SPECIFICATION, General Description.>
*2: Warning lights and indicator lights controlled by other module are turned on/off according to the module control. <Ref. to IDI-2, SPECIFICATION, General Description.>
*3: Engine coolant temperature warning light illuminates in red. (models with normal meters)
*4: Display for one second for each level
6) Press the trip meter knob once.
7) Go to “Meter Indicator Needle Indication Check”.
Check meter operation, warning light, indicator light and LCD or TFT.

NOTE:
• Meter indicator switches every 1.5 seconds for each indication.
• ILL indication illuminates at the same brightness as when entering “Meter Indicator Needle Indication Check”.
• During operation, “_S_2” is displayed on the LCD or TFT.

Model with normal meter

Speedometer (km/h)	Tachometer (rpm)	Fuel gauge	ECO gauge	Fuel level warning light	Warning light, indicator light
0	0	Lowest point	Lowest point	Light ON	*1, *2, *3
0	0	E	–Max	Light ON	
40	1000	1/2	0	Light OFF	
100	4000	F	+Max	Light OFF	
40	1000	1/2	0	Light OFF	
0	0	E	–Max	Light ON	

Model with luminescent meter

Speedometer (km/h)	Tachometer (rpm)	Fuel gauge	Engine coolant temperature gauge	Fuel level warning light	Warning light, indicator light
0	0	Lowest point	Lowest point	Light ON	*1, *2
0	0	E	C	Light ON	
40	1000	1/2	Starting point of the red line	Light OFF	
100	4000	F	H	Light OFF	
40	1000	1/2	Starting point of the red line	Light OFF	
0	0	E	C	Light ON	

*1: Warning lights and indicator lights controlled by the meter drive circuit turn off. <Ref. to IDI-2, SPECIFICATION, General Description.>
*2: Warning lights and indicator lights controlled by other module are turned on/off according to the module control. <Ref. to IDI-2, SPECIFICATION, General Description.>
*3: Engine coolant temperature indicator light illuminates in blue. (models with normal meters)

8) Press the trip meter knob once.
9) Go to “Check LCD or TFT display”.

Check the LCD or TFT display.

Model with normal meter

NOTE:
- After “_S_3” is displayed on the LCD, the LCD display check mode is initiated.
- LCD display switches every 1 second.
- Warning lights and indicator lights controlled by the meter drive circuit turn off. <Ref. to IDI-2, SPECIFICATION, General Description.>
- Warning lights and indicator lights controlled by other module are turned on/off according to the module control. <Ref. to IDI-2, SPECIFICATION, General Description.>
- The meter indication remains at the same level as “Meter Indicator Needle Indication Check”.
- ILL indication illuminates at ILL6 level (max. brightness).
- After No. 14 is displayed in the illumination order, display is repeated from No. 1 again.

ORDER	AT/SS	CRUISE/SET	TRIP/UNIT/ODO/ S/I/S#	DOOR/REAR GATE/ TRUNK OPEN
1	▲ ▼	SET	A 8 8 8 . 8 B 8 8 8 8 8 8 miles km [S] [I] S#	
2		OFF	1 1 1 . 1 1 1 1 1 1 1	OFF
3	▲		A 2 2 2 . 2 2 2 2 2 2 2 miles [S]	
4		OFF	3 3 3 . 3 3 3 3 3 3 3	OFF
5	▼	SET	B 4 4 4 . 4 4 4 4 4 4 4 km [I]	
6		OFF	5 5 5 . 5 5 5 5 5 5 5	OFF
7	▲		A 6 6 6 . 6 6 6 6 6 6 6 miles S#	
8		OFF	7 7 7 . 7 7 7 7 7 7 7	OFF
9	▼	SET	B 8 8 8 . 8 8 8 8 8 8 8 km [S]	
10		OFF	9 9 9 . 9 9 9 9 9 9 9	OFF
11	▲		A 0 0 0 . 0 0 0 0 0 0 0 miles [I]	
12		OFF	8 8 8 . 8 8 8 8 8 8 8	OFF
13	▼	SET	B 8 8 8 . 8 8 8 8 8 8 8 km S#	
14		OFF	8 8 8 . 8 8 8 8 8 8 8	OFF

IDI00534

Model with luminescent meter

NOTE:
- TFT display switches every 10 seconds.
- Warning lights and indicator lights controlled by the meter drive circuit turn off. <Ref. to IDI-2, SPECIFICATION, General Description.>
- Warning lights and indicator lights controlled by other module are turned on/off according to the module control. <Ref. to IDI-2, SPECIFICATION, General Description.>
- The meter indication remains at the same level as “Meter Indicator Needle Indication Check”.
- ILL indication illuminates at ILL6 level (max. brightness).
- After No. 7 is displayed in the illumination order, display is repeated from No. 1 again.
- The version display contents of the illumination order No. 1 varies depending on the vehicle.

Order	TFT display
1	Version display & color gradation
2	Black
3	Red
4	Green
5	Blue
6	White
7	Color gradation

2. DTC DISPLAY MODE

The combination meter DTC can be displayed according to the following procedure.

CAUTION:
Perform the steps described in 1) through 4) within 10 seconds.
1) Within 3 seconds after turning the ignition switch to ON, set the lighting switch to tail light or headlight position.
2) Press the trip meter knob four times.
3) Turn the lighting switch to OFF, and press the trip meter knob four times.
4) Set the lighting switch to tail light or headlight position again, and press the trip meter knob four times.
5) Go to “DTC display mode”.

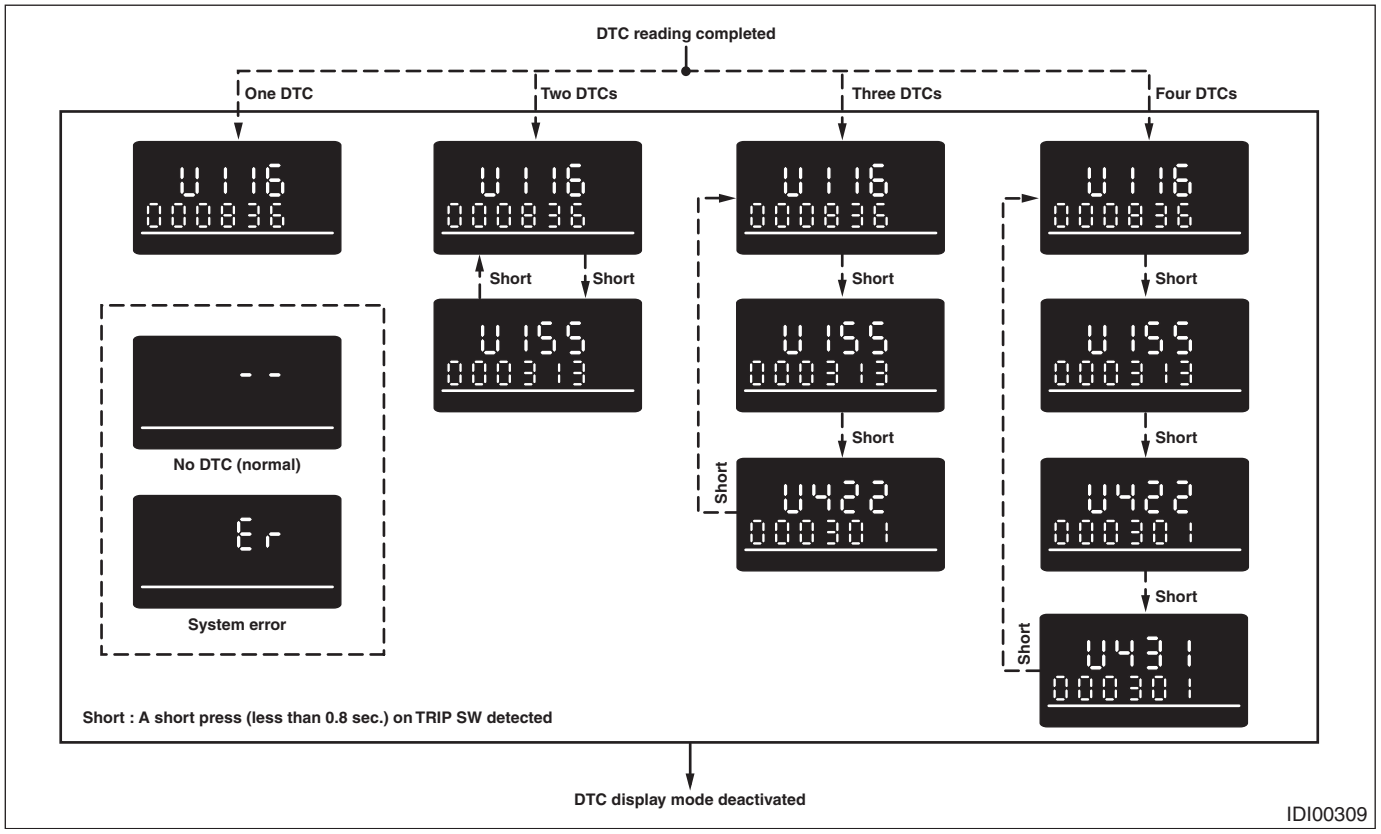
NOTE:
- If a diagnostic trouble code (DTC) is detected, an input error to meters exists. Check the harness on the body side and related parts.
- Detected diagnostic trouble code (DTC) cannot be cleared.
- When the engine starts during diagnosis, the self-diagnosis function is not cancelled, however, once ignition switch is turned OFF or the vehicle is driven, the DTC display mode is cancelled automatically.

(1) When the DTC display mode operates, the LCD or TFT displays whether diagnostic trouble code (DTC) exists.

DTC display	Item	Condition
“--”	-	Normal
“Er”	-	System error (meter error)
B900	Power supply system	When IG OFF is detected while driving
B901	Speedometer	Abnormal speed pulse value and CAN data value with engine ON
B902	Speedometer	Inconsistency between speed pulse value and CAN data value with engine ON
U116	Tachometer	Abnormal input data with engine ON
U140	Fuel meter	Abnormal input data with engine ON
U155	CAN communication	CAN communication error
U167	Immobilizer collation	Collation with body integrated unit failed
U422	Fuel meter	Abnormal input data with IG ON
U431	Fuel meter	When input data out of range is detected with engine ON

(2) If the diagnostic trouble code (DTC) is stored, ODO value at occurrence of trouble is displayed.

NOTE:
• Diagnostic trouble code (DTC) is stored for up to four cases. If diagnostic trouble code (DTC) is input exceeding four cases, the code is deleted in order starting with the oldest one.
• When there are more than one diagnostic trouble code (DTC), the code is displayed according to the following conditions and switches every time when the trip meter knob is pressed.
1. Displayed in the descending order of ODO value.
2. If the ODO value is the same, displayed in the ascending order of diagnostic trouble code (DTC) value.



3. DEALER CUSTOMIZE MODE

The combination meter can be customized with dealer customize according to the following procedure.

CAUTION:
Perform the steps described in 1) through 4) within 10 seconds.
1) Within 3 seconds after turning the ignition switch to ON, set the lighting switch to tail light or headlight position.
2) Press the trip meter knob five times.
3) Turn the lighting switch to OFF, and press the trip meter knob five times.
4) Set the lighting switch to tail light or headlight position again, and press the trip meter knob five times.

5) Move on to the “DEALER CUSTOMIZE MODE”.
- When the dealer customize mode operates, the LCD or TFT displays each adjustment screen.
- The dealer customize mode consists of four setting screens. {Avg.F/E Correction Screen}, {Ambient Temp. Correction Screen}, {Clock Adjust. Screen}, {Rear Seat belt Adjust. Screen} and {Demo. Mode Setting Screen} is displayed cyclically in this order every time the trip meter knob is tapped.
- Holding down the trip meter knob while each setting screen is displayed can change the setting value.

NOTE:
When ignition switch is turned OFF or the vehicle is driven, the customize mode is cancelled automatically.
Model with normal meter

No.	Customize mode	Initial value	Correction range
1	Avg.F/E Correction Screen	±0%	±10%
2	Ambient Temp. Correction Screen	±0°C	±3°C*
3	Clock Adjust. Screen	on	on or off

Model with luminescent meter

No.	Customize mode	Initial value	Correction range
1	Avg.F/E Correction Screen	±0%	±10%
2	Ambient Temp. Correction Screen	±0°C	±3°C*
3	Clock Adjust. Screen	ON	ON or OFF
5	Demo. Mode Setting Screen	OFF	ON or OFF

*: Temperature compensation can only be performed by 1°C (1°C change = 1.8°F) interval.

4. DEMONSTRATION MODE (LUMINESCENT METER MODEL)

The demonstration mode screen of the combination meter can be displayed according to the following procedure.

CAUTION:
- **While IG and ACC is off and the odo/trip meter is not displayed, perform the steps described in 1) through 6) within 10 seconds.**
- **To avoid battery discharge, perform the operation under the following condition.**
  - **Perform the operation while the battery is being charged.**
  - **While performing the operation and displaying the demonstration mode, close all doors and do not operate any electrical parts.**
- **If the battery voltage is low, the demonstration mode is not initiated.**
- **If the “Demo. Mode Setting Screen” is not turned to on in the dealer customize mode, the demonstration mode is not initiated.**
- **When the demonstration mode display is completed, make sure that the “Demo. Mode Setting Screen” is turned to off in the dealer customize mode. Do not deliver the vehicle to the customer with the “Demo. Mode Setting Screen” is on.**
- **Even if the backup fuse is removed, the demonstration mode can be initiated.**

1) Press the trip meter knob twice.

NOTE:
When the trip meter knob is pressed once, the odo/trip meter is displayed.
2) Press the information switch five times within three seconds after the above operation 1) is performed.
3) Press the trip meter knob once.
4) Press the information switch five times.
5) Press the trip meter knob once.
6) Press the information switch five times.

7) The “demonstration mode” is initiated.
Each demonstration mode screen is displayed in the TFT.

CAUTION:
If the procedure is not performed properly, stop the operation and wait until the odo/trip meter display disappears (for approx. 10 seconds), and then perform the procedure from 1) to 6) again after confirming that the display disappeared.

NOTE:
The demonstration mode will be cancelled in the following condition.
• At the completion of the “goodbye screen” display that is shown 60 minutes after the demonstration mode is initiated
• When the IG switch is turned to ON
• When the information switch is turned to ON for two seconds
• When the battery voltage is low
• When the push button ignition switch is pressed with the access key out of the passenger room (model with keyless access)
• When any request switch is pressed with the access key in the passenger room (model with keyless access).
When resuming the operation after cancellation, the demonstration mode is displayed, however, for the model with keyless access, the resuming can only be accepted after approx. 1 minute.

D: INSPECTION

1. SYMPTOM CHART

CAUTION:
When measuring the voltage and resistance of each control module or sensor, use a tapered pin with a diameter of less than 0.64 mm (0.03 in) in order to avoid poor contact. Do not insert the pin more than 2 mm (0.08 in).

Symptoms	Repair order	Note
Combination meter assembly does not operate.	1. Power supply 2. Ground circuit 3. Combination meter	<Ref. to IDI-15, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.>
Speedometer does not operate.	1. VDC C/M 2. Harness 3. Combination meter	<Ref. to IDI-15, CHECK VDC CONTROL MODULE, INSPECTION, Combination Meter System.>
Tachometer does not operate.	1. ECM 2. Harness 3. Combination meter	<Ref. to IDI-16, CHECK ENGINE CONTROL MODULE (ECM), INSPECTION, Combination Meter System.>
Fuel gauge does not operate.	1. Communication circuit 2. Harness 3. Body integrated unit 4. Fuel level sensor 5. Combination meter	<Ref. to IDI-17, CHECK FUEL LEVEL SENSOR, INSPECTION, Combination Meter System.>
ECO gauge does not operate.	1. Communication circuit 2. Combination meter	<Ref. to IDI-18, CHECK ECO GAUGE, INSPECTION, Combination Meter System.> NOTE: The ECO gauge does not operate unless the vehicle is driven at least 1 km (0.6 mile) after the trip meter is reset.
Engine coolant temperature gauge or engine coolant temperature indicator light/engine coolant temperature warning light does not operate.	1. Communication circuit 2. Engine coolant temperature sensor 3. Harness 4. Combination meter	<Ref. to IDI-19, CHECK ENGINE COOLANT TEMPERATURE SENSOR, INSPECTION, Combination Meter System.>
Warning buzzer for key left in ignition does not sound. (Model without keyless access)	1. Communication circuit 2. Body integrated unit 3. Combination meter	<Ref. to IDI-20, CHECK WARNING BUZZER FOR KEY LEFT IN IGNITION (MODEL WITHOUT KEYLESS ACCESS), INSPECTION, Combination Meter System.>

2. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR COMBINATION METER.** 1) Remove the combination meter. 2) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 20 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short between the fuse and combination meter.
2	**CHECK POWER SUPPLY FOR COMBINATION METER.** 1) Turn the ignition switch to ON. 2) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 19 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short between the ignition switch and combination meter.
3	**CHECK GROUND CIRCUIT OF COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 39 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair or replace the harness.

3. CHECK VDC CONTROL MODULE

	Step	Check	Yes	No
1	**CHECK VEHICLE SPEED SIGNAL.** 1) Remove the combination meter mounting screws. 2) Lift up the vehicle and support it with rigid racks. 3) Drive the vehicle faster than 10 km/h (6 MPH). **WARNING:** **Be careful not to get caught in the running wheels.** 4) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 29 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ 5 V or more?	Replace the meter case assembly.	Go to step **2**.
2	**CHECK HARNESS BETWEEN VDC CONTROL MODULE AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDC control unit connector and the combination meter connector. 3) Measure the resistance between the VDC control module connector and the combination meter connector. ***Connector & terminal*** ***(B310) No. 11 — (i10) No. 29:***	Is the resistance less than 10 Ω?	Check VDC control module. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Repair or replace the harness.

4. CHECK ENGINE CONTROL MODULE (ECM)

	Step	Check	Yes	No
1	**CHECK ECM SIGNAL.** 1) Start the engine. 2) Measure the voltage between ECM connector and chassis ground. ***Connector & terminal*** ***(B135) No. 15 (+) — Chassis ground (–):***	Is the voltage 0 ←→ 14 V or more?	Go to step **2**.	Inspect the ECM. • H4 model: <Ref. to EN(H4DO)(diag)-2, Basic Diagnostic Procedure.> • H6 model: <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>
2	**CHECK HARNESS BETWEEN COMBINATION METER AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector and combination meter connector. 3) Measure the resistance between the ECM connector and the combination meter connector. ***Connector & terminal*** ***(B135) No. 15 — (i10) No. 30:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair or replace the harness.

5. CHECK FUEL LEVEL SENSOR

	Step	Check	Yes	No
1	**CHECK COMBINATION METER.** 1) Drain fuel. 2) Check the fuel indication status in the combination meter.	Does the fuel gauge needle indicate EMPTY and is the fuel level warning light blinking?	Go to step **4**.	Go to step **2**.
2	**CHECK COMBINATION METER.** Perform the self-diagnosis of combination meter. <Ref. to IDI-8, SELF-DIAGNOSIS DISPLAY MODE, OPERATION, Combination Meter System.>	Is it operating normally?	Go to step **3**.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>
3	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Diagnostic Code(s) Display}.	Is DTC being displayed?	Perform the diagnosis according to DTC. <Ref. to LAN(diag)-54, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Measure the resistance between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(i84) No. 17 — Chassis ground:***	Is the resistance 15.4 — 416 Ω?	Go to step **5**. Go to step **9**. (If the step 1 is “Yes”)	Repair or replace the harness.
5	**CHECK COMMUNICATION BETWEEN BODY INTEGRATED UNIT AND COMBINATION METERS.** 1) Remove the fuel sub level sensor. • H4 model: <Ref. to FU(H4DO)-147, REMOVAL, Fuel Sub Level Sensor.> • H6 model: <Ref. to FU(H6DO)-75, REMOVAL, Fuel Sub Level Sensor.> 2) Short the fuel sub level sensor connector terminal to the chassis ground with 266.9 — 274.9 Ω resistance. 3) Turn the ignition switch to ON. ***Connector & terminal*** ***(R59) No. 1 — Chassis ground:***	Does the meter needle indicate EMPTY?	Go to step **7**.	Go to step **6**.
6	**CHECK BODY INTEGRATED UNIT.** 1) Retain the condition in step 5. 2) On {Integ. unit mode}, select {Fuel level resistance output value} using the Subaru Select Monitor.	Is 266.9 — 274.9 Ω displayed in the data?	Go to step **11**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
7	**CHECK COMMUNICATION BETWEEN BODY INTEGRATED UNIT AND COMBINATION METERS.** 1) Remove the fuel sub level sensor. • H4 model: <Ref. to FU(H4DO)-147, REMOVAL, Fuel Sub Level Sensor.> • H6 model: <Ref. to FU(H6DO)-75, REMOVAL, Fuel Sub Level Sensor.> 2) Short the fuel sub level sensor connector terminal to the chassis ground with approx. 7.7 — 9.7 Ω resistance. 3) Turn the ignition switch to ON. ***Connector & terminal*** ***(R59) No. 1 — Chassis ground:***	Does the meter needle indicate FULL?	Go to step **9**.	Go to step **8**.

	Step	Check	Yes	No
8	**CHECK BODY INTEGRATED UNIT.** 1) Retain the condition in step 7. 2) On {Integ. unit mode}, select {Fuel level resistance output value} using the Subaru Select Monitor.	Is the resistance 7.7 — 9.7 Ω?	Go to step **11**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
9	**CHECK FUEL SUB LEVEL SENSOR.** 1) Remove the fuel sub level sensor. • H4 model: <Ref. to FU(H4DO)-147, REMOVAL, Fuel Sub Level Sensor.> • H6 model: <Ref. to FU(H6DO)-75, REMOVAL, Fuel Sub Level Sensor.> 2) Measure the resistance between the fuel sub level sensor connectors when the float is in FULL and EMPTY position. ***Connector & terminal (R59) No. 1 — No. 2:***	Is the resistance 7.7 — 9.7 Ω (FULL) and 266.9 — 274.9 Ω (EMPTY)?	Go to step **10**.	Replace the fuel sub level sensor.
10	**CHECK FUEL LEVEL SENSOR.** 1) Remove the fuel level sensor. • H4 model: <Ref. to FU(H4DO)-144, REMOVAL, Fuel Level Sensor.> • H6 model: <Ref. to FU(H6DO)-73, REMOVAL, Fuel Level Sensor.> 2) Measure the resistance between the fuel level sensor connectors when the float is in FULL and EMPTY position. ***Connector & terminal (R58) No. 1 — No. 4:***	Is the resistance 7.7 — 9.7 Ω (FULL) and 137.1 — 141.1 Ω (EMPTY)?	Check the connection status of the harness and connector that may have a temporary poor contact.	Replace the fuel level sensor.
11	**CHECK COMBINATION METER OPERATION.** 1) Remove the combination meter. 2) Attach the combination meter to another vehicle on which the fuel gauge operates normally to check its operation.	Is the fuel gauge normal?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the meter case assembly.

6. CHECK ECO GAUGE

	Step	Check	Yes	No
1	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Diagnostic Code(s) Display}.	Is a DTC of high-speed CAN detected?	Perform the diagnosis according to DTC. <Ref. to LAN(diag)-54, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step **2**.
2	**CHECK ECO GAUGE (MODEL WITH NORMAL METER).** Perform the self-diagnosis of combination meter. <Ref. to IDI-8, SELF-DIAGNOSIS DISPLAY MODE, OPERATION, Combination Meter System.>	Does ECO gauge operate properly?	Check the connection status of the harness and connector that may have a temporary poor contact.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>

7. CHECK ENGINE COOLANT TEMPERATURE SENSOR

	Step	Check	Yes	No
1	**CHECK COMMUNICATION STATUS.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Diagnostic Code(s) Display}.	Is DTC being displayed?	Perform the diagnosis according to DTC. <Ref. to LAN(diag)-54, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step **2**.
2	**CHECK ENGINE COOLANT TEMPERATURE SENSOR.** Check the engine coolant temperature sensor. • H4 model: <Ref. to EN(H4DO)(diag)-2, Basic Diagnostic Procedure.> • H6 model: <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>	Is the engine coolant temperature sensor OK?	Replace the meter case assembly.	Replace the engine coolant temperature sensor. • H4 model: <Ref. to FU(H4DO)-49, REMOVAL, Engine Coolant Temperature Sensor.> • H6 model: <Ref. to FU(H6DO)-29, REMOVAL, Engine Coolant Temperature Sensor.>

8. CHECK WARNING BUZZER FOR KEY LEFT IN IGNITION (MODEL WITHOUT KEYLESS ACCESS)

	Step	Check	Yes	No
1	**CHECK KEY WARNING SWITCH ALARM.** 1) Insert the key into ignition key lock. 2) Open the driver's side door.	Does the buzzer sound from the meter?	Normal	Go to step **2**.
2	**CHECK COMMUNICATION STATUS.** 1) Prepare the Subaru Select Monitor. 2) On «System Selection Menu» display, select {Integ. unit mode}. 3) On {Current Data Display & Save}, select {key-lock warning SW}. 4) Insert and remove the key.	Does the display change between ON ←→ OFF?	Go to step **3**.	Check the ignition circuit. <Ref. to SL-68, INSPECTION, Ignition Key Lock.>
3	**CHECK COMMUNICATION STATUS.** 1) On {Current Data Display & Save}, select {Driver's door SW input}. 2) Open and close the door.	Does the display change between ON ←→ OFF?	Go to step **4**.	Check the door switch circuit. <Ref. to SL-12, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>
4	**CHECK COMMUNICATION STATUS.** 1) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 2) On «System Selection Menu» display, select {Integ. unit mode}. 3) Select {Diagnostic Code(s) Display}.	Is DTC being displayed?	Perform the diagnosis according to DTC. <Ref. to LAN(diag)-54, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step **5**.
5	**CHECK COMBINATION METER.** Perform the self-diagnosis of combination meter. <Ref. to IDI-8, SELF-DIAGNOSIS DISPLAY MODE, OPERATION, Combination Meter System.>	Did the buzzer sound?	Go to step **6**.	Replace the meter case assembly.
6	**CHECK COMBINATION METER.** 1) Remove the combination meter. 2) Attach the buzzer to another vehicle on which the buzzer operates normally to check its operation.	Did the buzzer sound?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the meter case assembly.

E: NOTE

For procedure of each component in the combination meter system, refer to the respective section.

- Combination meter: <Ref. to IDI-25, Combination Meter.>
- Speedometer: <Ref. to IDI-32, Speedometer.>
- Tachometer: <Ref. to IDI-33, Tachometer.>
- Fuel gauge: <Ref. to IDI-34, Fuel Gauge.>
- ECO gauge: <Ref. to IDI-35, ECO Gauge.>
- Engine coolant temperature gauge (model with luminescent meter): <Ref. to IDI-36, Engine Coolant Temperature Gauge.>

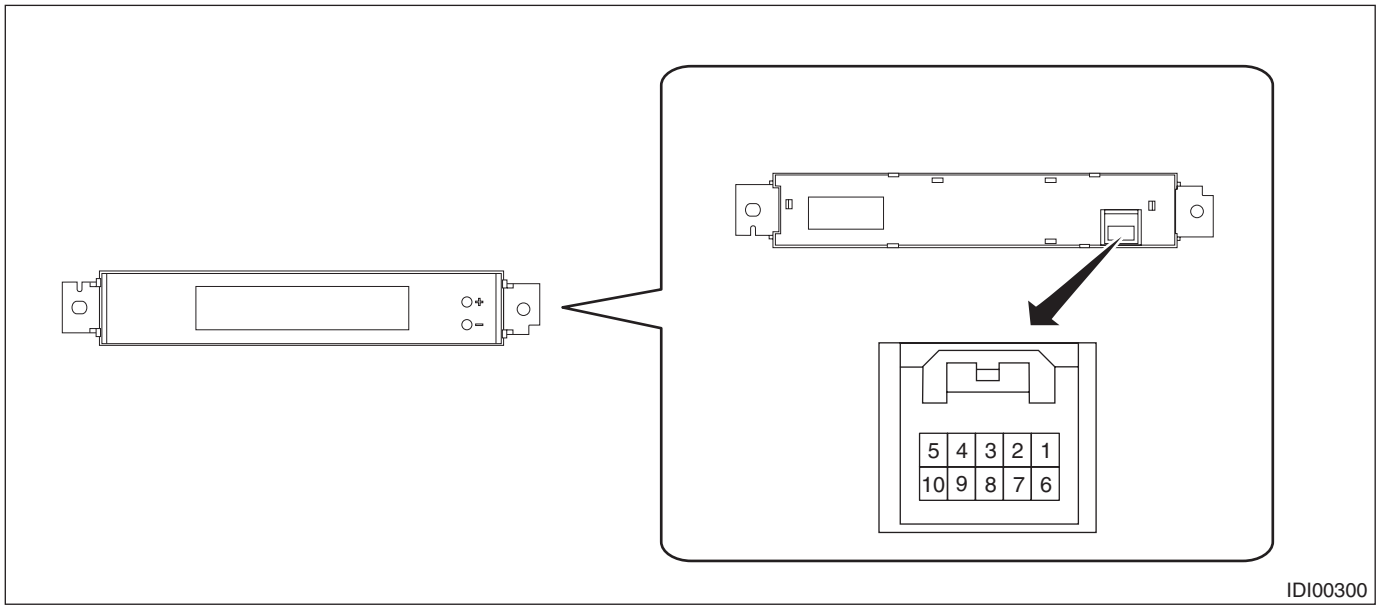
4. Clock System

A: WIRING DIAGRAM

Refer to “Clock System” in the wiring diagram. <Ref. to WI-94, WIRING DIAGRAM, Clock System.>

B: ELECTRICAL SPECIFICATION

1. MULTI DISPLAY TERMINAL ARRANGEMENT



Connector

Terminal No.	Item	Measuring condition	Standard
3 ←→ Chassis ground	Voltage	Passenger’s airbag ON indicator OFF → ON	0 V → 10 — 14 V
4 ←→ Chassis ground	Voltage	Passenger’s airbag OFF indicator OFF → ON	0 V → 10 — 14 V
5 (U-ART com.)	—	Cannot be measured	—
6 (GND) ←→ chassis ground	Resistance	Always	Less than 1 Ω
8 (IG) ←→ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
10 (+B) ←→ Chassis ground	Voltage	Always	10 — 14 V

C: INSPECTION

1. SYMPTOM CHART

Symptoms	Repair order	Note
No display is shown.	1. Power supply 2. Ground circuit 3. Communication circuit harness 4. Multi display	<Ref. to IDI-22, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Clock System.>
Ambient air temperature/fuel economy displays do not appear.	1. Power supply 2. Ground circuit 3. Communication circuit harness 4. Multi display	<Ref. to IDI-22, CHECK CLOCK SYSTEM COMMUNICATION CIRCUIT, INSPECTION, Clock System.>
Only ambient air temperature display is not displayed.	1. Power supply 2. Harness 3. Ambient sensor 4. Communication circuit 5. Multi display	<Ref. to IDI-23, CHECK AMBIENT TEMPERATURE SYSTEM COMMUNICATION CIRCUIT, INSPECTION, Clock System.>
Only fuel economy display is not displayed.	1. Setting 2. Communication circuit 3. Multi display	<Ref. to IDI-24, CHECK FUEL ECONOMY SYSTEM COMMUNICATION CIRCUIT, INSPECTION, Clock System.>

2. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the multi display connector. 2) Measure the voltage between multi display connector and chassis ground. ***Connector & terminal*** ***(i59) No. 10 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short between the fuse and multi display.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between multi display connector and chassis ground. ***Connector & terminal*** ***(i59) No. 6 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair or replace the harness.
3	**CHECK HARNESS BETWEEN MULTI DISPLAY AND COMBINATION METER.** 1) Disconnect the combination meter connector. 2) Measure the resistance between multi display connector and combination meter connector. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK MULTI DISPLAY.** 1) Remove the multi display. 2) Attach the clock to another vehicle on which the clock display operates normally, and check its operation.	Is the multi display normal?	Replace the meter case assembly.	Replace the multi display.

3. CHECK CLOCK SYSTEM COMMUNICATION CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the multi display connector. 2) Measure the voltage between multi display connector and chassis ground. ***Connector & terminal*** ***(i59) No. 8 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Repair or replace the harness.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between multi display connector and chassis ground. ***Connector & terminal*** ***(i59) No. 6 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair or replace the harness.
3	**CHECK HARNESS BETWEEN MULTI DISPLAY AND COMBINATION METER.** 1) Disconnect the combination meter connector. 2) Measure the resistance between multi display connector and combination meter connector. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK MULTI DISPLAY.** 1) Remove the multi display. 2) Attach the clock to another vehicle on which the clock display operates normally, and check its operation.	Is the multi display normal?	Replace the meter case assembly.	Replace the multi display.

4. CHECK AMBIENT TEMPERATURE SYSTEM COMMUNICATION CIRCUIT

	Step	Check	Yes	No
1	**CHECK AMBIENT SENSOR POWER SUPPLY.** 1) Disconnect the ambient sensor connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the ambient sensor connector and chassis ground. ***Connector & terminal*** ***(B480) No. 2 (+) — Chassis ground (–):***	Is the voltage 4 V or more?	Go to step **2**.	Check the harness for open or short between the fuse and multi display.
2	**CHECK HARNESS BETWEEN AMBIENT SENSOR AND COMBINATION METER.** 1) Disconnect the combination meter connector. 2) Measure the resistance between the ambient sensor connector and the combination meter connector. ***Connector & terminal*** ***(B480) No. 1 — (i10) No. 37:*** ***(B480) No. 2 — (i10) No. 36:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair or replace the harness.
3	**CHECK AMBIENT SENSOR.** 1) Remove the ambient sensor. <Ref. to AC-78, REMOVAL, Ambient Sensor.> 2) Check the ambient sensor. <Ref. to AC-79, INSPECTION, Ambient Sensor.>	Is the ambient sensor operating properly?	Go to step **4**.	Replace the ambient sensor.
4	**CHECK AMBIENT TEMPERATURE DISPLAY.** 1) Connect the combination meter connector. 2) Install the 3 kΩ resistance to ambient sensor connector terminal. 3) Turn the ignition switch to ON. ***Connector & terminal*** ***(B480) No. 1 — No. 2:***	Does the ambient temperature display 25°C (77°F)?	Repair the poor contact between the ambient sensor and harness connector.	Go to step **5**.
5	**CHECK AMBIENT TEMPERATURE OUTPUT DATA.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Ambient Temperature}.	Does the ambient temperature display 25°C (77°F)?	Go to step **6**.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>
6	**CHECK MULTI DISPLAY.** 1) Remove the multi display. 2) Attach the ambient temperature display to another vehicle on which the ambient temperature display operates normally to check its operation.	Does the ambient temperature display 25°C (77°F)?	Replace the multi display.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>

5. CHECK FUEL ECONOMY SYSTEM COMMUNICATION CIRCUIT

	Step	Check	Yes	No
1	**CHECK FUEL ECONOMY DISPLAY OFF MODE.** Check that the mode display changes when the multi display changeover knob is operated. (Display changes in the following order: Cruising Distance → Average Fuel Economy → Instantaneous Fuel Economy → blank display)	Is fuel economy displayed?	Multi display is normal.	Go to step **2**.
2	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Diagnostic Code(s) Display}.	Is DTC detected?	Go to step **3**.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>
3	**CHECK MULTI DISPLAY.** 1) Remove the multi display. 2) Attach the fuel economy display to another vehicle on which the fuel economy display operates normally to check its operation.	Is the fuel economy display correct?	Replace the multi display.	Replace the meter case assembly. <Ref. to IDI-25, Combination Meter.>

D: NOTE

For operation procedures of each component of the clock system, refer to the following section:

- Multi display: <Ref. to IDI-37, Multi Display.>

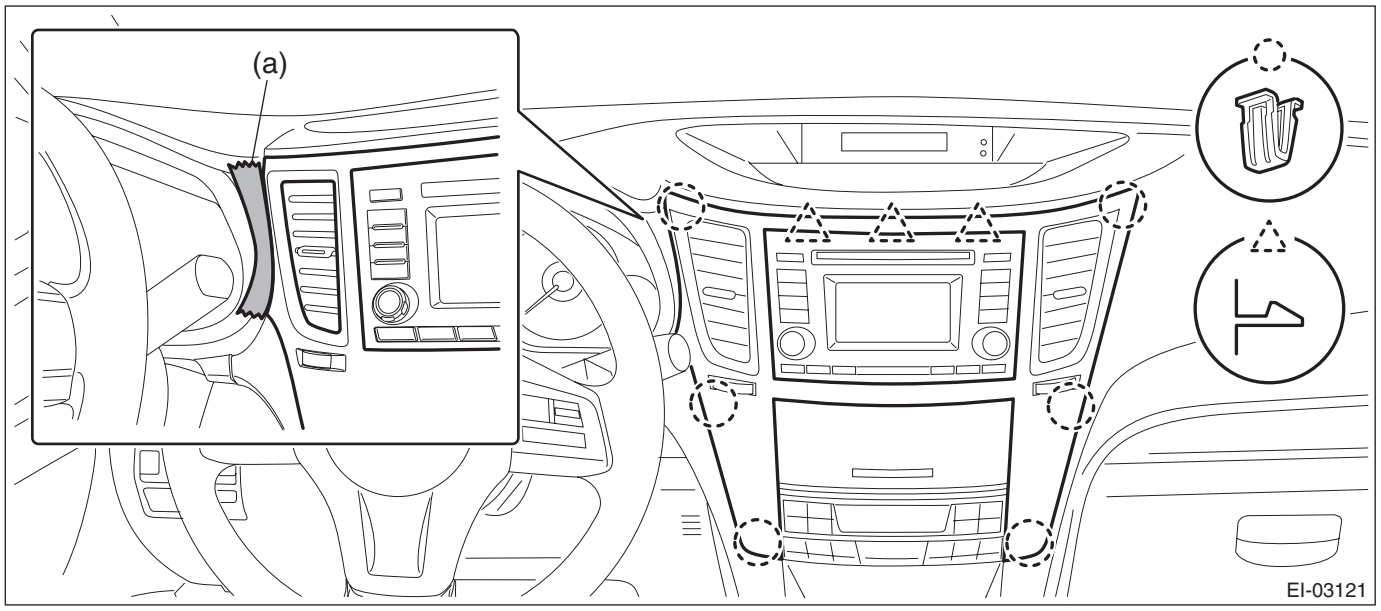
5. Combination Meter

A: REMOVAL

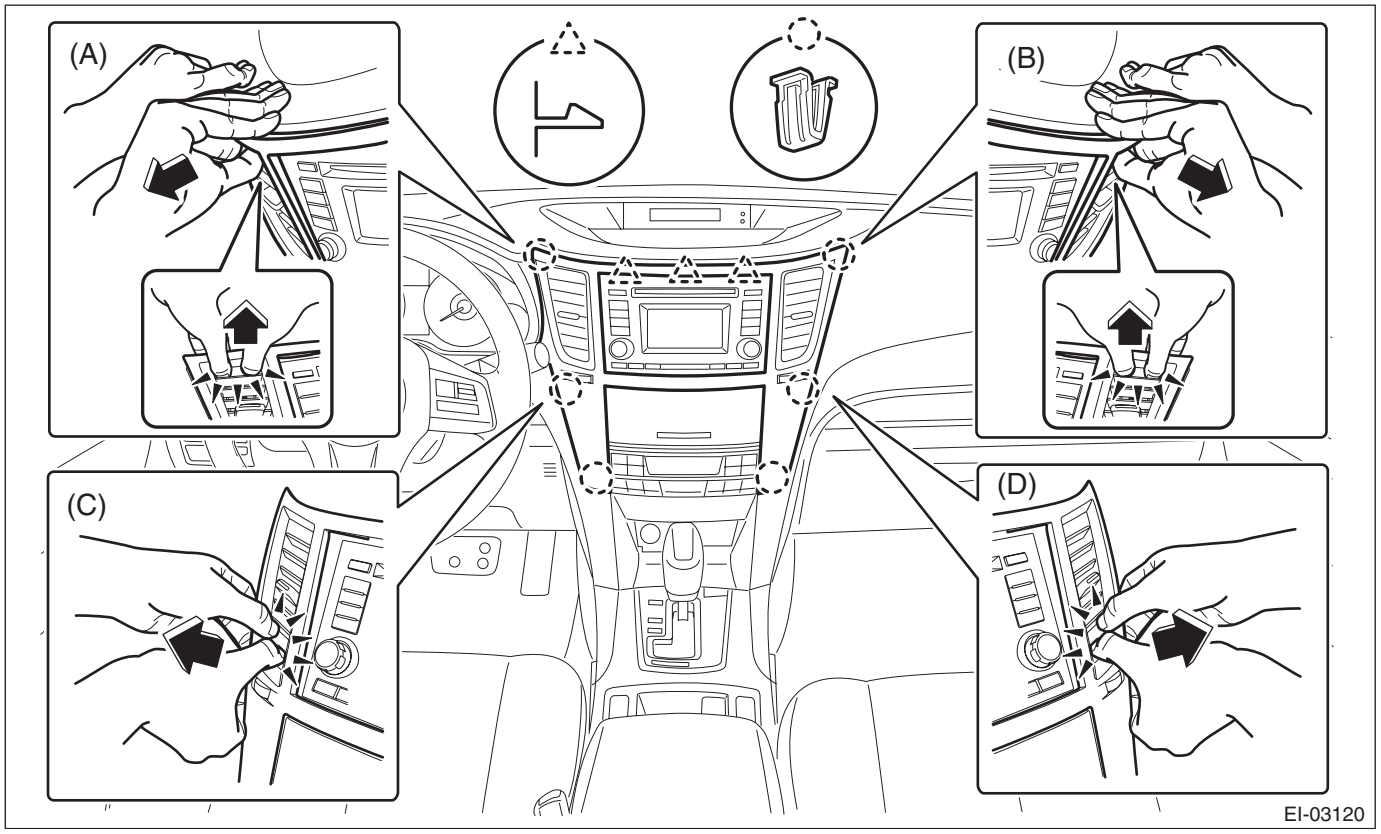
1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

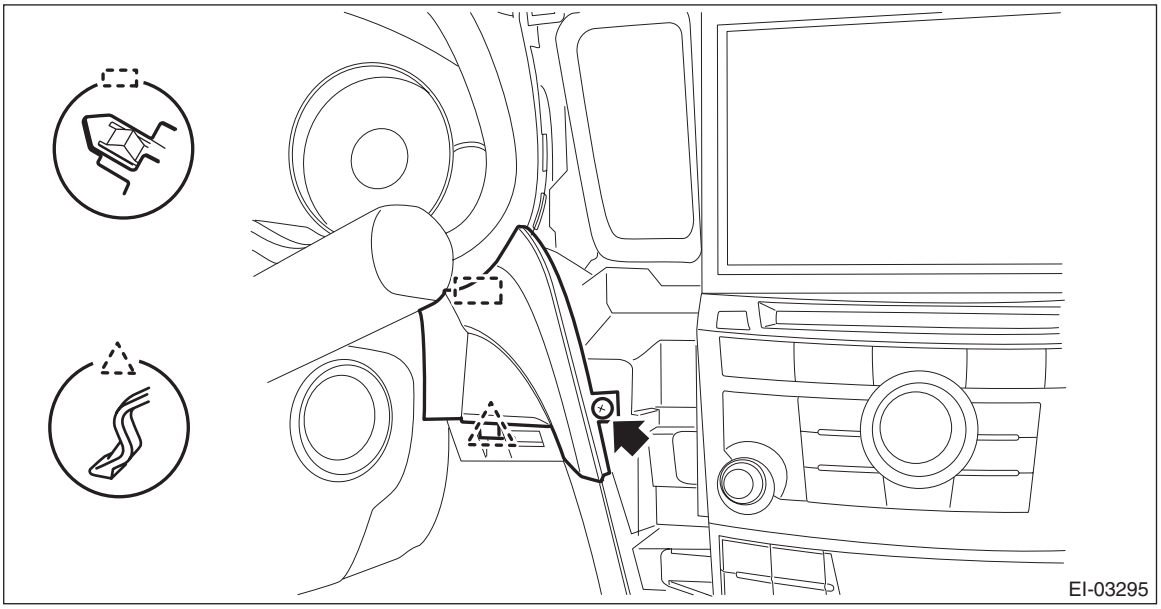
(1) Attach the protective tape (a) to the meter visor.



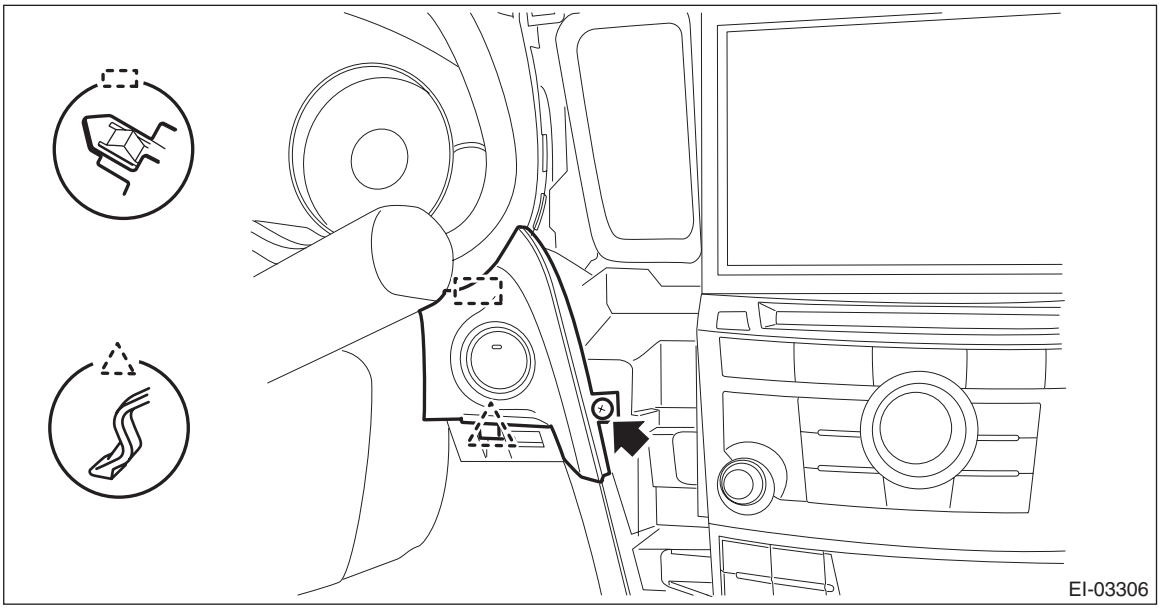
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



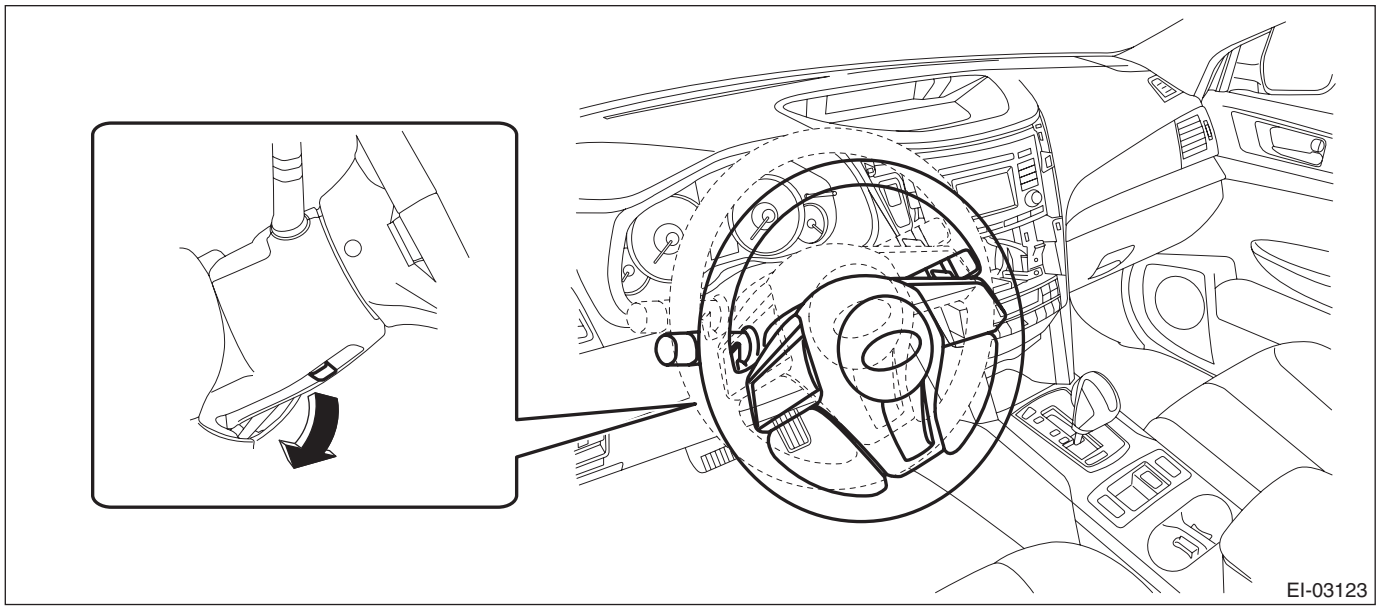
3) Remove the screws and release the claws, then detach the starter cover assembly.
- Model without keyless access



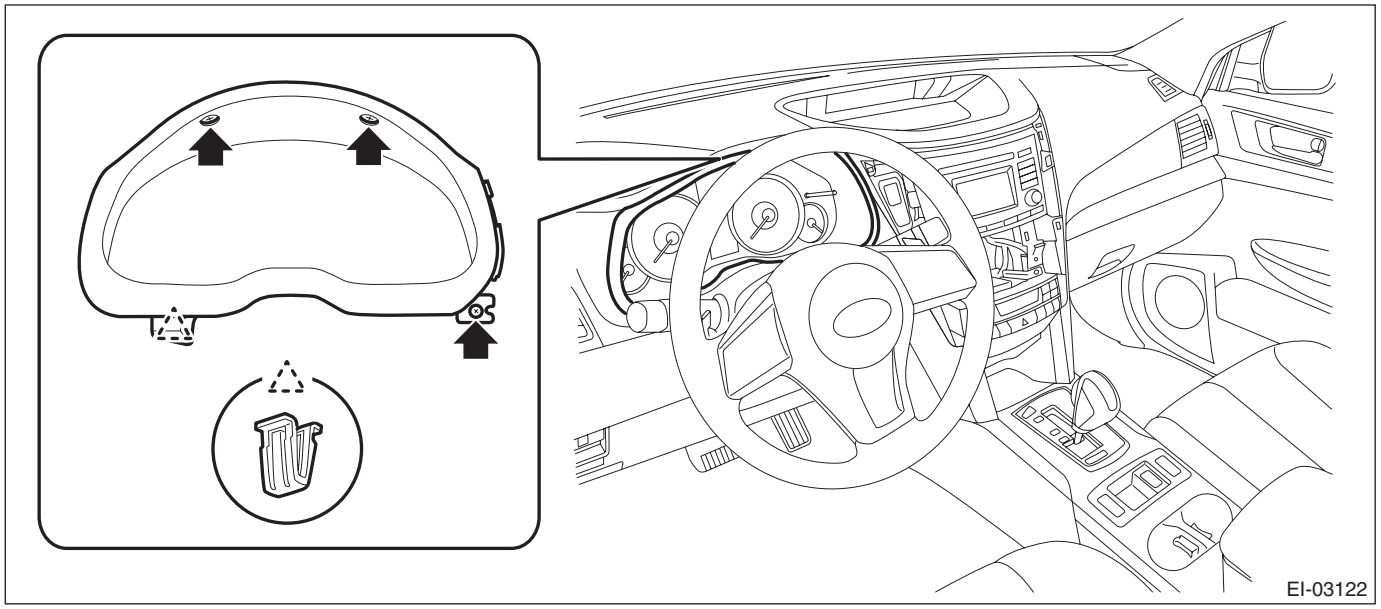
- Model with keyless access



4) Release the lock, tilt the steering column to the lowest end and fully extend the column by the telescopic system.



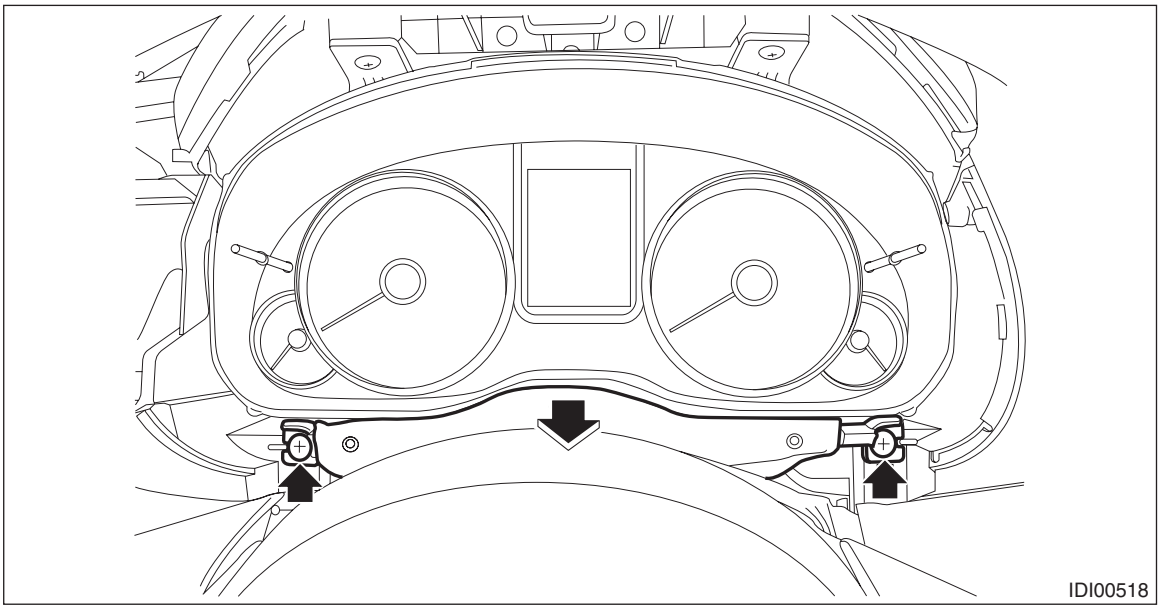
5) Release the screws and clips, then detach the meter visor assembly.



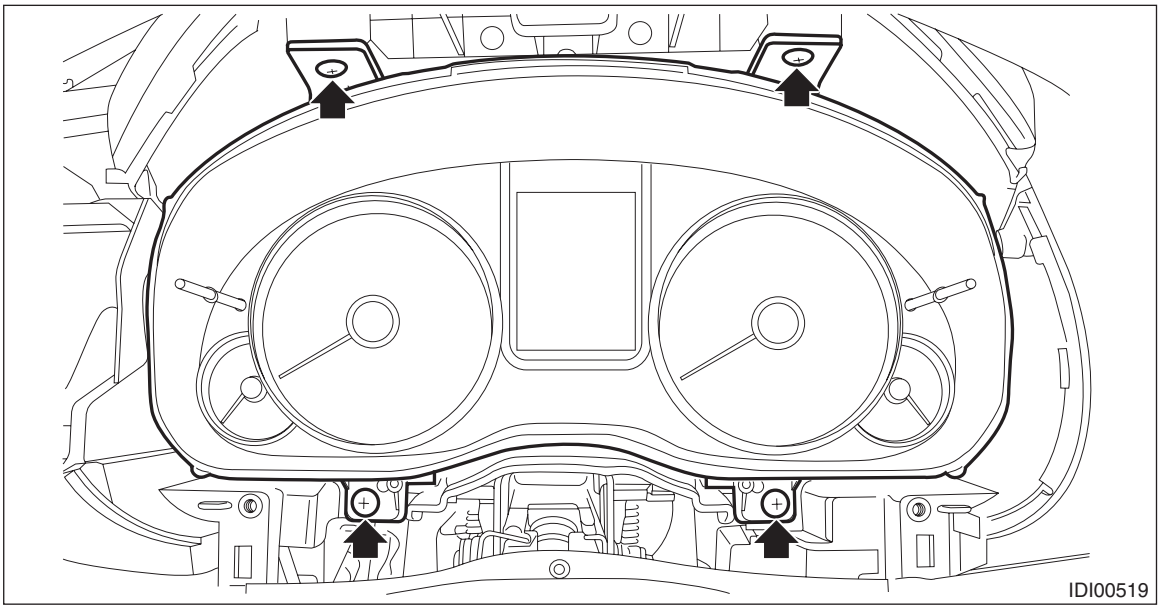
6) Remove the combination meter assembly.

CAUTION:
- **Be careful not to damage the meter or instrument panel.**
- **Pay particular attention to avoid damaging the meter glass.**

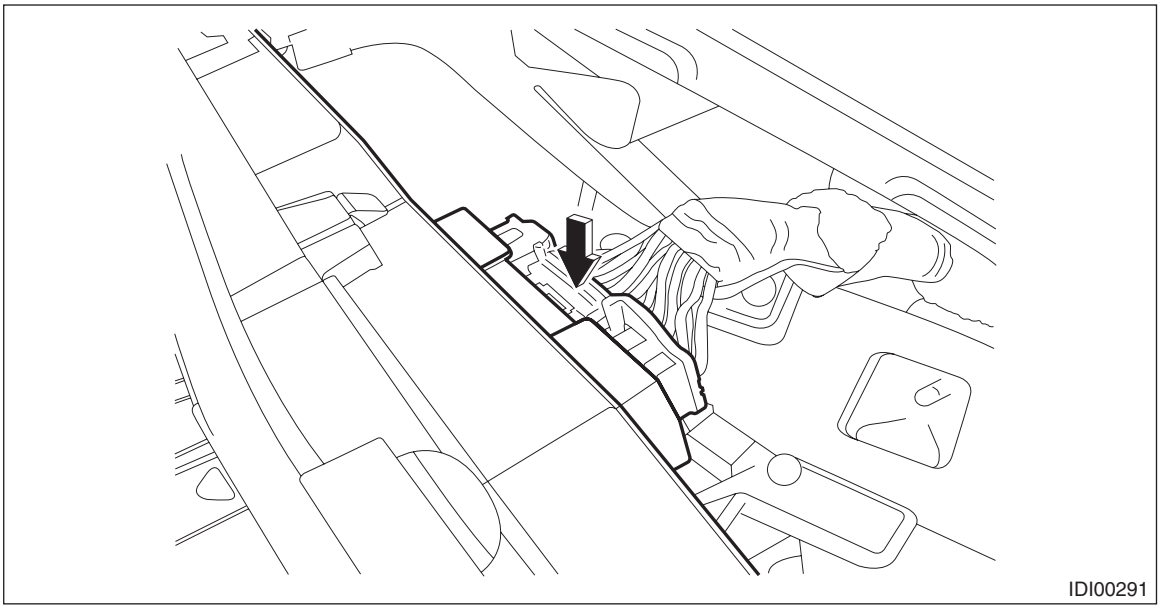
(1) Remove the screws and move the steering COMPL upper cover toward you.



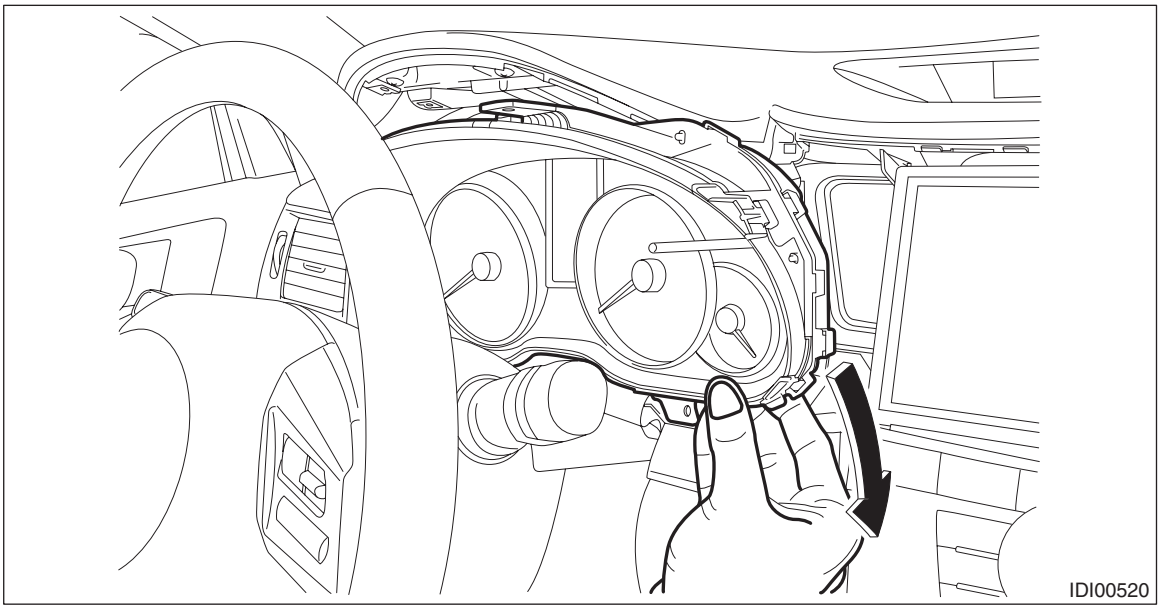
(2) Remove the screws.



(3) Pull the combination meter toward you and disconnect the connector.



(4) Remove the combination meter assembly as shown in the figure.



B: INSTALLATION

CAUTION:
- **Make sure the electrical connector is connected securely.**
- **Make sure that each meter operates normally.**
- **When the combination meter of model without keyless access has been replaced, be sure to perform the registration of immobilizer.**

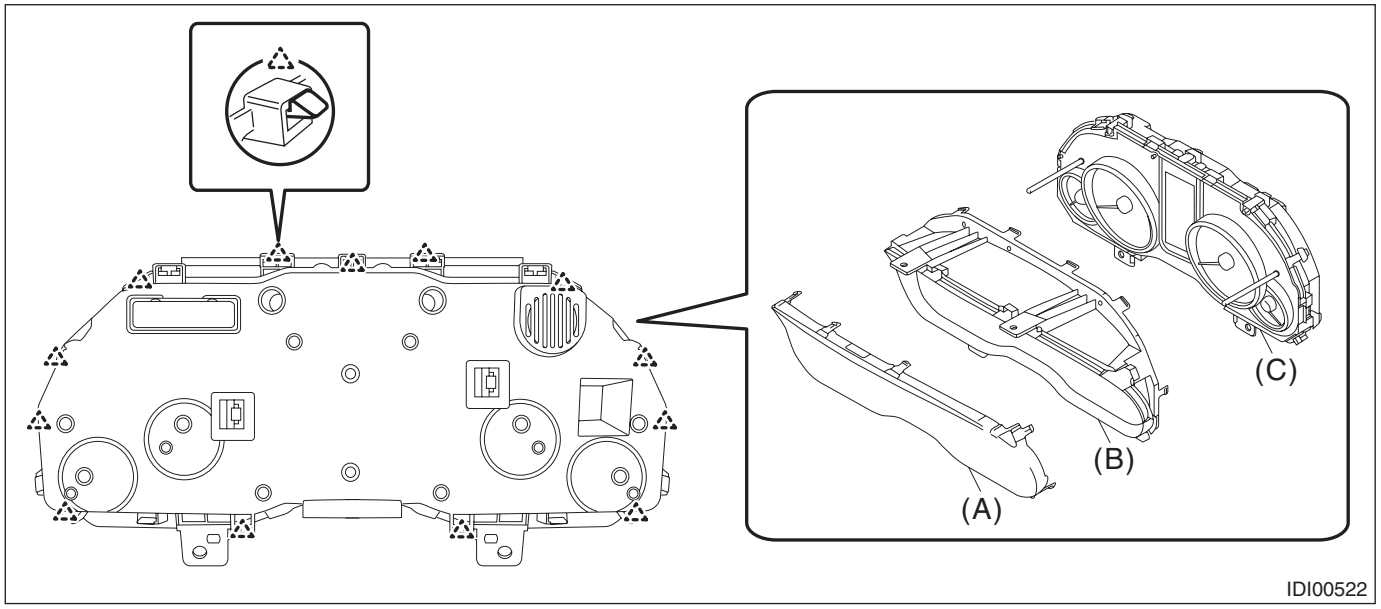
Install each part in the reverse order of removal.

C: DISASSEMBLY

1. DISASSEMBLY OF COMBINATION METER ASSEMBLY

CAUTION:
- **Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.**
- **Be careful not to apply excessive force to the trip knob.**
- **Be sure not to touch the meter indicator needle.**

Disengage the claw, and remove the meter glass (A) and meter visor (B) from the meter case assembly (C).



2. BULB REPLACEMENT

LEDs are used for all of warning lights and indicator lights of combination meters, replace the meter case assembly if faulty.

D: ASSEMBLY

Assemble each part in the reverse order of disassembly.

6. Speedometer

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the speedometer alone. (Do not remove the cover on the back surface.)

7. Tachometer

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the tachometer alone. (Do not remove the cover on the back surface.)

8. Fuel Gauge

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the fuel gauge alone. (Do not remove the cover on the back surface.)

9. ECO Gauge

A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the ECO gauge alone. (Do not remove the cover on the back surface.)

10.Engine Coolant Temperature Gauge

A: SPECIFICATION

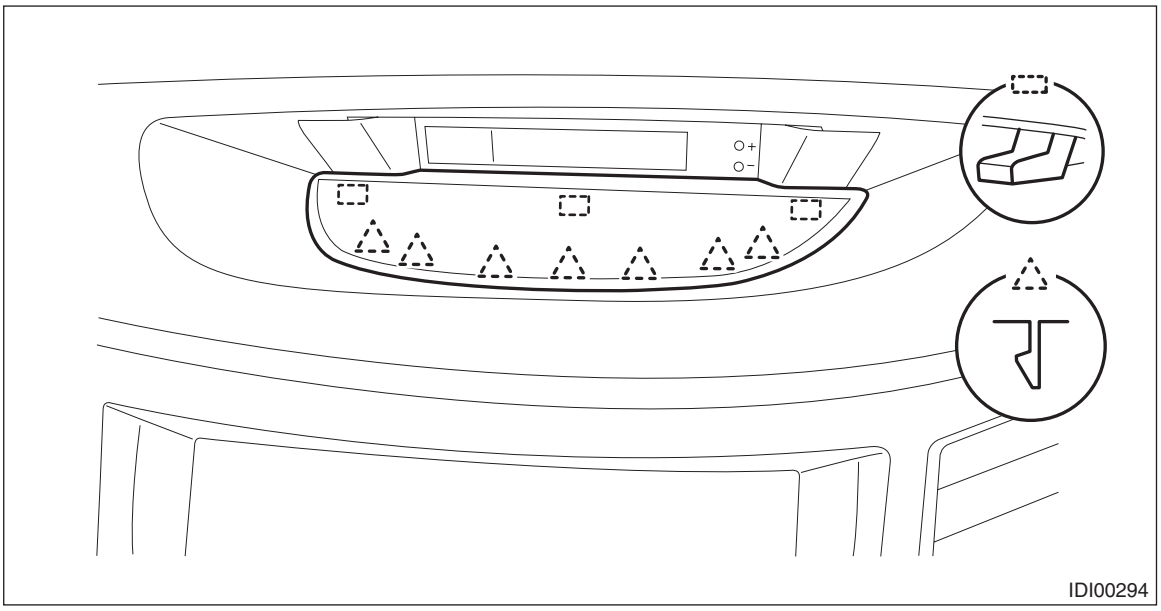
NOTE:
Equipped on the model with luminescent meter.
Since the meter case assembly cannot be disassembled, do not remove or inspect the engine coolant temperature gauge alone. (Do not remove the cover on the back surface.)

11.Multi Display

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Disconnect the claws and hooks and remove the center speaker cover.

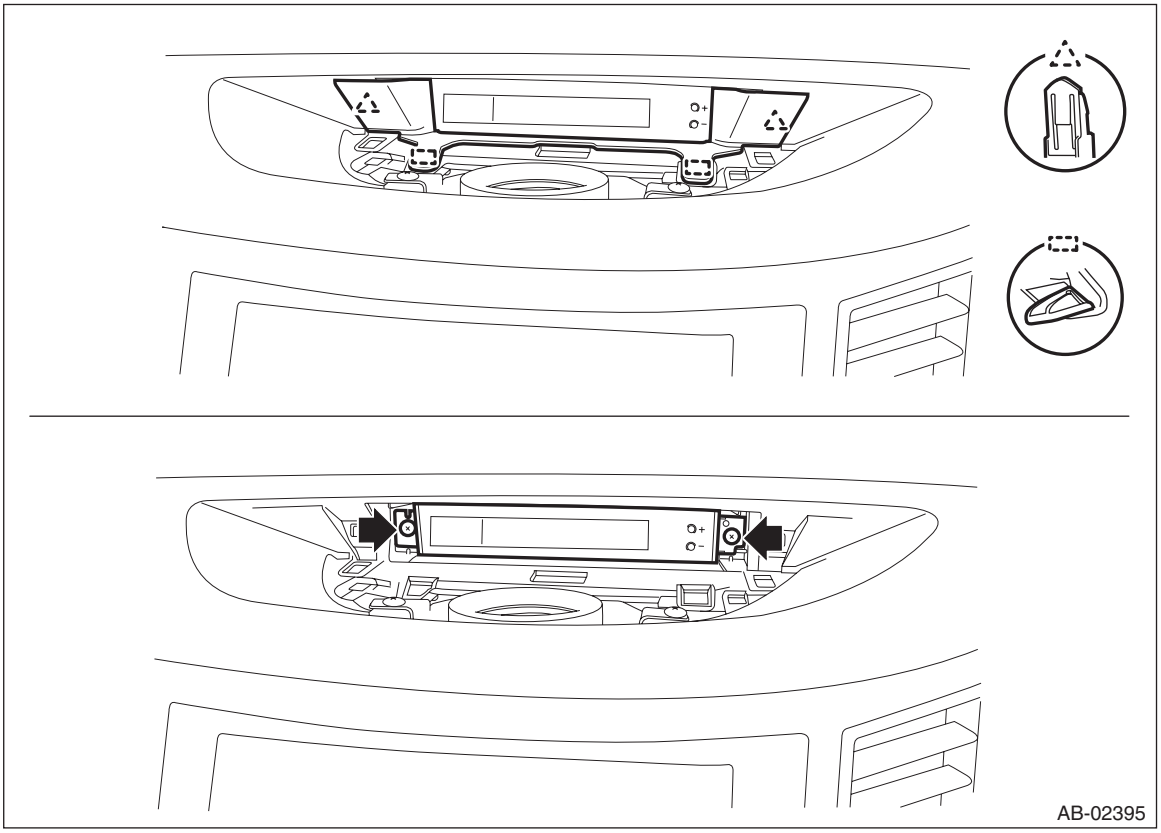
NOTE:
If the cover is hard to remove, first remove the audio assembly or navigation assembly, and then push up the cover from the backside.



3) Remove the multi display.

CAUTION:
Be careful not to damage the multi display or instrument panel.
(1) Release the clips and claws, detach the multi display panel LWR.

(2) Remove the screws and pull out the multi display toward you to disconnect the connectors.



B: INSTALLATION

CAUTION:
- **Make sure the electrical connector is connected securely.**
- **Make sure that the multi display operates normally.**

Install each part in the reverse order of removal.

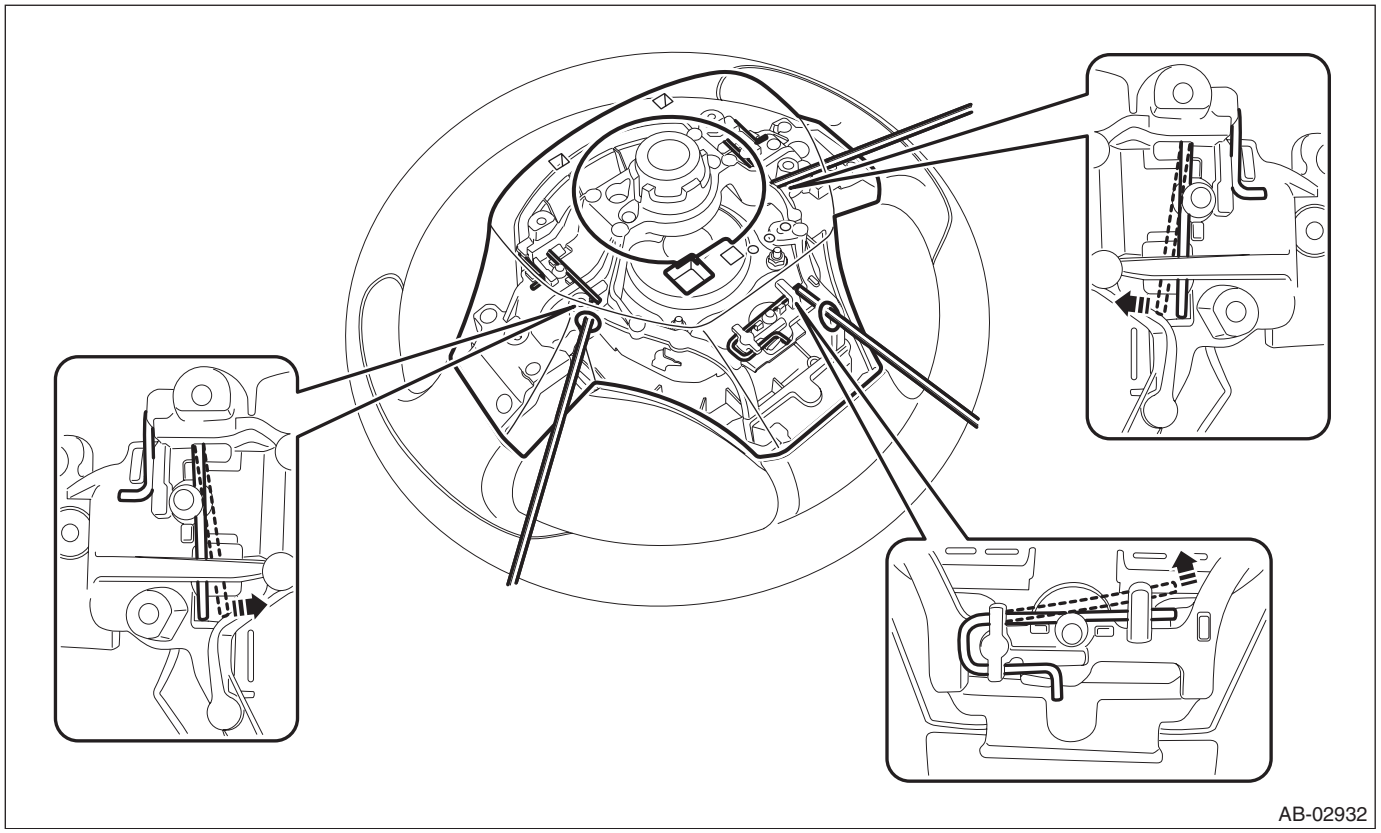
12.Steering Switch

A: REMOVAL

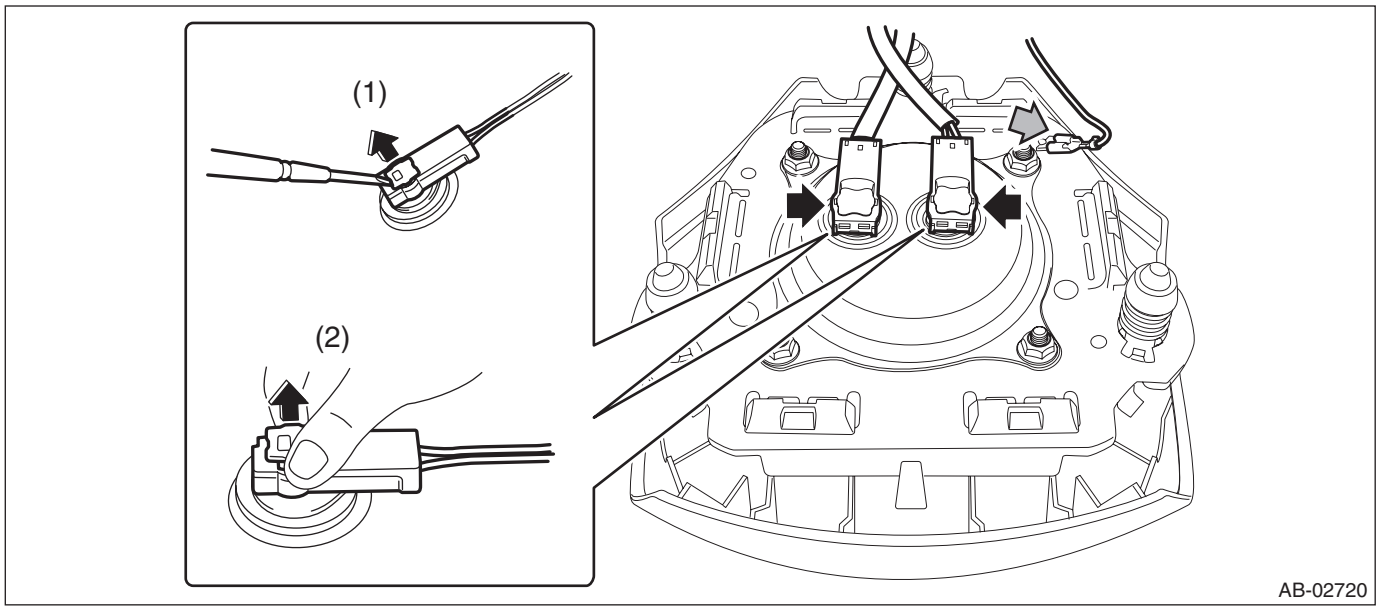
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.

CAUTION:
Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>

(1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



(2) Disconnect the horn harness and airbag connector, and remove the drivers airbag module assembly. <Ref. to AB-22, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE, PRETENSIONER & LAP SEAT BELT PRETENSIONER, PROCEDURE, Airbag Connector.>

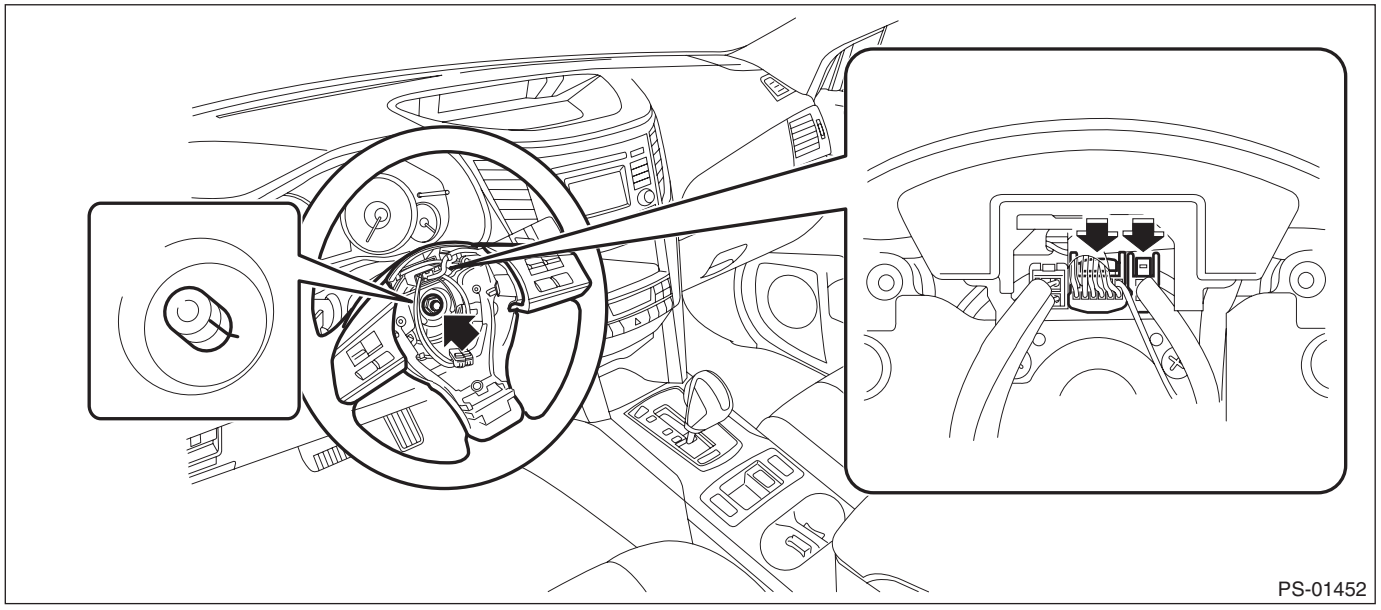


5) Remove the steering wheel.

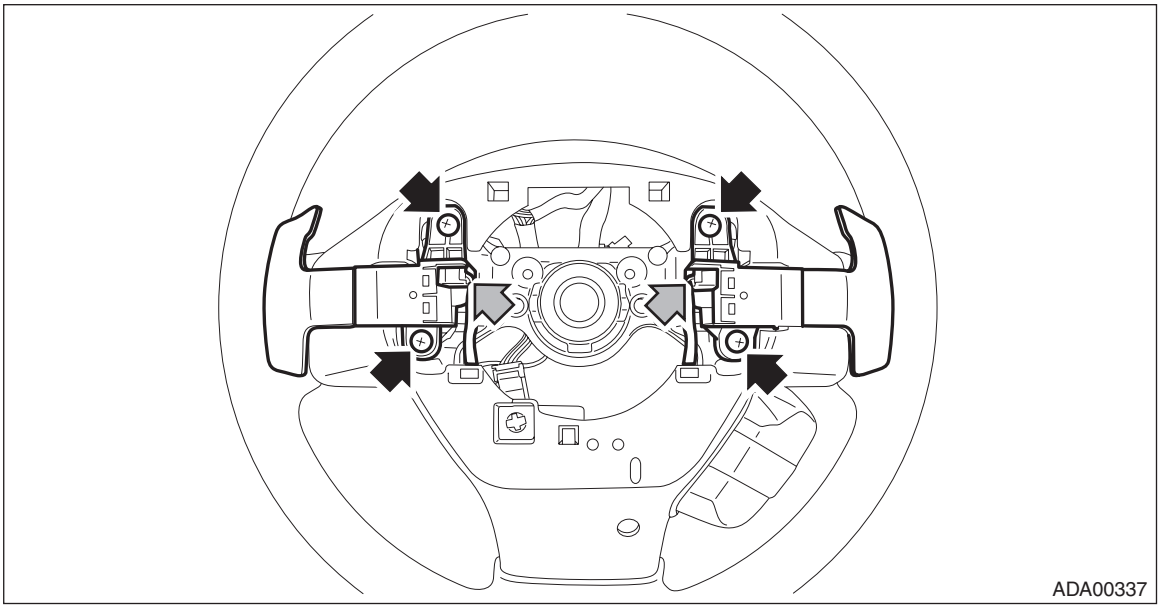
CAUTION:
• Always use the steering wheel puller for removal to avoid deforming the steering wheel.
• If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.

(1) Disconnect the connector and remove the nut.
(2) Put alignment marks and remove the steering wheel using a steering wheel puller.

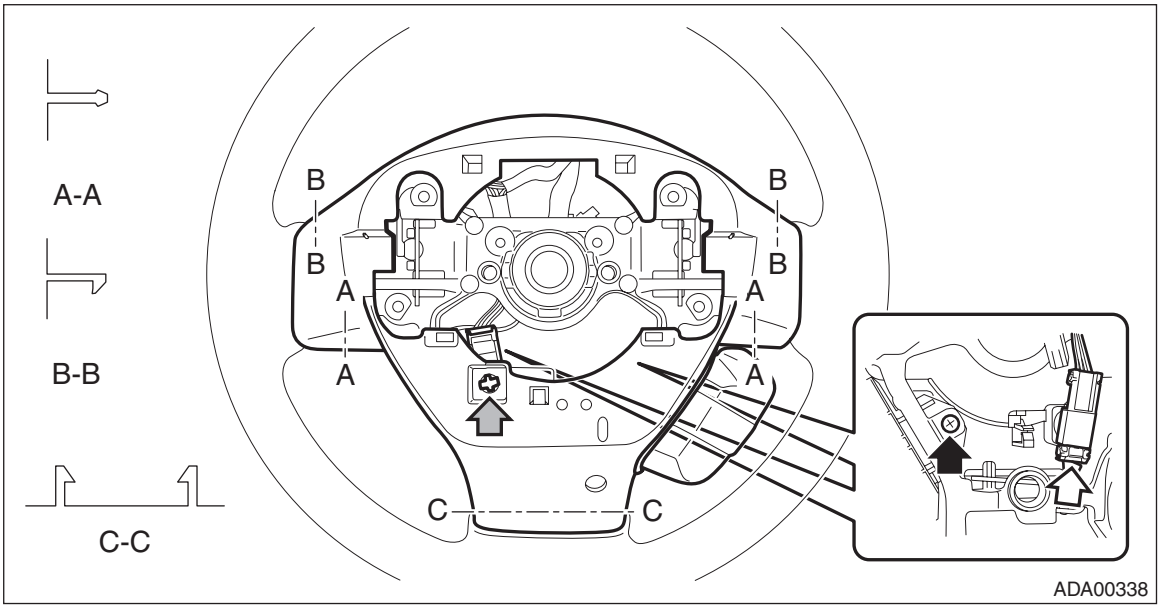
Preparation tool:
Steering wheel puller



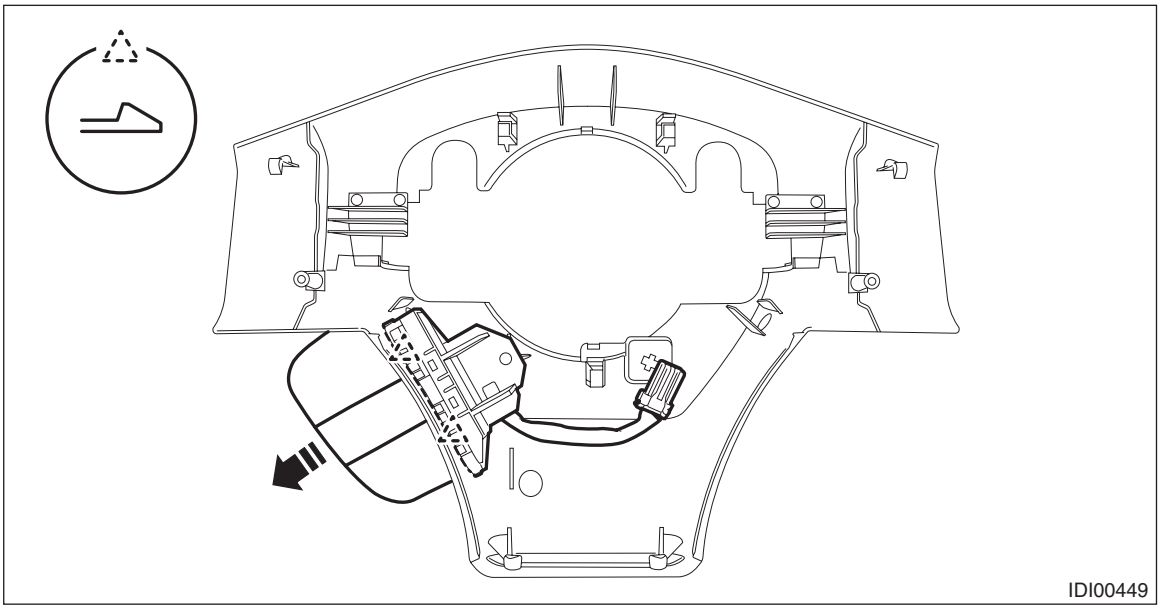
6) Remove the cruise control command switch.
(1) Remove the screw, disconnect the connector and remove the paddle shift switch.



(2) Remove the steering switch connector and screw.
(3) Release the claws and clips and then remove the lower cover.



(4) Release the claws and then remove the steering switch from the lower cover.



B: INSTALLATION

CAUTION:
• Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>

1) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and steering column.

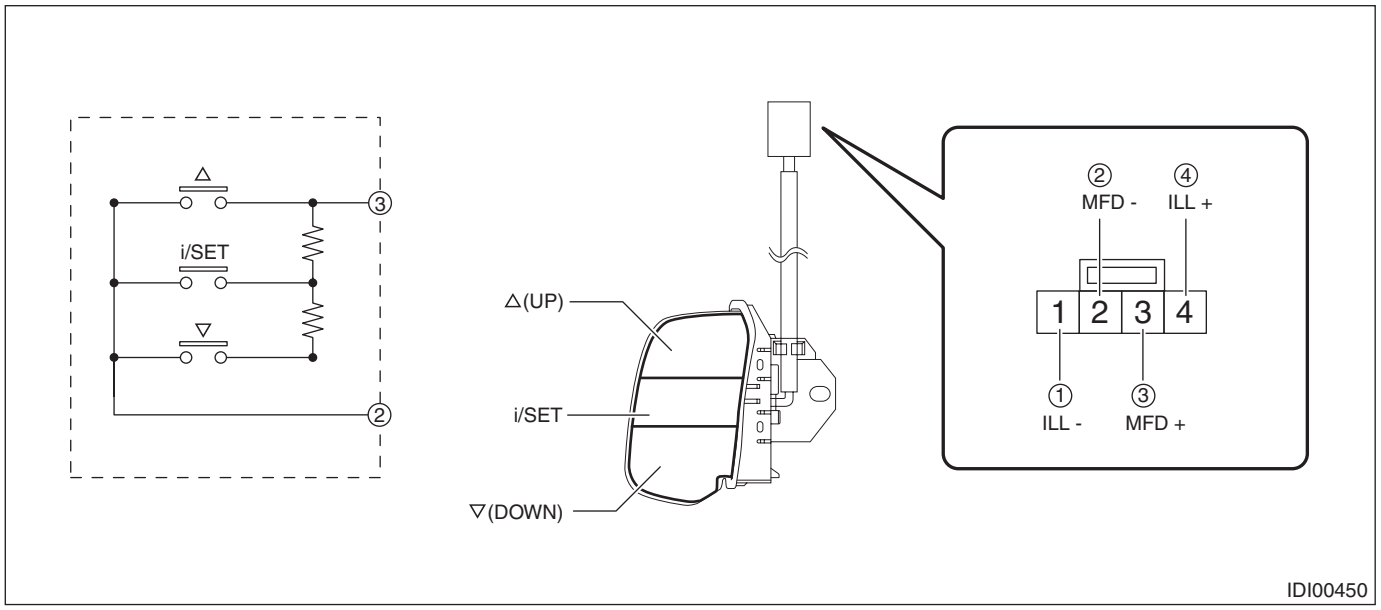
Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

Clearance:
Between column cover and steering wheel: 4 — 6 mm (0.16 — 0.24 in)

C: INSPECTION

1) Disconnect the steering switch connector.
2) Measure the resistance between steering switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions		Standard
3 — 2	△ (UP) i/SET ▽ (DOWN)	All OFF	Approx. 1 MΩ or more
3 — 2	△ (UP)	ON	Less than 1 Ω
3 — 2	i/SET	ON	Approx. 1,000 Ω
3 — 2	▽ (DOWN)	ON	Approx. 3,670 Ω

3) Replace the steering switch if the inspection result is not within the standard value.

SEATS

SE

Page

1. General Description 2
2. Front Seat 10
3. Rear Seat 34
4. Power Seat System 57
5. Seat Heater System 78

1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:
• Subaru Select Monitor kit is required for reading DTC, performing diagnosis and reading current data.
• Before removal or installation, be sure to remove any foreign matter (dust, moisture, oil, etc.).
• For models with the keyless access system, registration of the immobilizer may be required after a replacement of the control module, etc. For detailed procedure, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

NOTE:
• Using the function setting (customize), check that the keyless access system is not in a cancelled state. <Ref. to SL-124, OPERATION, Function Setting (Customize).>
• Check list for interview <Ref. to KPS(diag)-3, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK BATTERY.** Using a tester, measure the battery voltage.	Is the voltage 11 V or more?	Go to step **2**.	Charge or replace the battery and perform check pre-inspection. Go to step **2**.
2	**CHECK PRE-INSPECTION.** Use the interview check list to interview the user. <Ref. to KPS(diag)-3, Check List for Interview.>	Was the symptoms of the trouble recorded in the interview?	Go to step **3**.	Interview the user again.
3	**BASIC INSPECTION.** Check the DTC of the LAN system. <Ref. to LAN(diag)-4, INSPECTION, General Description.>	Is LAN system normal?	Go to step **4**.	Follow the DTC of the LAN system to repair or replace.
4	**CHECK TROUBLE SYMPTOM.** 1) Read diagnostic trouble code (DTC) for the keyless access system. <Ref. to KPS(diag)-22, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to KPS(diag)-20, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.> 2) Record all DTCs and freeze frame data.	Is DTC displayed on Subaru Select Monitor?	Perform diagnosis according to the DTC.	Go to step **5**.
5	**CHECK PHENOMENON LIST.** Check the "Phenomenon List". <Ref. to KPS(diag)-86, General Diagnostic Table.>	Is there a symptom that corresponds in the phenomenon list?	Perform diagnosis according to the procedures in the phenomenon list.	Go to step **6**.
6	**CHECK TROUBLE PHENOMENON.** 1) Perform check of current data. 2) Perform a function check. 3) Perform a unit check.	Was the trouble cause found?	Repair the cause of trouble.	Repeat a basic check again.

2. Check List for Interview

A: CHECK

Inspect the following items regarding the vehicle's state.

<table>
<tr><td colspan="4">Keyless Access with Push Button Start System Trouble Check List for Interview Received Year Month Date</td></tr>
<tr><td colspan="2" rowspan="2">Customer's name</td><td>Registration No.</td><td>Initial year of registration
Year Month Date</td></tr>
<tr><td>Vehicle model</td><td>Frame number</td></tr>
<tr><td>Interviewer</td><td>Inspector</td><td>Engine type</td><td>Odometer reading</td></tr>
<tr><td colspan="4">Customer specified content</td></tr>
<tr><td>Date and time when the trouble occurred</td><td></td><td>Frequency of trouble occurrence</td><td></td></tr>
<tr><td>Condition of trouble occurrence</td><td></td><td>Weather</td><td></td></tr>
<tr><td>Road conditions</td><td></td><td>Occurrence location</td><td></td></tr>
<tr><td>Accessory installation condition</td><td colspan="3"></td></tr>
<tr><td colspan="4">Trouble condition</td></tr>
<tr><td colspan="2">❑ Diagnostic code</td><td colspan="2">❑ ( )</td></tr>
<tr><td>❑ Immobilizer system</td><td colspan="2">Engine does not start</td><td>❑ Starter does not operate
❑ Starter operates but engine does not start
❑ Engine starts but stops immediately</td></tr>
<tr><td></td><td colspan="3">Does not start with remote engine starter</td></tr>
<tr><td>❑ Steering lock system</td><td colspan="3">The steering lock is not released</td></tr>
<tr><td></td><td colspan="3">The steering lock does not lock</td></tr>
<tr><td>❑ Keyless access system</td><td colspan="3">Cannot lock/unlock using the front lock button, touch sensor, rear gate opener button or rear lock button</td></tr>
<tr><td></td><td colspan="2">Cannot lock with the front lock button
Cannot unlock with the touch sensor
Cannot lock nor unlock with the front lock button, touch sensor
Rear gate can not be locked with the rear lock button</td><td>❑ Driver's side door
❑ Passenger's side door
❑ Rear gate door</td></tr>
<tr><td></td><td colspan="3">Cannot unlock with the rear gate opener button</td></tr>
<tr><td></td><td colspan="2">The access key lockout prevention feature does not function</td><td>❑ Passenger room
❑ Luggage room</td></tr>
<tr><td></td><td colspan="3">The LED does not illuminate when the access key button is pressed</td></tr>
<tr><td></td><td colspan="3">The external buzzer does not beep</td></tr>
<tr><td></td><td colspan="3">The passenger room buzzer does not sound</td></tr>
<tr><td>❑ Other</td><td colspan="3">The room light or map light does not illuminate
( )</td></tr>
</table>

NOTE:

- Perform the diagnostics according to the basic diagnostic procedure.
- If the room light or map light does not illuminate and the steering lock does not lock at the same time, the back-up fuse may be loose or blown.

3. General Description

A: CAUTION

1. SRS AIRBAG SYSTEM

The airbag system wiring harness is routed near the keyless access with push button start system.

CAUTION:
- **Do not use the electrical test equipment on all airbag system wiring harnesses and connectors.**
- **Be careful not to damage the wiring harness of the airbag system when servicing the keyless access with push button start system.**

2. KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM

NOTE:
- Using the function setting (ECM customizing), check that the keyless access system is not OFF. <Ref. to SL-124, OPERATION, Function Setting (Customize).>
- The dark current is approx. 400 mA if there is communication between the vehicle and access key.
- The dark current is approx. 40 mA if there is no communication between the vehicle and access key.*

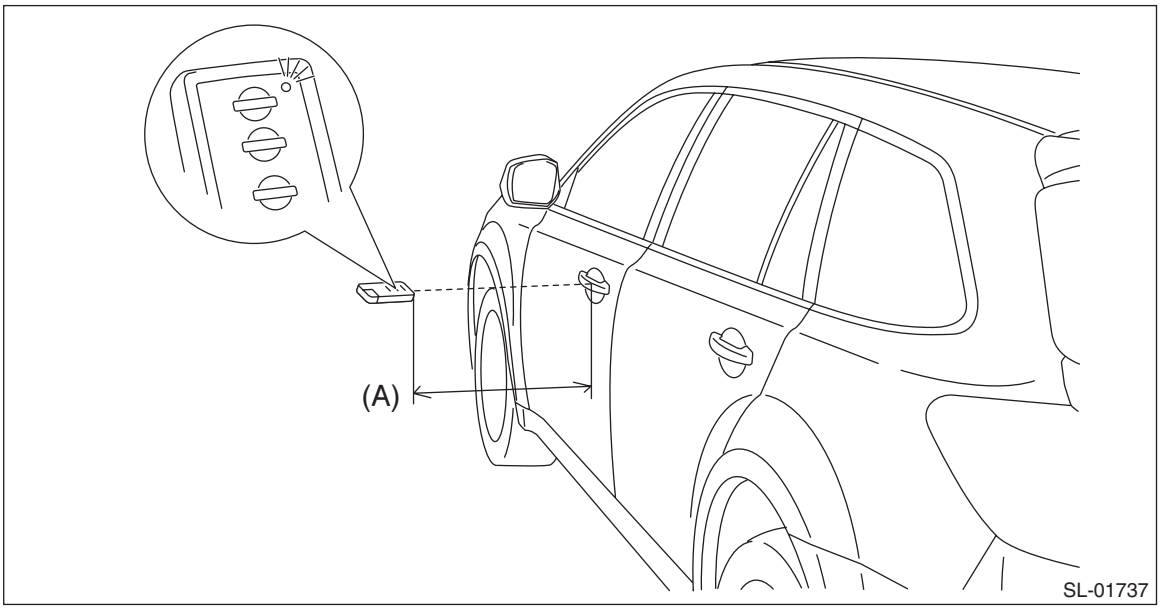
* No communication with the vehicle means that the keyless access function has been cancelled or that the access key has not been near the vehicle for 15 minutes or more after door locking.

1) Keyless access door unlock function check

(1) While carrying the access key with all doors locked by keyless lock operation, check the followings: When you grip the outer handle of the driver's front door, the door unlocks. When you grip the outer handle of the passenger's front door, all doors unlock. After that, the answer-back function operates (buzzer sounds twice and hazard light blinks twice).

(2) In the keyless access door unlock detection area, hold the access key at the same height as the outer handle (approx. 80 cm from the ground) and in the direction shown in the figure, and check that the vehicle becomes unlock mode [access key LED (red) blinks] at 40 to 80 cm (A) from the vehicle.

NOTE:
Check the access key battery if the LED (red) does not illuminates when the access key button is pressed. <Ref. to SL-83, INSPECTION, Access Key.>



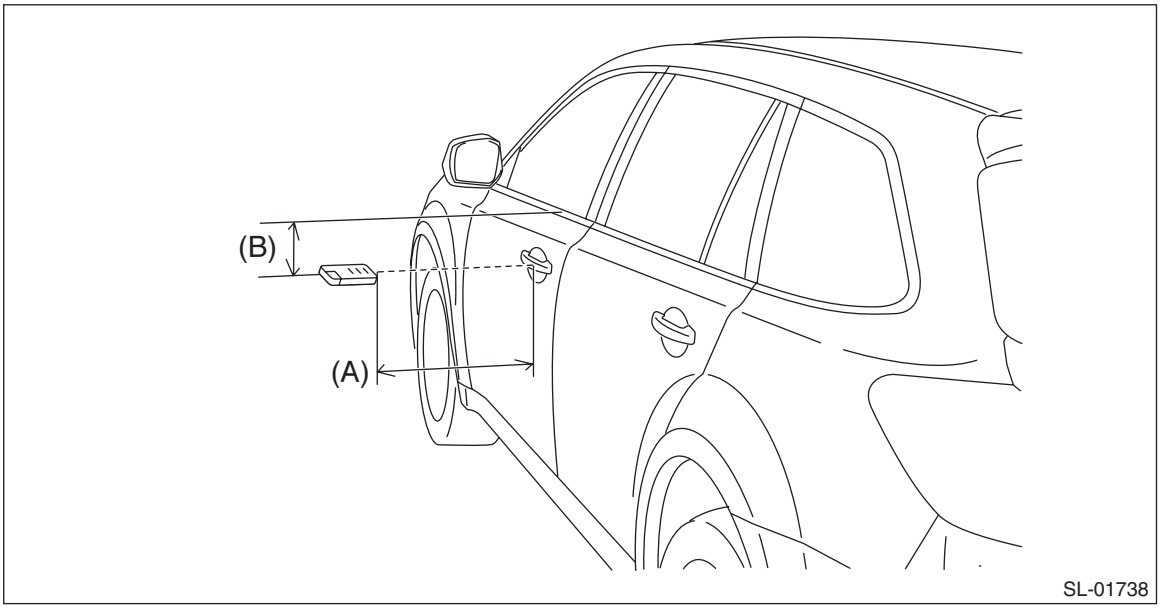
2) Check keyless access door lock function

(1) With all doors closed and unlocked and carrying the access key outside of the vehicle, press the front lock button in the front door outer handle, and check that all doors lock and the answer-back function operates (hazard light blinks once).

CAUTION:

If the access key is within the vehicle but not within the detection area (in the instrument panel, on the rear tray, in the glove box, on the floor, in the door trim pocket or at the corner of the luggage room), then lockout protection will not function when the doors are locked and the access key will be locked into the vehicle.

(2) To check the keyless access door lock operation range, hold the access key at a height (B) of 10 cm under the bottom edge of the door glass (approx. 80 cm from the ground) in the direction shown in the figure, and check that all doors lock and the answer-back function operates (hazard light blinks once) when you press the front lock button at a distance (A) of approx. 30 cm from the vehicle.



(3) Check the passenger's side door in the same manner.

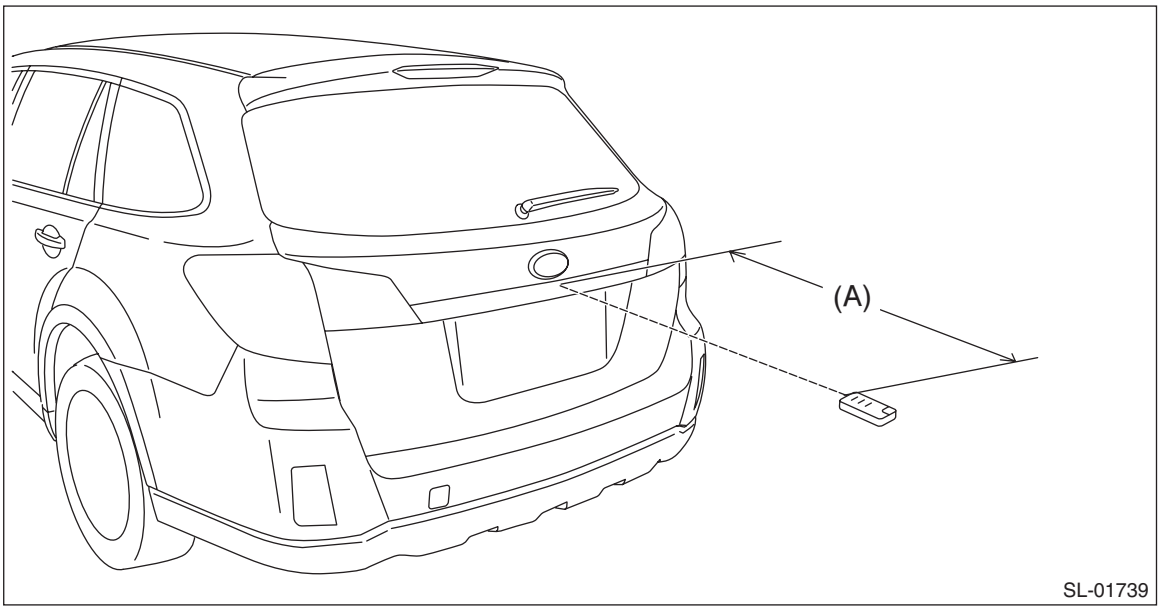
NOTE:

- Since communication is not possible within close range (20 cm or less) of the door outer handle, the access key may not operate if you press the front lock button with the same hand you are holding the access key.
- If the lockout prevention buzzer sounds, it is possible that the interior transmitter has radio wave leakage.

3) Check of the keyless access rear gate function

(1) With the rear gate locked, press the rear gate opener button while carrying the access key, and check that all doors unlock and the rear gate opens simultaneously and the answer-back function operates (buzzer sounds twice and hazard light blinks twice).

(2) To check the range for keyless access rear gate open operation, hold the access key behind and in the center of the vehicle at the same height as the rear gate opener button (90 cm from the ground) in the direction shown in the figure, and check that all doors unlock, the rear gate opens, and the answer-back function operates (hazard light blinks twice) when the rear gate opener button is pressed at a distance of 40 to 80 cm (A) from the vehicle.



(3) With the rear gate unlocked, press the rear lock button while carrying the access key, and check that all doors lock and the answer-back function operates (buzzer sounds once and hazard light blinks once).

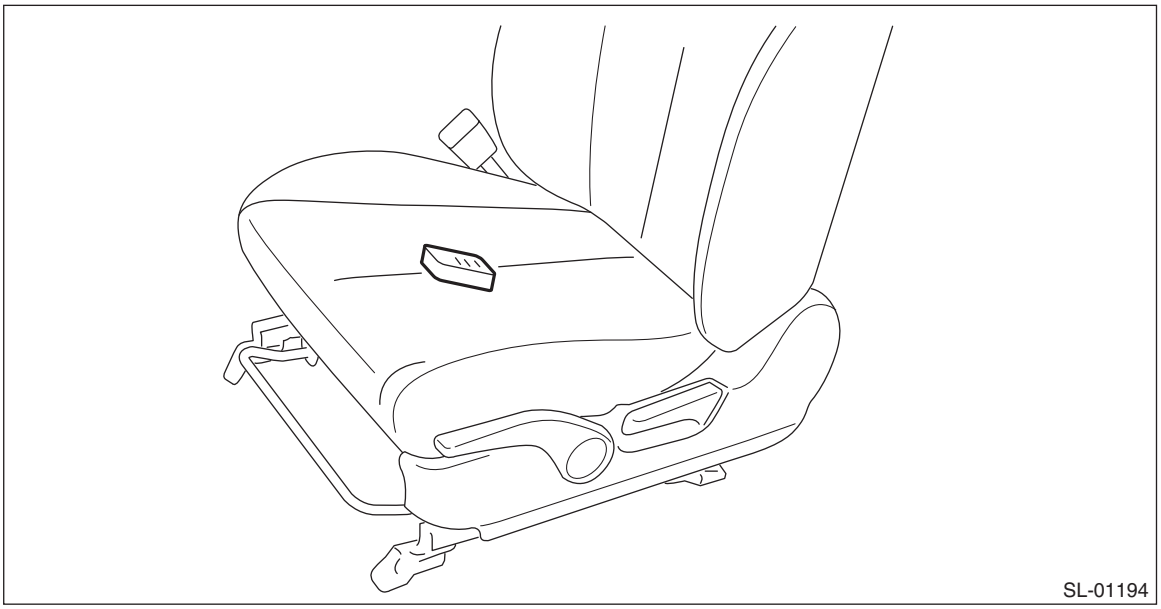
4) Check of the keyless access ignition switching function

(1) With the ignition OFF, enter the vehicle while carrying the access key. With the shift lever in the P range, check that the push button ignition switch indicator is illuminated in green when you depress the brake pedal, and check that the engine starts when you press the push button ignition switch while the indicator illuminated in green.

(2) While carrying the access key, check that when you press the push button ignition switch without depressing the brake pedal, the following occurs: 'Ignition OFF' → 'ACC ON' → 'Ignition ON' → 'Ignition OFF'. However, if the shift lever is any range except for the P range and the push button ignition switch is pressed from ignition ON, then it will change to ACC ON without changing to ignition OFF.

(3) After the vehicle has stopped, press the push button ignition switch and ignition is turned OFF (engine stopped · all power supplies OFF). However, if the shift lever is in any range except for the P range and the push button ignition switch is pressed with the vehicle stopped, then the ignition is not turned OFF and instead the power supplies changes to ACC ON. Check that the steering lock operates if the door is opened in the ignition OFF state (shift P range).

(4) To check the range of the keyless access ignition operation, check that the engine can start when you set the access key at the check position on the sheet in the direction indicated in the figure.



CAUTION:
The access key may not be correctly detected even though it is within the detection area within the passenger room, if it is in the instrument panel, on the rear tray, in the glove box, on the floor, in the door trim pocket, or at the corner of the luggage room.

NOTE:
Perform the check twice, once each with the access key positioned on the driver's, passenger's and rear seats.

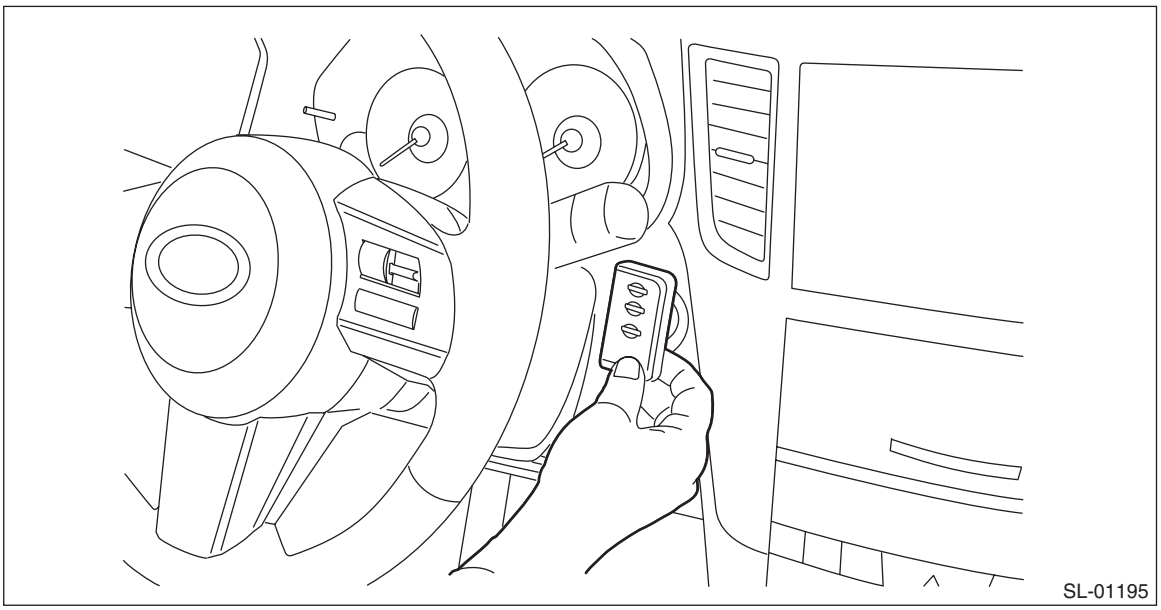
5) Lockout protection function check (in the passenger room)

CAUTION:
Open one of the windows before performing this check in order to prevent the key from being locked inside the vehicle.

(1) Position the access key on the driver's or passenger's seat.
(2) Close all doors. (with all doors unlocked)
(3) Check that the doors do not lock and the lockout protection buzzer (exterior) sounds for 2 seconds when you touch the front lock button of either the driver's or passenger's door.

6) Check of the keyless access cancel function
(1) After setting the keyless access cancel function, check that all keyless access and start system (keyless access) functions are inoperable. (For cancel setting, refer to <Ref. to SL-124, OPERATION, Function Setting (Customize).>)

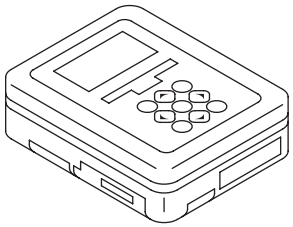
NOTE:
When keyless access is cancelled, door lock and unlock can be operated by access key button operation and the starter system can be operated by passing the access key over the push button ignition switch with the access key button toward you.



7) Access key diagnostic mode
(1) Connect the Subaru Select Monitor, and select «Work Support» of {Keyless access system}. <Ref. to KPS(diag)-31, Keyless Access System Check.>
(2) From {Work Support}, select «Function Check Sequence».
(3) From {Function Check Sequence}, select «Keyless access system check».
(4) Select the transmitter to check from the items.
(5) Check that the door lock buzzer sounds (short blips, a continuous beeping sound for the center room antenna) when the access key is near the selected transmitter or antenna.

B: PREPARATION TOOL

1. SPECIAL TOOL

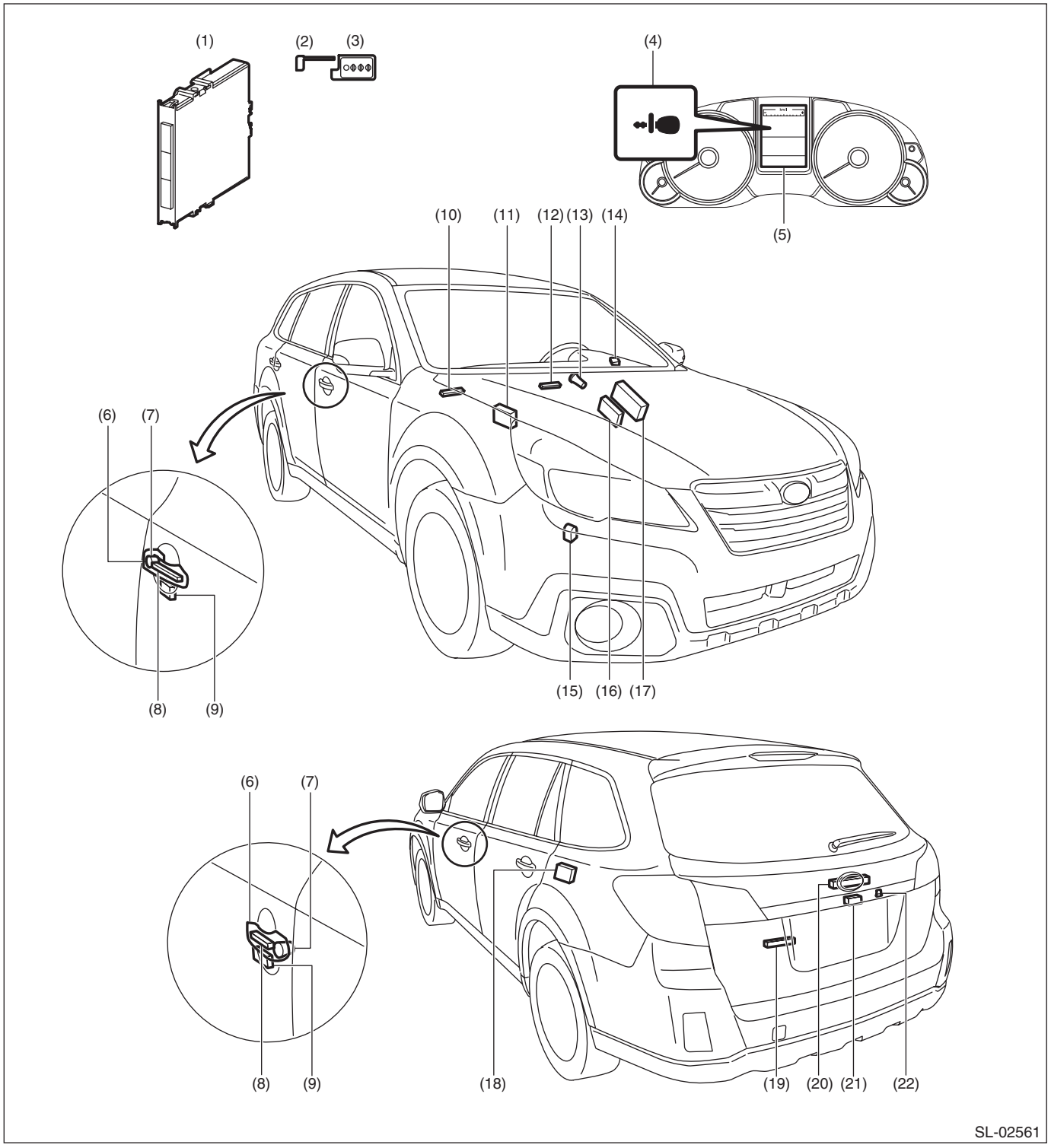
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

A: LOCATION

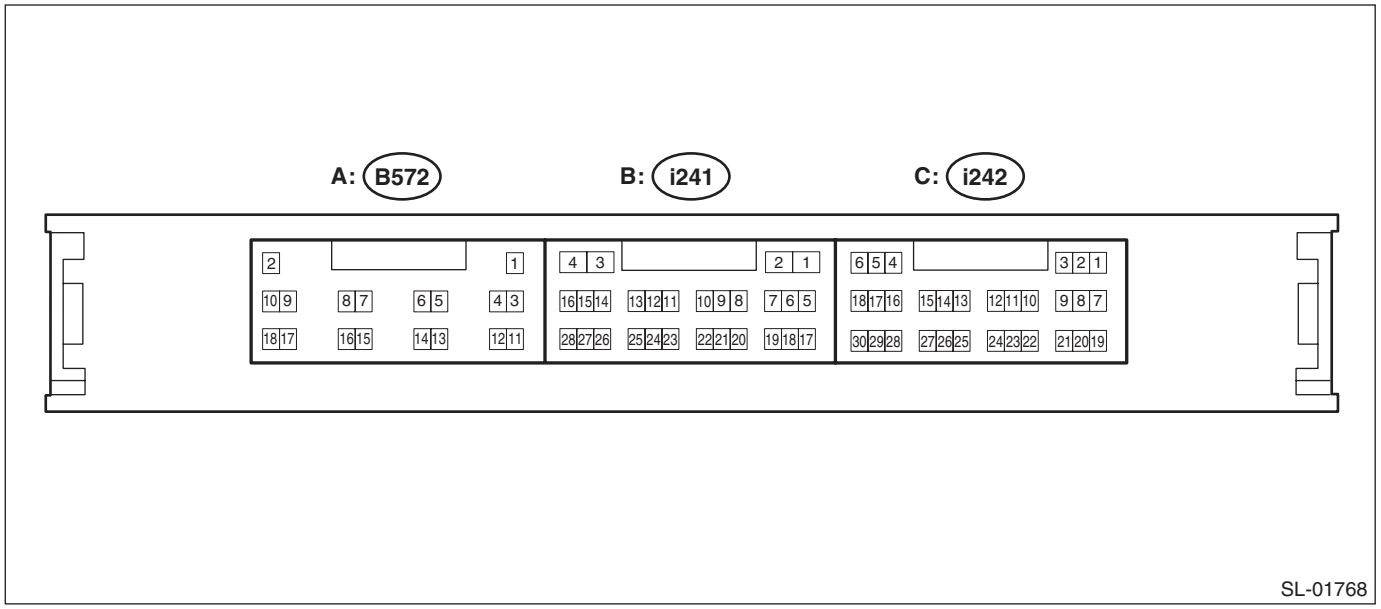


(1) Keyless access CM
(2) Mechanical key
(3) Access key
(4) Access key warning light
(5) Multi information display
(6) Touch sensor
(7) Front lock button
(8) Front exterior antenna
(9) Oscillator
(10) Center interior antenna
(11) ECM
(12) Front interior antenna
(13) Push button ignition switch
(14) Steering lock CM
(15) Access buzzer
(16) TCM
(17) Body integrated unit
(18) Receiver
(19) Rear interior antenna
(20) Rear exterior antenna
(21) Rear gate opener button
(22) Rear lock button

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

1. KEYLESS ACCESS CM



Terminal No.	Terminal symbol	Content
(B572) No. 2	+B	+B
(B572) No. 3	INDS	Start switch indicator (green) output
(B572) No. 5	N-SW	Neutral switch input
(B572) No. 7	STSW	STSW output
(B572) No. 9	IG2D	IG2 relay drive output
(B572) No. 10	CLUT	Clutch switch input
(B572) No. 11	GND	GND
(B572) No. 13	EGIO	Immobilizer communication 1
(B572) No. 14	EGII	Immobilizer communication 2
(B572) No. 17	TACH	Engine speed input
(B572) No. 18	STPI	Stop light switch input
(i241) No. 1	CG8B	Outside rear antenna output –
(i241) No. 2	CLG8	Outside rear antenna output +
(i241) No. 5	RCO	Tuner power supply
(i241) No. 8	CG7B	Inside rear antenna output –
(i241) No. 9	CLG7	Inside rear antenna output +
(i241) No. 10	CG6B	Inside center antenna output –
(i241) No. 11	CLG6	Inside center antenna output +
(i241) No. 17	RDA	Tuner reception data input
(i241) No. 19	RSSI	Tuner reception start signal input
(i241) No. 27	TSW5	Rear gate lock request switch input
(i241) No. 28	ACCR	ACC cutoff input
(i242) No. 1	VC5	Immobilizer amplifier power supply (start switch)
(i242) No. 2	CG5B	Inside front antenna output –
(i242) No. 3	CLG5	Inside front antenna output +
(i242) No. 4	ACCD	ACC relay drive output
(i242) No. 5	IG	IGN power supply
(i242) No. 6	IG1D	IG1 relay drive output

Terminal No.	Terminal symbol	Content
(i242) No. 7	CODE	Immobilizer signal reception (start switch)
(i242) No. 8	TSW2	Passenger's lock request switch input
(i242) No. 9	TXCT	Immobilizer signal transmission (start switch)
(i242) No. 10	CG2B	Passenger's antenna output –
(i242) No. 11	CLG2	Passenger's antenna output +
(i242) No. 12	CLG1	Driver's antenna output +
(i242) No. 13	CG1B	Driver's antenna output –
(i242) No. 14	CANH	HS-CAN H
(i242) No. 15	CANL	HS-CAN L
(i242) No. 16	SWIL	Start switch character illumination output
(i242) No. 17	LIN	LIN communication
(i242) No. 18	INDW	Start switch indicator (orange) output
(i242) No. 19	SEL1	Driver's sensor drive power supply
(i242) No. 20	TSW1	Driver's lock request switch input
(i242) No. 21	SEL2	Passenger's sensor drive power supply
(i242) No. 22	SEN1	Driver's unlock sensor signal input
(i242) No. 23	SEN2	Passenger's unlock sensor signal input
(i242) No. 24	AGND	Immobilizer amplifier GND (start switch)
(i242) No. 25	P	Parking position switch input
(i242) No. 26	SLP	Steering lock position input
(i242) No. 27	SPD	Vehicle speed signal input
(i242) No. 28	SSW1	Start switch input 1
(i242) No. 29	SLR+	Steering motor power supply signal output
(i242) No. 30	SSW2	Start switch input 2

Disconnect the control module connector (B572) before checking the following items.

NOTE:
If the measured value is out of standard, it is possible that the vehicle has a fault.

Terminal No.	Item	Measuring condition	Standard
(B572) No. 2 (+B) ←→ (B572) No. 11 (GND)	Voltage	Always	9.5 — 16 V
(B572) No. 11 (GND) ←→ Chassis ground	Resistance	Always	Less than 1 Ω

Disconnect the control module connectors (i242) and (B572) before checking the following items.

NOTE:
If the measured value is out of standard, it is possible that the vehicle has a fault.

Terminal No.	Item	Measuring condition	Standard
(i242) No. 4 (ACCD) ←→ Chassis ground	Resistance	Always (20°C)	152.61 — 216.5 Ω
(B572) No. 9 (IG2D) ←→ Chassis ground	Resistance	Always (20°C)	74.15 — 460.88 Ω
(i242) No. 6 (IG1D) ←→ Chassis ground	Resistance	Always (20°C)	50.87 — 72.17 Ω
(B572) No. 18 (STP1) ←→ Chassis ground (AT model only)	Voltage	Brake pedal depressed → released	11 — 14 V → 1 V or less
(i242) No. 25 (P) ←→ Chassis ground (AT model only)	Resistance	Except for shift positions P → Shift position P	40 kΩ or more → 200 Ω or less
(i242) No. 27 (SPD) ←→ Chassis ground	Resistance	Always	30 kΩ or more
(i242) No. 28 (SSW1) ←→ Chassis ground	Resistance	Push button ignition switch pressed → released	Less than 1 Ω → 10 kΩ or more
(i242) No. 29 (SLR+) ←→ Chassis ground	Resistance	Always	10 kΩ or more
(i242) No. 30 (SSW2) ←→ Chassis ground	Resistance	Push button ignition switch pressed → released	Less than 1 Ω → 10 kΩ or more
(i242) No. 17 (LIN) ←→ Chassis ground	Continuity	Always	Continuity does not exist
(i242) No. 14 (CANH) ←→ Chassis ground	Pulse	ACC ON or IGN ON or ACC and IGN OFF and open/close the door	Pulse generation
(i242) No. 15 (CANL) ←→ Chassis ground	Pulse	ACC ON or IGN ON or ACC and IGN OFF and open/close the door	Pulse generation

Connect the control module connector before checking the following items.

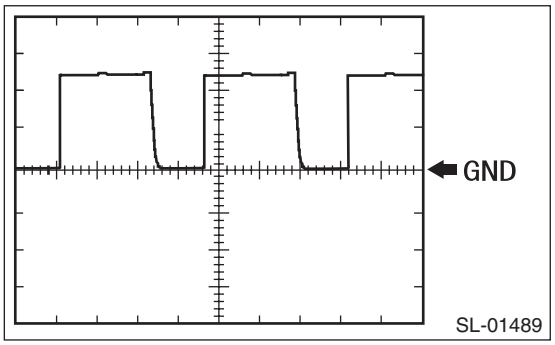
NOTE:
If the measured value is out of standard, it is possible that the keyless access CM has a fault.

Terminal No.	Item	Measuring condition	Standard
(i242) No. 1 (VC5) ←→ (i242) No. 24 (AGND)	Voltage	30 seconds or more have passed after the door was opened or closed with IG OFF and the brake pedal released.	1 V or less
	Waveform	Within 30 seconds after the push button ignition switch is pressed with IG OFF and access key not in the passenger room.	Waveform 1
(i242) No. 2 (CG5B) ←→ (B572) No. 11 (GND)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, front lock button OFF → ON	No pulse output → Pulse output detected
(i242) No. 3 (CLG5) ←→ (B572) No. 11 (GND)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, front lock button OFF → ON	No pulse output → Pulse output detected
(i242) No. 4 (ACCD) ←→ (B572) No. 11 (GND)	Voltage	IG OFF → ACC ON	1 V or less → 9 — 14 V
(i242) No. 6 (IG1D) ←→ (B572) No. 11 (GND)	Voltage	ACC ON → IG ON	1 V or less → 9 — 14 V
(i242) No. 7 (CODE) ←→ (i242) No. 24 (AGND)	Voltage	30 seconds or more have passed after the door was opened or closed with IG OFF and the brake pedal released.	1 V or less
	Waveform	Turn the ignition switch to OFF and with the access key near the push button ignition switch, press the push button ignition switch*1	Waveform 2
(i242) No. 9 (TXCT) ←→ (i242) No. 24 (AGND)	Voltage	30 seconds or more have passed after the door was opened or closed with IG OFF and the brake pedal released.	1 V or less
	Waveform	Turn the ignition switch to OFF and with the access key near the push button ignition switch, press the push button ignition switch*1	Waveform 3
(i242) No. 10 (CG2B) ←→ (B572) No. 11 (GND)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(i242) No. 11 (CLG2) ←→ (B572) No. 11 (GND)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(i242) No. 12 (CLG1) ←→ (B572) No. 11 (GND)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(i242) No. 13 (CG1B) ←→ (B572) No. 11 (GND)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(i242) No. 19 (SEL1) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, access key carried, driver's seat touch sensor OFF → ON	9 — 14 V → less than 2V
(i242) No. 21 (SEL2) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, access key carried, driver's seat touch sensor OFF → ON	9 — 14 V → less than 2V
(i242) No. 24 (AGND) ←→ Chassis ground	Resistance	Always	Less than 1 Ω
(i242) No. 25 (P) ←→ (B572) No. 11 (GND) (AT model only)	Voltage	Except for shift positions P → Shift position P	9 — 14 V or more → 1.5 V or less
(i242) No. 26 (SLP) ←→ (B572) No. 11 (GND)	Voltage	With ignition switch OFF and shift position P, Steering lock → Steering unlock	11 — 14 V → 1.2 V or less

Terminal No.	Item	Measuring condition	Standard
(i242) No. 27 (SPD) ←→ Chassis ground	Pulse	Driving at approx. 5 km/h	Pulse generation according to vehicle speed (approx. 5 km/h: 3.54 Hz)
(i242) No. 28 (SSW1) ←→ (B572) No. 11 (GND)	Voltage	Push button ignition switch released → pressed	11 — 14 V → 1 V or less
(i242) No. 29 (SLR+) ←→ (B572) No. 11 (GND)	Voltage	When the following conditions are met, the doors are closed → opened, and steering lock motor is driven • Steering lock is unlocked • IG OFF • Shift position P	11 — 14 V (Steering lock motor is stopped) → 1 V or less (Steering lock motor is driven)
(i242) No. 30 (SSW2) ←→ (B572) No. 11 (GND)	Voltage	Push button ignition switch released → pressed	11 — 14 V → 1 V or less
(i241) No. 1 (CG8B) ←→ (B572) No. 11 (GND)	Pulse	ACC and IG OFF, all doors closed, trunk or rear gate opener button OFF → ON	No pulse output → Pulse output detected
(i241) No. 2 (CLG8) ←→ (B572) No. 11 (GND)	Pulse	ACC and IG OFF, all doors closed, trunk or rear gate opener button OFF → ON	No pulse output → Pulse output detected
(i241) No. 5 (RCO) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, access key is locked or unlock switch OFF → ON	1 V or less → 4.5 — 5.5 V
(i241) No. 8 (CG7B) ←→ (B572) No. 11 (GND)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, front lock button OFF → ON	No pulse output → Pulse output detected
(i241) No. 9 (CLG7) ←→ (B572) No. 11 (GND)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, front lock button OFF → ON	No pulse output → Pulse output detected
(i241) No. 19 (RSSI) ←→ (B572) No. 11 (GND)	Voltage	All doors closed, all doors locked, access key is locked or unlock switch OFF → ON	11 — 14 V → 2 V or less
(i241) No. 27 (TSW5) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, all doors locked, trunk or rear gate lock button OFF → ON	9 V or more → less than 2 V
(B572) No. 9 (IG2D) ←→ (B572) No. 11 (GND)	Voltage	ACC ON → IG ON	1 V or less → 9 — 14 V
(B572) No. 13 (EGIO) ←→ (i242) No. 24 (AGND)	Voltage/ pulse	IG ON	11 — 14 V (waveform 4)
(i242) No. 8 (TSW2) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, passenger's front lock button OFF → ON	9 V or more → less than 2 V (→ 9 V or more)
(i242) No. 20 (TSW1) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, driver's front lock button OFF → ON	9 V or more → less than 2 V (→ 9 V or more)
(i242) No. 23 (SEN2) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, passenger's seat touch sensor OFF → ON	9 V or more → less than 2 V (→ 9 V or more)
(i242) No. 22 (SEN1) ←→ (B572) No. 11 (GND)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, driver's seat touch sensor OFF → ON	9 V or more → less than 2 V (→ 9 V or more)
(i242) No. 16 (SWIL) ←→ (B572) No. 11 (GND)	Voltage	When illumination of start switch goes off, headlight goes off after setting the illumination control to MAX	Less than 2 V → 9 V or more
(B572) No. 17 (TACH) ←→ Chassis ground	Waveform	While engine idling	Pulse generation (waveform 5)
(i241) No. 28 (ACCR) ←→ (B572) No. 11 (GND)	Voltage	Brake pedal depressed, push button ignition switch pressed (while cranking) → Except when cranking	Less than 2 V → 9 V or more

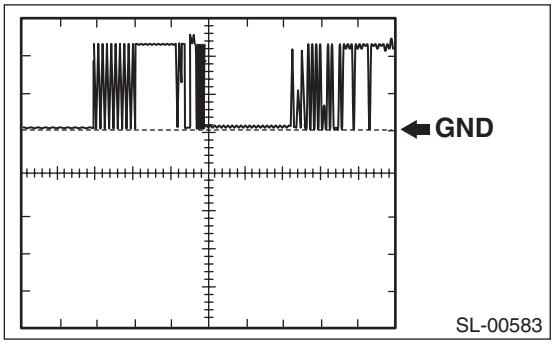
Terminal No.	Item	Measuring condition	Standard
(B572) No. 5 (N-SW) ←→ (B572) No. 11 (GND) (AT model only)	Voltage	Shift position N → other than P or N	Less than 2 V → 9 V or more
(i241) No. 10 (CG6B) ←→ (B572) No. 11 (GND)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, front lock button OFF → ON	No pulse output → Pulse output detected
(i241) No. 11 (CLG6) ←→ (B572) No. 11 (GND)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, front lock button OFF → ON	No pulse output → Pulse output detected
(i241) No. 17 (RDA) ←→ (B572) No. 11 (GND)	Pulse	All doors closed, all doors locked, access key is locked or unlock switch OFF → ON	2 V or less → 11 — 14 V → 2 V or less
(B572) No. 7 (STSW) ←→ (B572) No. 11 (GND)	Voltage	Shift lever is in position P or position N and access key is in passenger room. While depressing the brake pedal, press the push button ignition switch. (Engine start)	Less than 2 V → 9 V or more
(B572) No. 3 (INDS) ←→ (B572) No. 11 (GND)	Voltage	Depress the brake pedal.	9 V or more
(i242) No. 18 (INDW) ←→ (B572) No. 11 (GND)	Voltage	With ACC ON or IG ON, brake pedal not depressed.	9 V or more

NOTE:
*1: Remove the access key battery before checking.
1. Waveform 1



Item	Content
Measured terminal	(i242) No. 1 (VC5) ←→ (i242) No. 24 (AGND)
Equipment setting	2 V/DIV, 200 ms/DIV
Measuring condition	Within 30 seconds after the push button ignition switch is pressed with IG OFF and access key not in the passenger room.

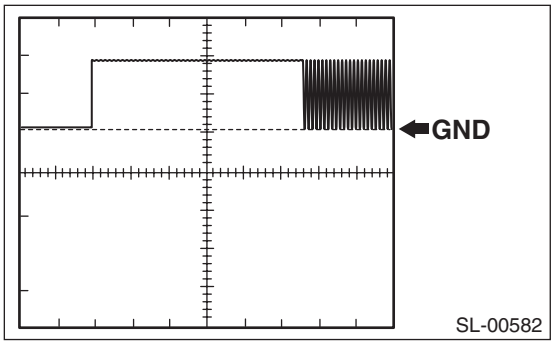
2. Waveform 2



Item	Content
Measured terminal	(i242) No. 7 (CODE) ←→ (i242) No. 24 (AGND)
Equipment setting	2 V/DIV, 20 ms/DIV
Measuring condition	Turn the ignition switch to OFF and with the access key near the push button ignition switch, press the push button ignition switch. *1

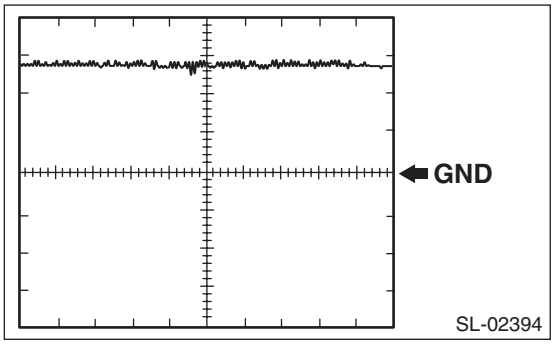
NOTE:
*1: Remove the access key battery before checking.

3. Waveform 3



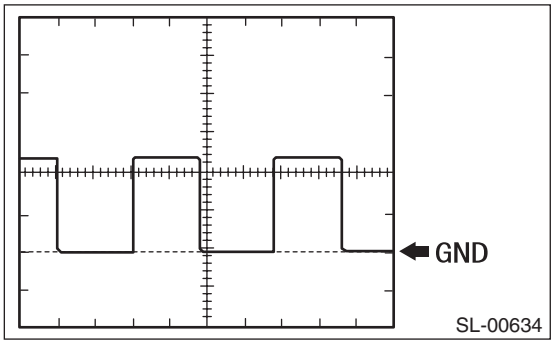
Item	Content
Measured terminal	(i242) No. 9 (TXCT) ←→ (i242) No. 24 (AGND)
Equipment setting	2 V/DIV, 20 ms/DIV
Measuring condition	Within 30 seconds after the push button ignition switch is pressed with IG OFF and access key not in the passenger room.

4. Waveform 4



Item	Content
Measured terminal	(B572) No. 13 (EGIO) ←→ (B572) No. 11 (GND)
Equipment setting	5 V/DIV, 100 ms/DIV
Measuring condition	Ignition ON

5. Waveform 5

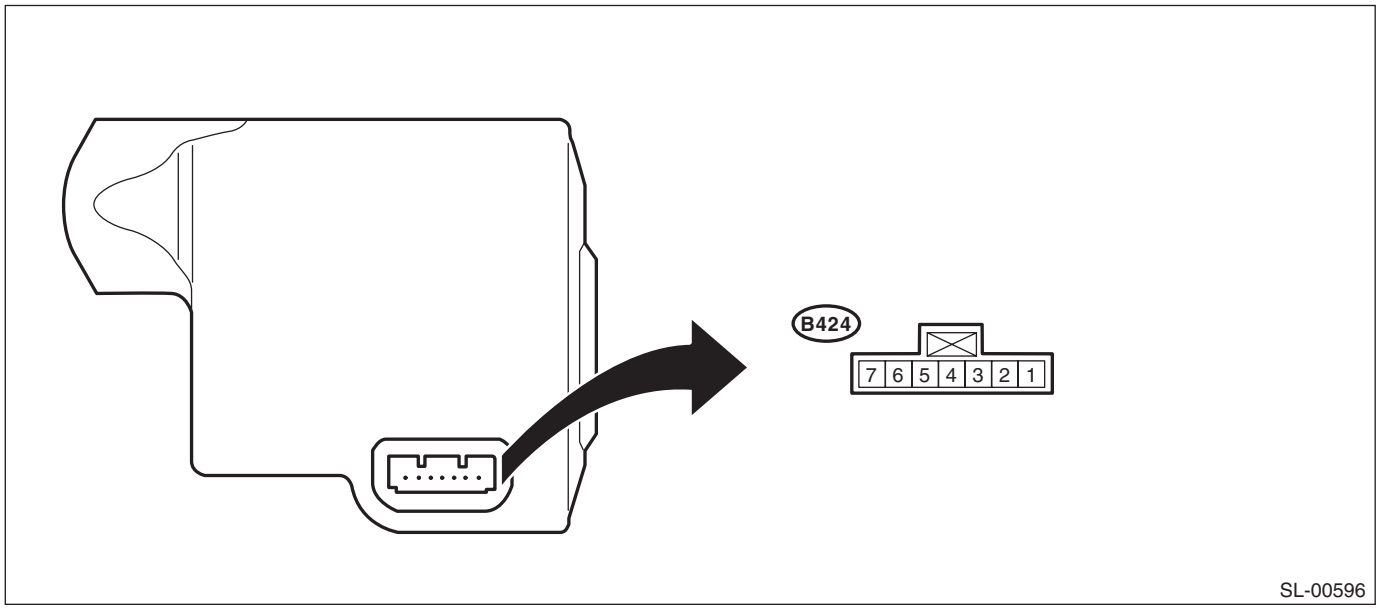


Item	Content
Equipment setting	5 V/DIV, 100 ms/DIV

2. BODY INTEGRATED UNIT

Refer to the BODY CONTROL SYSTEM (DIAGNOSTICS) for the I/O Signal of the body integrated unit. <Ref. to BC(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

3. STEERING LOCK CM



Terminal No.	Terminal symbol	Content
(B424) No. 1	GND	GND
(B424) No. 3	SLR+	Steering lock motor drive power supply
(B424) No. 4	SLP	Unlock position output
(B424) No. 5	LIN	LIN communication
(B424) No. 6	IG2	IGN power supply
(B424) No. 7	B	+B

NOTE:
Perform the following check from the back side of the connector, with the connector of the control module connected.

If the measured value is out of standard, it is possible that the vehicle has a fault.

Terminal No.	Standard	Measuring condition	Item
1 (GND) ←→ Chassis ground	Continuity exists	Always	Continuity
—	—	—	—
3 (SLR+) ←→ Chassis ground	10 — 14 V → 1 V or less	Motor not operating → Motor operating	Voltage
4 (SLP) ←→ Chassis ground	10 — 14 V → 1 V or less	Lock → Unlock	Voltage
5 (LIN)	Input/output signal	—	—
6 (IG2) ←→ Chassis ground	10 — 14 V	Ignition ON	Voltage
7 (B) ←→ Chassis ground	10 — 14 V	Always	Voltage

B: WIRING DIAGRAM

<Ref. to WI-208, WIRING DIAGRAM, Keyless Access System.>

6. Subaru Select Monitor

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

B: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

NOTE:
Confirm that the LAN system is working properly before the diagnosis.
Subaru Select Monitor communication line is open or shorted.

DETECTING CONDITION:

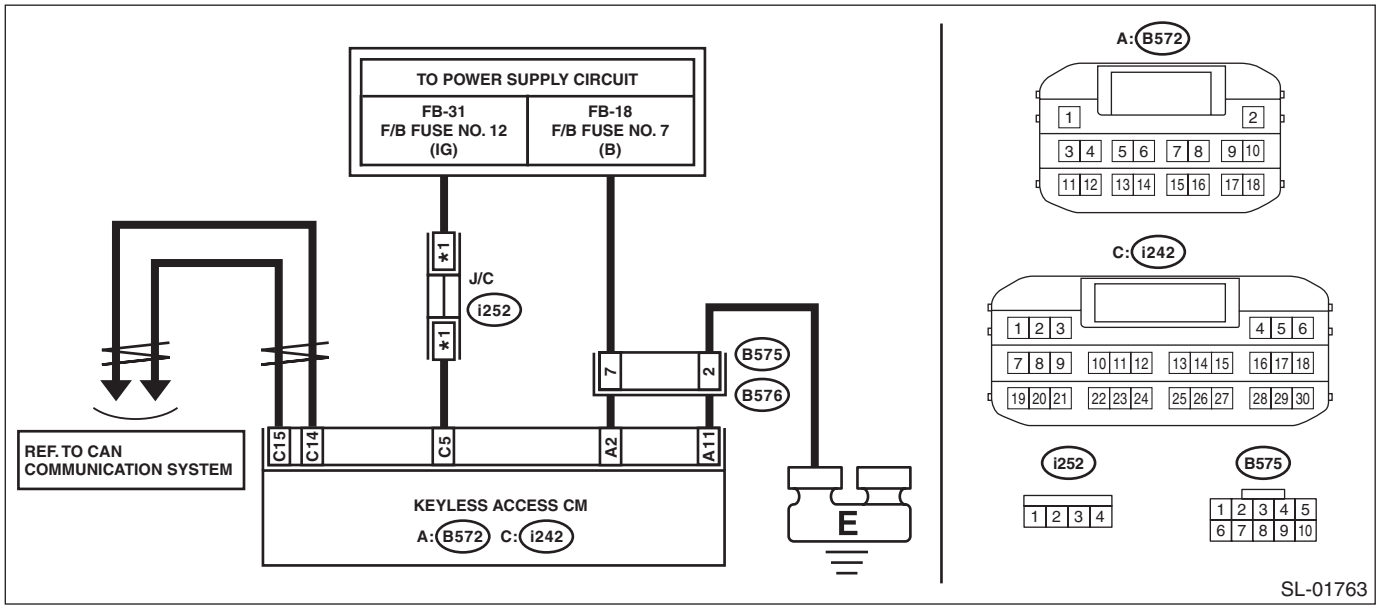
- Defective harness
- Power supply circuit malfunction
- Body integrated unit malfunctioning
- Defective keyless access CM
- Defective Subaru Select Monitor
- Defective CAN communication system

TROUBLE SYMPTOM:

Not communicable with Subaru Select Monitor.

WIRING DIAGRAM:

- CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>
- Keyless access system <Ref. to WI-208, WIRING DIAGRAM, Keyless Access System.>



Step		Check	Yes	No
1	**CHECK OTHER COMMUNICATION.** Communicate with the following systems using the Subaru Select Monitor. (Except for unit not equipped) • ECM • Airbag CM • A/C CM • Stereo camera	Is the communication possible with each control module?	Go to step **2**.	Perform the “Communication for Initializing Impossible” of LAN system. <Ref. to LAN(diag)-70, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Step		Check	Yes	No
2	**CHECK DTC.** Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-9, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC detected?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK KEYLESS ACCESS CM.** 1) Turn the ignition switch to OFF. 2) Disconnect the keyless access CM connector. 3) Connect the disconnected connectors. 4) Perform communication with the keyless access system using the Subaru Select Monitor.	Is communication possible?	It is possible that temporary poor communication occurs.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

8. Read Current Data

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

B: LIST

1. Keyless access system

Items to be displayed	Unit of measure	Content	Note
Driver’s unlock touch sensor switch	ON/OFF	Keyless access CM input value	ON when touch sensor is touched
Passenger’s unlock touch sensor switch	ON/OFF	Keyless access CM input value	ON when touch sensor is touched
Driver’s lock touch sensor SW	ON/OFF	Keyless access CM input value	ON when front lock button is pressed
Passenger’s lock touch sensor SW	ON/OFF	Keyless access CM input value	ON when front lock button is pressed
Rear Gate Request SW	ON/OFF	Keyless access CM input value	ON when rear lock button is pressed (5 door models only)
Trunk Request SW	ON/OFF	Keyless access CM input value	ON when the trunk opener button is pressed (4 door models only)
Secret code keyless registration	Unregistered/Registered	Keyless access CM input value	Registered when secret code keyless registration
IGN SW	ON/OFF	Keyless access CM input value	ON when ignition is ON
B/up fuse	Connecting/Not connected	Keyless access CM internal value	When backup fuse is connected/connecting
Incorrect vehicle ID	Yes/No	Keyless access CM internal value	Yes when the access key is different when keyless access is performed
No response	Yes/No	Keyless access CM internal value	Yes when there is no response from the access key when keyless access is performed
Incorrect response code, format	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Exhausted battery	Yes/No	Keyless access CM internal value	Yes if the access key battery is depleted
Incorrect response code, ID code	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Incorrect response code, collation result	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Incorrect ID code	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Incorrect rolling code	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Smart Cancel	Cancel/Normal	Keyless access CM internal value	Cancel in the keyless access function stopped condition
Simple Smart system cancel	Cancel/Normal	Keyless access CM internal value	Cancel in the simple cancel function set condition
ID Code Box W/H Connection State	Connecting/Not connected	Keyless access CM internal value	When ID code box is connected/connecting
ID Code Box Existence Judging	ON/OFF/Existence Judging	Keyless access CM internal value	
Immobilizer	Set/Unset	Keyless access CM internal value	
Remote engine starter communication ID confirmation	Collation NG/Collation OK	Keyless access CM internal value	

Items to be displayed	Unit of measure	Content	Note
Remote engine starter code registration confirmation	Unregistered/Registered	Keyless access CM internal value	
STLC sleep possible status	Possible/Impossible	Steering lock CM internal value	
STLC wake-up transmission status	Transmission/No transmission	Steering lock CM internal value	
Lock side sensor status	ON/OFF	Steering lock CM internal value	
Unlock side sensor status	ON/OFF	Steering lock CM internal value	
Lock confirmation	Confirmed/Unconfirmed	Steering lock CM internal value	Confirmed when steering lock is locked
Unlock confirmation	Confirmed/Unconfirmed	Steering lock CM internal value	Confirmed when steering lock is unlocked
Sensor initialization	Completed/Not Completed	Steering lock CM internal value	
Motor protection control status	Rejected range/Permitted range	Steering lock CM internal value	
Motor operation prohibition voltage evaluation	ON/OFF	Steering lock CM internal value	
Diagnosis response	Normal/Response	Steering lock CM internal value	
Sensor abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor power supply short-circuit abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor driver short-circuit abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Lock bar engagement abnormal	Normal/Abnormal	Steering lock CM internal value	ON when the steering lock bar has experienced interference
Push start abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Lock side relay operation	Stopped/Activating	Steering lock CM internal value	
Unlock side relay operation	Stopped/Activating	Steering lock CM internal value	
Motor drive FET drive	Stopped/Activating	Steering lock CM internal value	
Motor reversal protection control	Stopped/Activating	Steering lock CM internal value	
Engine start	Engine start permission/Engine start prohibition	Steering lock CM internal value	Permission when ignition ON
Sensor abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor power supply short-circuit abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor driver short-circuit abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Steering lock lock/unlock command reception history	ON/OFF	Steering lock CM internal value	ON when steering lock is locked → unlocked, unlocked → locked
Lock bar engagement abnormal (past)	ON/OFF	Steering lock CM internal value	ON when the steering lock bar has experienced interference in the past
Push start abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM

Items to be displayed	Unit of measure	Content	Note
STLC Abnormal EEPROM access	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
ID code BOX sleep possible status	Impossible/Possible	Keyless access CM internal value	
ID code BOX wake-up transmission status	No transmission/Transmission	Keyless access CM internal value	
ID code BOX Abnormal EEPROM access (now)	Normal/Abnormal	Keyless access CM internal value	
EGI code reception status	Reception/Not yet received	Keyless access CM internal value	Reception at engine start operation
Engine start permission request reception status	Reception/Not yet received	Keyless access CM internal value	Reception at ignition ON
Code collation result between smart ECM and ID code box	Normal/Abnormal	Keyless access CM internal value	Normal when engine start is allowed
Code collation result between steering locked ECM and ID code box	Normal/Abnormal	Keyless access CM internal value	Normal when steering lock operation allowed
Steering lock unlock request reception status	Reception (keep 10 sec)/Not yet received	Keyless access CM internal value	Reception when steering lock is performing unlock
Steering lock lock request reception status	Reception (keep 10 sec)/Not yet received	Keyless access CM internal value	Reception when steering lock is performing lock
Combination meter CU disruption information	Normal/Abnormal	Keyless access CM internal value (Display the reception value from body integrated unit)	Display “Abnormal” when DTC U122A is output from body integrated unit
Engine CU disruption information	Normal/Abnormal	Keyless access CM internal value (Display the reception value from body integrated unit)	Display “Abnormal” when DTC U1221 is output from body integrated unit
Transmission CU disruption information	Normal/Abnormal	Keyless access CM internal value (Display the reception value from body integrated unit)	Display “Abnormal” when DTC U1222 is output from body integrated unit
Brake CU disruption information	Normal/Abnormal	Keyless access CM internal value (Display the reception value from body integrated unit)	Display “Abnormal” when DTC U1223 is output from body integrated unit
Idling stop CU receive information	Reception/Not yet received	Keyless access CM internal value (Display the reception value from body integrated unit)	Fixed as “Not yet received” for vehicles without Auto Start Stop

Items to be displayed	Unit of measure	Content	Note
ID code registration mode status	Normal/Regist./Deletion	—	For immobilizer registration
Smart related ECM code registration mode status	On mode/Normal		
ID code collation completion confirmation	Completed/Normal		
ID code registration completion confirmation	Completed/Normal		
Smart related ECM code registration completion confirmation	Completed/Normal		
Registered smart key confirmation status	Confirming/Normal		
Smart related ECM code confirmation status	Confirming/Normal		
ID code registration status	Registering/Normal		
ID code collation status	Normal/Collating the immobilizer/Collating the smart		
All registered keys confirmation status	Confirming/Normal		
Confirmed number of all registered keys	0 — 7		
Number of required registrations (smart)	0 — 7		
Number of collation completed (smart)	0 — 7		
Number of registration completed (smart)	0 — 7	Keyless access CM internal value	Number of recognized keyless access CM
ID Code Box	Connecting/Not connected	Keyless access CM internal value	Connecting with ID code box normal connection
Steering Lock ECM	Connecting/Not connected	Keyless access CM internal value	Connecting with steering lock CM normal connection

Items to be displayed	Unit of measure	Content	Note
Driver's lock request SW/touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	The display is continued when the collation is once established by the combination indicated on the left. NOTE: When confirming the data on the left, confirm after performing Keyless access system check. <Ref. to KPS(diag)-31, Keyless Access System Check.>
Passenger's unlock request SW/touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	
Rear gate lock request SW ON edge history	ON/OFF	Keyless access CM internal value	
Driver's unlock touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	
Passenger's unlock touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	
Trunk unlock request SW ON edge history	ON/OFF	Keyless access CM internal value	
Collation OK result history (driver's external transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (passenger's external transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (front interior transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (rear interior transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (trunk internal transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (trunk external transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (rear gate internal transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (rear gate external transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (immobilizer amplifier + immobilizer amplifier)	ON/OFF	Keyless access CM internal value	
Push start SW 1	ON/OFF	Keyless access CM input value	ON when push button start is pressed
Push start SW 2	ON/OFF	Keyless access CM input value	ON when push button start is pressed
Stop light SW	ON/OFF	Keyless access CM input value	ON when brake pedal is depressed
Steering Unlock Switch	ON/OFF	Keyless access CM input value	OFF when steering locked
Shift P signal(AT only)	ON/OFF	Keyless access CM input value	ON when the shift position is "P"
Neutral SW/Clutch SW	ON/OFF	Keyless access CM output value	ON when the shift position is at "P" or "N" (AT vehicle) ON when clutch pedal is depressed (MT vehicle)
Shift N signal(AT only)	ON/OFF	Keyless access CM input value	ON when the shift position is "N"

Items to be displayed	Unit of measure	Content	Note
Delivery mode signal(AT only)	ON/OFF	Keyless access CM input value	
IGN2 relay monitor (drive output)	ON/OFF	Keyless access CM output value	ON during IG relay 2 (push button start) drive output
IGN1 relay monitor (drive output)	ON/OFF	Keyless access CM output value	ON during IG relay 1 (push button start) drive output
ACC relay monitor	ON/OFF	Keyless access CM output value	ON during accessory relay (push button start) drive output
IGN2 relay monitor (coil voltage)	ON/OFF	Keyless access CM output value	ON during IG relay 2 (push button start) drive output
IGN1 relay monitor (coil voltage)	ON/OFF	ON during IG relay 1 (push button start) drive output	ON during IG relay 1 (push button start) drive output
IGN latch monitor	ON/OFF	Keyless access CM output value	ON during IG relay 2 (push button start) drive output
STSW signal monitor	ON/OFF	Keyless access CM output value	ON when brake pedal (except MT model) or clutch pedal (MT model) is depressed, and push button ignition switch is pressed
ACCR signal	ON/OFF	Keyless access CM input value	ON during starter relay drive output
Vehicle speed signal	Drive status/Stop status	Keyless access CM input value	Set as “Drive status” when vehicle speed is input
Engine Speed	Rotating/Stopped	Keyless access CM input value	Set as “Rotating” while the engine is running
Power supply status	All OFF status	Keyless access CM output value	Displayed when IG relay 1 (push button start), IG relay 2 (push button start), and accessory relay (push button start) are all OFF
	ACC relay ON status	Keyless access CM output value	Displayed when accessory ON
	IGN1 relay ON status	Keyless access CM output value	Displayed when ignition ON
	IGN2 relay ON status	Keyless access CM output value	Displayed when ignition ON
	STSW Condition	Keyless access CM output value	Displayed when brake pedal (except MT model) or clutch pedal (MT model) is depressed, and push button ignition switch is pressed
Vehicle identification	GAS MT/GAS AT/HEV AT/Auto Start Stop MT/ Auto Start Stop AT	Keyless access CM output value	Equipped vehicle is displayed.
IGN1 external circuit abnormal	No/Yes	Keyless access CM output value	
IGN2 external circuit abnormal	No/Yes	Keyless access CM output value	
Start SW trouble	No/Yes	Keyless access CM output value	
P signal mismatch	No/Yes	Keyless access CM output value	
Steering lock unlock wait time-out	No/Yes	Keyless access CM output value	
Key collation wait time-out	No/Yes	Keyless access CM output value	

2. Body integrated unit
Refer to the BODY CONTROL SYSTEM (DIAGNOSTICS) for the current data of the body integrated unit. <Ref. to BC(diag)-12, LIST, Read Current Data.>

9. Clear Memory Mode

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
Initial diagnosis of electronic throttle control is performed after memory clearance. Wait for 10 seconds or more after turning the ignition switch to ON, and then start the engine.

10.Keyless Access System Check

A: OPERATION

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Keyless access system}.
3) On «Keyless access system» display, select {Work Support}.
4) Select {Function Check Sequence}.
5) Select {Keyless access system check}.
6) Select the transmitter to be checked and click [OK].
7) Select [Exit] to exit the system check. The screen will return to the «Keyless access system check» screen.

Data	Customize setting	Remarks
Keyless access system check	Driver side external transmitter - internal tuner	When the setting content on the left is selected, the access key is neared to the selected transmitter (access antenna) and collation matches, the buzzer will sound.
	Passenger side external transmitter - internal tuner	
	Fr internal transmitter - internal tuner	
	Rr internal transmitter - internal tuner	
	Trunk internal transmitter, interior tuner	
	Trunk external transmitter - internal tuner	
	R gate internal transmitter - internal tuner	
	R gate external transmitter - internal tuner	
	Immobilizer amplifier transmission	
Collation result history Clear	Execution	
	—	

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

11.System Operation Check Mode

A: OPERATION

1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Keyless access system}.
3) On «Keyless access system» display, select {Work Support}.
4) Select {System Operation Check Mode}.
5) Select the check point and click [OK].
6) Select [Exit] to exit the drive item mode. The screen will return to the «Drive item» screen.

NOTE:
Each output check continues to run for five seconds before stopping automatically.

Data	Keyless access CM output check	Remarks
Tuner power supply ON (indoor tuner)	Output	Perform the power supply check for the receiver.
	Stop	
Driver seat sensor power supply	Output	Perform check of the power supply for the driver's seat sensor.
	Stop	
Passenger seat sensor power supply	Output	Perform check of the power supply for the passenger's seat sensor.
	Stop	
STSW	Output	Turn on the STSW. *2
	Stop	
IGN2	Output	Turn on the IGN2.
	Stop	
IGN1	Output	Turn on the IGN1.
	Stop	
ACC	Output	Turn on the ACC.
	Stop	
Start SW character illumination lighted	Output	Perform ON output of the push button ignition switch back-up light. *1
	Stop	
Start SW indicator lighted (green)	Output	Perform ON output of the push button ignition switch back-up light. *1
	Stop	
Start SW indicator lighted (orange)	Output	Perform ON output of the push button ignition switch back-up light. *1
	Stop	
Steering lock power supply	Output	Output power supply signal from power supply CM to steering lock CM.
	Stop	

*1: When lit by a condition other than for a system operation check mode, it will not become unlit even when set to OFF or no output.
*2: When performed with IGN ON, engine will start. Therefore, great care must be exercised.

NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

12.List of Diagnostic Trouble Code (DTC)

A: LIST

1. Keyless access system

DTC	Item	Content of diagnosis	Note
U0073	Control Module Communication Bus “A” Off	Detected when CAN line abnormality is detected.	<Ref. to KPS(diag)-37, DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	Detected when CAN data from BIU does not arrive.	<Ref. to KPS(diag)-37, DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0422	Invalid Data Received From Body Control Module	Detected when CAN data from BIU is abnormal.	<Ref. to KPS(diag)-37, DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1242	Wireless Tuner Abnormal	When short circuit occurs in harness between keyless access CM and receiver.	<Ref. to KPS(diag)-38, DTC B1242 WIRELESS TUNER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2271	IGN Fuse Blown or IGN Circuit Abnormal	• When malfunction is detected in IG1 and IG2 drive circuits in the keyless access CM. • When malfunction is detected in IG hold circuit in the keyless access CM.	<Ref. to KPS(diag)-40, DTC B2271 IGN FUSE BLOWN OR IGN CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2274	ACC Monitor	When malfunction is detected in ACC relay drive circuit in the keyless access CM or external circuit.	<Ref. to KPS(diag)-42, DTC B2274 ACC MONITOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2275	STSW Circuit Abnormal	• When malfunction is detected in engine start permission signal output circuit in the keyless access CM. • When malfunction is detected in external engine start permission signal circuit.	<Ref. to KPS(diag)-44, DTC B2275 STSW CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2276	ACCR Signal Abnormal	When input error occurs in accessory relay cut input signal of keyless access CM.	<Ref. to KPS(diag)-46, DTC B2276 ACCR SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2277	Submerging Circuit Abnormal	When the water-submersion detection circuit integrated into the keyless access CM detects the water submersion.	<Ref. to KPS(diag)-48, DTC B2277 SUBMERGING CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2282	Vehicle Speed Signal Abnormal	When the vehicle speed signal transmitted from the combination meter via solid line and the vehicle speed signal transmitted via CAN communication line do not match.)	<Ref. to KPS(diag)-49, DTC B2282 VEHICLE SPEED SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
B2283	Vehicle Speed Sensor Fault Detection	Either of the following malfunctions is detected. (Vehicle speed sensor failure is detected.) • Vehicle speed signal failure detection 1: Excessive deceleration detection • Vehicle speed signal failure detection 2: Engine speed interlock detection	<Ref. to KPS(diag)-51, DTC B2283 VEHICLE SPEED SENSOR FAULT DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2284	Brake Signal (Cable-Information Does Not Match to Bean-Information) (MT vehicle only)	When the brake signal transmitted via solid line and the brake signal transmitted via CAN communication line do not match.	<Ref. to KPS(diag)-53, DTC B2284 BRAKE SIGNAL (CABLE-INFORMATION DOES NOT MATCH TO BEAN-INFORMATION), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2285	Steering Lock Position Signal Abnormal	When the steering lock position signal transmitted from the steering lock CM via solid line and the steering lock position signal transmitted via LIN communication system do not match.	<Ref. to KPS(diag)-55, DTC B2285 STEERING LOCK POSITION SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2286	Driving Possible Signal Abnormal	When the engine speed signal transmitted from the ECM via solid line and the engine speed signal transmitted via CAN communication line do not match.	<Ref. to KPS(diag)-58, DTC B2286 DRIVING POSSIBLE SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2779	Remote Control Engine Starter Communication Collation NG	When the keyless access CM does not respond to engine start even when the remote control engine starter is ON, or when there is a code mismatch.	<Ref. to KPS(diag)-60, DTC B2779 REMOTE CONTROL ENGINE STARTER COMMUNICATION COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2781	Steering Lock ECU Open/Short	• When malfunction is detected in lock/unlock position detection sensor. • When the open or short circuit in the steering lock motor drive circuit is detected.	<Ref. to KPS(diag)-60, DTC B2781 STEERING LOCK ECU OPEN/SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2782	Steering Lock Power Supply Circuit Abnormal (Smart ECU-Side Abnormal)	When the open or short circuit in the steering lock motor power supply circuit is detected.	<Ref. to KPS(diag)-61, DTC B2782 STEERING LOCK POWER SUPPLY CIRCUIT ABNORMAL (SMART ECU-SIDE ABNORMAL), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2784	Antenna Coil Fault	When open or short circuit occurs in the antenna coil.	<Ref. to KPS(diag)-63, DTC B2784 ANTENNA COIL FAULT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2785	LIN Communication Error	When the keyless access CM detects the collation system LIN bus communication error three times in a row.	<Ref. to KPS(diag)-64, DTC B2785 LIN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
B2786	No Response From Steering Lock ECU	When communication between keyless access CM and steering lock CM is interrupted for a set amount of time.	<Ref. to KPS(diag)-66, DTC B2786 NO RESPONSE FROM STEERING LOCK ECU, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2788	IGN1 Input Abnormal	When mismatch occurs in the IG1 input of the steering lock CM between LIN communication line input and solid line input.	<Ref. to KPS(diag)-68, DTC B2788 IGN1 INPUT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B278A	Abnormal Immobilizer Power Supply	When the power supply circuit of the push button ignition switch is shorted to ground.	<Ref. to KPS(diag)-70, DTC B278A ABNORMAL IMMOBILIZER POWER SUPPLY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B278D	ID Code Box Recognition Judgment Abnormal	• When ID code box ON input is detected while the ID code box setting is set to OFF. • When ID code box LIN signal is received while the ID code box setting is set to OFF.	<Ref. to KPS(diag)-72, DTC B278D ID CODE BOX RECOGNITION JUDGMENT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A5	Front Internal Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and front interior antenna.	<Ref. to KPS(diag)-73, DTC B27A5 FRONT INTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A6	Rear Internal Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and rear interior antenna.	<Ref. to KPS(diag)-75, DTC B27A6 REAR INTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A7	Trunk/Rear Gate Internal Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and rear interior antenna.	<Ref. to KPS(diag)-77, DTC B27A7 TRUNK/REAR GATE INTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A8	Trunk/Rear Gate External Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and rear exterior antenna.	<Ref. to KPS(diag)-79, DTC B27A8 TRUNK/REAR GATE EXTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

2. Immobilizer (ECM)

DTC	Item	Content of diagnosis	Note
B1571	Reference Code Incompatibility	Reference code incompatibility between keyless access CM and ECM	<Ref. to KPS(diag)-81, DTC B1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1572	IMM Circuit Failure (Except Antenna Circuit)	Communication error between keyless access CM and ECM	<Ref. to KPS(diag)-82, DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to KPS(diag)-84, DTC B1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1577	IMM Control Module EEPROM	Keyless access CM malfunctioning	<Ref. to KPS(diag)-84, DTC B1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1571	Reference Code Incompatibility	Reference code incompatibility between keyless access CM and ECM	<Ref. to KPS(diag)-85, DTC P1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1572	IMM Circuit Failure (Except Antenna Circuit)	Communication error between keyless access CM and ECM	<Ref. to KPS(diag)-85, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to KPS(diag)-85, DTC P1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1577	IMM Control Module EEPROM	Keyless access CM malfunctioning	<Ref. to KPS(diag)-85, DTC P1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

13.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF

Detected when CAN line abnormality is detected.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

B: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

Detected when CAN data from BIU does not arrive.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

C: DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE

Detected when CAN data from BIU is abnormal.

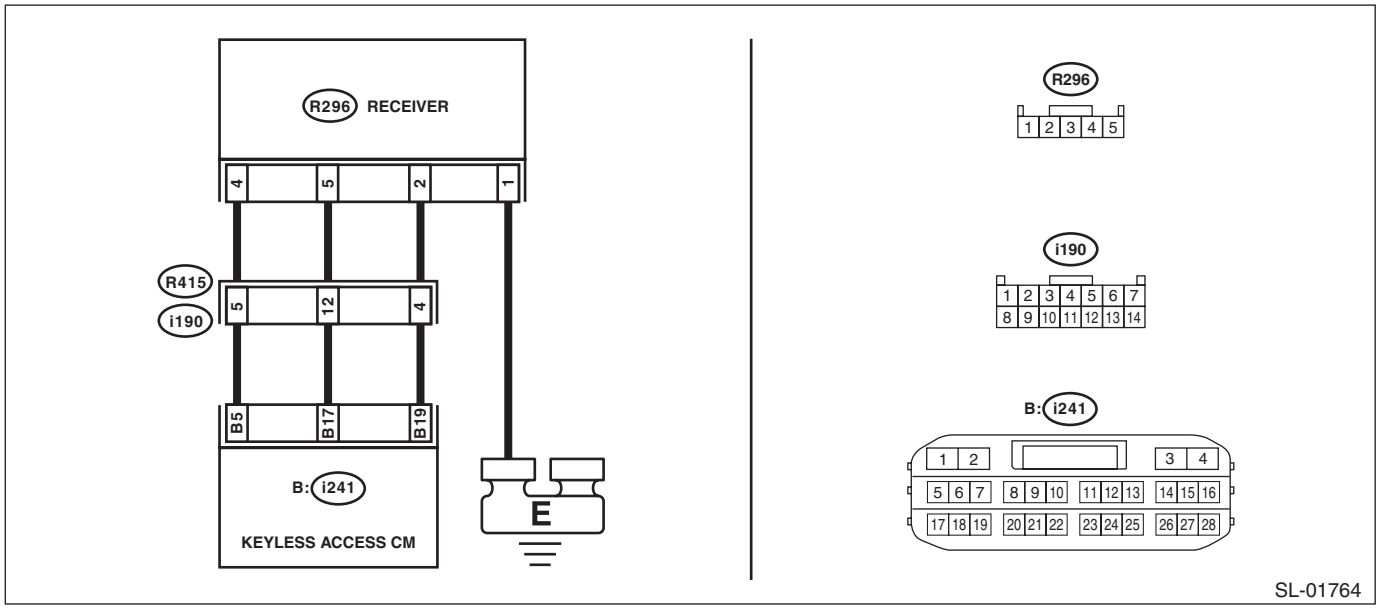
NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

D: DTC B1242 WIRELESS TUNER ABNORMAL

DTC DETECTING CONDITION:
When short circuit occurs in harness between keyless access CM and receiver.
TROUBLE SYMPTOM:
- The keyless access with push button start function (except for emergency function) does not operate properly.
- Operation by the access key button does not function.

CAUTION:
- **For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**
- **When the harness comes close to the receiver, the performance of keyless access system operation and wireless operation may reduce. So, when replacing or inspecting the receiver and harness, do not change the route and length of the surrounding harnesses.**

WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the receiver connector. 3) Using the tester, measure the resistance between terminals of keyless access CM connector and receiver connector, and keyless access CM and chassis ground. ***Connector & terminal*** ***(i241) No. 19 — (R296) No. 2:*** ***(i241) No. 17 — (R296) No. 5:*** ***(i241) No. 5 — (R296) No. 4:*** ***(R296) No. 1 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
3	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i241) No. 19 — Chassis ground:*** ***(i241) No. 17 — Chassis ground:*** ***(i241) No. 5 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **4**.	Repair or replace the short circuit of the harness.
4	**CHECK RECEIVER.** 1) Replace the receiver, and then connect it. <Ref. to SL-104, Receiver.> 2) Using the Subaru Select Monitor, clear the memory. 3) Use the Subaru Select Monitor and read DTCs.	Is B1242 displayed?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Receiver has a malfunction.

E: DTC B2271 IGN FUSE BLOWN OR IGN CIRCUIT ABNORMAL

DTC DETECTING CONDITION:

- When malfunction is detected in IG1 and IG2 drive circuits in the keyless access CM.
- When malfunction is detected in IG hold circuit in the keyless access CM.

TROUBLE SYMPTOM:

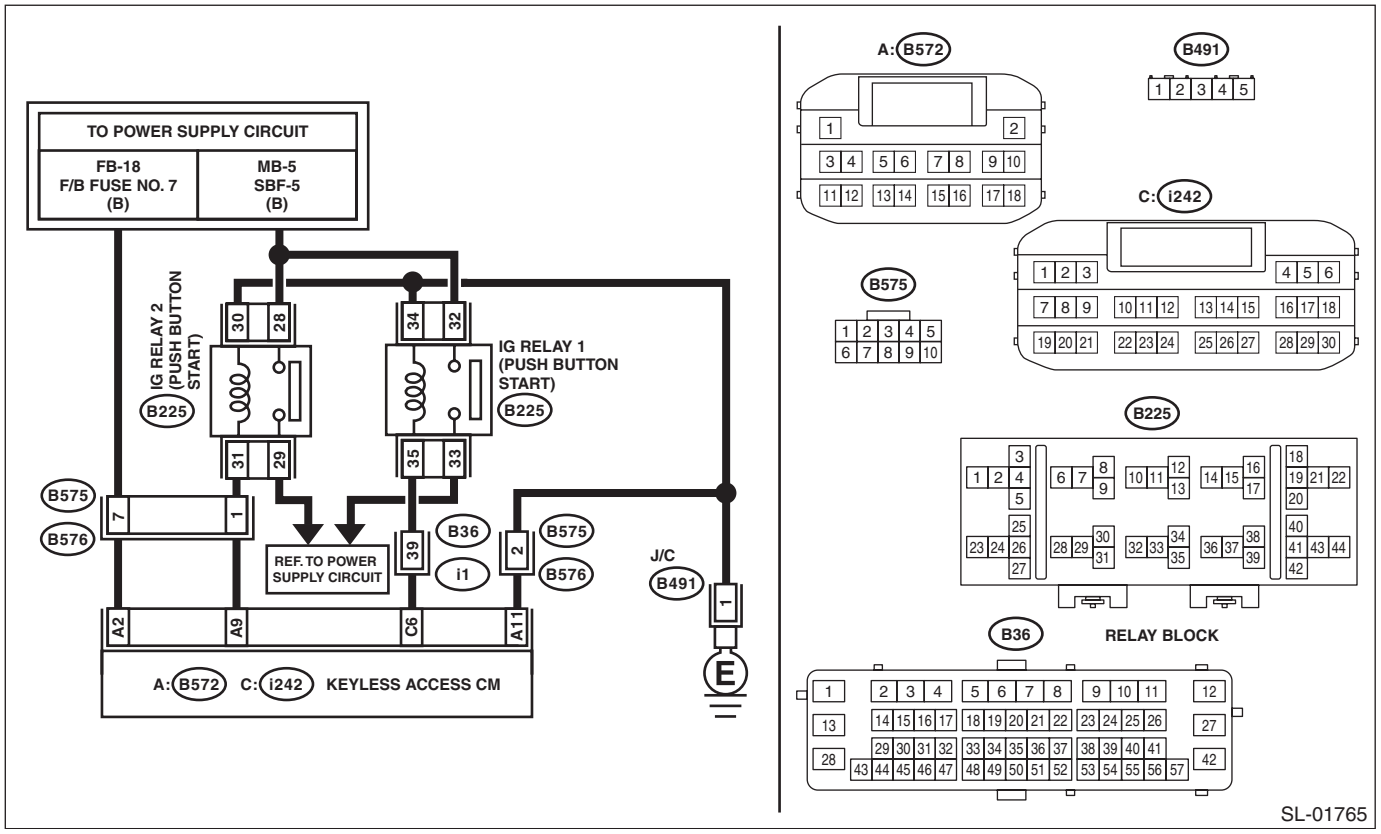
Not all functions operate at IGN ON.

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



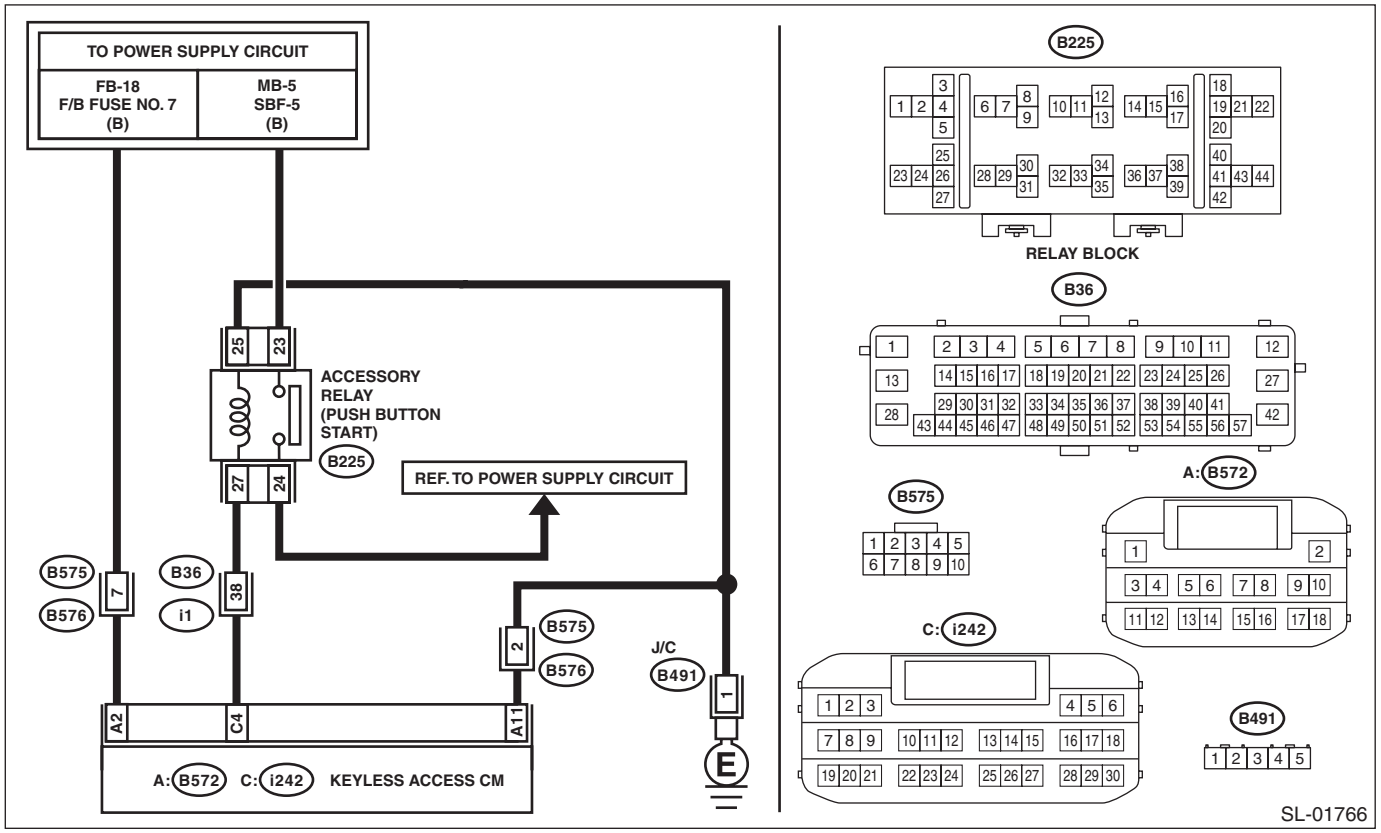
	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **3**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.

	Step	Check	Yes	No
3	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 9.5 — 16 V?	Go to step **4**.	Check the power supply circuit.
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 9 — Chassis ground:***	Is resistance 128 — 157 Ω? (20°C)	Go to step **6**.	Check IG relay 2. Go to step **7**.
6	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 6 — Chassis ground:***	Is resistance 128 — 157 Ω? (20°C)	Go to step **7**.	Check IG relay 1. Go to step **7**.
7	**CHECK RELAY.** Perform unit inspection of IG relay 1 and IG relay 2. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>	Is the relay OK?	Go to step **8**.	Replace the relay. <Ref. to SL-115, REMOVAL, IG Relay1 (Push Button Start).> <Ref. to SL-117, REMOVAL, IG Relay2 (Push Button Start).>
8	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between the terminals of keyless access CM connector. ***Connector & terminal*** ***(i242) No. 6 (+) — Chassis ground (–):*** ***(B572) No. 9 (+) — Chassis ground (–):***	Is the voltage 1 V or less → 9.5 — 16 V when ACC → IGN ON?	System is normal. It is possible that temporary poor contact occurs.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>

F: DTC B2274 ACC MONITOR

DTC DETECTING CONDITION:
When malfunction is detected in ACC relay drive circuit in the keyless access CM or external circuit.
TROUBLE SYMPTOM:
Each function does not operate at the ACC position.

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **3**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
3	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 9.5 — 16 V?	Go to step **4**.	Check the power supply circuit.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 4 — Chassis ground:***	Is resistance 128 — 157 Ω? (20°C)	Go to step **7**.	Go to step **6**.
6	**CHECK RELAY.** Perform inspection of ACC relay unit. <Ref. to SL-119, Accessory Relay (Push Button Start).>	Is the relay OK?	Go to step **7**.	Replace the relay.
7	**CHECK HARNESS.** Using a tester, measure the resistance between keyless access CM connectors. ***Connector & terminal*** ***(i242) No. 4 — (B225) No. 27:*** ***(B225) No. 25 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. ***Connector & terminal*** ***(i242) No. 4 (+) — Chassis ground (–):***	Is the voltage 1 V or less → 9.5 — 16 V when OFF → ACC ON?	System is normal. It is possible that temporary poor contact occurs.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

G: DTC B2275 STSW CIRCUIT ABNORMAL

DTC DETECTING CONDITION:

- When malfunction is detected in engine start permission signal output circuit in the keyless access CM.
- When malfunction is detected in external engine start permission signal circuit.

TROUBLE SYMPTOM:

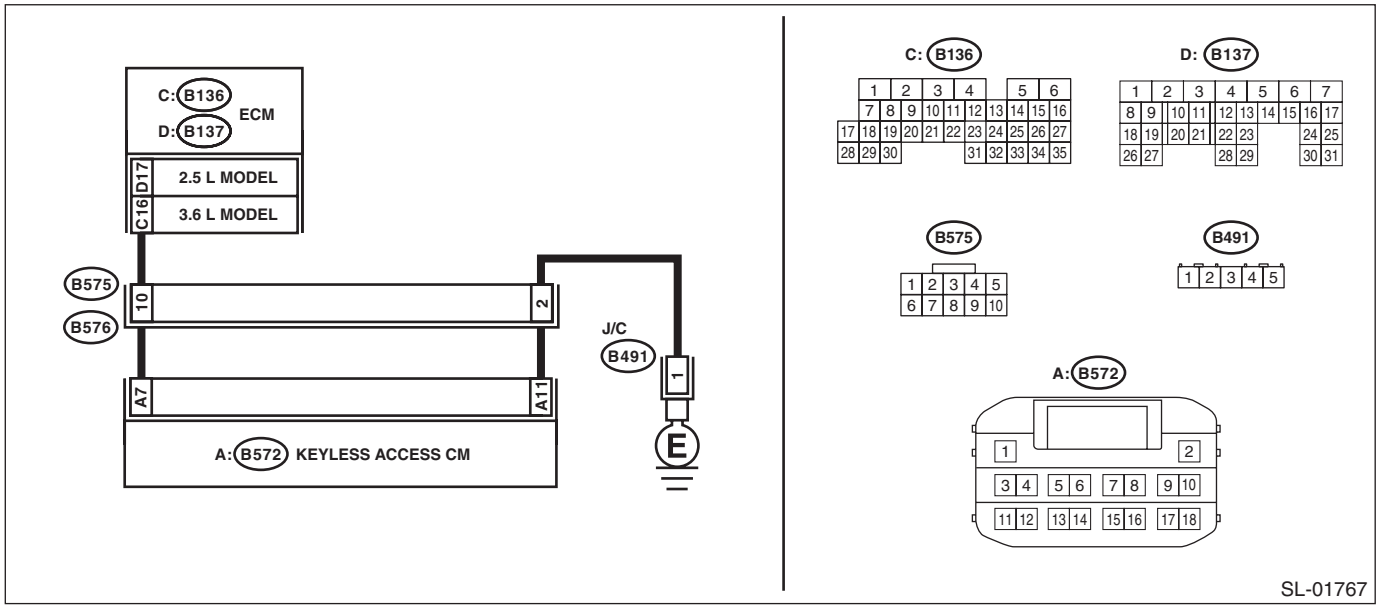
Engine will not start.

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



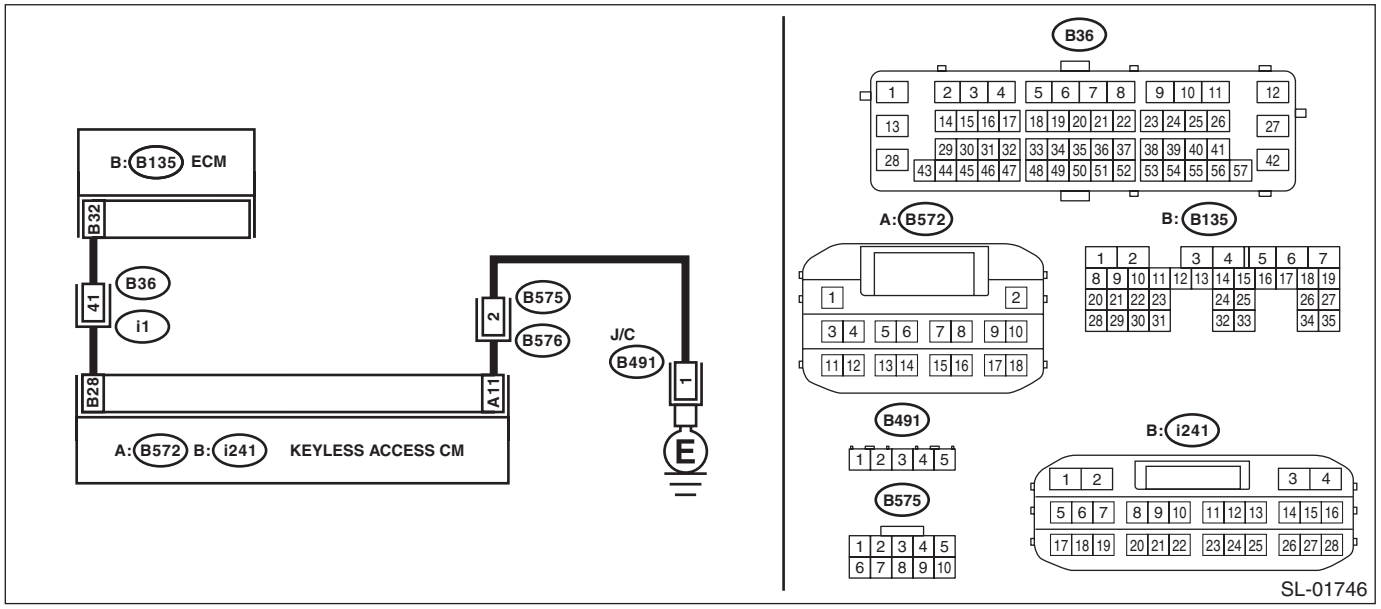
Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **3**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
3	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector and ECM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and ECM. ***Connector & terminal*** ***2.5 L model*** ***(B572) No. 7 — (B137) No. 17:*** ***3.6 L model*** ***(B572) No. 7 — (B136) No. 16:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 7 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **6**.	Repair or replace the short circuit of the harness.
6	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector and ECM connector. 2) Using a tester, measure the voltage between the terminals of keyless access CM connector. ***Connector & terminal*** ***(B572) No. 7 (+) — (B572) No. 11 (–):***	Is the voltage 2 V or less → 9 V or more when the push button ignition switch is turned on while depressing the brake pedal with the shift position in P or N and while the key is in the passenger room?	Perform inspection according to the diagnosis of engine. <Ref. to EN(H4DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

H: DTC B2276 ACCR SIGNAL ABNORMAL

DTC DETECTING CONDITION:
When input error occurs in accessory relay cut input signal of keyless access CM.
TROUBLE SYMPTOM:
- The accessory power supply is not cut during engine start.
- Starter rotation is slow.

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector and ECM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and ECM. ***Connector & terminal*** ***(i241) No. 28 — (B135) No. 32:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i241) No. 28 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **4**.	Repair or replace the short circuit of the harness.
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
5	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector and ECM connector. 2) Using a tester, measure the voltage between terminals of the keyless access CM connector when the push button ignition switch is pressed while depressing the brake pedal, with the shift lever in the P range for model except for MT or while depressing the clutch pedal for MT model. ***Connector & terminal*** ***(i241) No. 28 (+) — (B572) No. 11 (–):***	Is the voltage 9.5 — 16 V → 1 V or less?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Replace the ECM. <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).>

I: DTC B2277 SUBMERGING CIRCUIT ABNORMAL

DTC DETECTING CONDITION:
When the water-submersion detection circuit integrated into the keyless access CM detects the water submersion.

TROUBLE SYMPTOM:
- The power does not turn ON, or the keyless access system does not operate.
- The ignition can be turned ON, but cannot be turned OFF.
- Engine will not start.

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK SUBMERSION CONDITION.** Check the keyless access CM and environment of equipment, and check the harness for any trace of water submersion.	Is there any trace of water submersion?	Take necessary measures against water submersion and replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

J: DTC B2282 VEHICLE SPEED SIGNAL ABNORMAL

DTC DETECTING CONDITION:

When the vehicle speed signal transmitted from the VDC CM via solid line and the vehicle speed signal transmitted via CAN communication line do not match.

TROUBLE SYMPTOM:

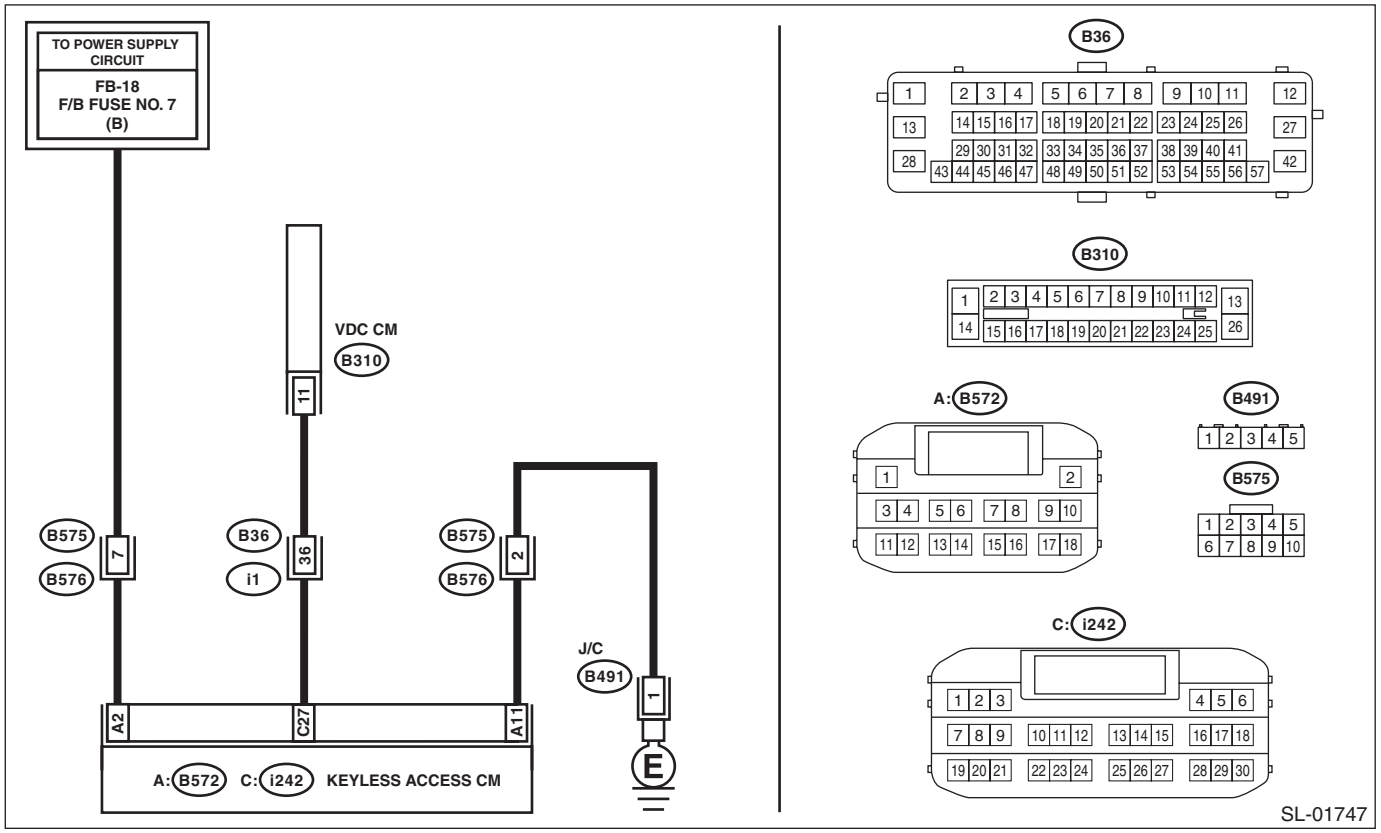
The steering lock cannot be released.

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK COMBINATION METER.** Check that the speedometer is displayed normally.	Is the meter display normal?	Go to step **3**.	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. • Vehicle speed signal	Is the parked state or driving state displayed normally?	Go to step **4**.	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>

	Step	Check	Yes	No
4	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **5**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
5	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. • {Brake CU disruption information}	Is {Normal} displayed?	Go to step **6**.	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>
6	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 9.5 — 16 V?	Go to step **7**.	Check the power supply circuit.
7	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the combination meter connector. 3) Using a tester, measure the resistance between the keyless access CM connector and VDC CM connector. ***Connector & terminal*** ***(i242) No. 27 — (B310) No. 11:***	Is the resistance less than 1 Ω?	Go to step **9**.	Repair or replace the open circuit of harness.
9	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 27 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **10**.	Repair or replace the short circuit of the harness.
10	**CHECK KEYLESS ACCESS CM.** 1) Connect each connector. 2) Using the Subaru Select Monitor, measure the waveform between the terminals of keyless access CM. ***Connector & terminal*** ***(i242) No. 27 — Chassis ground:***	Is 3.54 Hz displayed when the vehicle is driven approx. at 5 km/h? Or does the value change from 3.54 Hz when the vehicle stops?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>

K: DTC B2283 VEHICLE SPEED SENSOR FAULT DETECTION

DTC DETECTING CONDITION:

Either of the following malfunctions is detected (Vehicle speed sensor failure is detected.).

- Vehicle speed signal failure detection 1: Excessive deceleration detection
- Vehicle speed signal failure detection 2: Engine speed interlock detection

TROUBLE SYMPTOM:

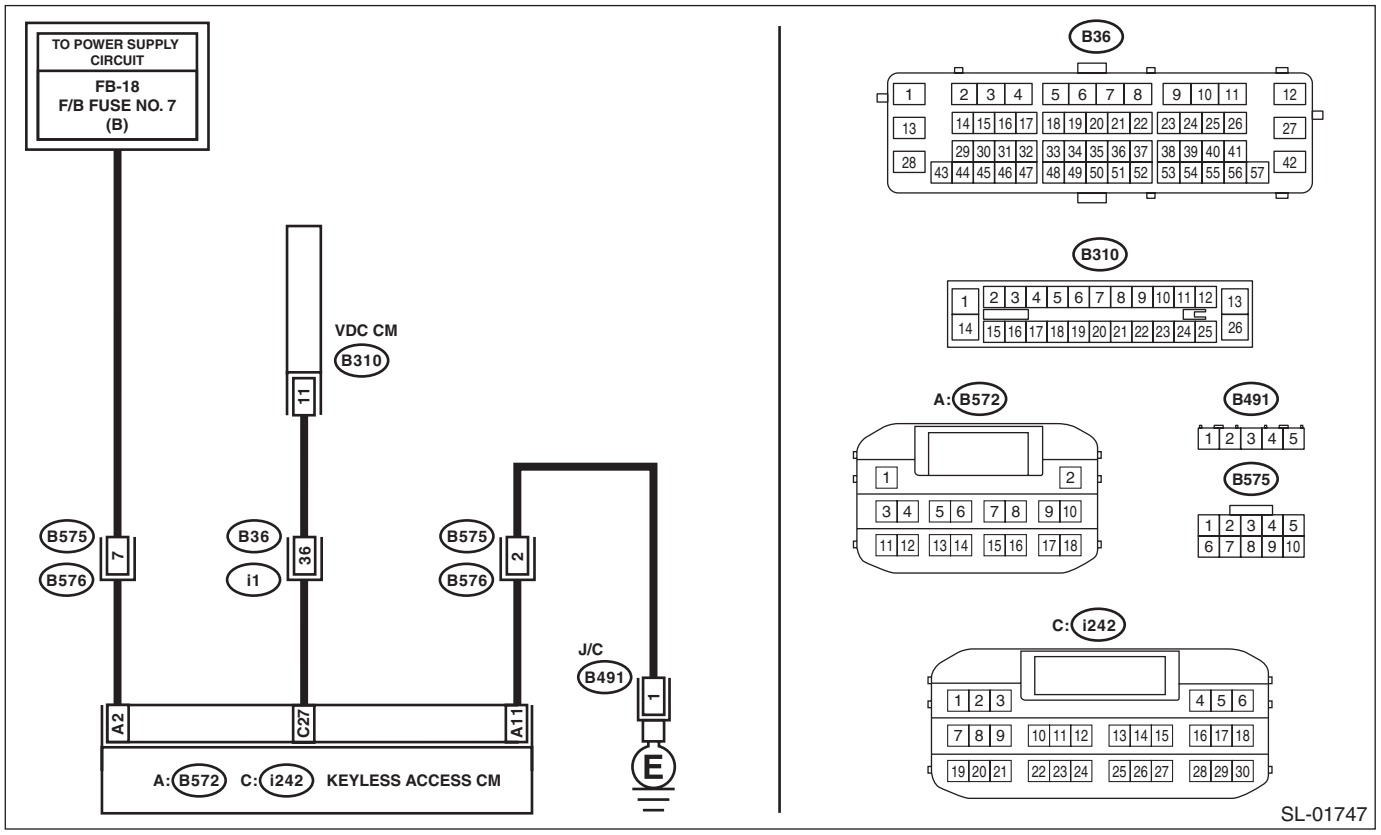
The steering lock cannot be released.

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK COMBINATION METER.** Check that the speedometer is displayed normally.	Is the meter display normal?	Go to step **3**.	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. • Vehicle speed signal	Is the parked state or driving state displayed normally?	Go to step **4**.	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>

	Step	Check	Yes	No
4	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **5**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
5	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. • {Brake CU disruption information}	Is {Normal} displayed?	Go to step **6**.	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>
6	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 9.5 — 16 V?	Go to step **7**.	Check the power supply circuit.
7	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the combination meter connector. 3) Using a tester, measure the resistance between the keyless access CM connector and VDC CM connector. ***Connector & terminal*** ***(i242) No. 27 — (B310) No. 11:***	Is the resistance less than 1 Ω?	Go to step **9**.	Repair or replace the open circuit of harness.
9	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 27 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **10**.	Repair or replace the short circuit of the harness.
10	**CHECK KEYLESS ACCESS CM.** 1) Connect each connector. 2) Using the Subaru Select Monitor, measure the waveform between the terminals of keyless access CM. ***Connector & terminal*** ***(i242) No. 27 — Chassis ground:***	Is 3.54 Hz displayed when the vehicle is driven approx. at 5 km/h? Or does the value change from 3.54 Hz when the vehicle stops?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Check the VDC CM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>

L: DTC B2284 BRAKE SIGNAL (CABLE-INFORMATION DOES NOT MATCH TO BEAN-INFORMATION)

DTC DETECTING CONDITION:

When the brake signal transmitted via solid line and the brake signal transmitted via CAN communication line do not match.

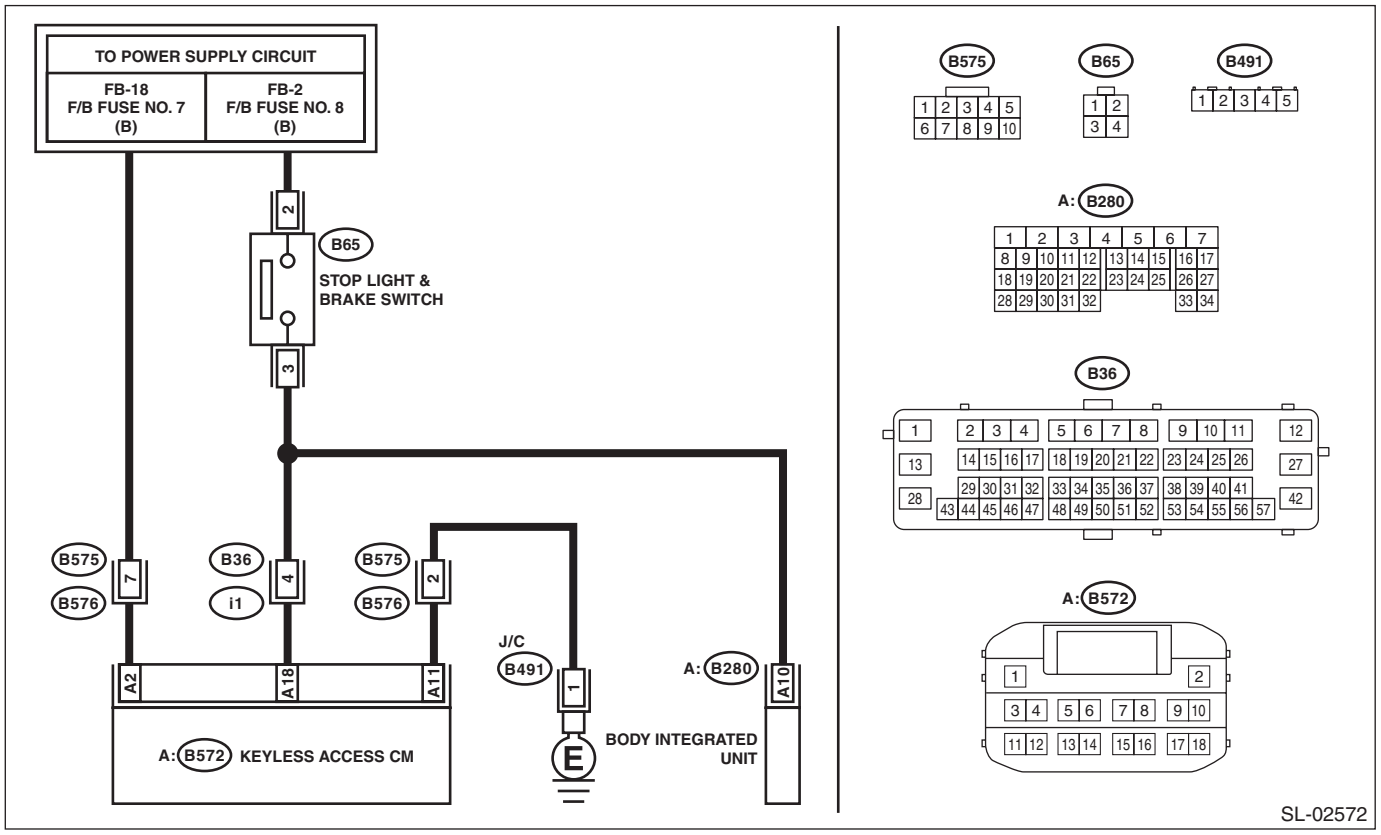
TROUBLE SYMPTOM:

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Stop light system <Ref. to WI-287, WIRING DIAGRAM, Stop Light System.>



Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. • Stop light SW	Is DTC displayed normally according to the brake pedal operation?	Go to step **3**.	Check the stop light switch circuit.
3	**CHECK CURRENT DATA.** Confirm the current data display of body integrated unit using Subaru Select Monitor. • Stop light SW	Is DTC displayed normally according to the brake pedal operation?	Go to step **4**.	Check the body integrated unit and the stop light switch circuit.

	Step	Check	Yes	No
4	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **5**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
5	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 9.5 — 16 V?	Go to step **6**.	Check the power supply circuit.
6	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **7**.	Repair or replace the open circuit of harness.
7	**CHECK HARNESS.** 1) Disconnect the stop light switch connector. 2) Using a tester, measure the resistance between the keyless access CM connector and stop light switch connector. ***Connector & terminal*** ***(B572) No. 18 — (B65) No. 3:***	Is the resistance less than 1 Ω?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 18 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **9**.	Repair or replace the short circuit of the harness.
9	**CHECK HARNESS.** Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the brake pedal is depressed. ***Connector & terminal*** ***(B572) No. 18 (+) — Chassis ground (–):***	Does the voltage change as follows? Brake pedal not depressed: 1 V or less → Brake pedal depressed: 11 — 14 V	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Check the power supply circuit of stop light switch.

M: DTC B2285 STEERING LOCK POSITION SIGNAL ABNORMAL

DTC DETECTING CONDITION:

When the steering lock position signal transmitted from the steering lock CM via solid line and the steering lock position signal transmitted via LIN communication system do not match.

TROUBLE SYMPTOM:

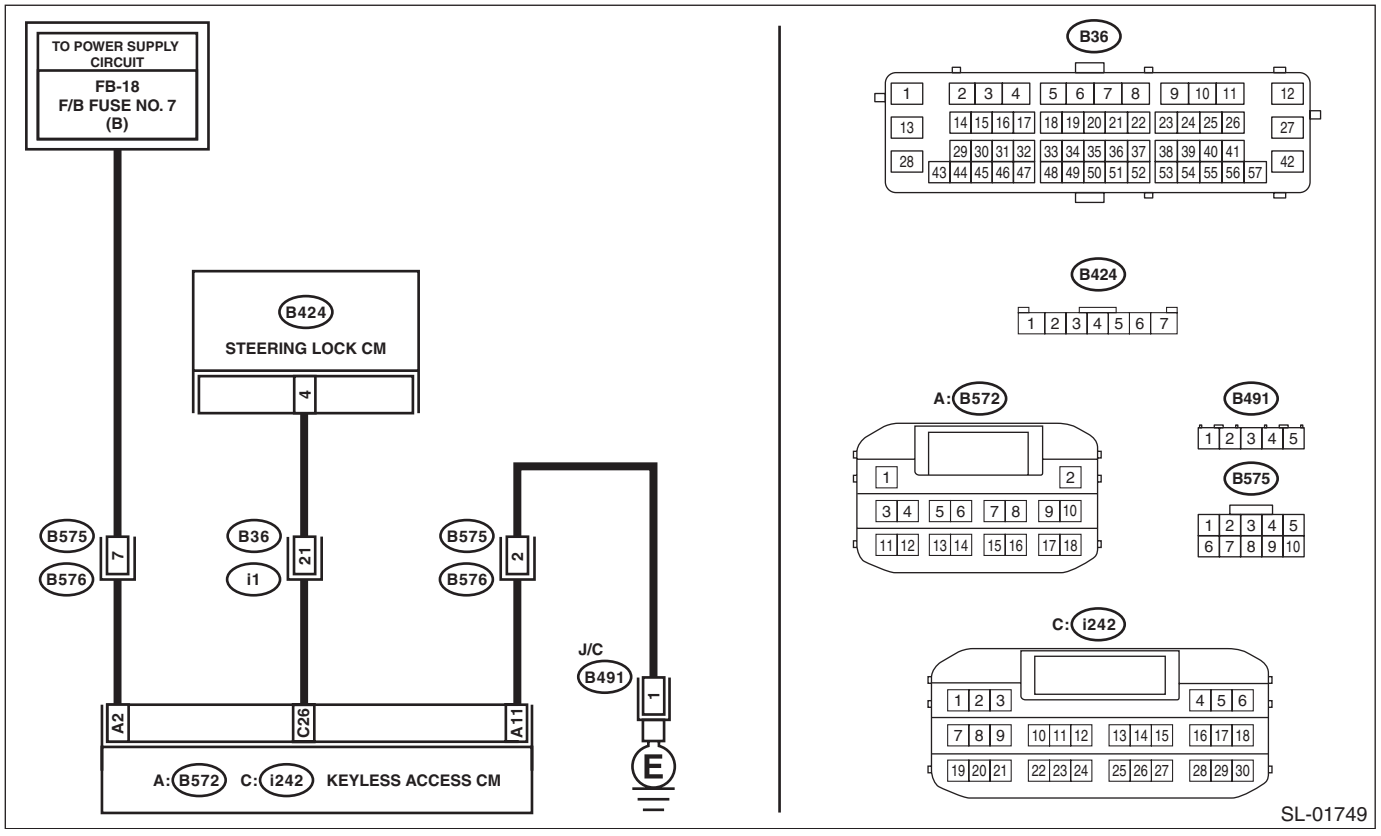
- There are conditions when the steering lock is not released.
- Engine will not start.

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK DTC.** Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Perform the inspection according to B2785. <Ref. to KPS(diag)-64, DTC B2785 LIN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. When locked: • Lock side sensor status: ON • Unlock side sensor status: OFF • Lock confirmation: Confirmed • Unlock confirmation: Not confirmed When unlocked: • Lock side sensor status: OFF • Unlock side sensor status: ON • Lock confirmation: Not confirmed • Unlock confirmation: Confirmed NOTE: To lock the steering lock, turn off the power, and open → close, or close → open the driver's door. To unlock the steering lock, turn the ignition switch to ACC ON or IGN ON.	Are the readings as shown on the left according to the steering lock status?	Go to step **4**.	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>
4	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. When locked: • Steering unlock switch: OFF When unlocked: • Steering unlock switch: ON NOTE: To lock the steering lock, turn off the power, and open → close, or close → open the driver's door. To unlock the steering lock, turn the ignition switch to ACC ON or IGN ON.	Are the readings as shown on the left according to the steering lock status?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Go to step **5**.
5	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **6**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
6	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 9.5 — 16 V?	Go to step **7**.	Check the power supply circuit.
7	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK HARNESS.** Using a tester, measure the resistance between the steering lock CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 4 — Chassis ground:***	Does the following occur? Steering lock: 10 kΩ or more → Steering unlock: less than 1 Ω	Go to step **9**.	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>

	Step	Check	Yes	No
9	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the steering lock CM connector. 3) Using a tester, measure the resistance between the keyless access CM connector and steering lock CM. ***Connector & terminal*** ***(i242) No. 26 — (B424) No. 4:***	Is the resistance less than 1 Ω?	Go to step **10**.	Repair or replace the open circuit of harness.
10	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 26 — Chassis ground:***	Is the resistance 10 kΩ or more?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Repair or replace the short circuit of the harness.

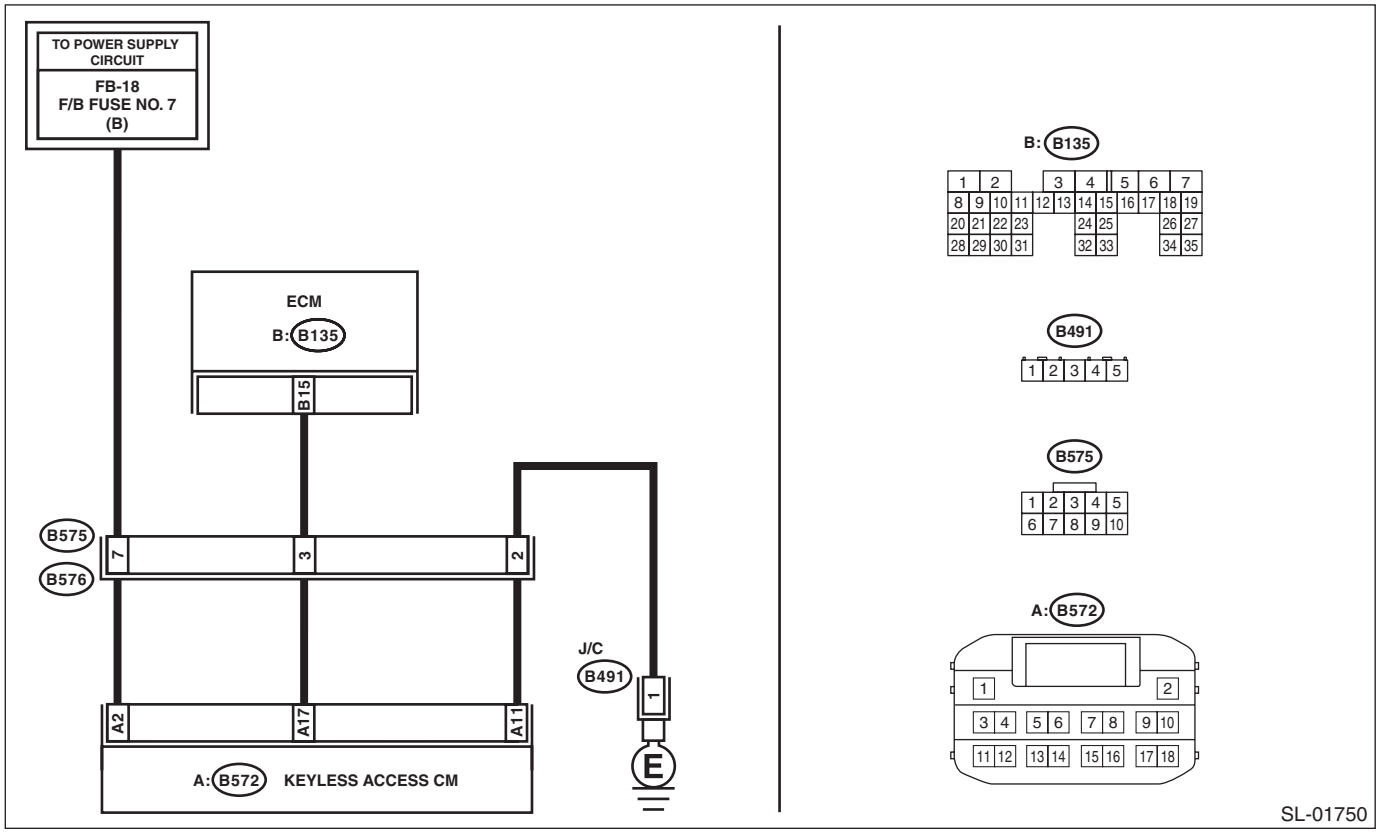
N: DTC B2286 DRIVING POSSIBLE SIGNAL ABNORMAL

DTC DETECTING CONDITION:
When the engine speed signal transmitted from the ECM via solid line and the engine speed signal transmitted via CAN communication line do not match.

TROUBLE SYMPTOM:
Engine will not start.

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. • {Engine Speed}	Can the data be read normally?	Perform the diagnosis for the engine. <Ref. to EN(H4DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step **3**.
3	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **4**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 9.5 — 16 V?	Go to step **5**.	Check the power supply circuit.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the ECM connector. 3) Using a tester, measure the resistance between the keyless access CM connector and ECM connector. ***Connector & terminal*** ***(B572) No. 17 — (B135) No. 15:***	Is the resistance less than 1 Ω?	Go to step **7**.	Repair or replace the open circuit of harness.
7	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 17 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK HARNESS.** 1) Connect the keyless access CM connector and ECM connector. 2) Using the Subaru Select Monitor, measure the waveform between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 17 — Chassis ground:***	Does the pulse stop when the engine is stopped, and does the pulse generate when the engine is started?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Perform the diagnosis for the engine. <Ref. to EN(H4DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

O: DTC B2779 REMOTE CONTROL ENGINE STARTER COMMUNICATION COLLATION NG

DTC DETECTING CONDITION:
When the keyless access CM does not respond to engine start even when the remote control engine starter is ON, or when there is a code mismatch.
TROUBLE SYMPTOM:
Remote engine starter does not function.

	Step	Check	Yes	No
1	**CHECK CONNECTOR.** Check the connection of remote engine starter CM.	Is there any fault?	Repair the connector, or replace the remote engine starter CM.	Go to step **2**.
2	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-53, RELATED LINES 57 — 63 Ω (REMOTE ENGINE START), INSPECTION, CAN Communication Circuit Check.>	Is there any fault?	Repair according to the CAN communication circuit inspection.	Go to step **3**.
3	**REGISTER THE REMOTE ENGINE STARTER.** 1) Register the remote engine starter using the Subaru Select Monitor. (Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".) 2) Clear the DTC. 3) Start the engine using the remote engine starter. 4) Read the DTC again.	Is DTC B2779 detected?	Replace the remote engine starter CM.	System is normal. It is possible that temporary poor contact occurs.

P: DTC B2781 STEERING LOCK ECU OPEN/SHORT

DTC DETECTING CONDITION:
- When malfunction is detected in lock/unlock position detection sensor.
- When the open or short circuit in the steering lock motor drive circuit is detected.

TROUBLE SYMPTOM:
- The steering lock cannot be released.
- Engine will not start.

CAUTION:
For replacement procedure of steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

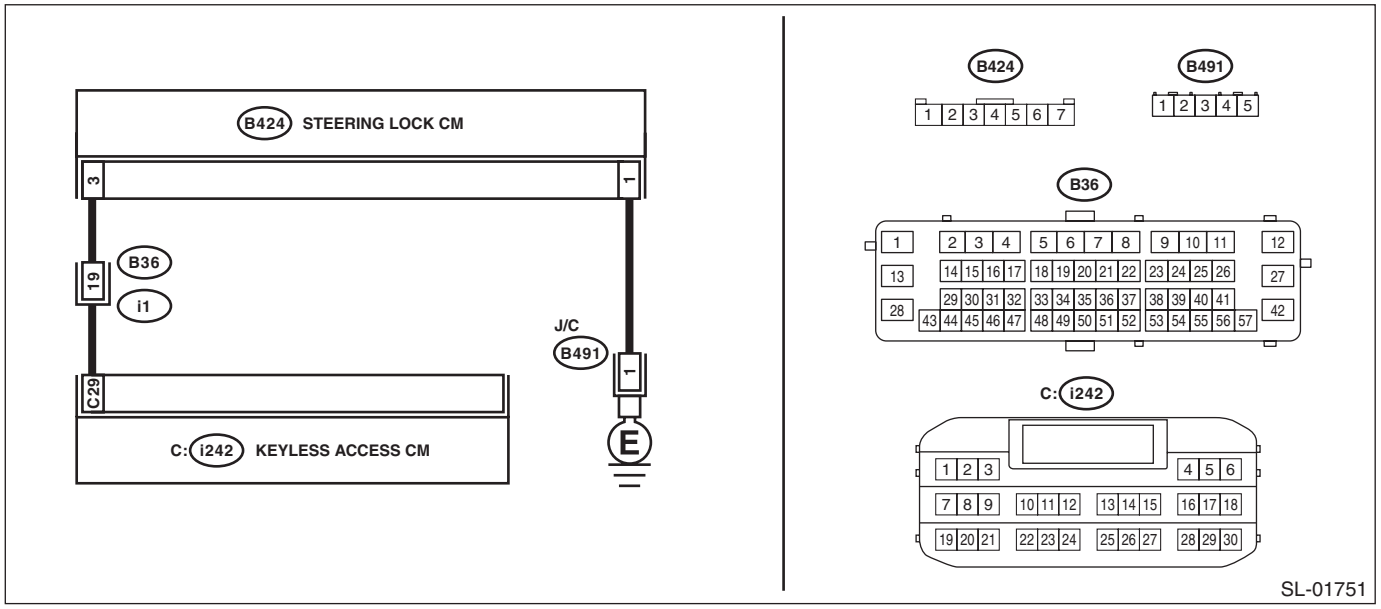
NOTE:
When all ECMs connected to collation system LIN bus cannot communicate with the keyless access CM, DTC B2785 is output.

	Step	Check	Yes	No
1	**CHECK DTC.** Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Perform the diagnosis according to DTC.	Replace the steering lock CM. <Ref. to SL-107, Steering Lock CM.>

Q: DTC B2782 STEERING LOCK POWER SUPPLY CIRCUIT ABNORMAL (SMART ECU-SIDE ABNORMAL)

DTC DETECTING CONDITION:
When the open or short circuit in the steering lock motor power supply circuit is detected.
TROUBLE SYMPTOM:
- The steering lock cannot be released.
- Engine will not start.

CAUTION:
For replacement procedure of keyless access CM and steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



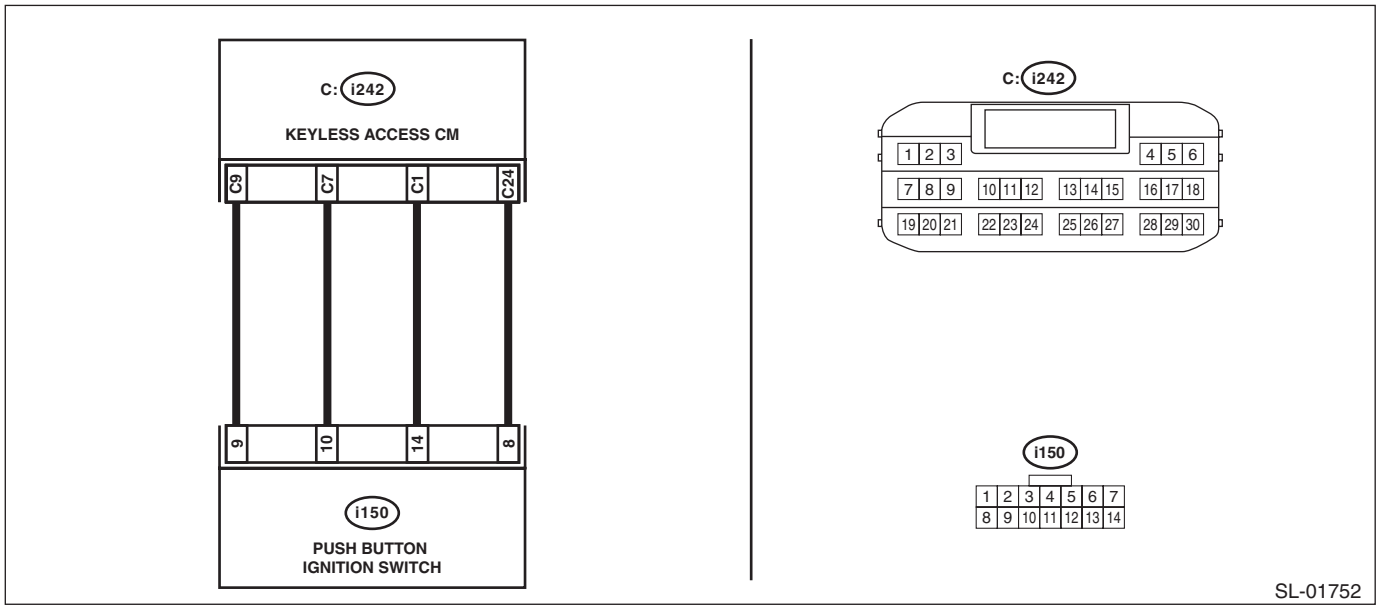
Step		Check	Yes	No
1	**CHECK STEERING LOCK CM.** 1) Disconnect the steering lock CM connector. 2) Using a tester, measure the resistance between the steering lock CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 1 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair or replace the open circuit of harness.
2	**CHECK CURRENT DATA.** 1) Connect the steering lock CM connector. 2) ACC OFF, IGN OFF, shift position in P 3) Using a tester, open the door, and measure the voltage between terminals of steering CM connector when the steering lock motor is driven. ***Connector & terminal*** ***(B424) No. 3 (+) — (B424) No. 1 (–):***	Does the voltage change as follows? Steering lock motor in operation: 1 V or less → Steering lock motor is stopped: 11 — 14 V	Go to step **3**.	Go to step **4**.

	Step	Check	Yes	No
3	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, clear the memory. 3) Turn the ignition switch to OFF. 4) Disconnect the battery ground cable and reconnect it, and then clear the abnormal information displayed on the data monitor. 5) Turn the ignition switch to ON. 6) Use the Subaru Select Monitor and read DTCs.	Is B2782 displayed?	Replace the steering lock CM. <Ref. to SL-107, Steering Lock CM.>	System is normal. It is possible that temporary poor contact occurs.
4	**CHECK CONNECTOR.** 1) Disconnect the steering lock CM connector. 2) Disconnect the keyless access CM connector.	Are connectors normal?	Go to step **5**.	Repair or replace the connector.
5	**CHECK HARNESS.** Using a tester, measure the resistance between steering lock CM connector and keyless access CM connector. ***Connector & terminal*** ***(i242) No. 29 — (B424) No. 3:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** Using a tester, measure the resistance between steering lock CM connector and chassis ground, and between keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 3 — Chassis ground:*** ***(i242) No. 29 — Chassis ground:***	Is the resistance 10 kΩ or more?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the short circuit of the harness.

R: DTC B2784 ANTENNA COIL FAULT

DTC DETECTING CONDITION:
When open or short circuit occurs in the antenna coil.
TROUBLE SYMPTOM:
The keyless access function may not be operable.

CAUTION:
For replacement procedure of keyless access CM and steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Immobilizer system <Ref. to WI-201, WITH PUSH BUTTON START, WIRING DIAGRAM, Immobilizer System.>



	Step	Check	Yes	No
1	**CHECK STEERING LOCK CM.** 1) Disconnect the push button ignition switch connector. 2) Disconnect the keyless access CM connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i150) No. 14 — (i242) No. 1:*** ***(i150) No. 9 — (i242) No. 9:*** ***(i150) No. 10 — (i242) No. 7:*** ***(i150) No. 8 — (i242) No. 24:***	Is the resistance less than 1 Ω?	Go to step **2**.	Repair or replace the open circuit of harness.
2	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i150) No. 14 — Chassis ground:*** ***(i150) No. 9 — Chassis ground:*** ***(i150) No. 10 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **3**.	Repair or replace the short circuit of the harness.
3	**CHECK PUSH BUTTON IGNITION SWITCH.** 1) Replace the push button ignition switch. <Ref. to SL-109, Push Button Ignition Switch.> 2) Using the Subaru Select Monitor, clear the memory. 3) Use the Subaru Select Monitor and read DTCs.	Is B2784 displayed?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Malfunction occurred in the push button ignition switch.

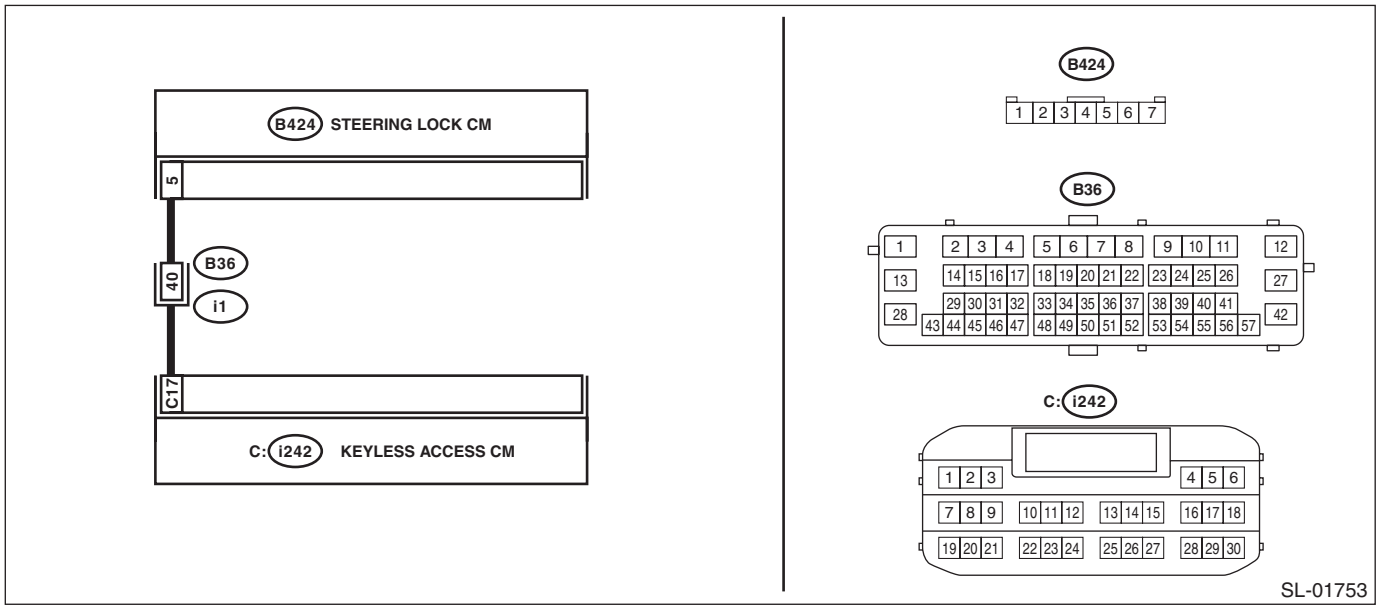
S: DTC B2785 LIN COMMUNICATION ERROR

DTC DETECTING CONDITION:
When the keyless access CM detected the collation system LIN bus communication error three times in a row.

TROUBLE SYMPTOM:
The keyless access function may not be operable.

CAUTION:
For replacement procedure of keyless access CM and steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK DTC.** Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Go to step **2**.	Check the connector.
2	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the steering lock CM connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i242) No. 17 — (B424) No. 5:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B424) No. 5 — Chassis ground:*** ***(i242) No. 17 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **4**.	Repair or replace the short circuit of the harness.
4	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector only. 2) Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK STEERING LOCK CM.** 1) Replace the steering lock CM, and then connect it. <Ref. to SL-107, REMOVAL, Steering Lock CM.> 2) Using the Subaru Select Monitor, clear the memory. 3) Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Malfunction occurred in the steering lock CM.

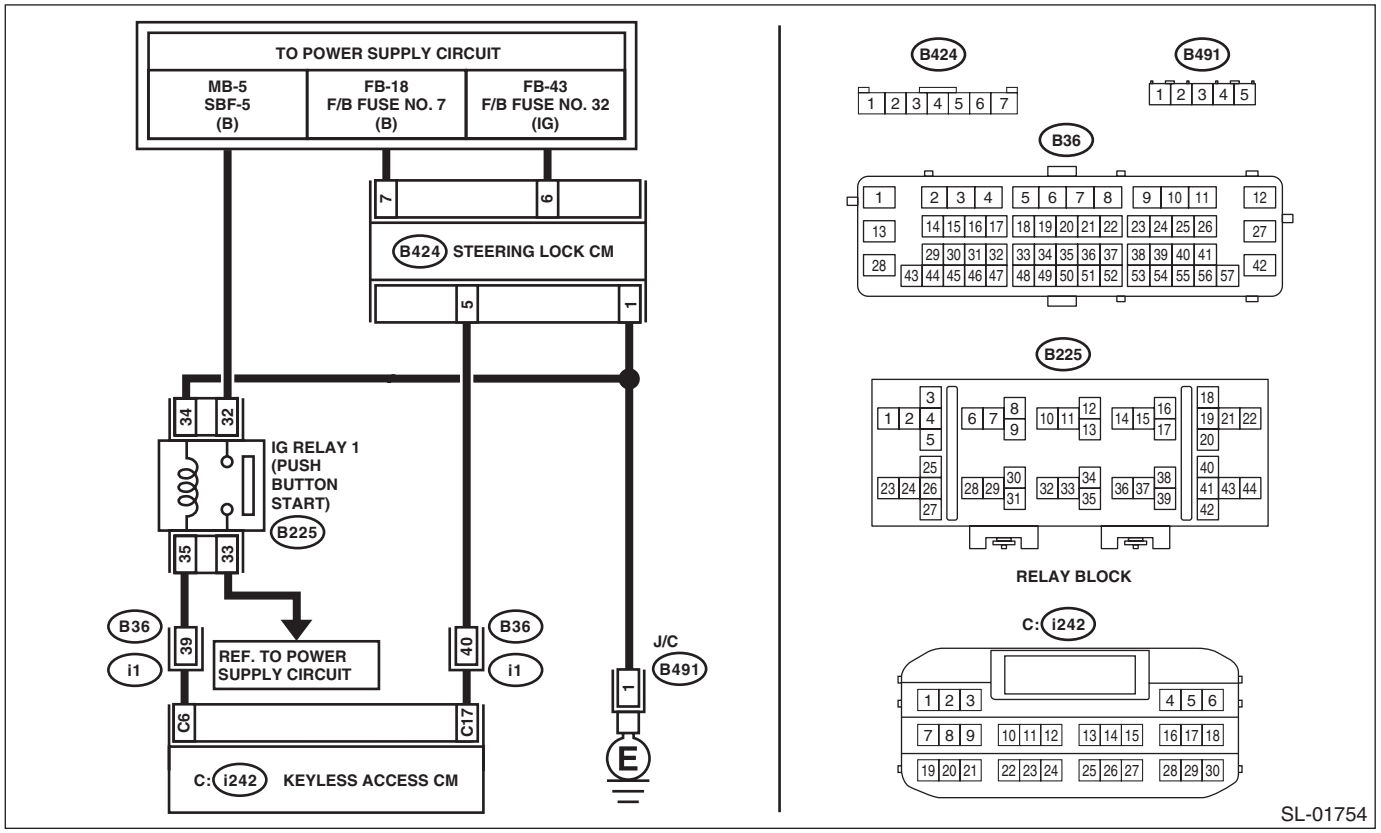
T: DTC B2786 NO RESPONSE FROM STEERING LOCK ECU

DTC DETECTING CONDITION:
When communication between keyless access CM and steering lock CM is interrupted for a set amount of time.

TROUBLE SYMPTOM:
The steering lock cannot be released.

CAUTION:
For replacement procedure of keyless access CM and steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK DTC.** Use the Subaru Select Monitor and read DTCs.	Is a DTC other than B2786 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the steering lock CM connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i242) No. 17 — (B424) No. 5:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B424) No. 5 — Chassis ground:*** ***(i242) No. 17 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **4**.	Repair or replace the short circuit of the harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, measure the resistance between the steering lock CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 1 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using a tester, measure the voltage between the steering lock CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 6 (+) — Chassis ground (–):*** ***(B424) No. 7 (+) — Chassis ground (–):***	Is the voltage 11 — 14 V?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK STEERING LOCK CM.** 1) Turn the ignition switch to ON. 2) Replace the steering lock CM. <Ref. to SL-107, Steering Lock CM.> 3) Using the Subaru Select Monitor, clear the memory. 4) Use the Subaru Select Monitor and read DTCs.	Is B2786 displayed?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Malfunction occurred in the steering lock CM.

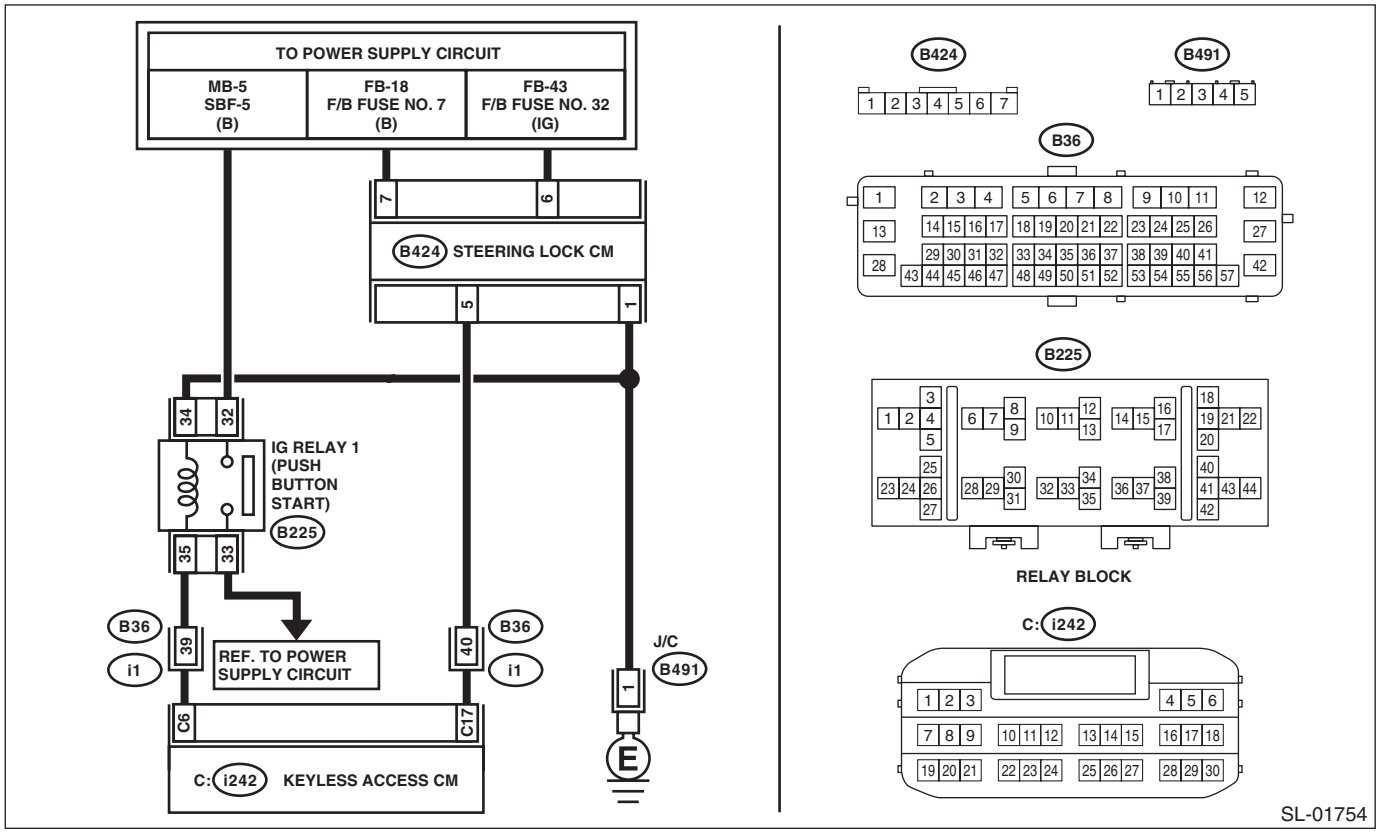
U: DTC B2788 IGN1 INPUT ABNORMAL

DTC DETECTING CONDITION:
When mismatch occurs in the IG1 input of the steering lock CM for both LIN communication line input (IG1 input value of keyless access CM) and solid line input.

TROUBLE SYMPTOM:
The steering lock cannot be released.

CAUTION:
For replacement procedure of steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



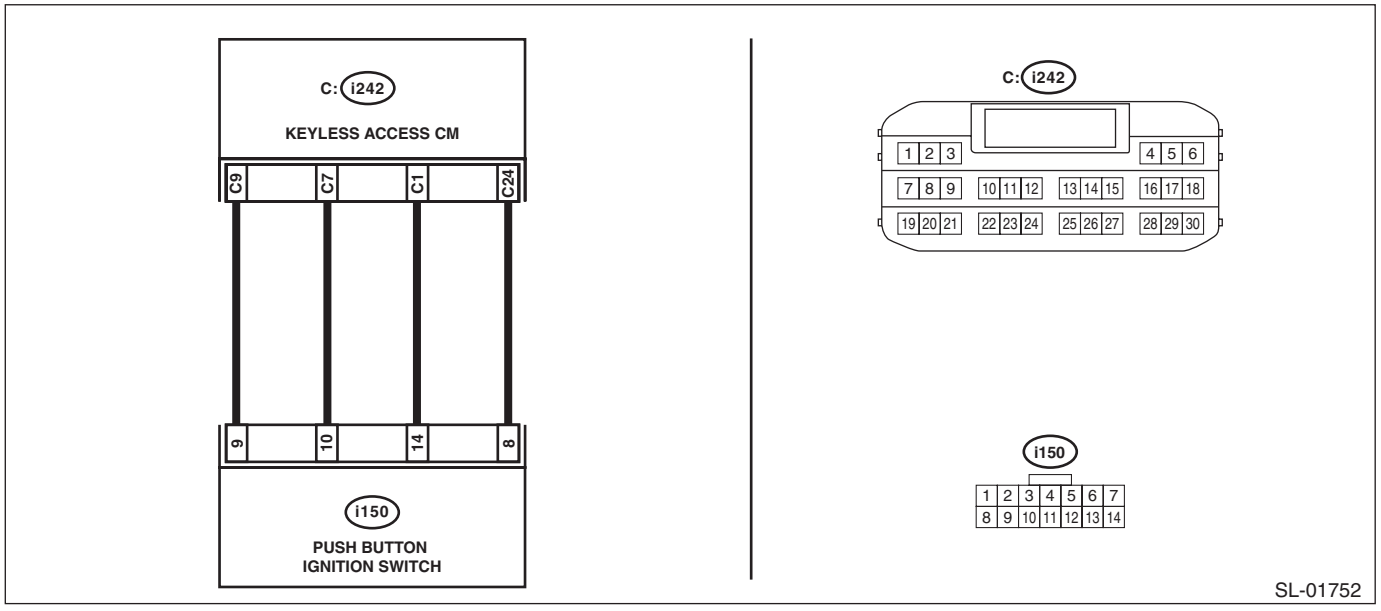
Step		Check	Yes	No
1	**CHECK FUSE.** Remove the fuse.	Is the fuse OK?	Go to step **2**.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
2	**CHECK CURRENT DATA.** Confirm the current data display of keyless access system using Subaru Select Monitor. • {IGN SW}	Is the display normal according to the ignition switch operation?	Go to step **3**.	Go to step **5**.
3	**CHECK HARNESS.** 1) Disconnect the steering lock CM connector. 2) Using a tester, measure the resistance between the steering lock CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 1 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.

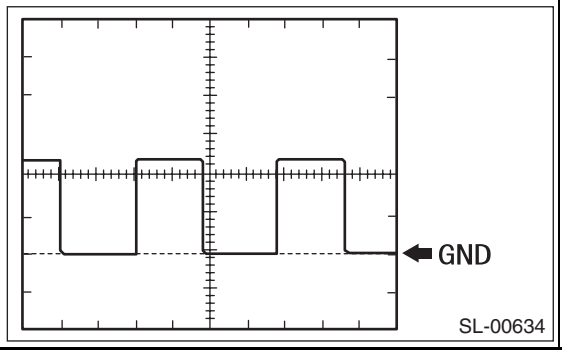
	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Connect the steering lock CM connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B424) No. 6 (+) — (B424) No. 1 (–):***	Is the voltage 11 — 14 V with IG ON? Is the voltage less than 1 V with IG OFF?	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>	Check the DC power supply circuit.
5	**CHECK HARNESS.** Using a tester, measure the voltage between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 5 (+) — Chassis ground (–):***	Is the voltage 11 — 14 V with IG ON? Is the voltage less than 1 V with IG OFF?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Check the DC power supply circuit.

V: DTC B278A ABNORMAL IMMOBILIZER POWER SUPPLY

DTC DETECTING CONDITION:
When the power supply circuit of the push button ignition switch is shorted to ground.
TROUBLE SYMPTOM:
- Engine does not start even the smart key is held above it.
- Key cannot be registered even the smart key is held above it.

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Immobilizer system <Ref. to WI-201, WITH PUSH BUTTON START, WIRING DIAGRAM, Immobilizer System.>



Step		Check	Yes	No
1	**CHECK KEYLESS ACCESS CM.** 1) Turn the ignition switch to OFF. 2) Take the access key out of the passenger room. 3) Push the push button ignition switch. Within 30 seconds, use oscilloscope to measure the waveform between connectors. ***Connector & terminal*** ***(i150) No. 14 — (i150) No. 8:*** 	Is the waveform shown in the left column displayed?	Go to step **2**.	Replace the push button ignition switch. <Ref. to SL-109, Push Button Ignition Switch.>

	Step	Check	Yes	No
2	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the push button ignition switch connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i150) No. 14 — (i242) No. 1:*** ***(i150) No. 8 — (i242) No. 24:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 1 — Chassis ground:*** ***(i242) No. 24 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **4**.	Repair or replace the short circuit of the harness.
4	**CHECK HARNESS.** 1) Connect the keyless access CM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 24 — Chassis ground:***	Is the resistance 1 Ω or less?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the harness.

W: DTC B278D ID CODE BOX RECOGNITION JUDGMENT ABNORMAL

DTC DETECTING CONDITION:

- When ID code box setting is set to OFF, ID code box ON input is detected.
- When ID code box setting is set to OFF, ID code box LIN signal is received.

TROUBLE SYMPTOM:

Engine will not start.

CAUTION:

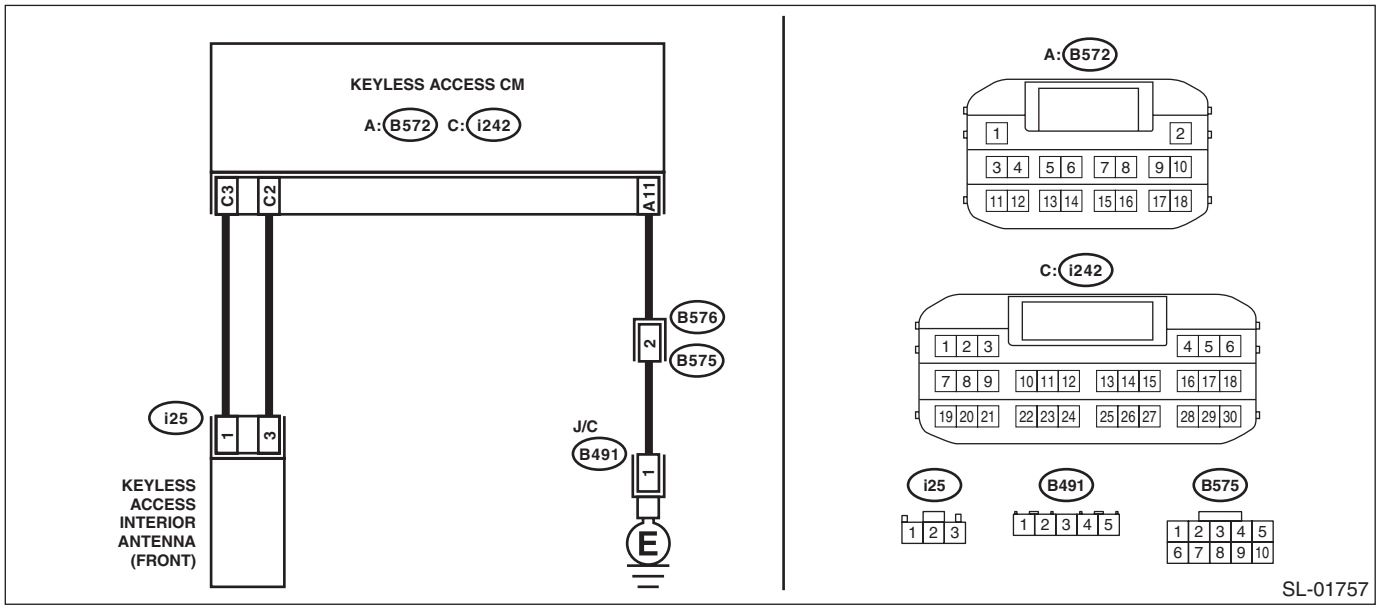
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Using the Subaru Select Monitor, clear the keyless access system memory. 3) Turn the ignition switch to OFF → ON. 4) Use the Subaru Select Monitor and read DTCs.	Is B278D displayed?	Go to step **2**.	System is normal. It is possible that temporary poor contact occurs.
2	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Measure the resistance between keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i241) No. 15 — Chassis ground:***	Is the resistance 10 kΩ or more? Or is the terminal (i242) No. 15 disconnected?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the short circuit of the harness.

X: DTC B27A5 FRONT INTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:
When open circuit occurs in the harness between keyless access CM and front interior antenna.
TROUBLE SYMPTOM:
Keyless access system does not function. (when the access key is in the front area of the passenger room)

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



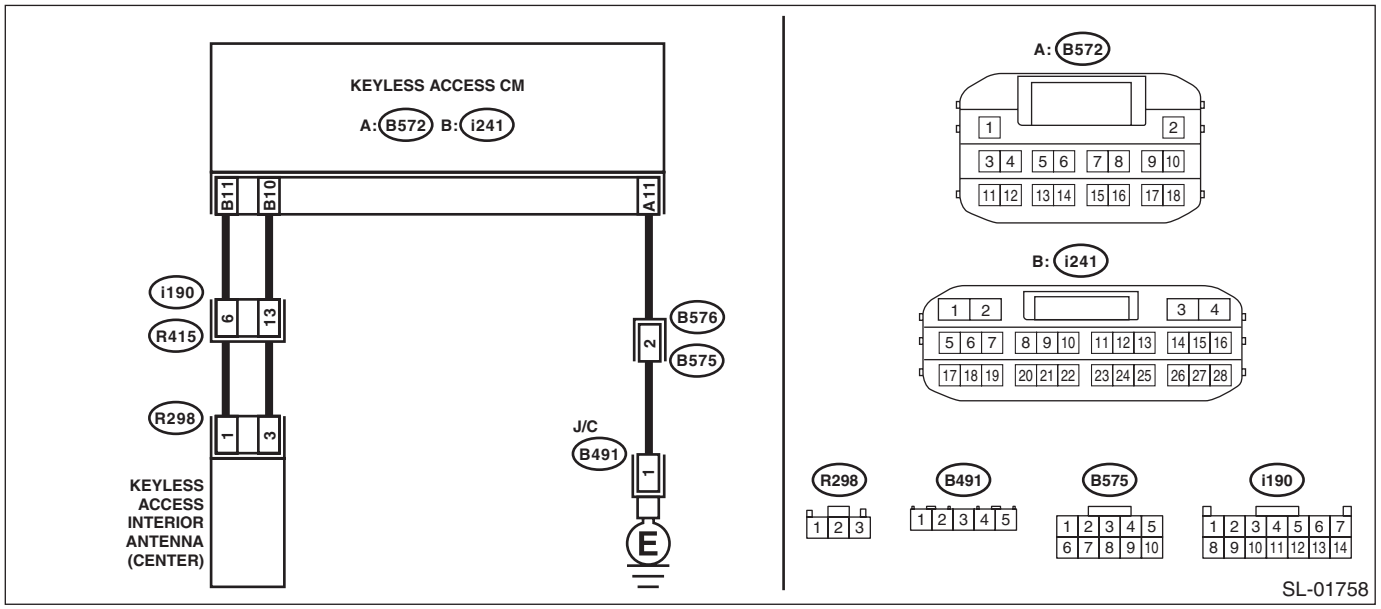
Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK CONNECTOR.** 1) Disconnect the keyless access CM connector. 2) Disconnect the front interior antenna connector.	Is the connector OK?	Go to step **3**.	Repair or replace the connector.
3	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and front interior antenna connector, and between front interior antenna connector and chassis ground. ***Connector & terminal*** ***(i242) No. 3 — (i25) No. 1:*** ***(i242) No. 2 — (i25) No. 3:*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between front interior antenna connector and chassis ground. ***Connector & terminal*** ***(i242) No. 3 — Chassis ground:*** ***(i25) No. 1 — Chassis ground:*** ***(i242) No. 2 — Chassis ground:*** ***(i25) No. 3 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **5**.	Repair or replace the short circuit of the harness.
5	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. ***Connector & terminal*** ***(i242) No. 3 — (B572) No. 11:*** ***(i242) No. 2 — (B572) No. 11:***	Does pulse output change from pulse output OFF → pulse output ON by operating the front lock button?	Go to step **6**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
6	**CHECK FRONT INTERIOR ANTENNA.** 1) Replace the front interior antenna. <Ref. to SL-90, Keyless Access Indoor Antenna.> 2) Read DTC using the Subaru Select Monitor.	Is B27A5 displayed?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Malfunction occurred in the front interior antenna.

Y: DTC B27A6 REAR INTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:
When open circuit occurs in the harness between keyless access CM and center interior antenna.
TROUBLE SYMPTOM:
Keyless access system does not function. (when the access key is in the rear area of the passenger room (near the seat))

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



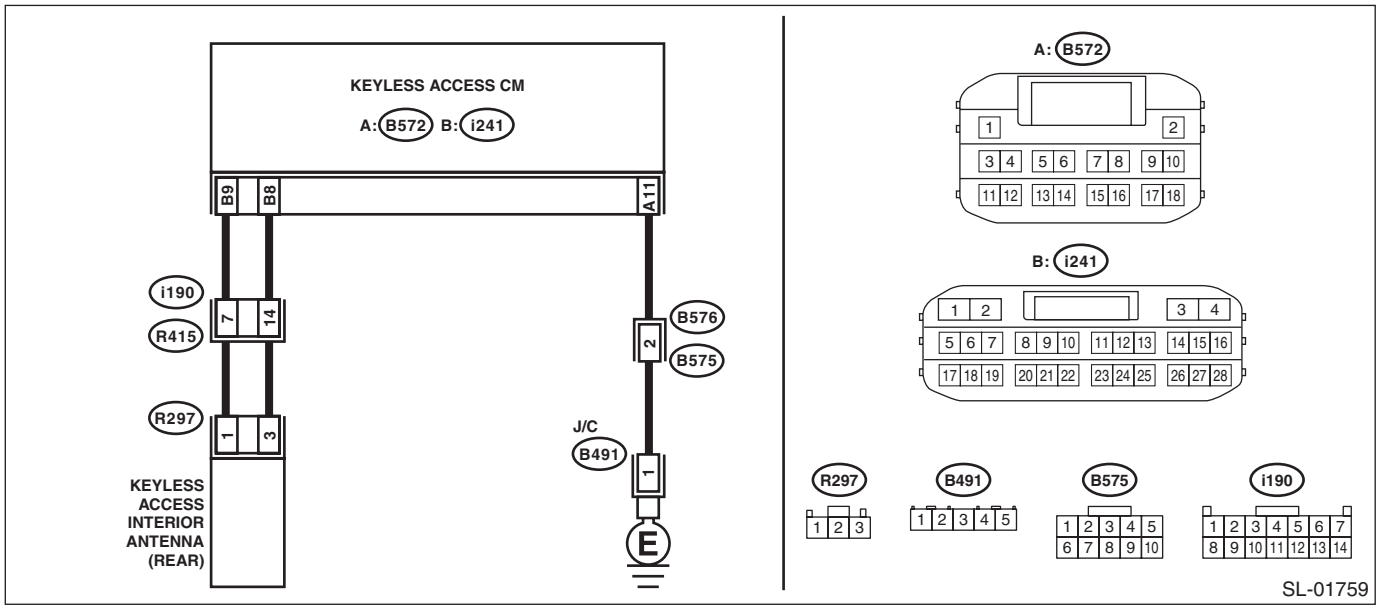
	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK CONNECTOR.** 1) Disconnect the keyless access CM connector. 2) Disconnect the center interior antenna connector.	Is the connector OK?	Go to step **3**.	Repair or replace the connector.
3	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and the center interior antenna connector and chassis ground. ***Connector & terminal*** ***(i241) No. 11 — (R298) No. 1:*** ***(i241) No. 10 — (R298) No. 3:*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between center interior antenna connector and chassis ground. ***Connector & terminal*** ***(i241) No. 11 — Chassis ground:*** ***(i241) No. 10 — Chassis ground:*** ***(R298) No. 1 — Chassis ground:*** ***(R298) No. 3 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **5**.	Repair or replace the short circuit of the harness.
5	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. ***Connector & terminal*** ***(i241) No. 10 — (B572) No. 11:*** ***(i241) No. 11 — (B572) No. 11:***	Does pulse output change from pulse output OFF → pulse output ON by operating the front lock button?	Go to step **6**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
6	**CHECK CENTER INTERIOR ANTENNA.** 1) Replace the center interior antenna. <Ref. to SL-90, Keyless Access Indoor Antenna.> 2) Read DTC using the Subaru Select Monitor.	Is B27A6 displayed?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Malfunction occurred in the center interior antenna.

Z: DTC B27A7 TRUNK/REAR GATE INTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:
When open circuit occurs in the harness between keyless access CM and rear interior antenna.
TROUBLE SYMPTOM:
Keyless access system does not function. (when the access key is in the trunk/rear gate (luggage))

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



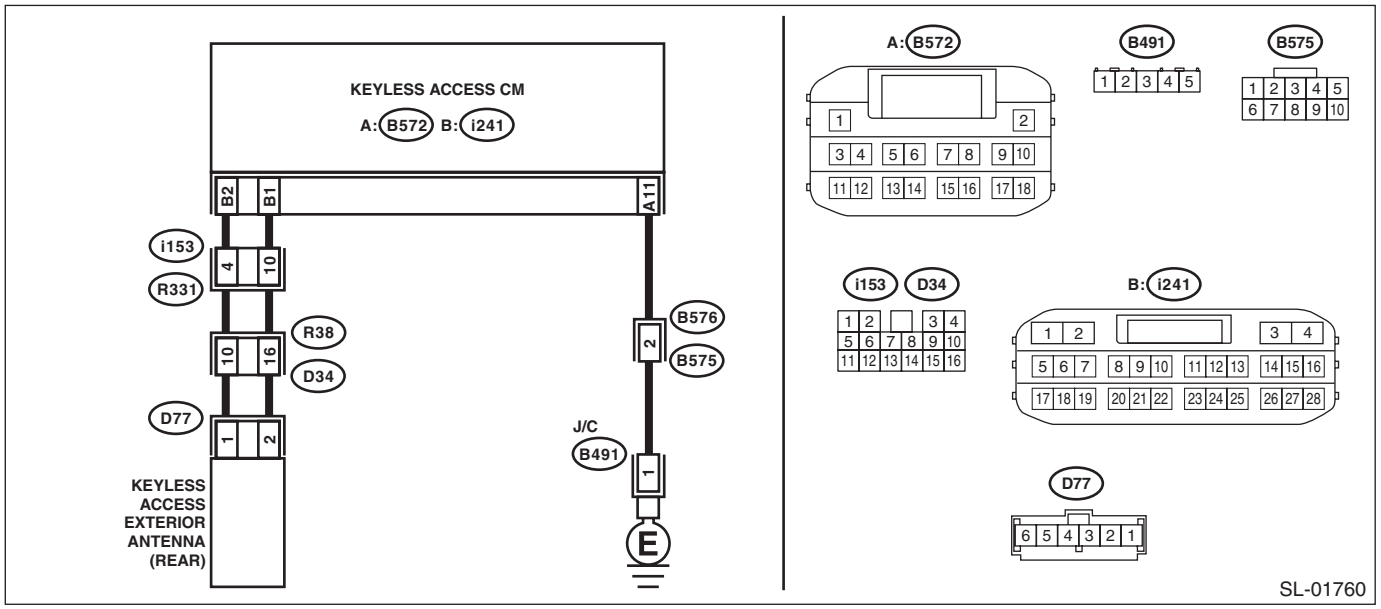
Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK CONNECTOR.** 1) Disconnect the keyless access CM connector. 2) Disconnect the rear interior antenna connector.	Is the connector OK?	Go to step **3**.	Repair or replace the connector.
3	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and rear interior antenna connector, and between rear interior antenna connector and chassis ground. ***Connector & terminal*** ***(i241) No. 8 — (R297) No. 3:*** ***(i241) No. 9 — (R297) No. 1:*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between rear interior antenna connector and chassis ground. ***Connector & terminal*** ***(i241) No. 8 — Chassis ground:*** ***(i241) No. 9 — Chassis ground:*** ***(R297) No. 1 — Chassis ground:*** ***(R297) No. 3 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **5**.	Repair or replace the short circuit of the harness.
5	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. ***Connector & terminal*** ***(i241) No. 8 — (B572) No. 11:*** ***(i241) No. 9 — (B572) No. 11:***	Does pulse output change from pulse output OFF → pulse output ON by operating the front lock button?	Go to step **6**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
6	**CHECK REAR INTERIOR ANTENNA.** 1) Replace the rear interior antenna. <Ref. to SL-90, Keyless Access Indoor Antenna.> 2) Read DTC using the Subaru Select Monitor.	Is B27A7 displayed?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Malfunction occurred in the rear interior antenna.

AA:DTC B27A8 TRUNK/REAR GATE EXTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:
When open circuit occurs in the harness between keyless access CM and rear exterior antenna.
TROUBLE SYMPTOM:
Keyless access system does not function. (Unable to unlock with the rear gate opener button, or unable to lock with the rear lock button.)

CAUTION:
For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK LAN SYSTEM.** Inspect LAN system.	Is LAN system normal?	Go to step **2**.	Perform the inspection according to the diagnosis for LAN system.
2	**CHECK CONNECTOR.** 1) Disconnect the keyless access CM connector. 2) Disconnect the rear exterior antenna connector.	Is the connector OK?	Go to step **3**.	Repair or replace the connector.
3	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and rear exterior antenna connector, and between rear exterior antenna connector and chassis ground. ***Connector & terminal*** ***(i241) No. 2 — (D77) No. 1:*** ***(i241) No. 1 — (D77) No. 2:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between rear exterior antenna connector and chassis ground. ***Connector & terminal*** ***(i241) No. 2 — Chassis ground:*** ***(i241) No. 1 — Chassis ground:*** ***(D77) No. 1 — Chassis ground:*** ***(D77) No. 2 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **5**.	Repair or replace the short circuit of the harness.
5	**CHECK REAR EXTERIOR ANTENNA.** 1) Remove the rear exterior antenna. 2) Using a tester, measure the resistance between rear exterior antenna connectors. ***Connector & terminal*** ***(D77) No. 1 — No. 2:***	Is the resistance less than 1 Ω?	Go to step **6**.	Replace the rear exterior antenna. <Ref. to SL-97, Keyless Access Outdoor Antenna.>
6	**CHECK KEYLESS ACCESS CM.** 1) Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.> 2) Read DTC using the Subaru Select Monitor.	Is B27A8 displayed?	Replace the rear exterior antenna. <Ref. to SL-97, Keyless Access Outdoor Antenna.>	Malfunction occurred in the keyless access CM.

AB:DTC B1571 REFERENCE CODE INCOMPATIBILITY

DTC DETECTING CONDITION:

Reference code incompatibility between keyless access CM and ECM

TROUBLE SYMPTOM:

Engine will not start.

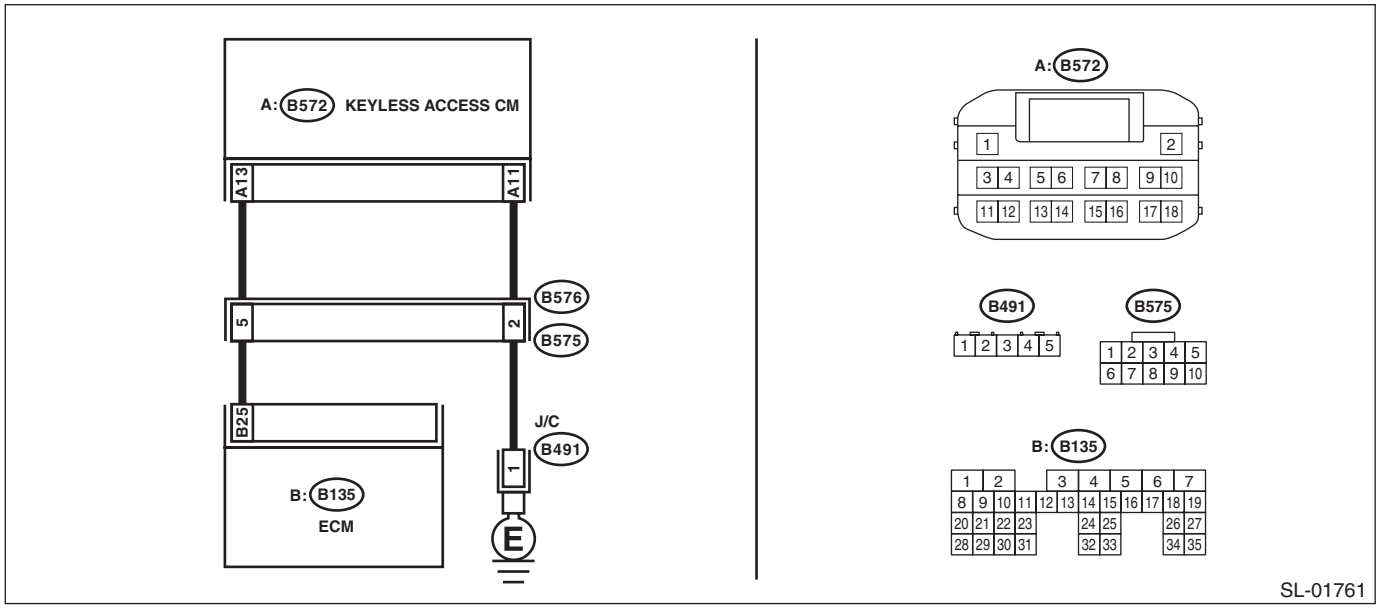
	Step	Check	Yes	No
1	**CHECK ECM.** Perform ECM registration. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is ECM registration finished? And does the engine start?	System is normal.	Go to step **2**.
2	**REPLACE ECM.** 1) Install the ECM from other normal operating vehicle (with push button start) which use same ECM to the vehicle to be diagnosed. 2) Perform ECM registration. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is ECM registration finished? And does the engine start?	Replace the ECM. <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).> Install the ECM from other vehicle to the original vehicle.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

AC:DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

DTC DETECTING CONDITION:
Communication error between keyless access CM and ECM

TROUBLE SYMPTOM:
Engine will not start.

WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** 1) Turn the ignition switch to ON. 2) Check the keyless access CM data using the Subaru Select Monitor. 3) Display the next data. “Immobilizer” “Engine start” “Unlock confirmation” ***Data*** ***Immobilizer = Unset:*** ***Engine start = Engine start permission:*** ***Unlock confirmation = Confirmed:***	Is the data displayed as described above?	Go to step **2**.	Perform diagnostics with phenomenon. <Ref. to KPS(diag)-113, ENGINE DOES NOT START, INSPECTION, Diagnostics with Phenomenon.>
2	**CHECK CURRENT DATA.** Use the Subaru Select Monitor to check the keyless access CM data when holding down the push button ignition switch while depressing on the brake pedal (AT model) or clutch pedal (MT model). ***Data*** ***EGI code reception status = Reception:*** NOTE: If “Reception” is displayed, the status changes to “Not yet received” in 10 seconds. When performing the check again, perform the check after turning the ignition to OFF.	Is the data displayed as described above?	Go to step **3**.	Repair or replace the harness between keyless access CM and ECM.

	Step	Check	Yes	No
3	**CHECK WIRING HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the keyless access CM connector and ECM connector. 3) Using a tester, measure the resistance between the keyless access CM connector and ECM. ***Connector & terminal*** ***(B572) No. 13 — (B135) No. 25:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK WIRING HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK ECM.** 1) Install the ECM from other normal operating vehicle (with push button start) which use same ECM to the vehicle to be diagnosed. 2) Perform ECM registration. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is ECM registration finished? And does the engine start?	Replace the ECM. <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).> Install the ECM from other vehicle to the original vehicle.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

AD:DTC B1576 EGI CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- ECM malfunctioning
- When inaccessible to ROM in ECM during registration.

	Step	Check	Yes	No
1	**PERFORM ECM REGISTRATION.** Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration complete?	Make sure that the engine can start. This completes the work.	Go to step **2**.
2	**PERFORM ECM REGISTRATION.** Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration complete?	Make sure that the engine can start. This completes the work.	Go to step **3**.
3	**PERFORM ECM REGISTRATION.** Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration complete?	Make sure that the engine can start. This completes the work.	Replace the ECM. <Ref. to FU(H4DO)-101, REMOVAL, Engine Control Module (ECM).>

AE:DTC B1577 IMM CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- Defective keyless access CM
- When inaccessible to ROM in keyless access CM.

	Step	Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Perform the clear memory operation of ECM. 3) Turn the ignition switch to OFF. 4) Remove and install the battery. 5) Turn the ignition switch to ON. 6) After 5 seconds or more, read DTC.	Is P1577 displayed?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	System is normal.

AF:DTC P1571 REFERENCE CODE INCOMPATIBILITY

NOTE:
For the diagnostic procedure, refer to “DTC B1571 REFERENCE CODE INCOMPATIBILITY”. <Ref. to KPS(diag)-81, DTC B1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AG:DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

NOTE:
For the diagnostic procedure, refer to “DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)”. <Ref. to KPS(diag)-82, DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AH:DTC P1576 EGI CONTROL MODULE EEPROM

NOTE:
For the diagnostic procedure, refer to “DTC B1576 EGI CONTROL MODULE EEPROM”. <Ref. to KPS(diag)-84, DTC B1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AI: DTC P1577 IMM CONTROL MODULE EEPROM

NOTE:
For the diagnostic procedure, refer to “DTC B1577 IMM CONTROL MODULE EEPROM”. <Ref. to KPS(diag)-84, DTC B1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

14.General Diagnostic Table

A: INSPECTION

1. IMMOBILIZER SYSTEM

Symptoms	Note
Engine does not start	<Ref. to KPS(diag)-113, ENGINE DOES NOT START, INSPECTION, Diagnostics with Phenomenon.>
	<Ref. to KPS(diag)-63, DTC B2784 ANTENNA COIL FAULT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	<Ref. to KPS(diag)-70, DTC B278A ABNORMAL IMMOBILIZER POWER SUPPLY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	<Ref. to KPS(diag)-64, DTC B2785 LIN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	Check the brake switch (except for MT model). <Ref. to BR-65, INSPECTION, Stop Light Switch.> Check the clutch switch for MT model. <Ref. to CL-30, INSPECTION, Clutch Switch.>
	Check the parking switch signal. <Ref. to CS-59, INSPECTION, AT Shift Lock Solenoid and “P” Range Switch.>
	Check the DTC of the ECM.
Cannot register the immobilizer.	Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.
Engine does not start with the remote engine starter.	<Ref. to KPS(diag)-60, DTC B2779 REMOTE CONTROL ENGINE STARTER COMMUNICATION COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

2. KEYLESS ACCESS SYSTEM

Symptoms	Reference
All doors cannot be locked/unlocked with keyless access.	<Ref. to KPS(diag)-88, KEYLESS ACCESS LOCK/UNLOCK CANNOT BE PERFORMED FROM ANY OF THE DOORS, INSPECTION, Diagnostics with Phenomenon.>
Keyless access system does not function.	<Ref. to KPS(diag)-89, ALL KEYLESS ACCESS FUNCTIONS DO NOT OPERATE, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock with keyless access from the driver’s door.	<Ref. to KPS(diag)-90, CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER’S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock/unlock from the driver’s door with keyless access.	<Ref. to KPS(diag)-91, CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER’S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot unlock from the driver’s door with keyless access.	<Ref. to KPS(diag)-92, CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER’S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot unlock from the passenger’s door with keyless access.	<Ref. to KPS(diag)-95, CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER’S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock/unlock from the passenger’s door with keyless access.	<Ref. to KPS(diag)-94, CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER’S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock from the passenger’s door with keyless access.	<Ref. to KPS(diag)-93, CANNOT LOCK WITH KEYLESS ACCESS FROM THE PASSENGER’S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Keyless access passenger room buzzer does not sound.	<Ref. to KPS(diag)-96, THE KEYLESS ACCESS PASSENGER ROOM BUZZER DOES NOT SOUND, INSPECTION, Diagnostics with Phenomenon.>
Keyless access external buzzer does not beep.	<Ref. to KPS(diag)-96, KEYLESS ACCESS EXTERNAL BUZZER DOES NOT BEEP, INSPECTION, Diagnostics with Phenomenon.>
Interior collation does not function.	<Ref. to KPS(diag)-98, INTERNAL COLLATION DOES NOT FUNCTION, INSPECTION, Diagnostics with Phenomenon.>
Rear gate cannot be unlocked with the rear gate opener button.	<Ref. to KPS(diag)-100, REAR GATE CANNOT BE UNLOCKED WITH THE REAR GATE OPENER BUTTON, INSPECTION, Diagnostics with Phenomenon.>
Rear gate can not be locked when using the rear lock button.	<Ref. to KPS(diag)-102, CAN NOT LOCK WHEN USING THE REAR LOCK BUTTON, INSPECTION, Diagnostics with Phenomenon.>

3. STEERING LOCK SYSTEM

Symptoms	Index
The steering lock cannot be released (Cannot start the engine).	<Ref. to KPS(diag)-104, THE STEERING LOCK IS NOT RELEASED, INSPECTION, Diagnostics with Phenomenon.>
The steering lock does not operate.	<Ref. to KPS(diag)-105, THE STEERING LOCK DOES NOT OPERATE, INSPECTION, Diagnostics with Phenomenon.>

4. POWER SUPPLY SWITCHING SYSTEM

Symptoms	Reference
Power will not turn ON (both accessory and ignition).	<Ref. to KPS(diag)-106, POWER WILL NOT TURN ON (BOTH ACCESSORY AND IGNITION), INSPECTION, Diagnostics with Phenomenon.>
Power will not turn ON (Accessory only).	<Ref. to KPS(diag)-109, POWER WILL NOT TURN ON (ACCESSORY DOES NOT TURN ON, BUT IGNITION TURNS ON), INSPECTION, Diagnostics with Phenomenon.>
Power will not turn ON (Ignition only).	<Ref. to KPS(diag)-111, POWER WILL NOT TURN ON (ACCESSORY TURNS ON, BUT IGNITION DOES NOT TURN ON), INSPECTION, Diagnostics with Phenomenon.>

15.Diagnostics with Phenomenon

A: INSPECTION

1. KEYLESS ACCESS LOCK/UNLOCK CANNOT BE PERFORMED FROM ANY OF THE DOORS

CAUTION:
• Check that there are no other registered access keys inside the vehicle.
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK OPERATION OF KEYLESS DOOR LOCK.** Using the keyless function of the access key, check the operation of the door lock.	Does it lock/unlock normally?	Check the exterior antenna, oscillator, touch sensor, lock/unlock buttons.	Go to step **2**.
2	**CHECK ACCESS KEY.** Check for whether lock and unlock is possible with the registered access key.	Is there any access key which can lock/unlock when the touch sensor is operated?	Check the access key that does not operate.	Go to step **3**.
3	**CHECK DOOR LOCK.** Operate the driver's center door lock switch.	Does the door lock operate?	Go to step **4**.	Check the door lock control system. <Ref. to SL-11, INSPECTION, Door Lock Control System.>
4	**CHECK RECEIVER.** Replace with a receiver that is operating normally. <Ref. to SL-104, REMOVAL, Receiver.>	When the front unlock sensor, the trunk opener or the rear gate opener button is operated, does it lock/unlock?	Malfunction occurred in receiver.	Go to step **5**.
5	**CHECK HARNESS.** 1) Disconnect the receiver connector (R296). 2) Using a tester, measure the resistance between receiver and chassis ground. ***Connector & terminal*** ***(R296) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the resistance between receiver and keyless access CM. ***Connector & terminal*** ***(R296) No. 4 — (i241) No. 5:*** ***(R296) No. 5 — (i241) No. 17:*** ***(R296) No. 2 — (i241) No. 19:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair or replace the open circuit of harness.
7	**CHECK HARNESS.** Using a tester, measure the voltage between the keyless access CM and chassis ground. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more when the ignition switch is turned to ON?	Go to step **8**.	Check the keyless access CM power supply circuit.
8	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the open circuit of harness.

2. ALL KEYLESS ACCESS FUNCTIONS DO NOT OPERATE

CAUTION:
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK KEYLESS ACCESS FUNCTION STOP.** Check for whether the keyless access system is in a stop status or simple cancel function status. <Ref. to SL-124, OPERATION, Function Setting (Customize).>	Is the keyless access system in a stop status?	Release the keyless access function stop status. <Ref. to SL-124, OPERATION, Function Setting (Customize).>	Go to step **2**.
2	**CHECK KEYLESS ACCESS CM.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK KEYLESS ACCESS CM.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the open circuit of harness.

3. CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR

CAUTION:
• Check that there are no other registered access keys inside the vehicle.
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step **2**.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2	**CHECK CURRENT DATA.** 1) Display the current data «Driver's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the driver's side lock actuator.	Does the data change from ON/OFF?	Go to step **3**.	Check the door lock switch circuit.
3	**CHECK CURRENT DATA.** 1) Display the current data «Driver's lock touch sensor SW» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the front lock button of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the antenna connector. 3) Using a tester, measure the resistance between the keyless access CM connector and antenna connector. ***Connector & terminal*** ***(i242) No. 20 — (D66) No. 3:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between antenna connector and chassis ground. ***Connector & terminal*** ***(i242) No. 20 — Chassis ground:*** ***(B66) No. 3 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **6**.	Repair or replace the short circuit of the harness.
6	**REPLACE FRONT DOOR OUTER HANDLE.** Replace the driver's side front outer handle with the passenger's side front outer handle.	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

4. CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR

CAUTION:
• Check that there are no other registered access keys inside the vehicle.
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step **2**.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **3**.	Replace the fuse.
3	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector, and between oscillator connector and chassis ground. ***Connector & terminal*** ***(i242) No. 12 — (D65) No. 10:*** ***(i242) No. 13 — (D65) No. 5:*** ***(i242) No. 19 — (D65) No. 4:*** ***(D66) No. 7 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. ***Connector & terminal*** ***(i242) No. 12 — Chassis ground:*** ***(D65) No. 10 — Chassis ground:*** ***(i242) No. 13 — Chassis ground:*** ***(D65) No. 5 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **5**.	Repair or replace the short circuit of the harness.
5	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Turn the ignition switch to OFF, close all doors and take the access key out of passenger room. 3) Using the Subaru Select Monitor, measure the waveform between the oscillator connectors. ***Connector & terminal*** ***(D65) No. 5 — No. 10:***	Does pulse output change from pulse output OFF → pulse output ON by the lock operation using access key?	Go to step **6**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
6	**REPLACE FRONT DOOR OUTER HANDLE.** Replace the driver's side front outer handle with the passenger's side front outer handle.	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-37, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

5. CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR

CAUTION:
• Check that there are no other registered access keys inside the vehicle.
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step **2**.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2	**CHECK CURRENT DATA.** 1) Display the current data «Driver's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the driver's side lock actuator.	Does the data change from ON/OFF?	Go to step **3**.	Check the door lock switch circuit.
3	**CHECK CURRENT DATA.** 1) Display the current data «Driver's unlock touch sensor switch» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the touch sensor of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector. ***Connector & terminal*** ***(i242) No. 22 — (D65) No. 6:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. ***Connector & terminal*** ***(i242) No. 22 — Chassis ground:*** ***(D65) No. 6 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **6**.	Repair or replace the short circuit of the harness.
6	**REPLACE FRONT DOOR OUTER HANDLE.** Replace the driver's side front outer handle with the passenger's side front outer handle.	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

6. CANNOT LOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR

CAUTION:
• Check that there are no other registered access keys inside the vehicle.
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step **2**.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2	**CHECK CURRENT DATA.** 1) Display the current data «Passenger's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the passenger's side lock actuator.	Does the data change from ON/OFF?	Go to step **3**.	Check the door lock switch circuit.
3	**CHECK CURRENT DATA.** 1) Display the current data «Passenger's lock touch sensor SW» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the front lock button of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the antenna connector. 3) Using a tester, measure the resistance between the keyless access CM connector and antenna connector. ***Connector & terminal*** ***(i242) No. 8 — (D56) No. 3:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between antenna connector and chassis ground. ***Connector & terminal*** ***(i242) No. 8 — Chassis ground:*** ***(D56) No. 3 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **6**.	Repair or replace the short circuit of the harness.
6	**REPLACE FRONT DOOR OUTER HANDLE.** Replace the passenger's side front outer handle with the driver's side front outer handle.	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

7. CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR

CAUTION:
- **Check that there are no other registered access keys inside the vehicle.**
- **Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.**
- **Check that the keyless access function is not stopped.**
- **When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step **2**.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **3**.	Replace the fuse.
3	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector, and between oscillator connector and chassis ground. ***Connector & terminal*** ***(i242) No. 11 — (D55) No. 10:*** ***(i242) No. 10 — (D55) No. 5:*** ***(i242) No. 23 — (D55) No. 6:*** ***(D56) No. 7 — Chassis ground:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. ***Connector & terminal*** ***(i242) No. 11 — Chassis ground:*** ***(D55) No. 10 — Chassis ground:*** ***(i242) No. 10 — Chassis ground:*** ***(D55) No. 5 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **5**.	Repair or replace the short circuit of the harness.
5	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Turn the ignition switch to OFF, close all doors and take the access key out of passenger room. 3) Using the Subaru Select Monitor, measure the waveform between the oscillator connectors. ***Connector & terminal*** ***(D55) No. 5 — No. 10:***	Does pulse output change from pulse output OFF → pulse output ON by the lock operation using access key?	Go to step **6**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
6	**REPLACE FRONT DOOR OUTER HANDLE.** Replace the passenger's side front outer handle with the driver's side front outer handle.	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-37, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

8. CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR

CAUTION:
• Check that there are no other registered access keys inside the vehicle.
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step **2**.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2	**CHECK CURRENT DATA.** 1) Display the current data «Passenger's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the passenger's side lock actuator.	Does the data change from ON/OFF?	Go to step **3**.	Check the door lock switch circuit.
3	**CHECK CURRENT DATA.** 1) Display the current data «Passenger's unlock touch sensor switch» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the touch sensor of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector. ***Connector & terminal*** ***(i242) No. 23 — (D55) No. 6:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. ***Connector & terminal*** ***(i242) No. 23 — Chassis ground:*** ***(D55) No. 6 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **6**.	Repair or replace the short circuit of the harness.
6	**REPLACE FRONT DOOR OUTER HANDLE.** Replace the passenger's side front outer handle with the driver's side front outer handle.	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

9. THE KEYLESS ACCESS PASSENGER ROOM BUZZER DOES NOT SOUND

CAUTION:
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK COMBINATION METER.** Check the combination meter.	Is combination meter OK?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Replace the combination meter. <Ref. to IDI-25, REMOVAL, Combination Meter.>

10.KEYLESS ACCESS EXTERNAL BUZZER DOES NOT BEEP

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT SETTING.** Using the Subaru Select Monitor, check the «Ans.-back Buzzer» data of body integrated unit.	Is the setting "ON"?	Go to step **2**.	Change the setting to "ON".
2	**CHECK BUZZER OPERATION.** Use the Subaru Select Monitor to perform the body integrated unit function check «Keyless Buzzer Output». <Ref. to BC(diag)-23, OPERATION, Function Check.>	Does the buzzer sound?	Go to step **3**.	Go to step **5**.
3	**CHECK KEYLESS ACCESS SYSTEM.** 1) Turn to IGN OFF. 2) With all doors closed and the access key carried, touch the touch sensor (lock) on the driver's door handle.	Does the door lock?	Go to step **4**.	Refer to "CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR" and perform inspection. <Ref. to KPS(diag)-90, CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
4	**CHECK KEYLESS ACCESS SYSTEM.** 1) Open the door, and open the door glass. 2) Place the access key on the driver's seat, and close the door. 3) Touch the touch sensor (lock) on the driver's door handle.	Does the buzzer sound? (Lock-out protection warning)	System is normal.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
5	**CHECK HARNESS.** 1) Turn to IGN OFF. 2) Disconnect the connectors of the body integrated unit and keyless buzzer. 3) Measure the resistance between body integrated unit connector and keyless buzzer connector. ***Connector & terminal*** ***(B280) No. 20 — (B490) No. 1:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
6	**CHECK HARNESS.** Measure the resistance between keyless buzzer connector and chassis ground. ***Connector & terminal*** ***(B490) No. 1 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **7**.	Repair or replace the short circuit of the harness.
7	**CHECK HARNESS.** Measure the resistance between keyless buzzer connector and chassis ground. ***Connector & terminal*** ***(B490) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK BODY INTEGRATED UNIT.** 1) Connect the connector of body integrated unit. 2) Use the Subaru Select Monitor to perform the body integrated unit function check «Keyless Buzzer Output». <Ref. to BC(diag)-23, OPERATION, Function Check.> 3) Measure the voltage between body integrated unit connector and chassis ground using an oscilloscope. ***Connector & terminal*** ***(B280) No. 20 (+) — Chassis ground (–):***	Is the frequency 2kHz, voltage 9 V or more?	Replace the keyless buzzer. <Ref. to SL-123, REMOVAL, Access Buzzer.>	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>

11.INTERNAL COLLATION DOES NOT FUNCTION

CAUTION:
When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK ACCESS KEY.** Check the access key. <Ref. to SL-83, INSPECTION, Access Key.>	Is the battery OK?	Go to step **2**.	Replace the battery.
2	**CHECK INTERIOR ANTENNA.** 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Front interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Using a tester, check the output between keyless access CM connector terminals while performing the Keyless access system check. ***Connector & terminal*** ***(i242) No. 2 — No. 3:***	Is a pulse output?	Go to step **3**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
3	**CHECK INTERIOR ANTENNA.** 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Rear interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Using a tester, check the output between keyless access CM connector terminals while performing the Keyless access system check. ***Connector & terminal*** ***(i241) No. 10 — No. 11:***	Is a pulse output?	Go to step **4**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
4	**CHECK INTERIOR ANTENNA.** 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Trunk internal transmitter, interior tuner» or «Rear gate internal transmitter, interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Using a tester, check the output between keyless access CM connector terminals while performing the Keyless access system check. ***Connector & terminal*** ***(i241) No. 8 — No. 9:***	Is a pulse output?	Go to step **5**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
5	**CHECK WIRING HARNESS.** 1) Disconnect the front interior antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the front interior antenna connector and the keyless access CM connector. ***Connector & terminal*** ***(i25) No. 1 — (i242) No. 3:*** ***(i25) No. 3 — (i242) No. 2:***	Is there continuity?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK WIRING HARNESS.** 1) Disconnect the center interior antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the center interior antenna connector and the keyless access CM connector. ***Connector & terminal*** ***(R298) No. 1 — (i241) No. 11:*** ***(R298) No. 3 — (i241) No. 10:***	Is there continuity?	Go to step **7**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
7	**CHECK WIRING HARNESS.** 1) Disconnect the rear interior antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the rear interior antenna connector and the keyless access CM connector. ***Connector & terminal*** ***(R297) No. 1 — (i241) No. 9:*** ***(R297) No. 3 — (i241) No. 8:***	Is there continuity?	Go to step **8**.	Repair or replace the open circuit of harness.
8	**CHECK ANTENNA.** Replace the front interior antenna with a new or properly functioning part.	Does it operate properly?	Replace the front interior antenna. <Ref. to SL-90, REMOVAL, Keyless Access Indoor Antenna.>	Go to step **9**.
9	**CHECK ANTENNA.** Replace the center passenger room antenna with a new or properly functioning part.	Does it operate properly?	Replace the center passenger room antenna. <Ref. to SL-90, REMOVAL, Keyless Access Indoor Antenna.>	Go to step **10**.
10	**CHECK ANTENNA.** Replace the rear interior antenna with a new or properly functioning part.	Does it operate properly?	Replace the rear interior antenna. <Ref. to SL-90, REMOVAL, Keyless Access Indoor Antenna.>	Go to step **11**.
11	**CHECK WIRING HARNESS.** 1) Disconnect the receiver connector and the keyless access CM connector. 2) Using a tester, check continuity between the receiver connector and keyless access CM connector. ***Connector & terminal*** ***(R296) No. 4 — (i241) No. 5:*** ***(R296) No. 5 — (i241) No. 17:*** ***(R296) No. 2 — (i241) No. 19:***	Is there continuity?	Go to step **12**.	Repair or replace the open circuit of harness.
12	**CHECK RECEIVER.** Replace the receiver with a new or properly functioning part.	Does it operate properly?	Replace the receiver. <Ref. to SL-104, REMOVAL, Receiver.>	Go to step **13**.
13	**CHECK KEYLESS ACCESS SYSTEM CHECK.** 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Front interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the audio panel, then come closer to within 0.8 m.	Does the buzzer sound?	Go to step **14**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

	Step	Check	Yes	No
14	**CHECK KEYLESS ACCESS SYSTEM CHECK.** 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Rear interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the center of the second row seats, then come closer to within 0.8 m.	Does the buzzer sound?	Go to step **15**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
15	**CHECK KEYLESS ACCESS SYSTEM CHECK.** 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Trunk internal transmitter, interior tuner» or «Rear gate internal transmitter, interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the back of the rear seat, then come closer to within 0.8 m.	Does the buzzer sound?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

12.REAR GATE CANNOT BE UNLOCKED WITH THE REAR GATE OPENER BUTTON

CAUTION:
• Check that there are no other registered access keys inside the rear gate.
• Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
• Check that the keyless access function is not stopped.
• When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK KEYLESS OPERATION.** Check that the rear gate unlocks when the rear gate unlock button of the access key is pressed.	Does it operate properly?	Go to step **6**.	Go to step **2**.
2	**CHECK REAR GATE UNLOCK OPERATION.** 1) Using the Subaru Select Monitor, select the function check «R gate/trunk UNLK output» of the body integrated unit. 2) Check that the rear gate unlocks when the R gate/trunk UNLK signal is output.	Does it operate properly?	Go to step **6**.	Go to step **3**.
3	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector and rear gate lock actuator connector. 2) Check the continuity between body integrated unit connector and rear gate lock actuator connector. ***Connector & terminal*** ***(i171) No. 7 — (D47) No. 1:***	Is there continuity?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK HARNESS.** 1) Check the continuity between the rear gate lock actuator connector and chassis ground. ***Connector & terminal*** ***(D47) No. 2 — Chassis ground:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
5	**CHECK REAR GATE LOCK ACTUATOR.** 1) Check the rear gate lock actuator. <Ref. to SL-57, INSPECTION, Rear Gate Latch and Actuator Assembly.>	Is the rear gate lock actuator normal?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the rear gate latch and actuator assembly. <Ref. to SL-56, Rear Gate Latch and Actuator Assembly.>
6	**CHECK ACCESS KEY.** 1) Prepare all access keys registered to the vehicle. 2) Check that the rear gate lock can be unlocked with each access key.	Does it operate properly?	Go to step **7**.	Replace the access key. <Ref. to SL-84, REPLACEMENT, Access Key.>
7	**CHECK CURRENT DATA.** 1) Display the current data «R Gate Release SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when pressing the rear gate opener button.	Does the data display ON?	Go to step **14**.	Go to step **8**.
8	**CHECK WIRING HARNESS.** 1) Disconnect the rear gate opener button connector and body integrated unit connector. 2) Using a tester, check the continuity between the rear gate opener button connector and body integrated unit connector. ***Connector & terminal*** ***(D77) No. 5 — (i84) No. 10:***	Is there continuity?	Go to step **9**.	Repair or replace the open circuit of harness.
9	**CHECK WIRING HARNESS.** 1) Using a tester, check the continuity between the rear gate opener button connector and chassis ground. ***Connector & terminal*** ***(D77) No. 6 — Chassis ground:***	Is there continuity?	Go to step **10**.	Repair or replace the open circuit of harness.
10	**CHECK REAR GATE OPENER BUTTON.** Using a tester, check the continuity between rear gate opener button switch terminals. ***Connector & terminal*** ***(D77) No. 6 — (D77) No. 5:***	Is there continuity when pressing the switch?	Go to step **11**.	Replace the rear gate opener button. <Ref. to SL-51, Rear Gate Opener Button.>
11	**CHECK WIRING HARNESS.** 1) Disconnect the exterior rear antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the exterior rear antenna connector and keyless access CM connector. ***Connector & terminal*** ***(D77) No. 1 — (i242) No. 2:*** ***(D77) No. 2 — (i242) No. 1:***	Is there continuity?	Go to step **12**.	Repair or replace the open circuit of harness.
12	**CHECK OUTSIDE REAR ANTENNA.** Replace the outside rear antenna with new or properly working parts.	Does it operate properly?	Replace the outside rear antenna.	Go to step **13**.
13	**CHECK CURRENT DATA.** 1) Display the current data «R gate lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the rear gate lock actuator.	Does the data change from ON ←→ OFF?	Go to step **14**.	Check body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

	Step	Check	Yes	No
14	**CHECK KEYLESS ACCESS SYSTEM CHECK.** 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Rear gate external transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the trunk, then come closer to within 0.8 m.	Does the outside buzzer sound?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

13.CAN NOT LOCK WHEN USING THE REAR LOCK BUTTON

CAUTION:
- **Check that there are no other registered access keys inside the vehicle.**
- **Check that the keyless access function is not stopped.**
- **Inspect LAN system or keyless access system according to the basic diagnostic procedure, and make sure that DTC is not input.**
- **When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**

	Step	Check	Yes	No
1	**CHECK REAR GATE ACTUATOR.** While carrying the access key, operate the front lock button and touch sensor.	When the switch is operated, does the rear gate lock/unlock?	Go to step **2**.	Go to step **10**.
2	**CHECK OUTSIDE REAR ANTENNA.** Replace the outside rear antenna with new or properly working parts.	Does it operate properly?	Replace the outside rear antenna.	Go to step **3**.
3	**CHECK CURRENT DATA.** 1) Display the current data «R gate lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the rear gate lock actuator.	Does the data change from ON ←→ OFF?	Go to step **4**.	Check body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
4	**CHECK REAR LOCK BUTTON.** 1) Display the «Rear Gate Request SW» of the keyless access CM using the Subaru Select Monitor. 2) Read the data when operating the rear lock button.	Does the data change between ON/OFF?	Go to step **10**.	Go to step **5**.
5	**CHECK HARNESS.** 1) Disconnect the rear lock button connector and the keyless access CM connector. 2) Using a tester, measure the resistance between harness. ***Connector & terminal*** ***(D77) No. 3 — (i241) No. 27:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of the harness.
6	**CHECK HARNESS.** Using a tester, measure the resistance between harness and chassis ground. ***Connector & terminal*** ***(D77) No. 3 — Chassis ground:***	Is the resistance 10 MΩ or more?	Go to step **7**.	Repair or replace the short of harness.
7	**CHECK HARNESS.** Using a tester, measure the resistance between harness and chassis ground. ***Connector & terminal*** ***(D77) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **8**.	Repair or replace the open circuit of the harness.

	Step	Check	Yes	No
8	**CHECK REAR LOCK BUTTON.** Measure the resistance when the rear lock button is operated using the tester. ***Connector & terminal*** ***(D77) No. 3 — No. 4:***	Did the resistance change from 1 MΩ or more to less than 10 Ω?	Go to step **9**.	Replace the rear lock button. <Ref. to SL-100, REMOVAL, Rear Lock Button.>
9	**CHECK REAR LOCK BUTTON.** 1) Display the «Rear Gate Request SW» of the keyless access CM using the Subaru Select Monitor. 2) Read the data when operating the rear lock button.	Does the data change between ON/OFF?	Go to step **10**.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
10	**CHECK BODY INTEGRATED UNIT.** 1) Connect the disconnected connectors. 2) Use the Subaru Select Monitor to perform the body integrated unit function check. 3) Actuate the door lock actuator LOCK output.	Does the rear gate lock actuator lock?	It is possible that temporary poor communication occurs.	Go to step **11**.
11	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector and rear gate lock actuator connector. 2) Check the continuity between body integrated unit connector and rear gate lock actuator connector. ***Connector & terminal*** ***(i171) No. 7 — (D47) No. 1:***	Is there continuity?	Go to step **12**.	Repair or replace the open circuit of harness.
12	**CHECK HARNESS.** 1) Check the continuity between the rear gate lock actuator connector and chassis ground. ***Connector & terminal*** ***(D47) No. 2 — Chassis ground:***	Is there continuity?	Go to step **13**.	Repair or replace the open circuit of harness.
13	**CHECK REAR GATE LOCK ACTUATOR.** 1) Check the rear gate lock actuator. <Ref. to SL-57, INSPECTION, Rear Gate Latch and Actuator Assembly.>	Is the rear gate lock actuator normal?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the rear gate latch and actuator assembly. <Ref. to SL-56, Rear Gate Latch and Actuator Assembly.>

14.THE STEERING LOCK IS NOT RELEASED

CAUTION:
When the steering lock CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK OPERATION.** 1) Depress the brake pedal. 2) While turning the steering wheel lightly to the left and right, press the push button ignition switch. 3) Confirm that the steering lock is released and the engine start.	Does the engine fail to start with the steering lock released?	Perform the diagnosis for engine system. <Ref. to EN(H4DO)(diag)-63, Diagnostics for Engine Starting Failure.>	Go to step **2**.
2	**CHECK DTC.** Read keyless access CM DTCs using the Subaru Select Monitor.	Is a DTC displayed?	Perform the diagnosis according to the corresponding procedures of DTC.	Go to step **3**.
3	**CHECK CURRENT DATA.** 1) Using the Subaru Select Monitor, display the current data of the keyless access CM «Steering lock unlock request reception status» and «Steering lock lock/unlock command reception history». 2) Read the data when the push button ignition switch is pressed while in possession of the access key. (Maintain for 10 seconds after switch operation)	Does the data change from «Not yet received» to «Reception», and from «OFF» to «ON»?	Go to step **4**.	Go to step **7**.
4	**CHECK STEERING LOCK CM.** 1) Disconnect the steering lock CM connector. 2) Using a tester, measure the voltage between the steering lock CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK STEERING LOCK CM.** Using a tester, check continuity between the steering lock CM connector and chassis ground. ***Connector & terminal*** ***(B424) No. 1 — Chassis ground:***	Is there continuity?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK STEERING LOCK CM.** 1) Connect the disconnected connectors. 2) Using a tester, measure the voltage between steering lock CM terminals right after the ignition switch is turned to ON. ***Connector & terminal*** ***(B424) No. 3 (+) — (B424) No. 1 (–):***	Is the voltage 1 V or less right after the ignition ON?	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>	Repair or replace the open circuit of harness.
7	**CHECK STEERING LOCK CM.** 1) Replace with a properly functioning or new steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.> 2) After registering, the steering lock operates when the ignition is turned to OFF and the driver's door is opened and closed. 3) Turn the ignition to ON. 4) Operate the steering and check for whether the steering lock is released.	Is the steering lock released, and does the engine start?	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>

15.THE STEERING LOCK DOES NOT OPERATE

CAUTION:
When the keyless access CM or steering lock CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK DTC.** Read keyless access system DTCs using the Subaru Select Monitor.	Is a DTC displayed?	Perform the diagnosis according to the corresponding DTC.	Go to step **2**.
2	**CHECK CURRENT DATA.** 1) Display the current data «Driver's door SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when opening and closing the driver's door.	Does the data change from ON to OFF according to the opening and closing?	Go to step **3**.	Inspect door switch circuit.
3	**CHECK CURRENT DATA.** Display the current data «Shift P Signal» of keyless access system using Subaru Select Monitor.	Is the status displayed correctly when the shift lever is shifted from P to other than P?	Go to step **4**.	Check the P range switch and harness.
4	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, display the current data «Code collation result between smart ECM and ID code box» of keyless access system.	Is the status normal?	Go to step **5**.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
5	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, display the current data «Code collation result between steering locked ECM and ID code box» of keyless access system.	Is the status normal?	Go to step **6**.	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>
6	**CHECK CURRENT DATA.** 1) Using Subaru Select Monitor, display the current data «Steering lock lock/unlock command reception history» of keyless access system. 2) While in possession of the access key, perform engine start operations, and read data within 10 seconds after starting.	Is data displayed as ON?	Go to step **7**.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
7	**CHECK STEERING LOCK CM.** Using a tester, measure the waveform between steering lock CM terminals immediately after the following operations. Perform ignition ON, driver's side door close → shift lever "P" range, ignition OFF, and close → open the driver's side door. ***Connector & terminal*** ***(B424) No. 3 — No. 1:***	Is the waveform immediately after opening the driver's side door abnormal?	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>	Go to step **8**.
8	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector and the steering lock CM connector. 2) Using a tester, check continuity between the keyless access CM connector and steering lock CM connector. ***Connector & terminal*** ***(B424) No. 3 — (i242) No. 29:***	Is there continuity?	Go to step **9**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
9	**CHECK WIRING HARNESS.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Repair or replace the open circuit of harness.

16.POWER WILL NOT TURN ON (BOTH ACCESSORY AND IGNITION)

CAUTION:
• When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.
• When the keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **2**.	Replace the fuse.
2	**CHECK POWER SUPPLY.** 1) Remove IG relay 1 (push button start), IG relay 2 (push button start) and accessory relay (push button start). 2) Using a tester, measure the voltage between the relay block connector and chassis ground.	Is the voltage 10 V or more?	Go to step **3**.	Check the DC power supply circuit.
3	**CHECK CONNECTOR.** Check the engagement of each connector and for any deformation or looseness.	Are the connectors and terminals normal?	Go to step **4**.	Repair the connector, or replace harness.
4	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage between 8 V and 16 V?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK WIRING HARNESS.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is there continuity?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK DTC.** 1) Connect the keyless access CM connector. 2) While in possession of the access key, depress the brake pedal, and push the push button ignition switch. 3) Read keyless access CM DTCs using the Subaru Select Monitor.	Is a DTC output?	Perform diagnosis according to the DTC.	Go to step **7**.
7	**CHECK CURRENT DATA.** 1) Display the current data «Push start SW 1» and «Push start SW 2» of the keyless access CM using the Subaru Select Monitor. 2) Read the data when pressing the push button ignition switch.	Does it change from OFF to ON along with the operation?	Go to step **8**.	Go to step **15**.

	Step	Check	Yes	No
8	**CHECK RELAY (PUSH BUTTON START).** Check IG relay 1 and 2 (push button start), and accessory relay (push button start). <Ref. to SL-116, INSPECTION, IG Relay1 (Push Button Start).>	Is each relay normal?	Go to step **9**.	Replace the faulty relay.
9	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector, IG relay 1 (push button start), IG relay 2 (push button start) and accessory relay (push button start). 2) Using a tester, check continuity between terminals of keyless access CM connector, IG relay 1 (push button start), IG relay 2 (push button start) and accessory relay (push button start). ***Connector & terminal*** ***(i242) No. 6 — (B225) No. 35:*** ***(B572) No. 9 — (B225) No. 31:*** ***(i242) No. 4 — (B225) No. 27:***	Is there continuity?	Go to step **10**.	Repair or replace the open circuit of harness.
10	**CHECK WIRING HARNESS.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 9 — Chassis ground:*** ***(i242) No. 4 — Chassis ground:*** ***(i242) No. 6 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **11**.
11	**CHECK WIRING HARNESS.** Using a tester, check the continuity between the IG relay 2 (push button start) connector and chassis ground. ***Connector & terminal*** ***(B225) No. 34 — Chassis ground:***	Is there continuity?	Go to step **12**.	Repair or replace the open circuit of harness.
12	**CHECK WIRING HARNESS.** Using a tester, check the continuity between the IG relay 1 connector and chassis ground. ***Connector & terminal*** ***(B225) No. 30 — Chassis ground:***	Is there continuity?	Go to step **13**.	Repair or replace the open circuit of harness.
13	**CHECK WIRING HARNESS.** Using a tester, check the continuity between the accessory relay connector and chassis ground. ***Connector & terminal*** ***(B225) No. 25 — Chassis ground:***	Is there continuity?	Go to step **14**.	Repair or replace the open circuit of harness.
14	**CHECK KEYLESS ACCESS CM.** 1) Connect all the disconnected connectors. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the ignition is turned from OFF to ON. ***Connector & terminal*** ***(B572) No. 9 (+) — Chassis ground (–):*** ***(i242) No. 4 (+) — Chassis ground (–):*** ***(i242) No. 6 (+) — Chassis ground (–):***	Did the voltage change from 1 V or less to +B-2 V or more?	Go to step **15**.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
15	**CHECK PUSH BUTTON IGNITION SWITCH.** 1) Disconnect the push button ignition switch. 2) Using a tester, check the continuity between terminals. ***Connector & terminal*** ***(i150) No. 7 — No. 5:*** ***(i150) No. 2 — No. 5:***	When the button was pressed, did it change to continuity exists? (No continuity when button is released)	Go to step **16**.	Replace the push button ignition switch. <Ref. to SL-109, REMOVAL, Push Button Ignition Switch.>

	Step	Check	Yes	No
16	**CHECK WIRING HARNESS.** Using a tester, check the continuity between the push button ignition switch connector and chassis ground. ***Connector & terminal*** ***(i150) No. 4 — Chassis ground:*** ***(i150) No. 5 — Chassis ground:***	Is there continuity?	Go to step **17**.	Repair or replace the open circuit of harness.
17	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, check continuity between the keyless access CM connector and push button ignition switch. ***Connector & terminal*** ***(i150) No. 7 — (i242) No. 28:*** ***(i150) No. 2 — (i242) No. 30:***	Is there continuity?	System is normal.	Repair or replace the open circuit of harness.

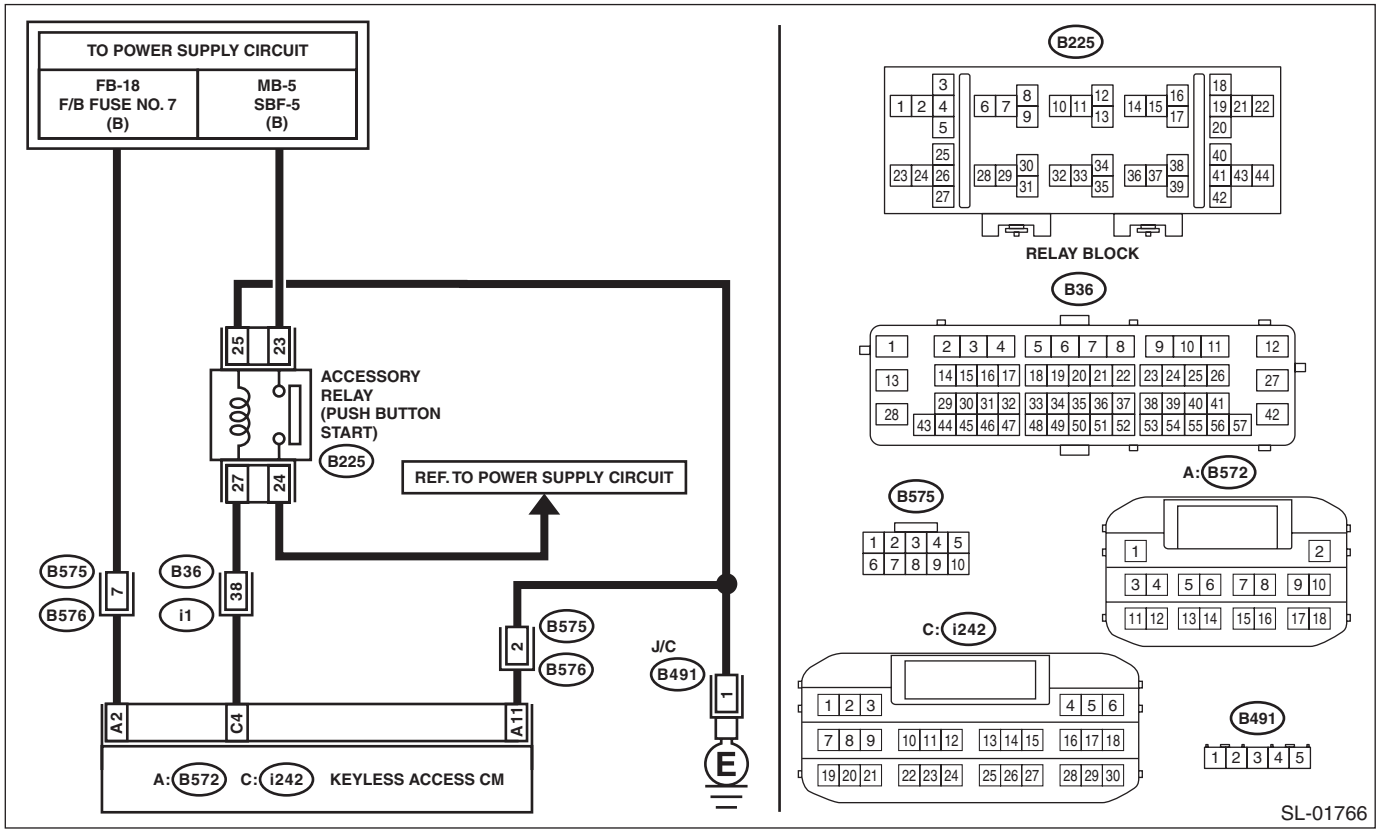
17.POWER WILL NOT TURN ON (ACCESSORY DOES NOT TURN ON, BUT IGNITION TURNS ON)

CAUTION:

- **When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.**
- **When the keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



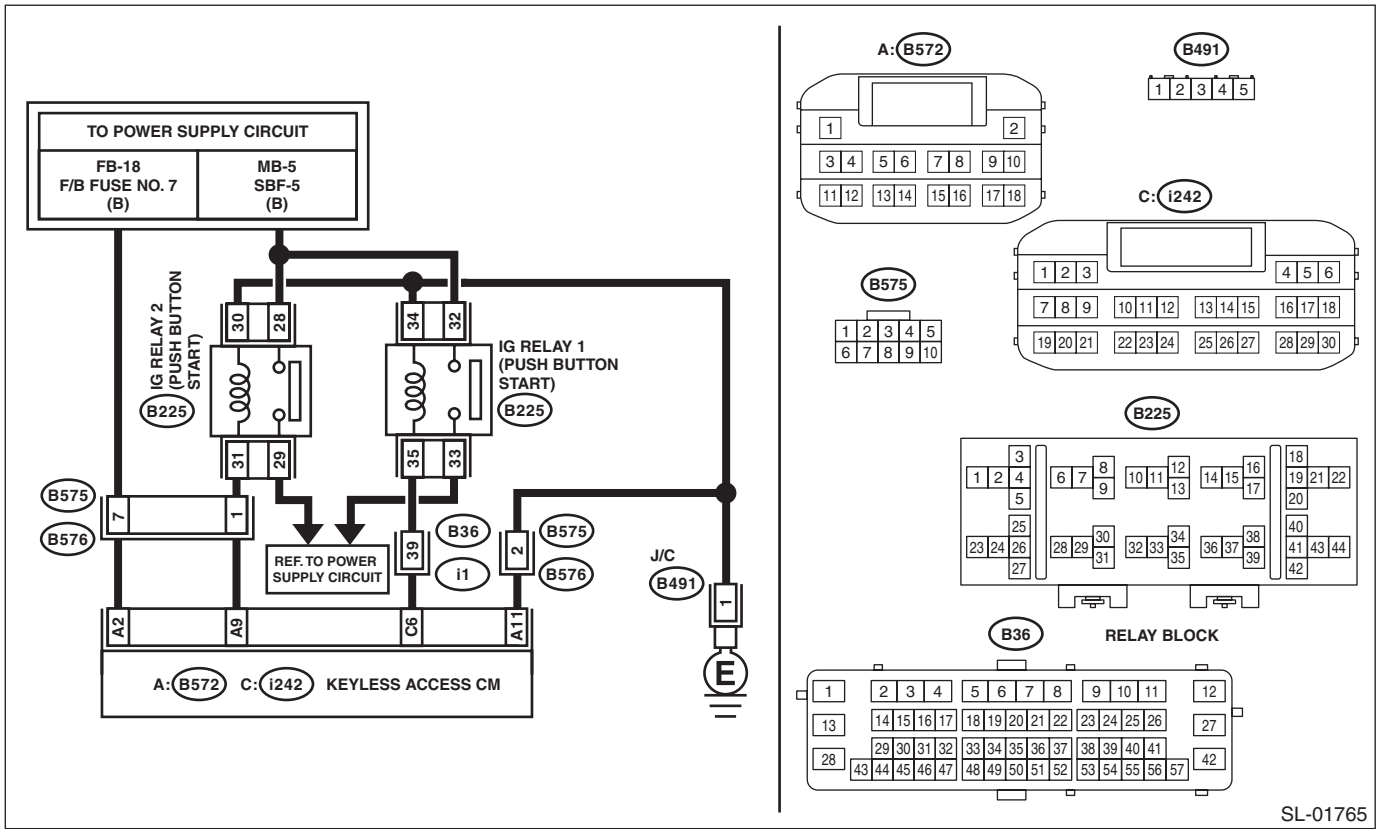
Step		Check	Yes	No
1	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **2**.	Replace the fuse.
2	**CHECK CONNECTOR.** Check the engagement of each connector and for any deformation or looseness.	Are the connectors and terminals normal?	Go to step **3**.	Repair the connector, or replace harness.
3	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage between 8 V and 16 V?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK WIRING HARNESS.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
5	**CHECK ACCESSORY RELAY (PUSH BUTTON START).** Check the accessory relay (push button start). <Ref. to SL-120, INSPECTION, Accessory Relay (Push Button Start).>	Is the relay OK?	Go to step **6**.	Replace the relay.
6	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector and the accessory relay (push button start). 2) Using a tester, check continuity between the keyless access CM connector and accessory relay (push button start). ***Connector & terminal*** ***(i242) No. 4 — (B225) No. 27:***	Is there continuity?	Go to step **7**.	Repair or replace the open circuit of harness.
7	**CHECK WIRING HARNESS.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(i242) No. 4 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **8**.
8	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the ignition is turned from OFF to ON. ***Connector & terminal*** ***(i242) No. 4 (+) — Chassis ground (–):***	Did the voltage change from 1 V or less → +B-2 V or more?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

18.POWER WILL NOT TURN ON (ACCESSORY TURNS ON, BUT IGNITION DOES NOT TURN ON)

CAUTION:
When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.

WIRING DIAGRAM:
Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



Step		Check	Yes	No
1	**CHECK FUSE.** Check the fuse.	Is the fuse OK?	Go to step **2**.	Replace the fuse.
2	**CHECK CONNECTOR.** Check the engagement of each connector and for any deformation or looseness.	Are the connectors and terminals normal?	Go to step **3**.	Repair the connector, or replace harness.
3	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 2 (+) — Chassis ground (–):***	Is the voltage between 8 V and 16 V?	Go to step **4**.	Repair or replace the open circuit of harness.
4	**CHECK WIRING HARNESS.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 11 — Chassis ground:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.

Step		Check	Yes	No
5	**CHECK IG RELAY 1 AND 2 (PUSH BUTTON START).** Check IG relay 1 (push button start) and IG relay 2 (push button start). <Ref. to SL-116, INSPECTION, IG Relay1 (Push Button Start).>	Is the relay OK?	Go to step **6**.	Replace the relay.
6	**CHECK WIRING HARNESS.** 1) Disconnect the keyless access CM connector and the IG relay 1 and 2 (push button start). 2) Using a tester, check continuity between keyless access CM connector and IG relay 1 (push button start) or IG relay 2 (push button start). ***Connector & terminal*** ***(B572) No. 9 — (B225) No. 31:*** ***(i242) No. 6 — (B225) No. 35:***	Is there continuity?	Go to step **7**.	Repair or replace the open circuit of harness.
7	**CHECK WIRING HARNESS.** Using a tester, check continuity between the keyless access CM connector and chassis ground. ***Connector & terminal*** ***(B572) No. 9 — Chassis ground:*** ***(i242) No. 6 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step **8**.
8	**CHECK KEYLESS ACCESS CM.** 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the ignition is turned from OFF to ON. ***Connector & terminal*** ***(B572) No. 9 (+) — Chassis ground (–):*** ***(i242) No. 6 (+) — Chassis ground (–):***	Did the voltage change from 1 V or less → +B-2 V or more?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

19.ENGINE DOES NOT START

CAUTION:
• When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.
• When the keyless access CM or steering lock CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

	Step	Check	Yes	No
1	**INITIALIZE STEERING LOCK.** 1) Place the shift lever in the Parking range. 2) Operate the driver's door switch ON/OFF with the ignition switch OFF. 3) Wait for 10 seconds. 4) Place the access key on the driver's seat. 5) Press the push button ignition switch while depressing the brake pedal.	Can the engine start?	System is normal.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of the keyless access system using Subaru Select Monitor.	Is DTC detected?	Perform the diagnosis according to the DTC. <Ref. to KPS(diag)-33, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK POWER SUPPLY SWITCHING.** 1) Place the access key on the driver's seat. 2) Press the push button ignition switch without depressing the brake pedal.	When the switch is operated, does the <IG-OFF> → <ACC-ON> → <IG-ON> → <IG-OFF> change occur?	Go to step **4**.	Perform the diagnostics according to the symptom for power supply switching system in General Diagnostic Table. <Ref. to KPS(diag)-87, POWER SUPPLY SWITCHING SYSTEM, INSPECTION, General Diagnostic Table.>
4	**CHECK CURRENT DATA.** 1) Place the access key on the driver's seat. 2) Press the push button ignition switch while depressing the brake pedal. 3) Using the Subaru Select Monitor, confirm the keyless access CM, the current data «STSW signal monitor» when pressing the push button ignition switch. NOTE: If it is difficult to confirm, press the push button ignition switch for approximately five seconds longer.	Does the data change from OFF → ON?	Go to step **10**.	Go to step **5**.
5	**CHECK CURRENT DATA.** Check the keyless access CM, current data «Shift P Signal» using the Subaru Select Monitor.	Is ON displayed in parking position, and OFF displayed in other positions?	Go to step **6**.	Go to step **11**.
6	**CHECK CURRENT DATA.** Confirm the keyless access CM, current data «Stop Light Switch» using the Subaru Select Monitor.	Is ON displayed when brake pedal depressed, and OFF displayed when brake pedal not depressed?	Go to step **7**.	Go to step **13**.

	Step	Check	Yes	No
7	**CHECK CURRENT DATA.** Confirm the keyless access CM, current data «Neutral SW/Clutch SW» using the Subaru Select Monitor.	For AT model, is ON displayed in parking and neutral positions, and OFF displayed in other positions? For MT model, is ON displayed when the clutch pedal is depressed, and OFF displayed when the clutch pedal is not depressed?	Go to step **8**.	Go to step **15**.
8	**CHECK STEERING LOCK.** Operate the push button ignition switch to perform the power supply switching and check steering lock condition during ACC-ON condition.	Is the steering lock in unlocked condition?	Go to step **9**.	Perform the diagnostics according to the symptom for steering lock system in General Diagnostic Table. <Ref. to KPS(diag)-87, STEERING LOCK SYSTEM, INSPECTION, General Diagnostic Table.>
9	**CHECK KEYLESS ACCESS CM.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector. 3) Using a tester, measure the battery voltage in following procedures. 1. Press the push button ignition switch with the brake pedal depressed. (Measure within 10 seconds.) 2. Release the push button ignition switch from the condition of step 1. above. ***Connector & terminal*** ***(B572) No. 13 (+) — Chassis ground (–):***	Does the value change from 1 V or less to +B-2 V or more in the step 1, and return to 1 V or less in the step 2?	Perform the diagnosis for engine system. <Ref. to EN(H4DO)(diag)-63, Diagnostics for Engine Starting Failure.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
10	**CHECK CURRENT DATA.** 1) Connect the disconnected connectors. 2) Confirm the keyless access CM, current data «Engine start permission request reception status» using the Subaru Select Monitor.	Is “Reception” displayed with ignition switch ON, and “Not yet received” displayed in other positions?	Perform the diagnosis for engine system.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
11	**CHECK “P” RANGE SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the AT shift lever connector. 3) Using a tester, check the continuity of “P” range switch. ***Connector & terminal*** ***(B116) No. 1 — 2:***	Does it change from Continuity ←→ No continuity according to shift lever operation?	Go to step **12**.	Replace the “P” range switch. <Ref. to CS-57, REMOVAL, AT Shift Lock Solenoid and “P” Range Switch.>
12	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the keyless access CM connector. 3) Using a tester, check continuity between the keyless access CM and AT select lever. ***Connector & terminal*** ***(B116) No. 1 — (i242) No. 25:*** ***(B116) No. 2 — Chassis ground:***	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the harness.

	Step	Check	Yes	No
13	**CHECK STOP LIGHT SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch connector. 3) Using a tester, check the continuity of the stop light switch. ***Connector & terminal*** ***(B65) No. 3 — No. 4:***	Does it change from Continuity ←→ No continuity according to brake pedal operation?	Go to step **14**.	Replace the stop light switch. <Ref. to BR-63, REMOVAL, Stop Light Switch.>
14	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Using a tester, check continuity between the keyless access CM and stop light switch. ***Connector & terminal*** ***(i242) No. 18 — (B65) No. 3:*** ***(B65) No. 2 — F/B fuse No. 8:***	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the harness.
15	**CHECK INHIBITOR SWITCH.** Check the inhibitor switch. <Ref. to CVT-96, INSPECTION, Inhibitor Switch.>	Is the inhibitor switch working normal?	Go to step **16**.	Replace the inhibitor switch. <Ref. to CVT-99, REMOVAL, Inhibitor Switch.>
16	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the inhibitor switch connector. 3) Using a tester, check continuity between the keyless access CM connector and inhibitor switch connector. ***Connector & terminal*** ***(i242) No. 5 — (B12) No. 16:*** ***(B12) No. 15 — Starter motor:***	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the harness.

BODY CONTROL SYSTEM (DIAGNOSTICS)

BC(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:
• Subaru Select Monitor is required for reading DTC, performing diagnosis, reading current data, customizing and active test (compulsory drive).
• Remove foreign matter (dust, water, oil, etc.) from each control module connector during removal and installation.
• For model with immobilizer or model with keyless access, registration of immobilizer may be needed after the replacement of controller etc. For detailed procedure, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

NOTE:
• To check harness for open or short circuits, shake the suspected trouble spot or connector.
• Check List for Interview <Ref. to LAN(diag)-3, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK PRE-INSPECTION.** Ask the customer when and how the trouble occurred using the interview check list. <Ref. to LAN(diag)-3, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer.
2	**BASIC INSPECTION.** Check components which might affect CAN communication problem. <Ref. to LAN(diag)-4, INSPECTION, General Description.>	Is the component that might affect CAN communication problem normal?	Go to step **3**.	Repair or replace each component.
3	**CHECK DTC.** 1) Start the engine and read all DTCs. NOTE: • When the engine does not start, perform the diagnosis for the engine start malfunction. <Ref. to EN(H4DO)(diag)-63, Diagnostics for Engine Starting Failure.> <Ref. to EN(H6DO)(diag)-75, Diagnostics for Engine Starting Failure.> • If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to LAN(diag)-70, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Record all DTCs and freeze frame data.	Is DTC regarding CAN communication displayed on Subaru Select Monitor?	Go to step **5**.	Go to step **4**.
4	**PERFORM GENERAL DIAGNOSTICS.** Inspect using the "General Diagnostic Table". <Ref. to LAN(diag)-104, General Diagnostic Table.>	Is result of inspection OK?	LAN system is normal.	Go to step **5**.
5	**PERFORM DIAGNOSIS.** 1) Correct the cause of trouble. 2) Perform the Clear Memory Mode. <Ref. to LAN(diag)-10, OPERATION, Clear Memory Mode.> 3) Read the DTC. <Ref. to LAN(diag)-9, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed on Subaru Select Monitor?	Repeat step 5 until DTC is not shown.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Inspect the following item about the vehicle's state.

1. DISPLAY STATUS OF FAILURE INFORMATION

Ignition position	❑ OFF ❑ ACC ❑ ON (before starting engine) ❑ START ❑ ON (after starting engine, engine is running) ❑ ON (after starting engine, engine is at a standstill)
Timing	❑ Immediately after turning the ignition ON. ❑ Immediately after turning the ignition to START.

2. DISPLAY STATUS IN THE COMBINATION METER

Display status in the combination meter	Engine coolant temperature gauge display	❑ OK / ❑ NG
	Fuel gauge display	❑ OK / ❑ NG
Display of other indicators	Malfunction indicator light	❑ ON / ❑ OFF
	SPORT indicator light (AT warning light)	❑ ON / ❑ OFF
	ABS warning light/Vehicle dynamics control (VDC) warning light	❑ ON / ❑ OFF
	Immobilizer indicator light	❑ ON / ❑ Blink / ❑ OFF

3. CONDITIONS UNDER WHICH TROUBLE OCCURS

Driving condition	❑ At standstill (While idling)			
	❑ When the vehicle is running	Vehicle speed	km/h (MPH)	
	❑ While accelerating	Acceleration	km/h (MPH) to	km/h (MPH)
	❑ Decelerating (With braking)	Deceleration	km/h (MPH) to	km/h (MPH)
	❑ Decelerating (Without braking)	Deceleration	km/h (MPH) to	km/h (MPH)
	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Bumpy road ❑ Snowy road			
	Does it occur when operating any part? Operated part: **TROUBLE SYMPTOM:**			
	Are there any other troubles occurred? From where: **TROUBLE SYMPTOM:**			

3. General Description

A: CAUTION

1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

Airbag system wiring harness is routed near the body integrated unit and twisted pair line.

CAUTION:

• Do not use the electrical test equipment on all airbag system wiring harnesses and connectors.

• Be careful not to damage the airbag system wiring harness when servicing the body integrated unit and LAN system.

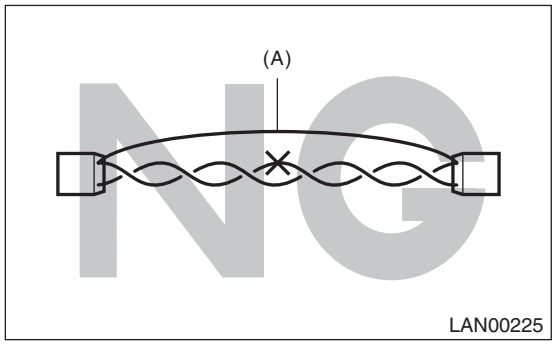
2. LAN SYSTEM

• Bus line of LAN system is twisted pair line. Be careful not to by-pass or partly unbind the twisted pair line.

• Do not make clearance between bus lines (CAN High, CAN Low).

• Difference of bus line length should be within 10 cm (3.94 in).

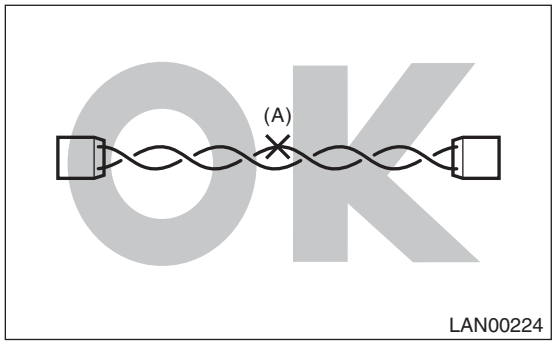
• Fray near the connector should be within 8 cm (3.14 in).



(A) Bypass wire connection

• If the characteristics of the twisted pair line are changed, it may extremely weaken against noise.

• When repairing the harness, connect the wires using soldering and protect it with insulating tape etc.



(A) Soldering and protection with insulating tape

• When measuring the resistance of CAN communication circuit, measure it in sleep status.

To enter sleep status

• With ignition switch OFF and key or switch operation stopped, keep the doors, trunk, and rear gate all closed for one minute or more.

• On models with keyless access function, keep the access key 2 m or more away from the vehicle.

B: INSPECTION

Before performing diagnostics, check the following item which might affect body integrated unit malfunctions.

1) Measure the battery voltage and check electrolyte.

Standard voltage: 12 V or more

Specific gravity: 1.260 or more

2) Check the fuse condition.

Make sure that ampere of the fuse is setting value, and it is not blown out.

3) Check the connecting condition of harness and harness connector.

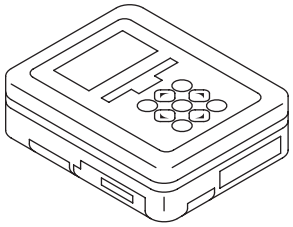
4) Confirm settings of body integrated unit are corresponded to vehicle equipment. <Ref. to BC(diag)-19, OPERATION, Registration Body Integrated Unit.>

5) Make sure that the User Customizing of the body integrated unit matches the vehicle equipment. <Ref. to BC(diag)-17, OPERATION, User Customizing.>

6) Confirm "Factory initial setting" of body integrated unit registrations is set to "Market".

C: PREPARATION TOOL

1. SPECIAL TOOL

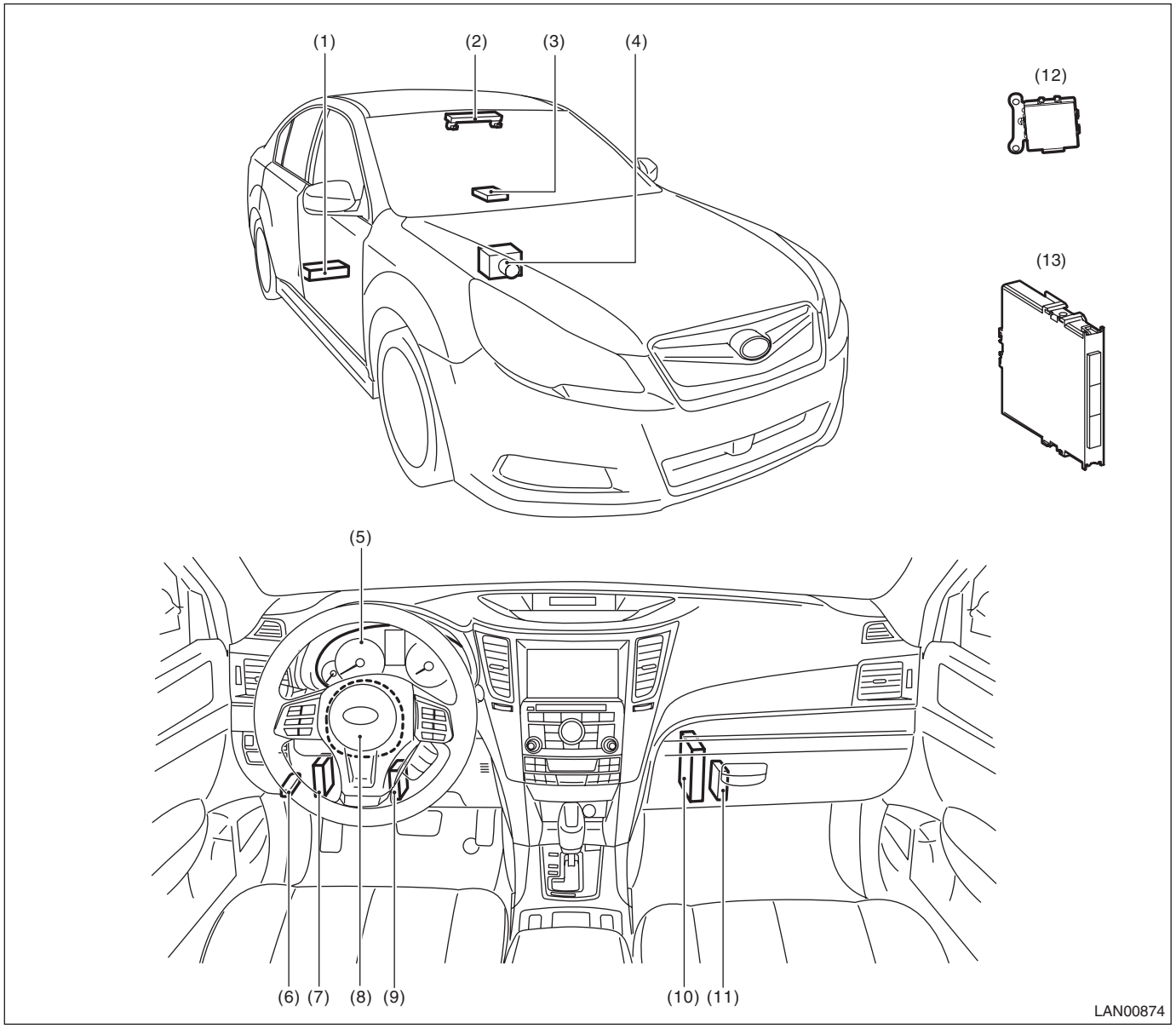
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

A: LOCATION



(1) Electronic parking CM
(2) Stereo camera
(3) Airbag CM
(4) VDC CM (inside engine compartment)
(5) Combination meter
(6) Data link connector
(7) Transmission control module (AT)
(8) Steering angle sensor
(9) Body integrated unit
(10) Engine control module
(11) A/C CM
(12) Security CM (only for C0 and C5 model without keyless access)
(13) Keyless access CM

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

- Body integrated unit

For I/O signals of the body integrated unit, refer to Body Control (Diagnostics). <Ref. to BC(diag)-6, Control Module I/O Signal.>

- Engine control module

For I/O signals of ECM, refer to Engine (Diagnostics). <Ref. to EN(H4DO)(diag)-22, Engine Control Module (ECM) I/O Signal.> <Ref. to EN(H6DO)(diag)-22, Engine Control Module (ECM) I/O Signal.>

- Transmission control module

For I/O signals of TCM, refer to Automatic Transmission (Diagnostics). <Ref. to 5AT(diag)-13, Transmission Control Module (TCM) I/O Signal.> <Ref. to CVT(diag)-11, Transmission Control Module (TCM) I/O Signal.>

- VDC control module

For I/O signals of VDC CM, refer to Vehicle Dynamics Control (Diagnostics). <Ref. to VDC(diag)-12, Control Module I/O Signal.>

- Electronic parking CM

For I/O signals of electronic CM, refer to Parking Brake (Diagnostics). <Ref. to PB(diag)-11, Control Module I/O Signal.>

- A/C CM

For unit I/O signals of A/C CM, refer to HVAC System (Diagnostics). <Ref. to AC(diag)-6, Control Module I/O Signal.>

- Combination meter

For I/O signals of combination meter, refer to Combination Meter System. <Ref. to WI-96, WIRING DIAGRAM, Combination Meter System.>

- Stereo camera

For I/O signals of stereo camera, refer to EyeSight (Diagnostics). <Ref. to ES(diag)-17, STEREO CAMERA, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

- Data link connector

For I/O signals of data link connector, refer to Engine (Diagnostics). <Ref. to EN(H4DO)(diag)-32, Data Link Connector.> <Ref. to EN(H6DO)(diag)-33, Data Link Connector.>

- Airbag CM

For I/O signals of the airbag CM, refer to AIRBAG SYSTEM (DIAGNOSTICS). <Ref. to AB(diag)-21, Airbag Control Module I/O Signal.>

- Keyless access CM

For I/O signals of keyless access CM, refer to KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS). <Ref. to KPS(diag)-11, Control Module I/O Signal.>

* CAN sleep state:

Hold on for approx. one minute with ignition OFF and the doors, trunk, rear gate all closed.

B: WIRING DIAGRAM

<Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

6. Subaru Select Monitor

A: OPERATION

For details of basic operations, refer to “PC application help for Subaru Select Monitor”.

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

• For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.
• For details concerning DTC, refer to “List of Diagnostic Trouble Code (DTC)”. <Ref. to LAN(diag)-54, LIST, List of Diagnostic Trouble Code (DTC).>

8. Clear Memory Mode

A: OPERATION

For details of operation procedures, refer to “PC application help for Subaru Select Monitor”.

9. CAN Communication Circuit Check

A: PROCEDURE

1. BUS “A” (MAIN-CAN)

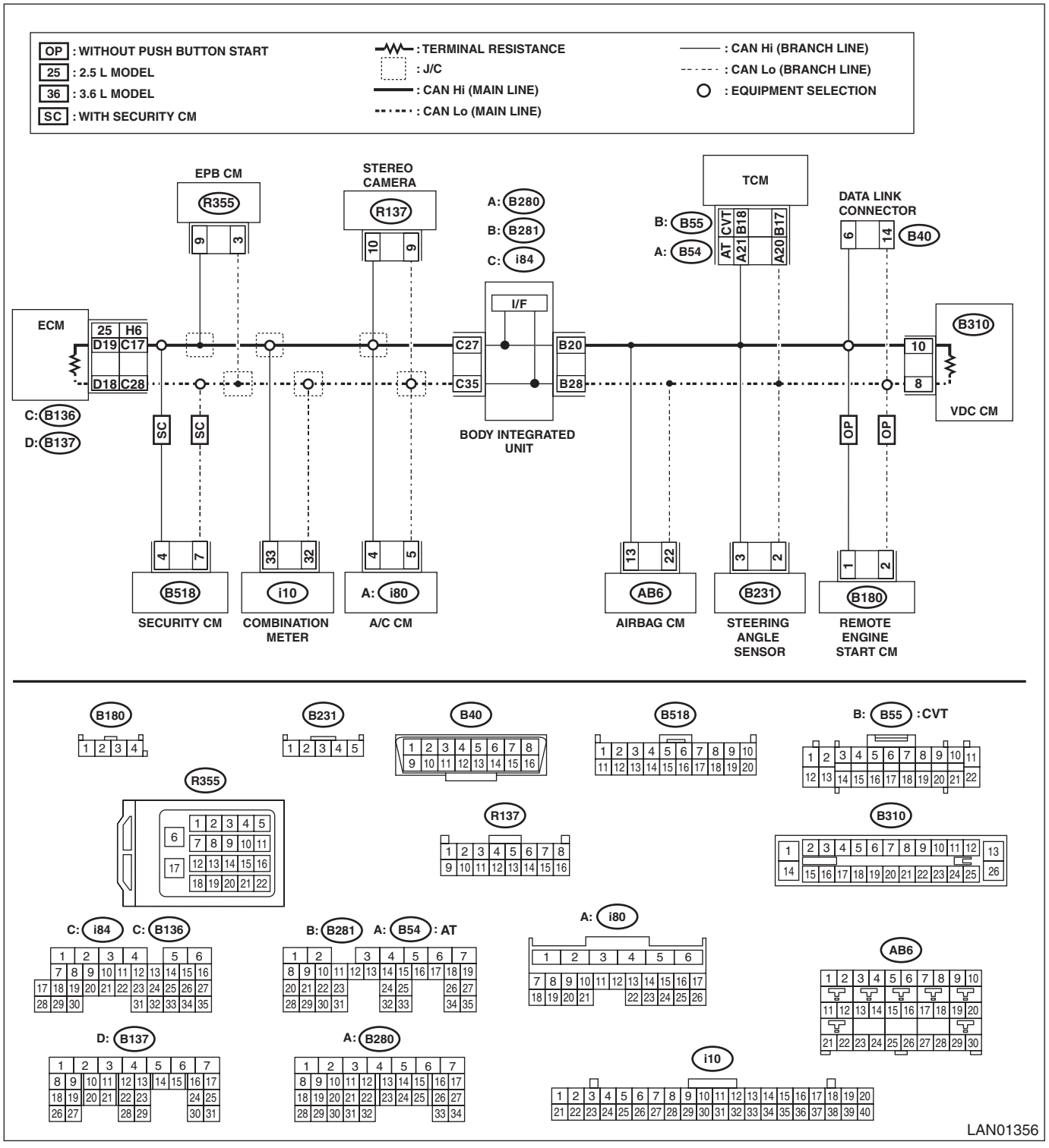
NOTE:
- When measuring the resistance of CAN communication circuit, measure it in sleep status.

To enter sleep status
  – With ignition switch OFF and key or switch operation stopped, keep the doors, trunk, and rear gate all closed for one minute or more.
  – On models with keyless access function, keep the access key 2 m or more away from the vehicle.
- When the bus line is measured, combined resistance of the end resistance (120 Ω) in ECM and the end resistance (120 Ω) in VDC CM can be measured. The combined resistance is supposed to be approximately 56 — 64 Ω with the stabilizing circuit included. If the measured resistance value becomes 55 Ω or less, main wiring harness or related lines may be shorted. Or, the combined resistance may have changed because of a resistance other than the end resistance created on the circuit. If the measured value is 65 Ω or more, there may be a malfunction such as open circuit in one of the end resistances, or in the stabilizing circuit, or in the main wiring harness.

Also, even when the resistance value falls within approx. 56 — 64 Ω, related lines may be open if an error of communication for initializing or a CAN system U-code has occurred. (The resistance won't be between approx. 56 — 64 Ω if the main wiring harness is open.)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

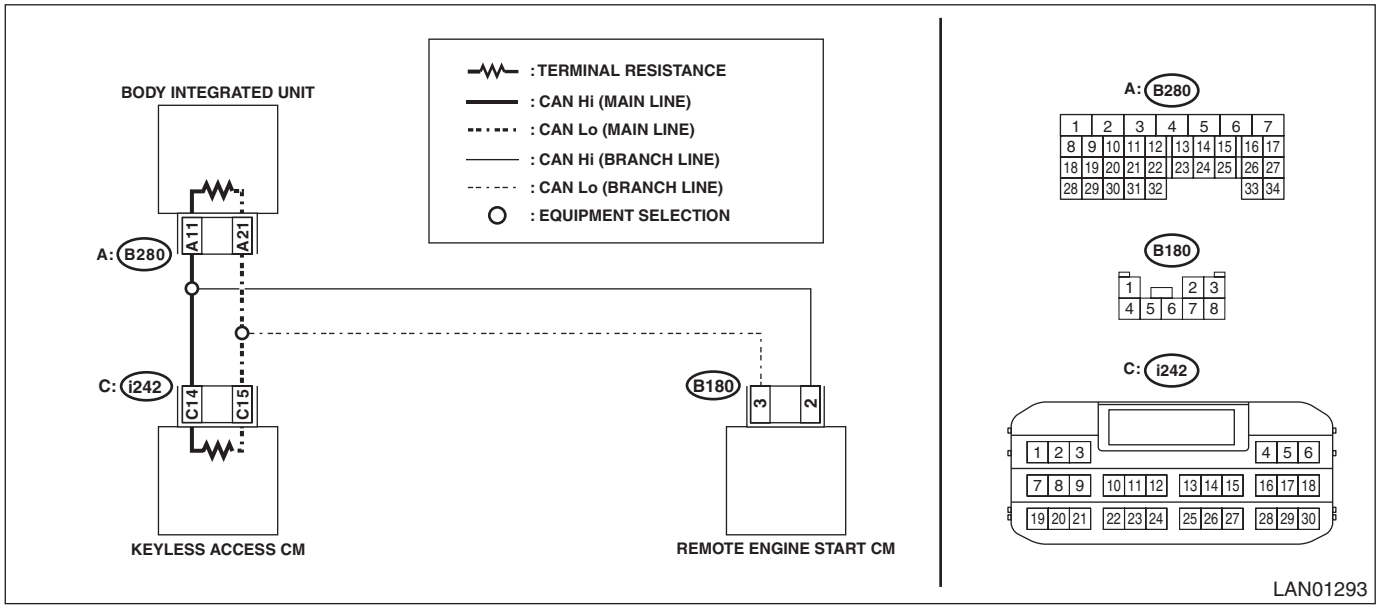


	Step	Check	Yes	No
1	**CHECK FROM DATA LINK CONNECTOR.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Is the resistance 10 Ω or less?	Check for ground short. <Ref. to LAN(diag)-18, GROUND SHORT INSPECTION (BUS "A" (MAIN-CAN)), INSPECTION, CAN Communication Circuit Check.>	Go to step **2**.
2	**CHECK FROM DATA LINK CONNECTOR.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Is the voltage 5 V or less?	Go to step **3**.	Check for battery short. <Ref. to LAN(diag)-20, BATTERY SHORT INSPECTION (BUS "A" (MAIN-CAN)), INSPECTION, CAN Communication Circuit Check.>
3	**CHECK FROM DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 55 Ω or less?	Perform the inspection for the resistance of 55 Ω or less. <Ref. to LAN(diag)-24, 55 Ω OR LESS, INSPECTION, CAN Communication Circuit Check.>	Go to step **4**.
4	**CHECK FROM DATA LINK CONNECTOR.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 65 Ω or more?	Perform the inspection for the resistance of 65 Ω or more. <Ref. to LAN(diag)-27, 65 Ω OR MORE, INSPECTION, CAN Communication Circuit Check.>	If the display of CAN system U-code disappears from the current malfunction, the CAN network is currently normal. If the U-code has detected as current malfunction, related lines may be open. Perform the inspection for the related line corresponding to the detected DTC. <Ref. to LAN(diag)-16, LIST, CAN Communication Circuit Check.>

2. BUS “B” (SMART SYSTEM CAN)

NOTE:
• When measuring the resistance of CAN communication circuit, measure it in sleep status.
To enter sleep status
– With ignition switch OFF and key or switch operation stopped, keep the doors, trunk, and rear gate all closed for one minute or more.
– On models with keyless access function, keep the access key 2 m or more away from the vehicle.
• When the bus line is measured, combined resistance of the end resistance (120 Ω) in body integrated unit and the end resistance (120 Ω) in keyless access CM can be measured. The combined resistance is supposed to be approximately 57 — 63 Ω. If the measured resistance value becomes 56 Ω or less, main wiring harness or related lines may be shorted. Or, the combined resistance may have changed because of a resistance other than the end resistance created on the circuit. If the measured value is 64 Ω or more, there may be a malfunction such as open circuit in one of the end resistances or in the main wiring harness.
Also, even when the resistance value falls within approx. 57 — 63 Ω, related lines may be open if an error of communication for initializing or a CAN system U-code has occurred. (The resistance won't be between approx. 57 — 63 Ω if the main wiring harness is open.)

WIRING DIAGRAM:
CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



Step		Check	Yes	No
1	**CHECK FROM BODY INTEGRATED UNIT CONNECTOR.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B280) No. 11 — Chassis ground:*** ***(B280) No. 21 — Chassis ground:***	Is the resistance 10 Ω or less?	Check for ground short. <Ref. to LAN(diag)-47, GROUND SHORT INSPECTION (BUS “B” (SMART SYSTEM CAN)), INSPECTION, CAN Communication Circuit Check.>	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK FROM BODY INTEGRATED UNIT CONNECTOR.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B280) No. 11 — Chassis ground:*** ***(B280) No. 21 — Chassis ground:***	Is the voltage 5 V or less?	Go to step **3**.	Check for battery short. <Ref. to LAN(diag)-48, BATTERY SHORT INSPECTION (BUS "B" (SMART SYSTEM CAN)), INSPECTION, CAN Communication Circuit Check.>
3	**CHECK FROM BODY INTEGRATED UNIT CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B280) No. 11 — No. 21:***	Is the resistance 56 Ω or less?	Perform the inspection for the resistance of 56 Ω or less. <Ref. to LAN(diag)-51, 56 Ω OR LESS, INSPECTION, CAN Communication Circuit Check.>	Go to step **4**.
4	**CHECK FROM BODY INTEGRATED UNIT CONNECTOR.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B280) No. 11 — No. 21:***	Is the resistance 64 Ω or more?	Perform the inspection for the resistance of 64 Ω or more. <Ref. to LAN(diag)-52, 64 Ω OR MORE, INSPECTION, CAN Communication Circuit Check.>	If the display of CAN system U-code disappears from the current malfunction, the CAN network is currently normal. If the U-code has detected as current malfunction, related lines may be open. Perform the inspection for the related line corresponding to the detected DTC. <Ref. to LAN(diag)-16, LIST, CAN Communication Circuit Check.>

B: LIST

- Bus “A” (MAIN-CAN)

Resistance value between CAN Hi and Lo	Contents of inspection	Remarks
Ground short inspection	<Ref. to LAN(diag)-18, GROUND SHORT INSPECTION (BUS “A” (MAIN-CAN)), INSPECTION, CAN Communication Circuit Check.>	Shorted to ground in the communication circuit or control module.
Battery short inspection	<Ref. to LAN(diag)-20, BATTERY SHORT INSPECTION (BUS “A” (MAIN-CAN)), INSPECTION, CAN Communication Circuit Check.>	Shorted to battery power supply in the communication circuit or control module.
56 — 64 Ω	<Ref. to LAN(diag)-22, 56 — 64 Ω, INSPECTION, CAN Communication Circuit Check.>	Combined resistance of end resistance does not have malfunction; short to ground or +B short of the CAN communication circuit is possible, however.
55 Ω or less	<Ref. to LAN(diag)-24, 55 Ω OR LESS, INSPECTION, CAN Communication Circuit Check.>	Resistance is lower than combined resistance of end resistance. Short to CAN Hi and CAN Lo on the CAN communication circuit is possible.
65 Ω or more	<Ref. to LAN(diag)-27, 65 Ω OR MORE, INSPECTION, CAN Communication Circuit Check.>	Resistance is higher than combined resistance of end resistance. Open circuit of CAN communication circuit is possible.
Related lines 56 — 64 Ω (TCM)	<Ref. to LAN(diag)-29, RELATED LINES 56 — 64 Ω (TCM), INSPECTION, CAN Communication Circuit Check.>	No TCM data is received. Perform inspection when faulty is detected.
Related lines 56 — 64 Ω (steering angle sensor)	<Ref. to LAN(diag)-31, RELATED LINES 56 — 64 Ω (STEERING ANGLE SENSOR), INSPECTION, CAN Communication Circuit Check.>	Perform inspection, when communication failure of steering angle sensor is detected.
Related lines 56 — 64 Ω (A/C CM)	<Ref. to LAN(diag)-33, RELATED LINES 56 — 64 Ω (A/C CM), INSPECTION, CAN Communication Circuit Check.>	No A/C data is received. Perform inspection when faulty is detected.
Related lines 56 — 64 Ω (electronic parking CM)	<Ref. to LAN(diag)-35, RELATED LINES 56 — 64 Ω (ELECTRONIC PARKING CM), INSPECTION, CAN Communication Circuit Check.>	No EPB data is received. Perform inspection when faulty is detected.
Related line 56 — 64 Ω (stereo camera)	<Ref. to LAN(diag)-41, RELATED LINE 56 — 64 Ω (STEREO CAMERA), INSPECTION, CAN Communication Circuit Check.>	No ACC data is received. Perform inspection when faulty is detected.
Related lines 56 — 64 Ω (combination meter)	<Ref. to LAN(diag)-37, RELATED LINES 56 — 64 Ω (COMBINATION METER), INSPECTION, CAN Communication Circuit Check.>	No meter data is received. Perform inspection when faulty is detected.
Related lines 56 — 64 Ω (security CM)	<Ref. to LAN(diag)-39, RELATED LINES 56 — 64 Ω (SECURITY CM), INSPECTION, CAN Communication Circuit Check.>	No security CM data is received. Perform inspection when faulty is detected.
Related lines 56 — 64 Ω (airbags)	<Ref. to LAN(diag)-43, RELATED LINES 56 — 64 Ω (AIRBAGS), INSPECTION, CAN Communication Circuit Check.>	Perform inspection, when communication failure of airbag system is detected.
Related lines 56 — 64 Ω (remote engine start)	<Ref. to LAN(diag)-45, RELATED LINES 56 — 64 Ω (REMOTE ENGINE START), INSPECTION, CAN Communication Circuit Check.>	No other data is received. Perform inspection when faulty is not detected.

- Bus “B” (smart system CAN)

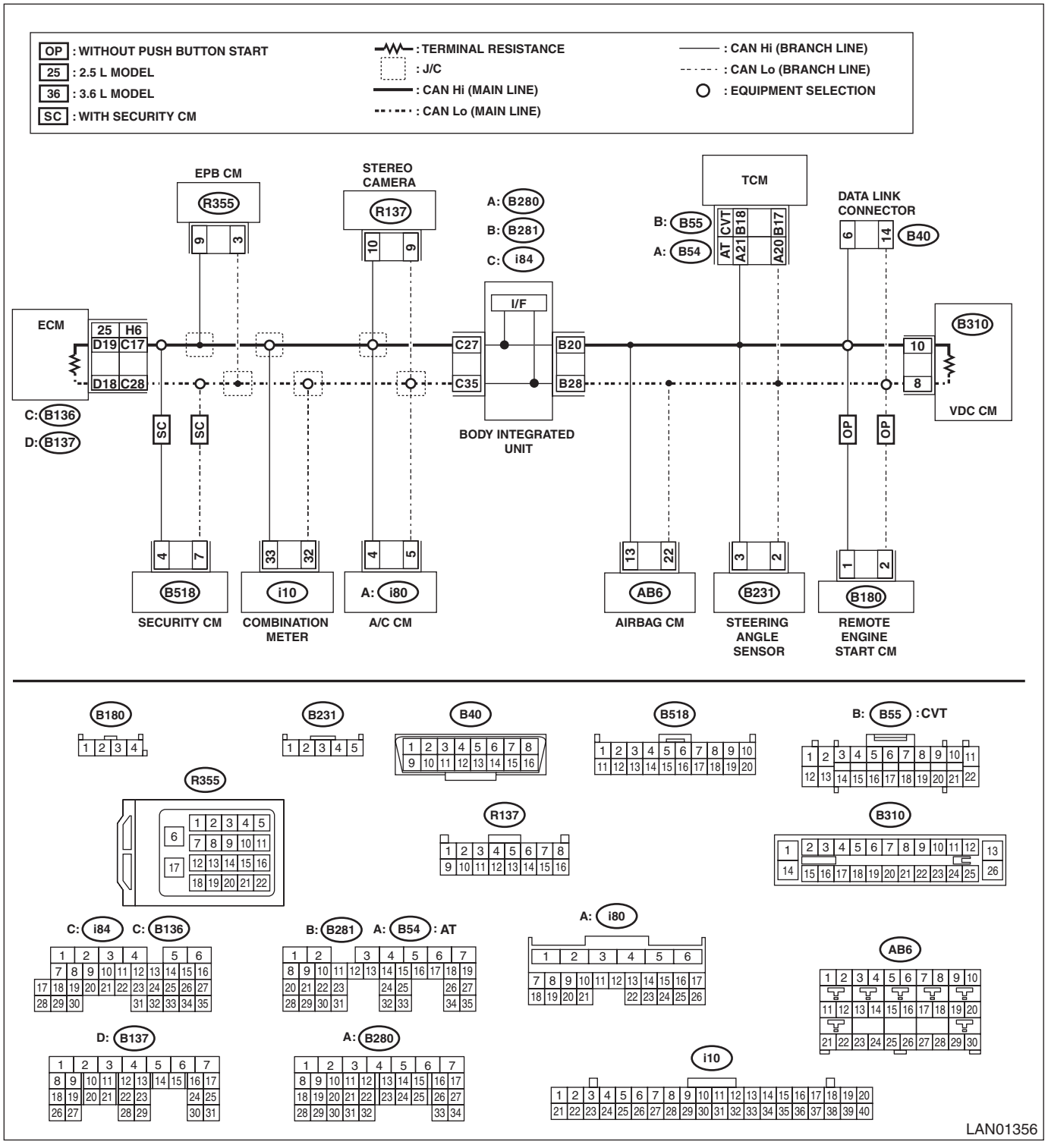
Resistance value between CAN Hi and Lo	Contents of inspection	Remarks
Ground short inspection	<Ref. to LAN(diag)-47, GROUND SHORT INSPECTION (BUS “B” (SMART SYSTEM CAN)), INSPECTION, CAN Communication Circuit Check.>	Shorted to ground in the communication circuit or control module.
Battery short inspection	<Ref. to LAN(diag)-48, BATTERY SHORT INSPECTION (BUS “B” (SMART SYSTEM CAN)), INSPECTION, CAN Communication Circuit Check.>	Shorted to battery power supply in the communication circuit or control module.
57 — 63 Ω	<Ref. to LAN(diag)-49, 57 — 63 Ω, INSPECTION, CAN Communication Circuit Check.>	Combined resistance of end resistance does not have malfunction; short to ground or +B short of the CAN communication circuit is possible, however.
56 Ω or less	<Ref. to LAN(diag)-51, 56 Ω OR LESS, INSPECTION, CAN Communication Circuit Check.>	Resistance is lower than combined resistance of end resistance. Short to CAN Hi and CAN Lo on the CAN communication circuit is possible.
64 Ω or more	<Ref. to LAN(diag)-52, 64 Ω OR MORE, INSPECTION, CAN Communication Circuit Check.>	Resistance is higher than combined resistance of end resistance. Open circuit of CAN communication circuit is possible.
Related lines 57 — 63 Ω (remote engine start)	<Ref. to LAN(diag)-53, RELATED LINES 57 — 63 Ω (REMOTE ENGINE START), INSPECTION, CAN Communication Circuit Check.>	No other data is received. Perform inspection when faulty is not detected.

C: INSPECTION

1. GROUND SHORT INSPECTION (BUS "A" (MAIN-CAN))

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



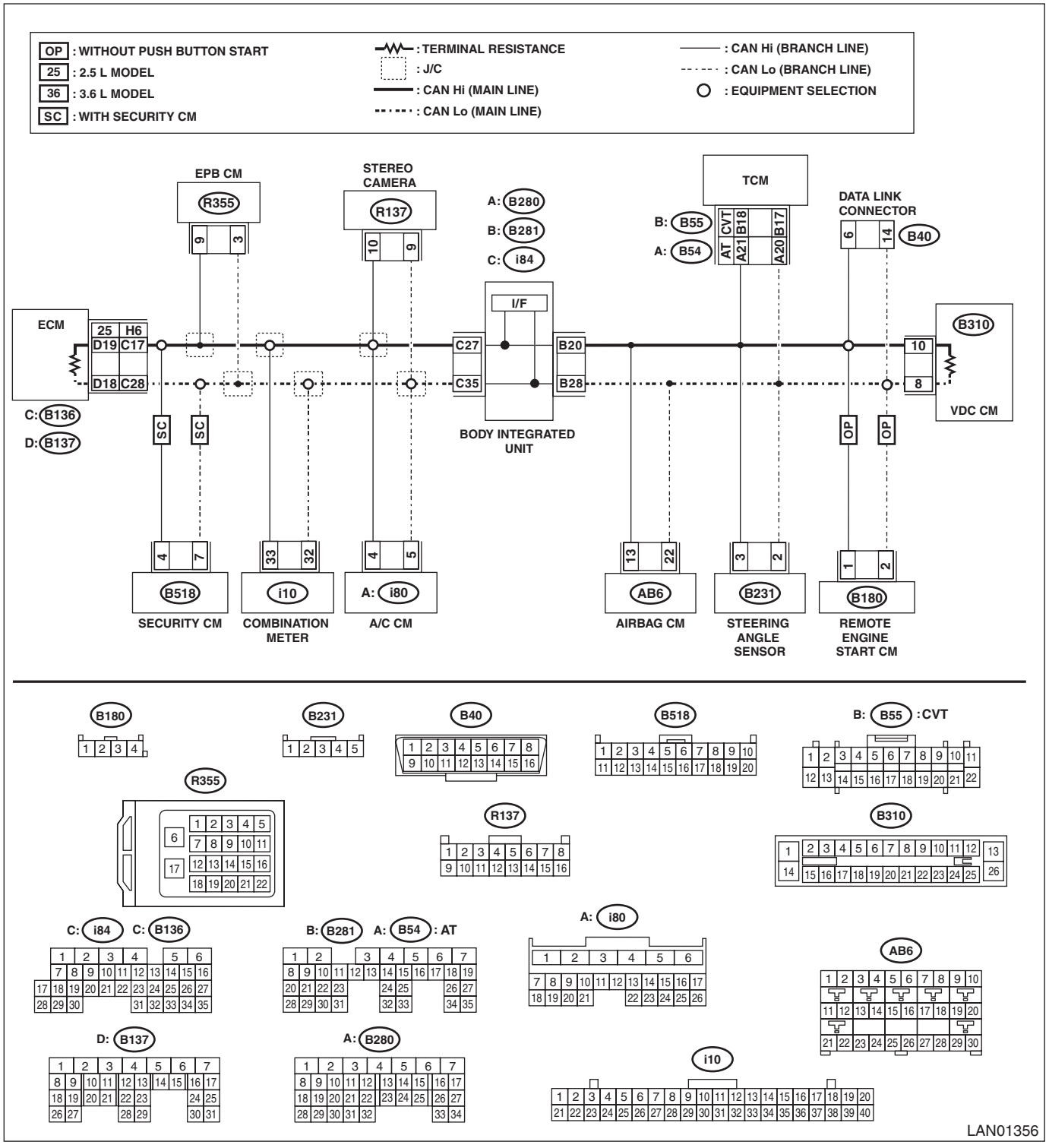
NOTE:
Main wiring harness or related lines may be shorted to ground, or shorted to ground in one of the control modules.

	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **2**.	Currently, it is normal.
2	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. NOTE: Disconnect the body integrated unit at the end. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Did the resistance change to 10 Ω or more?	Replace the control module whose resistance has changed. When the value changed at disconnecting the body integrated unit, Go to step **3**.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and VDC CM.
3	**CHECK BETWEEN MAIN WIRING HARNESSES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i84) No. 27 — Chassis ground:*** ***(i84) No. 35 — Chassis ground:***	Is the resistance 10 Ω or less?	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and ECM.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

2. BATTERY SHORT INSPECTION (BUS "A" (MAIN-CAN))

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



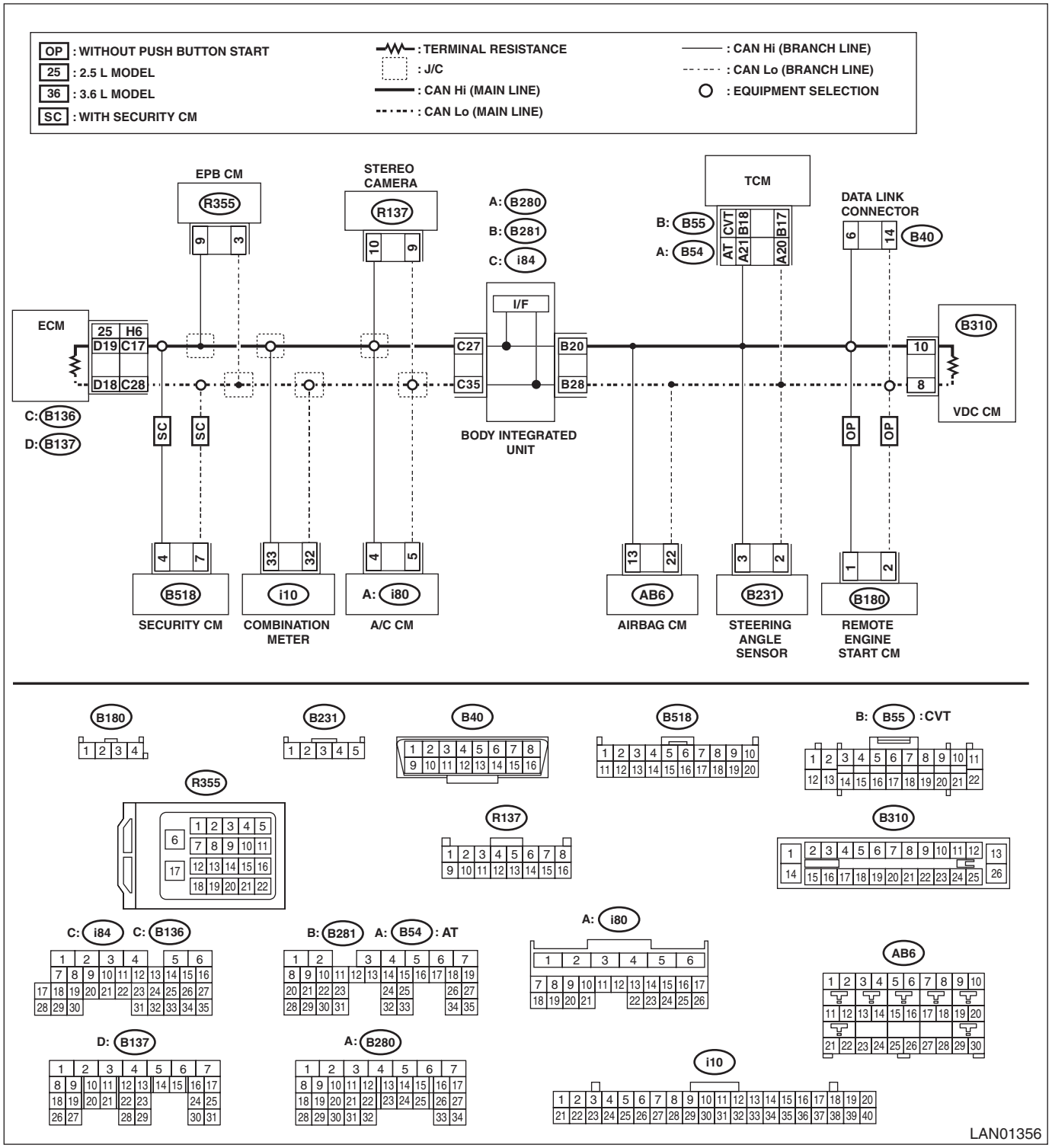
NOTE:
Main wiring harness or related lines may be shorted to battery circuit, or shorted to battery circuit in one of the control modules.

	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B40) No. 6 (+) — Chassis ground (–):*** ***(B40) No. 14 (+) — Chassis ground (–):***	Is the voltage 5 V or less?	Currently returned to normal.	Go to step **2**.
2	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. NOTE: Disconnect the body integrated unit at the end. ***Connector & terminal*** ***(B40) No. 6 (+) — Chassis ground (–):*** ***(B40) No. 14 (+) — Chassis ground (–):***	Did the voltage change to 5 V or less?	Replace the control module whose voltage has changed. When the value changed at disconnecting the body integrated unit, Go to step **3**.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and VDC CM.
3	**CHECK BETWEEN MAIN WIRING HARNESSES.** Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i84) No. 27 (+) — Chassis ground (–):*** ***(i84) No. 35 (+) — Chassis ground (–):***	Is the voltage 1 V or less?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and ECM.

3. 56 — 64 Ω

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



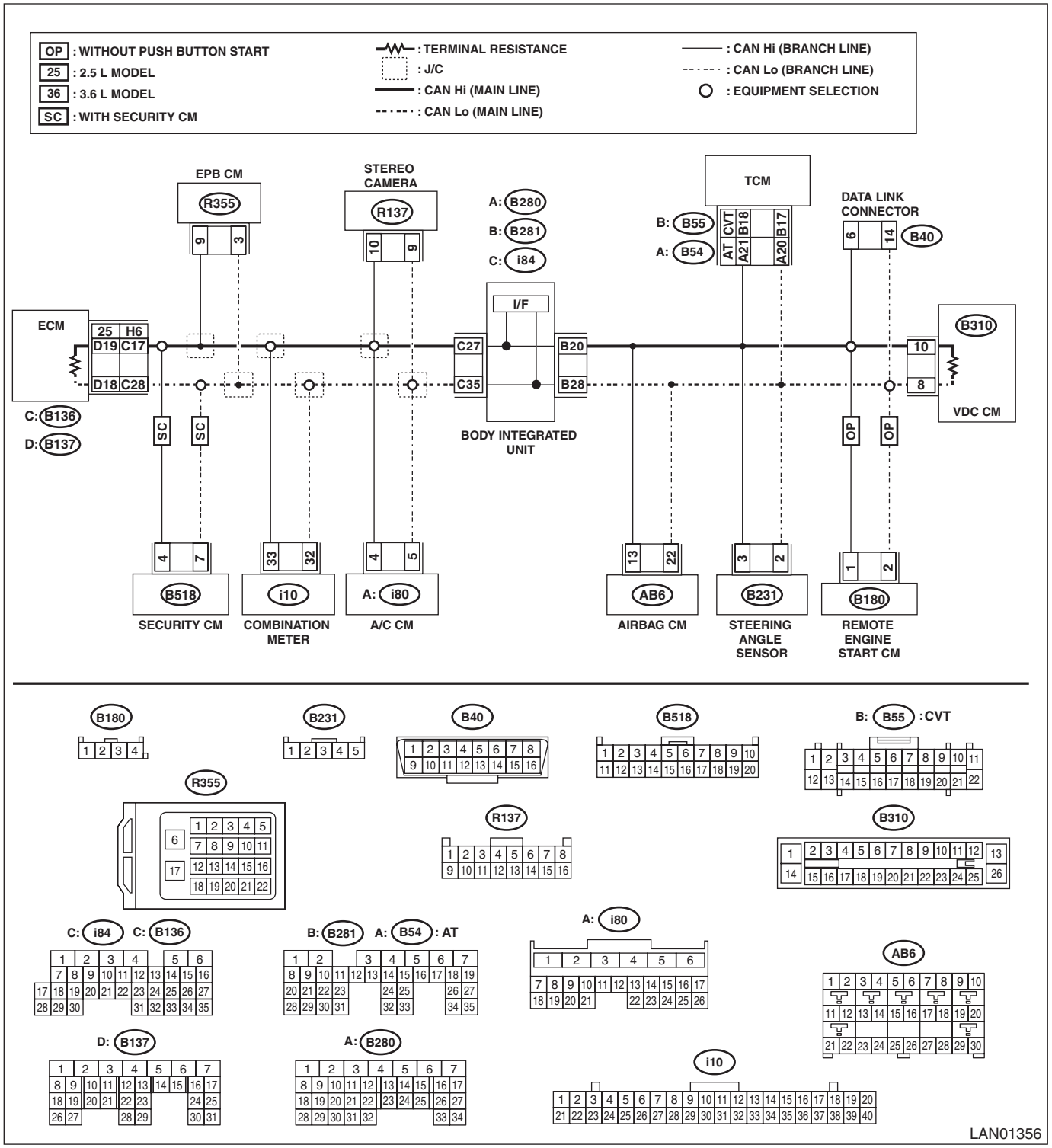
NOTE:
When the measured resistance value is 56 — 64 Ω, main wiring harness or related lines may be shorted to ground, or shorted to power supply line, or related line may be open.

	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **2**.	Go to step **4**.
2	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. NOTE: Disconnect the body integrated unit at the end. ***Connector & terminal*** ***(B40) No. 6 — Chassis ground:*** ***(B40) No. 14 — Chassis ground:***	Did the resistance change to 10 Ω or more?	Replace the control module whose resistance has changed. When the value changed at disconnecting the body integrated unit, Go to step **3**.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and VDC CM.
3	**CHECK MAIN WIRING HARNESS AND RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i84) No. 27 — Chassis ground:*** ***(i84) No. 35 — Chassis ground:***	Is the resistance 10 Ω or less?	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and ECM.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
4	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B40) No. 6 (+) — Chassis ground (–):*** ***(B40) No. 14 (+) — Chassis ground (–):***	Is the voltage 5 V or less?	CAN communication circuit is normal.	Go to step **5**.
5	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. (Disconnect the body integrated unit at the end.) ***Connector & terminal*** ***(B40) No. 6 (+) — Chassis ground (–):*** ***(B40) No. 14 (+) — Chassis ground (–):***	Did the voltage change to 5 V or less?	Replace the control module whose voltage has changed. When the voltage changed at disconnecting the body integrated unit, Go to step **6**.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and VDC CM.
6	**CHECK HARNESS.** Using a tester, measure the voltage between terminals and chassis ground. ***Connector & terminal*** ***(i84) No. 27 (+) — Chassis ground (–):*** ***(i84) No. 35 (+) — Chassis ground (–):***	Is the voltage 5 V or less?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and ECM.

4. 55 Ω OR LESS

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



NOTE:

When the bus line is measured, combined resistance of end resistance (120 Ω) in ECM and end resistance (120 Ω) in VDC CM can be measured. The combined resistance is approximately 56 — 64 Ω. When the measured resistance value is 55 Ω or less, main wiring harness or related lines may be shorted, or combined resistance may have changed because resistance other than end resistance is created on the circuit.

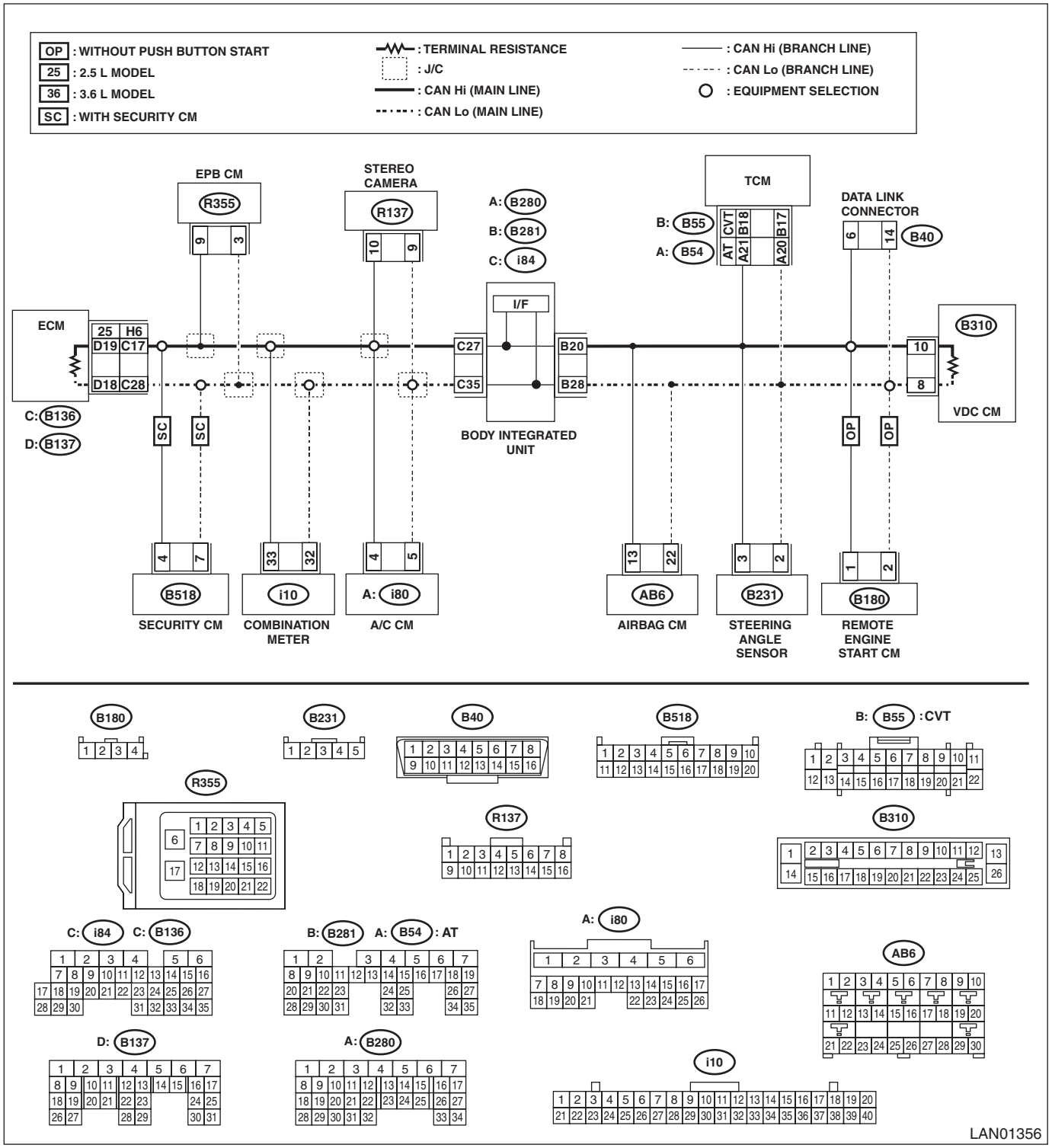
	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 10 Ω or less?	Go to step **2**.	Go to step **4**.
2	**CHECK MAIN WIRING HARNESS AND RELATED LINES.** With a tester connected, disconnect control module connectors in order. NOTE: Disconnect the body integrated unit at the end. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is there any control module whose condition has changed from short state?	Replace the control module whose resistance has changed. When the value changed at disconnecting the body integrated unit, Go to step **3**.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and VDC CM.
3	**CHECK BETWEEN MAIN WIRING HARNESSES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i84) No. 27 — No. 35:***	Is the resistance 10 Ω or less?	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and ECM.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
4	**CHECK CONTROL MODULE.** 1) Disconnect ECM and VDC CM connectors. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(B137) No. 19 — No. 18 (2.5 L model):*** ***(B136) No. 17 — No. 28 (3.6 L model):*** ***(B310) No. 8 — No. 10:***	Is the resistance 115 — 135 Ω?	Go to step **5**.	Replace the control module whose end resistance value is out of the specified range.
5	**CHECK CONTROL MODULE.** 1) Disconnect the connector of body integrated unit. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(i84) No. 27 — (B281) No. 28:*** ***(i84) No. 35 — (B281) No. 20:***	Is the resistance 2,850 — 3,150 Ω?	Go to step **6**.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
6	**CHECK CONTROL MODULE.** Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(i84) No. 35 — (B281) No. 28:*** ***(i84) No. 27 — (B281) No. 20:***	Is the resistance less than 1 Ω?	Go to step **7**.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
7	**CHECK CONTROL MODULE.** 1) Disconnect the connector of combination meter. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 33 — No. 32:***	Is the resistance 2,850 — 3,150 Ω?	Go to step **8**.	Replace the combination meter.
8	**CHECK CONTROL MODULE.** 1) Disconnect the security CM connector. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 1,425 — 1,575 Ω?	Go to step **9**.	Replace the security CM.

	Step	Check	Yes	No
9	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B281) No. 28 — No. 20:***	Is the resistance 1 MΩ or more?	Go to step **11**.	Go to step **10**.
10	**CHECK HARNESS.** With a tester connected, disconnect control modules in order. NOTE: Disconnect the body integrated unit at the end. ***Connector & terminal*** ***(B281) No. 28 — No. 20:***	Are there any control modules whose resistance changed to 1 MΩ or more?	Replace the control module that has changed.	Repair or replace the harness due to resistance component.
11	**CHECK CONTROL MODULE.** With a tester connected, disconnect control modules in order. NOTE: Disconnect the body integrated unit at the end. ***Connector & terminal*** ***(i84) No. 27 — No. 35:***	Are there any control modules whose resistance changed to 1 MΩ or more?	Replace the control module that has changed.	Repair or replace the harness due to resistance component.

5. 65 Ω OR MORE

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



NOTE:

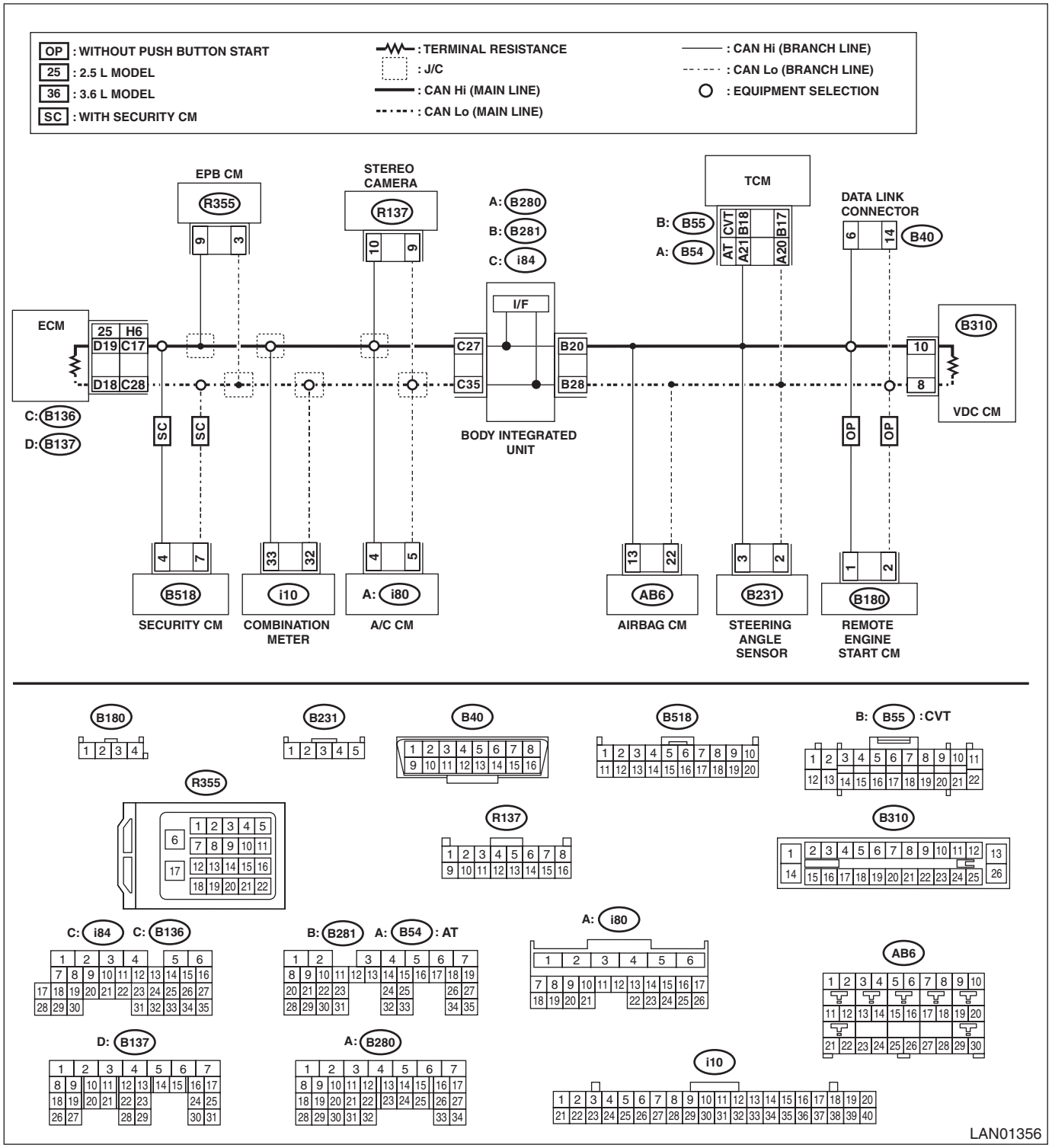
When CAN communication circuit is measured, combined resistance of end resistance (120 Ω) in ECM and end resistance (120 Ω) in VDC CM can be measured. The combined resistance is approximately 56 — 64 Ω. When the measured resistance value is 65 Ω or more, either of end resistance or main wiring harness may have malfunction such as open circuit.

	Step	Check	Yes	No
1	**CHECK CONTROL MODULE.** 1) Disconnect ECM and VDC CM connectors. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(B137) No. 18 — No. 19 (2.5 L model):*** ***(B136) No. 17 — No. 28 (3.6 L model):*** ***(B310) No. 8 — No. 10:***	Is the resistance 115 — 135 Ω?	Go to step **2**.	Replace the control module whose value is out of the specification.
2	**CHECK CONTROL MODULE.** 1) Disconnect the connector of body control module. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(B281) No. 28 — (i84) No. 27:*** ***(B281) No. 20 — (i84) No. 35:***	Is the resistance 2,850 — 3,150 Ω?	Go to step **3**.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
3	**CHECK CONTROL MODULE.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B281) No. 28 — (i84) No. 35:*** ***(B281) No. 20 — (i84) No. 27:***	Is the resistance less than 1 Ω?	Go to step **4**.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
4	**CHECK CONTROL MODULE.** 1) Disconnect the connector of combination meter. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 33 — No. 32:***	Is the resistance 2,850 — 3,150 Ω?	Go to step **5**.	Replace the combination meter.
5	**CHECK CONTROL MODULE.** 1) Disconnect the security CM connector. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(B40) No. 6 — No. 14:***	Is the resistance 1,425 — 1,575 Ω?	Go to step **6**.	Replace the security CM.
6	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B40) No. 6 — (B310) No. 10:*** ***(B40) No. 14 — (B310) No. 8:*** ***(B40) No. 6 — (i281) No. 20:*** ***(B40) No. 14 — (i281) No. 28:***	Is there continuity?	Go to step **7**.	Repair or replace the open circuit of harness.
7	**CHECK HARNESS.** 1) Disconnect the ECM connector. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***2.5 L model*** ***(B40) No. 6 — (B137) No. 19:*** ***(B40) No. 14 — (B137) No. 18:*** ***3.6 L model*** ***(B40) No. 6 — (B136) No. 17:*** ***(B40) No. 14 — (B136) No. 28:***	Is there continuity?	It is possible that temporary poor communication occurs.	Repair or replace the open circuit of harness.

6. RELATED LINES 56 — 64 Ω (TCM)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



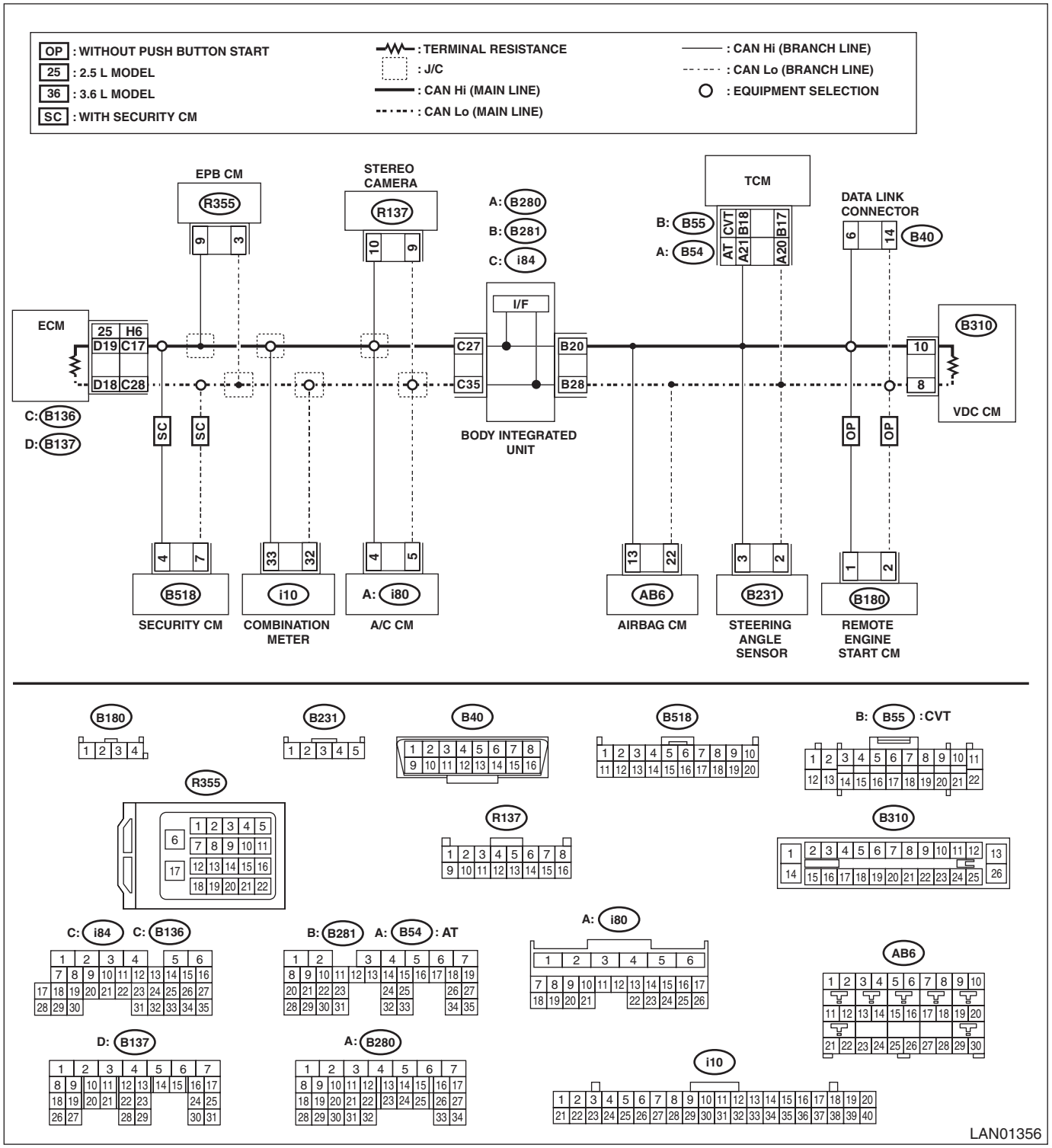
NOTE:
Perform inspection when no data is received, or faulty is detected. This is different from power supply shorted or ground shorted.

	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the TCM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***CVT model*** ***(B55) No. 17 — No. 18:*** ***5AT model*** ***(B54) No. 20 — No. 21:***	Is the resistance 400 Ω or more?	Related lines between TCM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***CVT model*** ***(B55) No. 17 — (B40) No. 14:*** ***(B55) No. 18 — (B40) No. 6:*** ***5AT model*** ***(B54) No. 20 — (B40) No. 14:*** ***(B54) No. 21 — (B40) No. 6:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of TCM related lines.	Check DTC of TCM. <Ref. to CVT(diag)-17, OPERATION, Read Diagnostic Trouble Code (DTC).> <Ref. to 5AT(diag)-20, OPERATION, Read Diagnostic Trouble Code (DTC).>

7. RELATED LINES 56 — 64 Ω (STEERING ANGLE SENSOR)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

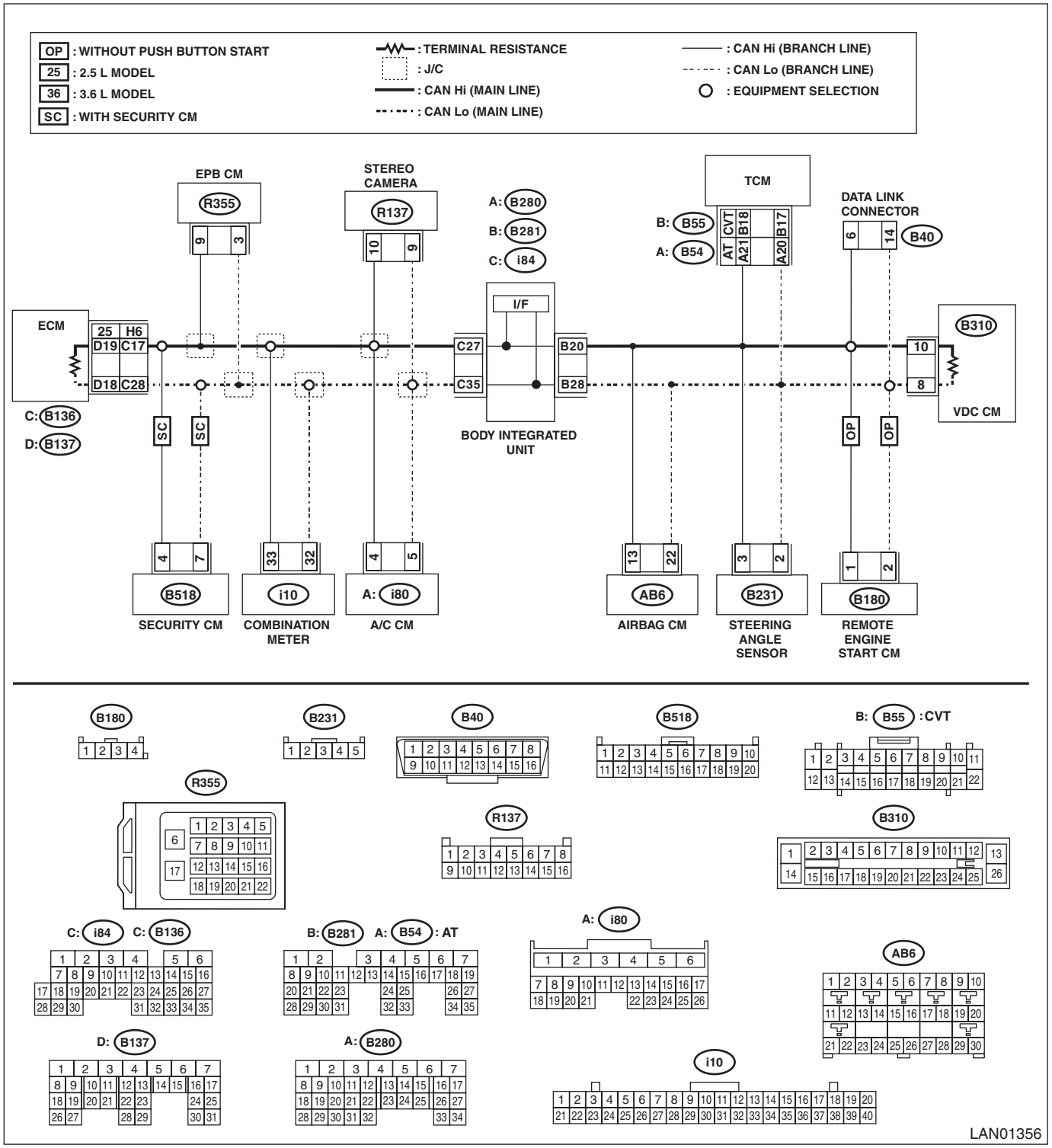


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the steering angle sensor connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B231) No. 2 — No. 3:***	Is the resistance 400 Ω or more?	Related lines between steering angle sensor and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B231) No. 2 — (B40) No. 14:*** ***(B231) No. 3 — (B40) No. 6:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of steering angle sensor related lines.	Check DTC of VDC CM. <Ref. to VDC(diag)-23, OPERATION, Read Diagnostic Trouble Code (DTC).>

8. RELATED LINES 56 — 64 Ω (A/C CM)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

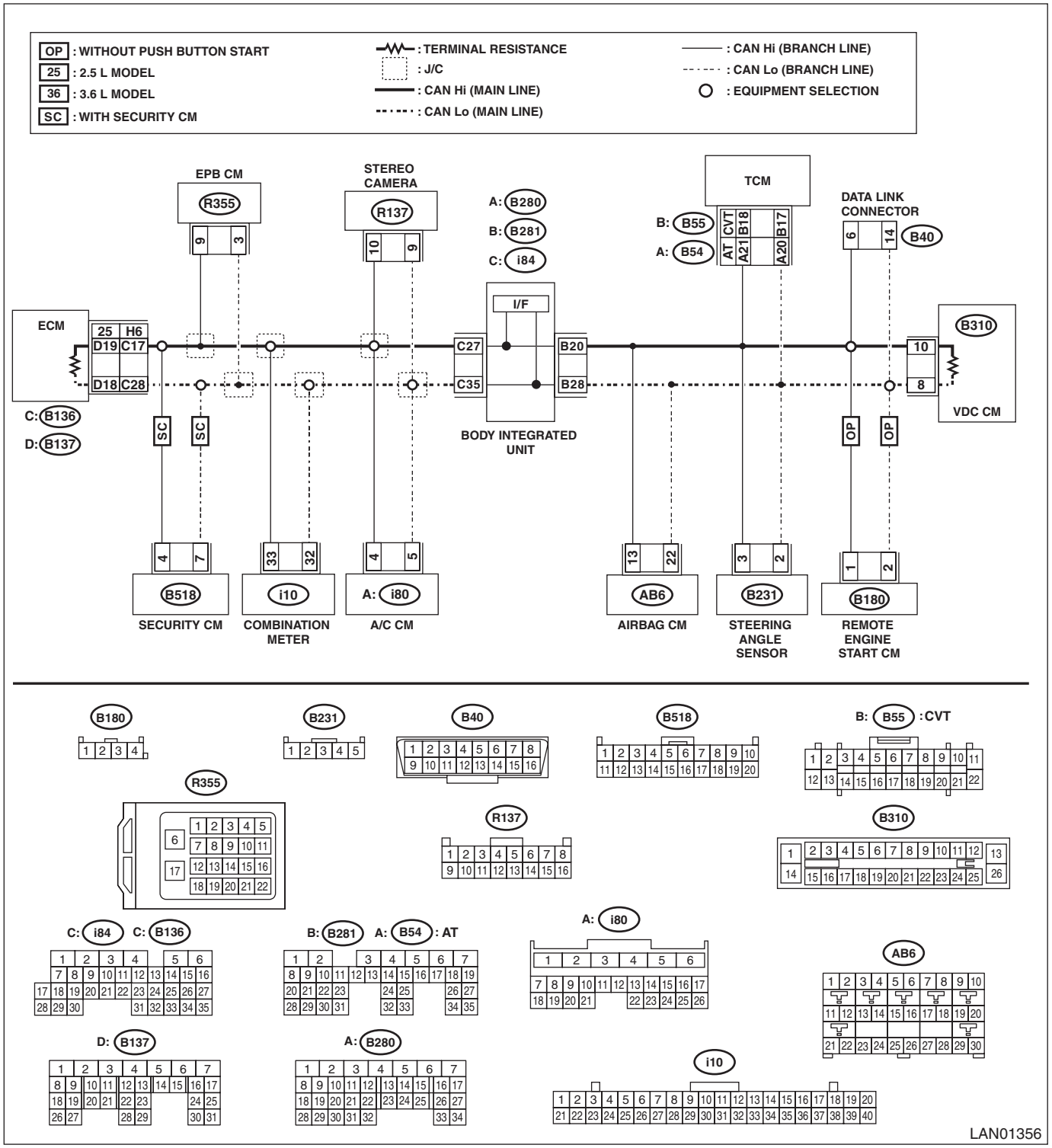


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the A/C CM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i80) No. 4 — No. 5:***	Is the resistance 400 Ω or more?	Related lines between A/C CM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i80) No. 4 — (B40) No. 6:*** ***(i80) No. 5 — (B40) No. 14:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit of A/C CM related lines.	Check DTC of A/C CM. <Ref. to AC(diag)-46, OPERATION, Read Diagnostic Trouble Code (DTC).>

9. RELATED LINES 56 — 64 Ω (ELECTRONIC PARKING CM)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

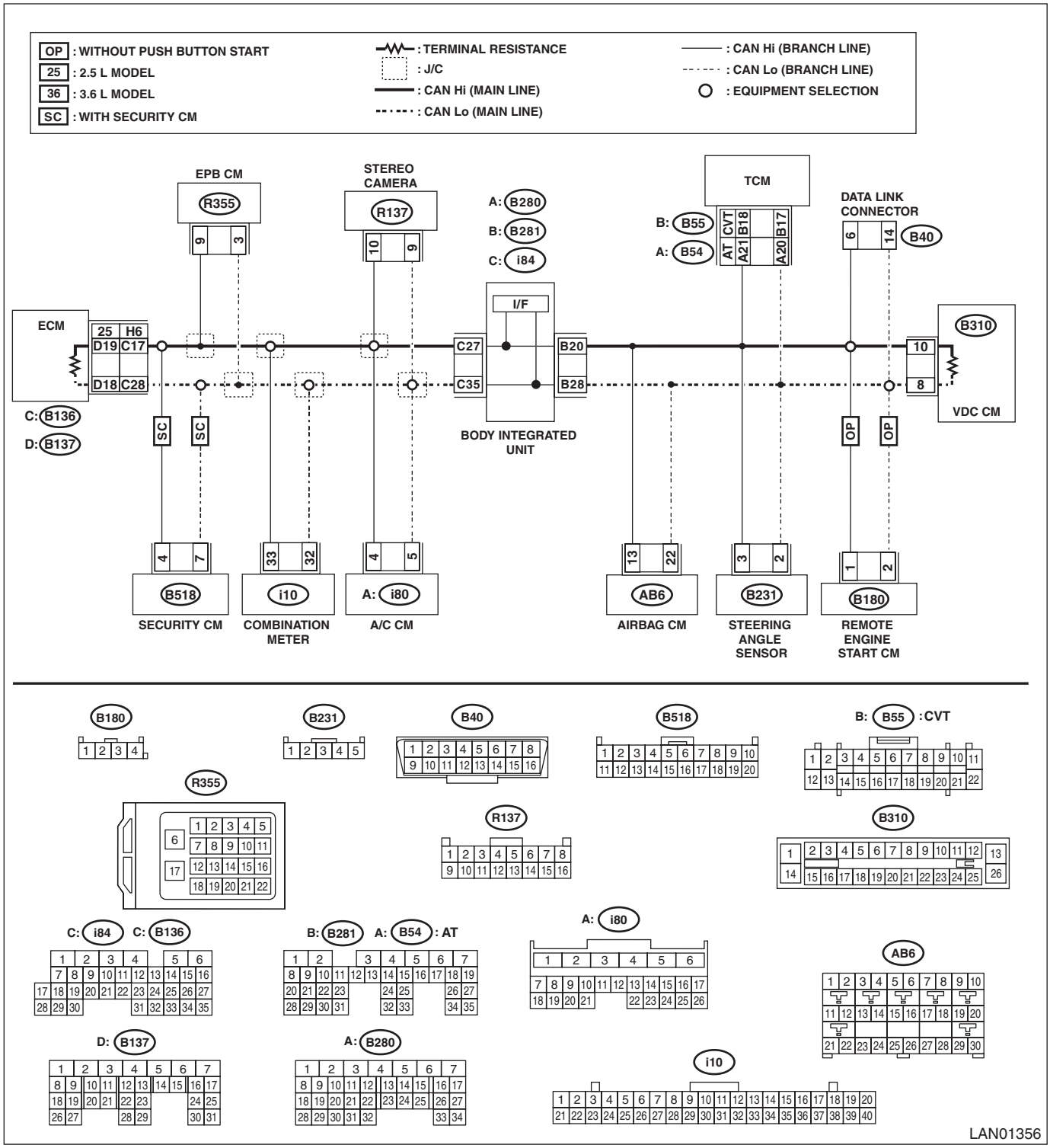


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the electronic parking CM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R355) No. 3 — No. 9:***	Is the resistance 400 Ω or more?	Related lines between electronic parking CM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R355) No. 9 — (B40) No. 6:*** ***(R355) No. 3 — (B40) No. 14:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of electronic parking CM related lines.	Check DTC of electronic parking CM. <Ref. to PB(diag)-21, OPERATION, Read Diagnostic Trouble Code (DTC).>

10.RELATED LINES 56 — 64 Ω (COMBINATION METER)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

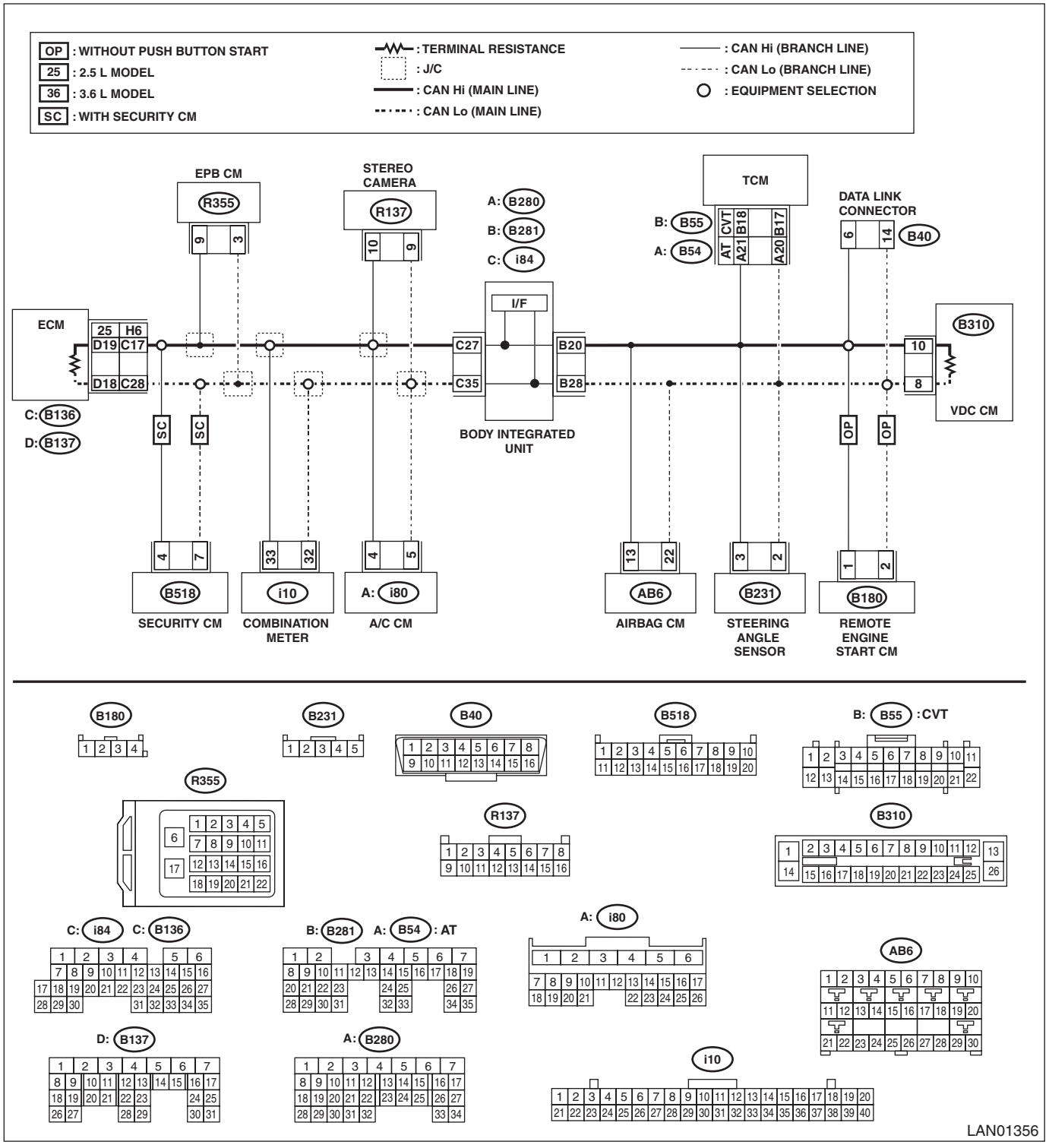


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the combination meter connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 32 — No. 33:***	Is the resistance 400 Ω or more?	Related lines between combination meter and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 32 — (B40) No. 14:*** ***(i10) No. 33 — (B40) No. 6:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of combination meter related lines.	Check DTC of combination meter.

11.RELATED LINES 56 — 64 Ω (SECURITY CM)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

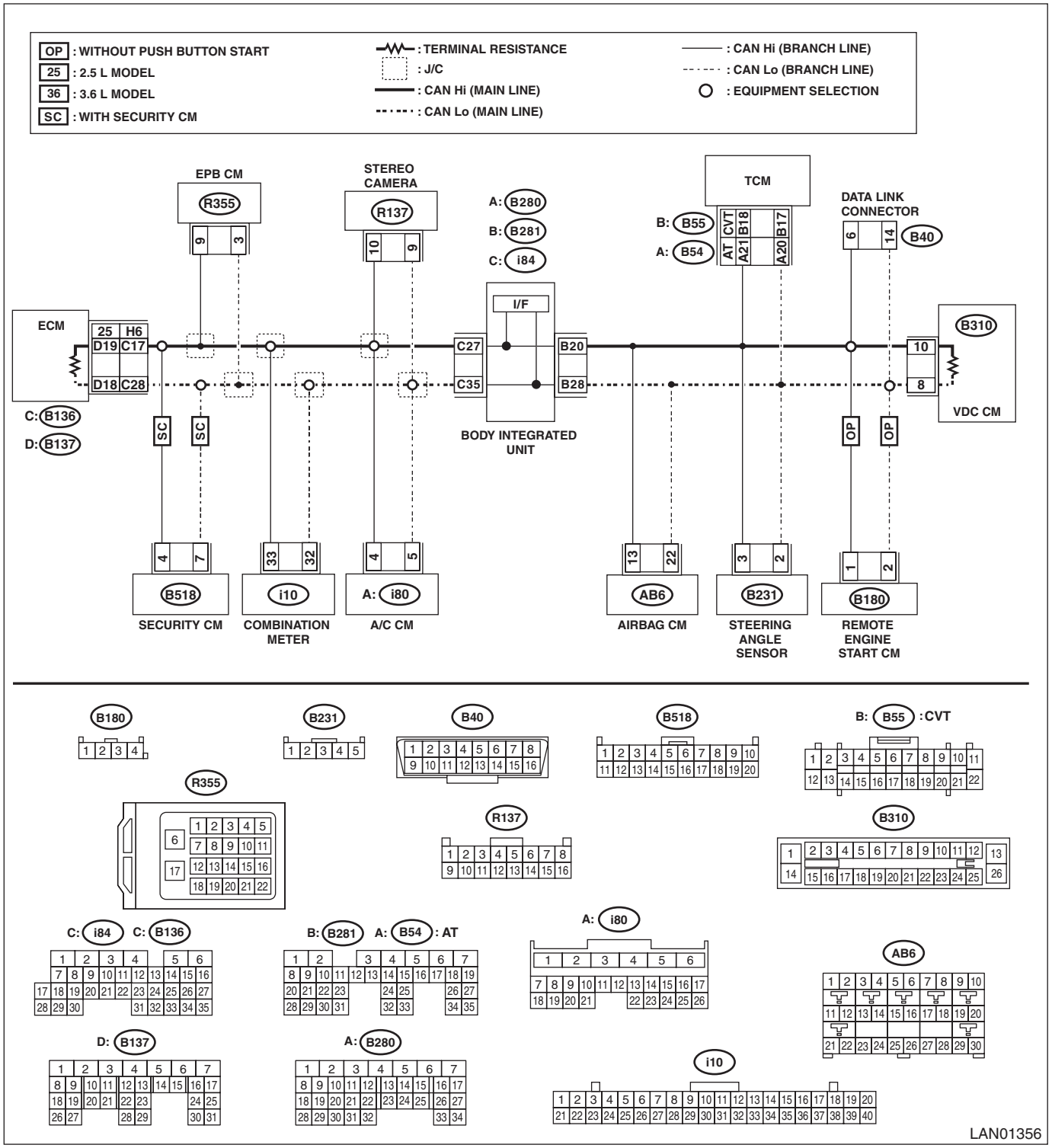


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the security CM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B518) No. 7 — No. 4:***	Is the resistance 400 Ω or more?	Related lines between security CM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B518) No. 4 — (B40) No. 6:*** ***(B518) No. 7 — (B40) No. 14:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of security CM related lines.	Check DTC of immobilizer system. <Ref. to IM(diag)-9, OPERATION, Read Diagnostic Trouble Code (DTC).>

12.RELATED LINE 56 — 64 Ω (STEREO CAMERA)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

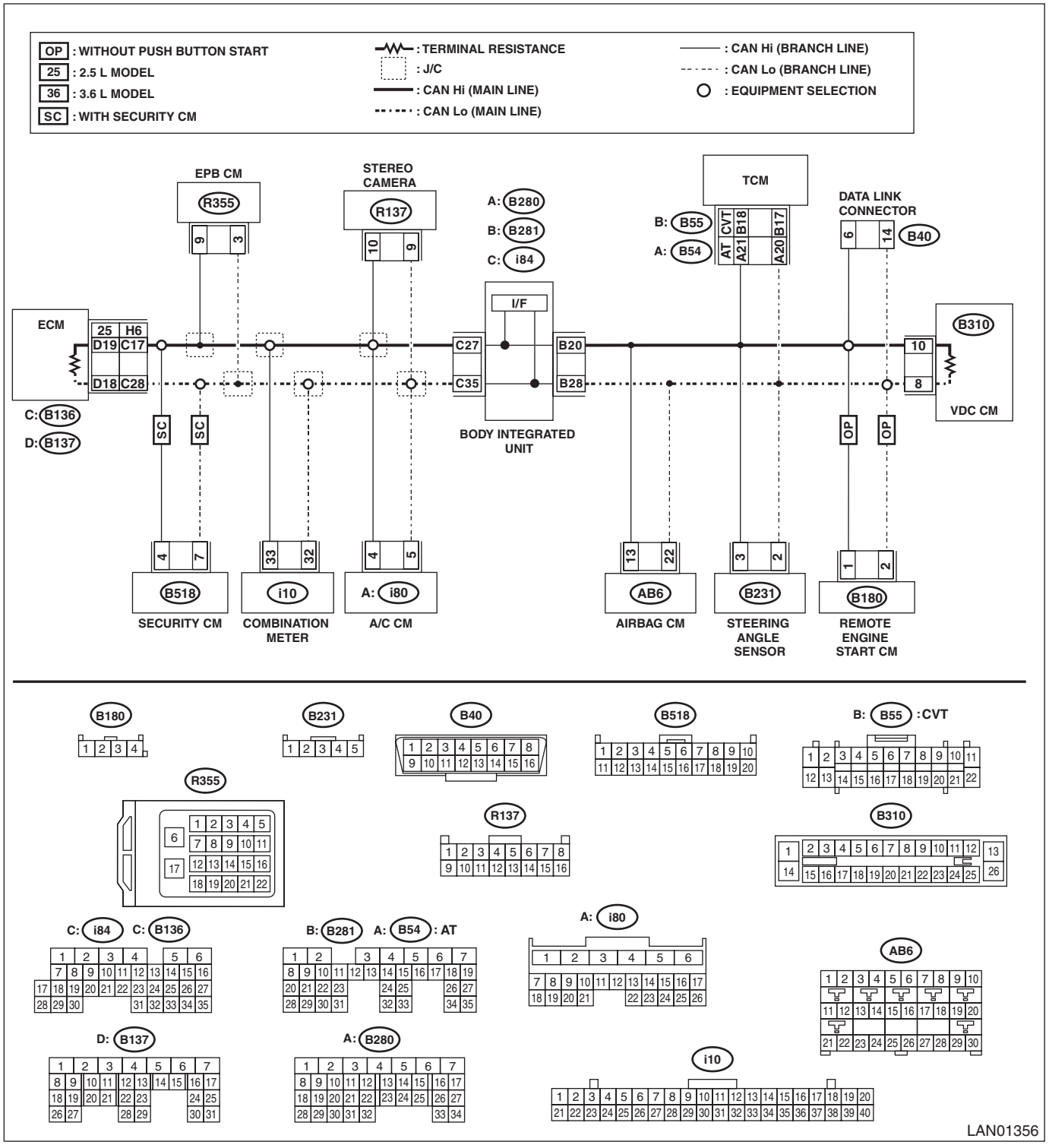


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the stereo camera CM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R137) No. 10 — No. 9:***	Is the resistance 400 Ω or more?	Related lines between stereo camera CM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R137) No. 9 — (B40) No. 14:*** ***(R137) No. 10 — (B40) No. 6:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of stereo camera CM related lines.	Check DTC of stereo camera. <Ref. to ES(diag)-40, OPERATION, Read Diagnostic Trouble Code (DTC).>

13.RELATED LINES 56 — 64 Ω (AIRBAGS)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

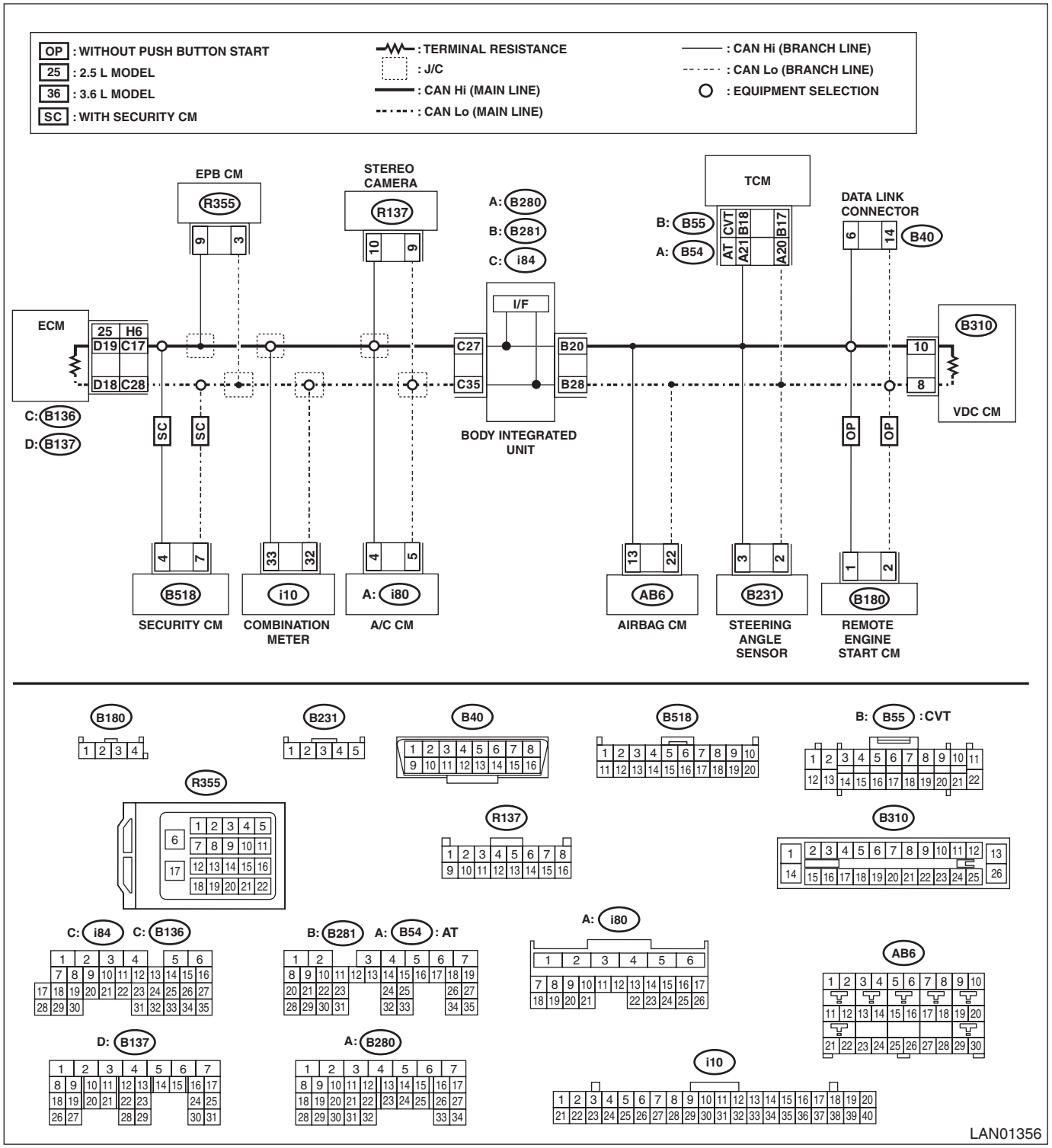


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the A/B CM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(AB6) No. 13 — No. 22:***	Is the resistance 400 Ω or more?	Related lines between A/B CM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(AB6) No. 13 — (B40) No. 6:*** ***(AB6) No. 22 — (B40) No. 14:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit of A/B CM related lines.	Check DTC of A/B CM.

14.RELATED LINES 56 — 64 Ω (REMOTE ENGINE START)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>

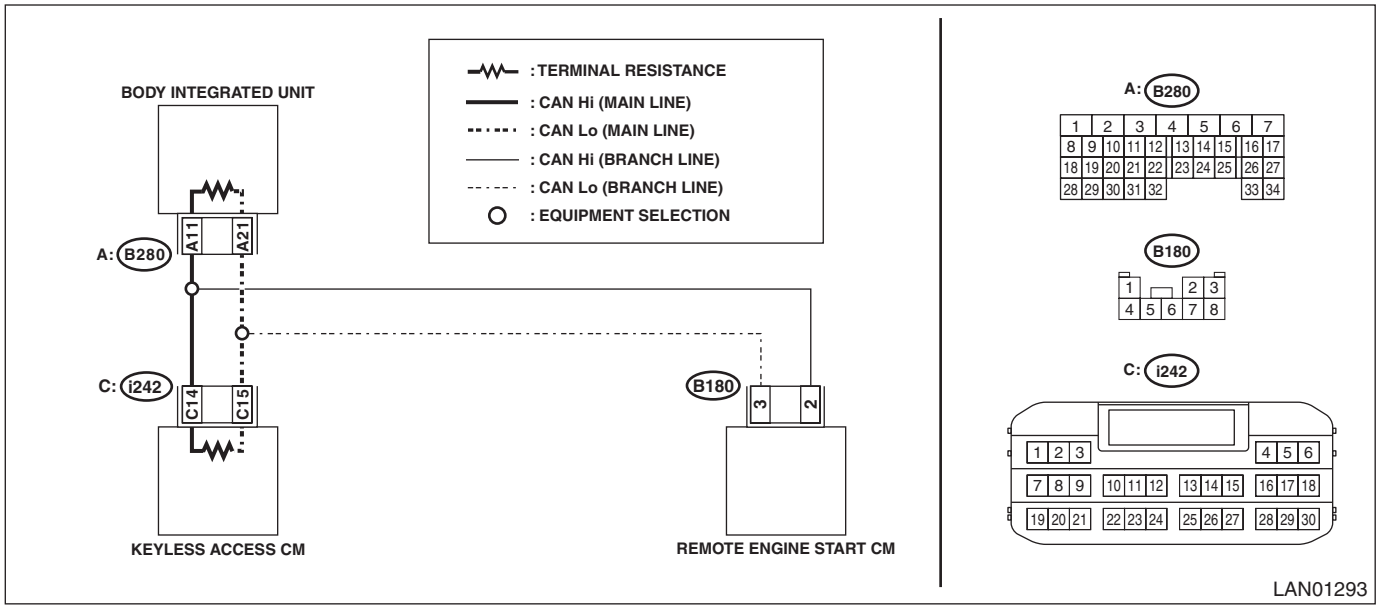


	Step	Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the remote engine start CM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B180) No. 1 — No. 2:***	Is the resistance 400 Ω or more?	Related lines between remote engine start CM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B40) No. 6 — (B180) No. 1:*** ***(B40) No. 14 — (B180) No. 2:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of remote engine start CM related lines.	Check that the remote engine start function operates normally.

15.GROUND SHORT INSPECTION (BUS "B" (SMART SYSTEM CAN))

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



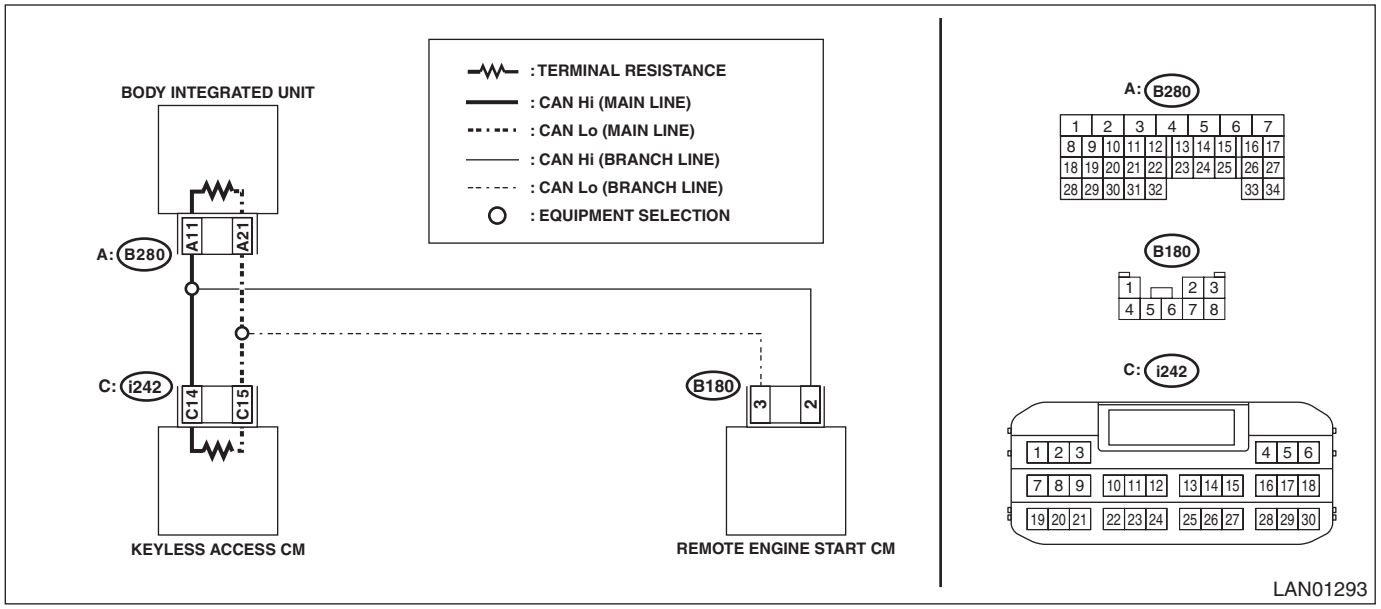
NOTE:
Main wiring harness or related lines may be shorted to ground, or shorted to ground in one of the control modules.

	Step	Check	Yes	No
1	**CHECK BETWEEN MAIN WIRING HARNESSES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B280) No. 11 — Chassis ground:*** ***(B280) No. 21 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **2**.	Currently, it is normal.
2	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. ***Connector & terminal*** ***(B280) No. 11 — Chassis ground:*** ***(B280) No. 21 — Chassis ground:***	Did the resistance change to 10 Ω or more?	Replace the control module whose resistance has changed.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and keyless access CM.

16.BATTERY SHORT INSPECTION (BUS “B” (SMART SYSTEM CAN))

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



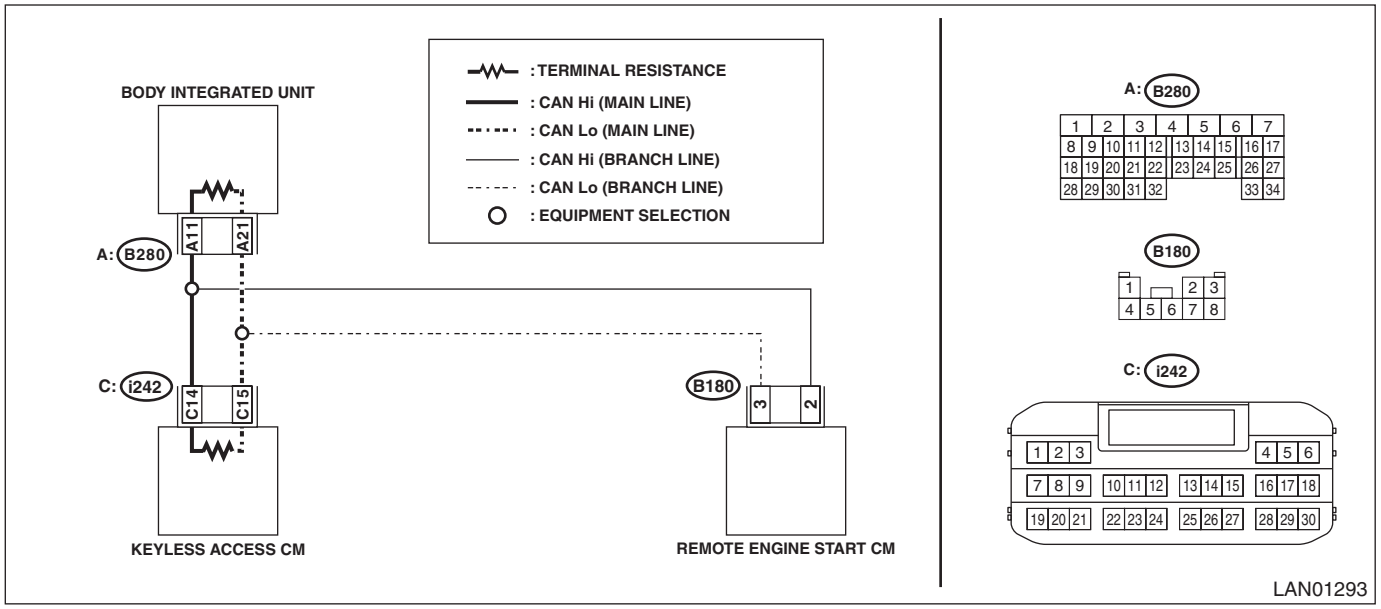
NOTE:
Main wiring harness or related lines may be shorted to battery circuit, or shorted to battery circuit in one of the control modules.

	Step	Check	Yes	No
1	**CHECK BETWEEN MAIN WIRING HARNESSES.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B280) No. 11 (+) — Chassis ground (–):*** ***(B280) No. 21 (+) — Chassis ground (–):***	Is the voltage 5 V or less?	Currently returned to normal.	Go to step **2**.
2	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. ***Connector & terminal*** ***(B280) No. 11 (+) — Chassis ground (–):*** ***(B280) No. 21 (+) — Chassis ground (–):***	Did the voltage change to 5 V or less?	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and keyless access CM.

17.57 — 63 Ω

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



NOTE:
When the measured resistance value is 57 — 63 Ω, main wiring harness or related lines may be shorted to ground, or shorted to power supply line, or related line may be open.

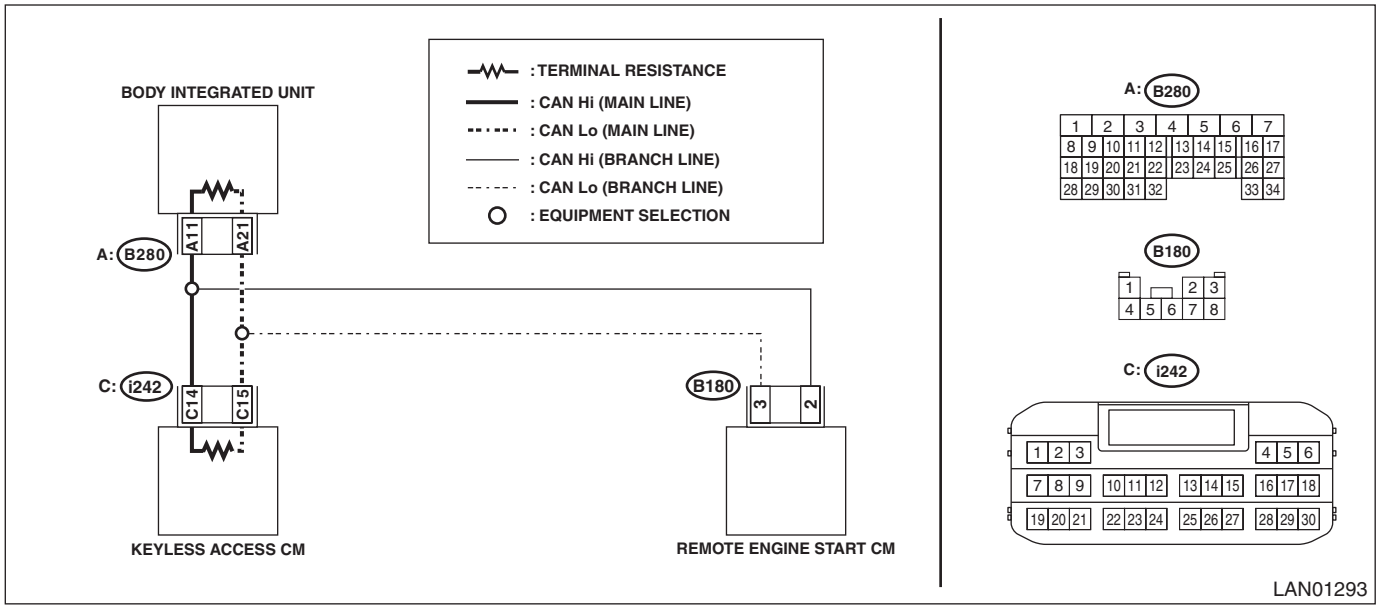
	Step	Check	Yes	No
1	**CHECK BETWEEN MAIN WIRING HARNESSES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B280) No. 11 — Chassis ground:*** ***(B280) No. 21 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **2**.	Go to step **3**.
2	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. NOTE: Disconnect the body integrated unit at the end. ***Connector & terminal*** ***(B280) No. 11 — Chassis ground:*** ***(B280) No. 21 — Chassis ground:***	Did the resistance change to 10 Ω or more?	Replace the control module whose resistance has changed.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and keyless access CM.
3	**CHECK BETWEEN MAIN WIRING HARNESSES.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B280) No. 11 (+) — Chassis ground (–):*** ***(B280) No. 21 (+) — Chassis ground (–):***	Is the voltage 5 V or less?	CAN communication circuit is normal.	Go to step **4**.

Step		Check	Yes	No
4	**CHECK CONTROL MODULE.** With the tester connected, disconnect control module. (Disconnect the body integrated unit at the end.) ***Connector & terminal*** ***(B280) No. 11 (+) — Chassis ground (–):*** ***(B280) No. 21 (+) — Chassis ground (–):***	Did the voltage change to 5 V or less?	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and keyless access CM.

18.56 Ω OR LESS

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



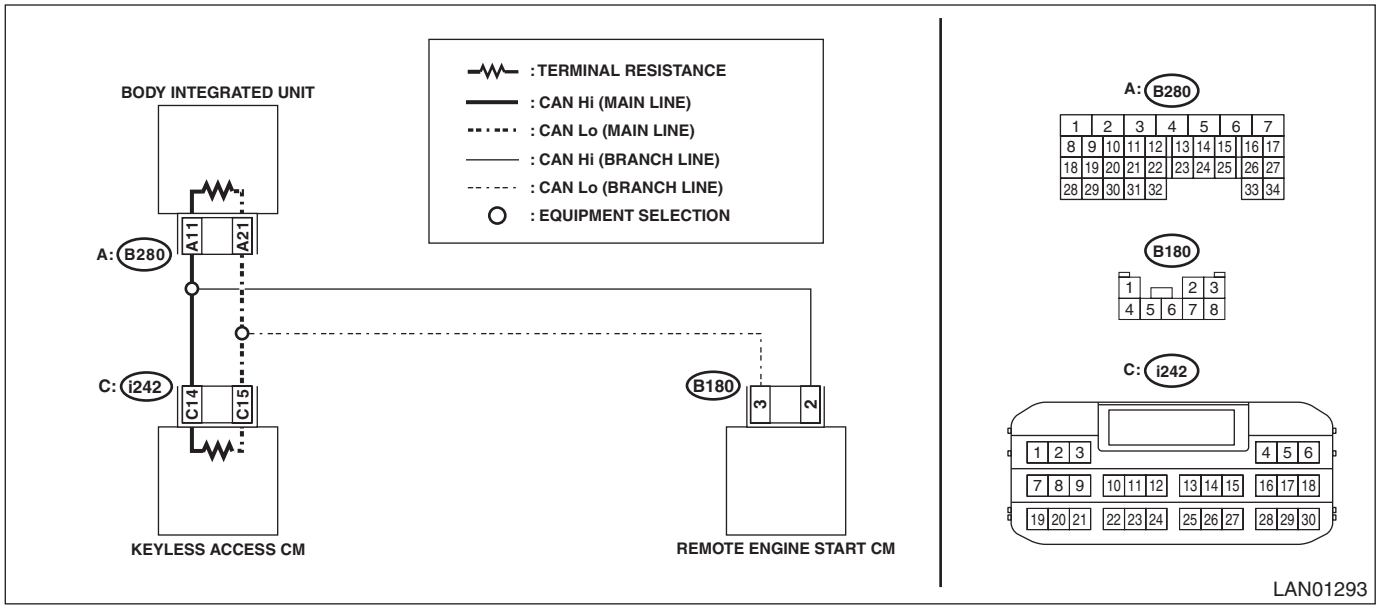
NOTE:
When the bus line is measured, combined resistance of end resistance (120 Ω) in body integrated unit and end resistance (120 Ω) in keyless access CM can be measured. The combined resistance is approximately 57 — 63 Ω. When the measured resistance value is 56 Ω or less, main wiring harness or related lines may be shorted, or combined resistance may have changed because resistance other than end resistance is created on the circuit.

	Step	Check	Yes	No
1	**CHECK BETWEEN MAIN WIRING HARNESSES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B280) No. 11 — No. 21:***	Is the resistance 10 Ω or less?	Go to step **2**.	Go to step **3**.
2	**CHECK MAIN WIRING HARNESS AND RELATED LINES.** With a tester connected, disconnect control module connectors in order. ***Connector & terminal*** ***(B280) No. 11 — No. 21:***	Is there any control module whose condition has changed from short state?	Replace the control module whose resistance has changed.	Repair or replace the short circuit of the main wiring harness and related lines between body integrated unit and keyless access CM.
3	**CHECK CONTROL MODULE.** 1) Disconnect the connectors of the body integrated unit and the keyless access CM. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(B280) No. 11 — No. 21:*** ***(i242) No. 15 — No. 14:***	Is the resistance 115 — 135 Ω?	Go to step **4**.	Replace the control module whose end resistance value is out of the specified range.
4	**CHECK HARNESS.** With a tester connected, disconnect control modules in order. ***Connector & terminal*** ***(B281) No. 11 — No. 21:***	Are there any control modules whose resistance changed to 1 MΩ or more?	Replace the control module that has changed.	Repair or replace the harness due to resistance component.

19.64 Ω OR MORE

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



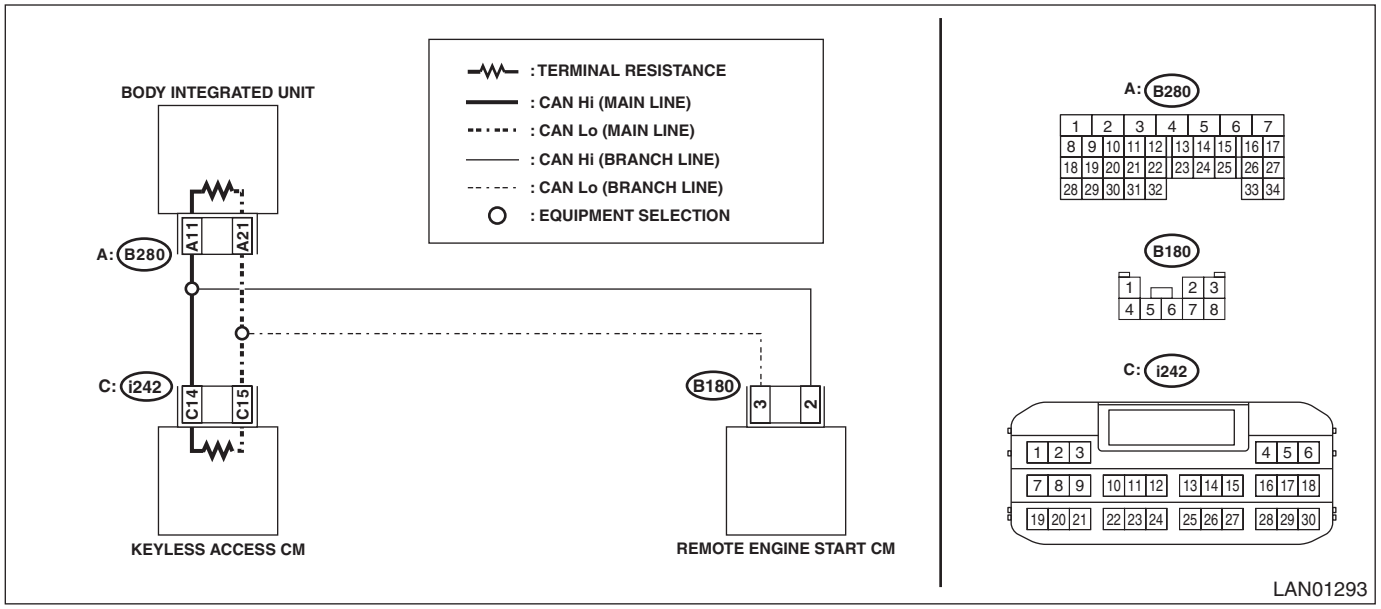
NOTE:
When the CAN communication circuit is measured, combined resistance of end resistance (120 Ω) in body integrated unit and end resistance (120 Ω) in keyless access CM can be measured. The combined resistance is approximately 57 — 63 Ω. When the measured resistance value is 64 Ω or more, either of end resistance or main wiring harness may have malfunction such as open circuit.

	Step	Check	Yes	No
1	**CHECK CONTROL MODULE.** 1) Disconnect the connectors of the body integrated unit and the keyless access CM. 2) Using a tester, measure the resistance between control module terminals. ***Connector & terminal*** ***(B280) No. 11 — No. 21:*** ***(i242) No. 15 — No. 14:***	Is the resistance 115 — 135 Ω or more?	Go to step **2**.	Replace the control module whose value is out of the specification.
2	**CHECK HARNESS.** Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B280) No. 11 — (i242) No. 14:*** ***(B280) No. 21 — (i242) No. 15:***	Is there continuity?	It is possible that temporary poor communication occurs.	Repair or replace the open circuit of harness.

20.RELATED LINES 57 — 63 Ω (REMOTE ENGINE START)

WIRING DIAGRAM:

CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>



Step		Check	Yes	No
1	**CHECK BETWEEN RELATED LINES AND MAIN WIRING HARNESS.** 1) Disconnect the remote engine start CM connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B180) No. 2 — No. 3:***	Is the resistance 400 Ω or more?	Related lines between remote engine start CM and main wiring harness is open, or main wiring harness is open at two places or more.	Go to step **2**.
2	**CHECK RELATED LINES.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B280) No. 11 — (B180) No. 2:*** ***(B280) No. 21 — (B180) No. 3:***	Is the resistance 10 Ω or more?	Repair or replace the open circuit portion of remote engine start CM related lines.	Check that the remote engine start function operates normally.

10.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Note
None	Communication for Initializing Impossible	Subaru Select Monitor communication is open or shorted.	<Ref. to LAN(diag)-70, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1201	CAN-HS Counter Abnormal	High speed CAN communication error	<Ref. to LAN(diag)-72, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1202	CAN-HS Bus Off	Communication of some module is shut down.	<Ref. to LAN(diag)-73, DTC U1202 CAN-HS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1211	CAN-HS ECM Data Abnormal	Error data is received from ECM.	<Ref. to LAN(diag)-74, DTC U1211 CAN-HS ECM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1212	CAN-HS TCM Data Abnormal	Error data is received from TCM.	<Ref. to LAN(diag)-75, DTC U1212 CAN-HS TCM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1213	CAN-HS VDC Data Abnormal	Error data is received from VDC module.	<Ref. to LAN(diag)-76, DTC U1213 CAN-HS VDC DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U121A	CAN-HS Meter Unit Data Abnormal	Error data is received from meter.	<Ref. to LAN(diag)-78, DTC U121A CAN-HS METER UNIT DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U121B	CAN-HS A/C Data Abnormal	Error data is received from A/C module.	<Ref. to LAN(diag)-79, DTC U121B CAN-HS A/C DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U121C	CAN-HS SCU Data Abnormal	Error data is received from SCU.	<Ref. to LAN(diag)-80, DTC U121C CAN-HS SCU DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1219	CAN-HS EPB Data Abnormal	Error data is received from EPB module.	<Ref. to LAN(diag)-77, DTC U1219 CAN-HS EPB DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1221	CAN-HS ECM No-Receive Data	Data does not arrive from ECM.	<Ref. to LAN(diag)-81, DTC U1221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1222	CAN-HS TCM No-Receive Data	Data does not arrive from TCM.	<Ref. to LAN(diag)-81, DTC U1222 CAN-HS TCM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1223	CAN-HS VDC No-Receive Data	Data does not arrive from VDC module.	<Ref. to LAN(diag)-82, DTC U1223 CAN-HS VDC NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U122A	CAN-HS Meter No-Receive Data	Data does not arrive from meter.	<Ref. to LAN(diag)-83, DTC U122A CAN-HS METER NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U122B	CAN-HS A/C No-Receive Data	Data does not arrive from A/C CM.	<Ref. to LAN(diag)-83, DTC U122B CAN-HS A/C NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U122C	CAN-HS SCU No-Receive Data	Data does not arrive from SCU.	<Ref. to LAN(diag)-84, DTC U122C CAN-HS SCU NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1229	CAN-HS EPB No-Receive Data	Data does not arrive from EPB module.	<Ref. to LAN(diag)-82, DTC U1229 CAN-HS EPB NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
U1301	CAN-LS Counter Abnormal (LS or KAC)	Communication is unstable because of KAC CAN communication error.	<Ref. to LAN(diag)-99, DTC U1301 CAN-LS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1302	CAN-LS Bus Off (LS or KAC)	Integrated unit communication is shut down because of KAC CAN communication error.	<Ref. to LAN(diag)-100, DTC U1302 CAN-LS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1328	Smart System CAN (KAC) Data No-Receive	Data does not arrive from keyless access CM.	<Ref. to LAN(diag)-101, DTC U1328 SMART SYSTEM CAN (KAC) DATA NO-RECEIVE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1601	LIN Communication (Seat Memory) Failure	Communication error with seat memory module occurred.	<Ref. to LAN(diag)-102, DTC U1601 LIN COMMUNICATION (SEAT MEMORY) FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0073	Control Module Communication Bus “A” Off	Communication of some module is shut down.	<Ref. to LAN(diag)-84, DTC U0073 CONTROL MODULE COMMUNICATION BUS “A” OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0401	Invalid Data Received From ECM/PCM “A”	Error data is received from ECM.	<Ref. to LAN(diag)-85, DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM “A”, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0402	Invalid Data Received From TCM	Error data is received from TCM.	<Ref. to LAN(diag)-86, DTC U0402 INVALID DATA RECEIVED FROM TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0416	Invalid Data Received From Vehicle Dynamics Control Module	Error data is received from VDC module.	<Ref. to LAN(diag)-87, DTC U0416 INVALID DATA RECEIVED FROM VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0422	Invalid Data Received From Body Control Module	Error data is received from body integrated unit.	<Ref. to LAN(diag)-89, DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0423	Invalid Data Received From Instrument Panel Cluster Control Module	Error data is received from meter.	<Ref. to LAN(diag)-90, DTC U0423 INVALID DATA RECEIVED FROM INSTRUMENT PANEL CLUSTER CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1433	Invalid Data Received From EyeSight	Error data is received from stereo camera.	<Ref. to LAN(diag)-91, DTC U1433 INVALID DATA RECEIVED FROM EyeSight, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0417	Invalid Data Received From Park Brake Control Module	Error data is received from electric parking CM.	<Ref. to LAN(diag)-88, DTC U0417 INVALID DATA RECEIVED FROM PARK BRAKE CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0100	Lost Communication With ECM/PCM “A”	Data does not arrive from ECM.	<Ref. to LAN(diag)-92, DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0101	Lost Communication With TCM	Data does not arrive from TCM.	<Ref. to LAN(diag)-93, DTC U0101 LOST COMMUNICATION WITH TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0122	Lost Communication With Vehicle Dynamics Control Module	Data does not arrive from VDC module.	<Ref. to LAN(diag)-94, DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	Data does not arrive from body integrated unit.	<Ref. to LAN(diag)-96, DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module	Data does not arrive from meter.	<Ref. to LAN(diag)-97, DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1235	Lost Communication With EyeSight	Data does not arrive from stereo camera.	<Ref. to LAN(diag)-98, DTC U1235 LOST COMMUNICATION WITH EyeSight, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0128	Lost Communication With Park Brake Control Module	Data does not arrive from electric parking.	<Ref. to LAN(diag)-95, DTC U0128 LOST COMMUNICATION WITH PARK BRAKE CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

1. DTC TABLE

NOTE:
When more than one DTC codes are recorded, referring to their combination and indicator display in the combination meter will make it easy to identify the possible cause. Refer to the list for typical examples.

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE blink Check engine lit [S] lit [S] lit VDC OFF lit EPB operating light lit	U0122	Communication failure	Communication failure	U1222 U1223	P1718	5144 5143 5136	Hi-side circuit near the body integrated unit (VDC side) is open
CRUISE lit Check engine lit VDC lit [S] lit	U0122 (Past)	U0002 (Past)	C0264	U1201 U1222 U1223 (Past)	P1718 (Past)	5143 5144 5136	Hi-side circuit near the body integrated unit (VDC side) was open (restored)
CRUISE blink Check engine lit [S] lit VDC lit VDC OFF lit EPB operating light lit Shift indicator off	U0122	Communication failure	Communication failure	U1222 U1223	P1718	5144 5136	Lo-side circuit near the body integrated unit (VDC side) is open
CRUISE blink CHECK EGI [S] blink VDC VDC OFF ABS EPB operating light lit Shift indicator off	U0122 (Past)	U0002 (Past)	C0264	U1222 U1223 (Past)	U1718 (Past)	5143 5121 5144	Lo-side circuit near the body integrated unit (VDC side) was open (restored)
CRUISE blink CHECK EGI [S] blink VDC VDC OFF ABS EPB operating light lit Shift indicator off	U0122	Communication failure	Communication failure	U1222 U1223	P1718	5144 5136	Hi- and Lo-side circuits near the body integrated unit (VDC side) are open
CRUISE lit CHECK EGI VDC S blink	U0122 (Past)	U0002 (Past)	C0262 C0264	U1222 U1223 (Past)	P1718 (Past)	5143 5144 5136	Hi- and Lo-side circuits near the body integrated unit (VDC side) were open (restored)

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5135 5121	Hi-side circuit near the body integrated unit (VDC side) is shorted to ground
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light Door off [I] blink CRUISE/blink Shift indicator off	U0073 (Past)	U0002 (Past)	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 (Past)	5143 5135 5121	Hi-side circuit near the body integrated unit (VDC side) was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near the body integrated unit (VDC side) is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near the body integrated unit (VDC side) was shorted to ground
CRUISE lit CHECK EGI [S] blink VDC Shift indicator off	U0073 U0140	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5135 5121	Hi- and Lo-side circuits near the body integrated unit (VDC side) are shorted
CRUISE lit CHECK EGI [S] blink VDC	U0073 U0140	U0002 (Past)	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 (Past)	5143 5135 5121	Hi- and Lo-side circuits near the body integrated unit (VDC side) were shorted

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE blink CHECK EGI [S] blink FUEL blink VDC VDC OFF ABS EPB operating light lit Shift indicator off	U0122	Communication failure	Communication failure	U1221 U1229 U122A U122B	P1718	5144 5136	Hi-side circuit near the body integrated unit (ECM side) is open
CRUISE lit CHECK EGI VDC S blink	U0122 (Past)	U0002 (Past)	C0262 C0263 C0264 C0265 C0266 C0267	U1221 (Past)	P1718 (Past)	5143 5144 5136	Hi-side circuit near the body integrated unit (ECM side) was open
CRUISE blink CHECK EGI [S] blink FUEL blink VDC VDC OFF ABS EPB operating light lit Shift indicator off	—	Communication failure	Communication failure	U1221	P1718	5144 5136	Lo-side circuit near the body integrated unit (ECM side) is open
CRUISE lit CHECK EGI VDC S blink	—	U0002 (Past)	—	U1221 (Past)	P1718 (Past)	5143 5144 5136	Lo-side circuit near the body integrated unit (ECM side) was open
CRUISE blink CHECK EGI [S] blink FUEL blink VDC VDC OFF ABS EPB operating light lit Shift indicator off	—	Communication failure	Communication failure	U1221	P1718	5144 5136	Hi- and Lo-side circuits near the body integrated unit (ECM side) are open
CRUISE lit CHECK EGI VDC S blink	—	U0002 (Past)	—	U1221 (Past)	P1718 (Past)	5143 5144 5136	Hi- and Lo-side circuits near the body integrated unit (ECM side) were open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5135 5121	Hi-side circuit near the body integrated unit (ECM side) is shorted to ground

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light Door off [I] blink CRUISE/blink Shift indicator off	U0073 (Past)	U0002 (Past)	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 (Past)	5143 5135 5121	Hi-side circuit near the body integrated unit (ECM side) was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near the body integrated unit (ECM side) is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near the body integrated unit (ECM side) was shorted to ground
CRUISE lit CHECK EGI [S] blink VDC Shift indicator off	U0073 U0140	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5135 5121	Hi- and Lo-side circuits near the body integrated unit (ECM side) are shorted
CRUISE lit CHECK EGI [S] blink VDC	U0073 U0140	U0002 (Past)	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 (Past)	5143 5135 5121	Hi- and Lo-side circuits near the body integrated unit (ECM side) were shorted
CRUISE lit CHECK EGI [S] blink VDC Shift indicator off	U0101	—	C0262	U1222	P1718 or P1725	5143 5137	Hi-side circuit near TCM is open
CRUISE lit CHECK EGI [S] blink VDC	U0101 (Past)	—	C0262	U1222 (Past)	P1718 or P1725 (Past)	5143 5137	Hi-side circuit near TCM was open
CRUISE lit CHECK EGI [S] blink VDC Shift indicator off	U0101	—	C0262	U1222	P1718 or P1725	5143 5137	Lo-side circuit near TCM is open
CRUISE lit CHECK EGI [S] blink VDC	U0101 (Past)	—	C0262	U1222 (Past)	P1718 or P1725 (Past)	5143 5137	Lo-side circuit near TCM was open

List of Diagnostic Trouble Code (DTC)

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE lit CHECK EGI [S] blink VDC Shift indicator off	U0101	—	C0262	U1222	P1718 or P1725	5143 5137	Hi- and Lo-side circuits near TCM are open
CRUISE lit CHECK EGI [S] blink VDC	U0101 (Past)	—	C0262	U1222 (Past)	P1718 or P1725 (Past)	5143 5137	Hi- and Lo-side circuits near TCM were open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5136 5152	Hi-side circuit near TCM is shorted to ground
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0002 (Past)	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5143 5135 5136	Hi-side circuit near TCM was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near TCM is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near TCM was shorted to ground
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5121	Hi- and Lo-side circuits near TCM are shorted

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	U1718 or P1725 (Past)	5143 5135 5121	Hi- and Lo-side circuits near TCM were shorted
CRUISE lit	—	Communication failure	—	U122B	—	—	Hi-side circuit near A/C is open
Normal	—	U0001 U0002 (Past)	—	U122B (Past)	—	—	Hi-side circuit near A/C was open
AT_OIL blink VDC CRUISE lit	—	Communication failure	—	U122B U1201	P1718 or P1725	5135 5121	Lo-side circuit near A/C is open
Normal	—	U0001 U0002	—	U1201 U122B (Past)	P1718 or P1725 (Past)	5144 5135 5121	Lo-side circuit near A/C was open
CRUISE lit	—	Communication failure	—	U122B	—	—	Hi- and Lo-side circuits near A/C are open
Normal	—	U0002 (Past)	—	U122B (Past)	—	—	Hi- and Lo-side circuits near A/C were open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073 U0122	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5137 5121	Hi-side circuit near A/C is shorted to ground
CRUISE lit CHECK EGI VDC S blink	—	U0001 U0002 (Past)	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5143 5135 5137	Hi-side circuit near A/C was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near A/C is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near A/C was shorted to ground

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL lit ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5136 5152	Hi- and Lo-side circuits near A/C are shorted
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5143 5135 5136	Hi- and Lo-side circuits near A/C were shorted
CRUISE lit Coolant temperature blink (red/blue) CHECK EGI ATOIL I blink FUEL blink VDC EPS warning light	U0073	Communication failure	C0261 C0263	U1201 U1202 U1221	P1718	5144 5135 5121	Hi-side circuit near ECM is open
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002	—	U1201 U1202 U1221 (Past)	P1718 (Past)	5143	Hi-side circuit near ECM was open
CRUISE lit Coolant temperature blink (red/blue) CHECK EGI ATOIL blink I blink FUEL blink VDC	U0073	Communication failure	C0261 C0263	U1201 U1202 U1221	P1718	5144 5135 5136	Lo-side circuit near ECM is open
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002 (Past)	C0261 C0263	U1201 U1202 U1221 (Past)	P1718 (Past)	5143 5144 5135	Lo-side circuit near ECM was open
CRUISE lit Coolant temperature blink (red/blue) CHECK EGI ATOIL blink I blink FUEL blink VDC	U0073	U0002	C0263	U1221 U1201	P1718	5144 5136	Hi- and Lo-side circuits near ECM are open

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002 (Past)	C0263	U1201 U1221 (Past)	P1718 (Past)	5143 5144 5136	Hi- and Lo-side circuits near ECM were open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5135 5121	Hi-side circuit near ECM is shorted to ground
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 (Past)	5143 5135 5121	Hi-side circuit near ECM was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near ECM is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near ECM was shorted to ground
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073 U0122	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5143 5135 5144	Hi- and Lo-side circuits near ECM are shorted
CRUISE lit CHECK EGI VDC S blink	U0073 U0122 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 (Past)	5143 5135 5144	Hi- and Lo-side circuits near ECM were shorted

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light Door off [I] blink CRUISE/blink Shift indicator off	—	U0002	C0267	U122A	—	—	Hi-side circuit near meter is open
Normal	—	U0002 (Past)	C0267	U122A (Past)	—	—	Hi-side circuit near meter was open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light Door off [I] blink CRUISE/blink Shift indicator off	—	U0002	C0267	U122A	—	—	Lo-side circuit near meter is open
Normal	—	U0002	C0267	U122A (Past)	—	—	Lo-side circuit near meter was open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light Door off [I] blink CRUISE/blink Shift indicator off	—	U0002	C0267	U122A	—	—	Hi- and Lo-side circuits near meter are open
Normal	—	U0002	C0267	U122A (Past)	—	—	Hi- and Lo-side circuits near meter were open
CRUISE lit CHECK EGI VDC S blink	U0122 U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5137 5136	Hi-side circuit near meter is shorted to ground

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE lit CHECK EGI VDC S blink	U0122 U0073 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5143 5135 5137	Hi-side circuit near meter was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near meter is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near meter was shorted to ground
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5121	Hi- and Lo-side circuits near meter are shorted
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5134 5135 5121	Hi- and Lo-side circuits near meter were shorted
EPB OFF EPB operating light blink EPB warning light CRUISE/lit	—	—	Communication failure	U1229	—	—	Hi-side circuit near electronic parking brake is open
Normal	—	—	C0261	U1229	—	—	Hi-side circuit near electronic parking brake was open
EPB OFF EPB operating light blink EPB warning light CRUISE/lit	—	—	Communication failure	U1229	—	—	Lo-side circuit near electronic parking brake is open
Normal	—	—	C0261	U1229	—	—	Lo-side circuit near electronic parking brake was open
EPB OFF EPB operating light blink EPB warning light CRUISE/lit	—	—	Communication failure	U1229	—	—	Hi- and Lo-side circuits near electronic parking brake are open

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
Normal	—	—	C0261	U1229	—	—	Hi- and Lo-side circuits near electronic parking brake were open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073 U0122	Communication failure	Communication failure	U1201 U1202 U1221 U1229 U122A U122B	P1718 or P1725	51335 5137 5121	Hi-side circuit near electronic parking brake is shorted to ground
CRUISE lit CHECK EGI VDC S blink	U0073 U0122 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5143 5135 5137	Hi-side circuit near electronic parking brake was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near electronic parking brake is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near electronic parking brake was shorted to ground
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5121	Hi- and Lo-side circuits near electronic parking brake are shorted
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725	5143 5135 5121	Hi- and Lo-side circuits near electronic parking brake were shorted

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE lit VDC OFF CHECK EGI ATOIL blink VDC S blink EPS warning light ABS	U0122	U0002	C0264	U1223	P1718	5135 5136 5137	Hi-side circuit near VDC is open
CRUISE lit CHECK EGI VDC S blink	—	—	C0264	U1223 (Past)	—	5143	Hi-side circuit near VDC was open
CRUISE lit VDC OFF CHECK EGI ATOIL blink VDC S blink EPS warning light ABS	U0122	U0002	C0264	U1201 U1202 U1223	P1718	5135 5136 5152	Lo-side circuit near VDC is open
CRUISE lit CHECK EGI VDC S blink	—	—	C0264	U1201 U1202 U1223 (Past)	—	5143	Lo-side circuit near VDC was open
CRUISE lit VDC OFF CHECK EGI ATOIL blink VDC S blink EPS warning light ABS	U0122	U0002	C0264	U1223	P1718	5135 5136 5137	Hi- and Lo-side circuits near VDC are open
CRUISE lit CHECK EGI VDC S blink	—	—	C0264	U1223 (Past)	—	5143	Hi- and Lo-side circuits near VDC were open
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5135 5121	Hi-side circuit near VDC is shorted to ground

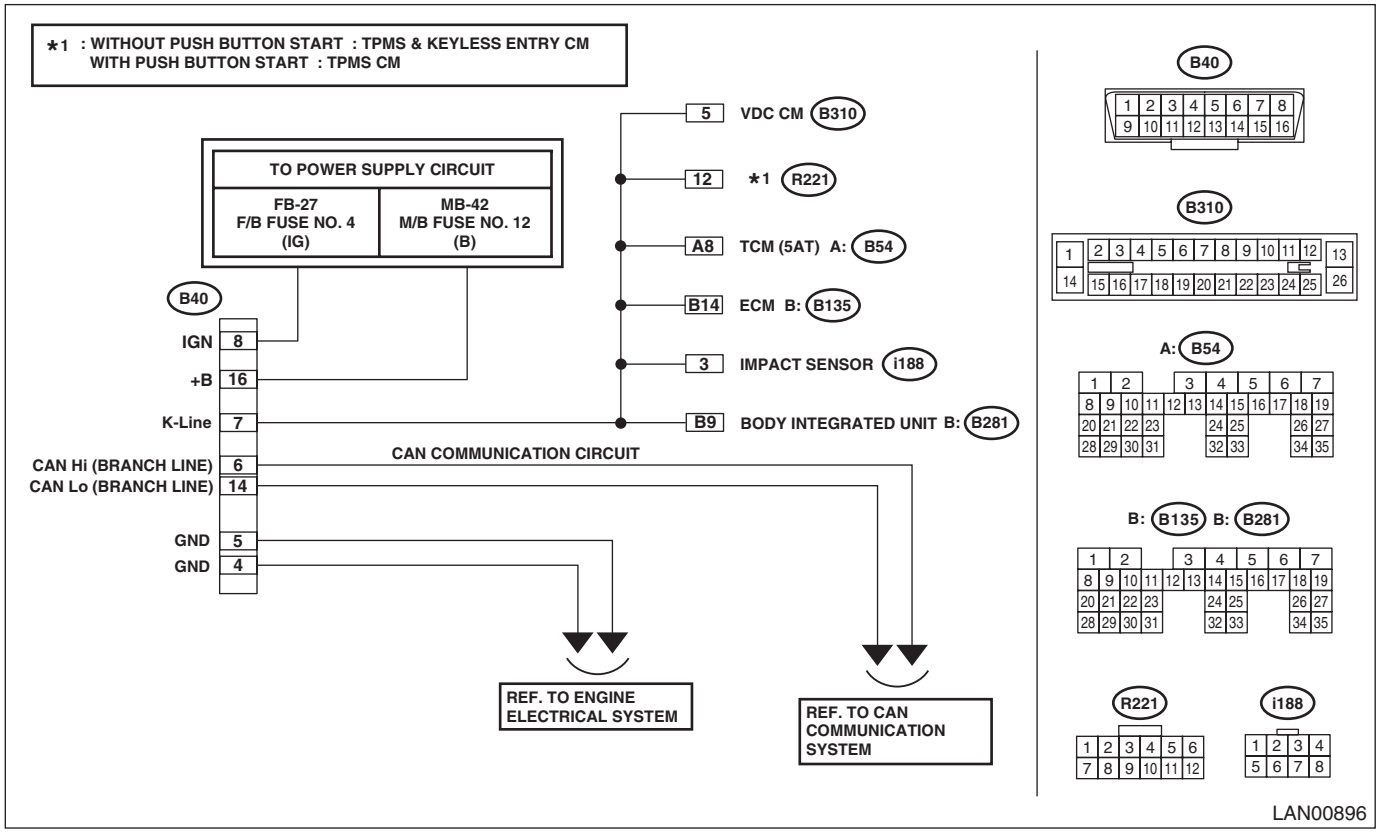
Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
CRUISE lit CHECK EGI VDC S blink	—	U0001 U0002	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	—	5143	Hi-side circuit near VDC was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near VDC is shorted to ground
Normal	—	U0028	—	—	—	—	Lo-side circuit near VDC was shorted to ground
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718	5135 5152 5136	Hi- and Lo-side circuits near VDC are shorted
CRUISE lit CHECK EGI VDC S blink	U0073 (Past)	U0028	—	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 (Past)	5143	Hi- and Lo-side circuits near VDC were shorted
CRUISE lit VDC	—	—	—	U1201 U1202	—	5121	Hi-side circuit near steering angle sensor is open
Normal	—	—	—	U1201 U1202 (Past)	—	5121	Hi-side circuit near steering angle sensor was open
CRUISE lit VDC	—	—	—	U1201	—	5121	Lo-side circuit near steering angle sensor is open
Normal	—	—	—	U1201 (Past)	—	5121	Lo-side circuit near steering angle sensor was open
CRUISE lit VDC	—	U0028 (Past)	—	—	—	5121	Hi- and Lo-side circuits near steering angle sensor are open
Normal	—	U0028 (Past)	—	—	—	5121	Hi- and Lo-side circuits near steering angle sensor were open

Combination meter display	Diagnostic Code that was displayed						Portions with high rate of malfunction occurrence
	ECM	A/C	EPB (electronic parking brake)	Body integrated unit	TCM	VDC CM (Detailed code)	
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5137	Hi-side circuit near steering angle sensor is shorted to ground
VDC CHECK EGI [S] blink CRUISE lit	U0073 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5143 5135	Hi-side circuit near steering angle sensor was shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near steering angle sensor is shorted to ground
Normal	—	—	—	—	—	—	Lo-side circuit near steering angle sensor was shorted to ground
EPB OFF VDC VDC OFF Coolant temperature blink (red/blue) FUEL blink ABS EPB operating light blink EPB warning light CHECK EGI Door off [I] blink CRUISE/blink Shift indicator off	U0073	Communication failure	Communication failure	U1201 U1202 U1221 U1223 U1229 U122A U122B	P1718 or P1725	5135 5152 5136	Hi- and Lo-side circuits near steering angle sensor are shorted
VDC CHECK EGI [S] blink CRUISE lit	U0073 (Past)	U0001 U0002 (Past)	C0261	U1201 U1202 U1221 U1223 U1229 U122A U122B (Past)	P1718 or P1725 (Past)	5143 5135 5152	Hi- and Lo-side circuits near steering angle sensor were shorted

11.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DIAGNOSIS:
Subaru Select Monitor communication line is open or shorted.
TROUBLE SYMPTOM:
Not communicable with Subaru Select Monitor.
WIRING DIAGRAM:
- CAN communication system <Ref. to WI-83, WIRING DIAGRAM, CAN Communication System.>
- Vehicle Dynamics Control System <Ref. to WI-298, WIRING DIAGRAM, Vehicle Dynamics Control System.>
- AT Control System <Ref. to WI-60, WIRING DIAGRAM, AT Control System.>
- Engine electrical system <Ref. to WI-122, WIRING DIAGRAM, Engine Electrical System.>
- Tire Pressure Monitoring System <Ref. to WI-295, WIRING DIAGRAM, Tire Pressure Monitoring System.>
- Security System <Ref. to WI-277, WIRING DIAGRAM, Security System.>



Step		Check	Yes	No
1	**CHECK SUBARU SELECT MONITOR.** 1) Connect the Subaru Select Monitor to another vehicle. 2) Check communication condition between Subaru Select Monitor and vehicle.	Is communication performed normally?	Go to step **2**.	Subaru Select Monitor unit or diagnosis cable is faulty.

	Step	Check	Yes	No
2	**CHECK CAN COMMUNICATION CIRCUIT.** Perform the communication initialization for the following module, using the Subaru Select Monitor. • Airbag CM • Transmission CM • A/C CM • Engine CM • Stereo camera	Is the communication possible with all modules? (Except for the modules that are not equipped on the vehicle.)	Go to step **3**.	Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>
3	**CHECK CAN COMMUNICATION CIRCUIT.** Perform the communication initialization for the following module, using the Subaru Select Monitor. • Keyless access CM	Is the communication possible with all modules? (Except for the modules that are not equipped on the vehicle.)	Go to step **4**.	Check CAN communication circuit. <Ref. to LAN(diag)-14, BUS "B" (SMART SYSTEM CAN), PROCEDURE, CAN Communication Circuit Check.>
4	**CHECK K-LINE.** 1) Perform communication between Subaru Select Monitor and all modules. 2) Check continuity between the modules that did not communicate with Subaru Select Monitor. ***Connector & terminal*** ***(B40) No. 7 — (B135) No. 14 (3.6 L model)*** ***(B40) No. 7 — (B310) No. 5 (VDC):*** ***(B40) No. 7 — (B54) No. 8 (5AT):*** ***(B40) No. 7 — (B281) No. 9 (body integrated unit):*** ***(B40) No. 7 — (R221) No. 12 (TPMS):*** ***(B40) No. 7 — (i188) No. 3 (OP):***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit.
5	**CHECK K-LINE.** Using a tester, check continuity between K-line and chassis ground. ***Connector & terminal*** ***(B40) No. 7 — Chassis ground:***	Is there continuity?	Repair or replace the short circuit portion.	Go to step **6**.
6	**CHECK K-LINE.** 1) Turn the ignition switch to ON. 2) Using a tester, check voltage between K-line and chassis ground. ***Connector & terminal*** ***(B40) No. 7 — Chassis ground:***	Is the voltage 5 V or more?	Repair or replace the short circuit portion.	Go to step **7**.
7	**CHECK GROUND CIRCUIT.** Check continuity of ground circuit. ***Connector & terminal*** ***(B40) No. 4 — Chassis ground:*** ***(B40) No. 5 — Chassis ground:***	Is there continuity?	Go to step **8**.	Check ECM ground.
8	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Using a tester, measure the voltage of data link connector. ***Connector & terminal*** ***(B40) No. 8 — Chassis ground:*** ***(B40) No. 16 — Chassis ground:***	Is the voltage 10 V or more?	The vehicle is normal.	Check the power supply circuits to the data link connector.

CAUTION:
When replacing the body integrated unit on the model with immobilizer system, be sure to register immobilizer. Refer to "REGISTRATION MANUAL FOR IMMOBILIZER".

B: DTC U1201 CAN-HS COUNTER ABNORMAL

DTC DETECTING CONDITION:
Communication is unstable because of high speed CAN communication error.
TROUBLE SYMPTOM:
- Display of combination meter indicates faulty.
- Control faulty may occur due to CAN communication error.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1202 a current malfunction?	Perform the diagnosis of U1202. <Ref. to LAN(diag)-72, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U1201 a current malfunction?	Go to step **4**.	It is possible that temporary poor communication occurs. Perform the clear memory.
4	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1201 a current malfunction?	Go to step **5**.	It is possible that temporary poor communication occurs. Perform the clear memory.
5	**CHECK CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect the control modules other than body integrated unit in order. NOTE: When disconnecting ECM or VDC CM, connect resistance of 120 Ω between CAN Hi and CAN Lo as an alternative of end resistance. 3) Turn the ignition switch to ON. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is there any control module that U1201 is not detected as current malfunction?	Replace the control module.	Repeat 1) to 4) in step 5 until U1201 is not detected.

C: DTC U1202 CAN-HS BUS OFF

DTC DETECTING CONDITION:
Integrated unit communication is shut down because of high speed CAN error.
TROUBLE SYMPTOM:
CAN communication is not normal.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1202 a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect the control modules other than body integrated unit in order. NOTE: When disconnecting ECM or VDC CM, connect resistance of 120 Ω between CAN Hi and CAN Lo as an alternative of end resistance. 3) Turn the ignition switch to ON. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is there any control module that U1201 is not detected as current malfunction?	Replace the control module.	Repeat 1) to 4) in step 3 until U1202 is not detected.

D: DTC U1211 CAN-HS ECM DATA ABNORMAL

DTC DETECTING CONDITION:
Defective data from ECM.
TROUBLE SYMPTOM:
Defective data on CAN communication occurs.

	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC other than CAN system?	Perform the diagnosis according to DTCs for other control modules.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated in CAN system.	Is U1211 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector. 3) Connect the disconnected connectors. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1211 a current malfunction?	Replace the ECM. <Ref. to FU(H6DO)-54, Engine Control Module (ECM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1211 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

E: DTC U1212 CAN-HS TCM DATA ABNORMAL

DTC DETECTING CONDITION:
Received error data from TCM.
TROUBLE SYMPTOM:
SPORT indicator light blinks.

Step		Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC other than CAN system?	Perform the diagnosis according to DTCs for other control modules.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated in CAN system.	Is U1212 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the TCM connector. 3) Connect the disconnected connectors. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1212 a current malfunction?	Replace the TCM. <Ref. to 5AT-56, Transmission Control Module (TCM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1212 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	A temporary communication failure may be a possible cause. Clear the DTC memory.

F: DTC U1213 CAN-HS VDC DATA ABNORMAL

DTC DETECTING CONDITION:
Data from VDCCM is faulty.
TROUBLE SYMPTOM:
ABS warning light and VDC warning light illuminate.

	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC other than CAN system?	Perform the diagnosis according to DTCs for other control modules.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated in CAN system.	Is U1213 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDC CM connector. 3) Connect the disconnected connectors. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1213 a current malfunction?	Replace the VDC CM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1213 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	A temporary communication failure may be a possible cause. Clear the DTC memory.

G: DTC U1219 CAN-HS EPB DATA ABNORMAL

DTC DETECTING CONDITION:
Defective data was transmitted from electronic parking brake control module.
TROUBLE SYMPTOM:
Electronic parking brake cooperation control does not operate.

	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC other than CAN system?	Perform the diagnosis according to DTCs for other control modules.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated in CAN system.	Is U1219 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** Turn the ignition switch to OFF, and read the DTC again.	Is U1219 a current malfunction?	Replace the electronic parking CM. <Ref. to PB-7, REMOVAL, Parking Brake Actuator.>	Go to step **4**.
4	**CHECK ELECTRIC PARKING CM.** 1) Disconnect the electronic parking CM connector. 2) Using the Subaru Select Monitor, perform the clear memory. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is the displayed DTC other than U1219?	Go to step **5**.	Replace the electronic parking CM. <Ref. to PB-7, REMOVAL, Parking Brake Actuator.>
5	**CHECK ELECTRIC PARKING CM.** 1) Connect the electronic parking CM connector. 2) Using the Subaru Select Monitor, read DTC of electronic parking CM. <Ref. to PB(diag)-13, OPERATION, Subaru Select Monitor.>	Is DTC other than CAN system displayed?	Perform the diagnosis according to DTC.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

H: DTC U121A CAN-HS METER UNIT DATA ABNORMAL

DTC DETECTING CONDITION:
Defective data was transmitted from combination meter.
TROUBLE SYMPTOM:
Display of combination meter does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC other than CAN system?	Perform the diagnosis according to DTCs for other control modules.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated in CAN system.	Is U121A a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** Turn the ignition switch to OFF, and read the DTC again.	Is U121A a current malfunction?	Replace the combination meter. <Ref. to IDI-25, REMOVAL, Combination Meter.>	Go to step **4**.
4	**CHECK COMBINATION METER.** 1) Disconnect the combination meter connector. 2) Using the Subaru Select Monitor, perform the clear memory. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is the displayed DTC other than U121A?	Go to step **5**.	Replace the combination meter. <Ref. to IDI-25, REMOVAL, Combination Meter.>
5	**CHECK COMBINATION METER.** 1) Connect the combination meter connector. 2) Check the combination meter. <Ref. to IDI-8, SELF-DIAGNOSIS DISPLAY MODE, OPERATION, Combination Meter System.>	Is there any fault?	Perform the diagnosis according to the inspection of the combination meter.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

I: DTC U121B CAN-HS A/C DATA ABNORMAL

DTC DETECTING CONDITION:
Defective data was transmitted from A/C CM.
TROUBLE SYMPTOM:
Cooperation control of air conditioner does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC other than CAN system?	Perform the diagnosis according to DTCs for other control modules.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated in CAN system.	Is U121B a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** Turn the ignition switch to OFF, and read the DTC again.	Is U121B a current malfunction?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Go to step **4**.
4	**CHECK A/C CM.** 1) Disconnect the A/C CM connector. 2) Using the Subaru Select Monitor, perform the clear memory. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is the displayed DTC other than U121B?	Go to step **5**.	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>
5	**CHECK A/C CM.** 1) Connect the A/C CM connector. 2) Using the Subaru Select Monitor, read DTC of A/C CM. <Ref. to AC(diag)-45, OPERATION, Subaru Select Monitor.>	Is DTC other than CAN system displayed?	Perform the diagnosis according to DTC.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

J: DTC U121C CAN-HS SCU DATA ABNORMAL

DTC DETECTING CONDITION:
Defective data was transmitted from SCM.
TROUBLE SYMPTOM:
Immobilizer does not operate normally.

	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC other than CAN system?	Perform the diagnosis according to DTCs for other control modules.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated in CAN system.	Is U121C a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** Turn the ignition switch to OFF, and read the DTC again.	Is U121C a current malfunction?	Replace SCM. <Ref. to SL-74, REMOVAL, Security Control Module.>	Go to step **4**.
4	**CHECK SCM.** 1) Disconnect the connector from SCM. 2) Using the Subaru Select Monitor, perform the clear memory. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is the displayed DTC other than U121C?	Go to step **5**.	Replace SCM. <Ref. to SL-74, REMOVAL, Security Control Module.>
5	**CHECK SCM.** 1) Connect the SCM connector. 2) Using the Subaru Select Monitor, read DTC of immobilizer. <Ref. to IM(diag)-9, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC other than CAN system displayed?	Perform the diagnosis according to DTC.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

K: DTC U1221 CAN-HS ECM NO-RECEIVE DATA

DTC DETECTING CONDITION:
Not received data from ECM.
TROUBLE SYMPTOM:
Cooperation control of transmission may not operate properly.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1221 a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is P1718, C0057, or U0100 detected?	Replace the ECM.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

L: DTC U1222 CAN-HS TCM NO-RECEIVE DATA

DTC DETECTING CONDITION:
Not received data from TCM.
TROUBLE SYMPTOM:
Cooperation control with transmission is not performed.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1222 a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is C0044, C0045, or U0101 detected?	Replace the TCM. <Ref. to 5AT-56, REMOVAL, Transmission Control Module (TCM).>	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

M: DTC U1223 CAN-HS VDC NO-RECEIVE DATA

DTC DETECTING CONDITION:
No data from VDCCM is received.
TROUBLE SYMPTOM:
ABS warning light and VDC warning light illuminate.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1223 a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is U0122 or P1718 detected?	Replace the VDC CM. <Ref. to VDC-10, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

N: DTC U1229 CAN-HS EPB NO-RECEIVE DATA

DTC DETECTING CONDITION:
No data from electronic parking brake control module is received.
TROUBLE SYMPTOM:
Electronic parking brake cooperation control does not operate.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1229 a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is C0048, U0128 detected?	Replace the electronic parking CM. <Ref. to PB-7, REMOVAL, Parking Brake Actuator.>	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

O: DTC U122A CAN-HS METER NO-RECEIVE DATA

DTC DETECTING CONDITION:
No data received from combination meter.
TROUBLE SYMPTOM:
Display of combination meter does not operate properly.

Step		Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U122A a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is C0267, P1718, P1725, or U0155 detected?	Replace the combination meter. <Ref. to IDI-25, REMOVAL, Combination Meter.>	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

P: DTC U122B CAN-HS A/C NO-RECEIVE DATA

DTC DETECTING CONDITION:
No data received from A/C CM.
TROUBLE SYMPTOM:
Cooperation control of air conditioner does not operate properly.

Step		Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U122B a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is P1718 or P1725 detected?	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>	Go to step **4**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Install normal A/C CM from another vehicle to the faulty vehicle. 3) Turn the ignition switch to ON. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is U122B a current malfunction?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Replace the A/C CM. <Ref. to AC-54, REMOVAL, Control Unit.>

Q: DTC U122C CAN-HS SCU NO-RECEIVE DATA

DTC DETECTING CONDITION:
No data received from SCM.
TROUBLE SYMPTOM:
Immobilizer does not operate normally.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U122C a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Install normal SCM from another vehicle to the faulty vehicle. 3) Turn the ignition switch to ON. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is U122C a current malfunction?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Replace SCM. <Ref. to SL-74, REMOVAL, Security Control Module.>

R: DTC U0073 CONTROL MODULE COMMUNICATION BUS "A" OFF

DTC DETECTING CONDITION:
Communication is shut down because of high speed CAN error.
TROUBLE SYMPTOM:
CAN communication is not normal.

	Step	Check	Yes	No
1	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of all the systems.	Is U0073 a current malfunction?	Go to step **2**.	It may be a temporary poor contact. Perform the clear memory.
2	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS "A" (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **3**.
3	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of all the systems.	Is U0073 a current malfunction?	Go to step **4**.	System is normal.
4	**CHECK CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect the control modules other than body integrated unit in order. NOTE: When disconnecting ECM or VDC CM, connect resistance of 120 Ω between CAN Hi and CAN Lo as an alternative of end resistance. 3) Turn the ignition switch to ON. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is there any control module that U0073 is not detected as current malfunction?	Replace the control module.	Repeat 1) to 4) in step 4 until U0073 is not detected.

S: DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM "A"

DTC DETECTING CONDITION:
Defective data from ECM.
TROUBLE SYMPTOM:
Defective data on CAN communication occurs.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is DTC for the bus off or the data no-receive displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U0401 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector. 3) Connect the disconnected connectors. 4) Read the DTC using Subaru Select Monitor.	Is U0401 a current malfunction?	Go to step **5**.	Go to step **8**.
5	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the engine data abnormal detected in several modules?	Replace the ECM. <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	Go to step **6**.
6	**REPLACE MODULE.** 1) Replace the ECM. 2) Read the DTC using Subaru Select Monitor.	Is U0401 a current malfunction?	Go to step **7**.	System is normal.
7	**CHECK MODULE.** 1) Reinstall the ECM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0401 a current malfunction?	Replace the ECM. <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	System is normal.
8	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U0401 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

T: DTC U0402 INVALID DATA RECEIVED FROM TCM

DTC DETECTING CONDITION:
Received error data from TCM.
TROUBLE SYMPTOM:
Sport indicator light blinks.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is DTC for the bus off or the data no-receive displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U0402 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the TCM connector. 3) Connect the disconnected connectors. 4) Read the DTC using Subaru Select Monitor.	Is U0402 a current malfunction?	Go to step **5**.	Go to step **8**.
5	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the transmission data abnormal detected in several modules?	Replace the TCM.	Go to step **6**.
6	**REPLACE MODULE.** 1) Replace the TCM. 2) Read the DTC using Subaru Select Monitor.	Is U0402 a current malfunction?	Go to step **7**.	System is normal.
7	**CHECK MODULE.** 1) Reinstall the TCM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0402 a current malfunction?	Replace the TCM.	System is normal.
8	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U0402 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

U: DTC U0416 INVALID DATA RECEIVED FROM VEHICLE DYNAMICS CONTROL MODULE

DTC DETECTING CONDITION:
Data from VDCCM is faulty.
TROUBLE SYMPTOM:
ABS warning light and VDC warning light illuminate.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is DTC for the bus off or the data no-receive displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U0416 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDC CM connector. 3) Connect the disconnected connectors. 4) Read the DTC using Subaru Select Monitor.	Is U0416 a current malfunction?	Go to step **5**.	Go to step **8**.
5	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the VDC data abnormal detected in several modules?	Replace the VDC CM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **6**.
6	**REPLACE MODULE.** 1) Replace the VDC CM. 2) Read the DTC using Subaru Select Monitor.	Is U0416 a current malfunction?	Go to step **7**.	System is normal.
7	**CHECK MODULE.** 1) Reinstall the VDC CM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0416 a current malfunction?	Replace the VDC CM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	System is normal.
8	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U0416 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

V: DTC U0417 INVALID DATA RECEIVED FROM PARK BRAKE CONTROL MODULE

DTC DETECTING CONDITION:
Defective data was transmitted from electronic parking CM.
TROUBLE SYMPTOM:
Electronic parking brake cooperation control does not operate.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is DTC for the bus off or the data no-receive displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U0417 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the electronic parking CM connector. 3) Connect the disconnected connectors. 4) Read the DTC using Subaru Select Monitor.	Is U0417 a current malfunction?	Go to step **5**.	Go to step **8**.
5	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the electronic parking data abnormal detected in several modules?	Replace the electronic parking CM.	Go to step **6**.
6	**REPLACE MODULE.** 1) Replace the electronic parking CM. 2) Read the DTC using Subaru Select Monitor.	Is U0417 a current malfunction?	Go to step **7**.	System is normal.
7	**CHECK MODULE.** 1) Reinstall the electronic parking CM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0417 a current malfunction?	Replace the electronic parking CM.	System is normal.
8	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U0417 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

W: DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE

DTC DETECTING CONDITION:

Defective data was transmitted from body integrated unit.

TROUBLE SYMPTOM:

Cooperation control with body integrated unit does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is DTC for the bus off or the data no-receive displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U0422 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Connect the disconnected connectors. 4) Read the DTC using Subaru Select Monitor.	Is U0422 a current malfunction?	Go to step **5**.	Go to step **8**.
5	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the body integrated data abnormal detected in several modules?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Go to step **6**.
6	**REPLACE MODULE.** 1) Replace the body integrated unit. 2) Read the DTC using Subaru Select Monitor.	Is U0422 a current malfunction?	Go to step **7**.	System is normal.
7	**CHECK MODULE.** 1) Reinstall the body integrated unit. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0422 a current malfunction?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	System is normal.
8	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U0422 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

X: DTC U0423 INVALID DATA RECEIVED FROM INSTRUMENT PANEL CLUSTER CONTROL MODULE

DTC DETECTING CONDITION:
Defective data was transmitted from combination meter.
TROUBLE SYMPTOM:
Display of combination meter does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is DTC for the bus off or the data no-receive displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U0423 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector. 3) Connect the disconnected connectors. 4) Read the DTC using Subaru Select Monitor.	Is U0423 a current malfunction?	Go to step **5**.	Go to step **8**.
5	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the meter data abnormal detected in several modules?	Replace the combination meter. <Ref. to IDI-25, Combination Meter.>	Go to step **6**.
6	**REPLACE MODULE.** 1) Replace the combination meter. 2) Read the DTC using Subaru Select Monitor.	Is U0423 a current malfunction?	Go to step **7**.	System is normal.
7	**CHECK MODULE.** 1) Replace the current combination meter with the original combination meter. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0423 a current malfunction?	Replace the combination meter. <Ref. to IDI-25, Combination Meter.>	System is normal.
8	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U0423 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

Y: DTC U1433 INVALID DATA RECEIVED FROM EyeSight

DTC DETECTING CONDITION:
Defective data was transmitted from stereo camera.
TROUBLE SYMPTOM:
Cooperation control of EyeSight does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is DTC for the bus off or the data no-receive displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** Check the displayed DTC.	Is U1433 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the stereo camera connector. 3) Connect the disconnected connectors. 4) Read the DTC using Subaru Select Monitor.	Is U1433 a current malfunction?	Go to step **5**.	Go to step **8**.
5	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the EyeSight data abnormal detected in several modules?	Replace the stereo camera. <Ref. to ES-8, Stereo Camera.>	Go to step **6**.
6	**REPLACE MODULE.** 1) Replace the stereo camera. 2) Read the DTC using Subaru Select Monitor.	Is U1433 a current malfunction?	Go to step **7**.	System is normal.
7	**CHECK MODULE.** 1) Reinstall the stereo camera. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U1433 a current malfunction?	Replace the stereo camera. <Ref. to ES-8, Stereo Camera.>	System is normal.
8	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1433 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

Z: DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”

DTC DETECTING CONDITION:
Not received data from ECM.
TROUBLE SYMPTOM:
Cooperation control of transmission may not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is U0100 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS “A” (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.> 2) Read the DTC using Subaru Select Monitor.	Is U0100 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the engine data no-receive detected in several modules?	Replace the ECM. <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	Go to step **5**.
5	**REPLACE MODULE.** 1) Replace the ECM. 2) Read the DTC using Subaru Select Monitor.	Is U0100 a current malfunction?	Go to step **6**.	System is normal.
6	**CHECK MODULE.** 1) Reinstall the ECM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0100 a current malfunction?	Replace the ECM. <Ref. to FU(H4DO)-101, Engine Control Module (ECM).>	System is normal.
7	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U0100 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

AA:DTC U0101 LOST COMMUNICATION WITH TCM

DTC DETECTING CONDITION:
Not received data from TCM.
TROUBLE SYMPTOM:
Cooperation control with transmission is not performed.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is U0101 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS “A” (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.> 2) Read the DTC using Subaru Select Monitor.	Is U0101 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the transmission data no-receive detected in several modules?	Replace the TCM.	Go to step **5**.
5	**REPLACE MODULE.** 1) Replace the TCM. 2) Read the DTC using Subaru Select Monitor.	Is U0101 a current malfunction?	Go to step **6**.	System is normal.
6	**CHECK MODULE.** 1) Reinstall the TCM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0101 a current malfunction?	Replace the TCM.	System is normal.
7	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U0101 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

AB:DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

DTC DETECTING CONDITION:
No data from VDCCM is received.
TROUBLE SYMPTOM:
ABS warning light and VDC warning light illuminate.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is U0122 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS “A” (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.> 2) Read the DTC using Subaru Select Monitor.	Is U0122 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the VDC data no-receive detected in several modules?	Replace the VDC CM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **5**.
5	**REPLACE MODULE.** 1) Replace the VDC CM. 2) Read the DTC using Subaru Select Monitor.	Is U0122 a current malfunction?	Go to step **6**.	System is normal.
6	**CHECK MODULE.** 1) Reinstall the VDC CM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0122 a current malfunction?	Replace the VDC CM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	System is normal.
7	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U0122 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

AC:DTC U0128 LOST COMMUNICATION WITH PARK BRAKE CONTROL MODULE

DTC DETECTING CONDITION:
No data is received from electronic parking CM.
TROUBLE SYMPTOM:
Electronic parking brake cooperation control does not operate.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is U0128 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS “A” (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.> 2) Read the DTC using Subaru Select Monitor.	Is U0128 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the electronic parking data no-receive detected in several modules?	Replace the electronic parking CM.	Go to step **5**.
5	**REPLACE MODULE.** 1) Replace the electronic parking CM. 2) Read the DTC using Subaru Select Monitor.	Is U0128 a current malfunction?	Go to step **6**.	System is normal.
6	**CHECK MODULE.** 1) Reinstall the electronic parking CM. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0128 a current malfunction?	Replace the electronic parking CM.	System is normal.
7	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U0128 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

AD:DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

DTC DETECTING CONDITION:
No data is received from body integrated unit.
TROUBLE SYMPTOM:
Cooperation control with body integrated unit does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is U0140 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS “A” (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.> 2) Read the DTC using Subaru Select Monitor.	Is U0140 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the body integrated data no-receive detected in several modules?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Go to step **5**.
5	**REPLACE MODULE.** 1) Replace the body integrated unit. 2) Read the DTC using Subaru Select Monitor.	Is U0140 a current malfunction?	Go to step **6**.	System is normal.
6	**CHECK MODULE.** 1) Reinstall the body integrated unit. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0140 a current malfunction?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	System is normal.
7	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U0140 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

AE:DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE

DTC DETECTING CONDITION:
No data received from combination meter.
TROUBLE SYMPTOM:
Display of combination meter does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is U0155 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS “A” (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.> 2) Read the DTC using Subaru Select Monitor.	Is U0155 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the meter data no-receive detected in several modules?	Replace the meter. <Ref. to IDI-25, Combination Meter.>	Go to step **5**.
5	**REPLACE MODULE.** 1) Replace the combination meter. 2) Read the DTC using Subaru Select Monitor.	Is U0155 a current malfunction?	Go to step **6**.	System is normal.
6	**CHECK MODULE.** 1) Replace the current combination meter with the original combination meter. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U0155 a current malfunction?	Replace the combination meter. <Ref. to IDI-25, Combination Meter.>	System is normal.
7	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U0155 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

AF:DTC U1235 LOST COMMUNICATION WITH EyeSight

DTC DETECTING CONDITION:
No data from stereo camera is received.
TROUBLE SYMPTOM:
Cooperation control of EyeSight does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check the displayed DTC.	Are DTCs other than U*** displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check the displayed DTC.	Is U1235 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Check CAN communication circuit. <Ref. to LAN(diag)-11, BUS “A” (MAIN-CAN), PROCEDURE, CAN Communication Circuit Check.> 2) Read the DTC using Subaru Select Monitor.	Is U1235 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK DTC.** Using the Subaru Select Monitor, read DTC of all the systems.	Is the EyeSight data no-receive detected in several modules?	Replace the stereo camera. <Ref. to ES-8, Stereo Camera.>	Go to step **5**.
5	**REPLACE MODULE.** 1) Replace the stereo camera. 2) Read the DTC using Subaru Select Monitor.	Is U1235 a current malfunction?	Go to step **6**.	System is normal.
6	**CHECK MODULE.** 1) Reinstall the stereo camera. 2) Replace the module that the DTC has been detected. 3) Read the DTC using Subaru Select Monitor.	Is U1235 a current malfunction?	Replace the stereo camera. <Ref. to ES-8, Stereo Camera.>	System is normal.
7	**CHECK HARNESS.** 1) Shake the harness, and check for poor contact. 2) Read the DTC using Subaru Select Monitor.	Is U1235 a current malfunction?	Repair the poor contact of harness, or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** Check the connector used for high speed CAN for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

AG:DTC U1301 CAN-LS COUNTER ABNORMAL

(LS or KAC)

DTC DETECTING CONDITION:

Communication is unstable because of KAC CAN communication error.

TROUBLE SYMPTOM:

- Malfunction occurs in KAC CAN communication error counter.
- The keyless access function may not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check CAN communication circuit. <Ref. to LAN(diag)-14, BUS “B” (SMART SYSTEM CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1302 a current malfunction?	Perform the diagnosis of U1302. <Ref. to LAN(diag)-100, DTC U1302 CAN-LS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK DTC.** Check DTC detected in step 2.	Is U1301 a current malfunction?	Go to step **4**.	It is possible that temporary poor communication occurs. Perform the clear memory.
4	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1301 a current malfunction?	Go to step **5**.	It is possible that temporary poor communication occurs. Perform the clear memory.
5	**CHECK CONTROL MODULE.** NOTE: For vehicles without remote engine start, go to next. 1) Remove the remote engine start CM. 2) Turn the ignition switch to ON. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1301 a current malfunction?	Go to step **6**.	Check and replace the remote engine start CM.
6	**CHECK DTC.** 1) Install a normal body integrated unit. 2) Turn the ignition switch to ON. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1301 a current malfunction?	Replace the keyless access CM.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

AH:DTC U1302 CAN-LS BUS OFF

(LS or KAC)

DTC DETECTING CONDITION:

Integrated unit communication is shut down because of KAC CAN communication error.

TROUBLE SYMPTOM:

- Control modules which prevent the KAC CAN circuit communication are disconnected.
- The keyless access function does not operate properly.

	Step	Check	Yes	No
1	**CHECK DTC.** Check CAN communication circuit. <Ref. to LAN(diag)-14, BUS “B” (SMART SYSTEM CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1302 a current malfunction?	Go to step **3**.	It is possible that temporary poor communication occurs. Perform the clear memory.
3	**CHECK CONTROL MODULE.** NOTE: For vehicles without remote engine start, go to next. 1) Remove the remote engine start CM. 2) Turn the ignition switch to ON. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1302 a current malfunction?	Go to step **4**.	Check and replace the remote engine start CM.
4	**CHECK DTC.** 1) Install a normal body integrated unit. 2) Turn the ignition switch to ON. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1302 a current malfunction?	Replace the keyless access CM.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

AI: DTC U1328 SMART SYSTEM CAN (KAC) DATA NO-RECEIVE

DTC DETECTING CONDITION:

Nothing was received from keyless access CM for 2 seconds or more.

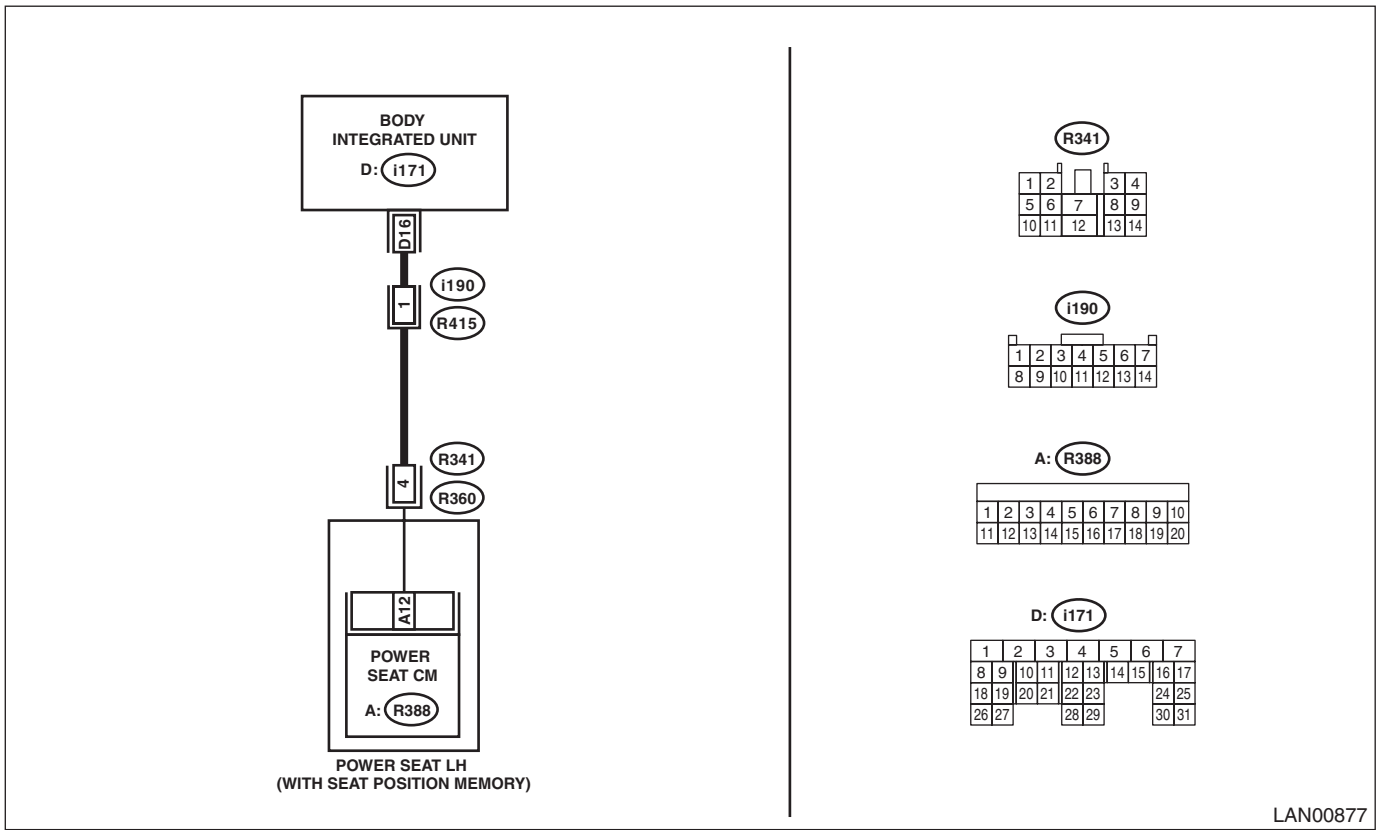
TROUBLE SYMPTOM:

- The keyless access function does not operate.
- Communication using Subaru Select Monitor is occasionally not possible.

	Step	Check	Yes	No
1	**CHECK CAN COMMUNICATION CIRCUIT.** Check CAN communication circuit. <Ref. to LAN(diag)-14, BUS “B” (SMART SYSTEM CAN), PROCEDURE, CAN Communication Circuit Check.>	Is CAN communication circuit faulty?	Repair the faulty portion, following the diagnosis procedure.	Go to step **2**.
2	**CHECK DTC.** 1) Start the engine. 2) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1328 a current malfunction?	Go to step **3**.	It may be a temporary poor contact. Perform the clear memory.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Install normal body integrated unit from another vehicle with key less entry to the faulty vehicle. 3) Turn the ignition switch to ON. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1328 a current malfunction?	Replace the keyless access CM.	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

AJ:DTC U1601 LIN COMMUNICATION (SEAT MEMORY) FAILURE

DTC DETECTING CONDITION:
No data from seat memory CM is received.
TROUBLE SYMPTOM:
Keyless access interlocked seat position function does not operate.
WIRING DIAGRAM:
Power Seat System <Ref. to WI-235, WITH MEMORY, WIRING DIAGRAM, Power Seat System.>



	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT SETTING.** 1) Using Subaru Select Monitor, change “Seat Memory Setting” of the body integrated unit registration (function setting) from ON to OFF. 2) Read the DTC of CAN system.	Is U1601 detected?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Go to step **2**.
2	**CHECK BODY INTEGRATED UNIT SETTING.** 1) Using Subaru Select Monitor, change “Seat Memory Setting” of the body integrated unit registration (function setting) to ON. 2) Disconnect the power seat CM and the body integrated unit connector. 3) Connect the disconnected connectors. 4) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1601 detected?	Go to step **3**.	It is possible that temporary poor contact occurs. Perform the clear memory.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the power seat CM and the body integrated unit connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i171) No. 16 — (R388) No. 12:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R388) No. 12 — Chassis ground:***	Is the resistance 10 kΩ or more?	Go to step **5**.	Repair the shorted portion of harness.
5	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(R388) No. 12 — Chassis ground:***	Is the voltage less than 1 V?	Go to step **6**.	Repair the shorted portion of harness.
6	**CHECK CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Replace the power seat CM with a normal part. 3) Using the Subaru Select Monitor, read DTC of CAN system.	Is U1601 detected?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Replace the power seat CM. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.>

12.General Diagnostic Table

A: INSPECTION

Contents	Operation	Specifications		Note
		YES	NO	
Diagnostic code	DTC is displayed when inspecting all DTCs.	Perform the diagnosis according to DTC.	System is normal.	—
Speedometer	Faster vehicle speed than the actual speed is displayed.	VDC CM data may not be received.	System is normal.	Also, check vehicle speed pulse circuit.
Fuel gauge	Fuel is present, but displayed less than actual amount.	Communication error may be present.	System is normal.	Also, check the fuel gauge.
Fuel level warning light	Fuel is present, but the light illuminates.	Communication error may be present.	System is normal.	Also, check the fuel gauge.
Engine coolant temperature light	Engine coolant temperature illuminates in red or blue.	Communication error may be present.	System is normal.	Check the engine coolant light related items.
[S], [I] or [S#] indicator	Blinking.	Communication error may be present.	System is normal.	Check the intelligent switch.
VDC indicator	Illuminating.	Communication error may be present.	System is normal.	Check that VDC is not operating.
VDC OFF indicator	Illuminating.	Communication error may be present.	System is normal.	Check that VDC is not OFF.
Electronic parking brake warning, etc.	Blinking.	Communication error may be present.	System is normal.	Check the electronic parking system as well.
Brake warning, etc.	Illuminating.	Brake fluid may be low in amount, or communication error may be present.	System is normal.	Check brake related items.
Shift position	Not displayed.	Communication error may be present.	System is normal.	Also, check AT system.
AT temperature light	Blinking.	Communication error may be present.	System is normal.	Also, check AT system.
Door indicator	Not displayed.	Communication error may be present.	System is normal.	Check the door switch.
Clearance indicator	Not illuminating.	Communication error may be present.	System is normal.	Check the combination switch.
Hi beam indicator	Not illuminating.	Communication error may be present.	System is normal.	Check the combination switch.
Front fog indicator	Not illuminating.	Communication error may be present.	System is normal.	Check the combination switch.
Illumination	Illuminating at the maximum brightness.	Communication error may be present.	System is normal.	Also, check the illumination switch.

Contents	Operation	Specifications		Note
		YES	NO	
Cruise control indicator	Not illuminating.	Communication error may be present.	System is normal.	Check the cruise control system.
AWD indicator	Not illuminating.	Communication error may be present.	System is normal.	Check TCM.
Hill hold indicator	Not illuminating.	Communication error may be present.	System is normal.	Also, check VDC CM.

EyeSight

ES

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1. General Description

A: SPECIFICATION

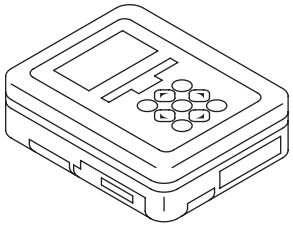
Headlight		High beam	12 V — 60 W
		Low beam	12 V — 55 W
Front turn signal light			12 V — 21 W
Parking light			12 V — 5 W
Side marker light			12 V — 5 W
Front fog light		Sedan model	12 V — 19 W
		OUTBACK model	12 V — 55 W
Side turn signal light			12 V — 1.4 W (LED)
Rear combination light	Sedan model	Tail/stop light	12 V — 5 / 21 W
		Turn signal light	12 V — 21 W
		Back-up light	12 V — 16 W
	OUTBACK model	Tail light	12 V — 5 W
		Stop light	12 V — 21 W
		Turn signal light	12 V — 21 W
Rear finisher light	Sedan model	Tail light	12 V — 5 W
	OUTBACK model	Tail light	12 V — 5 W
		Back-up light	12 V — 16 W
License plate light			12 V — 5 W
High-mounted stop light	Sedan model		12 V — 1 W (LED)
	OUTBACK model		12 V — 2.1 W (LED)
Room light			12 V — 8 W
Spot map light			12 V — 8 W
Luggage room light			12 V — 13 W
Trunk room light			12 V — 5 W
Glove box light			12 V — 1.4 W
Door step light			12 V — 5 W

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.
• Yellow connectors and harnesses with yellow tapes around them are the connectors and harnesses for the airbag system. Using a tester above such circuits may cause malfunction of airbag system. Follow the cautions for the airbag system in this case. <Ref. to AB-10, CAUTION, General Description.>
• Be careful not to damage the airbag system wiring harness when servicing electrical parts and switches.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

C: PREPARATION TOOL

1. SPECIAL TOOL

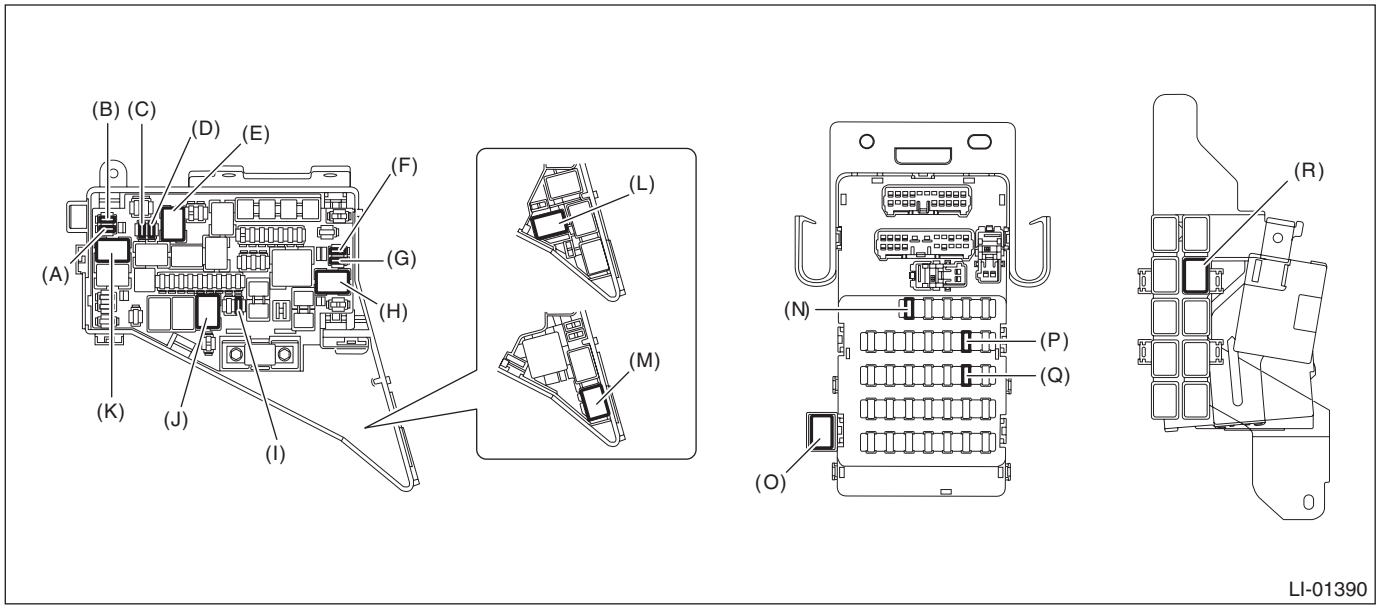
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.

2. Relay and Fuse

A: LOCATION



Main fuse box	Fuse 15A (front combination light RH)	(A)
	Fuse 15A (front combination light LH)	(B)
	Fuse 10A (front combination light LH)	(C)
	Fuse 10A (front combination light RH)	(D)
	Headlight relay (Hi)	(E)
	Fuse 10A (front fog light LH)	(F)
	Fuse 10A (front fog light RH)	(G)
	Front fog light relay	(H)
	Fuse 10A (rear combination light)	(I)
	Tail & Illumination relay	(J)
	Headlight relay (Lo)	(K)
A/C relay holder (in main fuse box)	Daytime running light relay (H4 model)	(L)
	Daytime running light relay (H6 model)	(M)
Relay & fuse box	Fuse 15A (trailer connector)	(N)
	Back-up light relay (model without keyless access) (5AT model)	(O)
	Fuse 7.5A (turn signal & hazard unit)	(P)
	Fuse 7.5A (inhibitor switch, back-up light relay)	(Q)
Smart module bracket	Back-up light relay (model with keyless access) (5AT model)	(R)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

B: INSPECTION

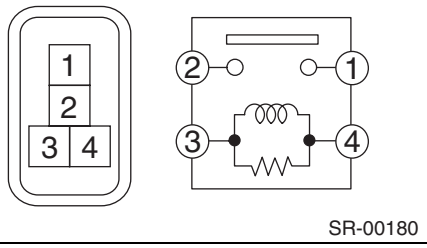
1. CHECK FUSE

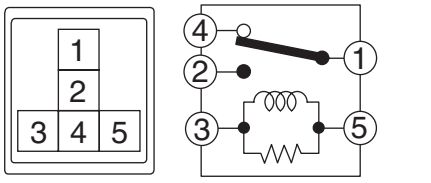
1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

NOTE:
If the fuse is blown again, check the system wiring harness.

2. CHECK RELAY

1) Check the resistance between relay terminals.

Terminal No.	Inspection conditions	Specification	Circuit
1 — 2	Always	1 MΩ or more	 SR-00180
1 — 2	Apply battery voltage between 4 — 3 terminals.	Less than 1 Ω	

Terminal No.	Inspection conditions	Specification	Circuit
1 — 2	Always	1 MΩ or more	 SL-01085
1 — 4	Always	Less than 1 Ω	
1 — 2	Apply battery voltage between 3 — 5 terminals.	Less than 1 Ω	

2) Replace the relay if the inspection result is not within the standard value.

3. Headlight System

A: WIRING DIAGRAM

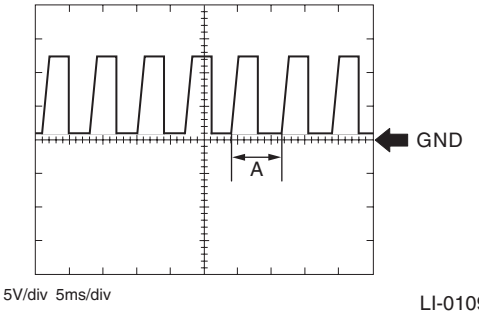
Refer to “Headlight System” in the wiring diagram. <Ref. to WI-196, WIRING DIAGRAM, Headlight System.>

B: INSPECTION

1. AUTO HEADLIGHT SYSTEM CHECK

Preparation tool:
Subaru Select Monitor III kit
Circuit tester

	Step	Check	Yes	No
1	**CHECK HEADLIGHT ILLUMINATION.** Set the lighting switch to the switch 1 (TAIL) and switch 2 (HEAD).	Do the tail and headlight illuminate?	Go to step **2**.	Check the combination switch (light) and headlight bulb.
2	**CHECK INPUT SIGNAL.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Lighting AUTO input} from {Current Data Display & Save}.	Does the display switch between OFF ←→ ON when the lighting switch is moved to AUTO position?	Go to step **3**.	Go to step **8**.
3	**CHECK INPUT SIGNAL.** 1) From {Current Data Display & Save}, select {Illumination Sensor Output}. 2) Light up the darkness around light control sensor.	Is the value depending on the brightness output? (darkness: 47 — 53 Hz)	Check and replace the body integrated unit. • Inspection: <Ref. to BC(diag)-2, Basic Diagnostic Procedure.> • Replacement: <Ref. to SL-80, Body Integrated Unit.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector and light control sensor connector. 2) Check the harness between body integrated unit connector and light control sensor connector. ***Connector & terminal*** ***(B280) No. 19 — (i194) No. 4:*** ***(B280) No. 29 — (i194) No. 6:***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between light control sensor connector and chassis ground. ***Connector & terminal*** ***(i194) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Repair or replace the harness.
6	**CHECK BODY INTEGRATED UNIT.** 1) Connect the body integrated unit connector. 2) Measure the resistance between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B280) No. 29 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **7**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>

	Step	Check	Yes	No
7	**CHECK LIGHT CONTROL SENSOR.** 1) Connect the light control sensor connector. 2) Turn the ignition switch to ON. 3) Set the lighting switch to AUTO position. 4) Connect the Subaru Select Monitor, and read the waveform data between light control sensor connector. ***Connector & terminal*** ***(i194) No. 4 — No. 6:***  	Is waveform normal? (Interval of A becomes shorter as the surrounding becomes brighter.)	Go to step **8**.	Replace the light control sensor.
8	**CHECK COMBINATION SWITCH (LIGHT).** Check the combination switch (light). <Ref. to LI-23, INSPECTION, Combination Switch (Light).>	Is the combination switch (light) normal?	Go to step **9**.	Replace the combination switch (light).
9	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Check the harness between body integrated unit connector and combination switch (light) connector. ***Connector & terminal*** ***(B71) No. 19 — (B281) No. 16:***	Is harness normal?	Check and replace the body integrated unit. • Inspection: <Ref. to BC(diag)-2, Basic Diagnostic Procedure.> • Replacement: <Ref. to SL-80, Body Integrated Unit.>	Repair or replace the harness.

2. CHECK LIGHTING SWITCH

Measure the resistance between lighting switch terminals. <Ref. to LI-23, INSPECTION, Combination Switch (Light).>

3. CHECK DIMMER & PASSING SWITCH

Measure the resistance between dimmer & passing switch terminals. <Ref. to LI-23, INSPECTION, Combination Switch (Light).>

C: NOTE

For operation procedures of each component of the headlight system, refer to the respective section.
- Headlight Assembly: <Ref. to LI-27, Headlight Assembly.>
- Headlight bulb: <Ref. to LI-32, Headlight Bulb.>
- Combination switch (light): <Ref. to LI-19, Combination Switch (Light).>
- Light control sensor: <Ref. to LI-25, Light Control Sensor.>

4. Day Time Running Light System

A: WIRING DIAGRAM

Refer to “Headlight System” in the wiring diagram. <Ref. to WI-196, WIRING DIAGRAM, Headlight System.>

B: INSPECTION

1. DAYTIME RUNNING LIGHT SYSTEM CHECK

	Step	Check	Yes	No
1	**CHECK DTC.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Diagnostic Code(s) Display}.	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK INPUT SIGNAL.** 1) From the state in step 1), select {Integ. unit mode}. 2) Select the following input signals. (1) Parking Brake Switch Input (2) Shift position (3) Lighting II Switch Input	Is the input signal normal?	Go to step **3**.	Check the defective part.
3	**CHECK RELAY.** Check the daytime running light relay. <Ref. to LI-5, CHECK RELAY, INSPECTION, Relay and Fuse.>	Is the relay OK?	Go to step **4**.	Replace the relay.
4	**CHECK HARNESS.**	Is harness normal?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair or replace the harness.

C: NOTE

For operation procedures of each component of the daytime running light system, refer to the respective section.

- Headlight Assembly: <Ref. to LI-77, Day Time Running Resistor.>
- Headlight bulb: <Ref. to LI-32, Headlight Bulb.>
- Combination switch (light): <Ref. to LI-19, Combination Switch (Light).>
- Daytime running resistor: <Ref. to LI-77, Day Time Running Resistor.>

5. Clearance Light and Illumination Light System

A: WIRING DIAGRAM

Refer to “Clearance Light and Illumination Light System” in the wiring diagram. <Ref. to WI-87, WIRING DIAGRAM, Clearance Light and Illumination Light System.>

B: INSPECTION

1. CHECK LIGHTING SWITCH

Measure the resistance between lighting switch terminals. <Ref. to LI-23, INSPECTION, Combination Switch (Light).>

C: NOTE

For operation procedures of each component of the clearance light & illumination light system, refer to the respective sections.

- Combination switch (light): <Ref. to LI-19, Combination Switch (Light).>
- Clearance light/parking light bulb: <Ref. to LI-38, Clearance/Parking Light Bulb.>
- License plate light: <Ref. to LI-61, License Plate Light.>
- Ignition switch illumination: <Ref. to LI-74, Ignition Switch Illumination.>

6. Front Fog Light System

A: WIRING DIAGRAM

Refer to “Front Fog Light System” in the wiring diagram. <Ref. to WI-191, WIRING DIAGRAM, Front Fog Light System.>

B: INSPECTION

1. CHECK FRONT FOG LIGHT SWITCH

Measure the resistance between front fog light switch terminals. <Ref. to LI-23, INSPECTION, Combination Switch (Light).>

C: NOTE

For operation procedures of each component of the front fog light system, refer to the respective section.

- Combination switch (light): <Ref. to LI-19, Combination Switch (Light).>
- Front fog light assembly: <Ref. to LI-40, Front Fog Light Assembly.>
- Front fog light bulb: <Ref. to LI-45, Front Fog Light Bulb.>

7. Turn Signal Light and Hazard Light System

A: WIRING DIAGRAM

Refer to “Turn Signal Light and Hazard Light System” in the wiring diagram. <Ref. to WI-296, WIRING DIAGRAM, Turn Signal Light and Hazard Light System.>

B: INSPECTION

1. CHECK TURN SIGNAL SWITCH

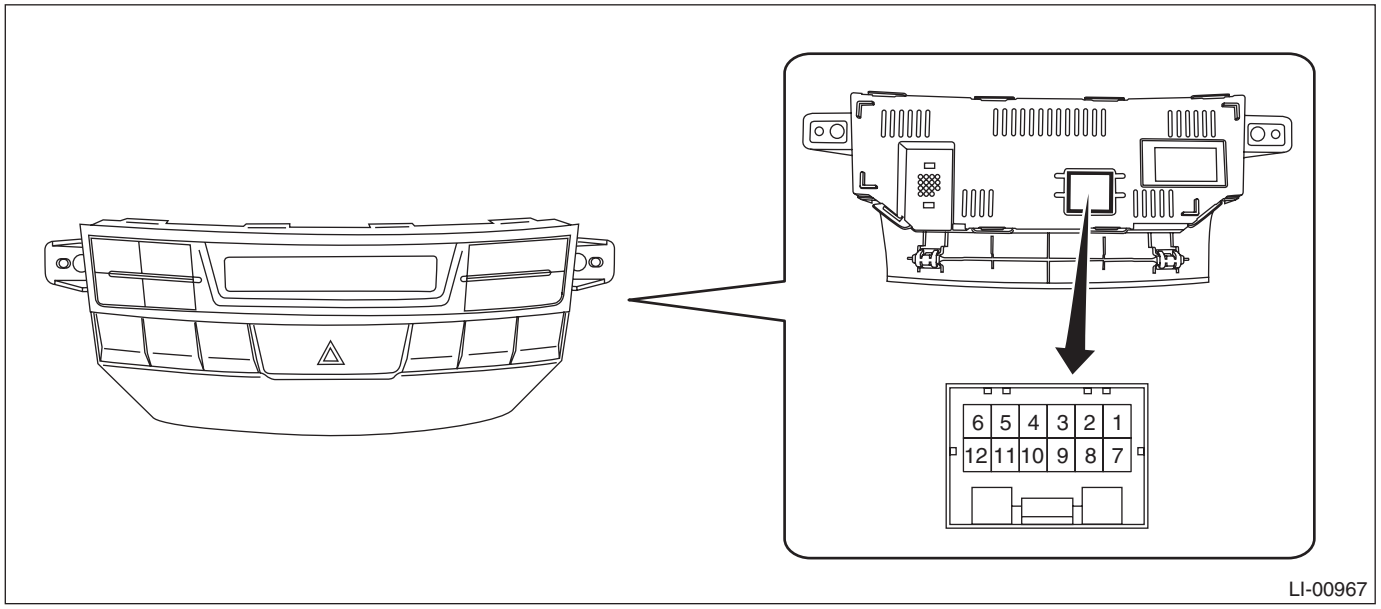
Measure the resistance between turn signal switch terminals. <Ref. to LI-23, INSPECTION, Combination Switch (Light).>

2. CHECK HAZARD SWITCH

1) Remove the A/C control panel.
- Manual A/C model: <Ref. to AC-49, MANUAL A/C MODEL, REMOVAL, Control Panel.>
- Auto A/C model: <Ref. to AC-46, AUTO A/C MODEL, REMOVAL, Control Panel.>

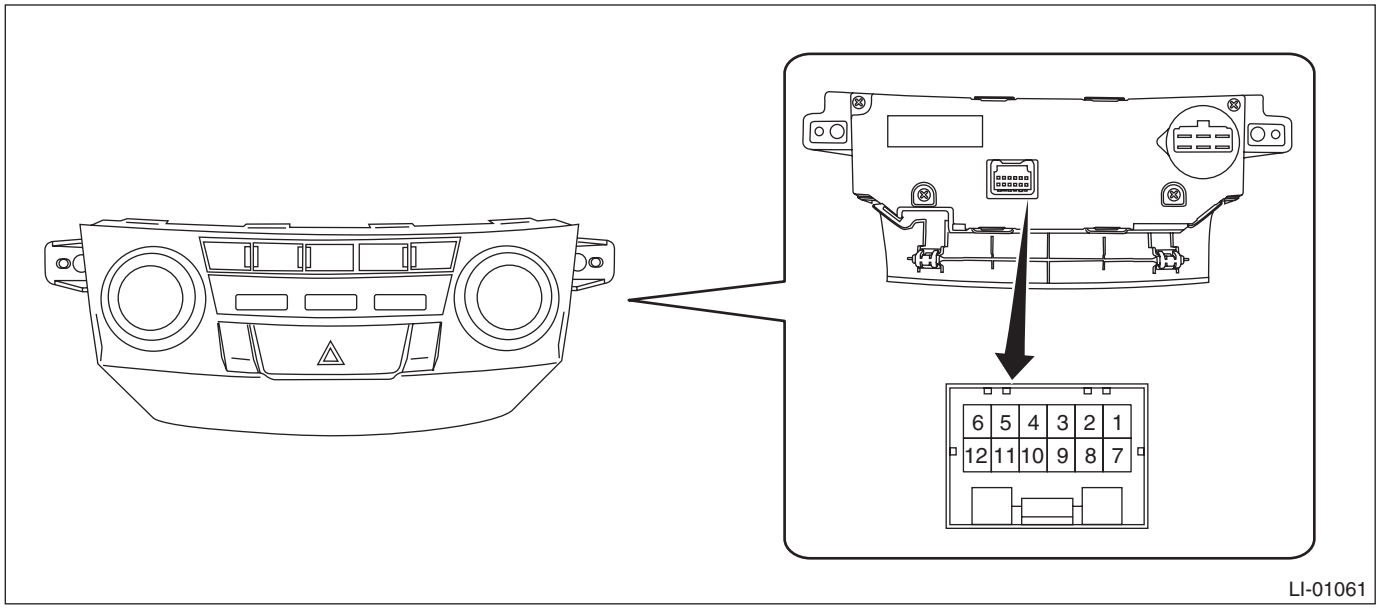
2) Measure the resistance between hazard switch terminals.

Preparation tool:
Circuit tester
- Auto A/C model



Terminal No.	Inspection conditions	Standard
1 — 2	Switch OFF	1 MΩ or more
	Switch ON	Less than 1 Ω

- Manual A/C model



Terminal No.	Inspection conditions	Standard
4 — 5	Switch OFF	1 MΩ or more
	Switch ON	Less than 1 Ω

3) Replace the A/C control panel if the inspection result is not within the standard value.

3. CHECK TURN SIGNAL AND HAZARD MODULE

1) Measure the voltage between turn signal & hazard module connector and chassis ground.

Preparation tool:
Circuit tester

Connector

Terminal No.	Input/ Output	Inspection conditions	Standard
6 ←→ Chassis ground	Input	Turn signal switch (Right) OFF → ON	9 V or more → less than 1 V
5 ←→ Chassis ground	Input	Turn signal switch (Left) OFF → ON	9 V or more → less than 1 V
8 ←→ Chassis ground	Input	Hazard switch OFF → ON	9 V or more → less than 1 V
2 ←→ Chassis ground	Output	Turn signal switch (Right) OFF → ON	Repeat less than 1 V → less than 1 V ←→ more than 9 V at 60 to 120 times per minute.
3 ←→ Chassis ground	Output	Turn signal switch (Left) OFF → ON	Repeat less than 1 V → less than 1 V ←→ more than 9 V at 60 to 120 times per minute.
2 ←→ Chassis ground	Output	Hazard switch OFF → ON	Repeat less than 1 V → less than 1 V ←→ more than 9 V at 60 to 120 times per minute.
3 ←→ Chassis ground	Output	Hazard switch OFF → ON	Repeat less than 1 V → less than 1 V ←→ more than 9 V at 60 to 120 times per minute.

2) Replace the turn signal and hazard module if the inspection result is not within the standard value.

C: NOTE

For operation procedures of each component of the turn signal and hazard light system, refer to the respective sections.

- Combination switch (light): <Ref. to LI-19, Combination Switch (Light).>
- Front turn signal light bulb: <Ref. to LI-36, Front Turn Signal Light Bulb.>
- Side turn signal light assembly: <Ref. to LI-47, Side Turn Signal Light Assembly.>
- Rear combination light assembly: <Ref. to LI-48, Rear Combination Light Assembly.>
- Rear turn signal light bulb: <Ref. to LI-54, Rear Turn Signal Light Bulb.>

8. Back-up Light System

A: WIRING DIAGRAM

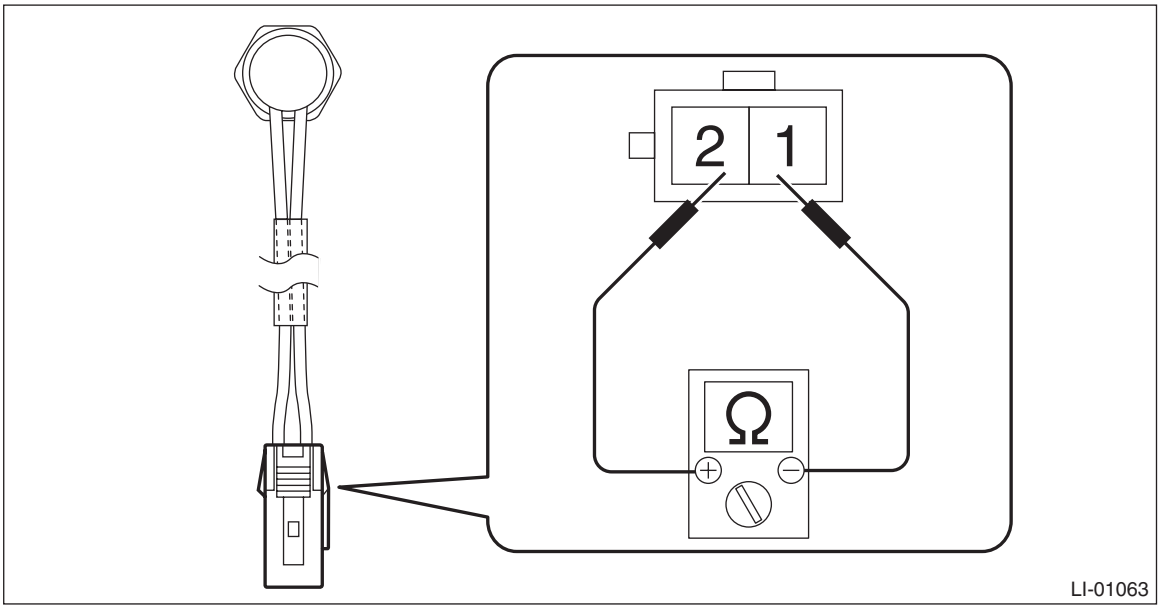
Refer to “Back-up Light System” in the wiring diagram. <Ref. to WI-80, WIRING DIAGRAM, Back-up Light System.>

B: INSPECTION

1. CHECK BACK-UP LIGHT SWITCH (MT MODEL)

1) Disconnect the back-up light switch connector.
2) Measure the resistance between back-up light switch terminals.

Preparation tool:
Circuit tester



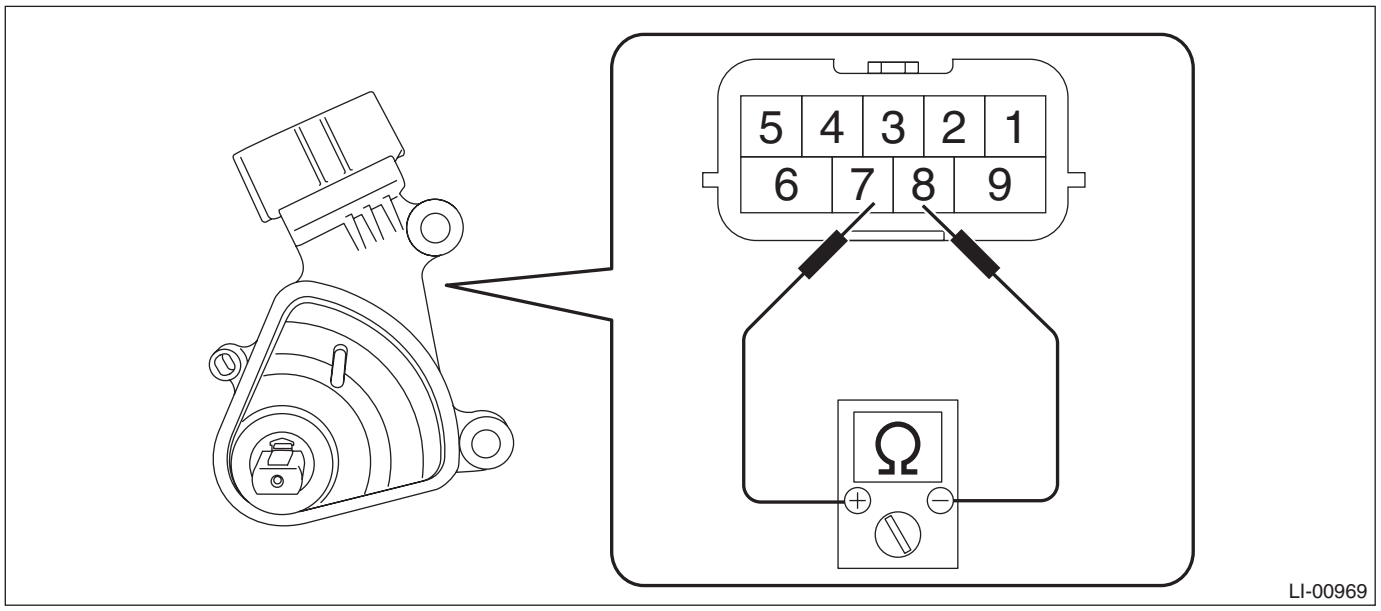
Terminal No.	Inspection conditions	Standard
1 — 2	When shift lever is set in reverse position	Less than 1 Ω
	Other positions	1 MΩ or more

3) Replace the back-up light switch if the inspection result is not within the standard value.

2. CHECK INHIBITOR SWITCH (AT/CVT MODEL)

1) Disconnect the inhibitor switch connector.
2) Measure the resistance between inhibitor switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions	Standard
7 — 8	When the selector lever is in the “R” range	Less than 1 Ω
	Other positions	1 MΩ or more

3) Replace the inhibitor switch if the inspection result is not within the standard value.

C: NOTE

For operation procedures of each component of the back-up light system, refer to the respective section.
- Rear combination light assembly: <Ref. to LI-48, Rear Combination Light Assembly.>
- Rear finisher light assembly: <Ref. to LI-57, Rear Finisher Light Assembly.>
- Back-up light bulb: <Ref. to LI-59, Back-up Light Bulb.>

9. Stop Light System

A: WIRING DIAGRAM

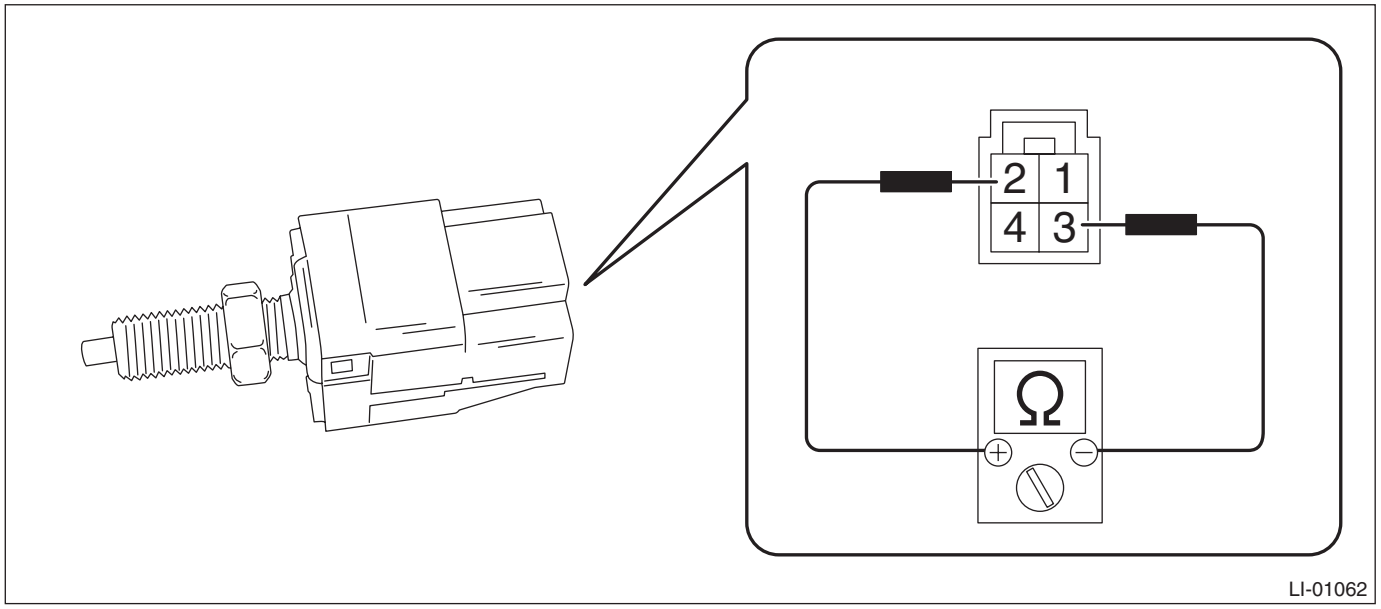
Refer to “Stop Light System” in the wiring diagram. <Ref. to WI-287, WIRING DIAGRAM, Stop Light System.>

B: INSPECTION

1. CHECK STOP LIGHT SWITCH

1) Disconnect the stop light switch connector.
2) Measure the resistance between stop light switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions	Standard
2 — 3	When brake pedal is depressed	Less than 1 Ω
	When brake pedal is released	1 MΩ or more

3) Replace the stop light switch if the inspection result is not within the standard value.

C: NOTE

For operation procedures of each component of the stop light system, refer to the respective section.
- Rear combination light assembly: <Ref. to LI-48, Rear Combination Light Assembly.>
- Rear finisher light assembly: <Ref. to LI-57, Rear Finisher Light Assembly.>
- Tail light/stop light bulb: <Ref. to LI-50, Tail/Stop Light Bulb.>
- High-mounted stop light: <Ref. to LI-63, High-mounted Stop Light.>

10.Interior Light System

A: WIRING DIAGRAM

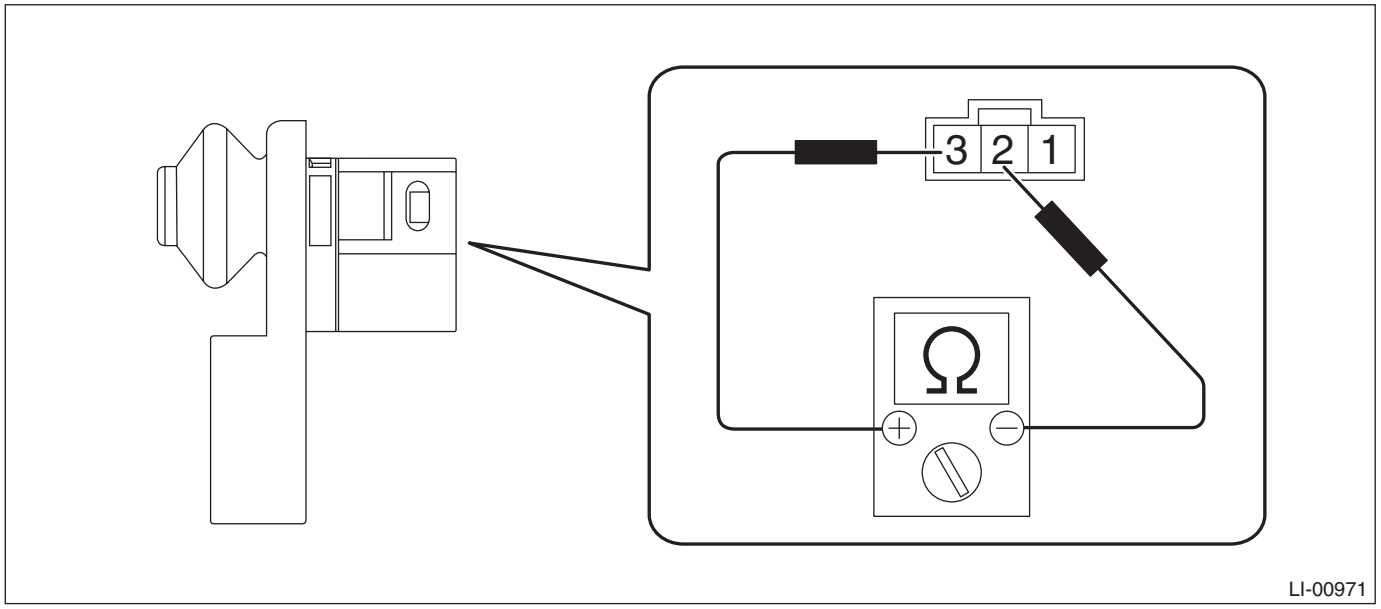
Refer to “Interior Light System” in the wiring diagram. <Ref. to WI-204, WIRING DIAGRAM, Interior Light System.>

B: INSPECTION

1. CHECK DOOR SWITCH

1) Remove the door switch.
2) Measure the resistance between door switch terminals.

Preparation tool:
Circuit tester



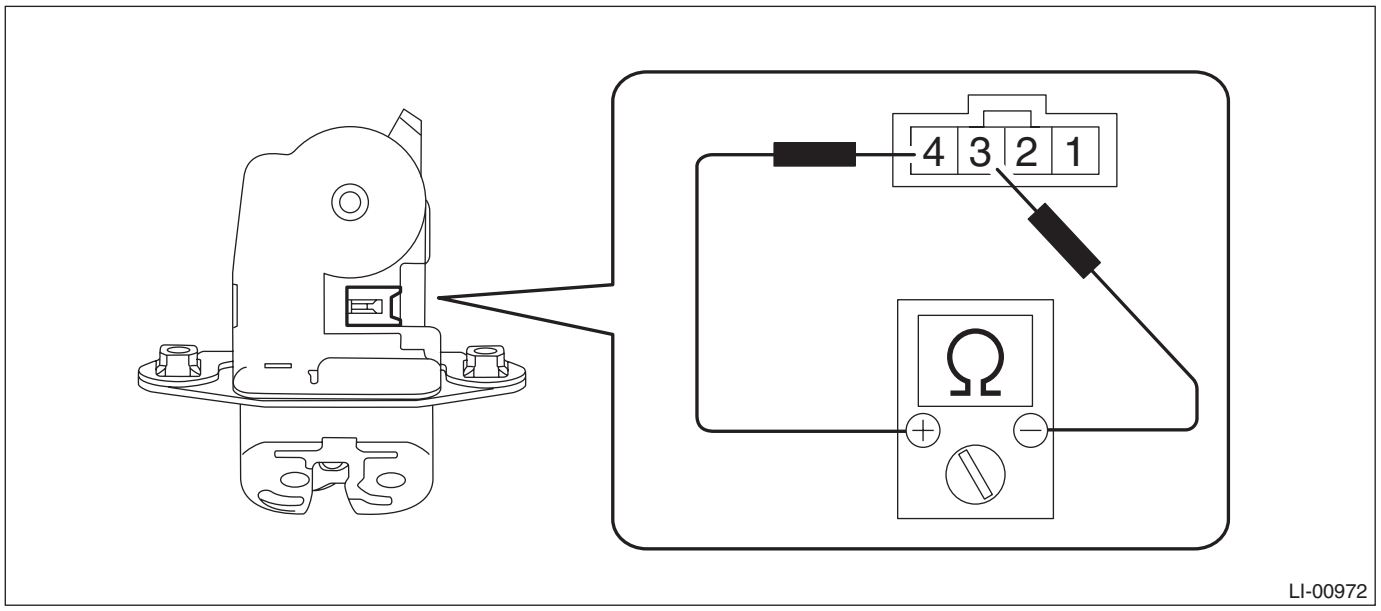
Terminal No.	Inspection conditions	Standard
2 — 3	When door is opened	Less than 1 Ω
	When door is closed	1 MΩ or more

3) Replace the door switch if the inspection result is not within the standard value.

2. CHECK REAR GATE LATCH SWITCH

1) Disconnect the rear gate latch switch connector.
2) Measure the resistance between rear gate latch switch terminals.

Preparation tool:
Circuit tester



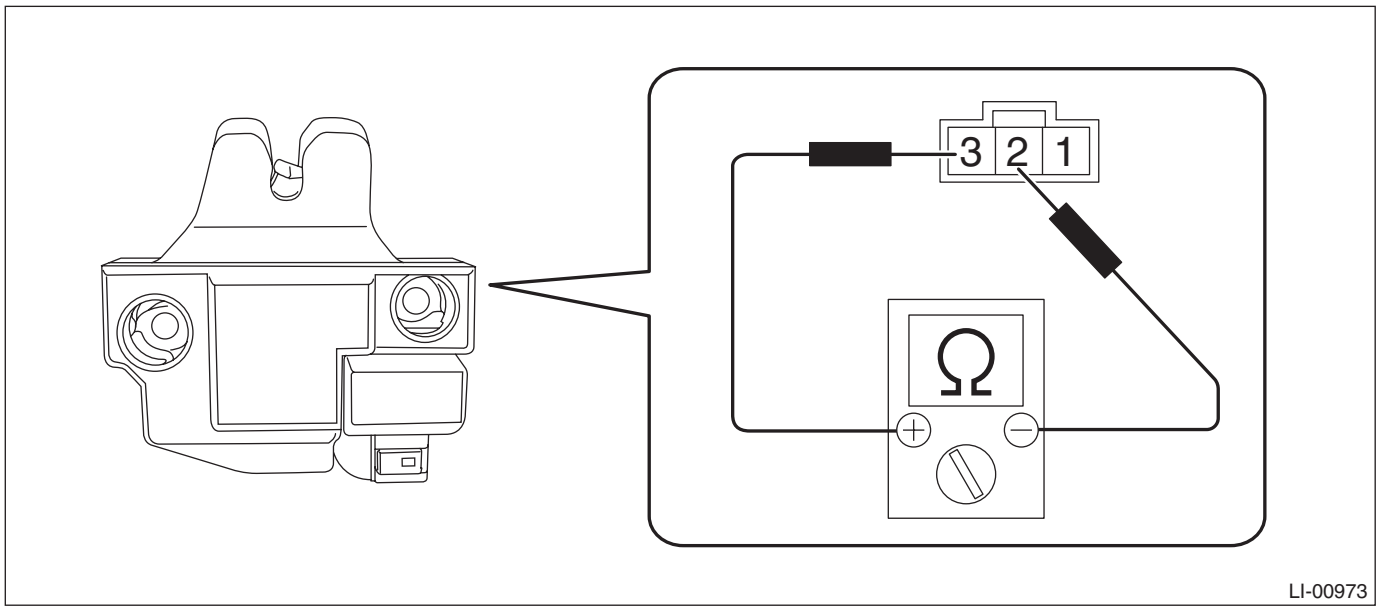
Terminal No.	Inspection conditions	Standard
3 — 4	When rear gate is opened	Less than 1 Ω
	When rear gate is closed	1 MΩ or more

3) If the inspection result is not within the standard value, replace the rear gate latch and actuator assembly.

3. CHECK TRUNK LID LATCH SWITCH

1) Disconnect the trunk lid latch switch connector.
2) Measure the resistance between trunk lid latch switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions	Standard
2 — 3	When trunk lid is opened	Less than 1 Ω
	When trunk lid is closed	1 MΩ or more

3) If the inspection result is not within the standard value, replace the trunk lid latch and actuator assembly.

C: NOTE

For operation procedures of each component of the interior light system, refer to the respective section.
- Spot map light: <Ref. to LI-65, Spot Map Light.>
- Room light: <Ref. to LI-67, Room Light.>
- Luggage room light: <Ref. to LI-69, Luggage Room Light.>
- Trunk room light: <Ref. to LI-71, Trunk Room Light.>
- Glove box light: <Ref. to LI-72, Glove Box Light.>
- Door step light: <Ref. to LI-73, Door Step Light.>
- Door switch: <Ref. to LI-79, Door Switch.>

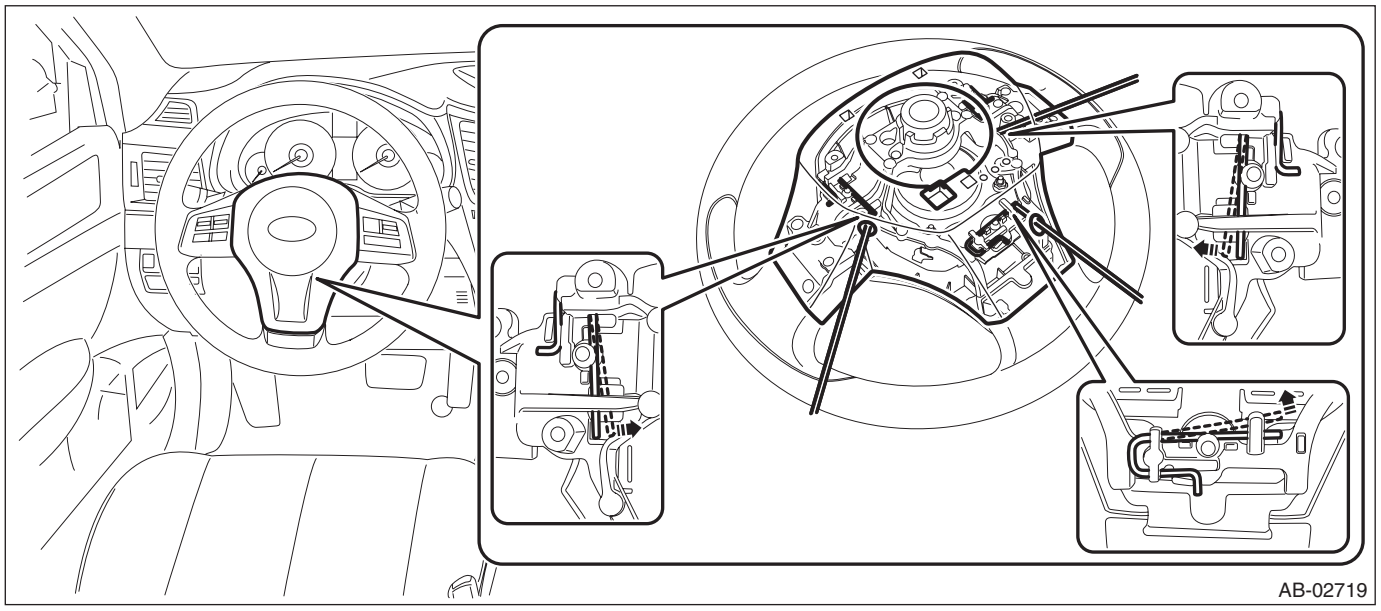
11.Combination Switch (Light)

A: REMOVAL

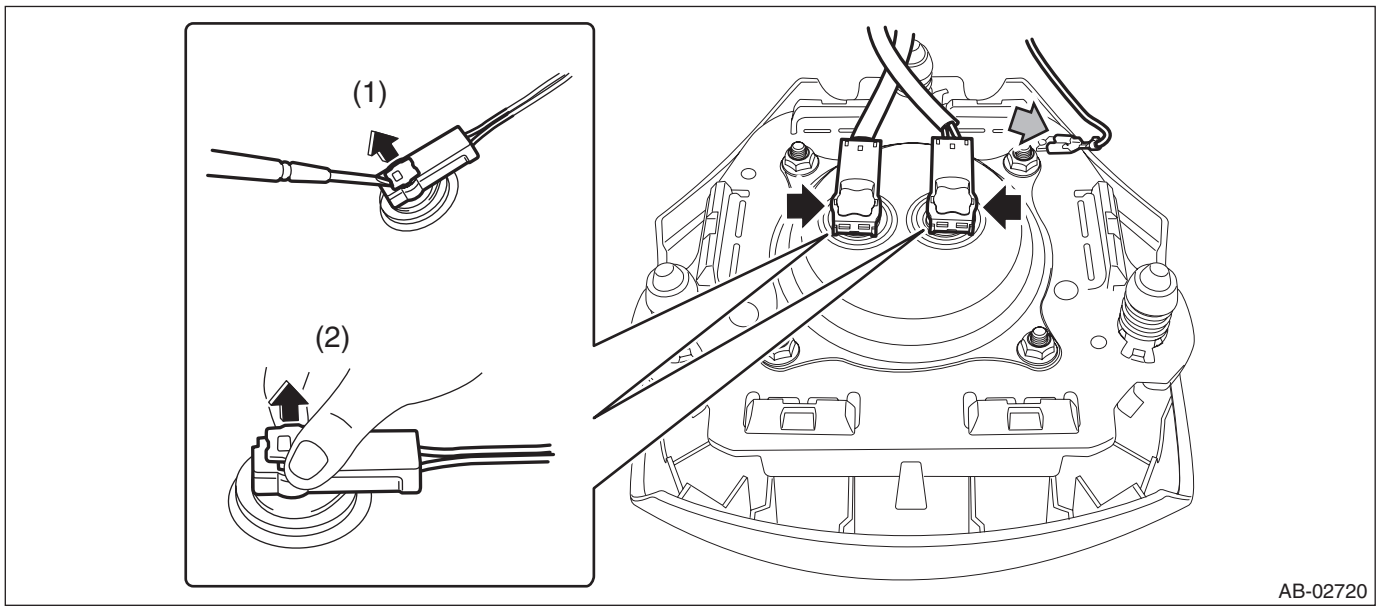
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.
4) Remove the driver's airbag module assembly.

CAUTION:
Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>

(1) Using a hexagon wrench etc. wrapped by protective tape, insert the snap pins and release the locks (3 locations).



(2) Disconnect the horn harness and airbag connector and remove the airbag module assembly. <Ref. to AB-19, PROCEDURE, Airbag Connector.>

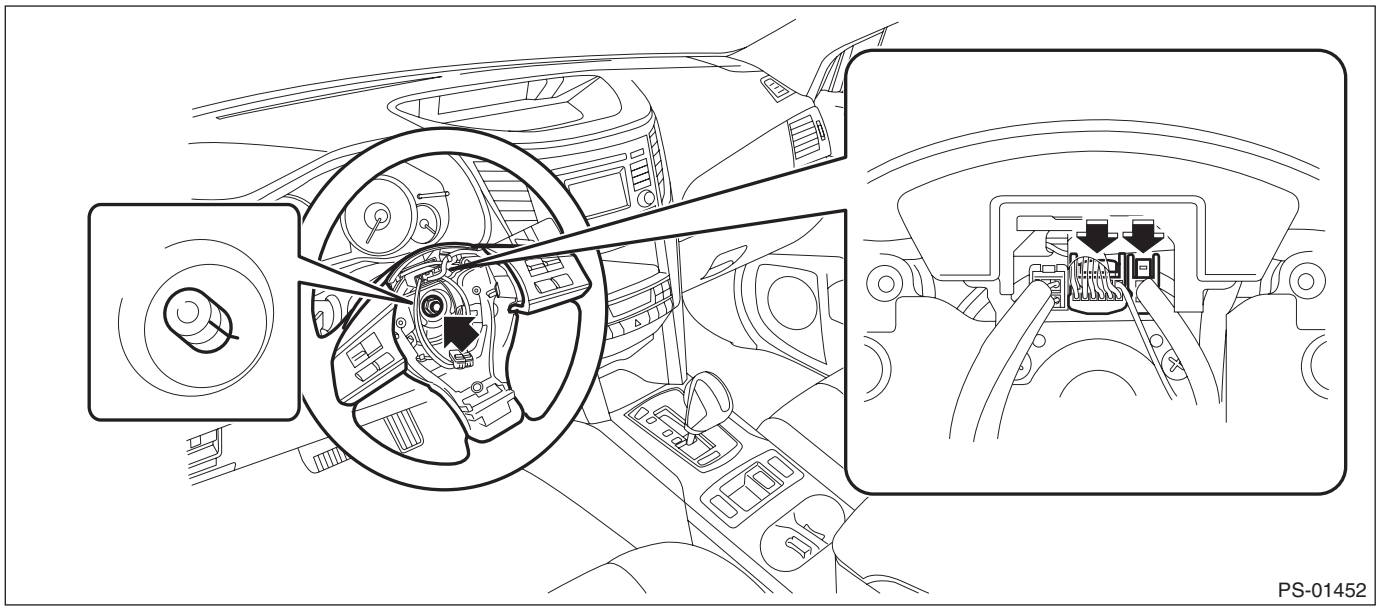


5) Remove the steering wheel.

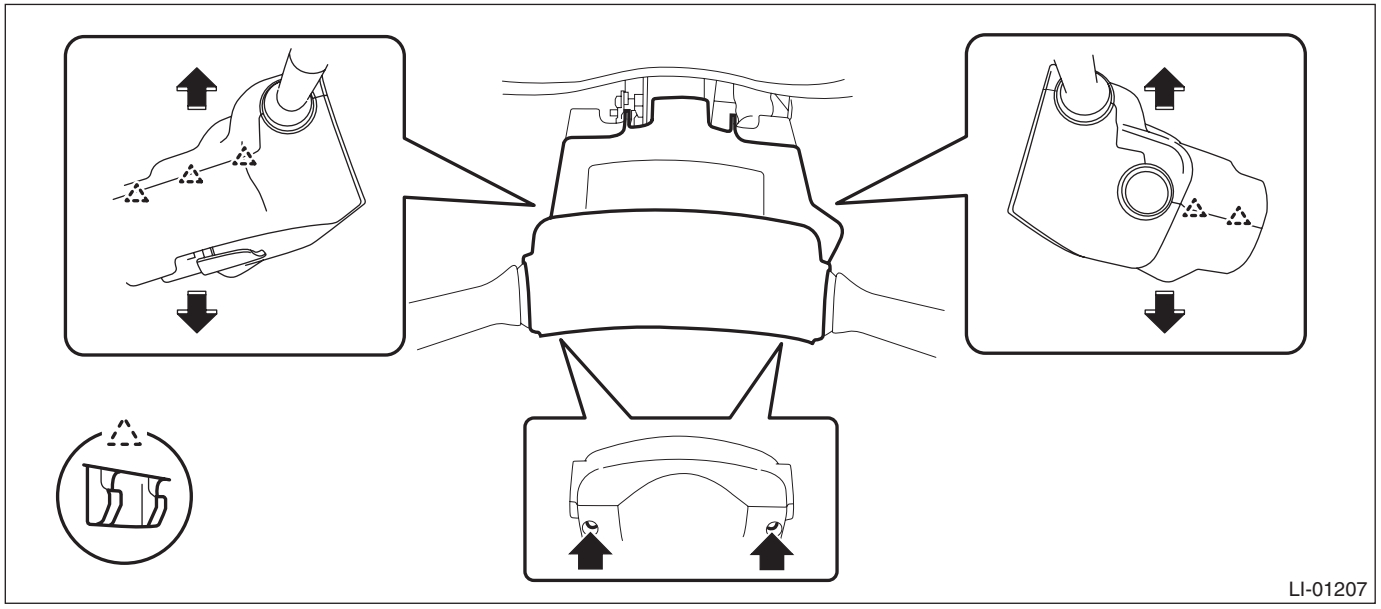
CAUTION:
- **Always use the steering wheel puller for removal to avoid deforming the steering wheel.**
- **If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.**

(1) Disconnect the connector and remove the nut.
(2) Put alignment marks and remove the steering wheel using a steering wheel puller.

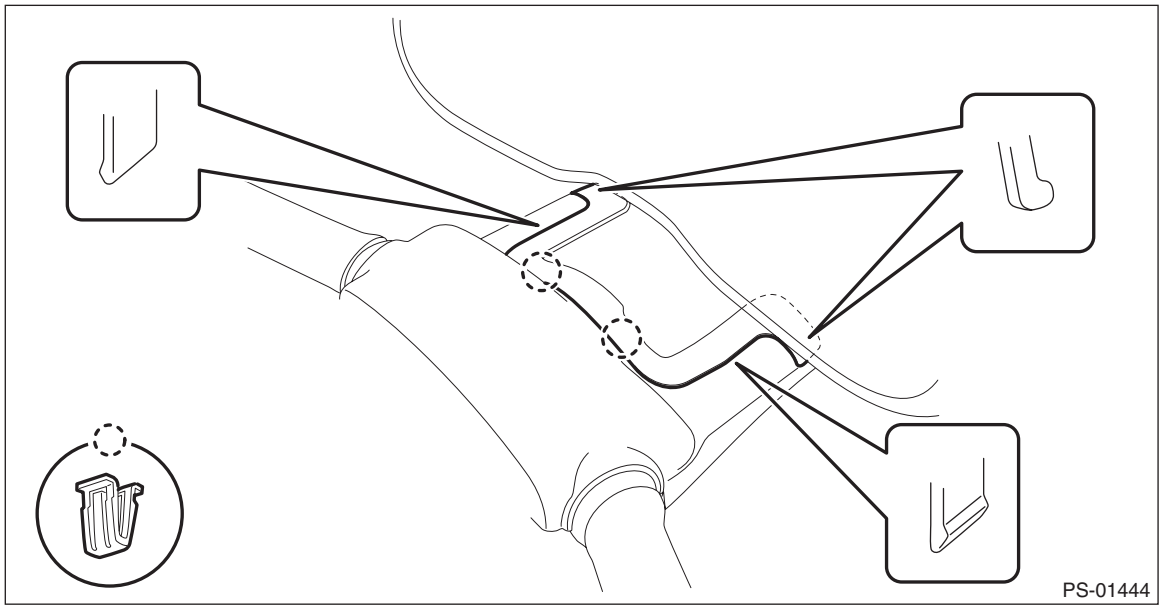
Preparation tool:
Steering wheel puller



6) Remove the steering column cover.
(1) Lower the lever of the steering column.
(2) Release the claws and remove the screws, then detach the steering column lower cover.



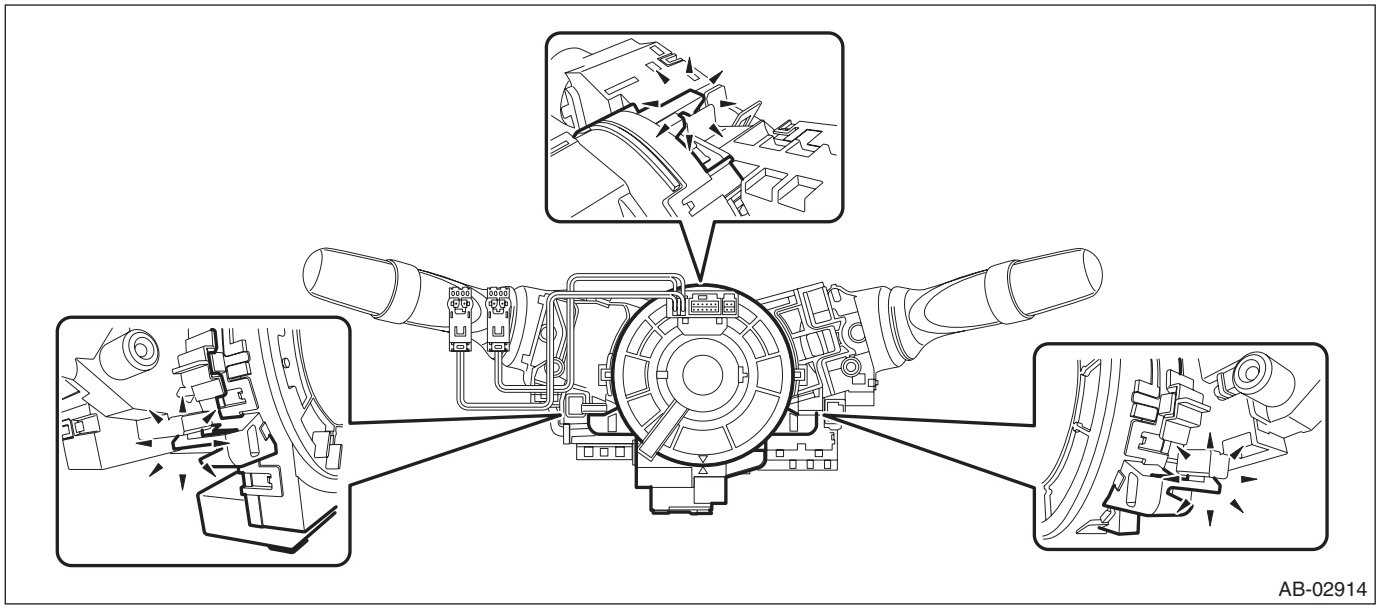
(3) Separate the steering column upper cover and steering upper cover, and remove the steering column upper cover.



7) Remove the roll connector.

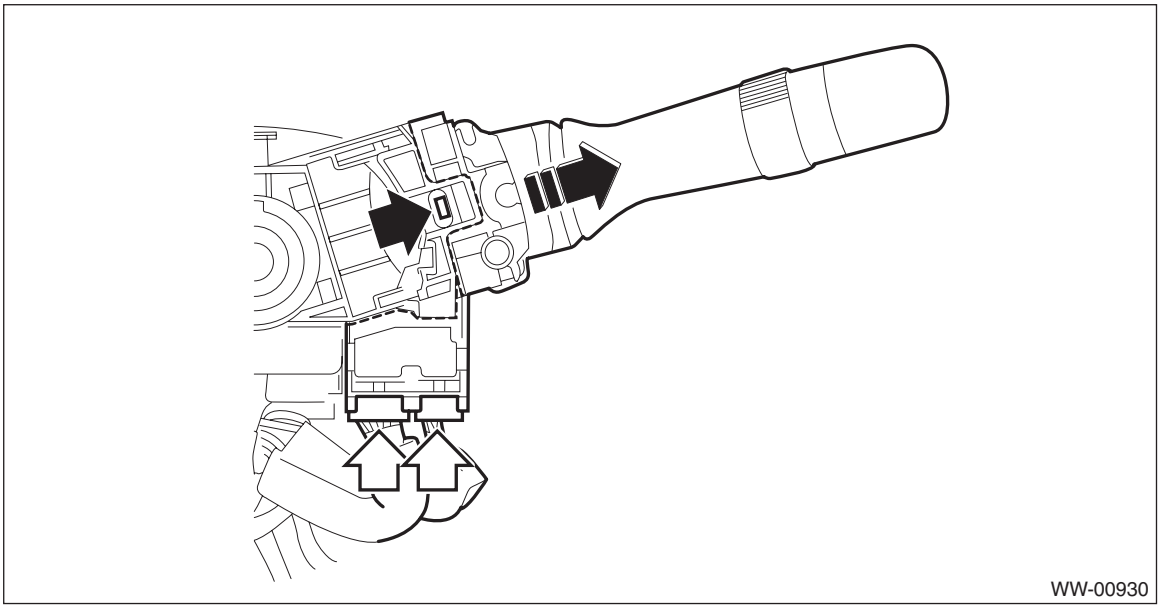
CAUTION:
Make sure that the roll connector is not turned from the original position.

(1) Disconnect the connector under the roll connector.
(2) Release the claws and remove the roll connector.

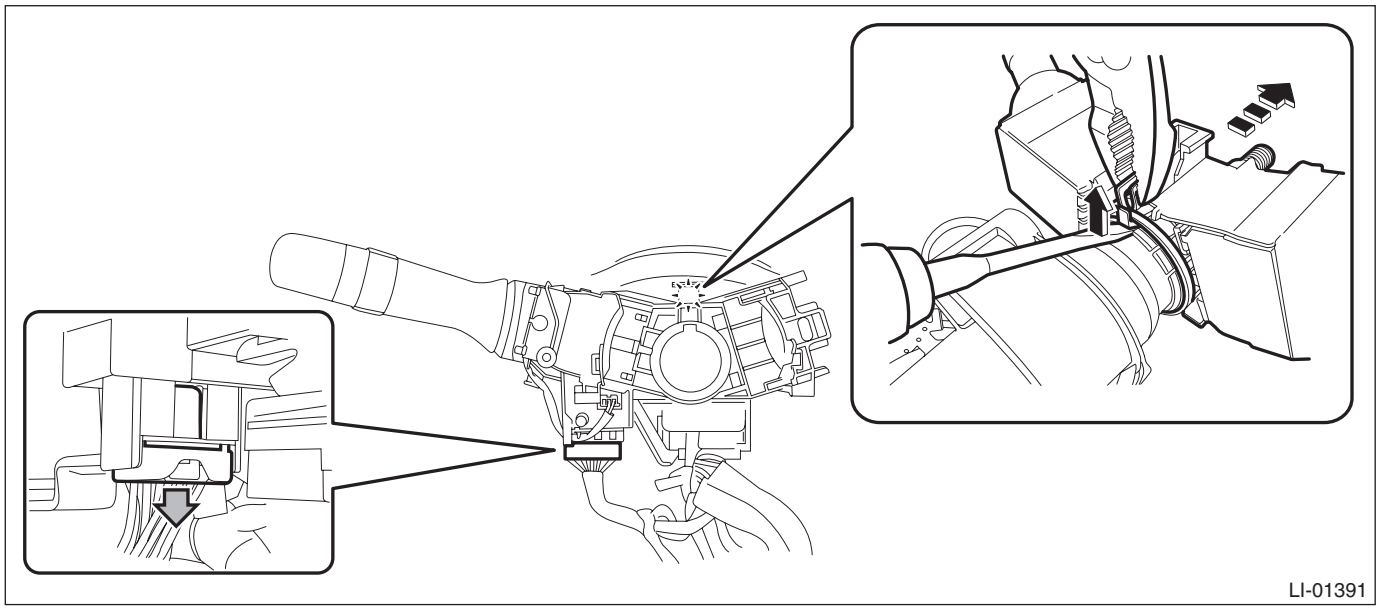


8) Remove the wiper switch assembly.
(1) Disconnect the connector from wiper switch.
(2) Release the claws, and pull out the wiper switch assembly.

CAUTION:
Do not press the claws with excessive force. They may be damaged.



9) Remove the combination switch (light).
(1) Disconnect the connector of combination switch.
(2) Remove the screws and detach the combination switch (light).



B: INSTALLATION

CAUTION:
• Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <Ref. to AB-10, CAUTION, General Description.>
• Do not allow harness and connectors to interfere or get tangled up with other parts.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, adjust the steering angle sensor. <Ref. to VDC-20, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
1) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-109, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and steering column.

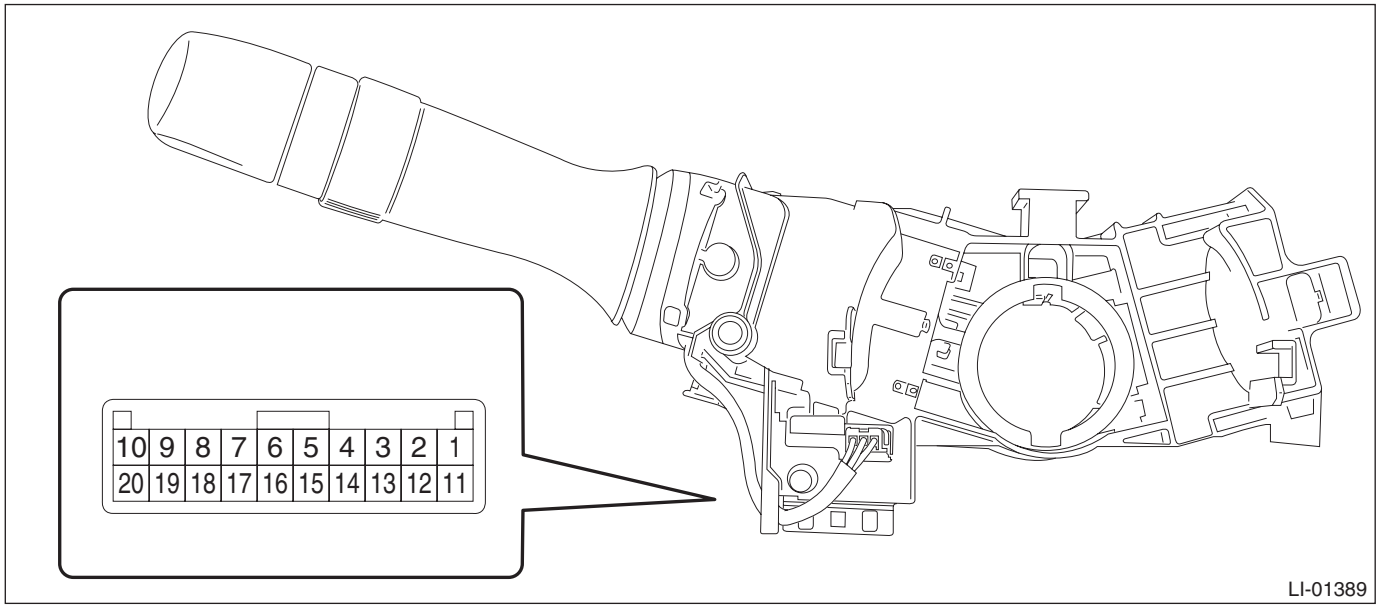
Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

Clearance:
Between column cover and steering wheel: 4 — 6 mm (0.16 — 0.24 in)

C: INSPECTION

1) Disconnect the combination switch (light) connector.
2) Measure the resistance between combination switch (light) connector terminals.

Preparation tool:
Circuit tester



3) Replace the combination switch (light) if the inspection result is not within the standard value.

1. LIGHTING SWITCH

Terminal No.	Inspection Conditions	Standard
18, 19, 20 — 12	Switch OFF	1 MΩ or more
19 — 12	Switch AUTO	Less than 1 Ω
18 — 12	Switch 1 (TAIL)	Less than 1 Ω
20, 18 — 12	Switch 2 (HEAD)	Less than 1 Ω

2. DIMMER & PASSING SWITCH

Terminal No.	Inspection Conditions	Standard
11, 17 — 12	Switch PASS	Less than 1 Ω
11 — 12	Switch UP	Less than 1 Ω

3. TURN SIGNAL SWITCH

Terminal No.	Inspection Conditions	Standard
13 — 12	Switch TURN (RH)	Less than 1 Ω
15 — 12	Switch TURN (LH)	Less than 1 Ω

4. FRONT FOG LIGHT SWITCH

Terminal No.	Inspection Conditions	Standard
4 — 3	Switch OFF	1 MΩ or more
	Switch ON	Less than 1 Ω

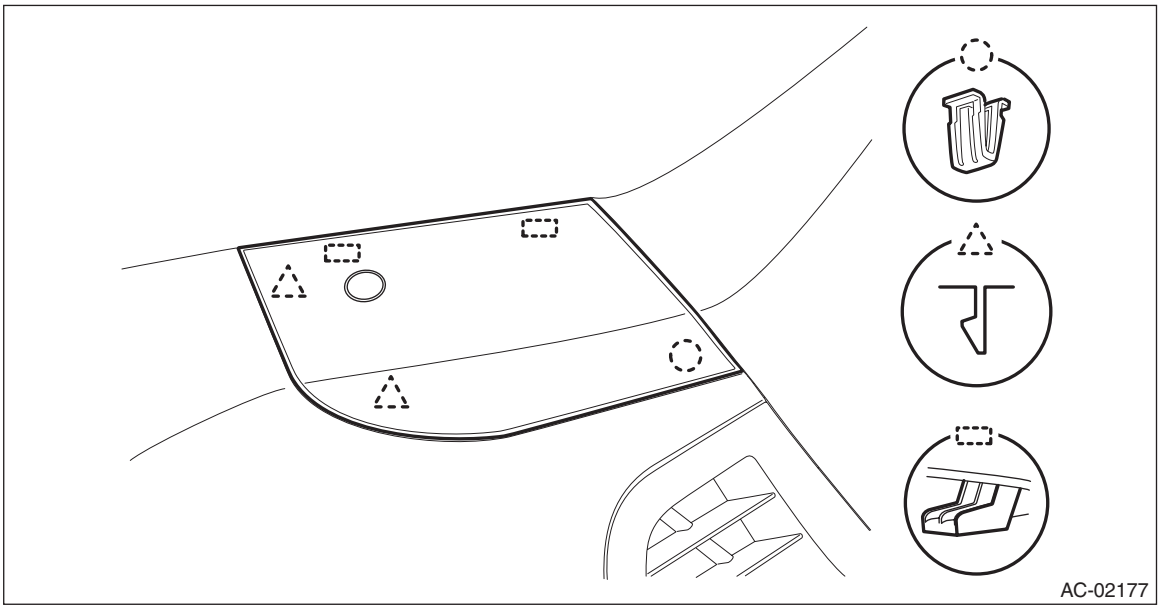
12.Light Control Sensor

A: REMOVAL

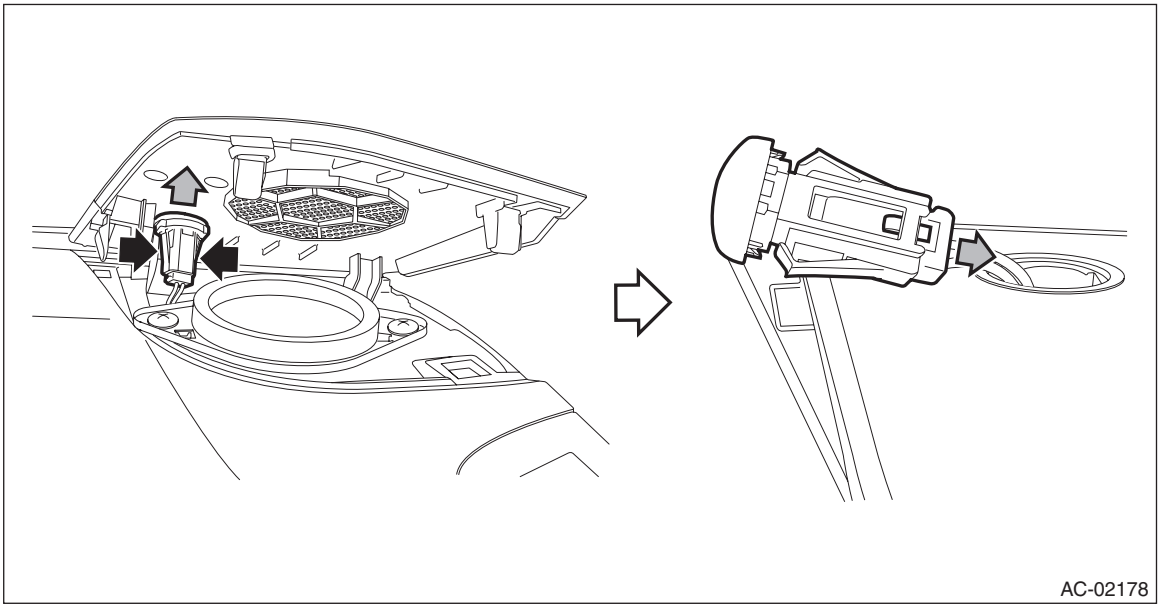
NOTE:
The light control sensor is integrated with the sunload sensor.
1) Disconnect the ground cable from battery.
2) Remove the light control sensor.

CAUTION:
Be careful not to damage the sensors and interior trims when removing.

(1) Release the claws and clips, then detach the side speaker cover (RH).



(2) Push out the light control sensor by pressing the left and right claws.
(3) Disconnect the connector, and remove the light control sensor.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

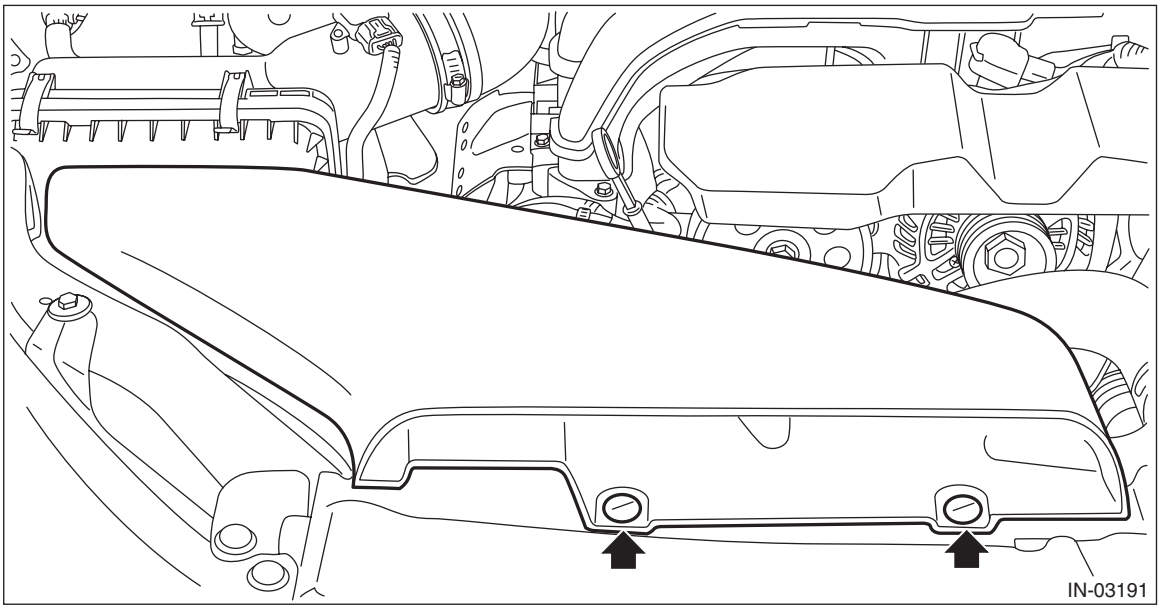
For the inspection of the light control sensor, refer to “AUTO HEADLIGHT SYSTEM CHECK” of “Headlight System”. <Ref. to LI-6, AUTO HEADLIGHT SYSTEM CHECK, INSPECTION, Headlight System.>

13.Headlight Assembly

A: REMOVAL

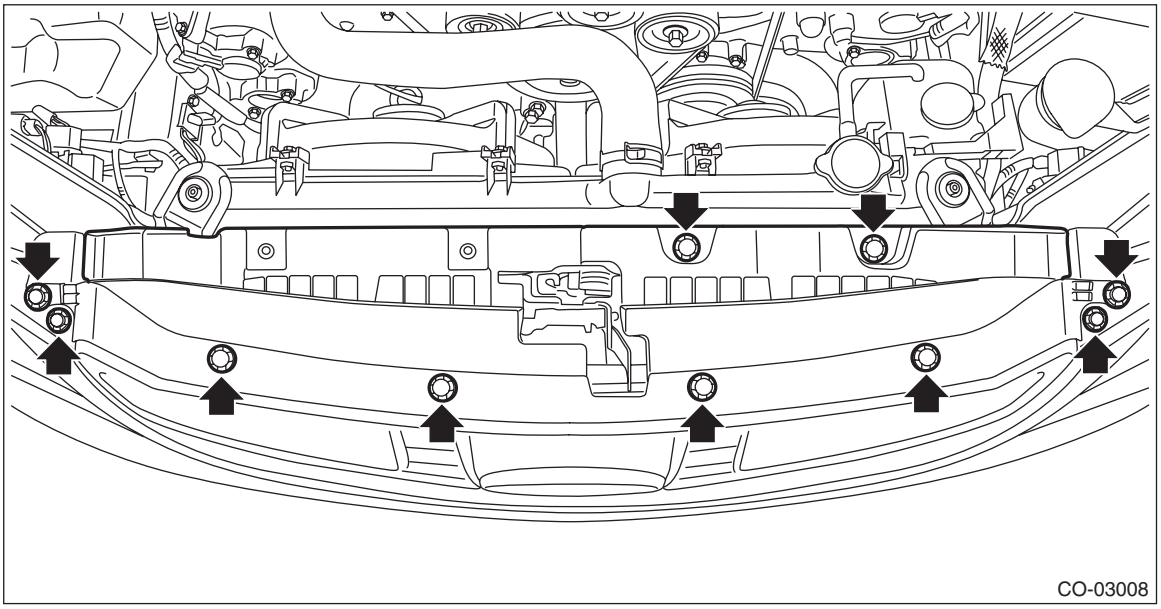
CAUTION:
Do not perform work with wet hands.

1) Disconnect the ground cable from battery.
2) Remove the clips and remove the air intake duct. (When removing the headlight RH)



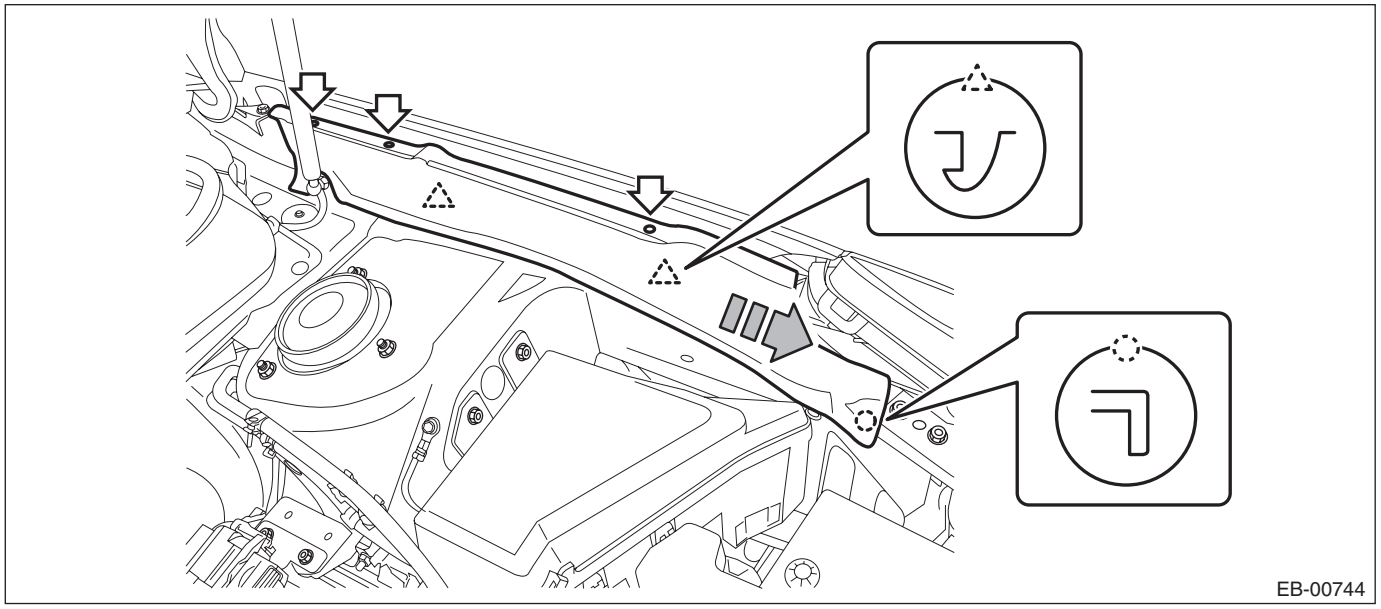
3) Remove the clips and remove the grille bracket.

NOTE:
To prevent damage to the grille bracket, make sure to remove all clips.

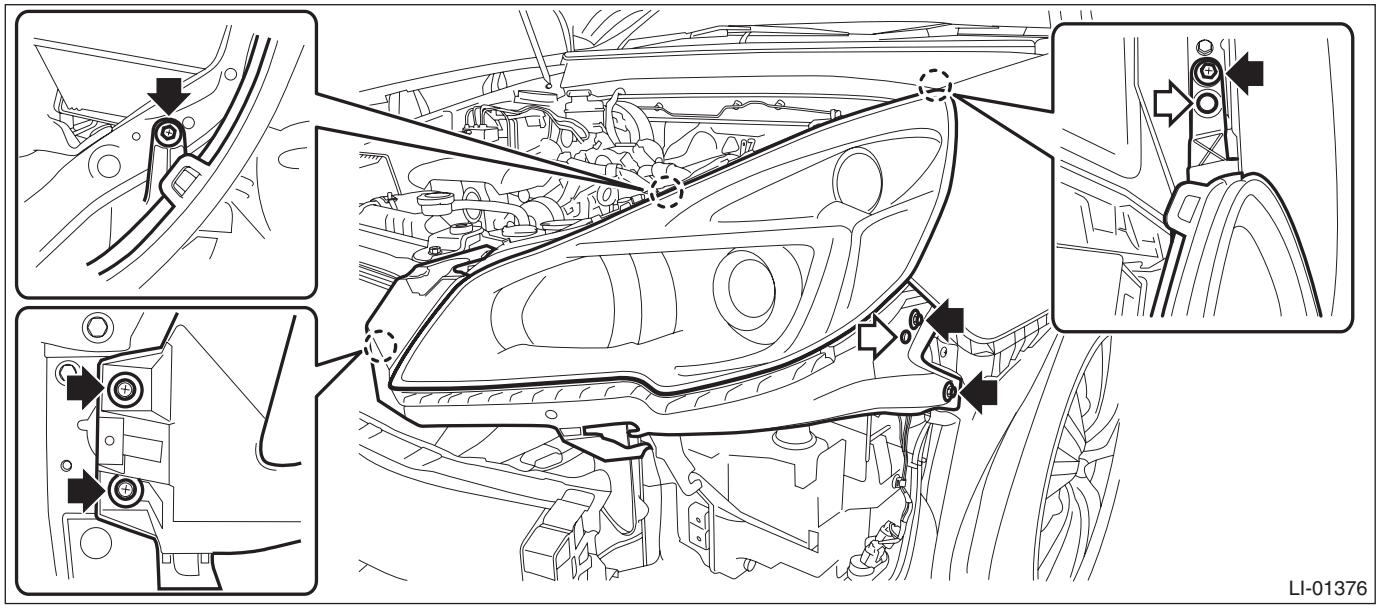


4) Remove the front bumper face assembly. <Ref. to EI-37, REMOVAL, Front Bumper.>

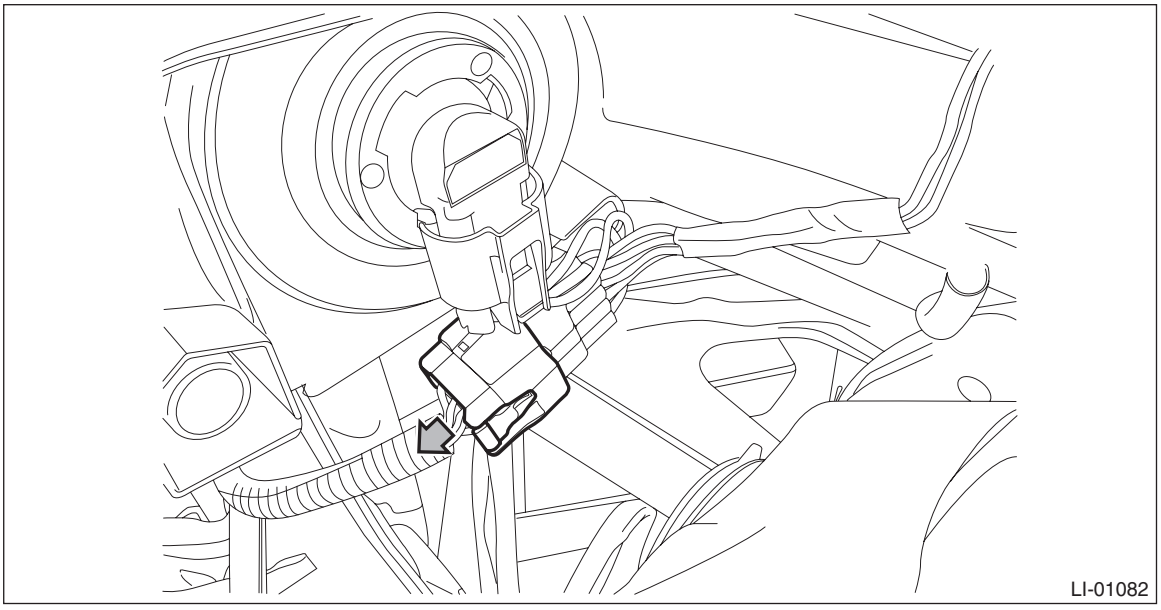
5) Remove the fender cover assembly UPR.
(1) Remove the clip.
(2) Release the claws of the fender cover assembly UPR by pulling it forward and remove the fender cover.



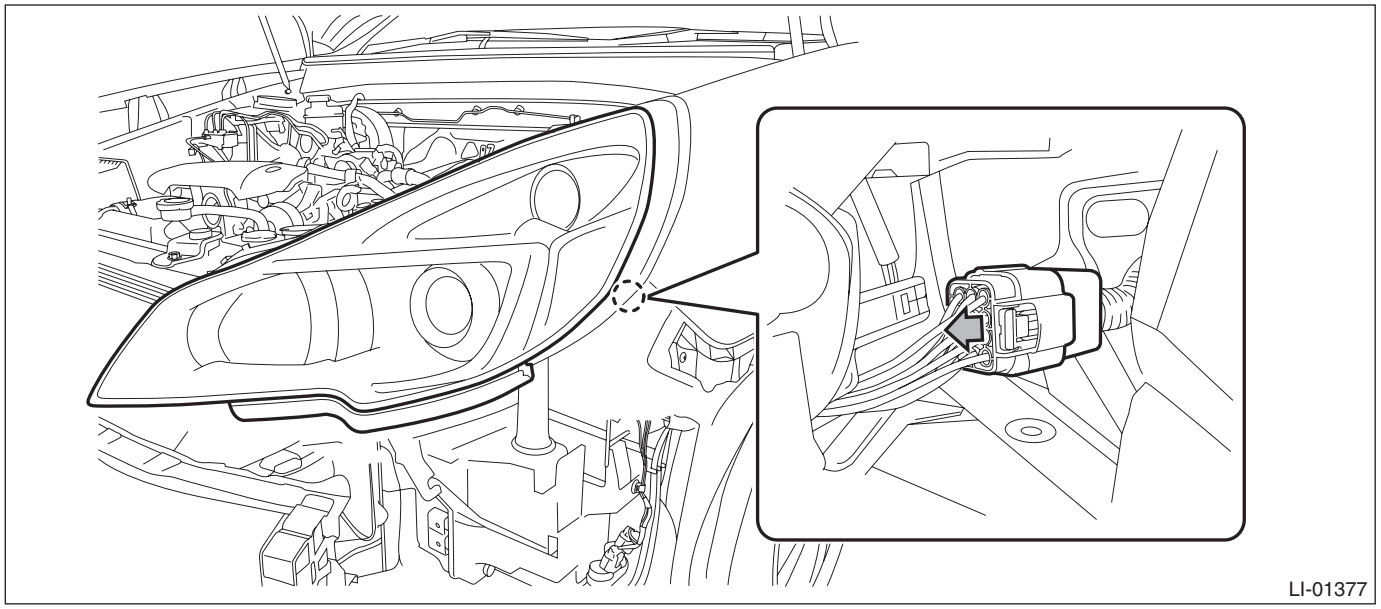
6) Remove the headlight assembly.
(1) Remove the bolts and clips, and pull out the headlight assembly to the front of the vehicle.



(2) Disconnect the connector and remove the headlight assembly.
- Headlight connector RH



- Headlight connector LH



B: INSTALLATION

1) Install each part in the reverse order of removal.

Tightening torque:
Headlight assembly: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

2) Adjust the headlight beam and fog light beam.
- Adjust the headlight beam. <Ref. to LI-30, HEADLIGHT BEAM ADJUSTMENT, ADJUSTMENT, Headlight Assembly.>
- Adjust the fog light beam. (Model with fog light) <Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

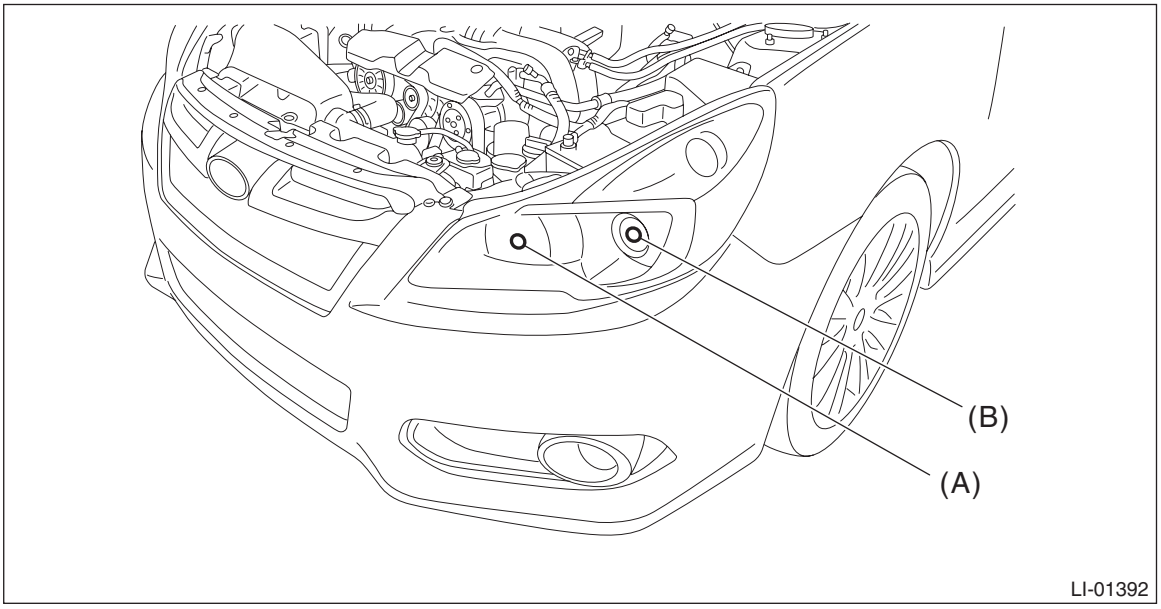
C: ADJUSTMENT

1. HEADLIGHT BEAM ADJUSTMENT

CAUTION:
• Turn off the light before adjusting the headlight beam level. If it is necessary to inspect the beam level, do not keep the light on for two minutes or more.
• When blocking the light emitted from the headlight, use a light shield or equivalent.
Do not apply the tape on the lens or place the cloth over it. It may raise the temperature in the light and cause deformation/bubble formations of the plastic lens.

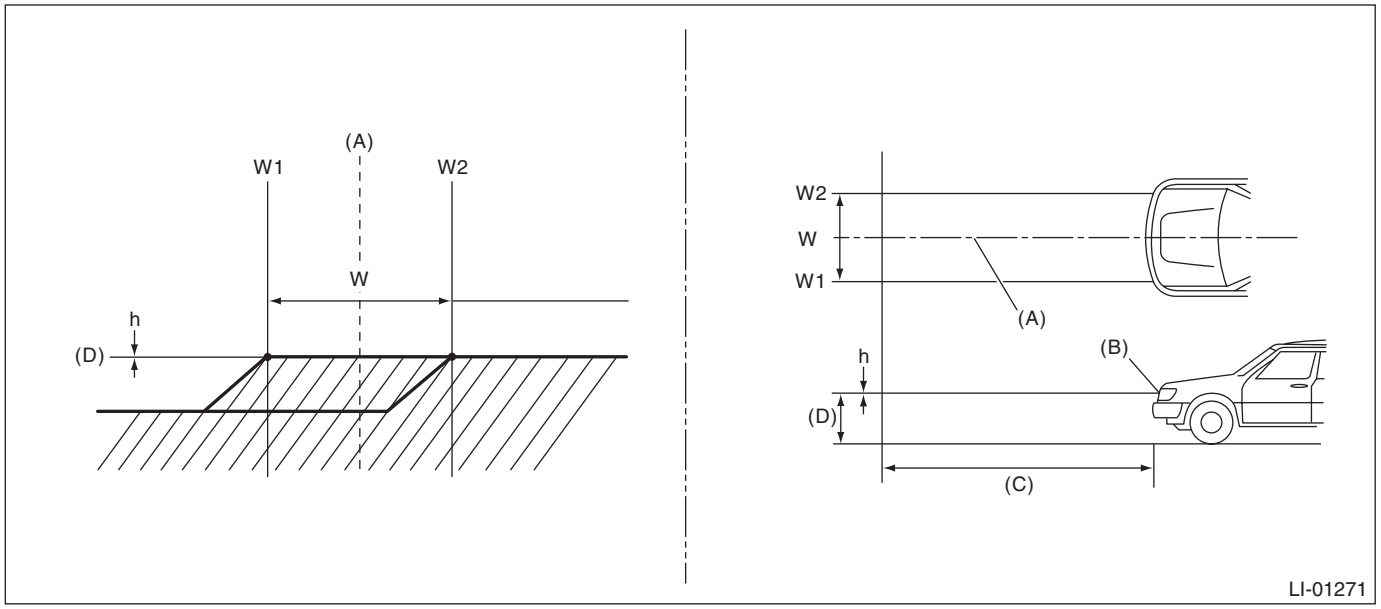
1) Before checking the headlight beam level, be sure of the following:
- The area around the headlight has not sustained any scratches, damage or other type of deformation.
- Vehicle is parked on a level surface.
- The inflation pressure of tires is correct.
- Vehicle's fuel tank is fully filled.

2) Bounce the vehicle several times to normalize the suspension.
3) Make certain that someone is seated in the driver's seat.
4) Measure the distance between the low beam bulb centers and the height of the bulb center.



(A) High beam (B) Low beam

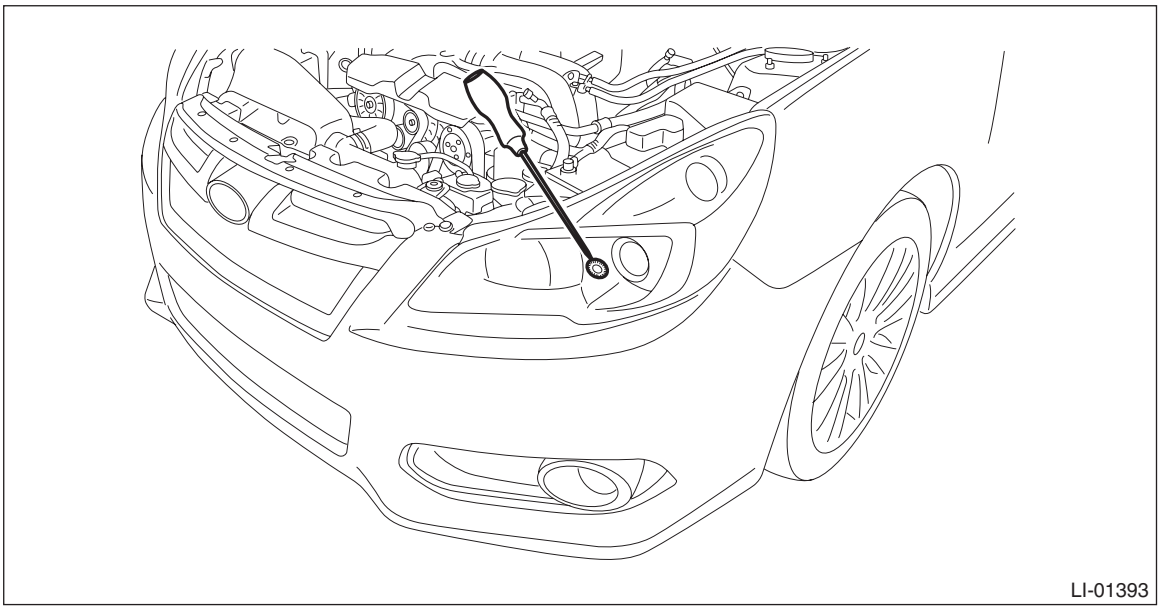
5) Place the vehicle with the front end facing to the measurement panel.



(A) Vehicle center
(B) Bulb center marking
(C) 3 m (10 ft)
(D) Height of headlight center

W mm (in)	h mm (in) at 3 m (10 ft)
1,404 (55.28)	Height of headlight center

6) Adjust the headlight low beam by turning the aiming screw.



NOTE:
When using a tester, follow the instructions of the tester manual.

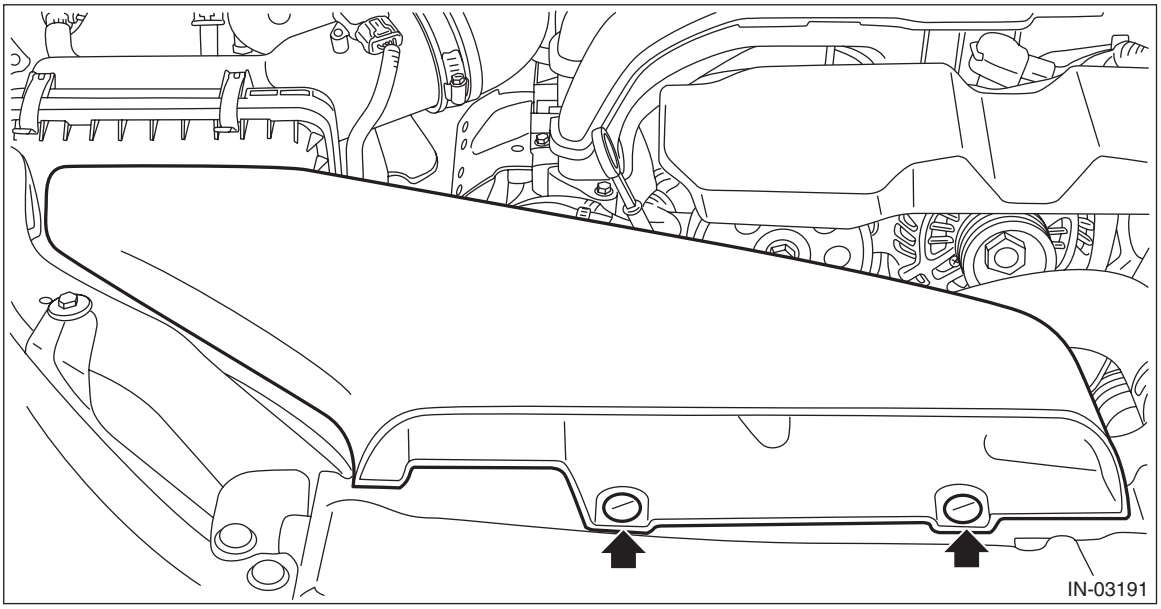
14.Headlight Bulb

A: REMOVAL

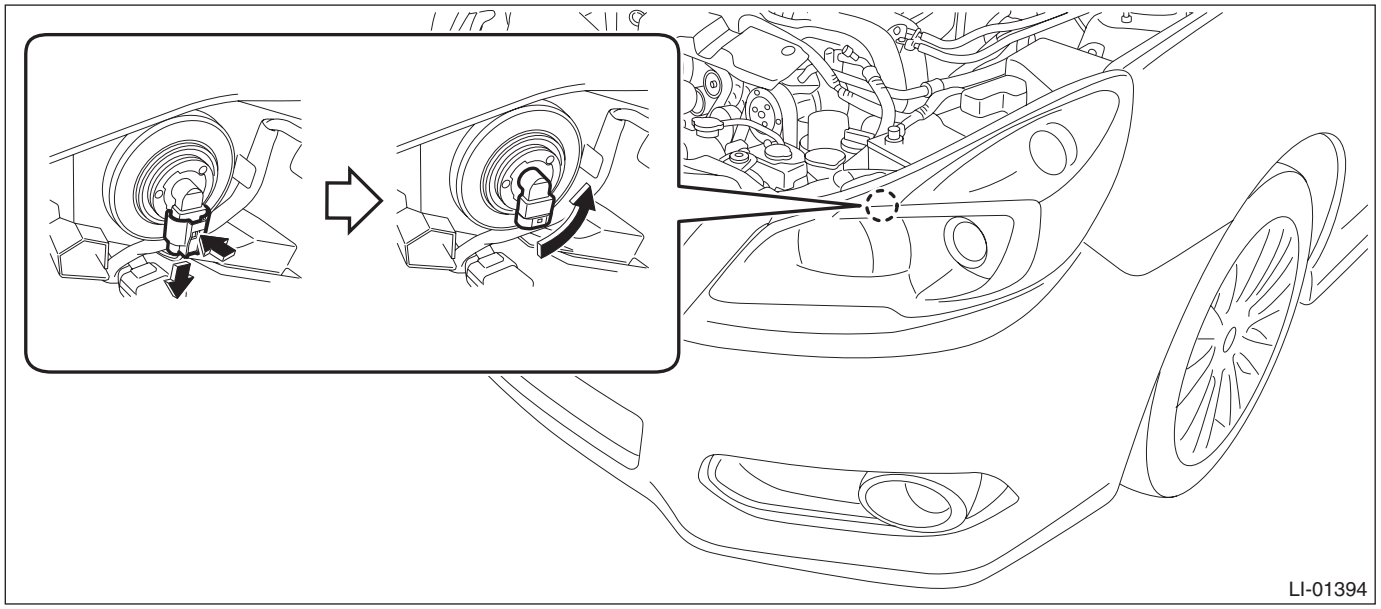
1. HIGH BEAM

CAUTION:
• Because the halogen bulb operates at a high temperature, dirt and oil on the bulb surface reduces the bulb's service life. Hold the flange portion when replacing the bulb. Never touch the glass portion.
• Do not leave the headlight without a bulb for a long time. Dust, moisture, etc. entering the headlight may affect its performance.

1) Disconnect the ground cable from battery.
2) Remove the clips and remove the air intake duct. (When removing the headlight high beam bulb RH)



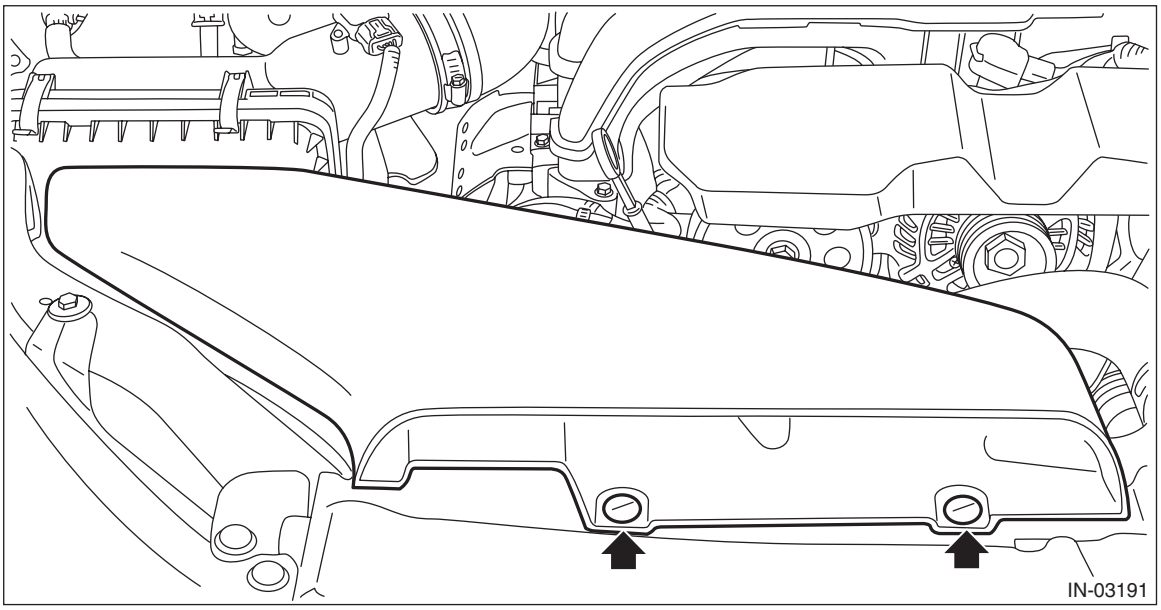
3) Disconnect the connector and remove the headlight high beam bulb.



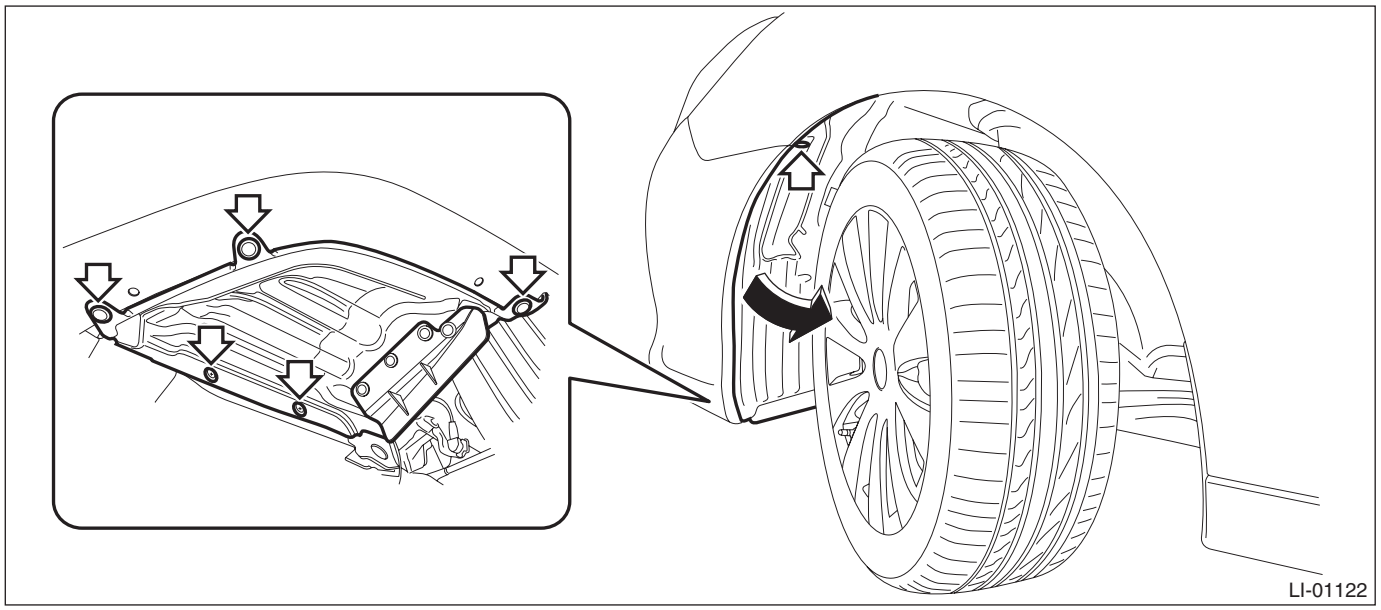
2. LOW BEAM

CAUTION:
• Because the halogen bulb operates at a high temperature, dirt and oil on the bulb surface reduces the bulb's service life. Hold the flange portion when replacing the bulb. Never touch the glass portion.
• Do not leave the headlight without a bulb and back cover for a long time. Dust, moisture, etc. entering the headlight may affect its performance.

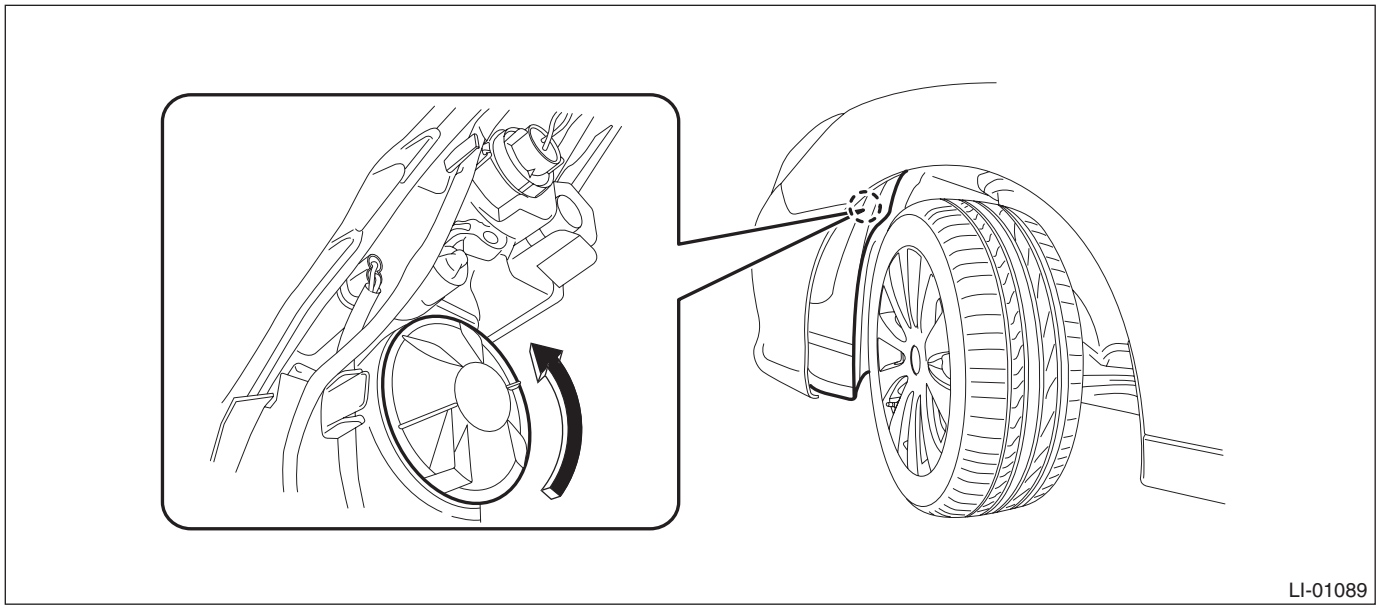
1) Disconnect the ground cable from battery.
2) Remove the clips and remove the air intake duct. (When removing the headlight low beam bulb RH)



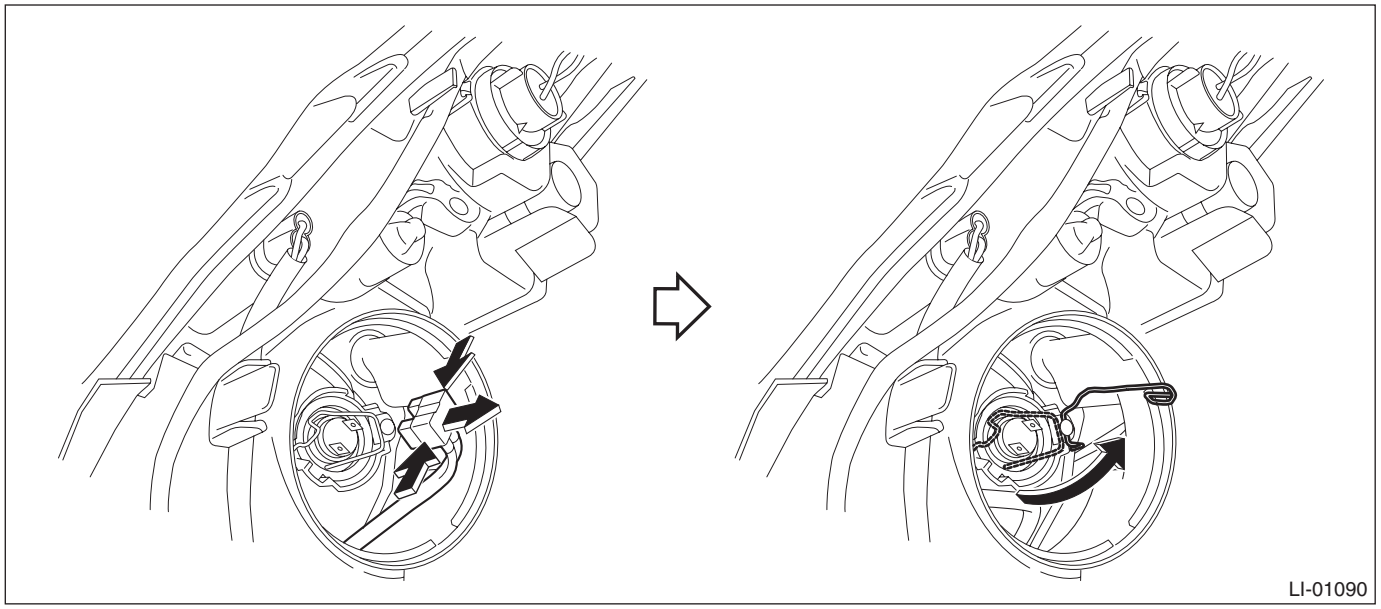
3) Turn the steering wheel in the opposite direction from the parts to be removed. Then remove the clips and turn over the mud guard.



4) Remove the headlight low beam bulb.
(1) Remove the back cover.

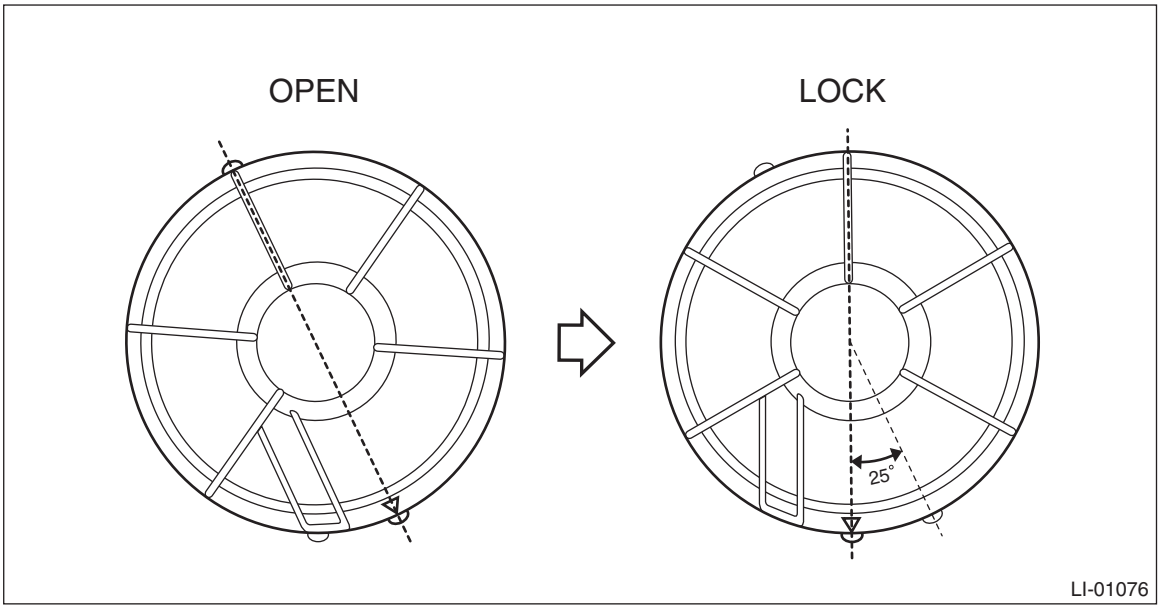


(2) Unlock the bulb socket and bulb spring, and remove the headlight low beam bulb.



B: INSTALLATION

NOTE:
When installing the back cover, turn it to the position shown in the figure to lock while pressing the entire periphery of the cover.



Install each part in the reverse order of removal.

C: INSPECTION

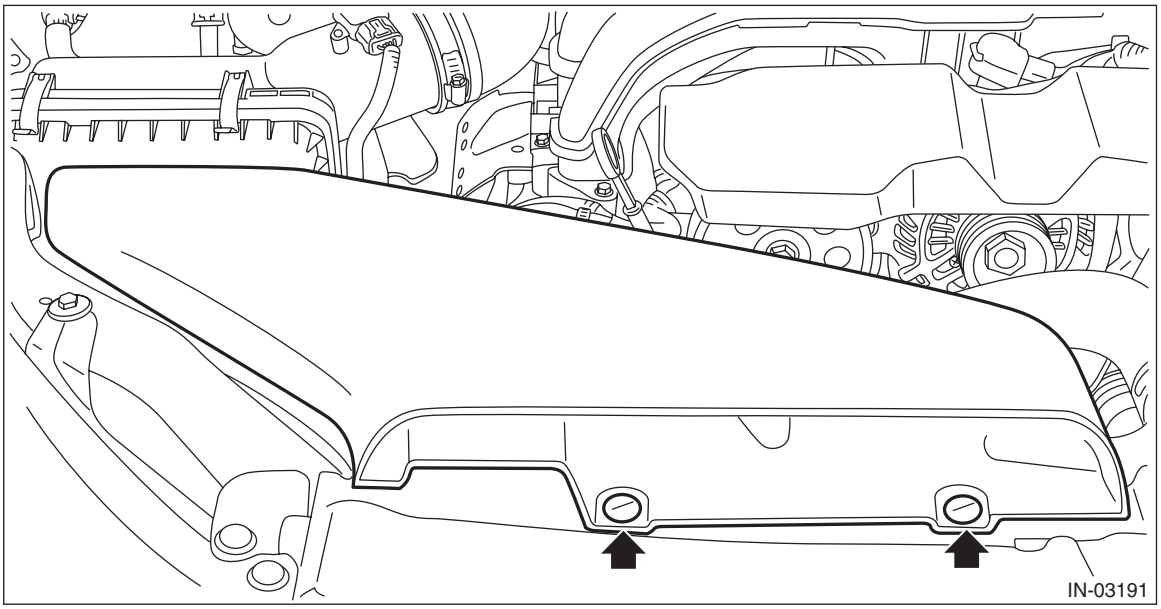
CAUTION:
- **Do not perform work with wet hands.**
- **Because the halogen bulb operates at a high temperature, dirt and oil on the bulb surface reduces the bulb's service life. Hold the flange portion when replacing the bulb. Never touch the glass portion.**
- **Do not leave the headlight without a bulb and back cover for a long time. Dust, moisture, etc. entering the headlight may affect its performance.**

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

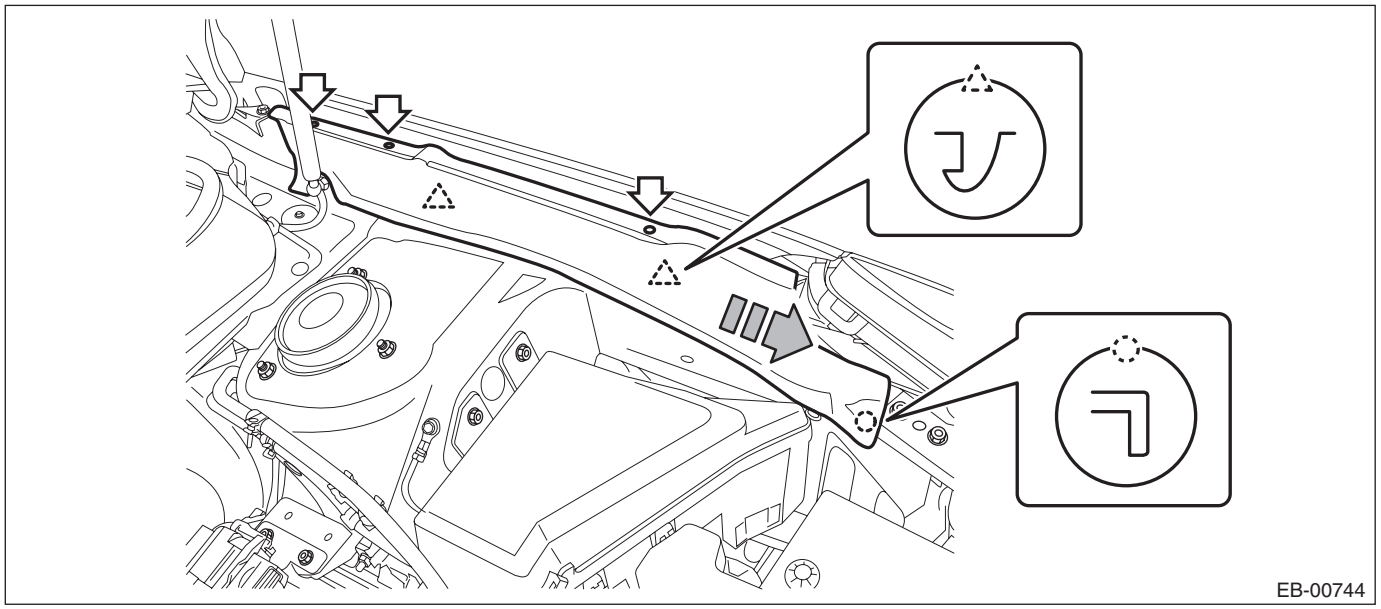
15.Front Turn Signal Light Bulb

A: REMOVAL

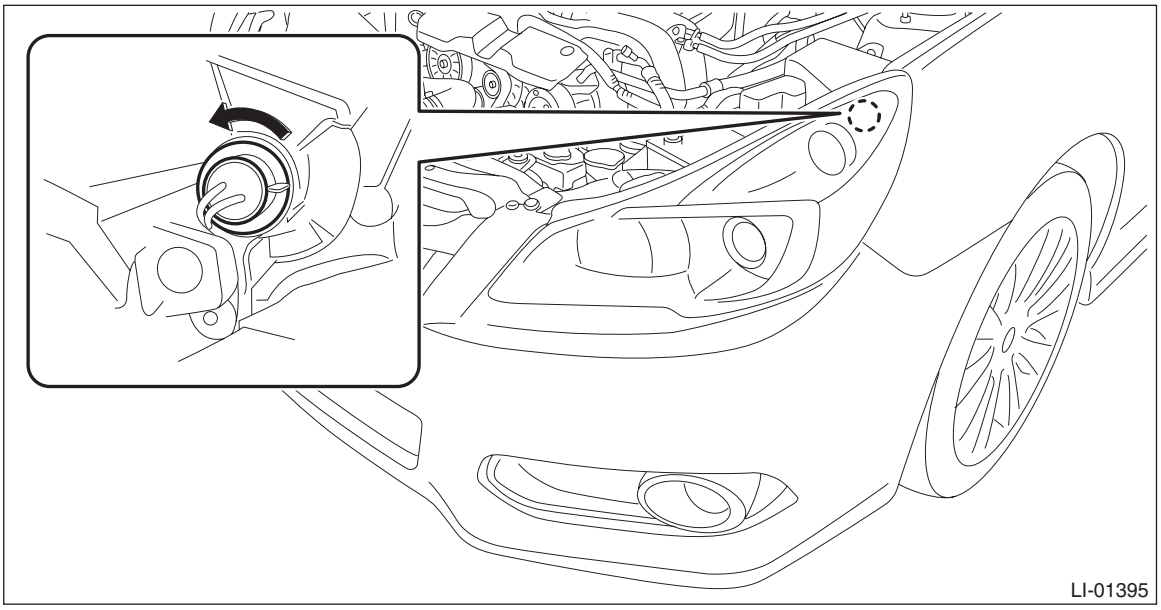
1) Disconnect the ground cable from battery.
2) Remove the clips and remove the air intake duct. (When removing the front turn signal light bulb RH)



3) Remove the fender cover assembly UPR.
   (1) Remove the clip.
   (2) Release the claws of the fender cover assembly UPR by pulling it forward and remove the fender cover.



4) Remove the bulb socket and turn signal light bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

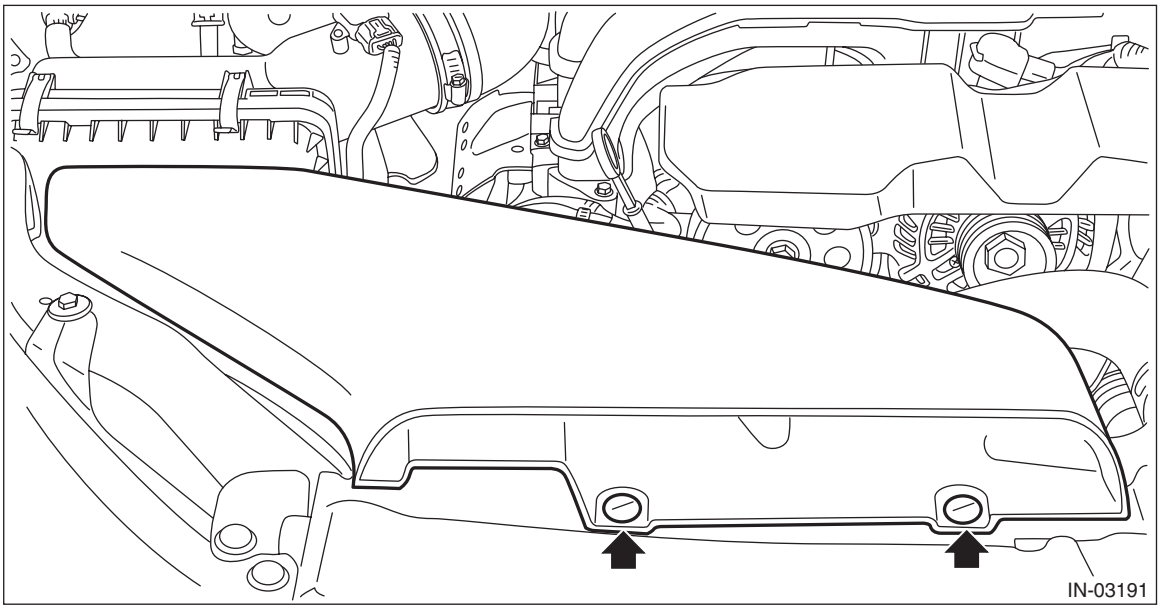
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

16.Clearance/Parking Light Bulb

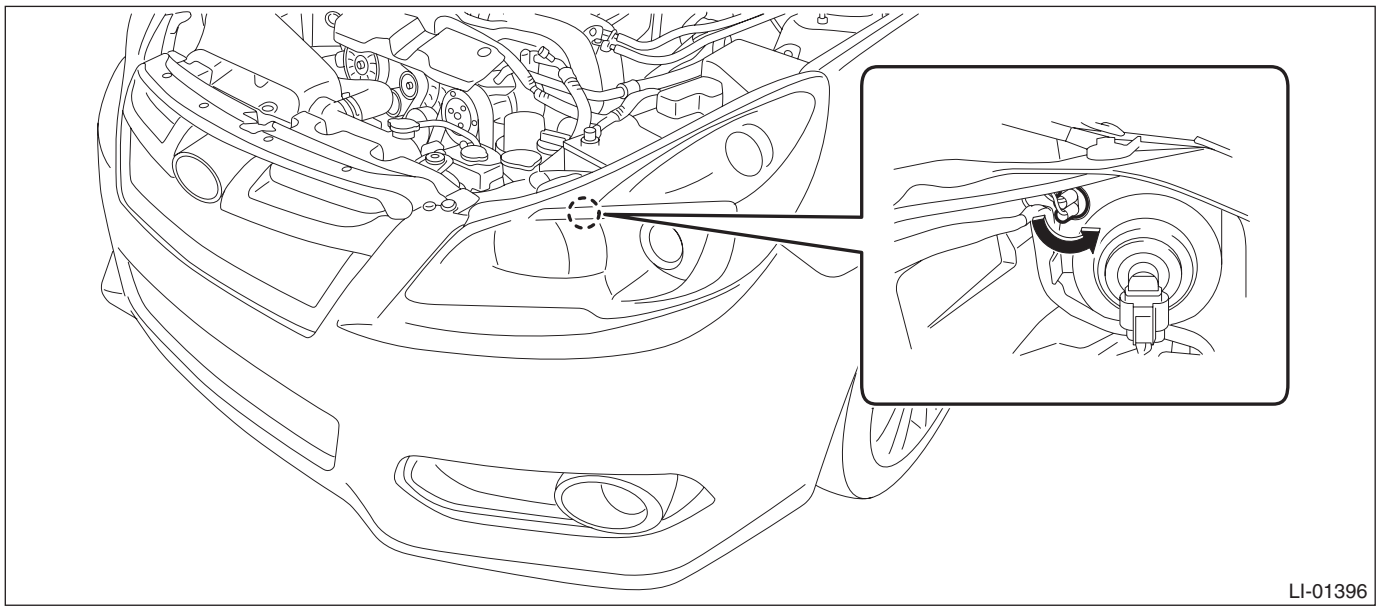
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the clips and remove the air intake duct. (When removing the parking light bulb RH)



3) Remove the bulb socket and parking light bulb.

NOTE:
Move the battery rearward as required. (When removing the parking light bulb LH)



B: INSTALLATION

Install each part in the reverse order of removal.

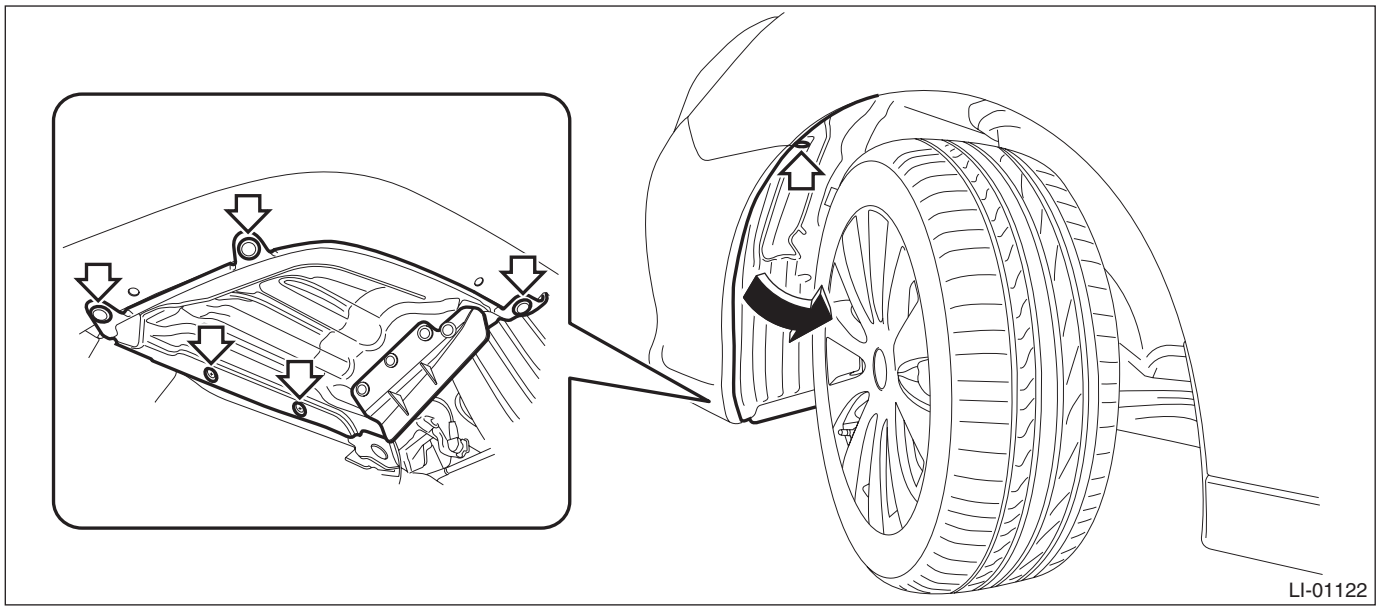
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

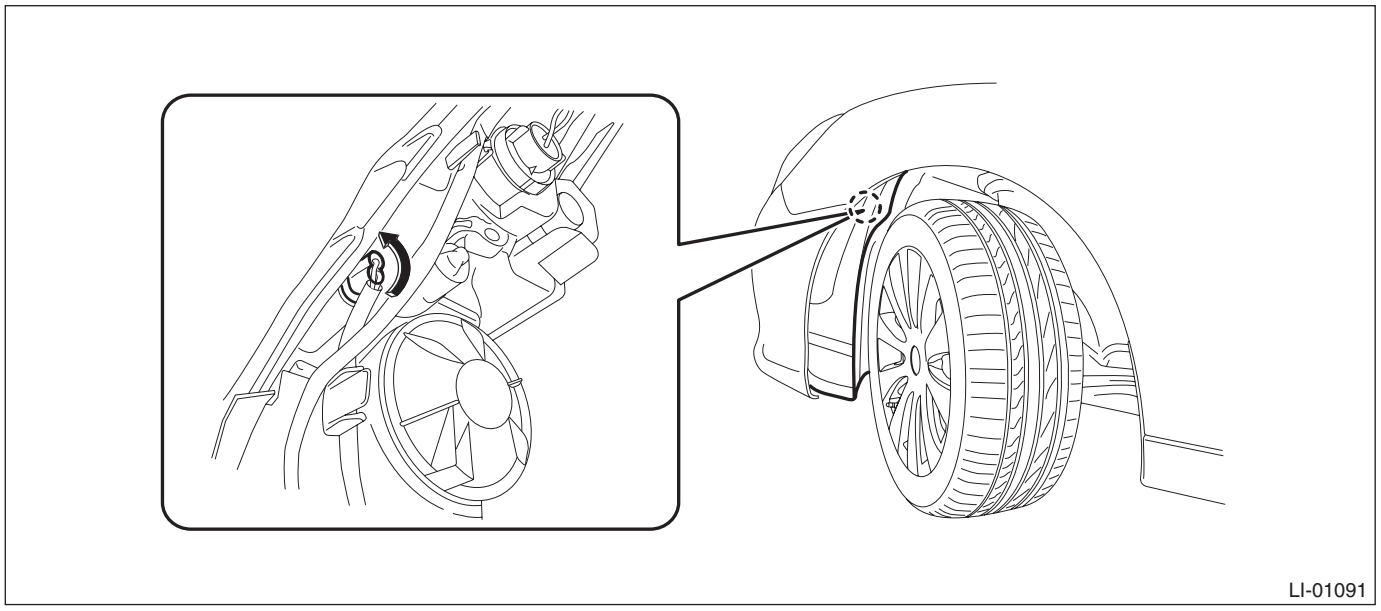
17.Front Side Marker Light Bulb

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Turn the steering wheel in the opposite direction from the parts to be removed. Then remove the clips and turn over the mud guard.



3) Remove the bulb socket and front side marker light bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

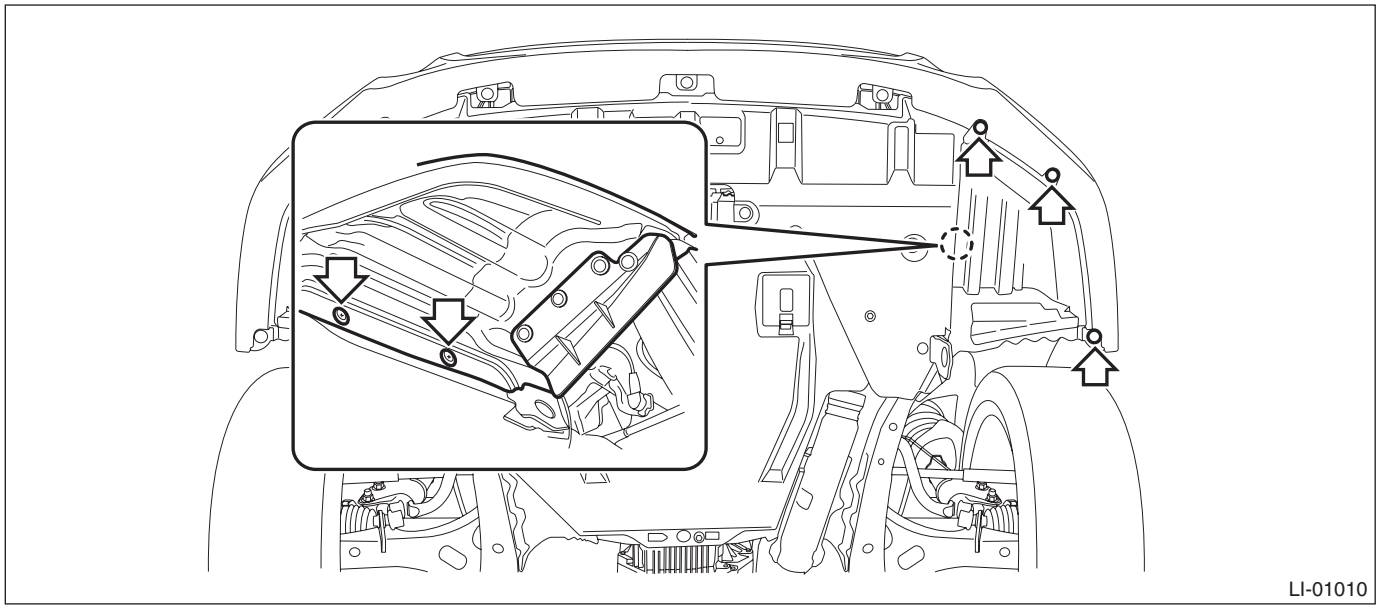
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

18.Front Fog Light Assembly

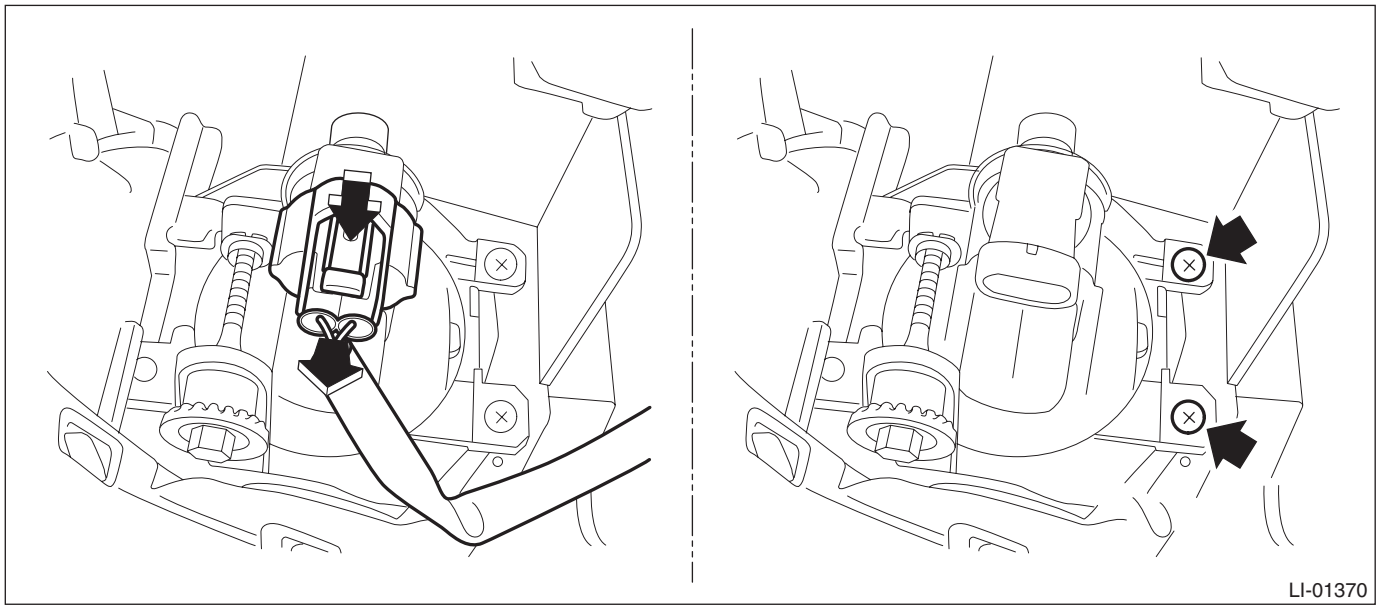
A: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the clips and turn over the front end of front mud guard.

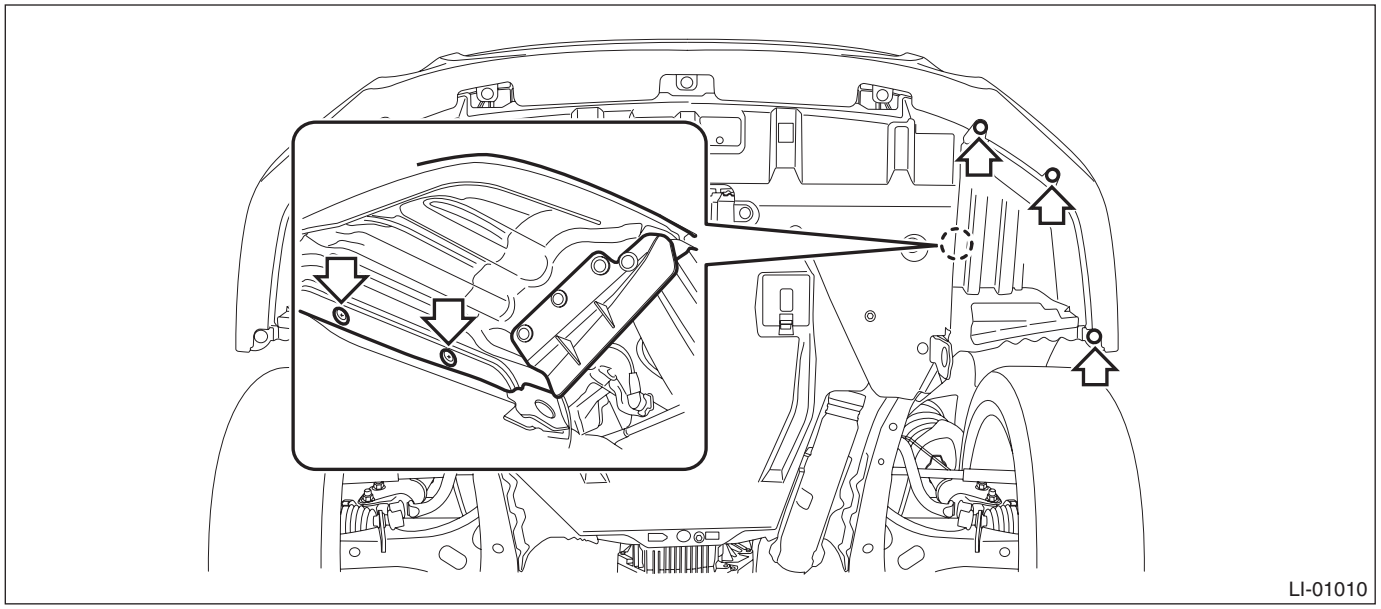


3) From the bottom of bumper face, remove the front fog light assembly.
   (1) Disconnect the connector.
   (2) Remove the screws, and remove the front fog light assembly.

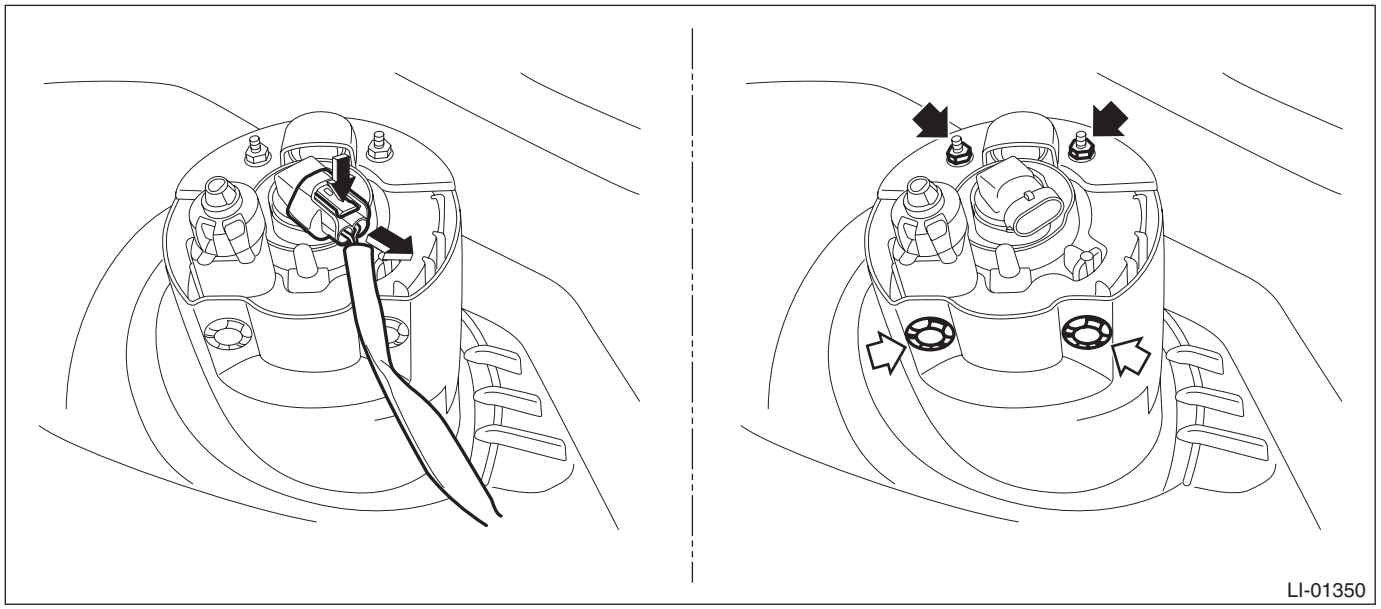


2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the clips and turn over the front end of front mud guard.


LI-01010

3) From the bottom of bumper face, remove the front fog light assembly.
   (1) Disconnect the connector.
   (2) Remove the nuts and clips, and remove the front fog light assembly.


LI-01350

B: INSTALLATION

1) Install each part in the reverse order of removal.

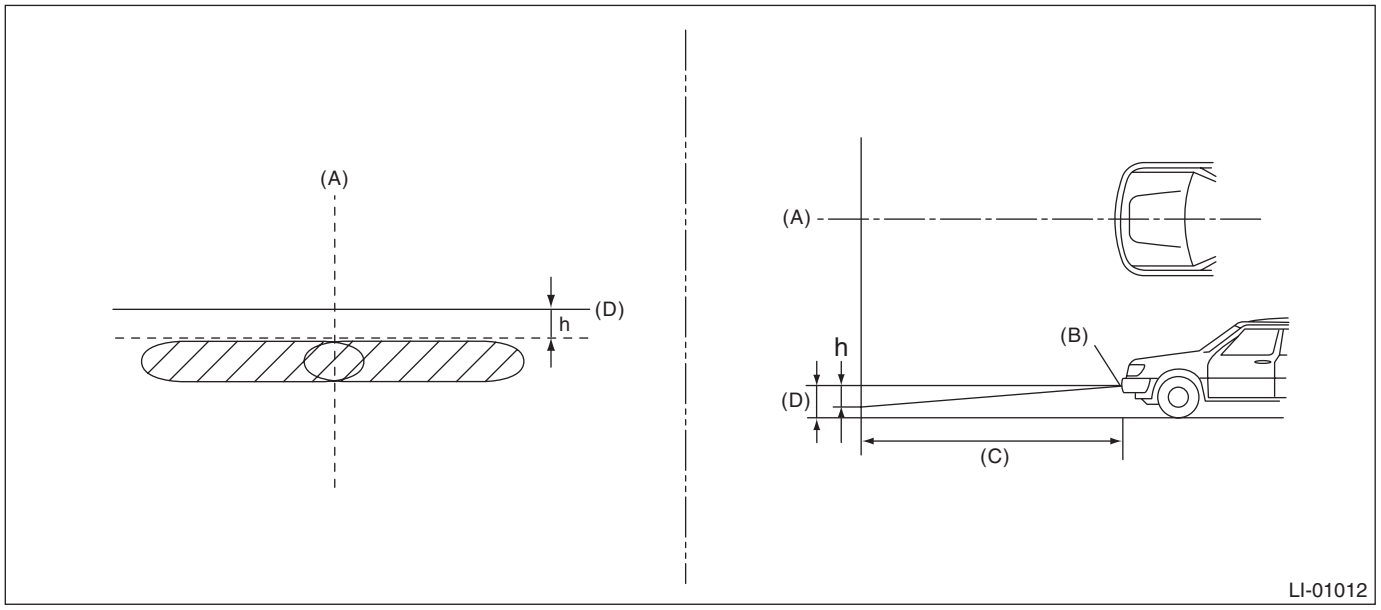
Tightening torque:
Front fog light assembly: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
2) Adjust the fog light beam. <Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: ADJUSTMENT

1. FOG LIGHT AIMING

1) Before checking the fog light beam level, be sure of the following:
- The area around the fog light has not sustained any accident, damage or other type of deformation.
- Vehicle is parked on a level surface.
- The inflation pressure of tires is correct.
- Vehicle's fuel tank is fully filled.

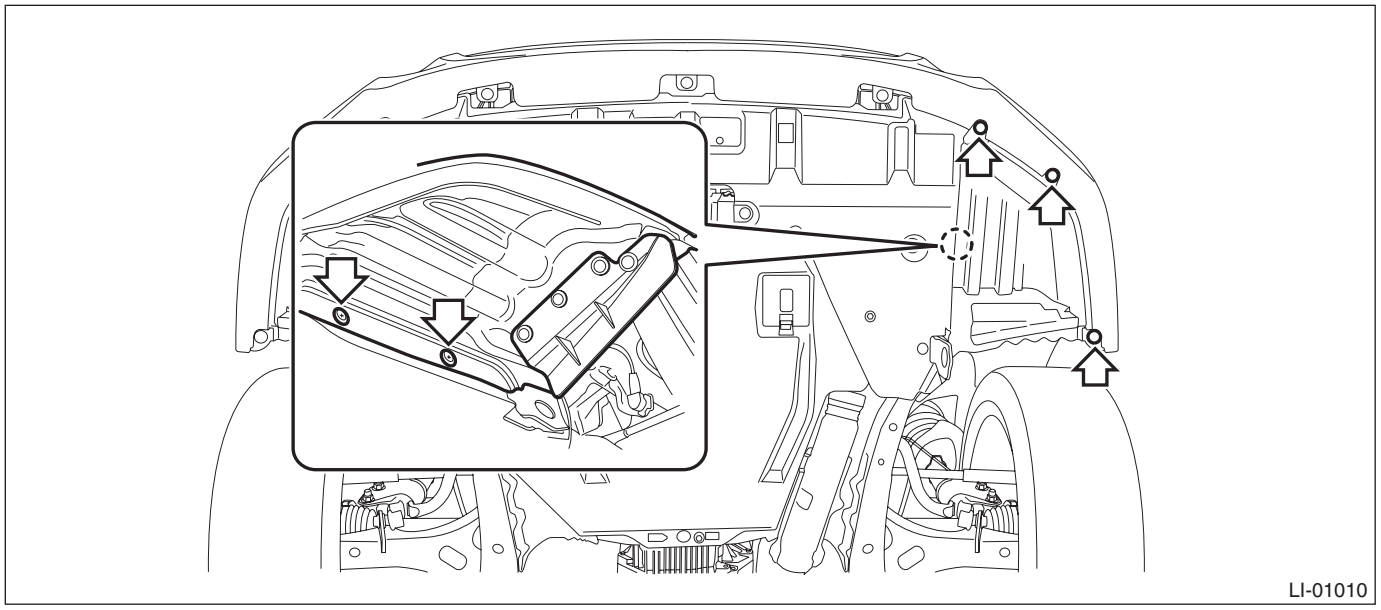
2) Bounce the vehicle several times to normalize the suspension.
3) Make certain that someone is seated in the driver's seat.
4) Place the vehicle with the front end facing to the measurement panel.



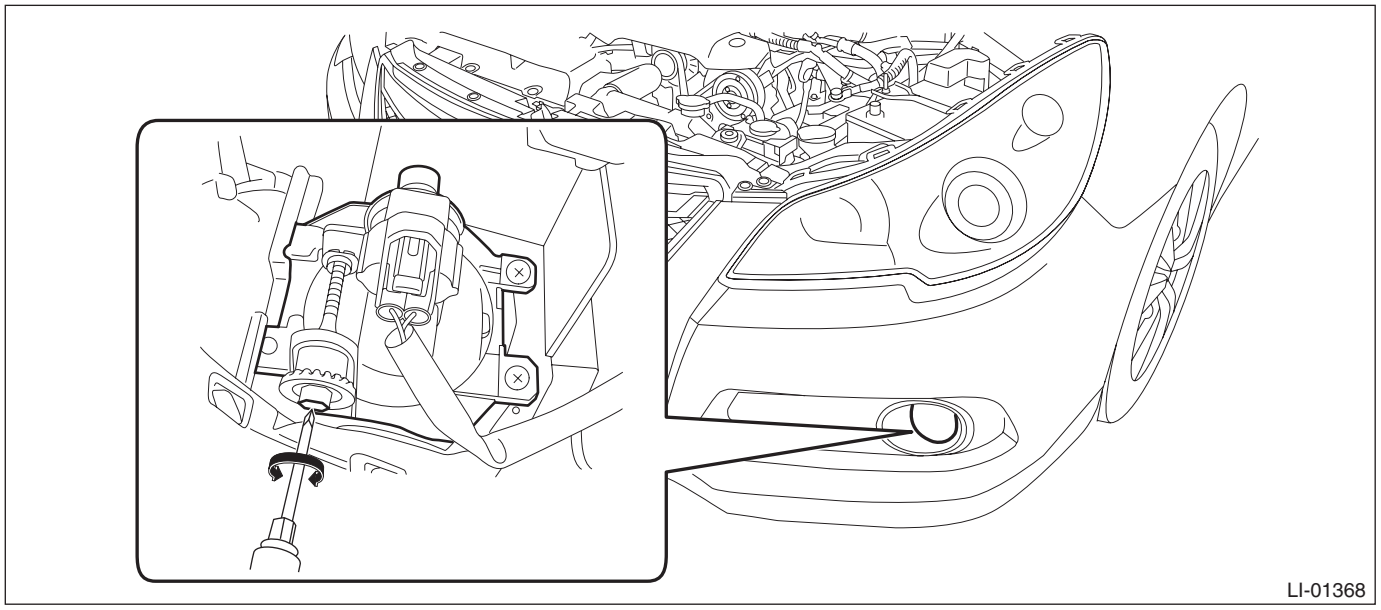
(A) Vehicle center
(B) Bulb center marking
(C) 3 m (10 ft)
(D) Height of fog light center

h mm (in) at 3 m (10 ft)
40 (1.58)

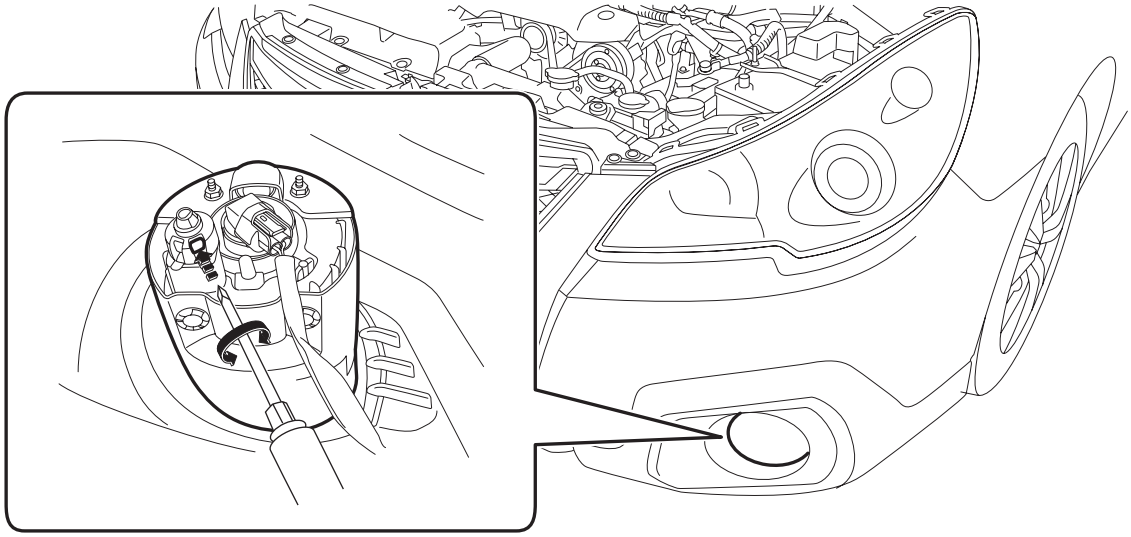
5) Adjust the fog light beam.
(1) Remove the clips and turn over the front end of front mud guard.


LI-01010

(2) Adjust the beam direction by turning the aiming screw from the bottom of front bumper face.
• Sedan model


LI-01368

- OUTBACK model

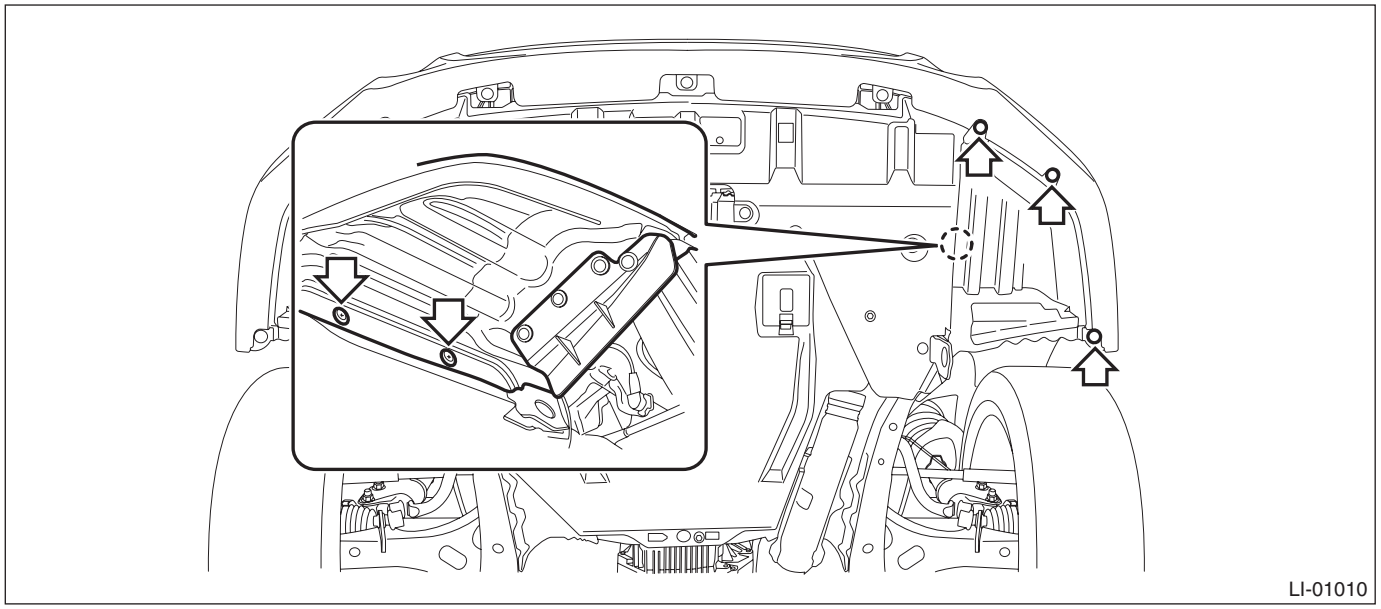


19.Front Fog Light Bulb

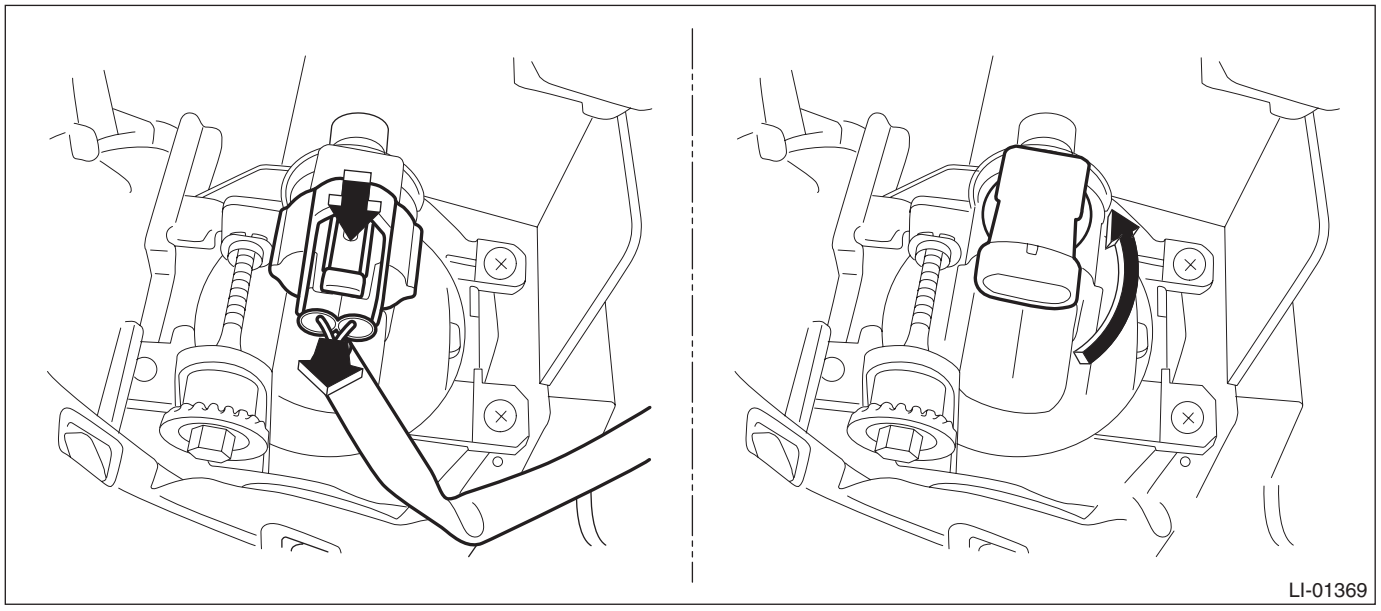
A: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the clips and turn over the front end of front mud guard.

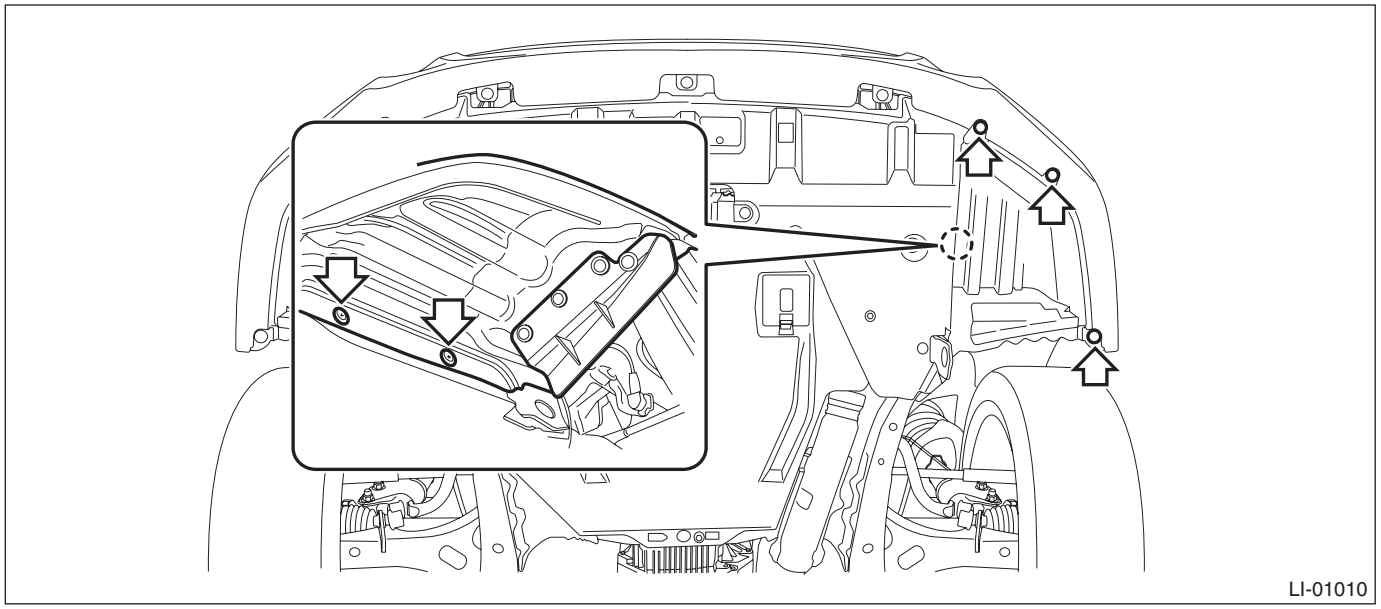


3) From the bottom of bumper face, remove the front fog light bulb.
   (1) Disconnect the connector.
   (2) Remove the bulb.

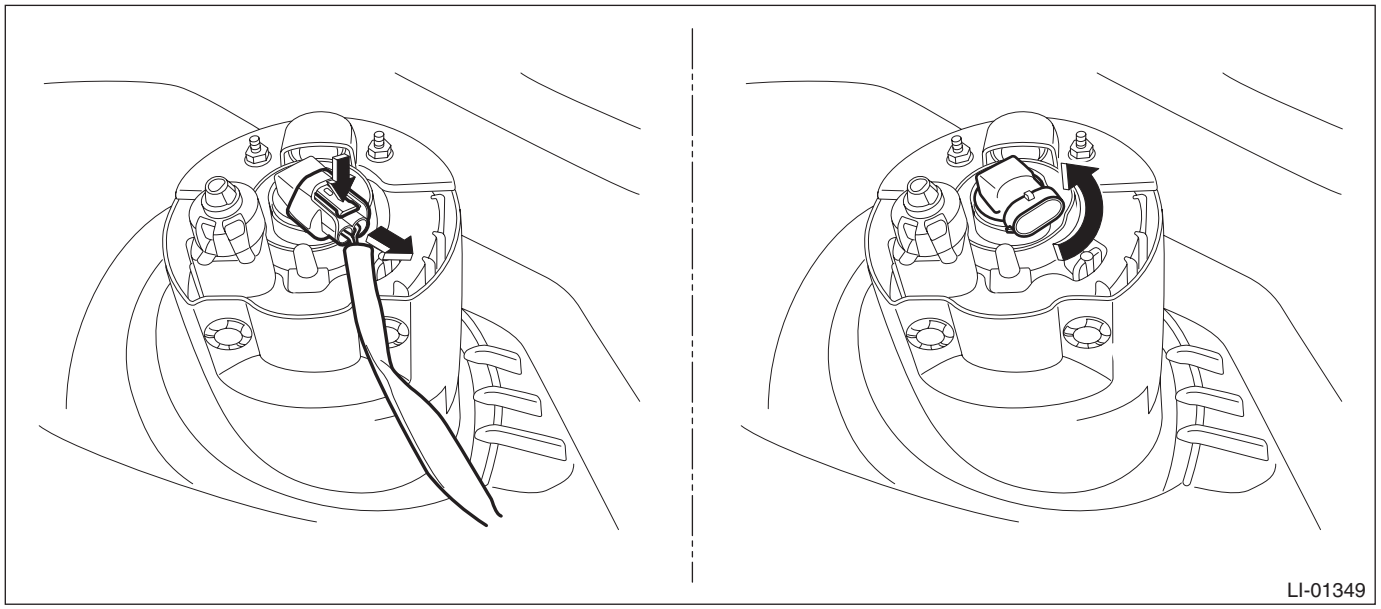


2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the clips and turn over the front end of front mud guard.



3) From the bottom of bumper face, remove the front fog light bulb.
   (1) Disconnect the connector.
   (2) Remove the bulb.



B: INSTALLATION

CAUTION:
After connecting the connector, make sure that the bulb is locked securely.
Install each part in the reverse order of removal.

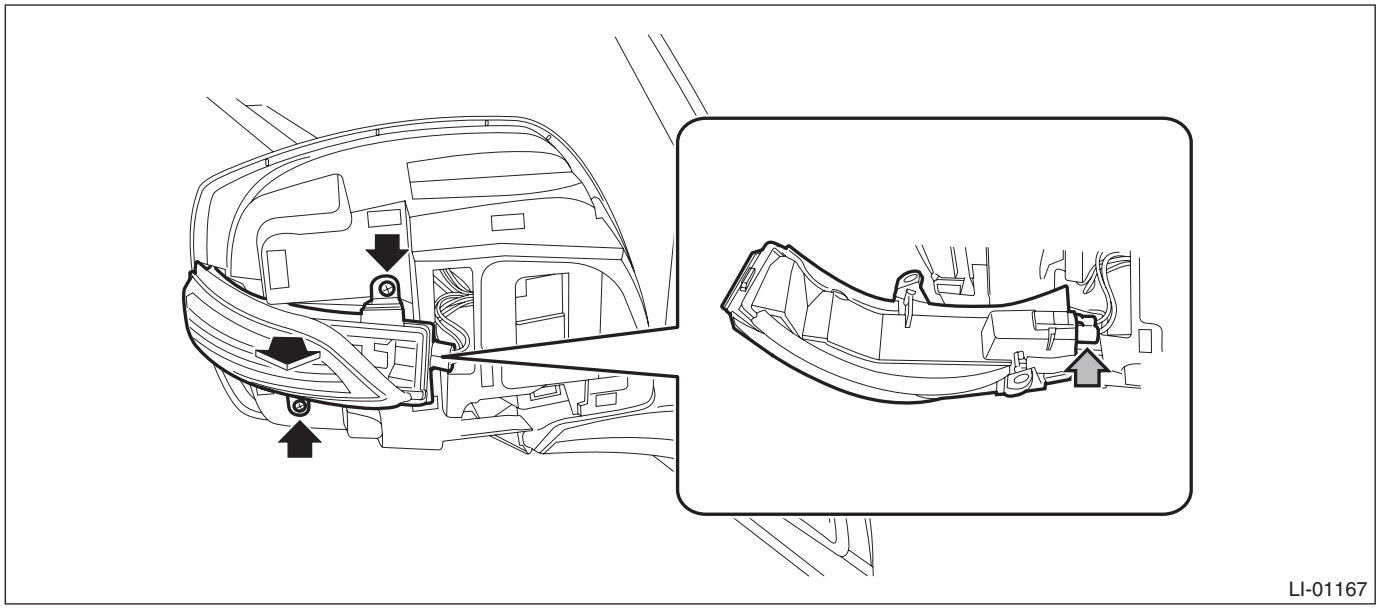
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

20.Side Turn Signal Light Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the outer mirror and scalp cap. <Ref. to GW-25, DISASSEMBLY, Outer Mirror Assembly.>
3) Remove the side turn signal light assembly.
   (1) Remove the screws and pull out the side turn signal light assembly.
   (2) Disconnect the connector and remove the side turn signal light assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Install the side turn signal light assembly and check that it blinks normally.
2) If it is found not to blink normally, replace the side turn signal light assembly with a new part.

NOTE:
Since LED (Light Emitting Diode) is used for the side turn signal light, replace the side turn signal light assembly if the LED burns out.

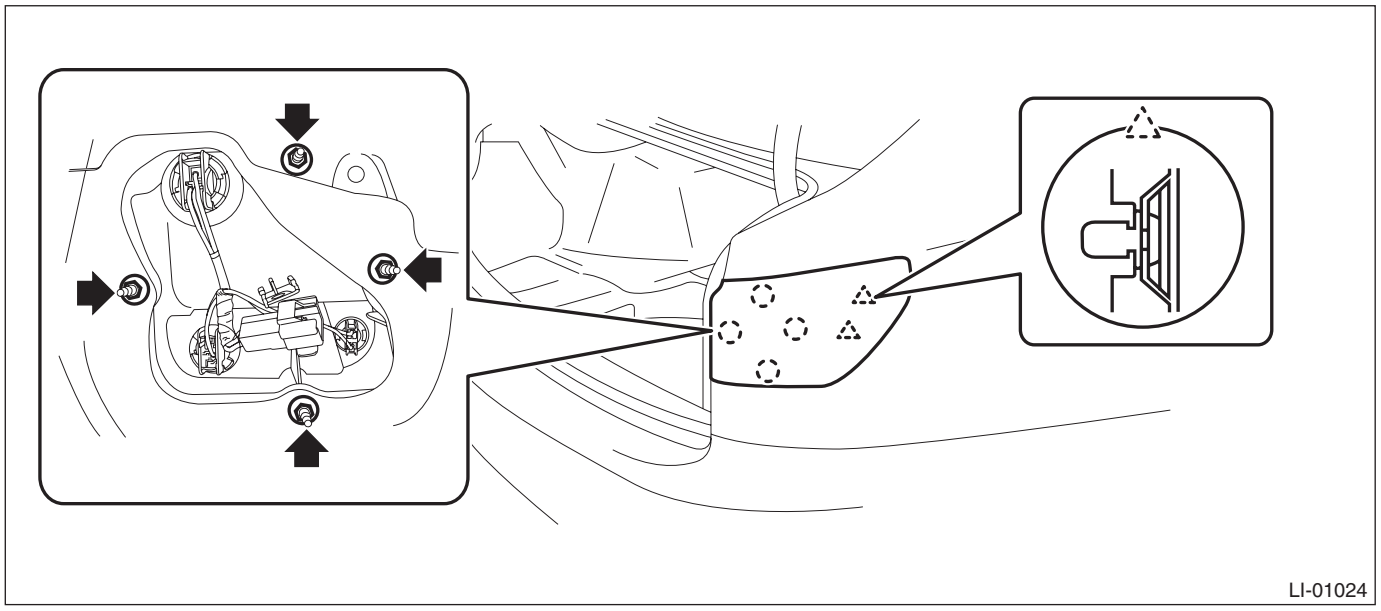
21.Rear Combination Light Assembly

A: REMOVAL

1. SEDAN MODEL

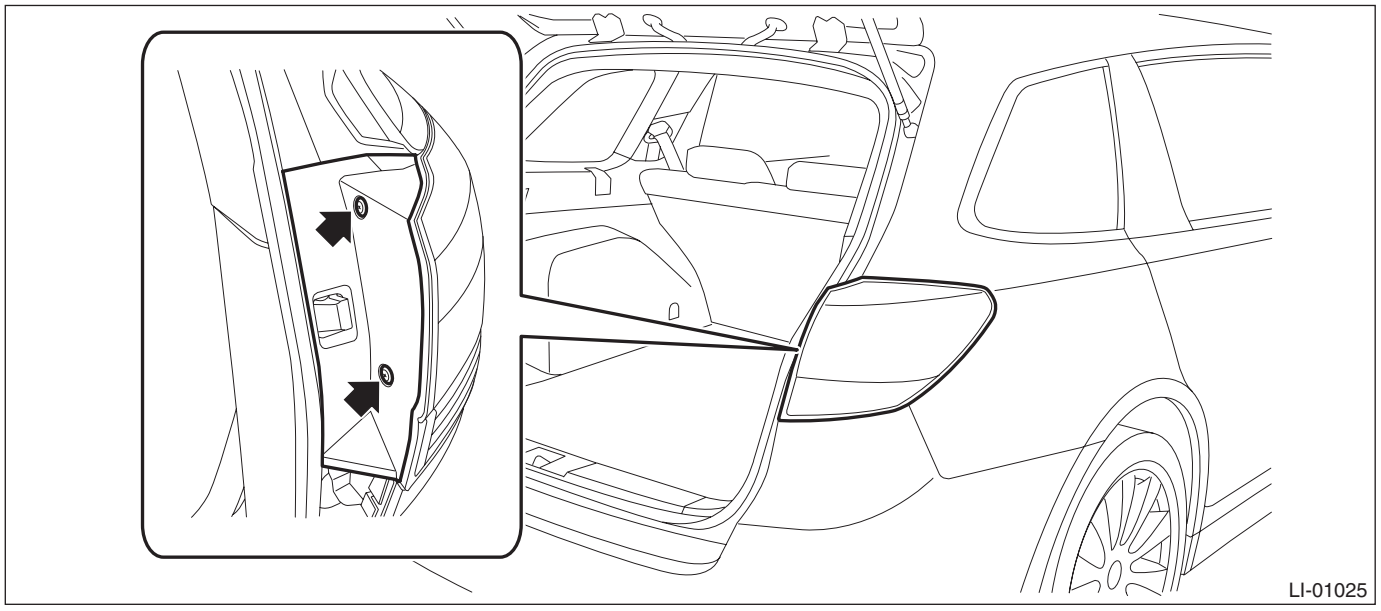
1) Disconnect the ground cable from battery.
2) Remove the trunk room trim. <Ref. to EI-130, REMOVAL, Trunk Room Trim.>
3) Remove the rear combination light assembly.
   (1) Disconnect the connector.
   (2) Release the nuts and clips, then remove the rear combination light assembly.

CAUTION:
Be careful not to damage the clips.



2. OUTBACK MODEL

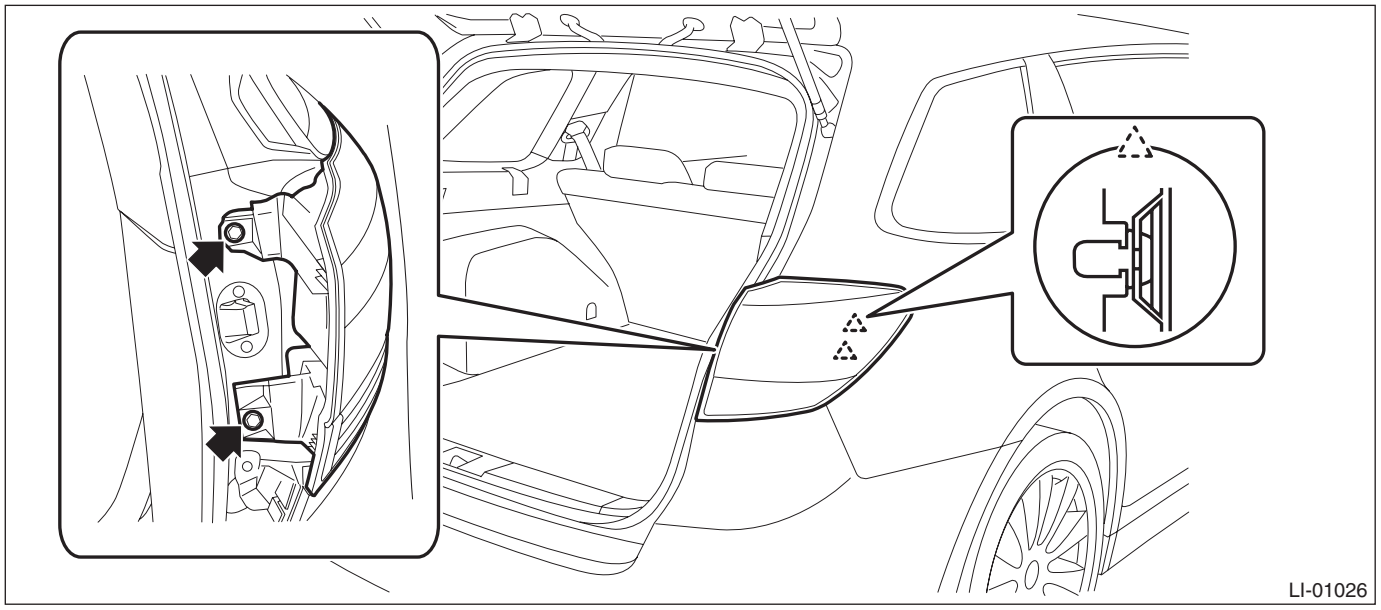
1) Disconnect the ground cable from battery.
2) Remove the clips and detach the rear combination light covers.



3) Remove the rear combination light assembly.

CAUTION:
Be careful not to damage the clips.

(1) Release the bolts and clips, then pull out the rear combination light assembly to the vehicle rear.
(2) Disconnect the connector and remove the rear combination light assembly.



B: INSTALLATION

CAUTION:
For sedan models, replace the seal gasket of the rear combination light assembly with a new part. If the seal gasket is reused, water may come inside of the vehicle.
Install each part in the reverse order of removal.

Tightening torque:
Sedan model: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)
OUTBACK model: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

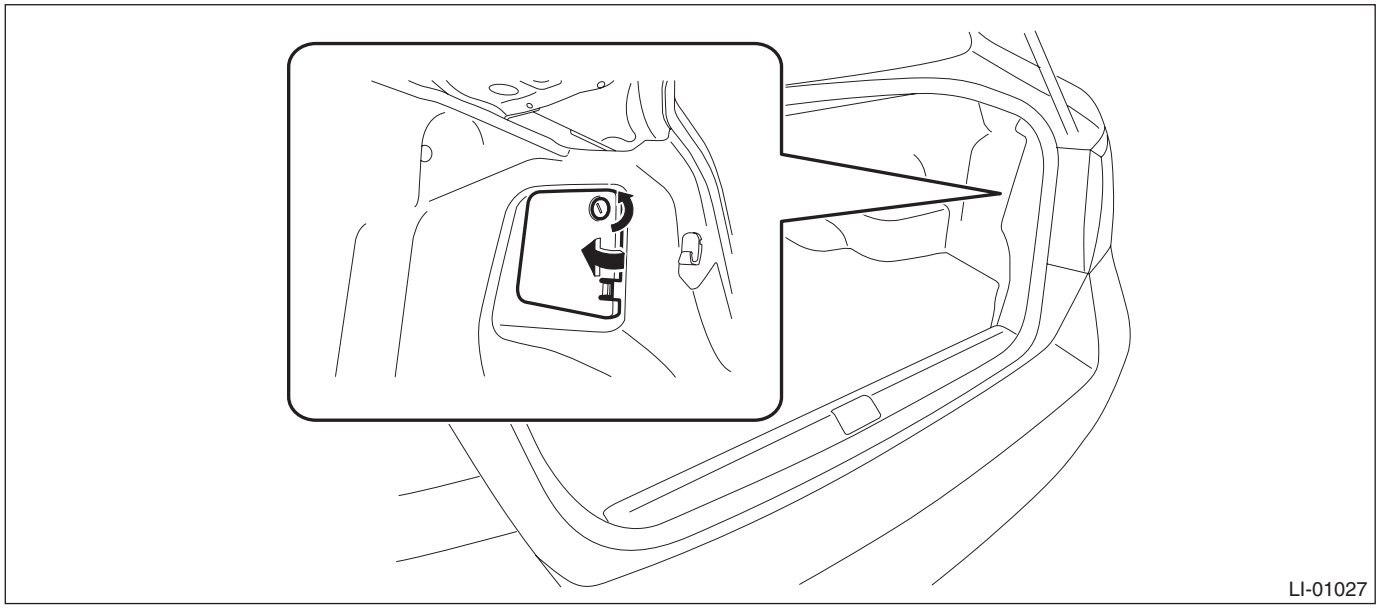
22.Tail/Stop Light Bulb

A: REMOVAL

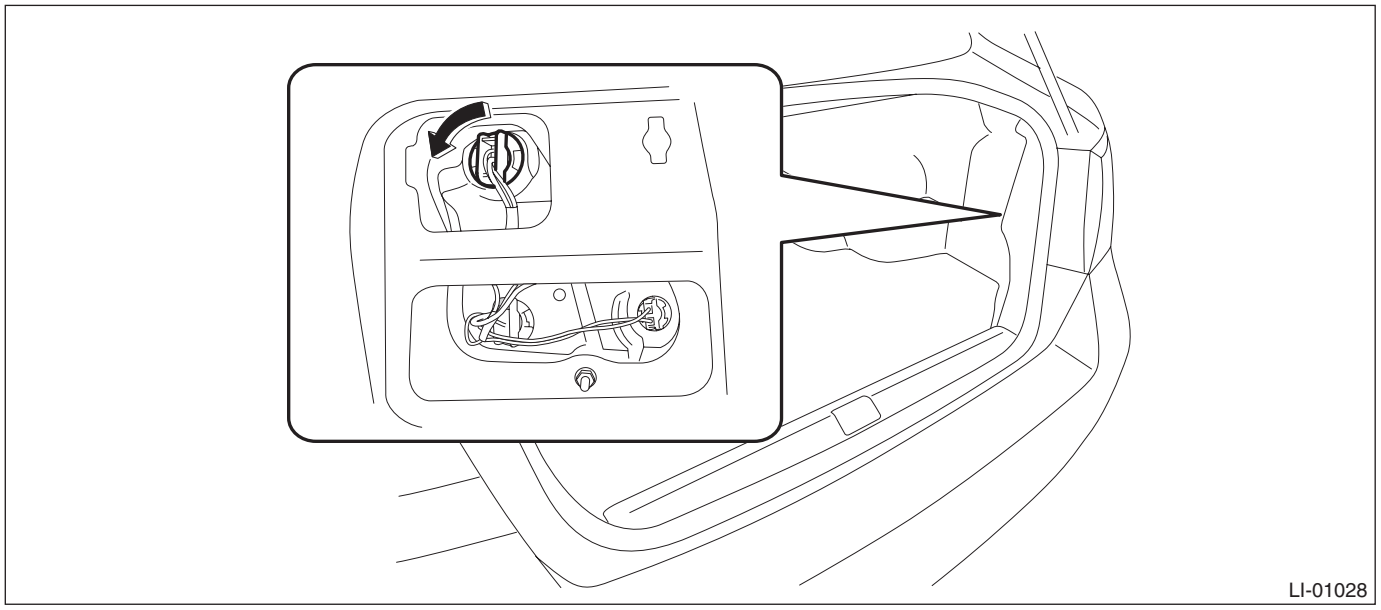
1. SEDAN MODEL

• Rear combination light side

1) Disconnect the ground cable from battery.
2) Release the lock and remove the bulb inspection cover of trunk room trim.

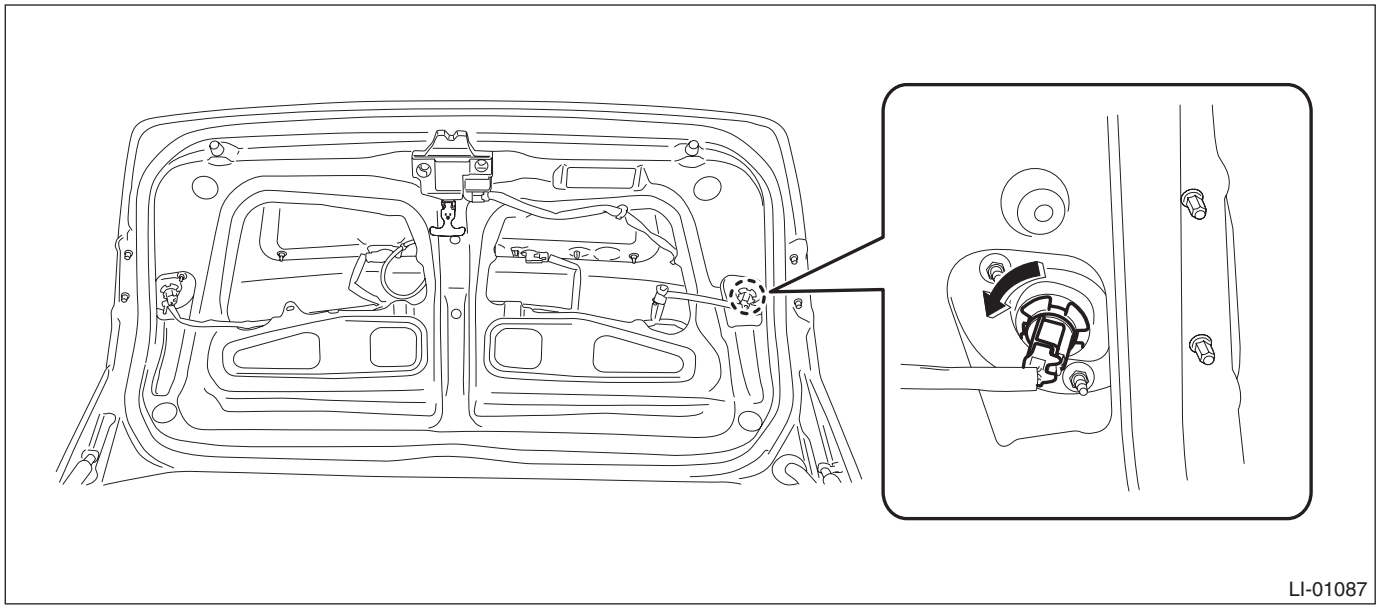


3) Remove the bulb socket and tail light/stop light bulb.



• **Rear finisher light side**

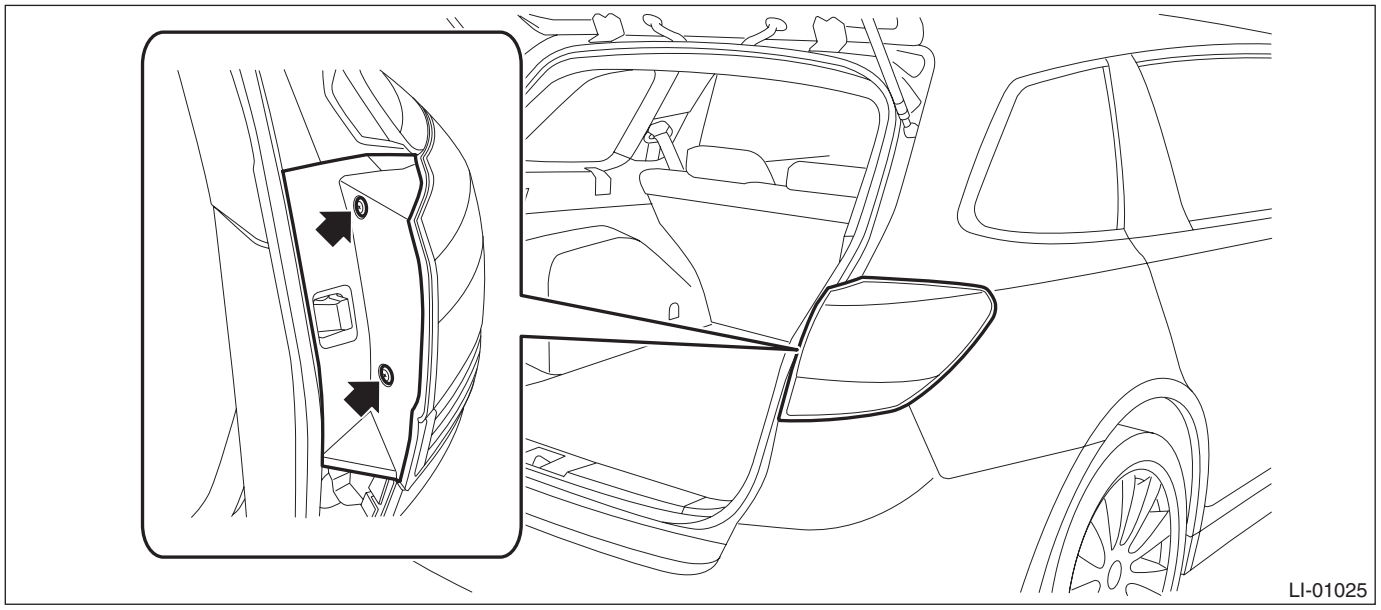
1) Disconnect the ground cable from battery.
2) Remove the trunk lid trim. <Ref. to EI-130, TRUNK LID TRIM, REMOVAL, Trunk Room Trim.>
3) Remove the bulb socket and tail light bulb.



2. OUTBACK MODEL

• **Rear combination light side**

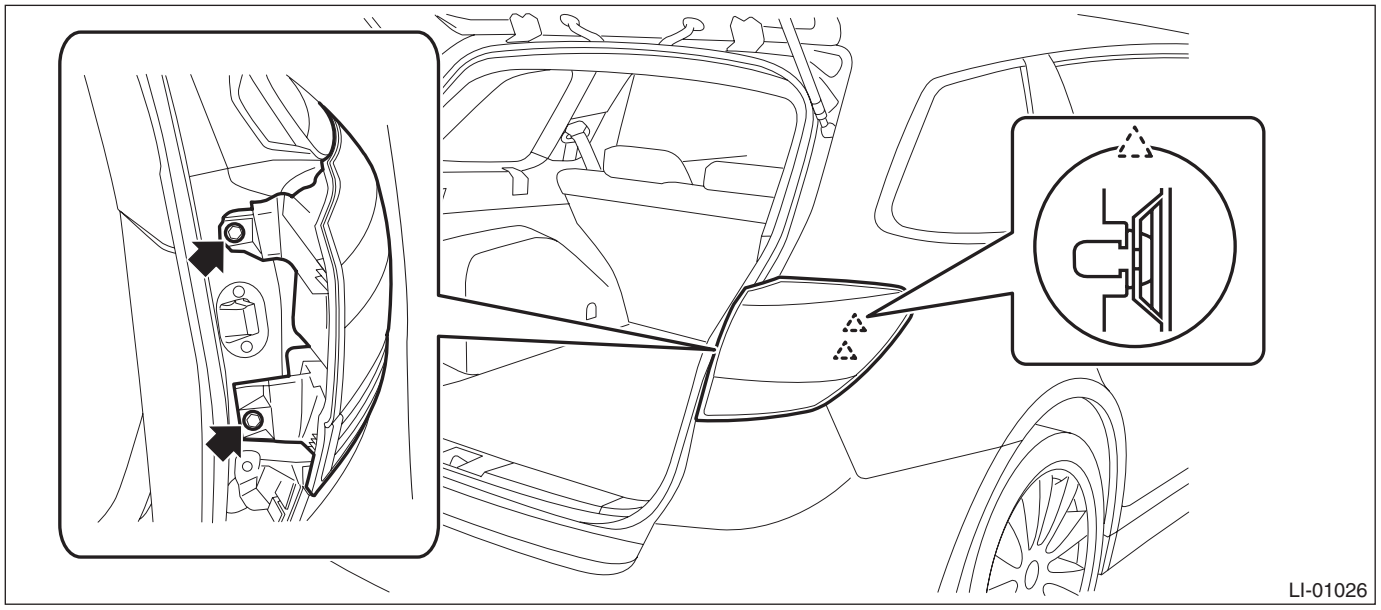
1) Disconnect the ground cable from battery.
2) Remove the clips and detach the rear combination light covers.



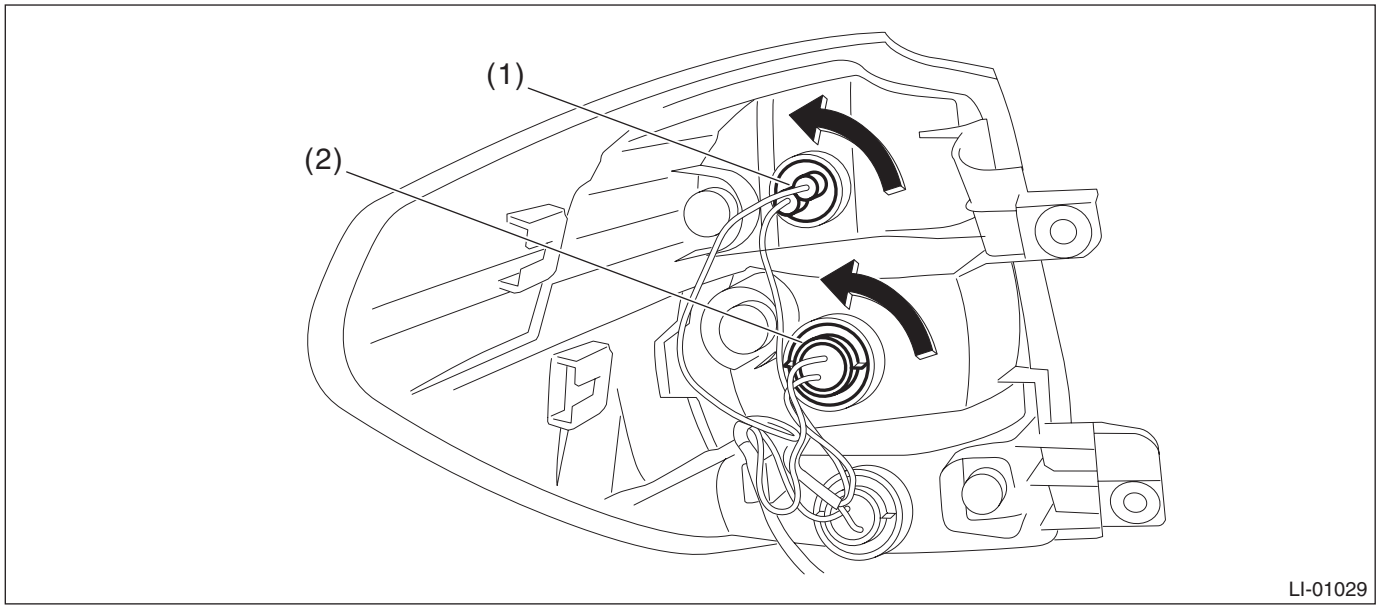
3) Remove the rear combination light assembly.

CAUTION:
Be careful not to damage the clips.

(1) Release the bolts and clips, then pull out the rear combination light assembly to the vehicle rear.
(2) Disconnect the connector and remove the rear combination light assembly.



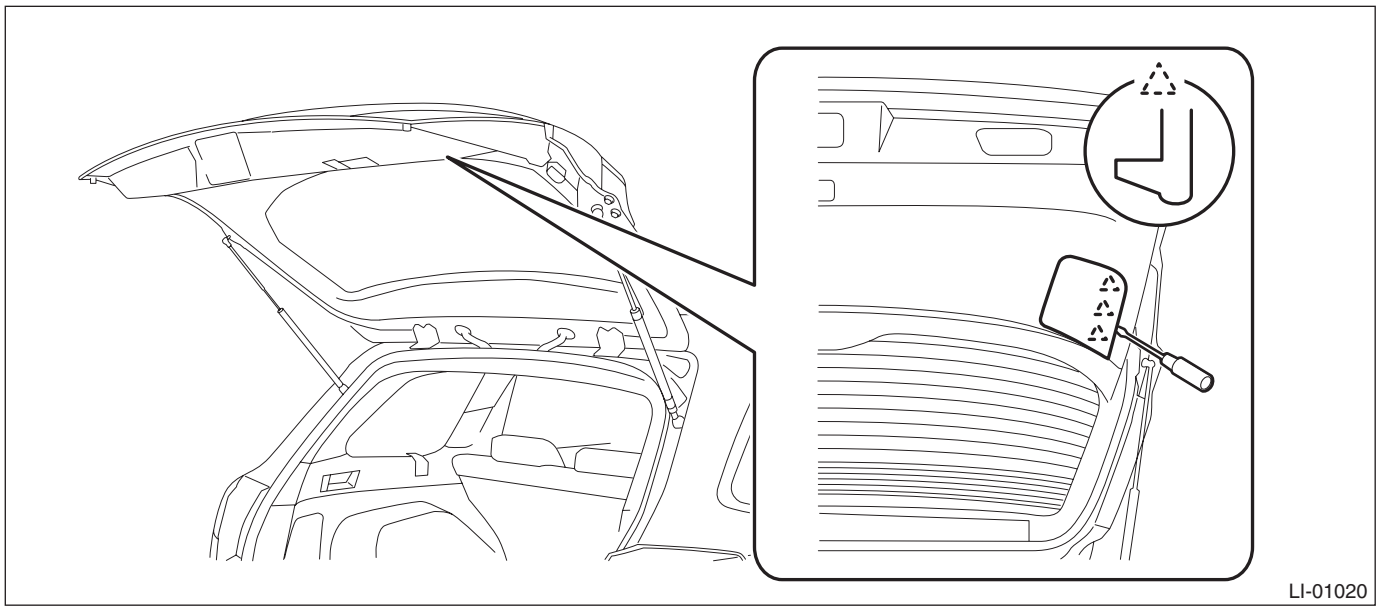
4) Remove the bulb sockets and bulbs.



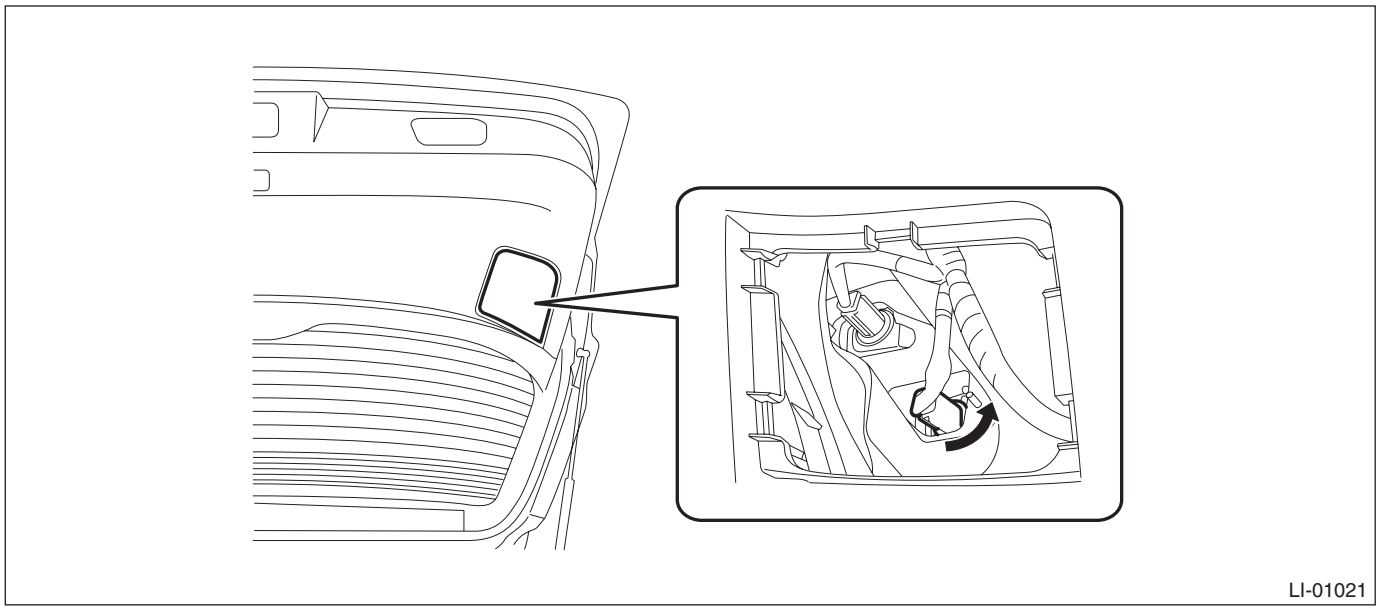
(1) Tail light bulb
(2) Stop light bulb

- **Rear finisher light side**

1) Release the claws and remove the bulb inspection cover of rear gate trim



2) Remove the bulb socket and tail light bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Rear combination light ASSY: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

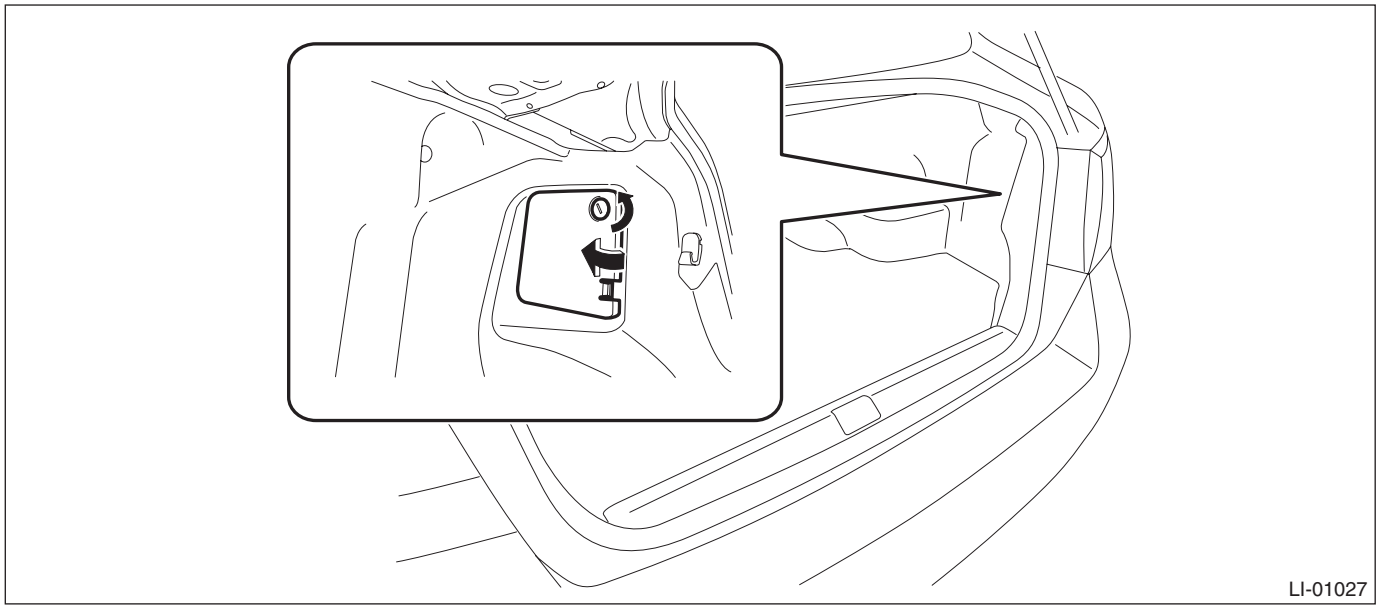
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

23.Rear Turn Signal Light Bulb

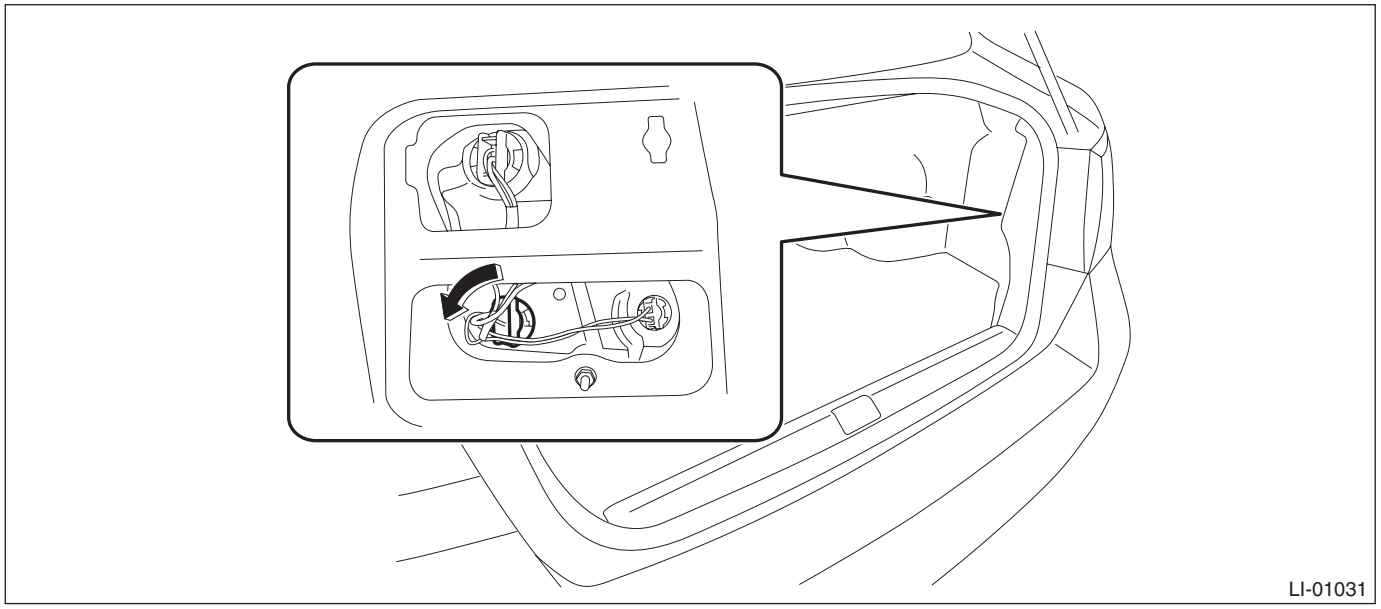
A: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Release the lock and remove the bulb inspection cover of trunk room trim.

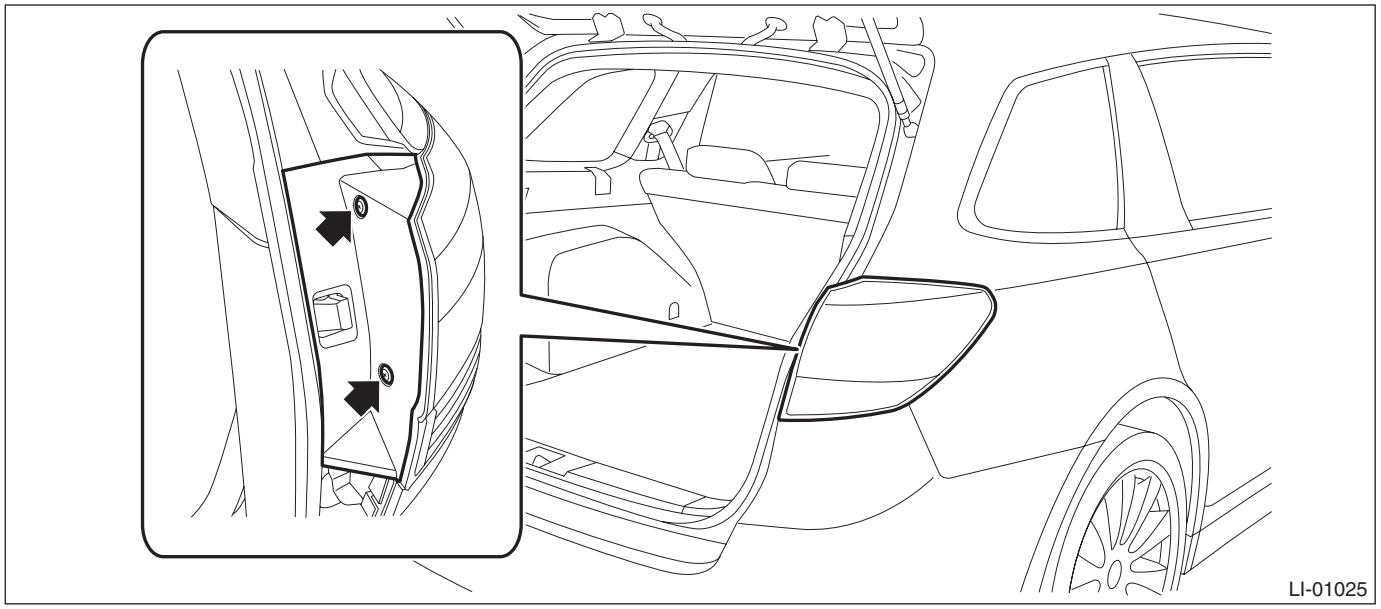


3) Remove the bulb socket and rear turn signal light bulb.



2. OUTBACK MODEL

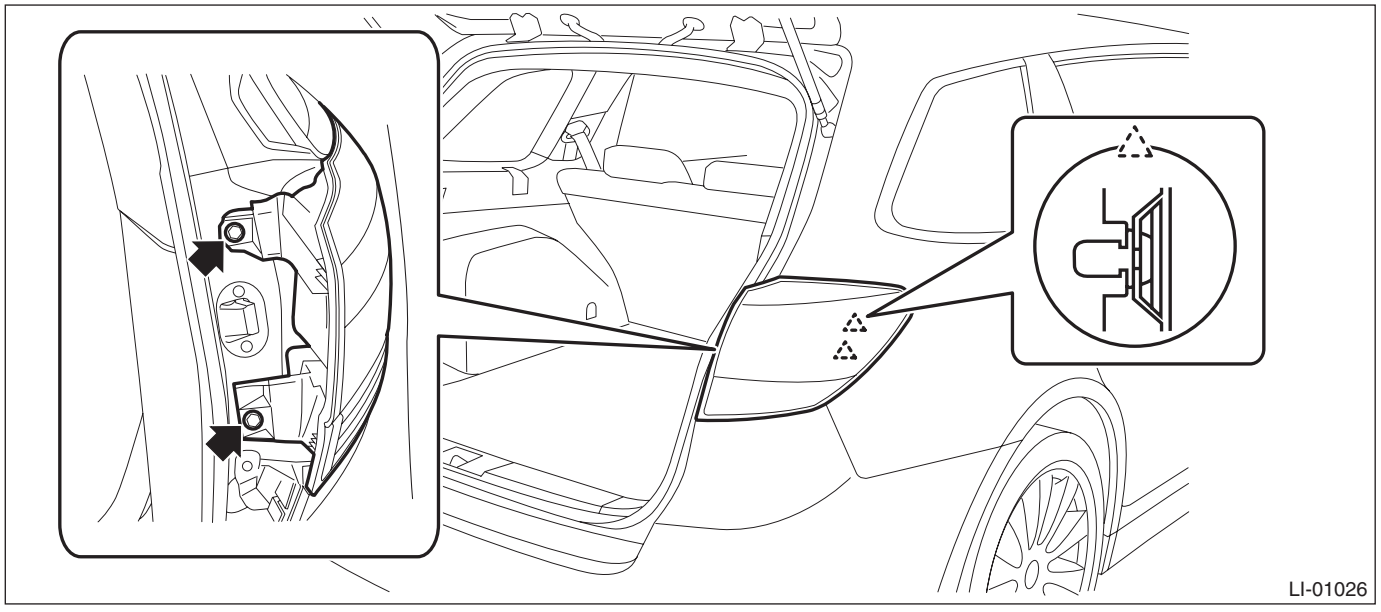
1) Disconnect the ground cable from battery.
2) Remove the clips and detach the rear combination light covers.



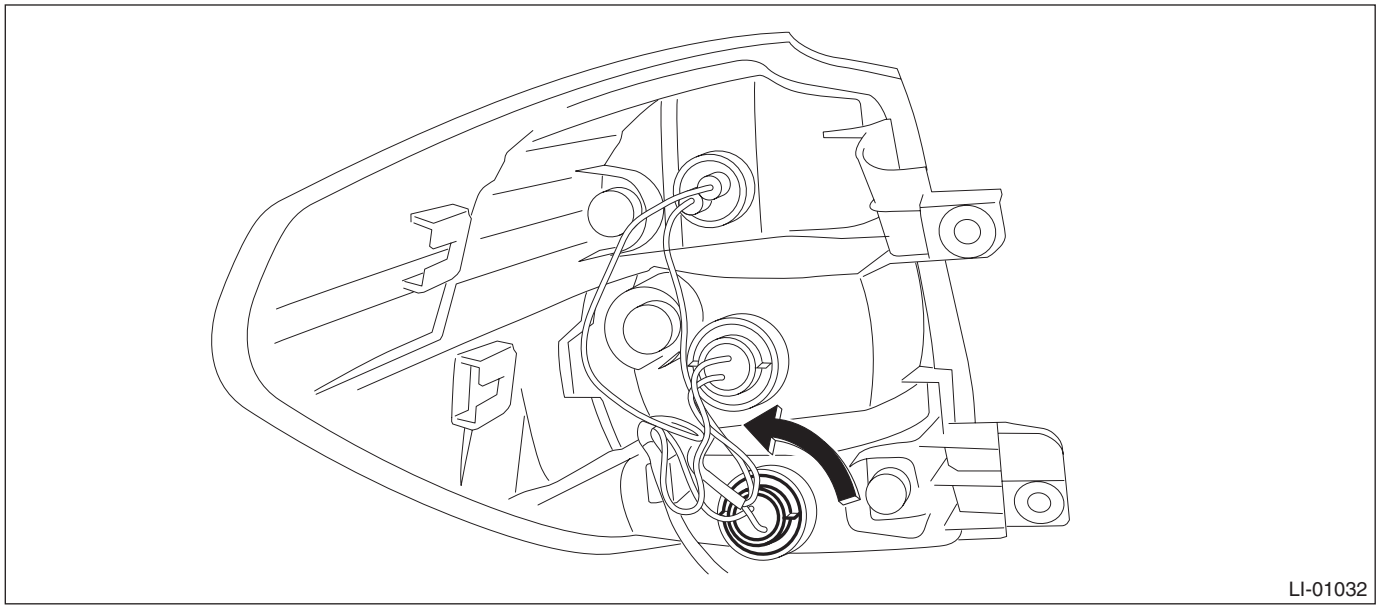
3) Remove the rear combination light assembly.

CAUTION:
Be careful not to damage the clips.

(1) Release the bolts and clips, then pull out the rear combination light assembly to the vehicle rear.
(2) Disconnect the connector and remove the rear combination light assembly.



4) Remove the bulb socket and rear turn signal light bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Rear combination light ASSY: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

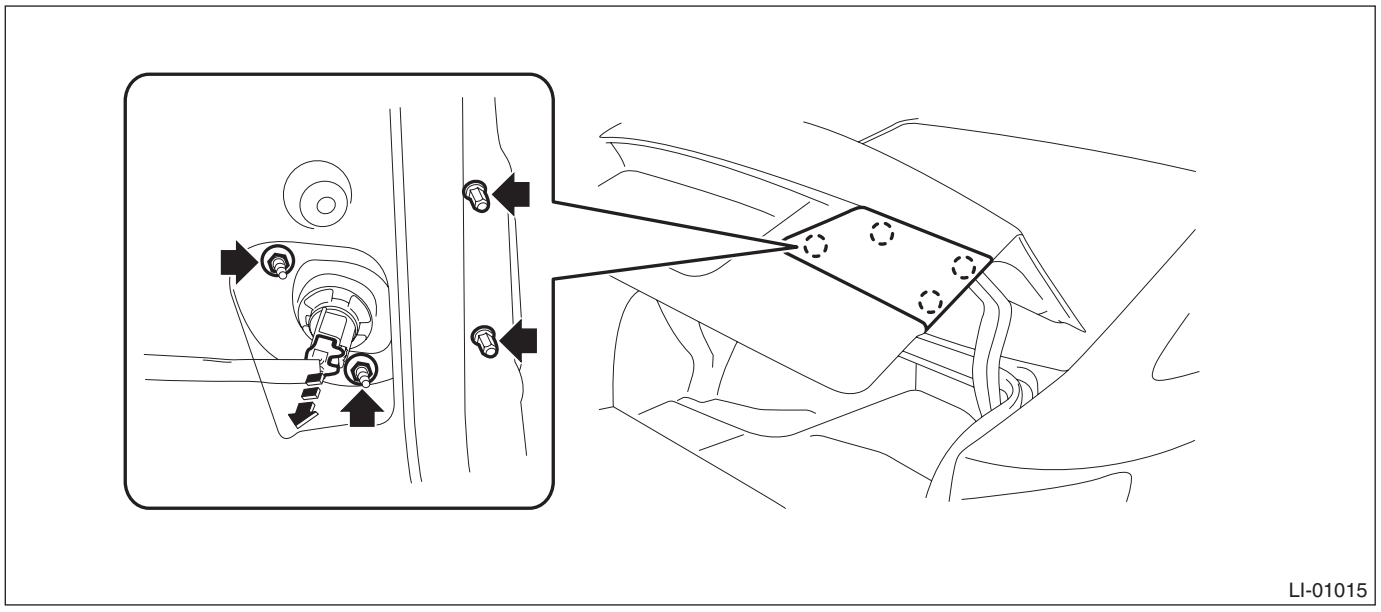
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

24.Rear Finisher Light Assembly

A: REMOVAL

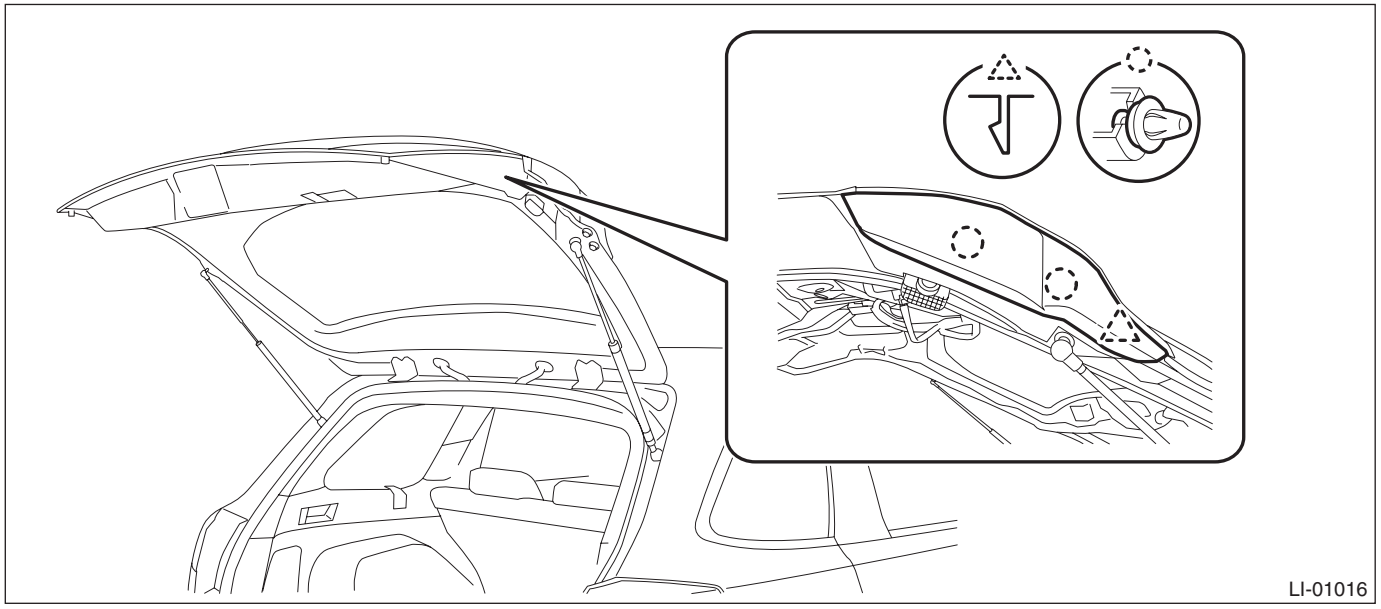
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the trunk lid trim. <Ref. to EI-130, REMOVAL, Trunk Room Trim.>
3) Remove the rear finisher light assembly.
   (1) Disconnect the connector.
   (2) Remove the nuts and bolts and remove the rear finisher light assembly.

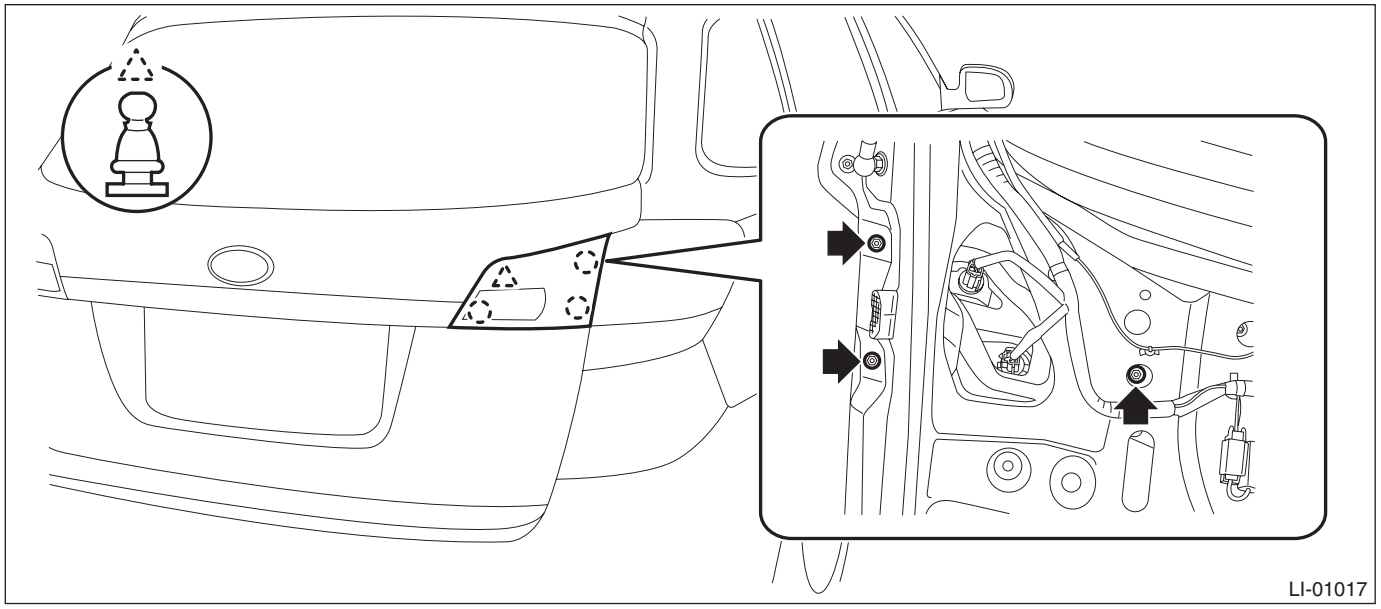


2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-166, REMOVAL, Rear Gate Trim.>
3) Remove the rear gate garnish. <Ref. to EI-171, REMOVAL, Rear Gate Garnish.>
4) Release the clips and claws, then detach the rear finisher light side cover.



5) Remove the rear finisher light assembly.
   (1) Disconnect the connector.
   (2) Remove the nuts and release the pin, then remove the rear finisher light assembly.



B: INSTALLATION

CAUTION:
Replace the body seal gasket with a new part.
Install each part in the reverse order of removal.

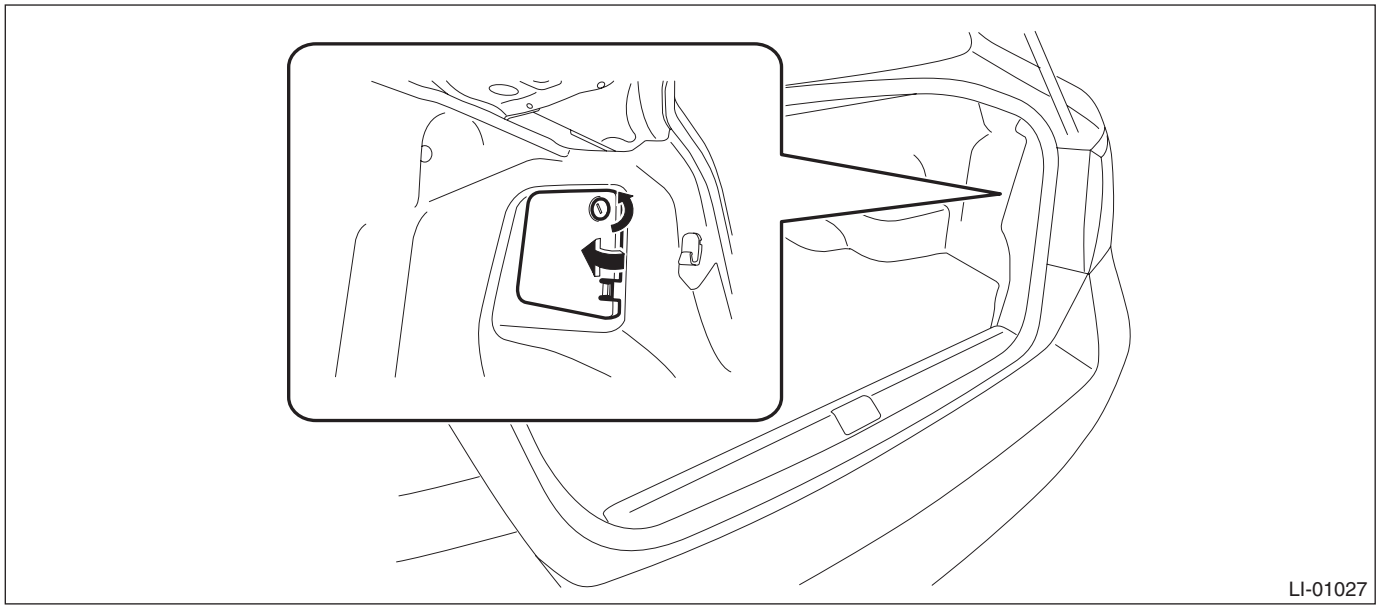
Tightening torque:
Rear finisher light assembly: 4.5 N·m (0.45 kgf-m, 3.3 ft-lb)

25.Back-up Light Bulb

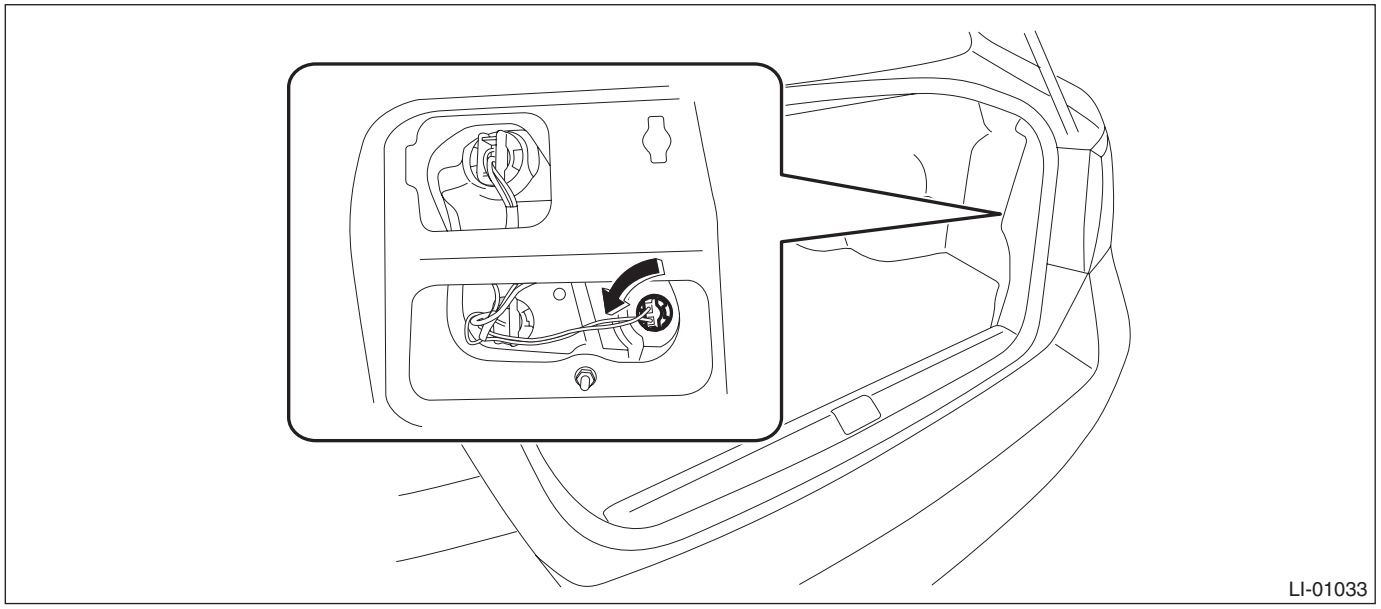
A: REMOVAL

1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Release the lock and remove the bulb inspection cover of trunk room trim.

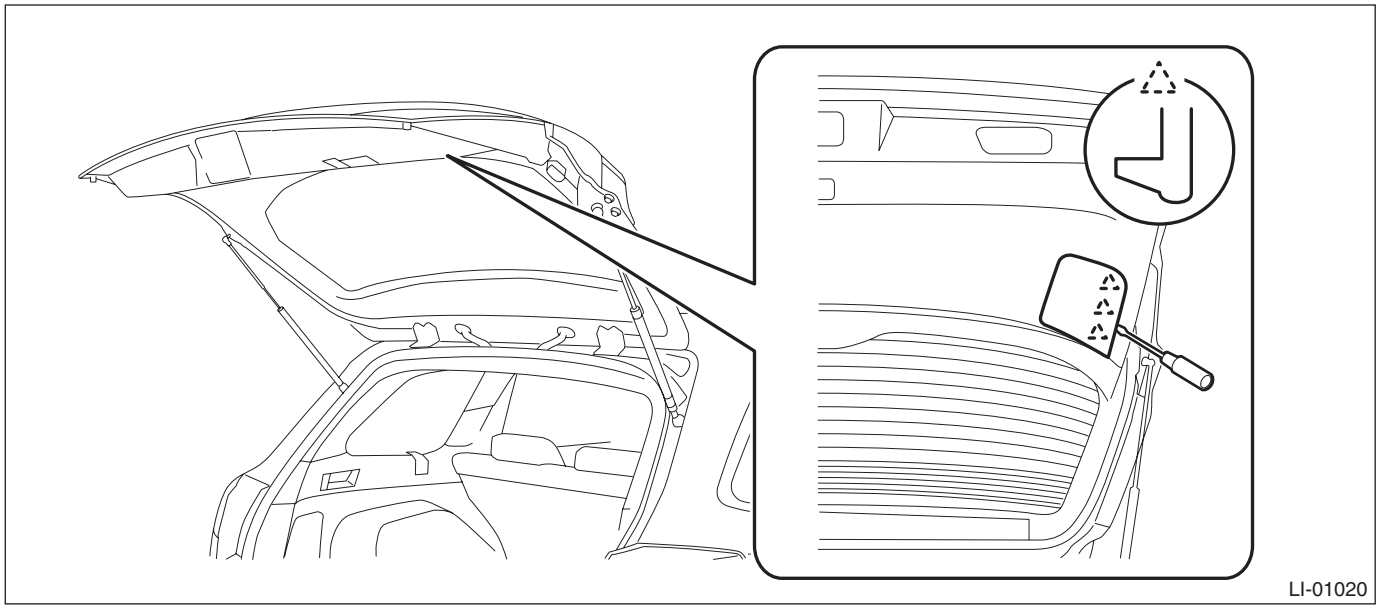


3) Remove the bulb socket and back-up light bulb.

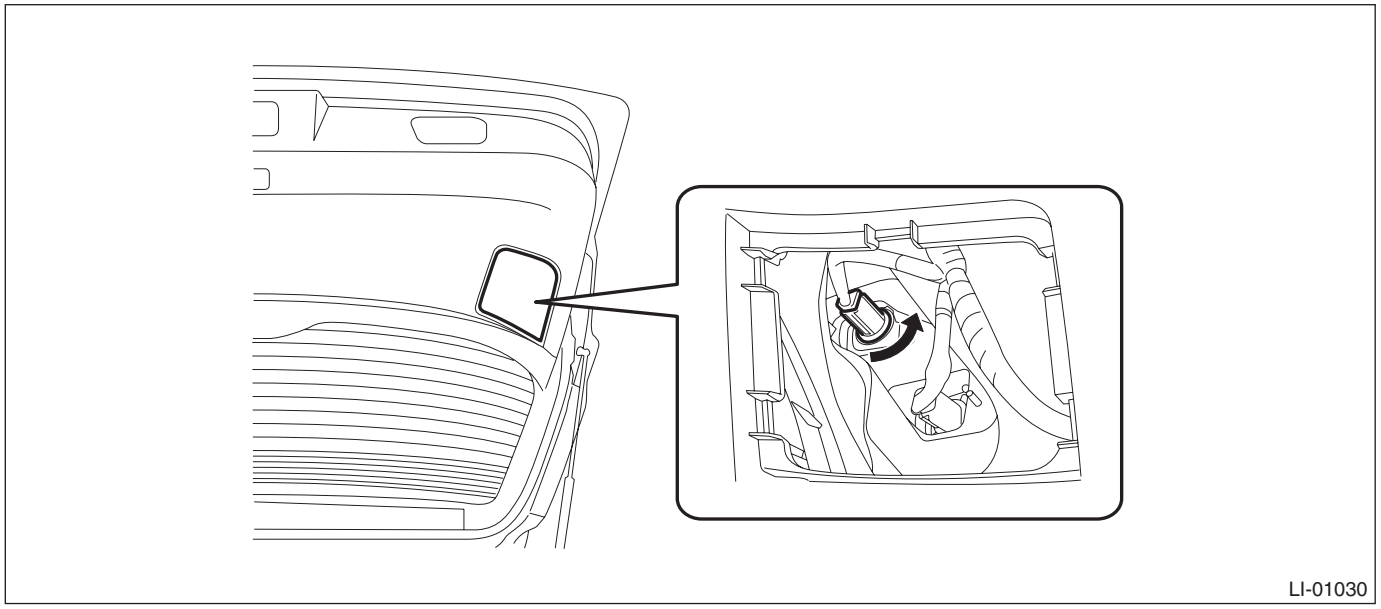


2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Release the claws and remove the bulb inspection cover of rear gate trim



3) Remove the bulb socket and back-up light bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

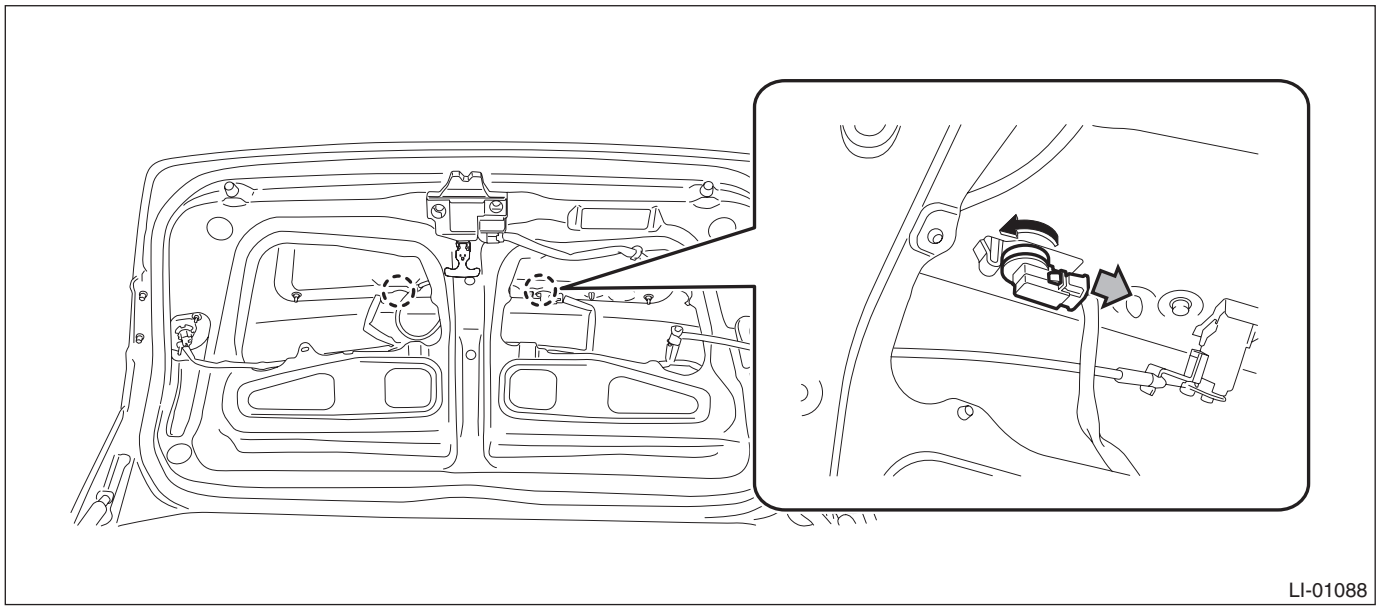
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

26.License Plate Light

A: REMOVAL

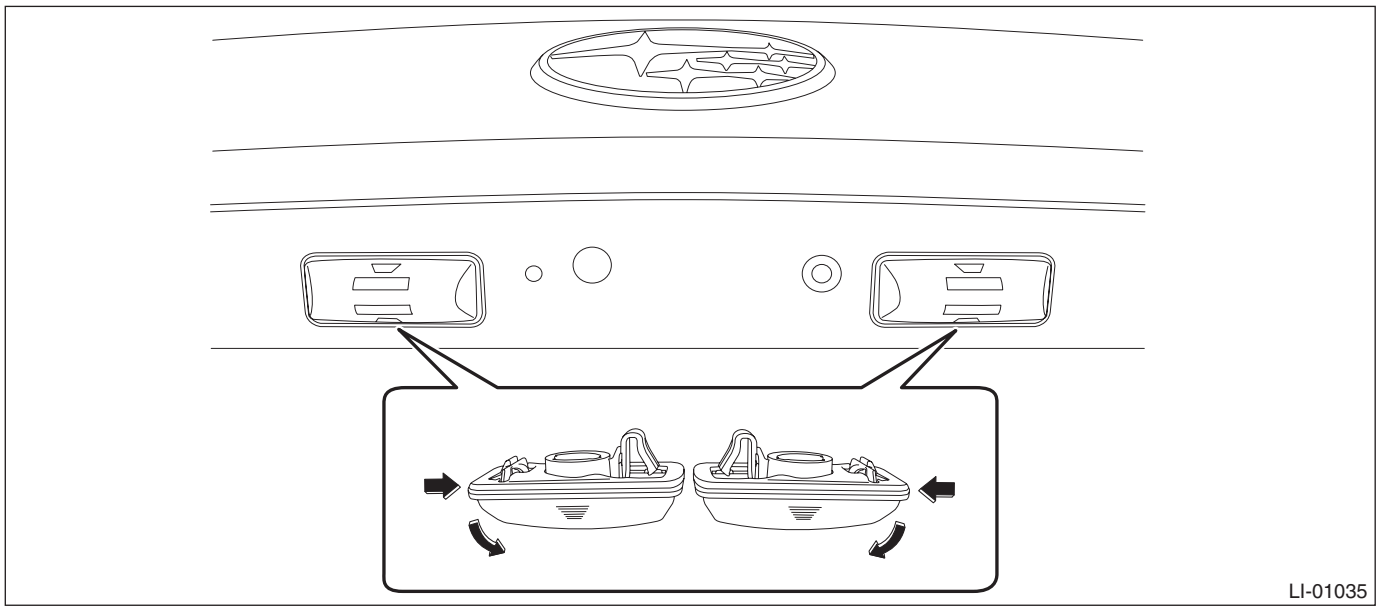
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the trunk lid trim. <Ref. to EI-130, TRUNK LID TRIM, REMOVAL, Trunk Room Trim.>
3) Remove the trunk lid garnish. <Ref. to EI-170, REMOVAL, Trunk Lid Garnish.>
4) Disconnect the connector and remove the bulb socket.



LI-01088

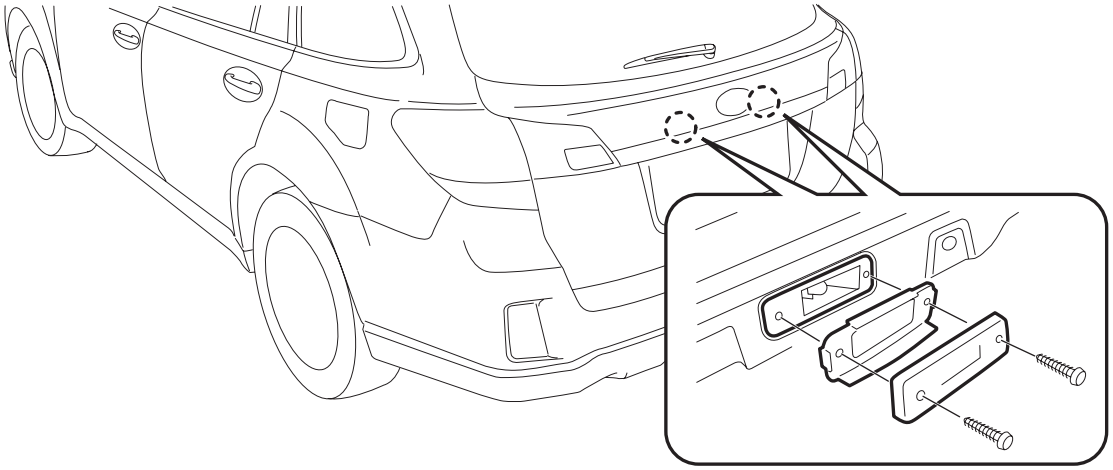
5) Remove the license plate light.



LI-01035

2. OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the screws and remove the license plate light.



NOTE:
When removing the license plate light assembly harness, remove the following parts.
- Rear gate garnish: <Ref. to EI-171, REMOVAL, Rear Gate Garnish.>
- Rear gate opener button: <Ref. to SL-51, REMOVAL, Rear Gate Opener Button.>
- Rear lock button (model with keyless access): <Ref. to SL-100, REMOVAL, Rear Lock Button.>
- Rear exterior antenna connector (model with keyless access): <Ref. to SL-97, REAR ANTENNA, REMOVAL, Keyless Access Outdoor Antenna.>

B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

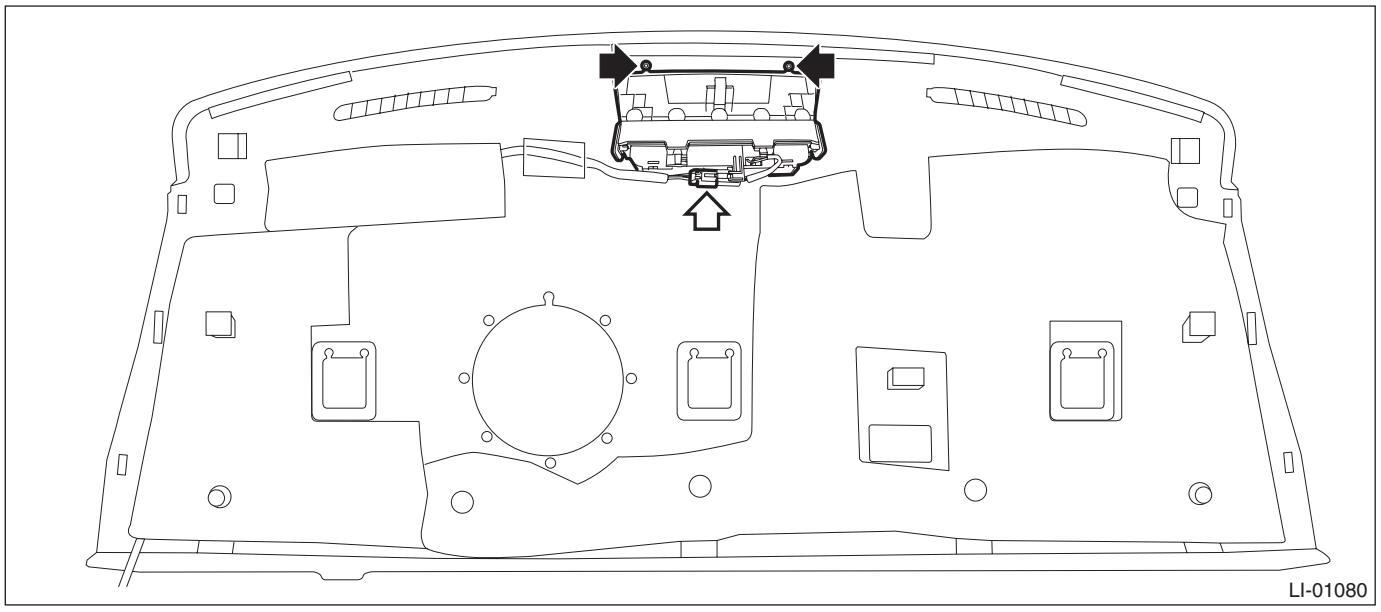
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

27.High-mounted Stop Light

A: REMOVAL

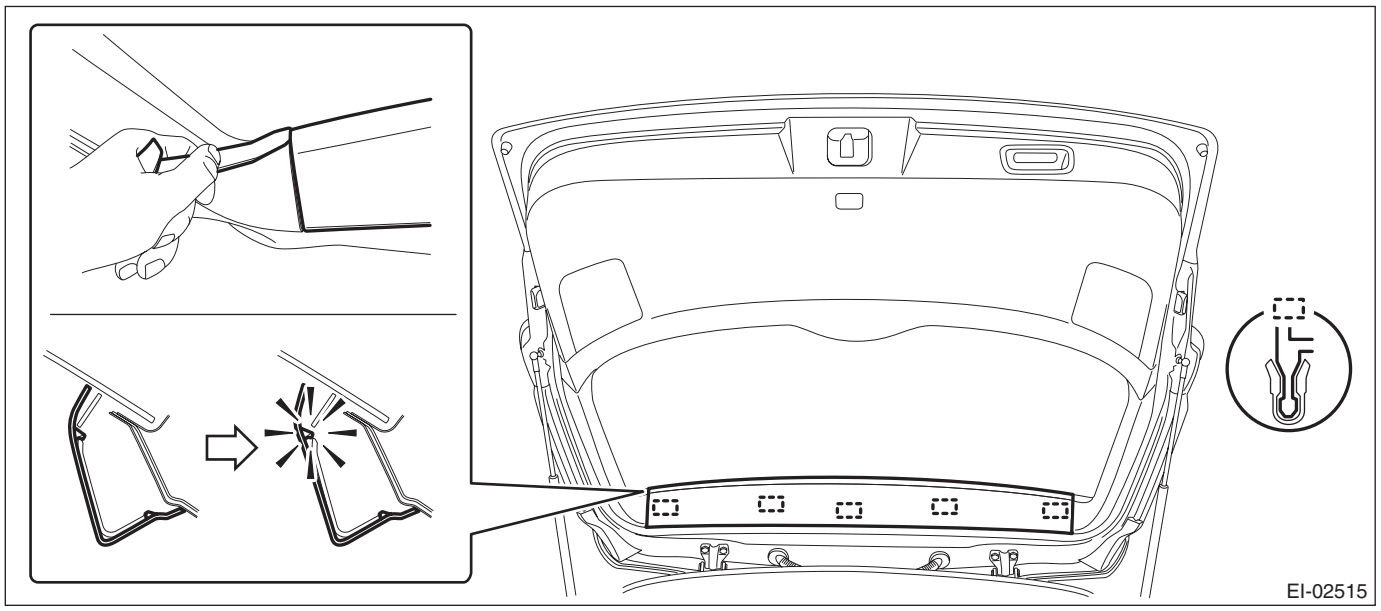
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear shelf trim. <Ref. to EI-123, REMOVAL, Rear Shelf Trim.>
3) Remove the high-mounted stop light.
   (1) Disconnect the connector.
   (2) Remove the lock washers and remove the high-mounted stop light.

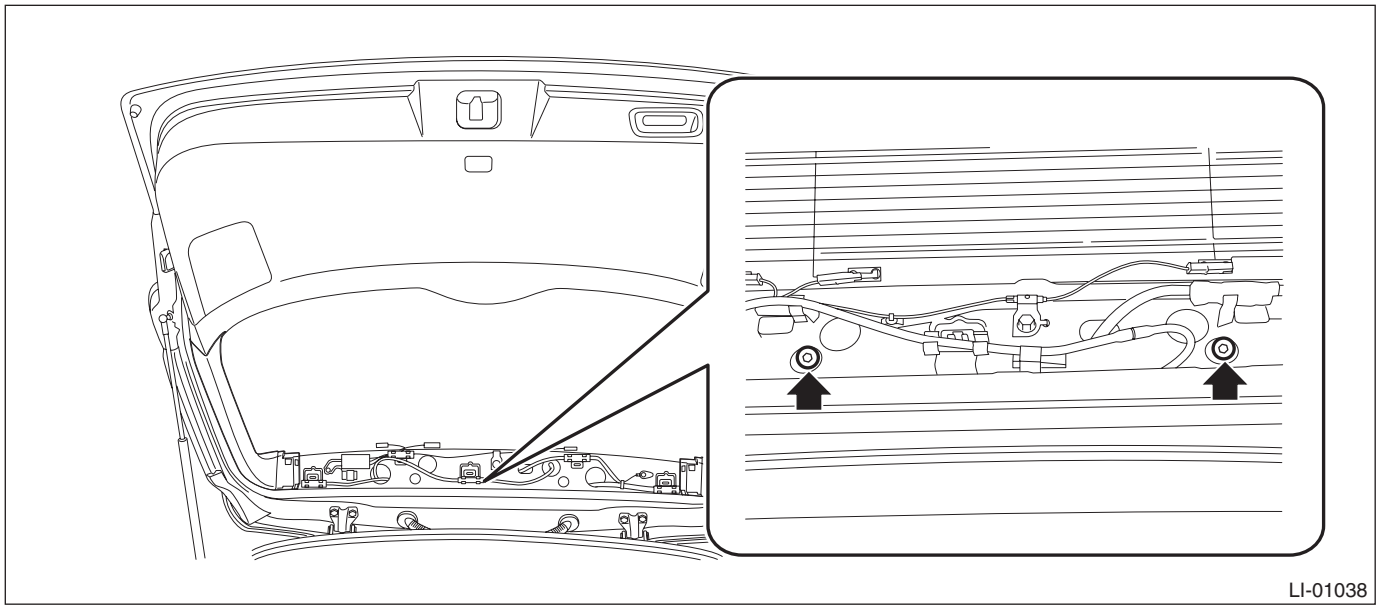


2. OUTBACK MODEL

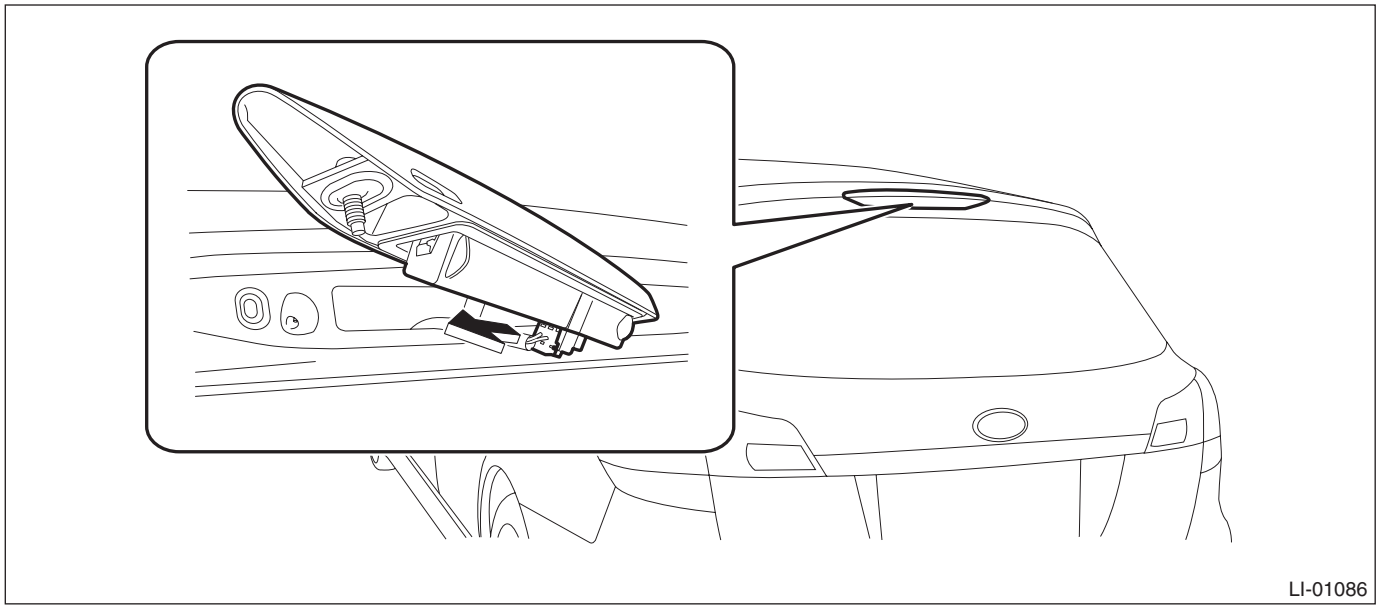
1) Disconnect the ground cable from battery.
2) Remove the rear gate upper trim.
   (1) Release the claws in the trim end.
   (2) Disconnect the claws in the center of trim, and remove the rear gate upper trim.



3) Remove the high-mounted stop light.
(1) Remove the nuts and take out the high-mounted stop light toward vehicle rear.


LI-01038

(2) Disconnect the connector and remove the high-mounted stop light.


LI-01086

B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
High-mounted stop light: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

C: INSPECTION

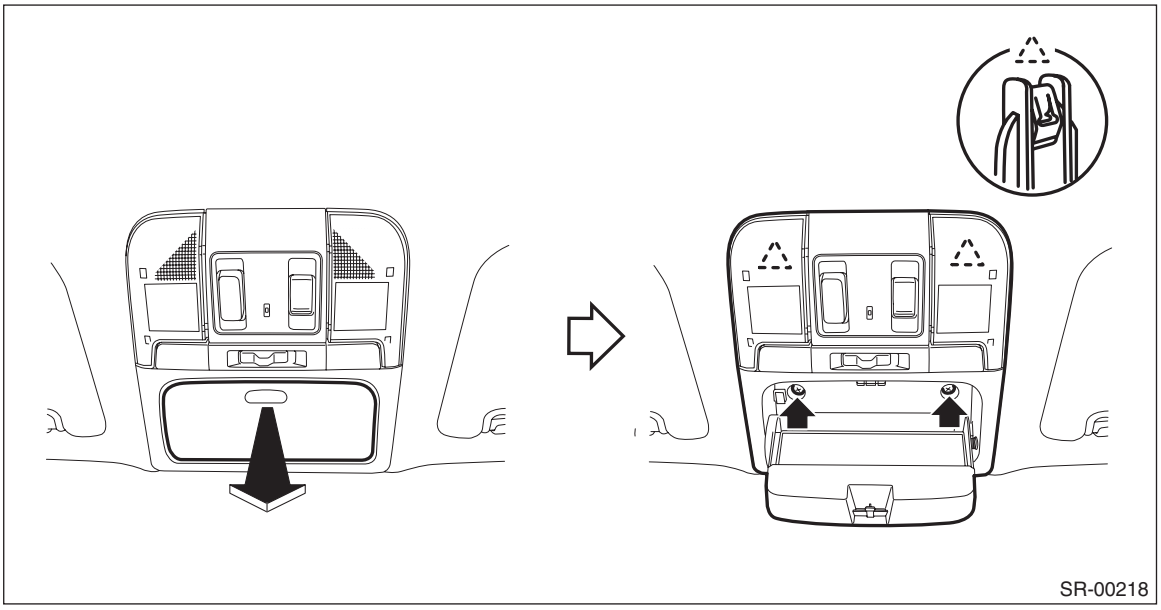
1) Install the high-mounted stop light to test if it illuminates normally.
2) If it fails to illuminate normally, replace the high-mounted stop light with a new part.

NOTE:
Since LED (Light Emitting Diode) is used for the high-mounted stop light, replace the high-mounted stop light assembly if the LED burns out.

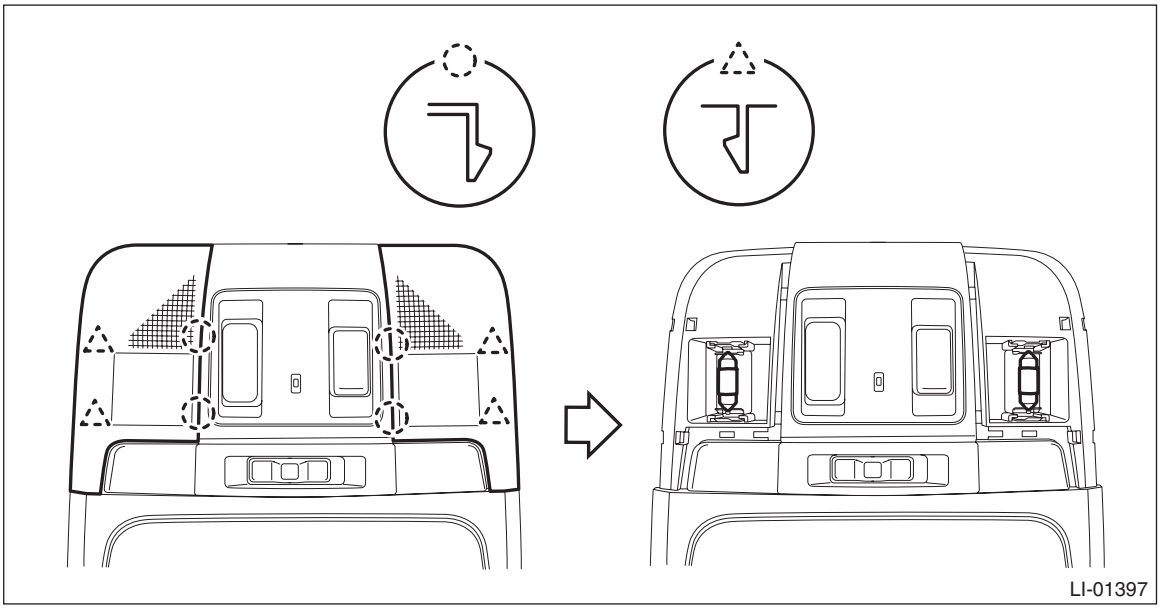
28.Spot Map Light

A: REMOVAL

NOTE:
The spot map light is a single unit with the overhead console or stereo camera cover.
1) Disconnect the ground cable from battery.
2) Remove the overhead console assembly. (Models without EyeSight)
   (1) Push and open the rear end of the overhead console lid, and remove the screws.
   (2) Remove the clips and pull out the overhead console to disconnect the connectors.



3) Remove the stereo camera cover assembly. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>
4) Release the claws, then detach the spot map light cover and bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1. SPOT MAP LIGHT BULB

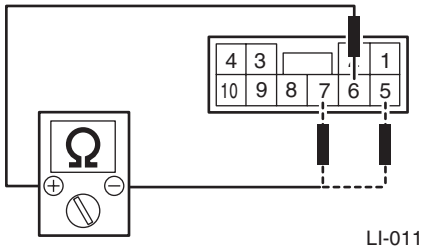
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

2. SPOT MAP LIGHT SWITCH

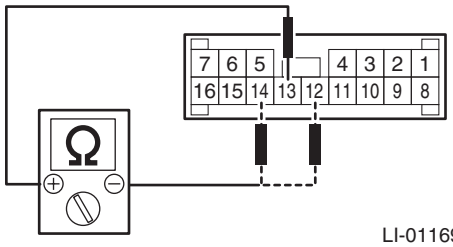
1) Remove the overhead console assembly.
2) Measure the resistance between spot map light switch terminals.

Preparation tool:
Circuit tester

- Models without EyeSight

Terminal No.	Inspection conditions	Standard	Connection diagram
—	Switch OFF	1 MΩ or more	—
6 — 5	Switch ON	Less than 1 Ω	
6 — 7	Switch door	Less than 1 Ω	

- Models with EyeSight

Terminal No.	Inspection conditions	Standard	Connection diagram
—	Switch OFF	1 MΩ or more	—
13 — 12	Switch ON	Less than 1 Ω	
13 — 14	Switch door	Less than 1 Ω	

3) Replace the overhead console assembly or stereo camera cover assembly if the inspection result is not within the standard value.

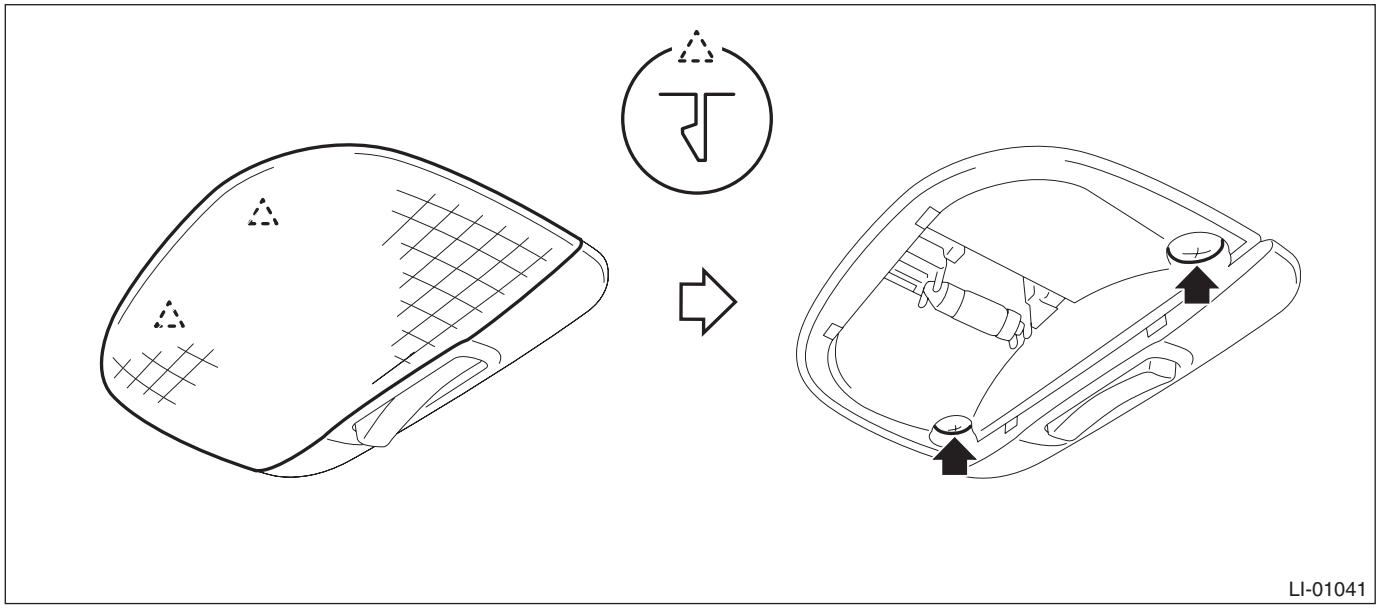
3. OVERHEAD CONSOLE ILLUMINATION LIGHT BULB

NOTE:
Since LEDs (Light Emitting Diode) are used for the overhead console illumination light bulb, replace the overhead console assembly if an LED burns out.

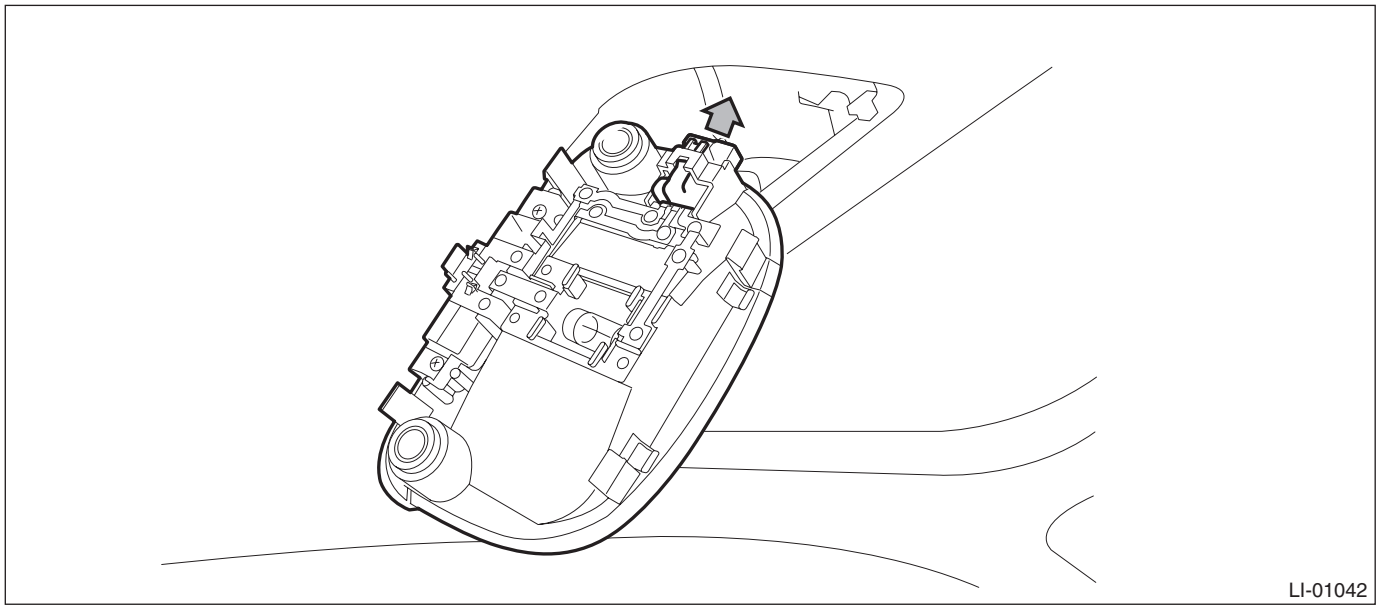
29.Room Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the room light.
   (1) Release the claws and remove the cover.
   (2) Remove the screws.



   (3) Disconnect the connector and remove the room light and bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

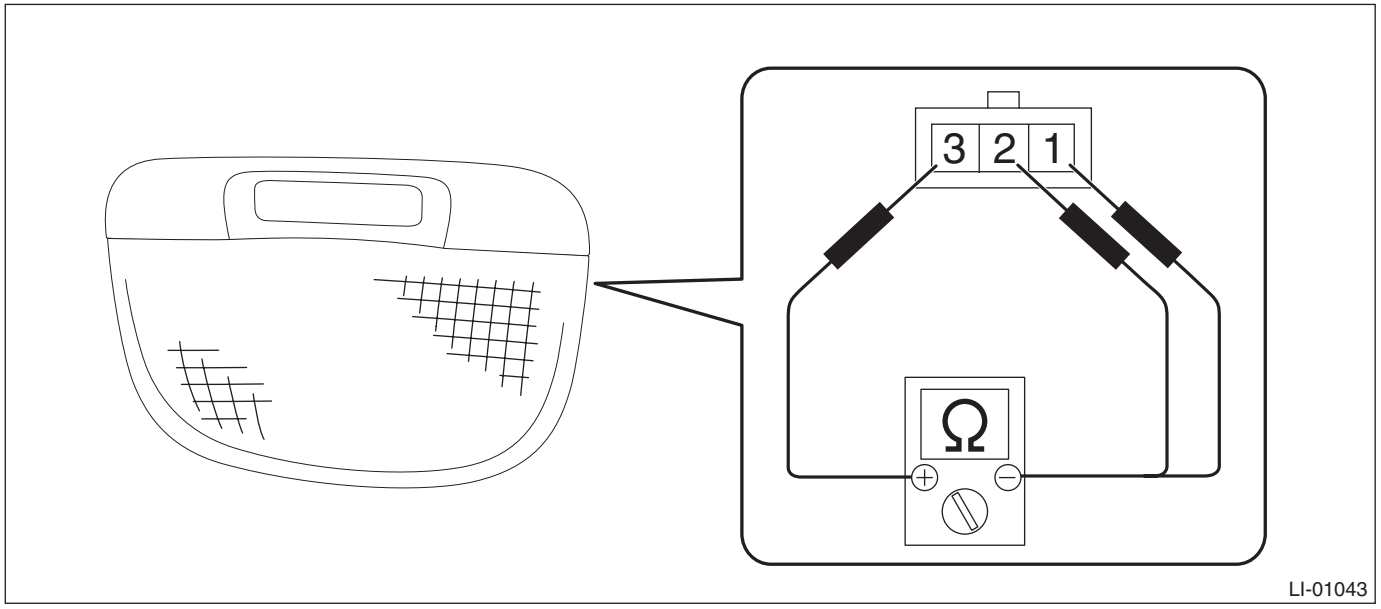
1. ROOM LIGHT BULB

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

2. ROOM LIGHT SWITCH

1) Remove the room light.
2) Measure the resistance between room light switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection Conditions	Standard
—	Switch OFF	1 MΩ or more
1 — 3	Switch ON	Less than 1 Ω
2 — 3	Switch door	Less than 1 Ω

3) Apply battery voltage to check the lighting condition of room light.

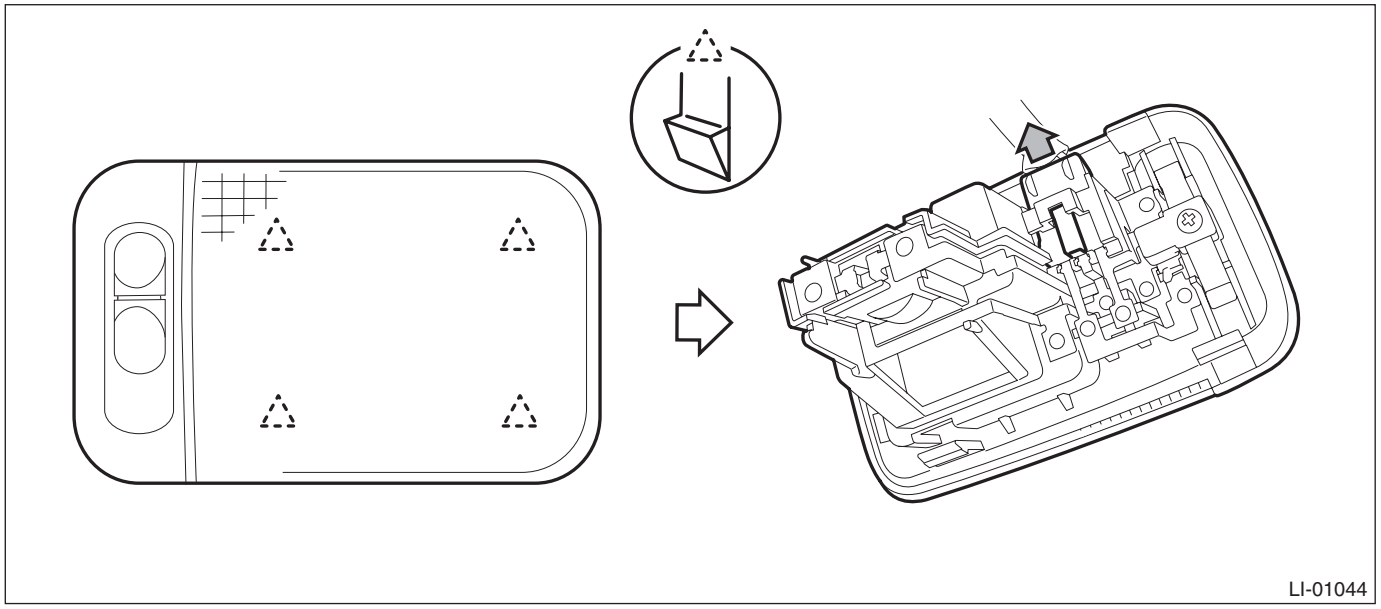
Terminal No.	Inspection Conditions	Specification
3 (+) — 1, 2 (–)	Switch OFF	Light OFF
	Switch ON	Light ON
	Switch door	Light ON

4) Replace the room light if the inspection result is not within the standard value.

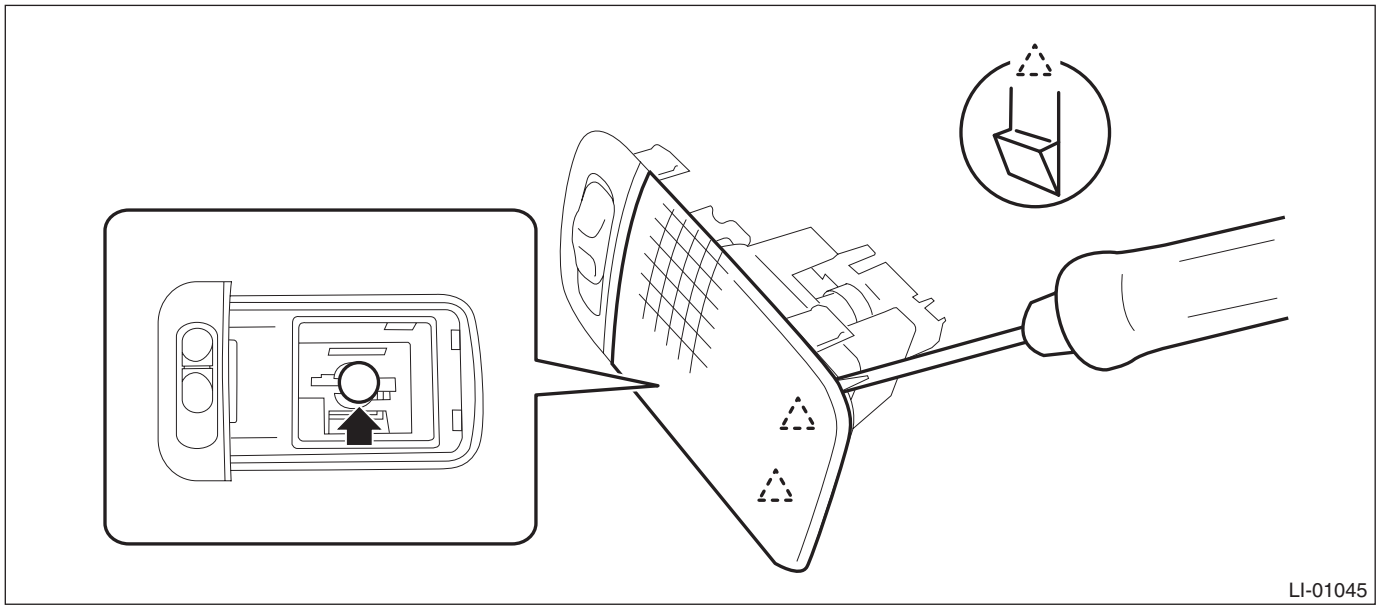
30.Luggage Room Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the luggage room light.
   (1) Release the claws and remove the luggage room light main body.
   (2) Disconnect the connector and remove the luggage room light.



3) Release the claws, and detach the luggage room light cover and bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

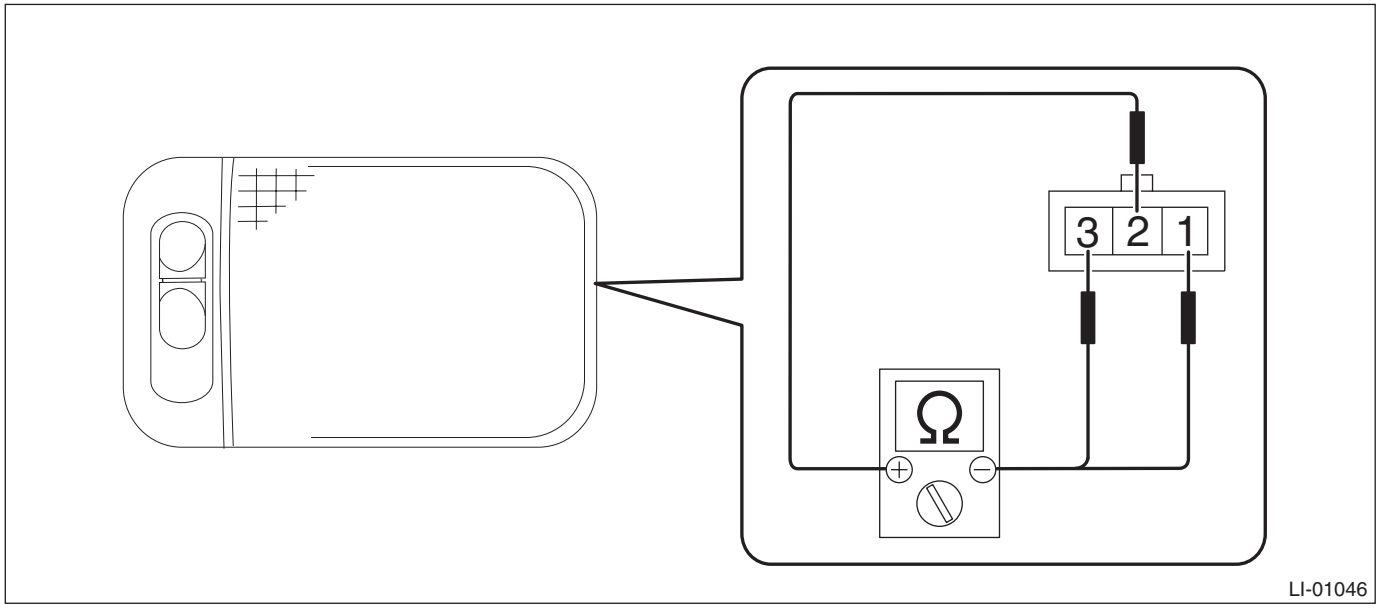
1. LUGGAGE ROOM LIGHT BULB

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

2. LUGGAGE ROOM LIGHT SWITCH

1) Remove the luggage room light.
2) Measure the resistance between luggage room light switch terminals.

Preparation tool:
Circuit tester



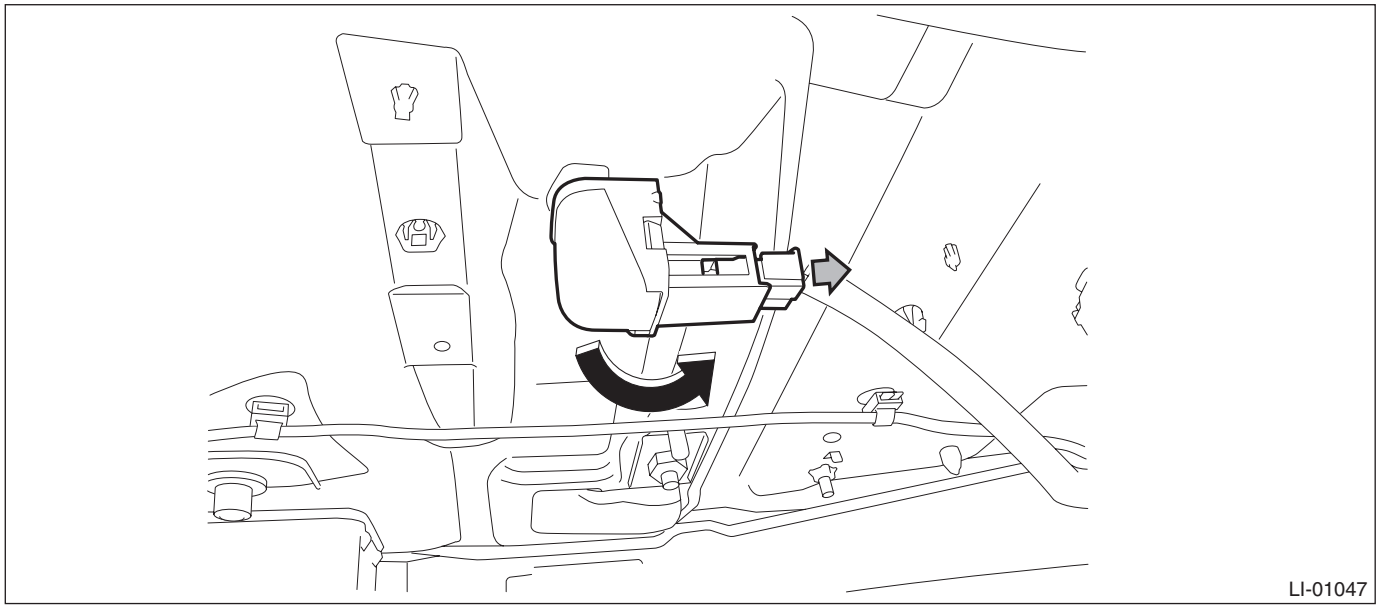
Terminal No.	Inspection Conditions	Standard
—	Switch OFF	1 MΩ or more
1 — 2	Switch ON	Less than 1 Ω
2 — 3	Switch door	Less than 1 Ω

3) Replace the luggage room light if the inspection result is not within the standard value.

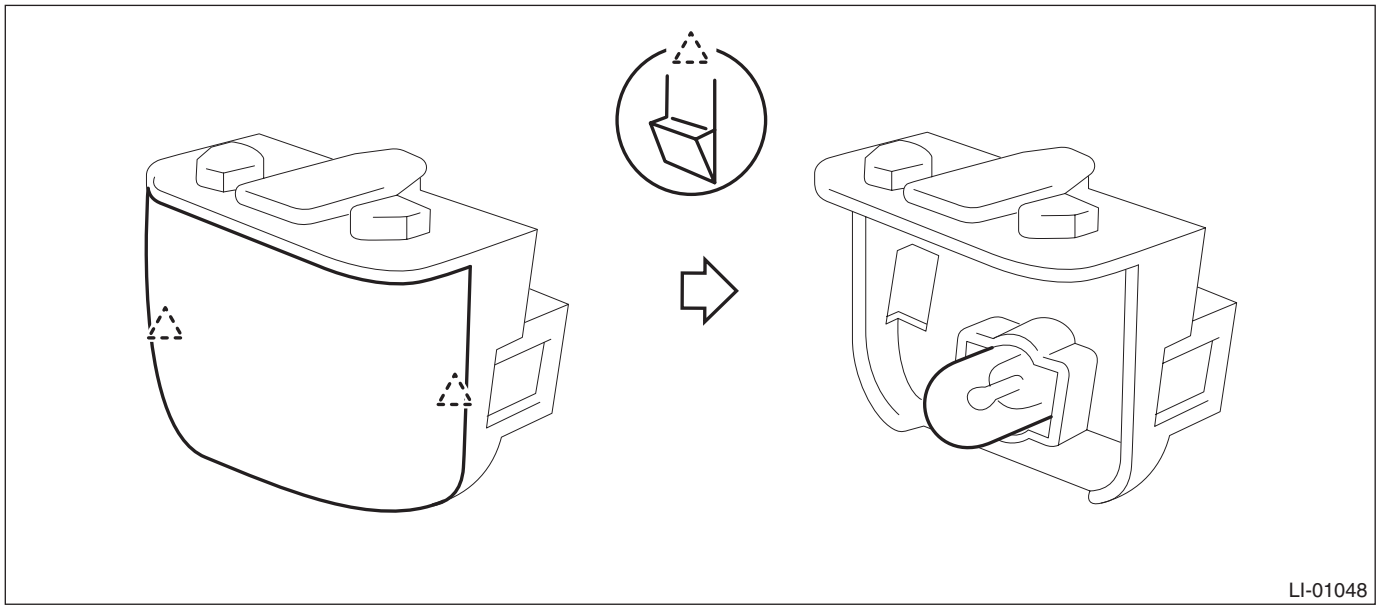
31.Trunk Room Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the trunk room light
   (1) Disconnect the connector.
   (2) Turn the trunk room light counterclockwise to 60° and remove the light.



3) Release the claws, and detach the trunk room light cover and bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

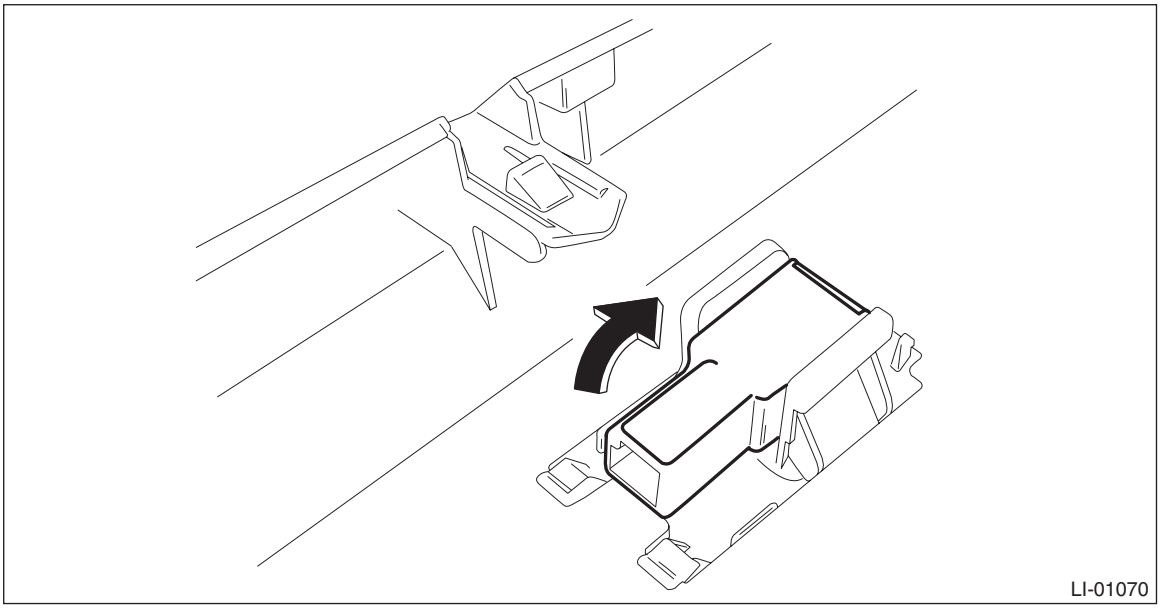
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

32.Glove Box Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-65, REMOVAL, Glove Box.>
3) Remove the glove box light from the glove box back panel.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Install the glove box light and test if it illuminates normally.
2) If it is found not to illuminate normally, replace the glove box light with a new part.

NOTE:
Since LED (Light Emitting Diode) is used for the glove box light, replace the glove box light assembly if the LED burns out.

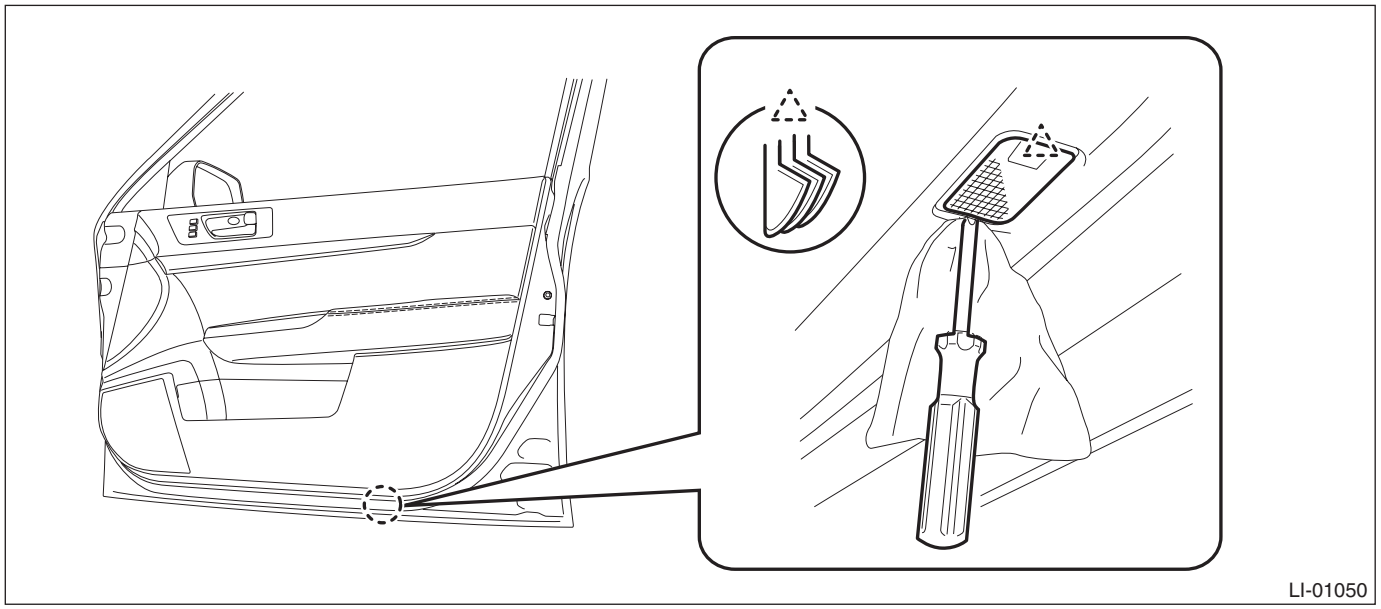
33.Door Step Light

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the door step light.

CAUTION:
Be careful not to damage light and door trim.

(1) Insert a flat tip screwdriver into the slit of the door step light to release the claw.
(2) Disconnect the connector and remove the door step light.



B: INSTALLATION

Install each part in the reverse order of removal.

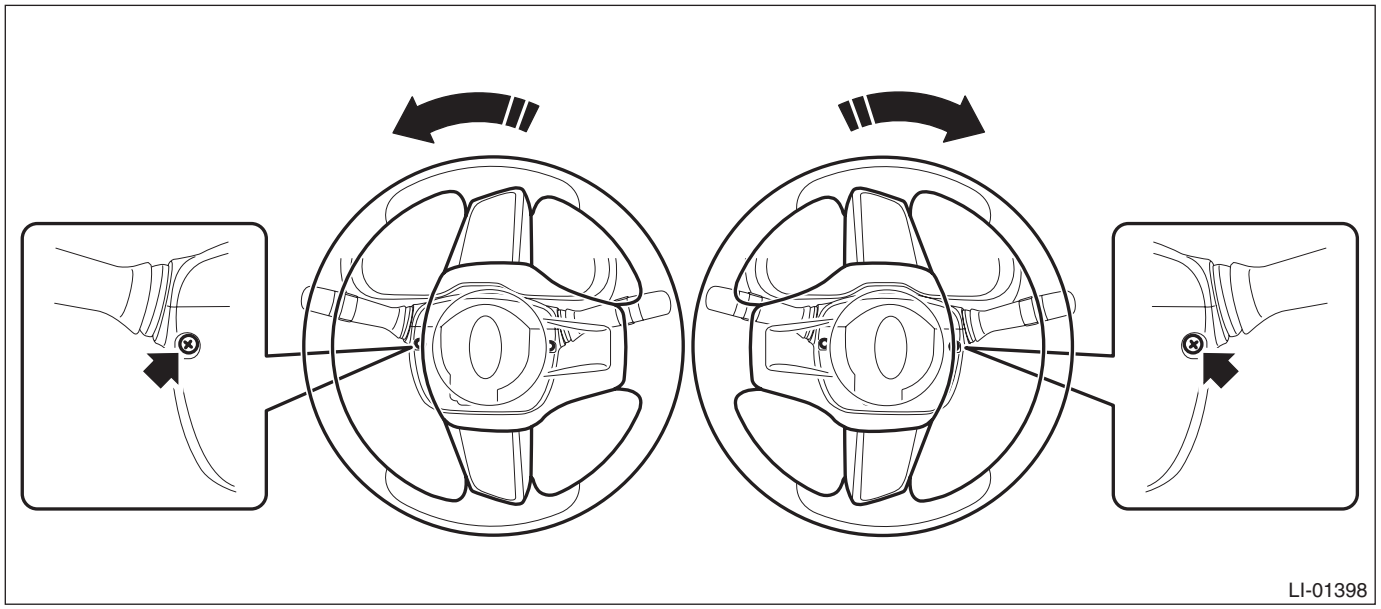
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

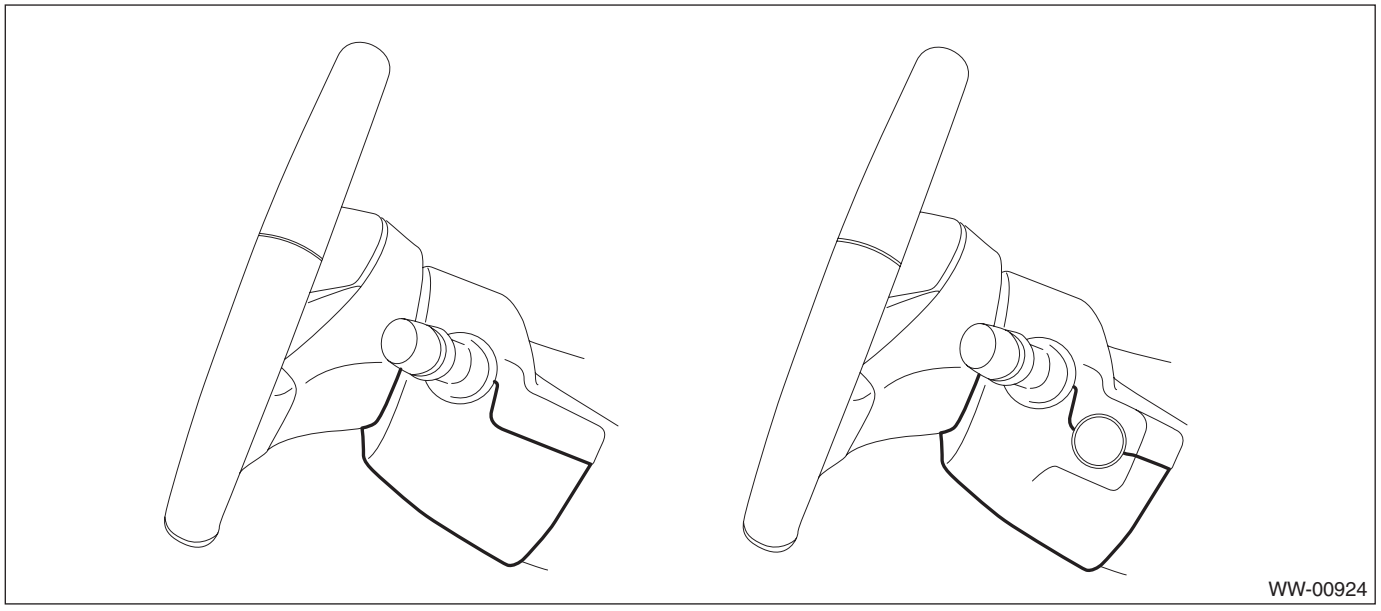
34.Ignition Switch Illumination

A: REMOVAL

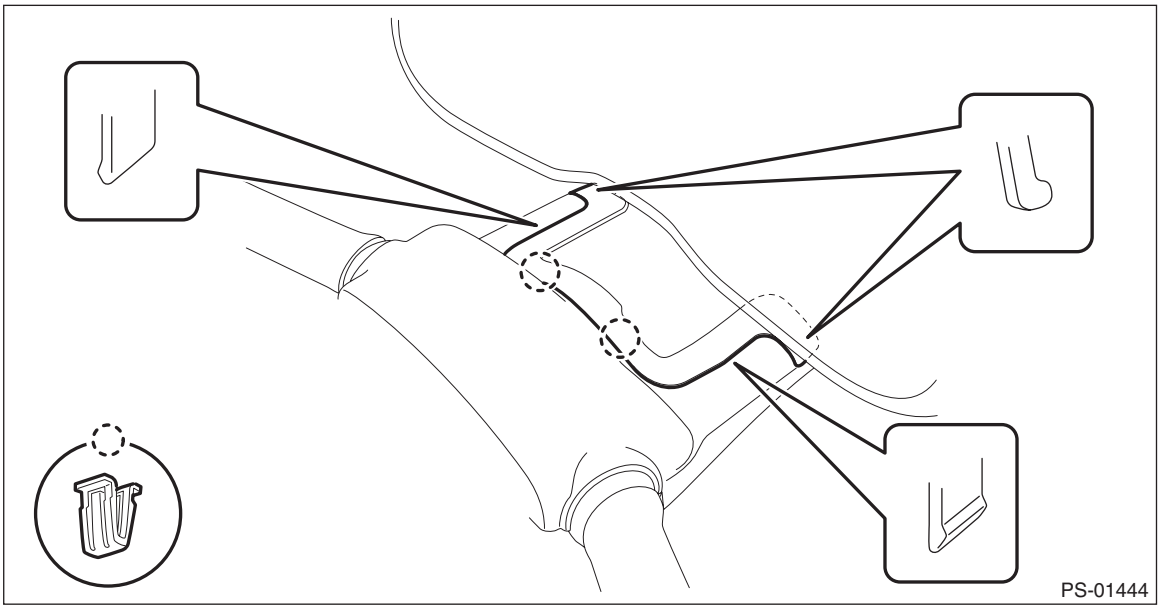
1) Disconnect the ground cable from battery.
2) Remove the steering column cover.
   (1) Remove the screws by turning the steering wheel to right and left.



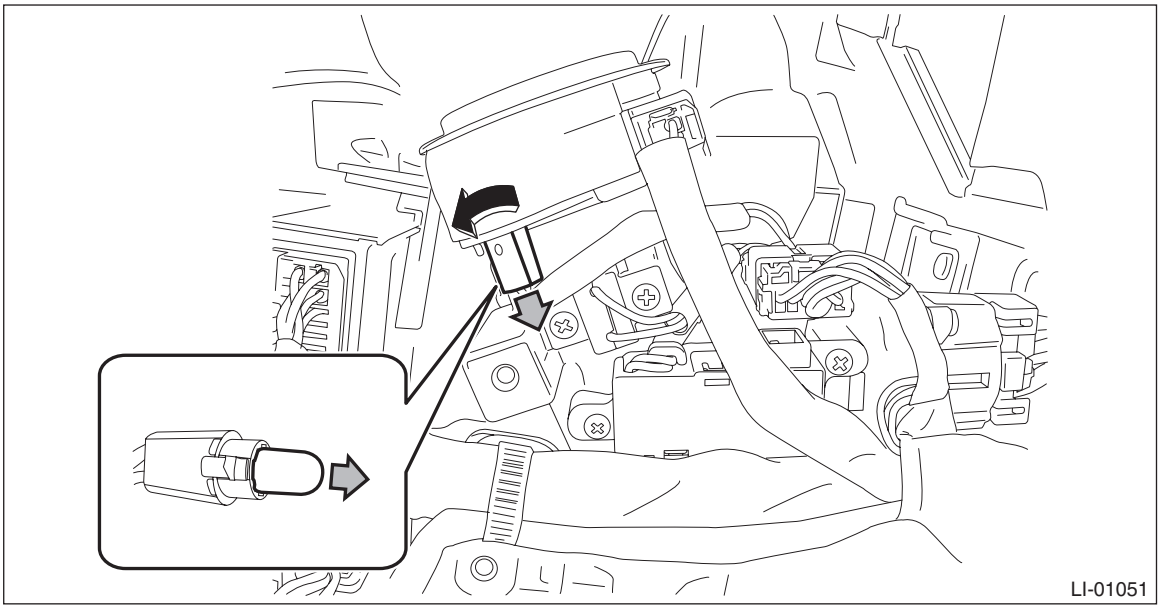
   (2) Release the claws and remove the steering column lower cover.



(3) Separate the steering column upper cover and steering upper cover, and remove the steering column upper cover.



3) Remove the bulb socket and ignition switch illumination bulb.



NOTE:
If the bulb socket is faulty, replace the ignition key lock. <Ref. to SL-67, Ignition Key Lock.>

B: INSTALLATION

Install each part in the reverse order of removal.

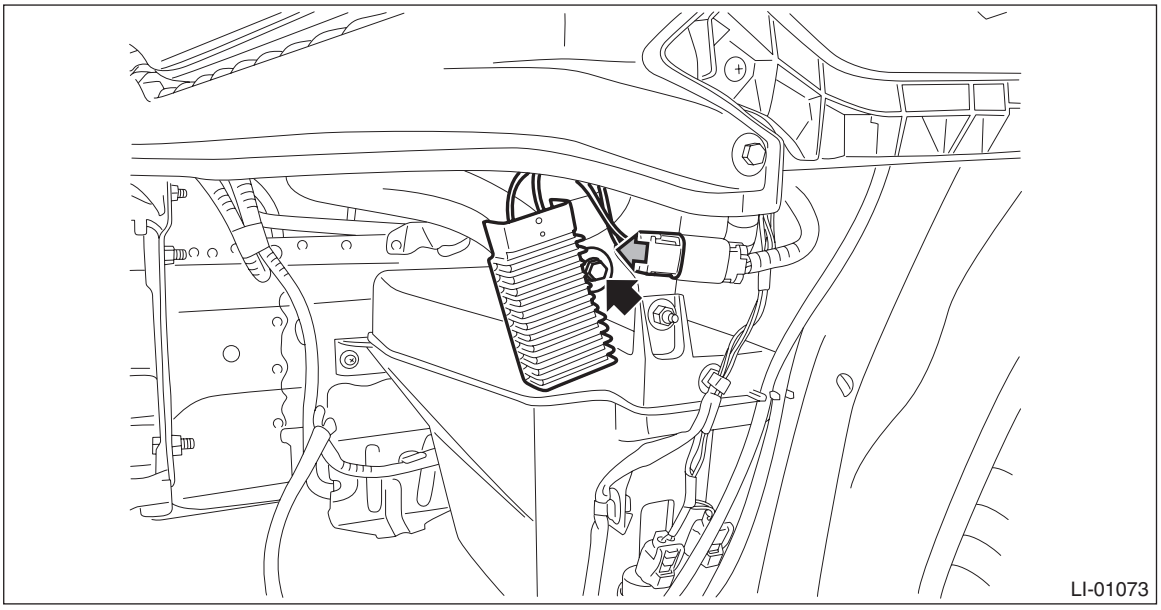
C: INSPECTION

Step		Check	Yes	No
1	**CHECK THE IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination illuminates when driver's side door is open.	Does the ignition switch illumination illuminate?	Ignition switch illumination is normal.	Go to step **2**.
2	**CHECK THE IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination blinks when the ignition switch is turned to ON.	Does the ignition switch illumination blink?	Check the function setting of body integrated unit. <Ref. to BC(diag)-2, Basic Diagnostic Procedure.>	Check the ignition switch illumination circuit. <Ref. to SL-28, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>

35.Day Time Running Resistor

A: REMOVAL

1) Remove the front bumper face assembly. <Ref. to EI-37, REMOVAL, Front Bumper.>
2) Remove the daytime running resistor.
   (1) Disconnect the connector.
   (2) Remove the bolt, and remove the daytime running resistor.



B: INSTALLATION

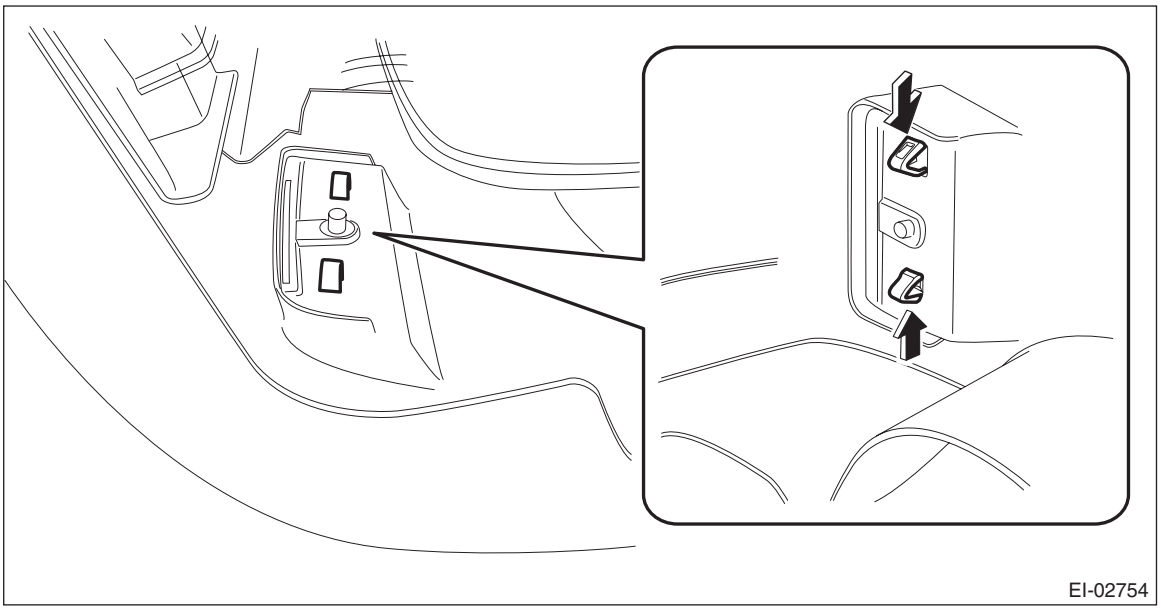
1) Install each part in the reverse order of removal.

Tightening torque:
Daytime running resistor: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
2) Adjust the fog light beam. (Model with fog light) <Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

36.Reflex Reflector

A: REMOVAL

From behind the bumper, release the claws and remove the reflex reflector.



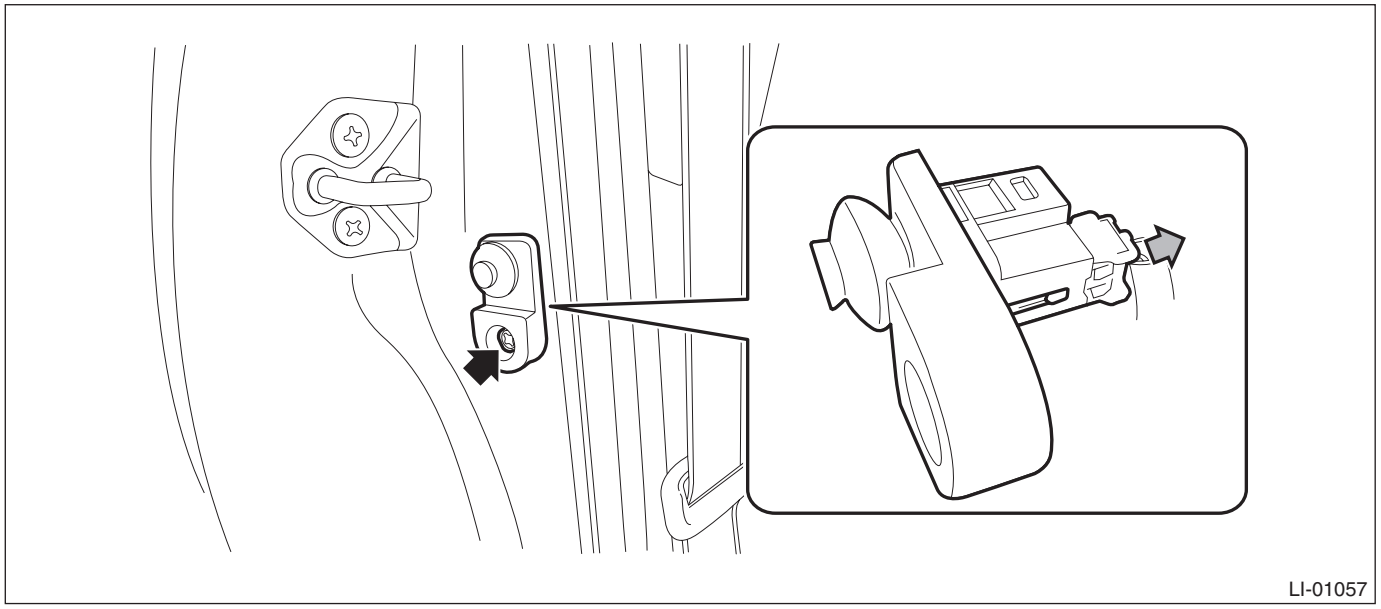
B: INSTALLATION

Install each part in the reverse order of removal.

37.Door Switch

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the door switch.
   (1) Remove the screws, and pull out the door switch.
   (2) Disconnect the connector and remove the door switch.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

Refer to “CHECK DOOR SWITCH” of “Interior Light System”. <Ref. to LI-16, CHECK DOOR SWITCH, INSPECTION, Interior Light System.>

WIPER AND WASHER SYSTEMS

WW

		Page
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6.	Front Wiper Arm	25
7.	Front Wiper Motor and Link	27
8.	Front Washer Nozzle	33
9.	Rear Wiper Arm	38
10.	Rear Wiper Motor	40
11.	Rear Washer	45

1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**CHECK WARNING LIGHT.** Check whether the airbag warning light in the combination meter is lit.	Does the airbag warning light illuminate?	Go to step **2**.	Perform the diagnosis according to phenomenon of the problem.
2	**READ DTC.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON and run the Subaru Select Monitor. 4) Read the DTC. <Ref. to OD(diag)-14, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to OD(diag)-10, COMMUNICATION FOR INITIALIZING THE AIRBAG SYSTEM IS IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 5) Record all DTCs and freeze frame data.	Is DTC displayed?	Go to step **3**.	Go to "Airbag Warning Light Failure" <Ref. to AB(diag)-33, Airbag Warning Light Failure.>.
3	**PERFORM DIAGNOSIS.** 1) Determine the possible cause from "List of Diagnostic Trouble Code (DTC)" <Ref. to OD(diag)-22, List of Diagnostic Trouble Code (DTC).>. 2) Inspect the DTC using "List of Diagnostic Trouble Code (DTC)". 3) Repair the trouble cause. 4) Perform the Clear Memory Mode. <Ref. to OD(diag)-16, Clear Memory Mode.> 5) Perform the Inspection Mode. <Ref. to OD(diag)-15, Inspection Mode.> 6) Read any other DTCs displayed.	Is DTC displayed?	Perform the procedure 1) to 5) in step 3.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Customer's name		Inspector's name	
Date vehicle brought in	/ /	Registration No.	
Odometer reading	km miles	V.I.N.	
Date problem occurred	/ /	Registration year	/ /
Weather	❑ Fine ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Others :		
Temperature	°C (°F)		
Road condition	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Others :		
Vehicle operation	❑ Starting ❑ Idling ❑ Driving ❑ Constant speed ❑ Accelerating ❑ Decelerating ❑ Turning ❑ Others :		
Details of problem			
Airbag warning light operation	❑ Normal (After turning the ignition switch to ON, illuminates for 6 seconds then goes off.) ❑ Remains ON ❑ Remains OFF		
Passenger's airbag ON/OFF indicator does not operate.	❑ Normal (After turning the ignition switch to ON, illuminates for 6 seconds then goes off for 2 seconds; Lights ON (adult) or OFF (children/unoccupied).) ❑ Both remain ON ❑ Both remain OFF		
DTC output	❑ OK code ❑ DTC: (Code:)		

3. General Description

A: CAUTION

1) If the seat cushion cover is removed or replaced, make sure to perform the occupant detection system adjustment after installing the seat to the vehicle. <Ref. to OD(diag)-18, System Calibration (Rezeroing).> Failure to do so may cause improper operation of the occupant detection system.
2) The occupant detection system (passenger seat only) control module and the occupant detection sensor are fixed to the seat cushion frame. Never remove the occupant detection control module or the occupant detection sensor from the seat cushion frame.
3) Do not replace the seat cushion pad by itself. Always replace the seat cushion pad & frame assembly as a set. The seat cushion pad and cushion frame are adjusted as a set at the time of manufacture. If cushion pads and cushion frames are combined from those of other vehicles or other sets, the occupant detection system may not operate properly.
4) If the seat cushion cover is removed, make sure to replace the hang wire on the seat cushion cover side with a new wire.
5) Never connect the battery in reverse polarity. Occupant detection system may be destroyed instantly.
6) Do not disconnect the battery terminals while the engine is running. A large counter electromotive force will be generated in the generator, and this voltage may damage electronic parts such as occupant detection control module.
7) Before disconnecting the connectors of each sensor and control module, be sure to turn the ignition switch to OFF and wait for 60 seconds or more. Occupant detection control module may be damaged.
8) Every occupant detection system-related part is a precision part. Do not drop them.

CAUTION:
• Do not use electrical test devices on airbag system wiring harnesses or connector circuits.
• Be careful not to damage the airbag system wiring harness, when servicing the occupant detection system.
• Refer to CAUTION in Airbag System when repairing occupant detection system. <Ref. to AB-10, CAUTION, General Description.>

B: INSPECTION

Measure the battery voltage and check electrolyte.

Standard voltage:
12 V

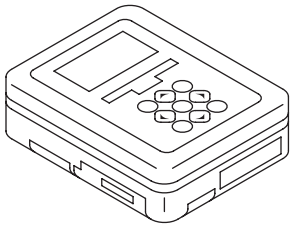
Specific gravity:
1.260 or more

Fluid level:
Between the upper level and lower level

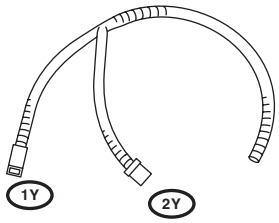
C: PREPARATION TOOL

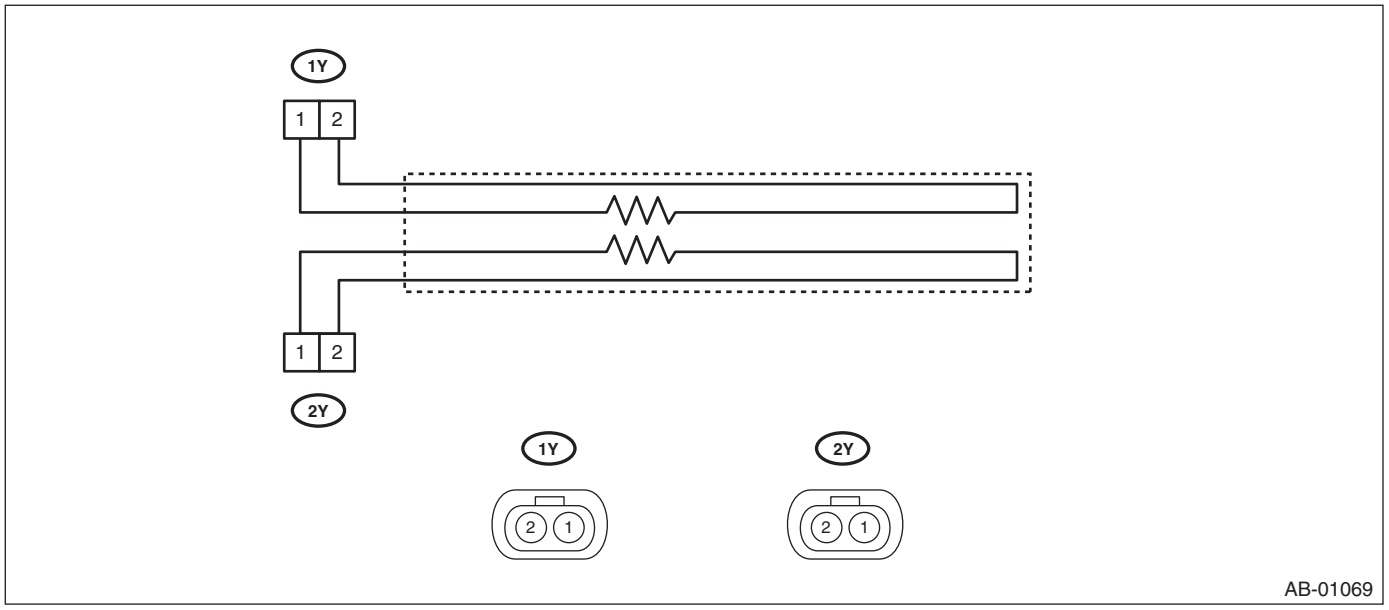
CAUTION:
To measure the voltage and resistance of airbag system and occupant detection system components, be sure to use the specified test harness.

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

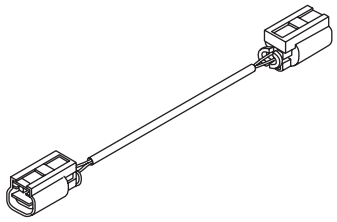
- TEST HARNESS Y

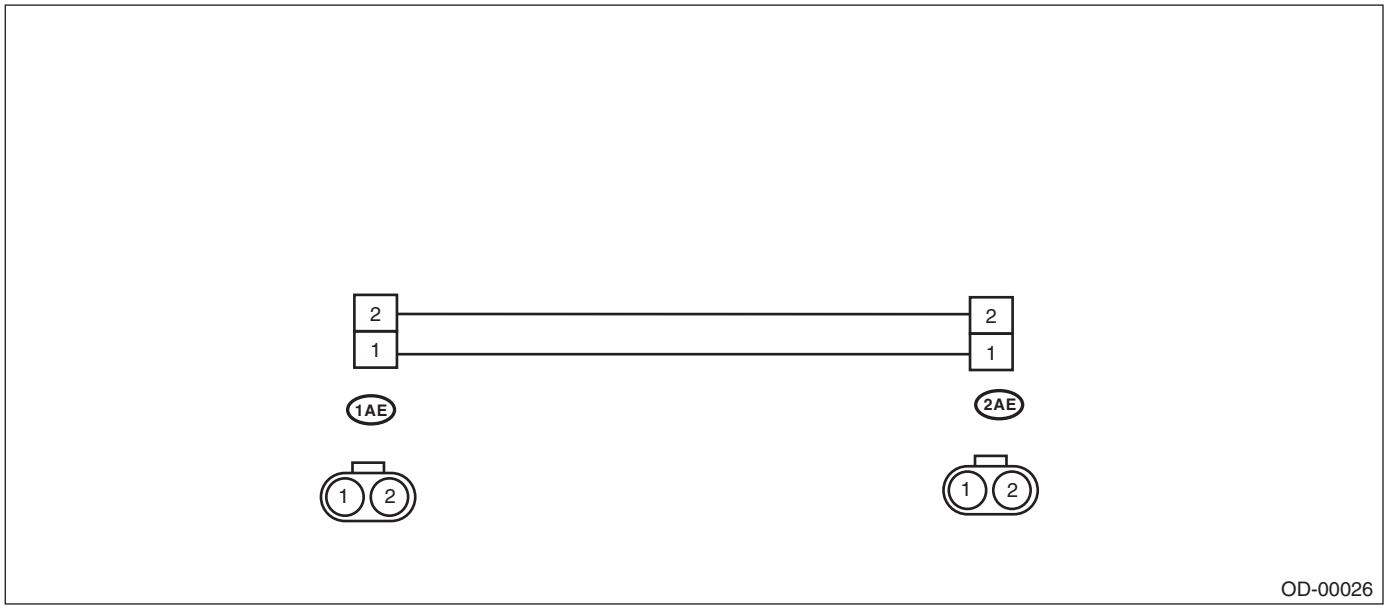
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for troubleshooting seat belt buckle switch.



AB-01069

- TEST HARNESS AE

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA030	98299XA030	TEST HARNESS AE	TEST HARNESS Y ADAPTER HARNESS Used for troubleshooting seat belt buckle switch.

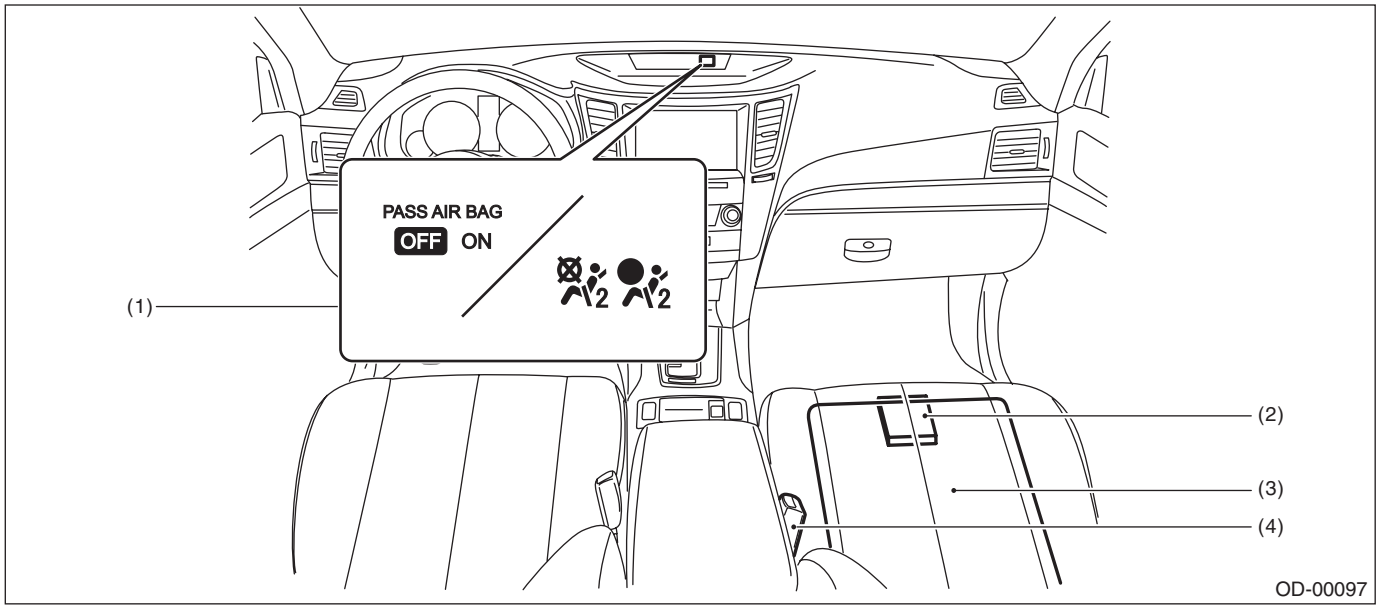


2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

A: LOCATION



(1) Airbag ON/OFF indicator light
(2) Occupant detection control module
(3) Occupant detection sensor
(4) Buckle switch (passenger's seat)

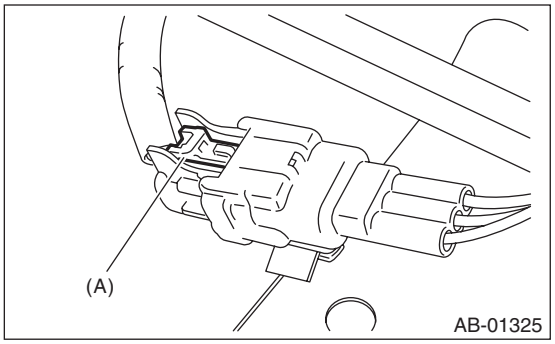
5. Airbag Connector

A: PROCEDURE

1. OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS)

1) How to disconnect:
Push the lock arm (A), and disconnect the connector.

CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.



2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.

2. AIRBAG CONTROL MODULE

Refer to Airbag System section. <Ref. to AB-20, AIRBAG CONTROL MODULE, PROCEDURE, Airbag Connector.>

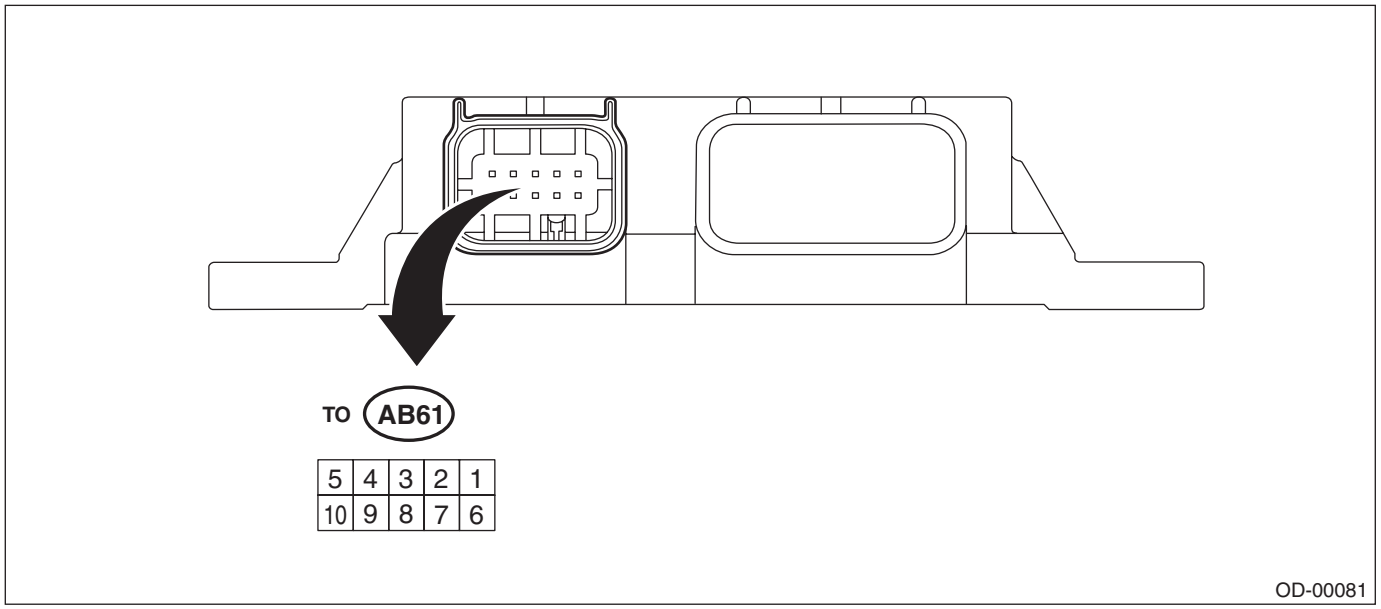
3. BUCKLE SWITCH RH

Refer to Airbag System section. <Ref. to AB-29, BUCKLE SWITCH RH, PROCEDURE, Airbag Connector.>

6. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

CAUTION:
Never remove the occupant detection control module, occupant detection sensor or seat frame, because they are integrated into one unit.



Terminal name	Terminal No.	Input/output value	Remarks
IG – power supply	5	9 — 16 V	When ignition switch is ON
Airbag control module communication (COM)	3	Open collector terminal	Communication line
Airbag control module communication (GND)	4	0 V	Ground
Buckle switch	9	0 — IG voltage	Ignition voltage when switch is ON
Buckle switch (GND)	8	0 V	Switch ground

B: WIRING DIAGRAM

Refer to the electrical wiring diagram. <Ref. to WI-227, WIRING DIAGRAM, Occupant Detection System.>

7. Subaru Select Monitor

A: OPERATION

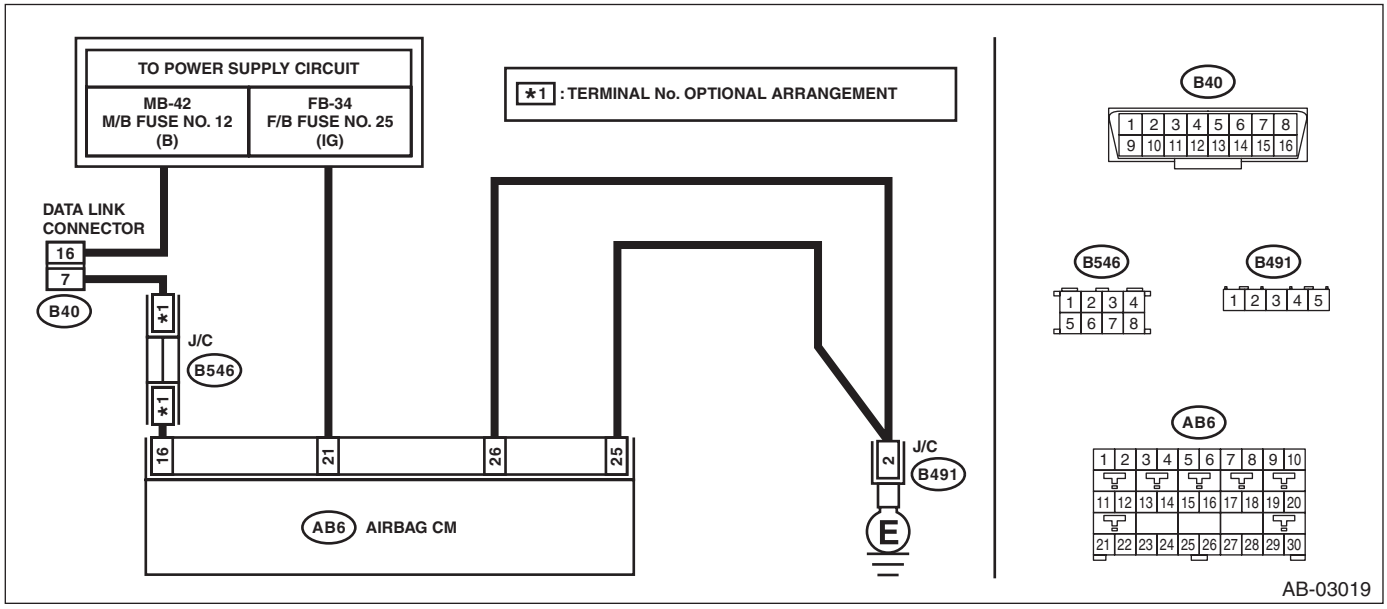
For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING THE AIRBAG SYSTEM IS IMPOSSIBLE

NOTE:
The occupant detection system communicates with the Subaru Select Monitor via the airbag control module.
DETECTING CONDITION:
Defective harness connector
TROUBLE SYMPTOM:
Communication is impossible between the airbag control module and the Subaru Select Monitor.

CAUTION:
Before performing diagnosis, refer to “CAUTION” in “General Description”. <Ref. to AB(diag)-4, CAUTION, General Description.>
WIRING DIAGRAM:
Airbag system <Ref. to WI-46, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select the airbag mode using the Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Go to step **11**.	Go to step **5**.
5	**CHECK SUBARU SELECT MONITOR.**	Is Subaru Select Monitor powered on?	Go to step **7**.	Go to step **6**.
6	**CHECK FUSE.** Remove fuse No. 12 from the fuse & relay box, and perform visual inspection.	Is the fuse OK?	Repair the harness between the battery and the data link connector.	Replace the fuse. If the fuse is blown out again, check the power supply circuit.
7	**CHECK AIRBAG CONTROL MODULE CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Confirm that the connectors of airbag control module (AB6, AB17, AB18) are securely connected.	Is the connector of the airbag control module securely connected?	Go to step **8**.	Connect the connector of the airbag control module.
8	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Disconnect the airbag control module connector. 2) Connect the battery ground terminal. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Replace the airbag control module. <Ref. to AB-72, Airbag Control Module.>	Go to step **9**.
9	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the airbag control module, VDCCM&H/U, body integrated unit, impact sensor, TPMS CM, power steering CM, ECM and TCM. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **10**.	Repair the harness and connector between each control module and data link connector. (Replace the entire harness if repair is necessary for airbag harness.)
10	**CHECK OUTPUT SIGNAL TO THE AIRBAG CONTROL MODULE.** 1) Turn the ignition switch to ON in the condition of step 9. 2) Measure the voltage between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Repair each control module.	Repair the harness and connector between each control module and data link connector. (Replace the entire harness if repair is necessary for airbag harness.)
11	**CHECK FUSE.** Remove fuse No. 25 from the fuse & relay box, and perform visual inspection.	Is the fuse OK?	Go to step **12**.	Replace the fuse. If the fuse is blown out again, check the power supply circuit.

	Step	Check	Yes	No
12	**CHECK AIRBAG CONTROL MODULE CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Confirm that the connectors of airbag control module (AB6, AB17, AB18) are securely connected.	Is the connector of the airbag control module securely connected?	Go to step **13**.	Connect the connector of the airbag control module.
13	**CHECK THE HARNESS BETWEEN THE AIRBAG CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 2) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 3) Measure the resistance between connector (4AG) in the test harness AG and the data link connector. ***Connector & terminal*** ***(4AG) No. 1 — (B40) No. 7:***	Is the resistance less than 10 Ω?	Go to step **14**.	Repair the harness between the airbag control module and the data link connector. Or replace the airbag main harness along with the bulkhead harness.
14	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **15**.	Repair the harness between the airbag control module and the battery. Or replace the airbag main harness along with the bulkhead harness.
15	**CHECK BETWEEN AIRBAG CONTROL MODULE AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between connector (2AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(2AG) No. 4 — Chassis ground:*** ***(2AG) No. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **16**.	Repair the harness between the airbag control module and the chassis ground. Or replace the airbag main harness along with the bulkhead harness.
16	**CHECK POOR CONTACT OF CONNECTOR.**	Is there poor contact of the control module power supply, ground circuit and data link connector?	Repair the connector. (Replace the harness instead of repairing the airbag system connector.)	Replace the airbag control module. <Ref. to AB-72, REMOVAL, Airbag Control Module.>

2. COMMUNICATION FOR INITIALIZING ONLY THE OCCUPANT DETECTION SYSTEM IS IMPOSSIBLE

NOTE:
The occupant detection system communicates with the Subaru Select Monitor via the airbag control module.

DETECTING CONDITION:
Defective harness connector between airbag control module and occupant detection control module

TROUBLE SYMPTOM:
Communication is impossible between the airbag control module and the occupant detection control module.

Perform the diagnosis from step 2 in “DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION”. <Ref. to OD(diag)-23, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

Read out the DTC stored in airbag control module. For operation procedures, refer to AIRBAG SYSTEM (DIAGNOSTICS). <Ref. to AB(diag)-27, OPERATION, Read Diagnostic Trouble Code (DTC).>

NOTE:
For details concerning DTCs, refer to the List of Diagnostic Trouble Code (DTC) (airbag system, occupant detection system). <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).> <Ref. to OD(diag)-22, List of Diagnostic Trouble Code (DTC).>

9. Inspection Mode

A: PROCEDURE

Recreate the circumstance by referring to the conditions described in the checklist.

10.Clear Memory Mode

A: OPERATION

For operation procedures, refer to AIRBAG SYSTEM (DIAGNOSTICS). <Ref. to AB(diag)-29, OPERATION, Clear Memory Mode.>

11.Display of Status Information

A: OPERATION

Check the operating condition of each sensor in the event of malfunction in the seat belt buckle switch, or when the seat belt buckle switch has been replaced.
1) On «Main Menu» display, select {Each System Check}.
2) On «System Selection Menu» display, select {Airbag System}.
3) On «Airbag System» display, select {Current Data Display & Save}.
The following table is for support data.

Item	Display	Note
Trip Count	—	—
Count	—	—
Time Count	—	—
Belt Buckle Switch RH	Unbelted/Belted	“Belted” when passenger’s seat belt is fastened “Unbelted” when passenger’s seat belt is not fastened
Passenger Occupant Status	Adult/Child/Empty or CRS	“Adult” when the occupant is present “Child” or “Empty or CRS” when the seat is unoccupied or when child restraint seat is installed
Passenger Airbag Status	ON/OFF	“ON” when the passenger occupant status is “Occupied” “OFF” when the status is “Empty or CRS”

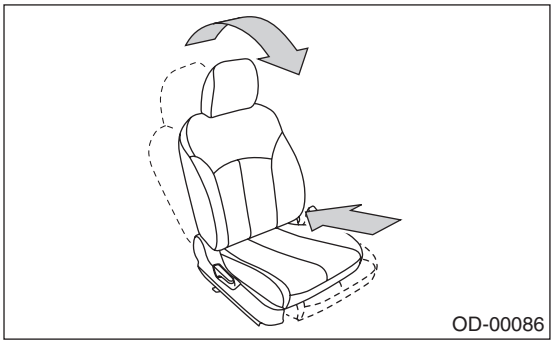
NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

12.System Calibration (Rezeroing)

A: OPERATION

NOTE:
When replacing the occupant detection system, or removing and disassembling the passenger's seat, always perform the system calibration after installing a seat in the vehicle.
1) Park empty vehicle on a level surface.
2) Check the following items to adjust the condition of the vehicle.
• Adjust the seat backrest to be fully upright. (For models with power seats, press the power seat button until the backrest comes to a stop.)
• Adjust the seat slide position all the way back. (For models with power seats, press the power seat button until the seat slide does not move any further.)
• Do not place anything on the top of the seat cushion.
• Sit on the seat cushion to smooth the seat surface.
• Check that the passenger's seat belt is not inserted into the buckle, not tense or not stuck.
• Check that ambient temperature is in a range from 0 to 40°C (32 to 104°F).
3) Turn the ignition switch OFF once, then turn it ON again.

NOTE:
• This operation is performed to reset the occupant detection.
• Do not touch the seat until the system calibration (Rezeroing) is completed. If you have touched the seat even if only once, re-perform the steps from the step 3) again.
4) On «Main Menu» display, select {Each System Check}.
5) On «System Selection Menu» display, select {Occupant Detection System}.
6) On the {Occupant Detection System} display, select {Rezeroing}.
7) When «See service manual. And check vehicle condition for successfully completing the rezeroing.» is displayed, check the condition of the vehicle.
8) When the «Re-zeroing Adjust the passenger seat to the condition shown in service manual» is displayed, slide the passenger seat all the way to the back, check that the backrest is adjusted to all the way up, and select the [OK].



9) When the «Re-zeroing Unbelt the Passenger seatbelt Continue: OK, Quit: NO» is displayed, make sure the passengers seatbelt is disconnected from the buckle and select the [OK].
10) When the «Re-zeroing Empty the passenger seat Continue: OK, Quit: NO» is displayed, make sure that the passenger's seat is empty, airbag OFF indicator illuminates and airbag ON indicator does not illuminate, and select the [OK].

NOTE:
• After selecting the [OK], «In process... Please wait for a while without touching vehicle» is displayed. Do not touch or rock the vehicle while the message is displayed.
• During the system calibration process, if the «Re-zeroing is unsuccessful See service manual Press "OK" to END» is displayed, go to step 12).
11) When the re-zeroing is ended normally, the «Re-zeroing is successfully completed Press "OK" to END» is displayed. And then turn the ignition switch to OFF to finish the diagnosis.

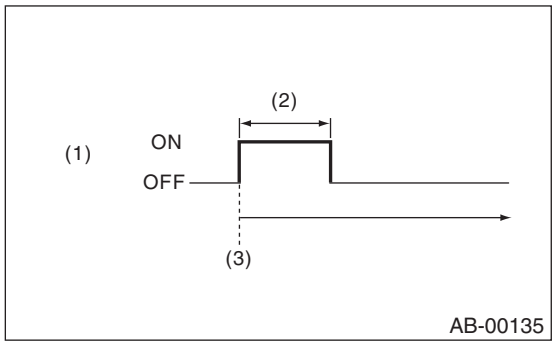
12) During the system calibration process, if «Re-zeroing is unsuccessful See service manual Press “OK” to END» is displayed, turn the ignition switch to OFF once and turn it ON again, then read the DTC of the airbag system. <Ref. to OD(diag)-14, Read Diagnostic Trouble Code (DTC).>
When DTC is input, fix the fault and then perform the system calibration. When DTC is not input, check the seat and vehicle status and then perform the system calibration again. <Ref. to OD(diag)-18, System Calibration (Rezeroing).>

NOTE:
When the re-zeroing is unsuccessful, there could be occupant detection system failure or improper seat and vehicle status. When the airbag warning light illuminates, read the DTC of the airbag system, and perform the diagnosis while referring to List of Diagnostic Trouble Code (DTC). <Ref. to OD(diag)-14, Read Diagnostic Trouble Code (DTC).> <Ref. to AB(diag)-34, LIST, List of Diagnostic Trouble Code (DTC).>

13. Airbag Warning Light Illumination Pattern

A: INSPECTION

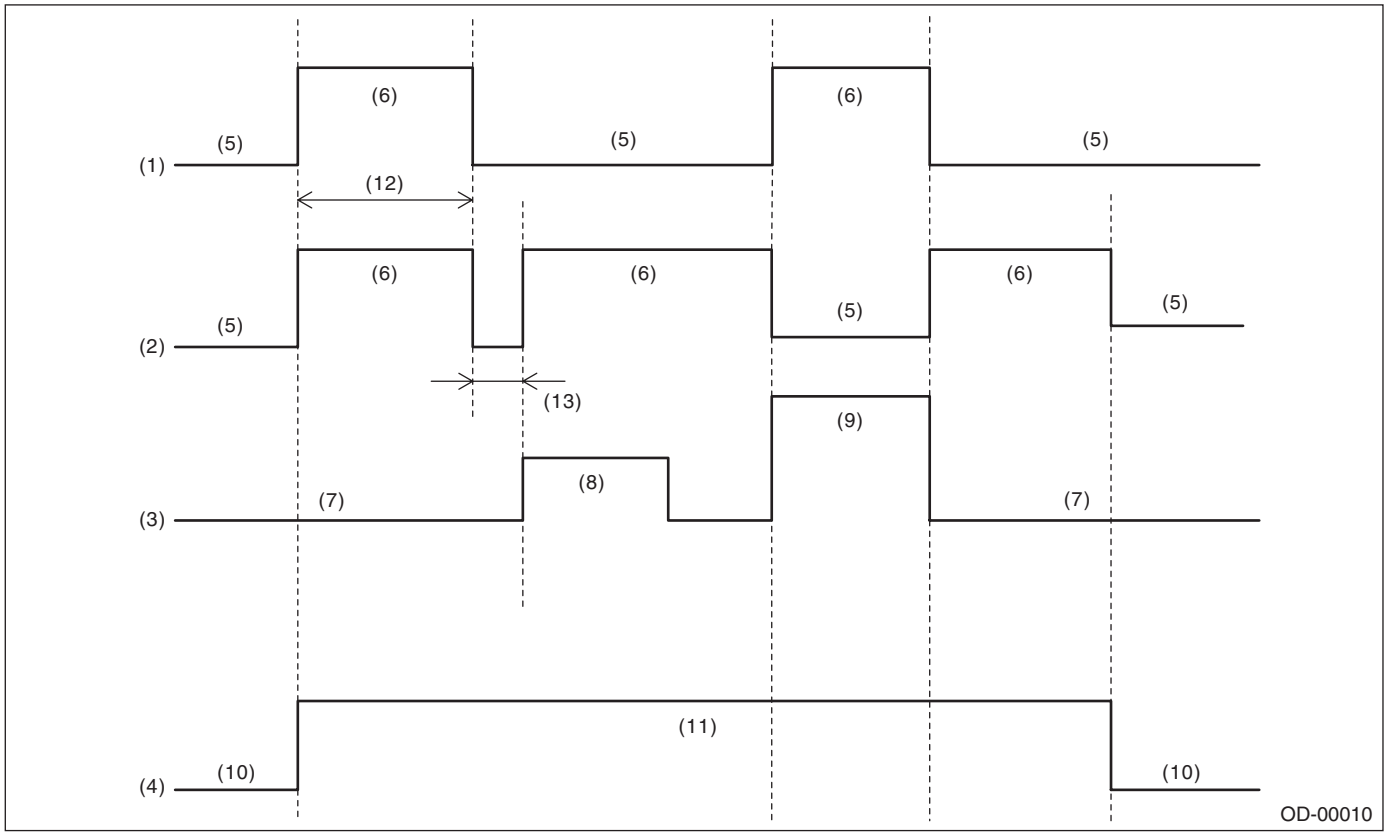
Turn the ignition switch to ON, and confirm that the airbag warning light remains on for approx. 6 seconds and then goes off afterwards.



(1) Airbag warning light
(2) Approx. 6 sec.
(3) Ignition switch ON

14.Passenger's Airbag ON/OFF Indicator Light Illumination Pattern

A: INSPECTION



(1)	Passenger's airbag ON indicator light	(6)	Light ON	(10)	OFF
(2)	Passenger's airbag OFF indicator light	(7)	Empty	(11)	ON
(3)	Occupant seating	(8)	Child	(12)	Approx. 6 sec.
(4)	Ignition switch	(9)	Adult	(13)	Approx. 2 sec.
(5)	Light OFF				

15.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Reference
B1650	Occupant Classification System Malfunction	• Occupant detection sensor is faulty. • Occupant detection control module is faulty. • Occupant detection harness is faulty. • Fuse is blown.	<Ref. to OD(diag)-23, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1655	Front Buckle Switch RH Failure	• Passenger's buckle switch circuit is open, shorted or shorted to ground. • Occupant detection system is faulty. • Occupant detection harness is faulty.	<Ref. to OD(diag)-25, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B16EE	Occupant Detection System Calibration error	• Occupant detection control module is faulty. • Calibration of occupant detection control module is initial setting or faulty.	<Ref. to OD(diag)-26, DTC B16EE ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B16EF	Occupant Detection System wrong parts	• Specification of occupant detection control module is improper. • Occupant detection control module is faulty.	<Ref. to OD(diag)-26, DTC B16EF ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

16.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION

DTC DETECTING CONDITION:

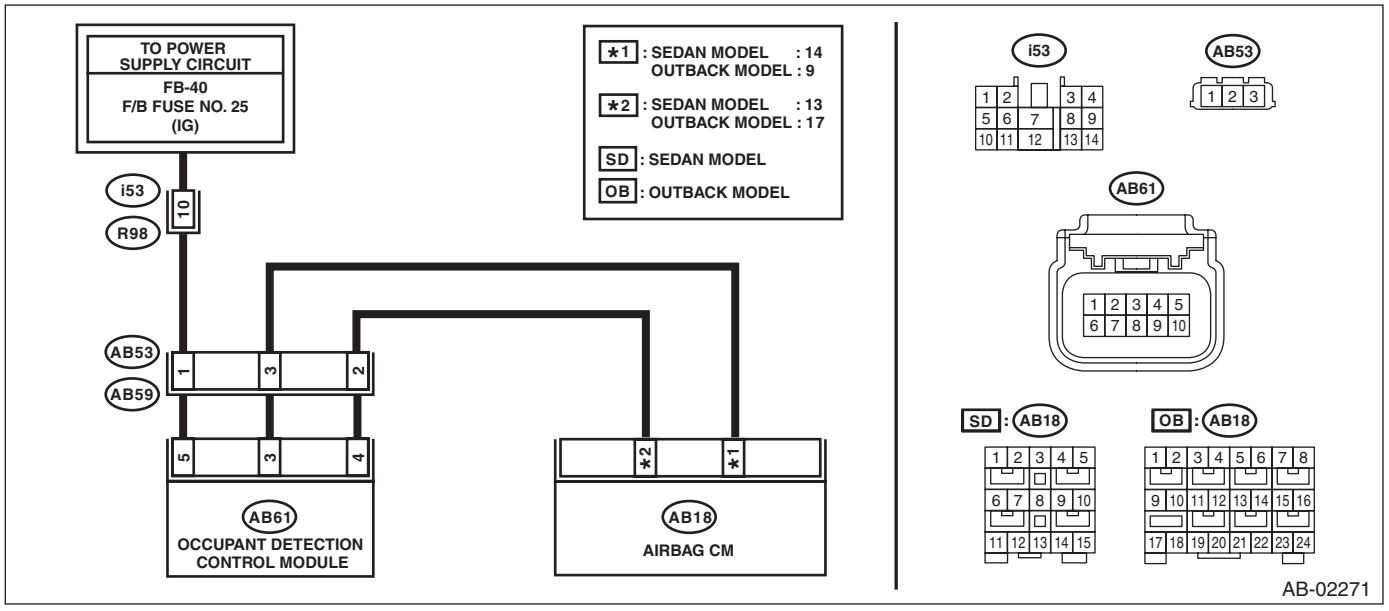
- Occupant detection sensor is faulty.
- Occupant detection control module is faulty.
- Occupant detection harness is faulty.
- Rear airbag harness is faulty.
- Communication to occupant detection control module and airbag control module is faulty.
- Airbag control module is faulty.

CAUTION:

Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

WIRING DIAGRAM:

Occupant Detection System <Ref. to WI-227, WIRING DIAGRAM, Occupant Detection System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read diagnostic trouble code (DTC) for the airbag system.	Is another DTC detected?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and airbag control module.	Is there poor contact?	Reconnect the connector. If defective is not improved, replace the airbag rear harness along with the body harness or the occupant detection harness (seat harness).	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. 2) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 3) Disconnect the connectors (AB59) and (AB53) under the passenger's seat. 4) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: For sedan models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 5) Connect the connector (1AD) in the test harness AD to the connector (AB53). 6) Measure the resistance between connector (6AG) or (5AG) in the test harness AG and connector (2AD) in the test harness AD. ***Connector & terminal*** ***Sedan model*** ***(5AG) No. 3 — (2AD) No. 2:*** ***(5AG) No. 8 — (2AD) No. 3:*** ***OUTBACK model*** ***(6AG) No. 10 — (2AD) No. 3:*** ***(6AG) No. 12 — (2AD) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness along with body harness.
4	**CHECK AIRBAG REAR HARNESS.** Measure the resistance between connector (2AD) in the test harness AD and chassis ground, and between connector (2AD) terminals. ***Connector & terminal*** ***(2AD) No. 2 — chassis ground:*** ***(2AD) No. 3 — chassis ground:*** ***(2AD) No. 2 — (2AD) No. 3:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness along with body harness.
5	**CHECK OCCUPANT DETECTION HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2AD) in the test harness AD and chassis ground. ***Connector & terminal*** ***(2AD) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the occupant detection harness (seat harness). If defective is not improved, replace the occupant detection system (seat cushion & frame assembly), and then the airbag control module in this order. <Ref. to SE-27, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>	Check the battery voltage and fuse. If there is no fault, replace the airbag rear harness together with body harness.

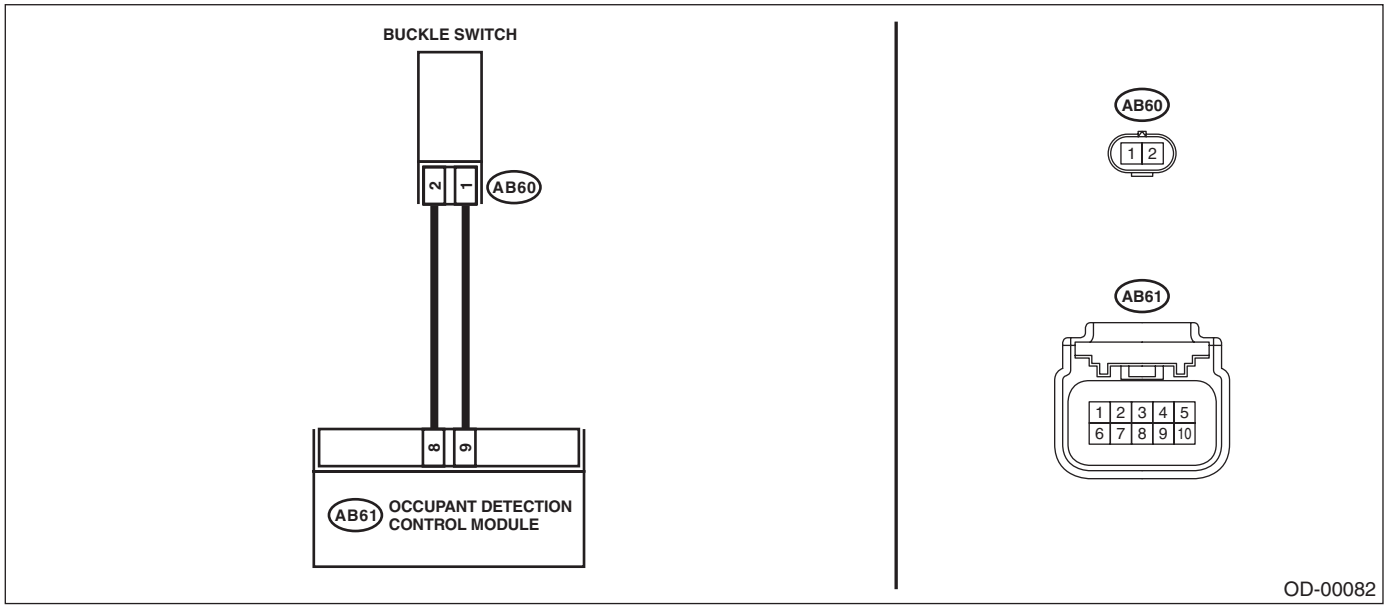
B: DTC B1655 FRONT BUCKLE SWITCH RH FAILURE

DTC DETECTING CONDITION:

- Passenger's buckle switch circuit is open, shorted or shorted to ground.
- Seat harness circuit is open, shorted or shorted to ground.
- Occupant detection control module is faulty.

WIRING DIAGRAM:

Occupant Detection System <Ref. to WI-227, WIRING DIAGRAM, Occupant Detection System.>



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of the occupant detection system.	Is a DTC other than B1650 and B1655 detected?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and buckle switch.	Is there poor contact?	Reconnect the connector. If the fault is not fixed, replace the occupant detection harness.	Go to step **3**.
3	**CHECK BUCKLE SWITCH.** 1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait for 60 seconds. 2) Disconnect the buckle switch connector (AB60). 3) Connect the test harness AE and test harness connector Y to buckle switch connector (AB60). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the buckle switch. <Ref. to SB-17, OUTER BELT ASSY, REMOVAL, Front Seat Belt.>	Check the occupant detection harness, and if any fault is found, replace the occupant detection harness. If the fault is not fixed, replace the occupant detection system. <Ref. to SE-27, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

C: DTC B16EE ODS CALIBRATION ERROR

DTC DETECTING CONDITION:

- Calibration of occupant detection control module is initial setting or faulty.
- Occupant detection control module is faulty.

Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the airbag system using the Subaru Select Monitor.	Is another DTC detected?	Perform the diagnosis according to the displayed DTC.	Go to step **2**.
2	**PERFORM RE-ZEROING.** Perform system calibration using the Subaru Select Monitor. <Ref. to OD(diag)-18, System Calibration (Rezeroing).>	Did the system calibration complete properly?	Go to step **3**.	Replace the occupant detection system. <Ref. to SE-27, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>
3	**CHECK DTC.** 1) Turn the ignition switch to OFF and wait for 60 seconds or more. 2) Turn the ignition switch to ON, and then read the DTC of the airbag system.	Is a DTC other than DTC B16EE displayed?	Perform the diagnosis according to the displayed DTC.	When the DTC is B16EE, replace the occupant detection system. <Ref. to SE-27, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.> When DTC is not displayed, end the diagnosis.

CAUTION:
When a DTC other than DTC B16EE is present, system calibration (re-zeroing) cannot be completed normally.
When occupant detection system DTC other than DTC B16EE is present, perform the diagnosis of the DTCs other than DTC B16EE.

D: DTC B16EF ODS SYSTEM WRONG PARTS

DTC DETECTING CONDITION:

- Wrong occupant detection control module is installed.
- Occupant detection control module is faulty.

When this DTC is displayed, the occupant detection control module is faulty.
Replace the occupant detection control module with a genuine occupant detection control module.

SEAT BELT SYSTEM

SB

Page

1. General Description 2
2. Pretensioner Connector 11
3. Inspection Locations after a Collision 12
4. Seat Belt Warning System 13
5. Front Seat Belt 17
6. Rear Seat Belt 31

1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**PERFORM CUSTOMER INTERVIEW.** Using the Check List for Interview, ask the customer the condition of how the trouble occurred.	Did you interview the customer?	Go to step **2**.	Interview the customer. <Ref. to PSM(diag)-3, CHECK, Check List for Interview.>
2	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is there any fault?	Perform the inspection according to the diagnosis for LAN system.	Go to step **3**.
3	**CHECK POWER SEAT MEMORY SYSTEM.** Using the Subaru Select Monitor, read DTC of power seat memory system. <Ref. to PSM(diag)-11, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC. <Ref. to PSM(diag)-13, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step **4**.
4	**CHECK THE LIST OF TROUBLE SYMPTOMS.** Check “TROUBLE SYMPTOM” for the power seat system. <Ref. to SE-62, TROUBLE SYMPTOM, INSPECTION, Power Seat System.>	Does the symptom apply?	Perform the diagnosis according to the inspection procedures.	Currently, the system is normal. A temporary poor contact may be a possible cause. Therefore, check the harness connector.

2. Check List for Interview

A: CHECK

- Inspect the following items regarding the vehicle's state.
- Print out this page for interviewing customers.

<table>
<tr><td colspan="4">Power Seat Memory System Check List for Interview
Date the Vehicle is Received Year Month Day</td></tr>
<tr><td colspan="2" rowspan="2">Customer's name</td><td>Registration No.</td><td>Initial year of registration
Year Month Date</td></tr>
<tr><td>Vehicle model</td><td>Frame number</td></tr>
<tr><td>Interviewer</td><td>Inspector</td><td>Engine type</td><td>Odometer reading</td></tr>
<tr><td colspan="4">Customer specified content
•
•
•</td></tr>
<tr><td>Date when problem occurred</td><td>Year Month Date</td><td>Frequency of trouble occurrence</td><td>Always occurs
Sometimes occurs (times per day, times per month)</td></tr>
<tr><td rowspan="2">Condition of trouble occurrence
(How the trouble occurs)</td><td rowspan="2"></td><td>Weather</td><td>Fine • Cloudy • Rainy • Snowy • Others ( )</td></tr>
<tr><td>Temperature</td><td>°C (°F) — °C (°F)</td></tr>
<tr><td>Road conditions</td><td></td><td>Occurrence location</td><td></td></tr>
<tr><td>Accessory installation condition</td><td colspan="3"></td></tr>
<tr><td>Confirmation of trouble condition</td><td colspan="3"></td></tr>
<tr><td>Diagnostic code</td><td colspan="3"></td></tr>
</table>

3. General Description

A: CAUTION

1. AIRBAG SYSTEM

CAUTION:
• Do not use the electrical test equipment on the airbag system wiring harnesses and connector circuits.
• Be careful not to damage the airbag system wiring harness.

2. POWER SEAT MEMORY SYSTEM

CAUTION:
• During inspection of the power seat memory system, be careful not to catch objects in.
• Perform communication with Subaru Select Monitor with IG ON.
(With IG OFF, communication cannot be established between the body integrated unit and seat memory CM.)

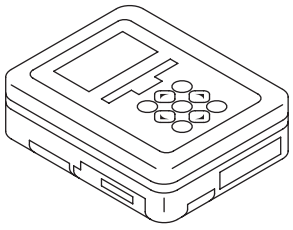
B: INSPECTION

1. BASIC INSPECTION

Before performing diagnosis, check the following items which might affect the problems related to power seat memory system.
1) Check the battery. <Ref. to SC(H4DO)-51, INSPECTION, Battery.>
2) Check the relay and fuse condition.
3) Check the connecting condition of harness and harness connector.

C: PREPARATION TOOL

1. SPECIAL TOOL

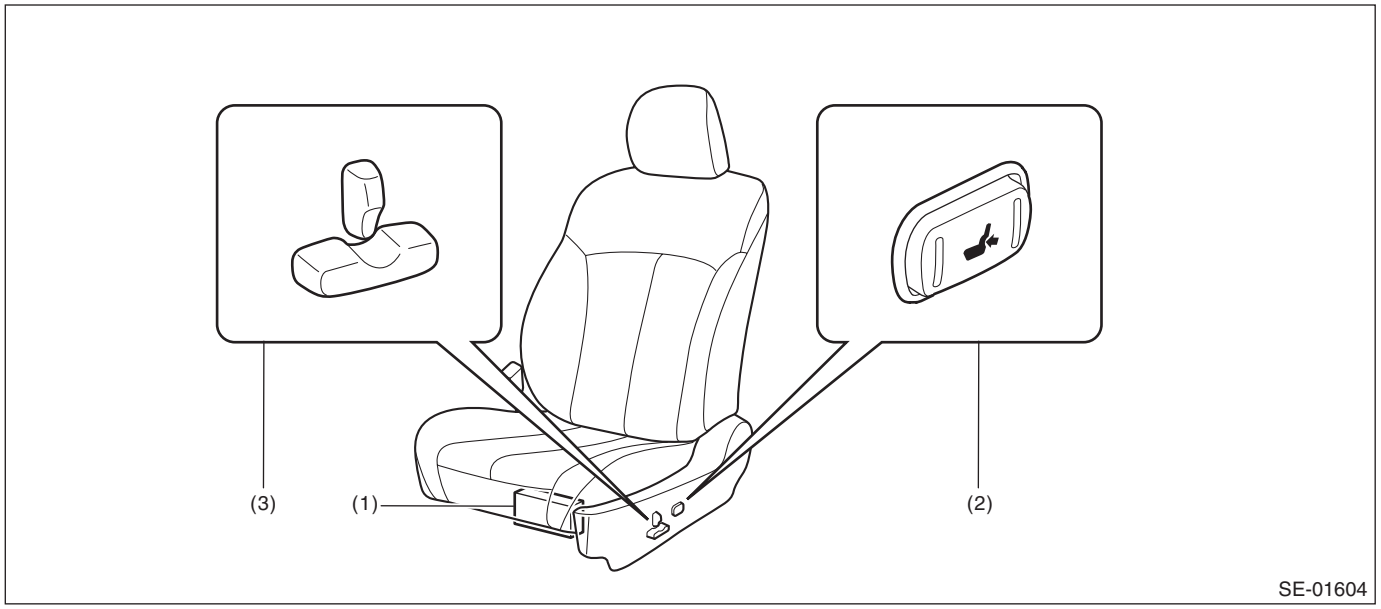
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

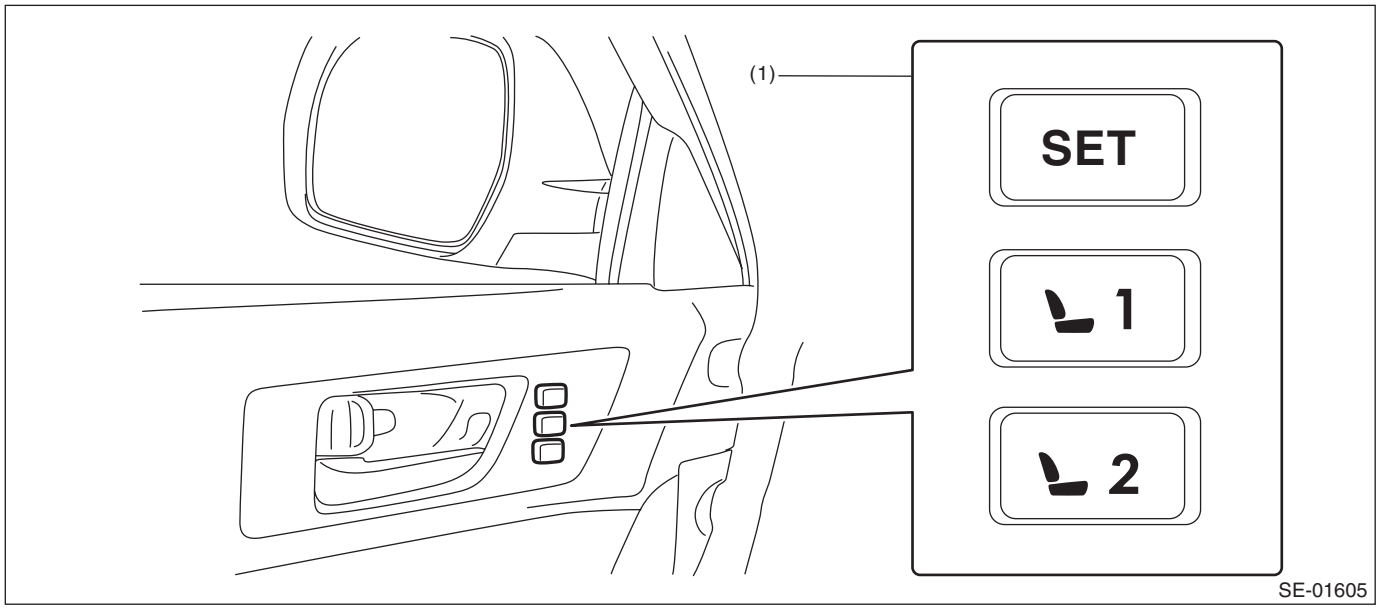
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

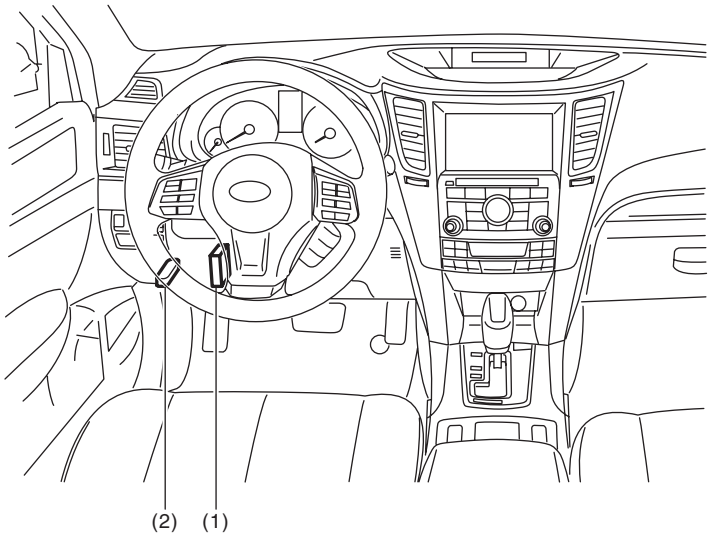
A: LOCATION



(1) Power seat control module (2) Lumbar switch (3) Power seat switch

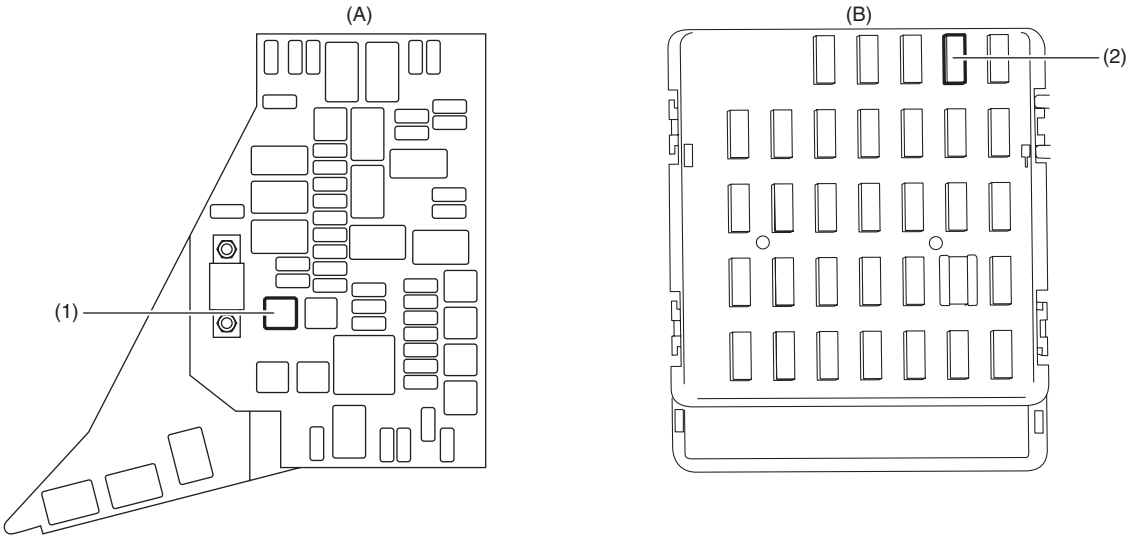


(1) Seat memory switch



SE-01606

(1) Body integrated unit (2) Data link connector



SE-01592

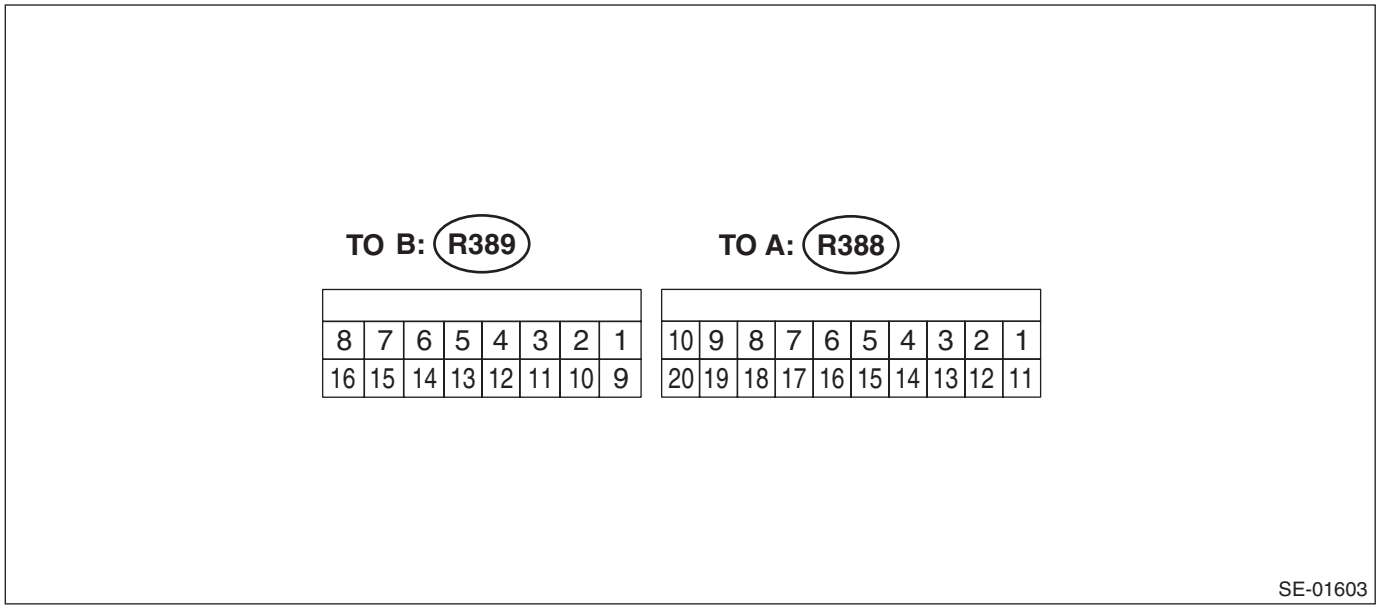
(A) Engine compartment fuse box (B) Interior fuse & relay box

(1) Fuse (30A) (2) Fuse (7.5A)

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

1. POWER SEAT CONTROL MODULE



Terminal No. (terminal symbol)	Item	Measuring condition	Standard
(R388) No. 2 (DOW)	Lifter SW (down)	SW ON	1.5 V or less
(R388) No. 3 (UP)	Lifter SW (up)	SW ON	1.5 V or less
(R388) No. 4 (DOWN)	Tilt SW (down)	SW ON	1.5 V or less
(R388) No. 5 (UP)	Tilt SW (up)	SW ON	1.5 V or less
(R388) No. 6 (RR)	Slide SW (rearward)	SW ON	1.5 V or less
(R388) No. 7 (FR)	Slide SW (forward)	SW ON	1.5 V or less
(R388) No. 8 (RR)	Reclining SW (rearward)	SW ON	1.5 V or less
(R388) No. 9 (FR)	Reclining SW (forward)	SW ON	1.5 V or less
(R388) No. 10 (+B) ←→ Chassis ground	Voltage	Always	10.5 — 16 V
(R388) No. 11 (IGN) ←→ Chassis ground	Voltage	When IG is ON	10.5 — 16 V
(R388) No. 12 (LIN)	—	Unmeasurable	Communication line
(R388) No. 13 (SW1)	Memory SW1	SW ON	1.5 V or less
(R388) No. 14 (SW2)	Memory SW2	SW ON	1.5 V or less
(R388) No. 15 (SET)	Memory SW SET	SW ON	1.5 V or less
(R388) No. 16 (PULS)	Reclining pulse signal	When the motor is in operation	Pulse output
(R388) No. 17 (PULS)	Tilt pulse signal	When the motor is in operation	Pulse output
(R388) No. 18 (PULS)	Lifter pulse signal	When the motor is in operation	Pulse output
(R388) No. 19 (PULS)	Slide pulse signal	When the motor is in operation	Pulse output
(R388) No. 20 (PULS GND)	GND for all pulse circuits	Always	1 Ω or less
(R389) No. 1 (UP)	Lifter motor up	When the motor is in operation	10.5 — 16 V
(R389) No. 2 (DOW)	Lifter motor down	When the motor is in operation	10.5 — 16 V
(R389) No. 3 (+B) ←→ Chassis ground	Voltage	Always	10.5 — 16 V
(R389) No. 4 (UP)	Tilt motor up	When the motor is in operation	10.5 — 16 V
(R389) No. 5 (DOWN)	Tilt motor down	When the motor is in operation	10.5 — 16 V
(R389) No. 6 (FR)	Reclining motor forward	When the motor is in operation	10.5 — 16 V
(R389) No. 7 (RR)	Reclining motor rearward	When the motor is in operation	10.5 — 16 V
(R389) No. 8 (+B) ←→ Chassis ground	Voltage	Always	10.5 — 16 V
(R389) No. 12 (GND) ←→ Chassis ground	Resistance	Always	1 Ω or less
(R389) No. 14 (GND) ←→ Chassis ground	Resistance	Always	1 Ω or less
(R389) No. 15 (RR)	Slide motor rearward	When the motor is in operation	10.5 — 16 V
(R389) No. 16 (FR)	Slide motor forward	When the motor is in operation	10.5 — 16 V

B: WIRING DIAGRAM

Refer to “Power Seat System” in the wiring diagram. <Ref. to WI-233, WIRING DIAGRAM, Power Seat System.>

6. Subaru Select Monitor

A: OPERATION

- For operation procedures, refer to the “PC application help for Subaru Select Monitor”.
- When the power seat control module cannot communicate with Subaru Select Monitor, perform “COMMUNICATION FOR INITIALIZING IMPOSSIBLE”.

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

When communication with power seat control module is impossible

DETECTING CONDITION:

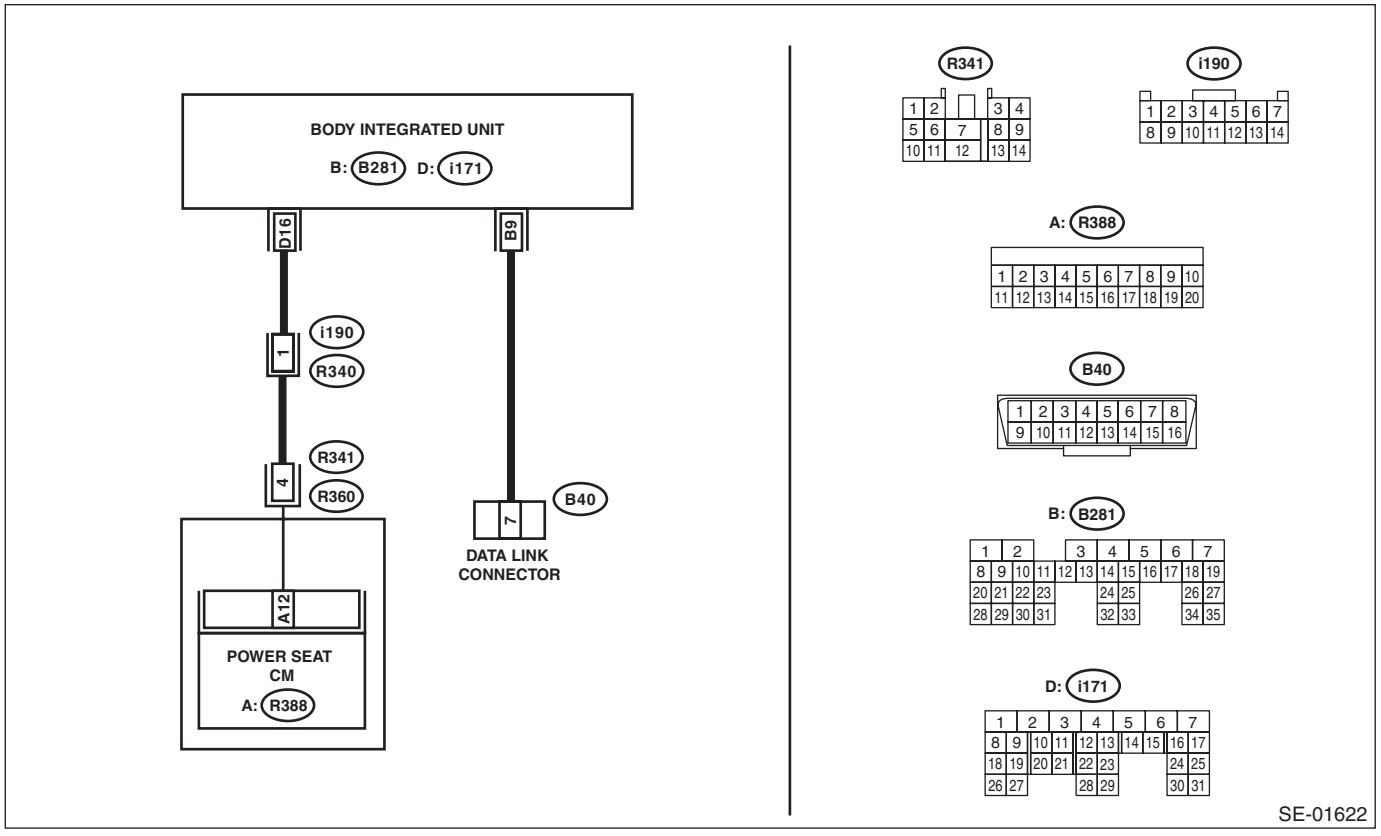
- Defective harness connector
- Power supply circuit malfunction
- Defective power seat control module
- Body integrated unit malfunctioning
- Defective LIN communication circuit
- Defective Subaru Select Monitor

TROUBLE SYMPTOM:

Communication is impossible between the power seat control module and Subaru Select Monitor.

WIRING DIAGRAM:

Power seat system <Ref. to WI-235, WITH MEMORY, WIRING DIAGRAM, Power Seat System.>



	Step	Check	Yes	No
1	**CHECK OTHER COMMUNICATION.** Perform communication with the system other than the power seat control module using the Subaru Select Monitor.	Is the communication to other control module possible?	Go to step **2**.	Perform the "Communication for Initializing Impossible" of LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
2	**CHECK LAN SYSTEM.** Read the DTC of the LAN system using the Subaru Select Monitor.	Is a DTC related to LIN communication detected?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK FOR POOR CONTACT.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of power seat control module. 3) Disconnect the connector of body integrated unit. 4) Connect the disconnected connectors. 5) Perform communication with the power seat control module using the Subaru Select Monitor.	Is communication possible?	It is possible that temporary poor communication occurs.	Replace the power seat control module. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.>

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

- For operation procedures, refer to the “PC application help for Subaru Select Monitor”.
- For details concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC).

NOTE:
Select a diagnostic code for the seat memory from {Diagnostic Code(s) Display} in “Integ. unit mode”.

8. Clear Memory Mode

A: OPERATION

For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
Select a diagnostic code for the seat memory from {Clear Memory} in “Integ. unit mode”.

9. List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Reference
B1630	LIN Communication Error	Malfunction of LIN communication is detected.	<Ref. to PSM(diag)-14, DTC B1630 LIN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1631	LIN Bus Short Circuit	Malfunction of LIN communication is detected.	<Ref. to PSM(diag)-15, DTC B1631 LIN BUS SHORT CIRCUIT , Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1632	Vehicle Speed Is Abnormal	Malfunction of vehicle speed signal is detected.	<Ref. to PSM(diag)-16, DTC B1632 VEHICLE SPEED IS ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1633	EPB Abnormal	Malfunction of data from electronic parking brake control module is detected.	<Ref. to PSM(diag)-17, DTC B1633 EPB ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1634	EEPROM Failure	Malfunction of EEPROM is detected.	<Ref. to PSM(diag)-18, DTC B1634 EEPROM FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1635	Power Supply Voltage Failure	Low battery voltage is detected.	<Ref. to PSM(diag)-19, DTC B1635 POWER SUPPLY VOLTAGE FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

10.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1630 LIN COMMUNICATION ERROR

DTC DETECTING CONDITION:
Poor LIN communication with body integrated unit.
TROUBLE SYMPTOM:
Seat operation is possible with manual operation, but not with memory function.
Registration is possible with memory SW, but not with keyless access push button start system.

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1630 current malfunction?	Go to step **2**.	Currently, it is normal. It is possible that temporary poor communication occurs.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1601 a current malfunction?	Perform the inspection according to the diagnosis for LAN system. <Ref. to LAN(diag)-102, DTC U1601 LIN COMMUNICATION (SEAT MEMORY) FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK BODY INTEGRATED UNIT.** 1) Replace with a power seat control module working properly. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.> 2) Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1630 current malfunction?	Replace the body integrated unit. <Ref. to SL-80, NOTE, Body Integrated Unit.>	There was an abnormality in power seat control module.

B: DTC B1631 LIN BUS SHORT CIRCUIT

DTC DETECTING CONDITION:
Poor LIN communication with body integrated unit. (LIN short circuit)
TROUBLE SYMPTOM:
Seat operation is possible with manual operation, but not with memory function.
Registration is possible with memory SW, but not with keyless access push button start system.

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1631 current malfunction?	Go to step **2**.	Currently, it is normal. It is possible that temporary poor communication occurs.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1601 a current malfunction?	Perform the inspection according to the diagnosis for LAN system. <Ref. to LAN(diag)-102, DTC U1601 LIN COMMUNICATION (SEAT MEMORY) FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK BODY INTEGRATED UNIT.** 1) Replace with a power seat control module working properly. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.> 2) Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1631 current malfunction?	Replace the body integrated unit. <Ref. to SL-80, NOTE, Body Integrated Unit.>	There was an abnormality in power seat control module.

C: DTC B1632 VEHICLE SPEED IS ABNORMAL

DTC DETECTING CONDITION:
Vehicle speed signal malfunction
TROUBLE SYMPTOM:
Seat operation is possible with manual operation, but not with memory function.
(Memory registration is possible.)

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1632 current malfunction?	Go to step **2**.	Currently, it is normal. It is possible that temporary poor communication occurs.
2	**CHECK DTC.** Inspect LAN system.	Is U1223 a current malfunction?	Perform the inspection according to the diagnosis for LAN system. <Ref. to LAN(diag)-102, DTC U1601 LIN COMMUNICATION (SEAT MEMORY) FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK VEHICLE SPEED SIGNAL OF VDC MODULE.** Stop the vehicle, and read the vehicle speed data of VDC module using Subaru Select Monitor.	Is the vehicle speed of VDC abnormal?	Replace the VDC module, or inspect the wheel speed sensor harness circuit.	Go to step **4**.
4	**CHECK BODY INTEGRATED UNIT VEHICLE SPEED SIGNAL.** Stop the vehicle, and read the front wheel speed data of body integrated unit using Subaru Select Monitor.	Is the vehicle speed of body integrated unit abnormal?	Replace the body integrated unit. <Ref. to SL-80, NOTE, Body Integrated Unit.>	Go to step **5**.
5	**CHECK POWER SEAT CONTROL MODULE.** 1) Replace with a power seat control module working properly. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.> 2) Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1632 current malfunction?	Replace the body integrated unit. <Ref. to SL-80, NOTE, Body Integrated Unit.>	There was an abnormality in power seat control module.

D: DTC B1633 EPB ABNORMAL

DTC DETECTING CONDITION:
EPB control module malfunction.
TROUBLE SYMPTOM:
Seat operation is possible with manual operation, but not with memory function.
(Memory registration is possible.)

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1633 current malfunction?	Go to step **2**.	Currently, it is normal. It is possible that temporary poor communication occurs.
2	**CHECK DTC.** Inspect LAN system.	Is U1229 a current malfunction?	Perform the inspection according to the diagnosis for LAN system. <Ref. to LAN(diag)-102, DTC U1601 LIN COMMUNICATION (SEAT MEMORY) FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step **3**.
3	**CHECK BODY INTEGRATED UNIT.** 1) Replace with a power seat control module working properly. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.> 2) Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1632 current malfunction?	Replace the body integrated unit. <Ref. to SL-80, NOTE, Body Integrated Unit.>	There was an abnormality in power seat control module.

E: DTC B1634 EEPROM FAILURE

DTC DETECTING CONDITION:
Power seat control module malfunction.
TROUBLE SYMPTOM:
Seat operation is possible with manual operation, but not with memory function.

Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1634 current malfunction?	Replace the power seat control module. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.>	Currently, it is normal. It is possible that temporary poor communication occurs.

F: DTC B1635 POWER SUPPLY VOLTAGE FAILURE

DTC DETECTING CONDITION:

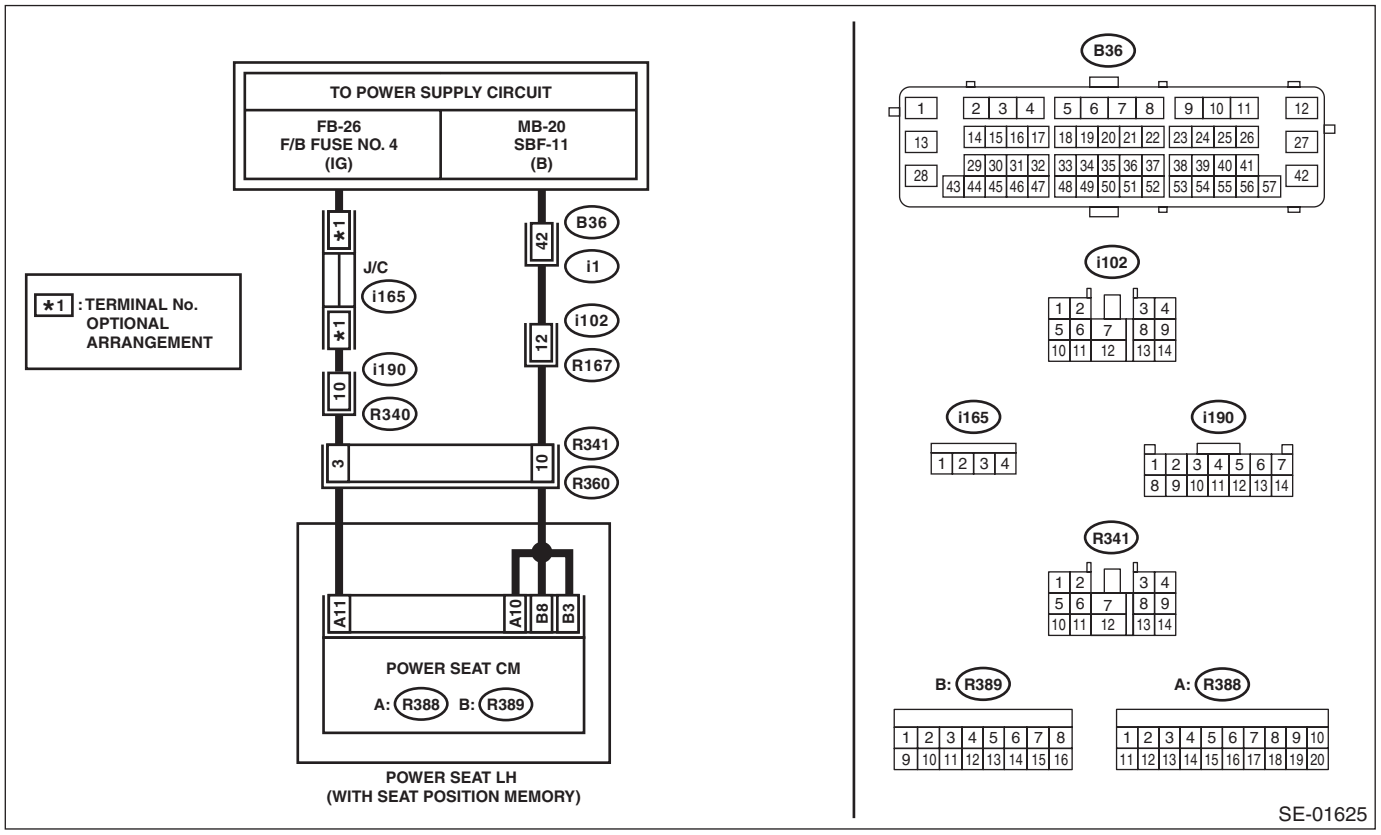
During the motor operation, voltage for power seat control module drops for a moment.

TROUBLE SYMPTOM:

- Seat positions cannot be memorized.
- Seat operation is possible with manual operation, but not with memory function.

WIRING DIAGRAM:

Power seat system <Ref. to WI-235, WITH MEMORY, WIRING DIAGRAM, Power Seat System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the power seat control module using the Subaru Select Monitor.	Is B1635 current malfunction?	Replace the power seat control module. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.>	Go to step **2**.
2	**CHECK DTC.** 1) Perform the clear memory operation. 2) Disconnect, and then connect the power seat control module connector. 3) Turn the ignition switch to ON. 4) Move the power seat. 5) Read the DTC of the power seat control module using the Subaru Select Monitor.	Does B1635 remain as past malfunction?	Go to step **3**.	Repair or replace the poor contact of connector.

Step		Check	Yes	No
3	**CHECK HARNESS.** 1) Disconnect the power seat control module connector. 2) Turn the ignition switch to ON. 3) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(R388) No. 10 (+) — Chassis ground (–):*** ***(R388) No. 11 (+) — Chassis ground (–):*** ***(R389) No. 3 (+) — Chassis ground (–):*** ***(R389) No. 8 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the power seat control module. <Ref. to SE-60, POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION), REMOVAL, Power Seat System.>	Repair the harness between power seat control module and fuse.

SECURITY AND LOCKS

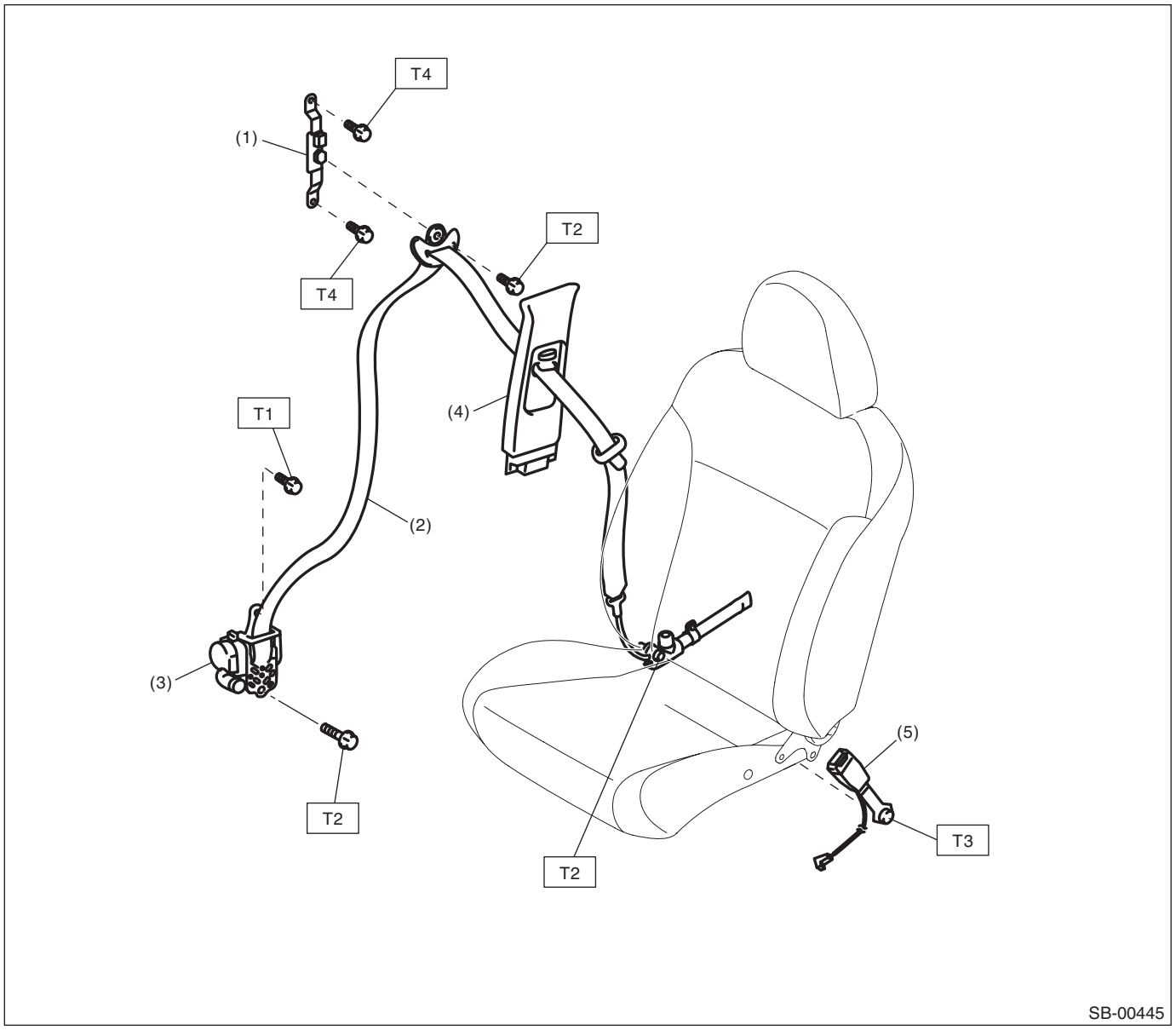
SL

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1. General Description

A: COMPONENT

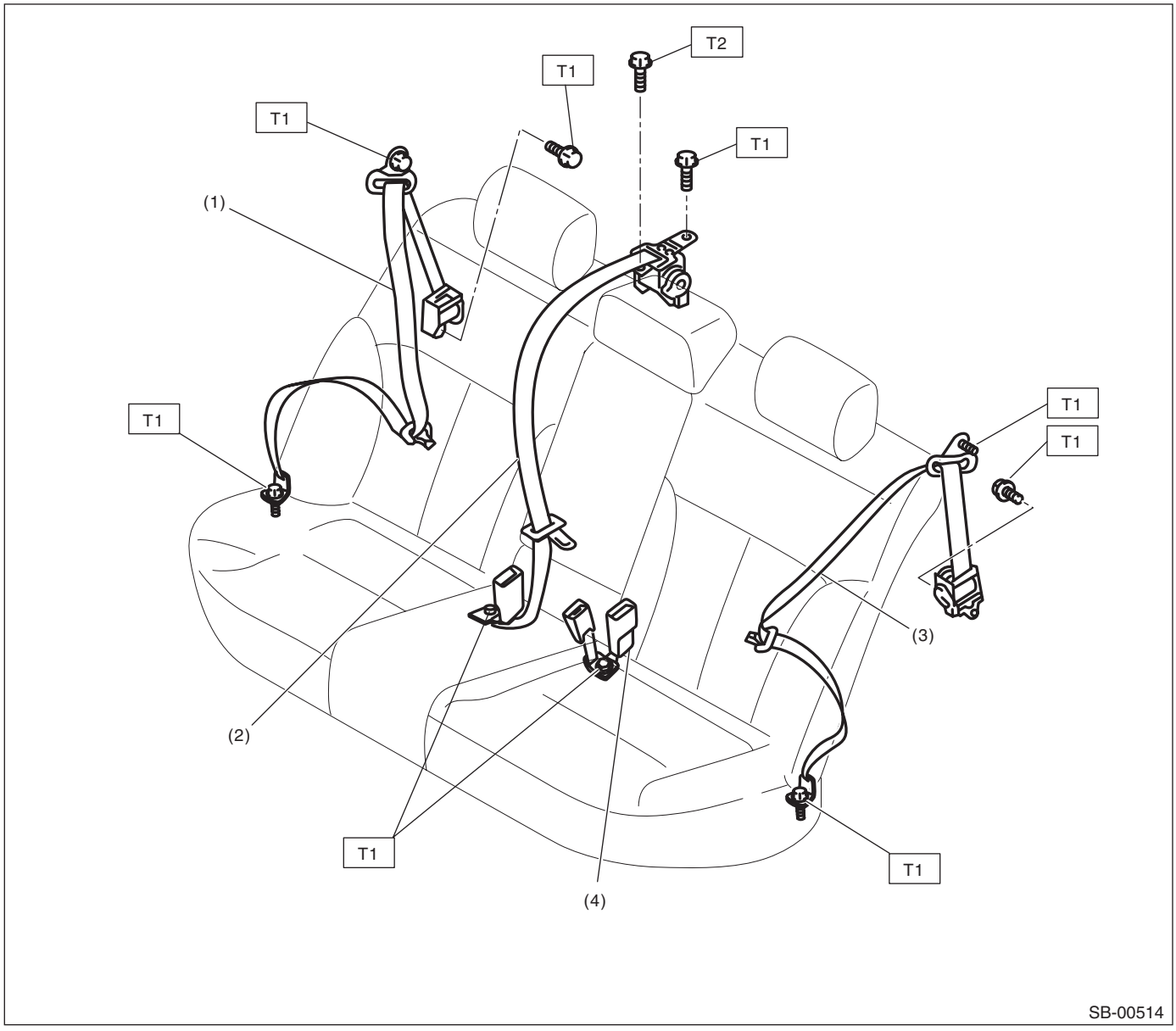
1. FRONT SEAT BELT



(1) Adjustable anchor ASSY
(2) Outer belt ASSY
(3) Seat belt retractor ASSY (outer belt ASSY)
(4) Center pillar trim UPR
(5) Inner belt ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 30 (3.06, 22.1)
T3: 38 (3.87, 28.0)
T4: 53 (5.40, 39.1)

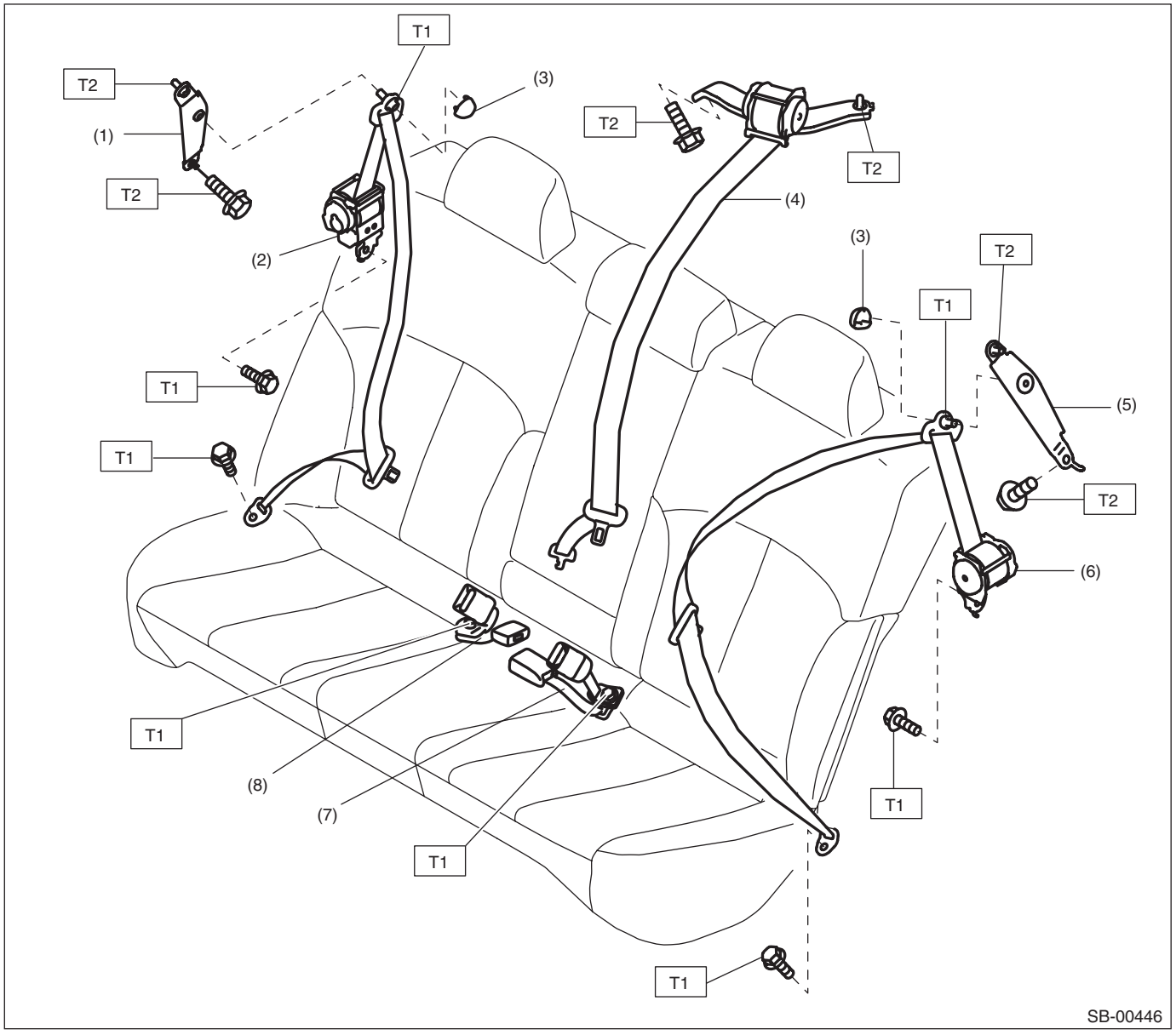
2. REAR SEAT BELT (SEDAN MODEL)



(1) Outer belt ASSY RH
(2) Shoulder belt ASSY CTR
(3) Outer belt ASSY LH
(4) Center belt ASSY LH

Tightening torque: N·m (kgf-m, ft-lb)
T1: 30 (3.06, 22.1)
T2: 53 (5.40, 39.1)

3. REAR SEAT BELT (OUTBACK MODEL)



(1) Shoulder anchor bracket RH
(2) Outer belt ASSY RH
(3) Shoulder anchor cover
(4) Shoulder belt ASSY CTR
(5) Shoulder anchor bracket LH
(6) Outer belt ASSY LH
(7) Center belt ASSY LH
(8) Center belt ASSY RH

Tightening torque: N·m (kgf-m, ft-lb)
T1: 30 (3.06, 22.1)
T2: 53 (5.40, 39.1)

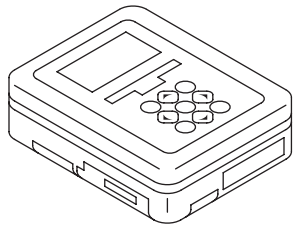
B: CAUTION

- Before starting the work, turn the ignition switch to OFF, disconnect the battery ground cable and wait for 60 seconds or more.
- The pretensioner system is fitted with a backup power supply. After disconnecting the battery ground cable, the pretensioner may operate if you do not wait for 60 seconds or more before starting pretensioner system servicing.
- Do not drop or apply any impact to the pretensioner.
- If oil, grease or water gets on the pretensioner, wipe it off immediately with a dry cloth.
- Do not expose the pretensioner to high temperature or flame.
- Do not allow current to flow through or voltage to reach the pretensioner. Do not use a circuit tester to check resistance of the pretensioner.
- Do not disassemble or attempt to repair the pretensioner. If it is dented, cracked or deformed, replace it with a new genuine part.
- Do not use the airbag or pretensioner parts from other vehicles. Always use a new genuine part for replacement.
- When handling a seat belt with deployed pretensioner, wear gloves and goggles. Wash your hands afterwards.
- Do not reuse a seat belt with deployed pretensioner.
- Before disposal, make sure to perform an operation process to the pretensioners.
- If material from the pretensioner enters the eyes or contacts skin during operation process, wash it away with clean water, and then consult a doctor.

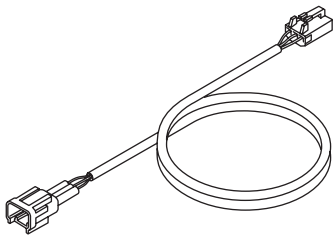
C: PREPARATION TOOL

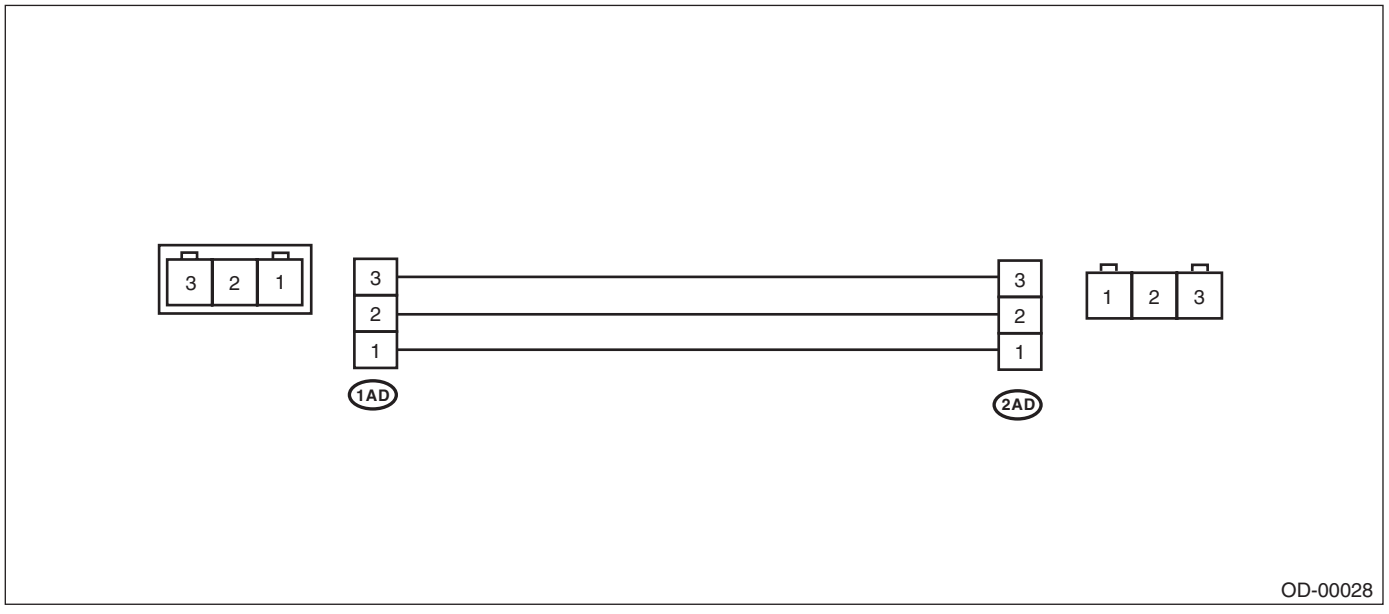
1. SPECIAL TOOL

- Subaru Select Monitor

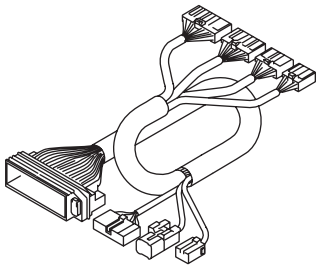
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

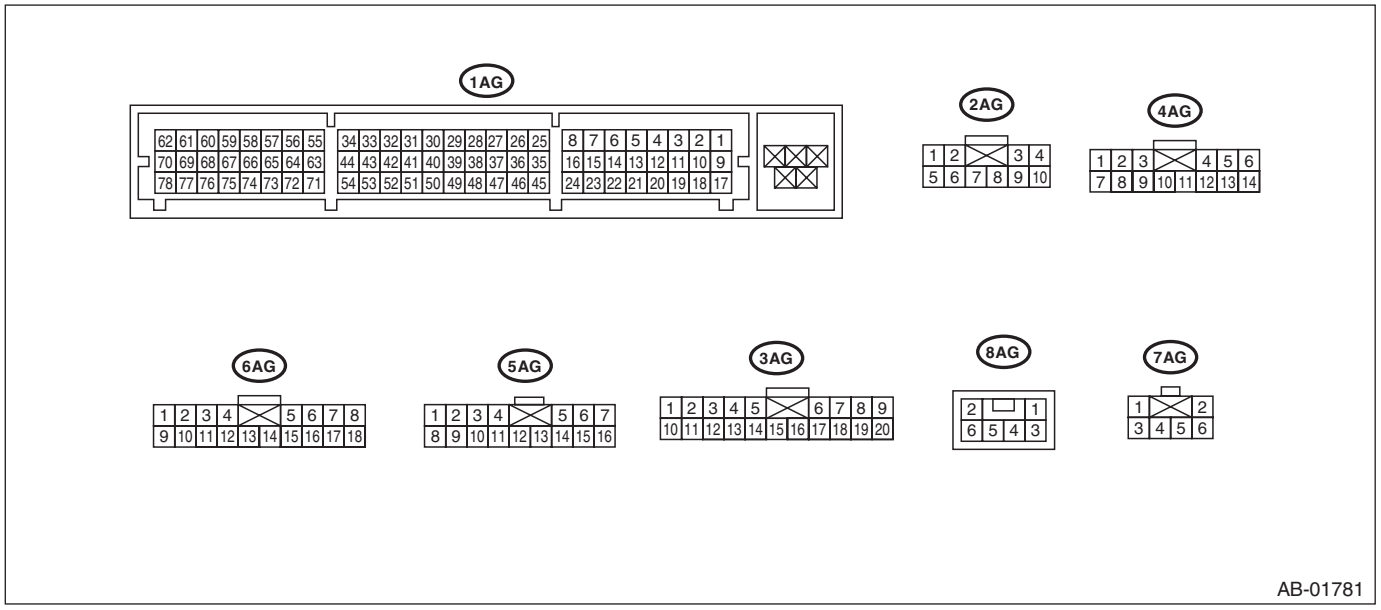
- TEST HARNESS AD

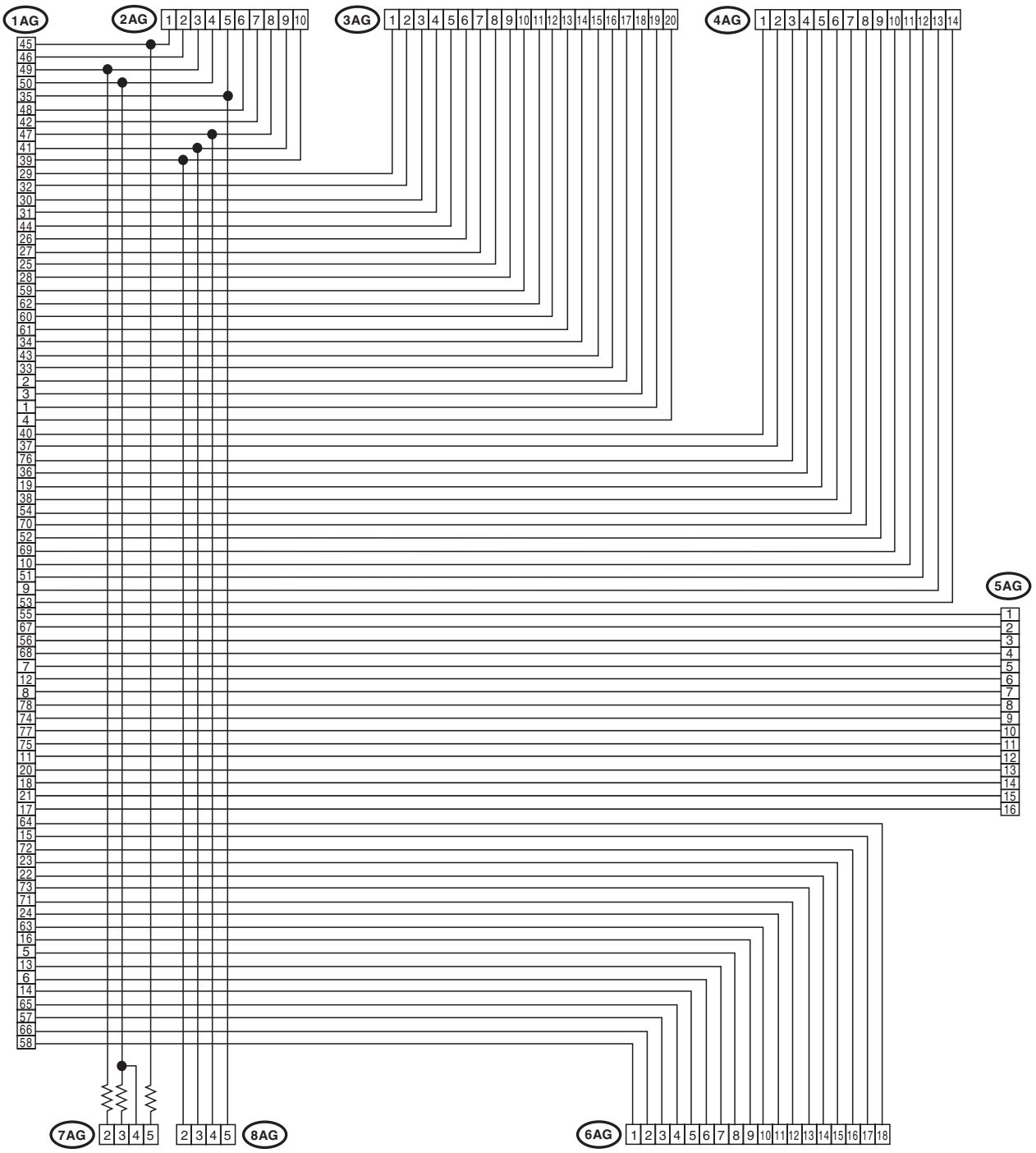
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA020	98299XA020	TEST HARNESS AD	Used when measuring voltage and resistance of the occupant detection system.



- TEST HARNESS AG

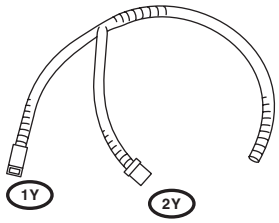
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG070	98299AG070	TEST HARNESS AG	Used when measuring voltage and resistance of airbag control module.

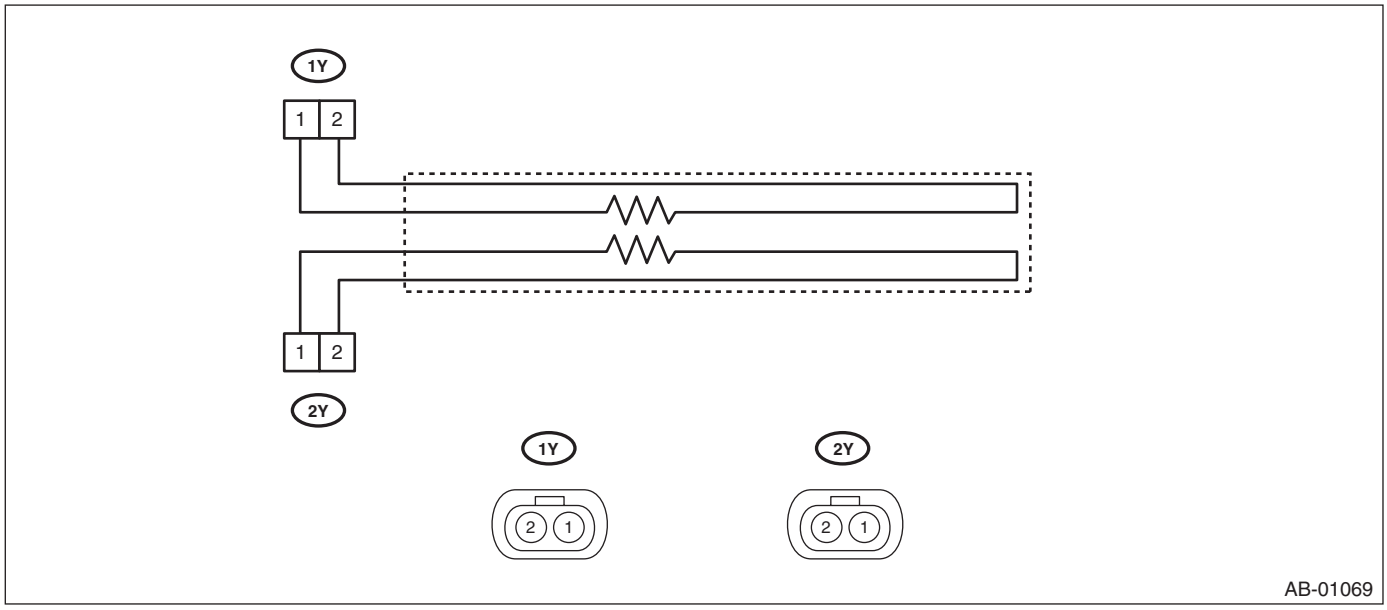




AB-01902

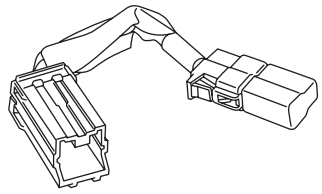
- TEST HARNESS Y

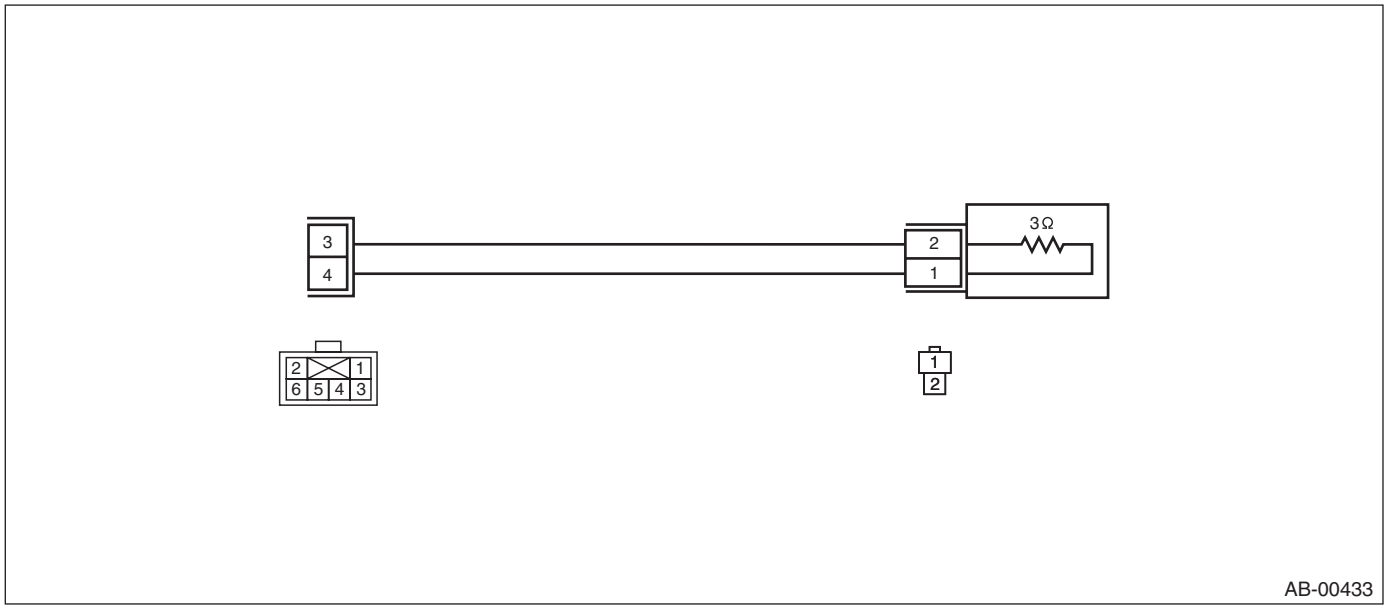
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for troubleshooting seat belt buckle switch.



AB-01069

- AIRBAG RESISTOR

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299PA040	98299PA040	AIRBAG RESISTOR	Used in replacement of airbag module for which resistance value is same as airbag module. Two STs are required for diagnosis of two-stage inflator type airbag module.



2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.

2. Pretensioner Connector

A: PROCEDURE

For connectors of seat belt pretensioner and buckle switch RH, refer to “Airbag System” or “Occupant Detection System”.

- Airbag system: <Ref. to AB-19, PROCEDURE, Airbag Connector.>
- Occupant detection system: <Ref. to OD(diag)-8, PROCEDURE, Airbag Connector.>

3. Inspection Locations after a Collision

A: INSPECTION

Refer to “Inspection Locations After a Collision” in the AIRBAG SYSTEM section. <Ref. to AB-30, Inspection Locations after a Collision.>

4. Seat Belt Warning System

A: WIRING DIAGRAM

Refer to “Seat Belt Warning System” in the wiring diagram. <Ref. to WI-271, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

CAUTION:
• Before diagnosing the airbag system, always turn the ignition switch to OFF, disconnect the battery ground cable, and then wait for 60 seconds or more.
• When replacing the airbag module, seat belt pretensioner, roll connector, control module, or sensors, reconnect the replacement part and check that the warning light operates normally.
• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver’s and passenger’s seats for safety.
• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.

	Step	Check	Yes	No
1	**CHECK CURRENT SETTINGS.** 1) Prepare the Subaru Select Monitor. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) Select the “current data display” and read the data of the “Belt Warning Switch”.	Is the belt warning display ON?	Go to step **2**.	Turn the belt warning ON with unit customization.
2	**CHECK CURRENT DATA.** 1) Select the “current data display” and read the data of the “IG power supply voltage”. 2) Turn the ignition switch ON ←→ OFF.	Does the voltage change between 10 V or higher ←→ less than 1.5 V, according to the ignition switch ON ←→ OFF operation?	Go to step **3**.	Check the ignition switch circuit.
3	**CHECK FUNCTION.** 1) Sit on the driver’s seat and passenger’s seat and disconnect the seat belts of the both. 2) Turn the ignition switch to ON (engine OFF). 3) Check the illumination of the driver’s seat belt warning light in the combination meter, and the passenger’s seat belt warning light in the clock, and the sounding of the buzzer.	Do the driver’s warning light and passenger’s warning light blink and the buzzer sound while blinking?	Go to step **4**.	• Malfunction of the driver’s seat belt warning light → Go to step **10**. • Malfunction of the passenger’s seat belt warning light → Go to step **16**. • The buzzer does not sound → Go to step **6**.
4	**CHECK FUNCTION.** 1) Wait until the buzzer sound stops in step 3. (for approximately six seconds after starting sounding) 2) Connect and disconnect the seat belts of the driver’s and passenger’s. 3) Check the illumination of the driver’s seat belt warning light in the combination meter and the passenger’s seat belt warning light in the clock.	Do the seat belts warning light illuminate ←→ go off according to the operation?	Go to step **5**.	• Malfunction of the driver’s seat belt warning light → Go to step **6**. • Malfunction of the passenger’s seat belt warning light → Go to step **12**.

	Step	Check	Yes	No
5	**CHECK FUNCTION.** 1) Wait until the buzzer sound stops in step 3. (for approximately six seconds after starting sounding) 2) Start the engine, and set the vehicle speed at 20 km/h (12 MPH) or more. 3) Check the seat belt warning lights of the driver's and the passenger's, and if the warning buzzer sounds.	Do the driver's warning light and passenger's warning light blink and the buzzer sound while blinking?	Seat belt warning system is normal.	Go to step **20**.
6	**CHECK CURRENT DATA.** 1) Select the "current data display" and read the data of the seat belt switch of the driver's. 2) Connect and disconnect the seat belt buckle.	Does the seat belt SW display turn ON ←→ OFF according to the operation?	Go to step **10**.	Go to step **7**.
7	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for 60 seconds or more. 2) Disconnect the connector of body integrated unit and the seat belt buckle switch. 3) Check for short circuit to battery, open circuit and short circuit to ground between the body integrated unit and the seat belt buckle switch LH. ***Connector & terminal*** ***Manual seat*** ***(i84) No. 30 — (R108) No. 1:*** ***Power seat*** ***(i84) No. 30 — (R381) No. 1:***	Is the harness normal?	Go to step **8**.	Repair or replace the harness.
8	**CHECK HARNESS.** Measure the resistance between the seat belt buckle switch LH and chassis ground. ***Connector & terminal*** ***Manual seat*** ***(R108) No. 2 — Chassis ground:*** ***Power seat*** ***(R381) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **9**.	Repair or replace the harness.
9	**CHECK SEAT BELT BUCKLE SWITCH LH.** Measure the resistance between the connector terminals of the driver's seat belt switch when the driver's seat belt is fastened and detached. ***Connector & terminal*** ***Manual seat*** ***(R108) No. 1 — (R108) No. 2:*** ***Power seat*** ***(R381) No. 1 — (R381) No. 2:***	Is the resistance when the belt is fastened 1 MΩ or more, and less than 10 Ω when the belt is detached?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Replace the inner belt assembly LH. <Ref. to SB-17, OUTER BELT ASSY, REMOVAL, Front Seat Belt.>
10	**CHECK DTC.** Read the DTC using Subaru Select Monitor.	Is any CAN-related body system DTC detected?	Check the CAN system according to the DTC.	Go to step **11**.
11	**CHECK COMBINATION METER.** Perform the self-diagnosis of combination meter. <Ref. to IDI-8, SELF-DIAGNOSIS DISPLAY MODE, OPERATION, Combination Meter System.>	At the start of combination meter self diagnosis, did the buzzer sound and the seat belt warning light illuminate?	Replace the body integrated unit or the combination meter. Or replace both. It may be due to the transmission failure of the body integrated unit or the reception failure of the combination meter.	Replace the combination meter. <Ref. to IDI-25, REMOVAL, Combination Meter.>

	Step	Check	Yes	No
12	**CHECK CURRENT DATA.** 1) Sit in the passenger's seat. 2) Select "Current Data Display" and display the data of "P seatbelt SW input". 3) Fasten and detach the passenger's side seat belt buckle, and read the data of the seat belt switch. <Ref. to BC(diag)-12, OPERATION, Read Current Data.>	Does the seat belt switch display turn ON ←→ OFF according to the operation of the seat belt buckle?	Go to step **16**.	Go to step **13**.
13	**CHECK AIRBAG SYSTEM AND OCCUPANT DETECTION SYSTEM.** Perform the check in accordance with the diagnostic procedure DTC B1650 of the airbag system. <Ref. to OD(diag)-23, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is there any problem on the inspection result?	Go to step **14**.	Repair or replace with new parts according to DTC 27.
14	**CHECK BUCKLE SWITCH RH.** Perform the check in accordance with the diagnostic procedure DTC B1655 of the occupant detection system. <Ref. to OD(diag)-25, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is there any problem on the inspection result?	Go to step **15**.	Repair or replace with new parts according to DTC 37.
15	**CHECK AIRBAG CONTROL MODULE AND BODY INTEGRATED UNIT.** Check the airbag control module, occupant detection sensor and seat belt buckle switch RH. Perform the check in accordance with the diagnostic procedure DTC B16F1 of the airbag system. <Ref. to AB(diag)-89, DTC B16F1 PASSENGER'S SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>	Is there any problem on the inspection result?	Replace the body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>	Repair or replace with new parts according to DTC 39.
16	**CHECK CLOCK POWER SUPPLY VOLTAGE.** 1) Disconnect the clock connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the ignition power supply and the clock. ***Connector & terminal*** ***(i59) No. 10 (+) — Chassis ground (–):*** ***(i59) No. 8 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **17**.	Check the harness for a open or short between the fuse and clock.
17	**CHECK CLOCK GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between clock and chassis ground. ***Connector & terminal*** ***(i59) No. 6 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **18**.	Repair or replace the harness.
18	**CHECK BODY INTEGRATED UNIT DATA.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC detected?	Perform the diagnosis according to DTC.	Go to step **19**.

	Step	Check	Yes	No
19	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness of the body integrated unit and the combination meter. 3) Measure the resistance between body integrated unit and combination meter. ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 33:*** ***(i84) No. 35 — (i10) No. 32:***	Is the resistance less than 10 Ω?	Go to step **20**.	Repair or replace the harness.
20	**CHECK HARNESS BETWEEN CLOCK AND COMBINATION METER.** 1) Disconnect the harness of the clock and the combination meter. 2) Measure the resistance between clock and combination meter. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 3:***	Is the resistance less than 10 Ω?	Go to step **21**.	Repair or replace the harness.
21	**CHECK COMMUNICATION STATUS BETWEEN CLOCK AND COMBINATION METER.** 1) Remove the clock, and install a properly operating clock (new clock). 2) Connect the connector and then turn the ignition switch to ON. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 3:***	Is the clock properly displayed?	Replace the clock.	Replace the meter case assembly.

5. Front Seat Belt

A: REMOVAL

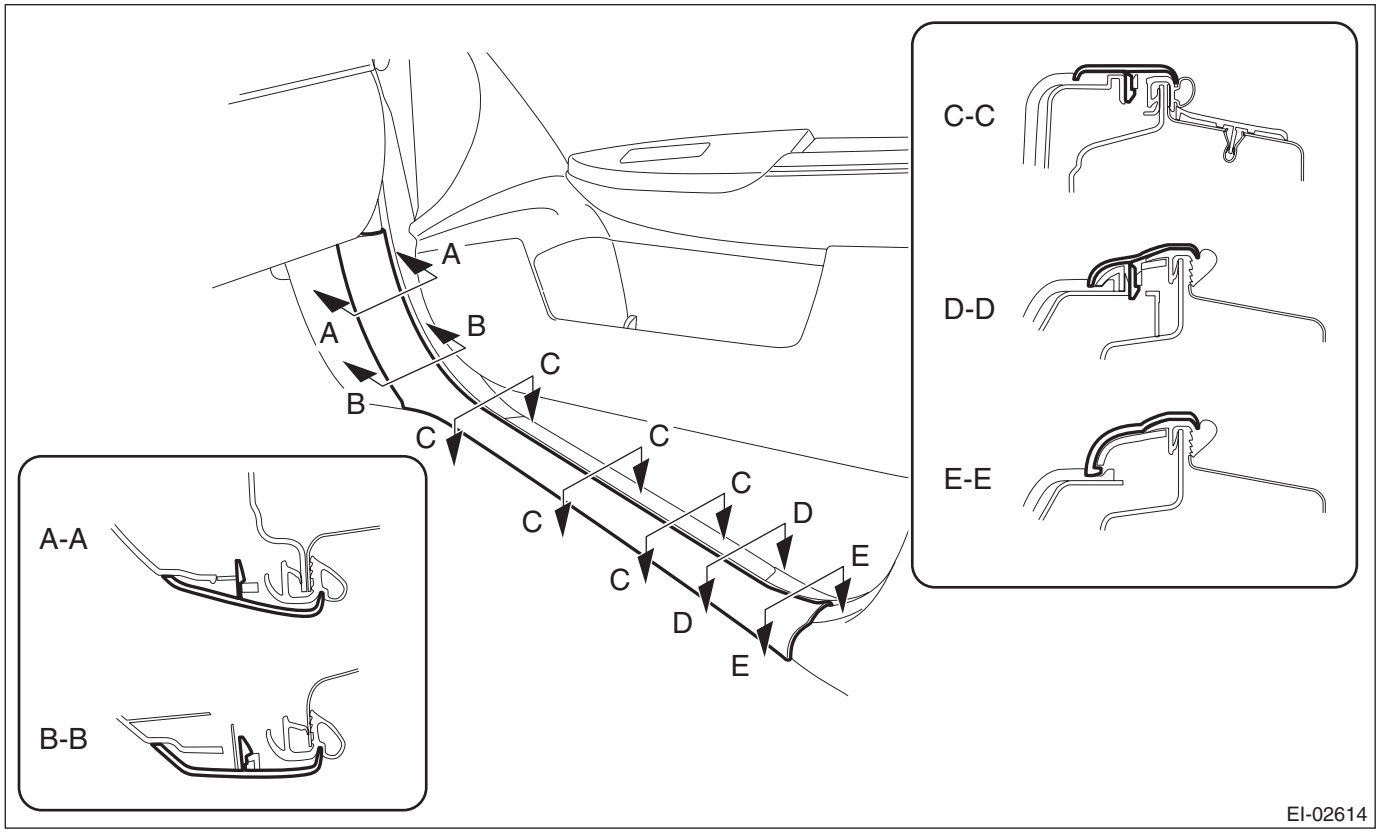
1. OUTER BELT ASSY

CAUTION:
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.
• Do not drop or subject the pretensioner to any impact.
• Since the pretensioner and bracket are integrated as a unit, do not disassemble them.
1) Before working, turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more.

NOTE:
Remove the front and rear bolts from the slide rail of the power seat before removing the battery ground.
2) Tilt the backrest forward and move the seat to the front most position.

CAUTION:
For the power seat, after moving the seat, check that the battery ground has been removed. If not, disconnect the battery ground cable and wait for 60 seconds or more.
3) Release the claws, and then remove the side sill cover - front INN. (On the side where seat belt assembly is removed)

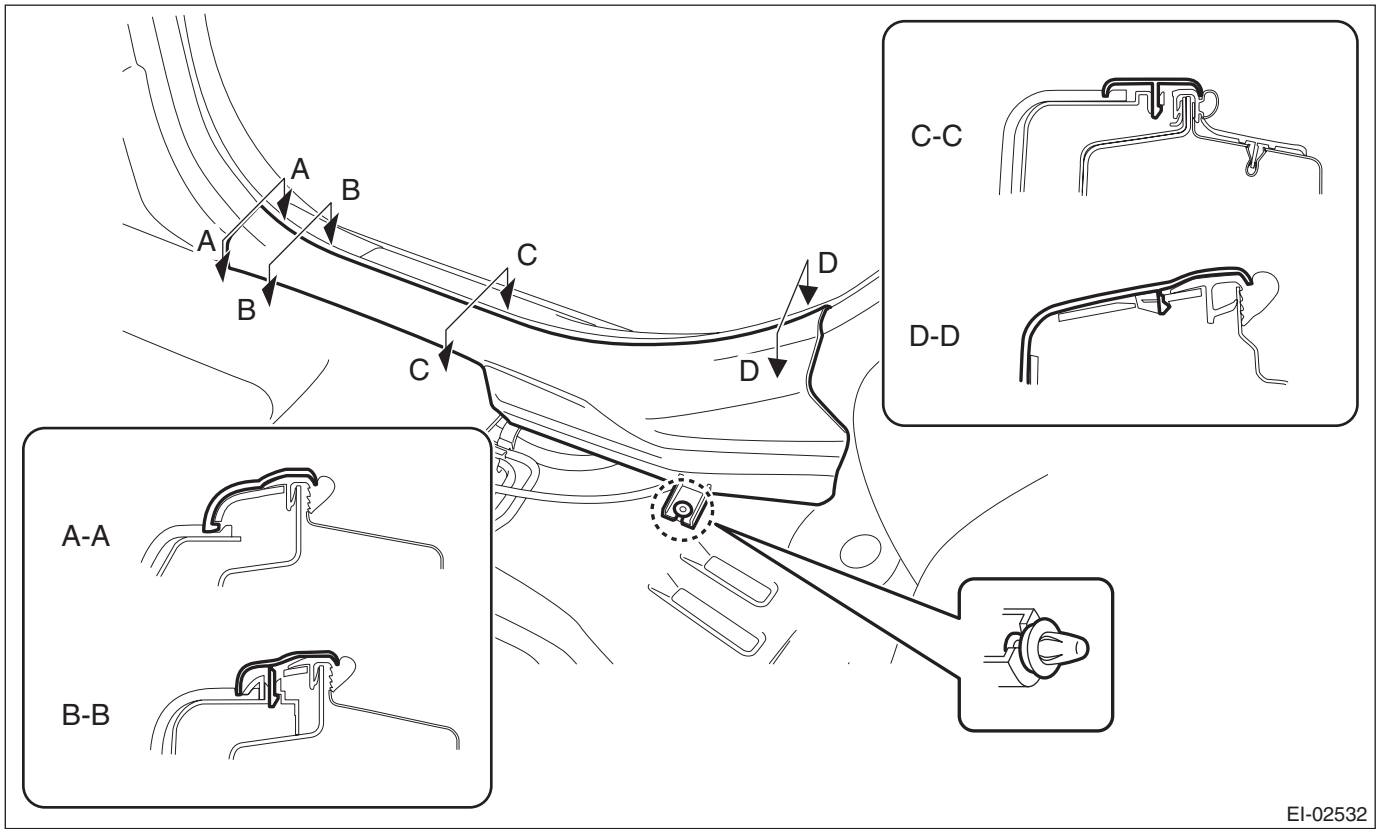
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

4) Release the clips and claws, and then remove the side sill cover - rear INN. (On the side where seat belt assembly is removed)

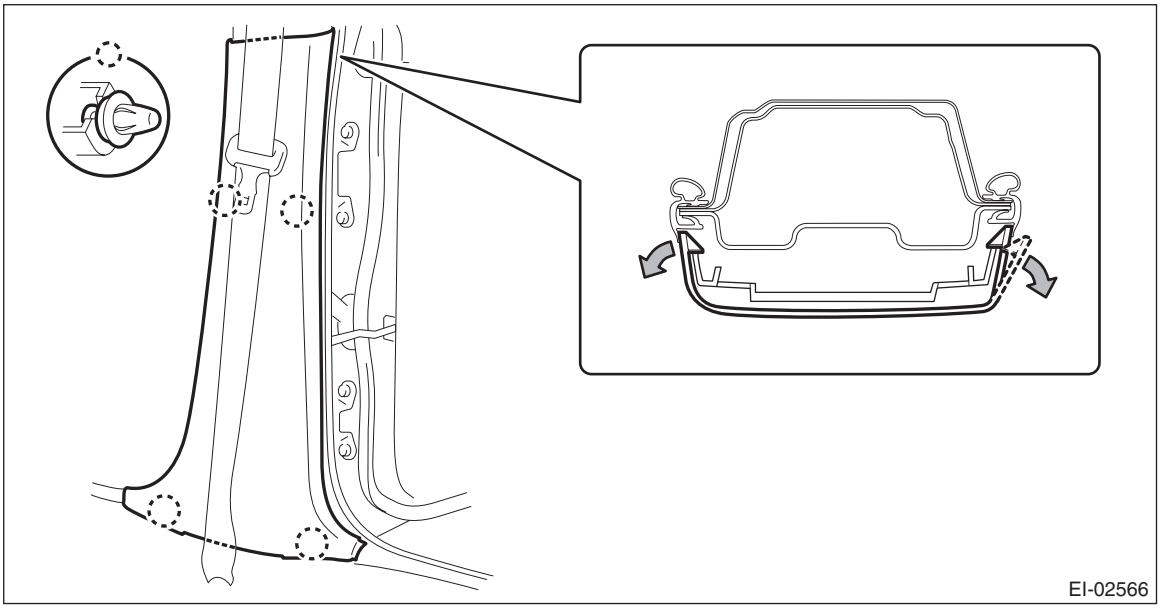
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

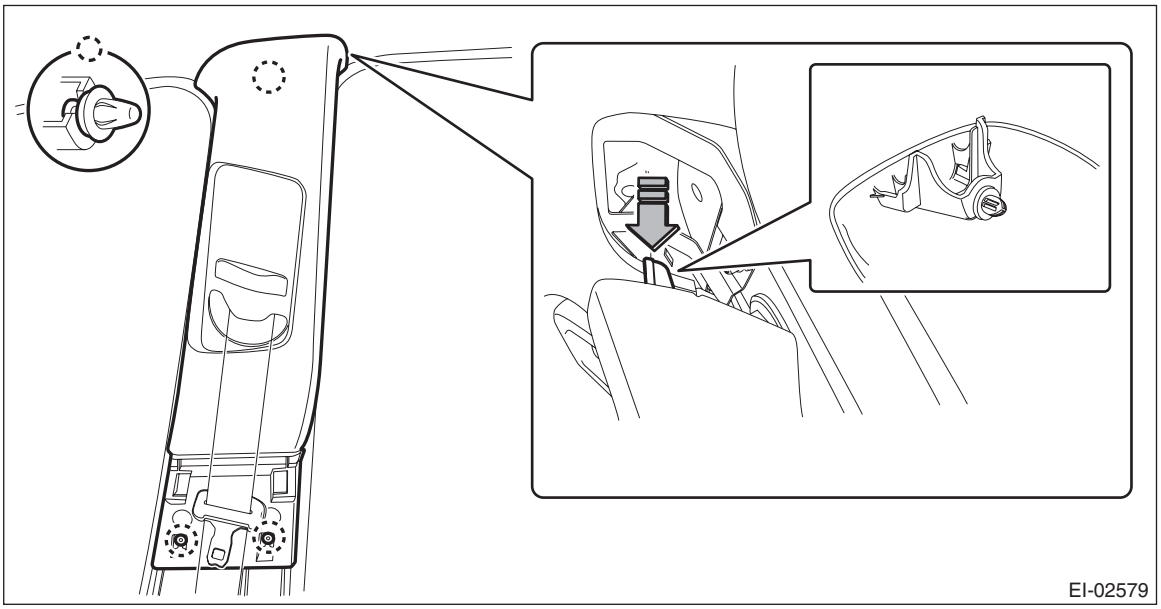
5) Remove the center pillar trim LWR. (On the side where seat belt assembly is removed)
(1) Release the clip by pulling the center pillar trim LWR toward you.
(2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.

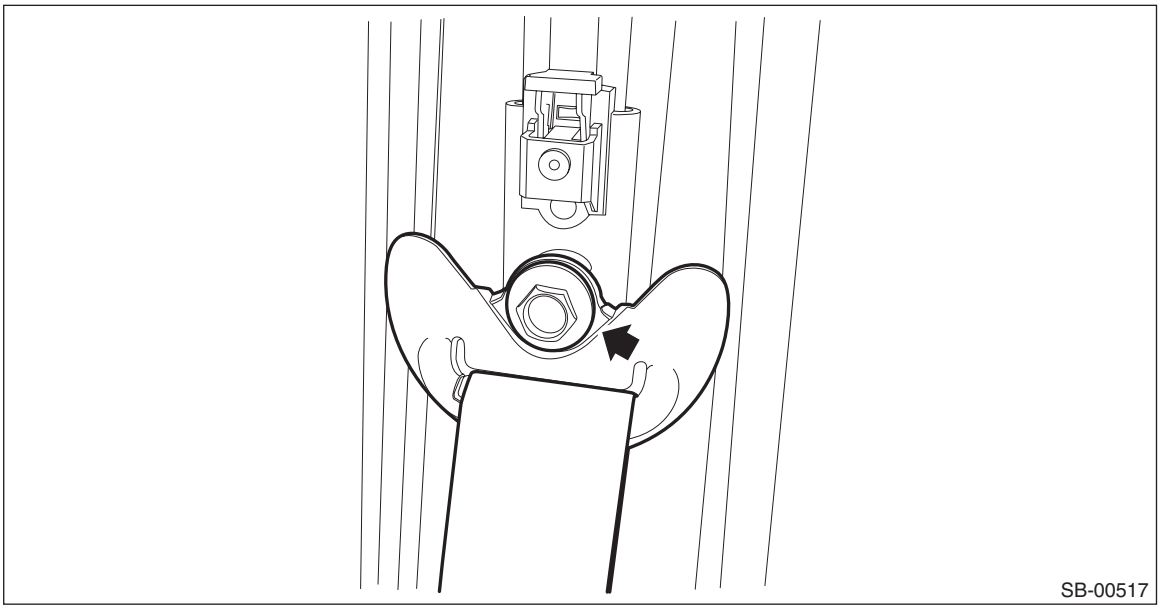

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NOTE:
First release the claw located to the rear of the vehicle.
6) Remove the center pillar trim UPR. (On the side where seat belt assembly is removed)
(1) Release the clip by pulling the lower part of the trim toward you.
(2) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the center pillar trim UPR.

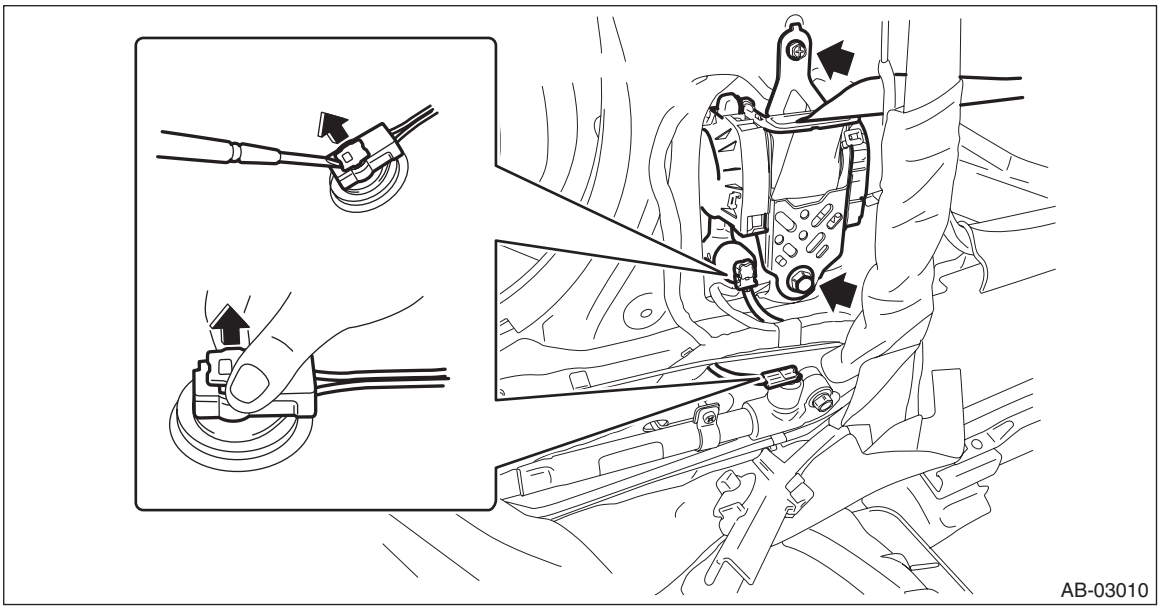
CAUTION:
Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.


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(3) Remove the shoulder anchor bolt.



7) Remove the seat belt assembly.
(1) Turn over the floor mat and disconnect the connectors of pretensioner and lap seat belt pretensioner.
(2) Remove the bolt to remove the seat belt retractor and lower anchor bolt.



(3) Pull out the seat belt from the center pillar trim UPR.

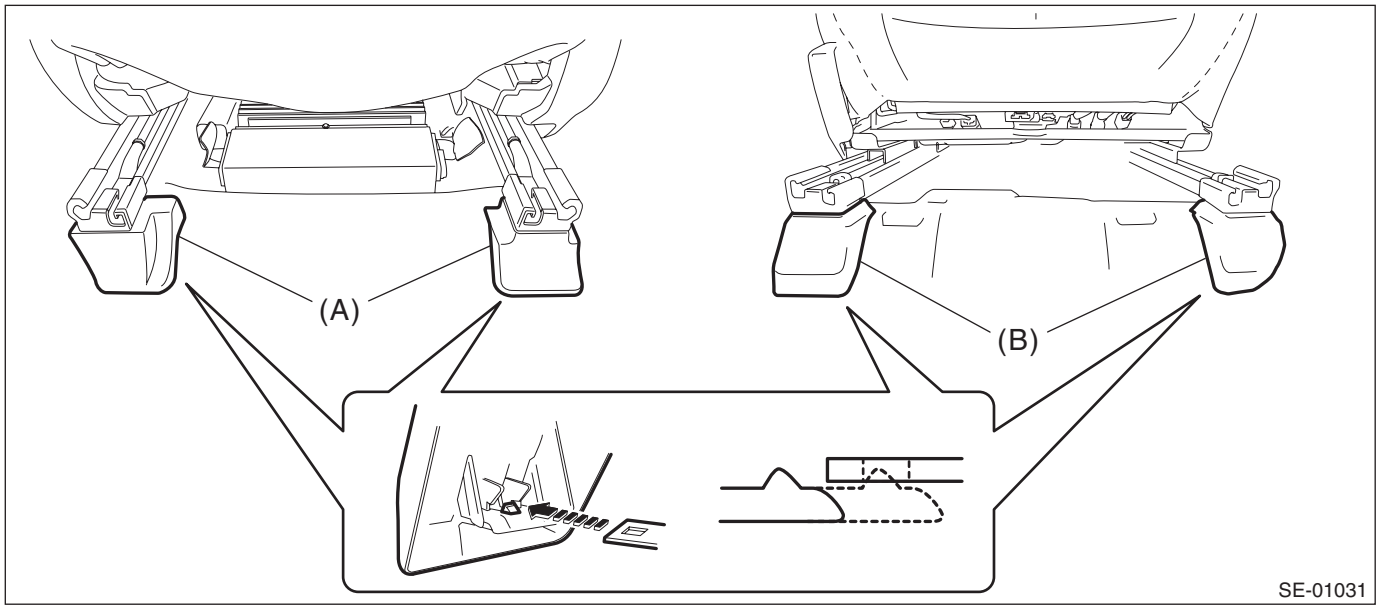
2. INNER BELT ASSY

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

NOTE:
For the power seat, remove the slide rail installing bolt before removing the battery ground.

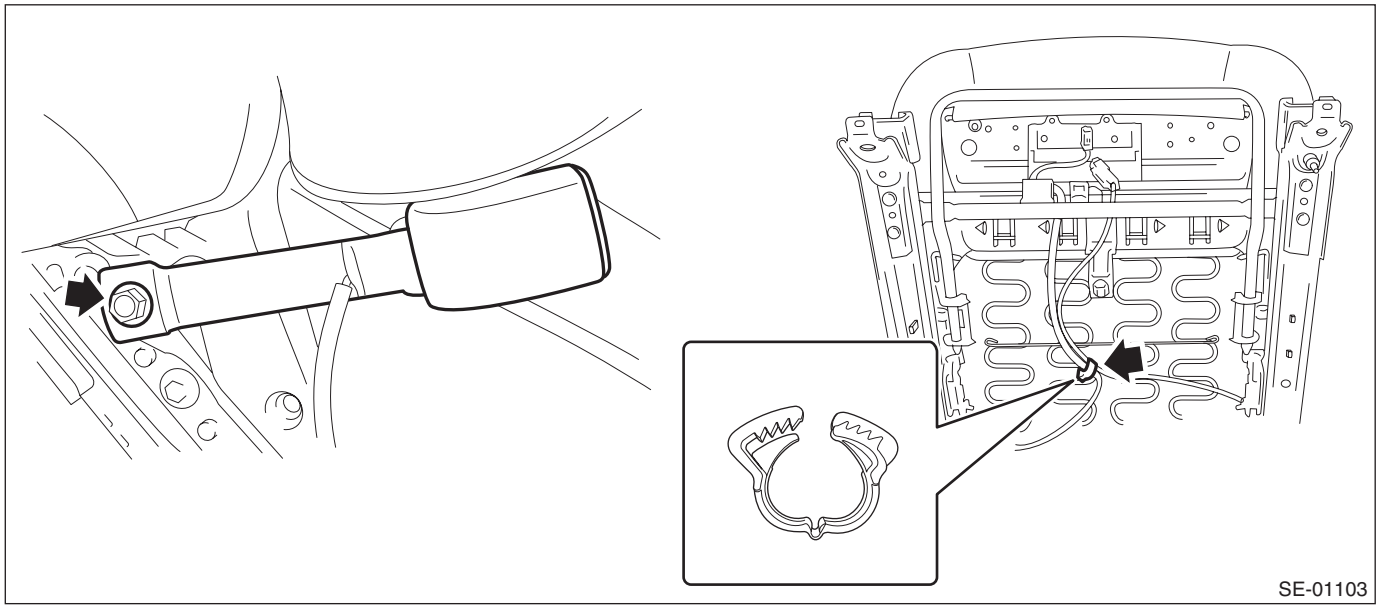
3) Remove the front seats.
(1) Tilt the backrest forward and move the seat to the front most position.
(2) Remove the rear bolt cover (A) and remove the two bolts.
(3) Move the seat to the rearmost position.
(4) Remove the front bolt cover (B) and remove the two bolts.



(5) Disconnect the connector under the seat.

CAUTION:
Disconnect the ground cable from battery, and wait 60 seconds before disconnecting the connector.
- Seat belt warning light connector (driver's seat)
- Occupant detection system harness connector (passenger's seat)
- Side airbag connector
- Seat heater connector (model with seat heater)
- Power seat connector (model with power seats)
- Headrest monitor connector (model with headrest monitor)

4) Remove the inner seat belt assembly.
(1) Remove the nut and remove the inner seat belt assembly.
(2) Remove the clip for the inner seat belt harness located under the seat cushion.



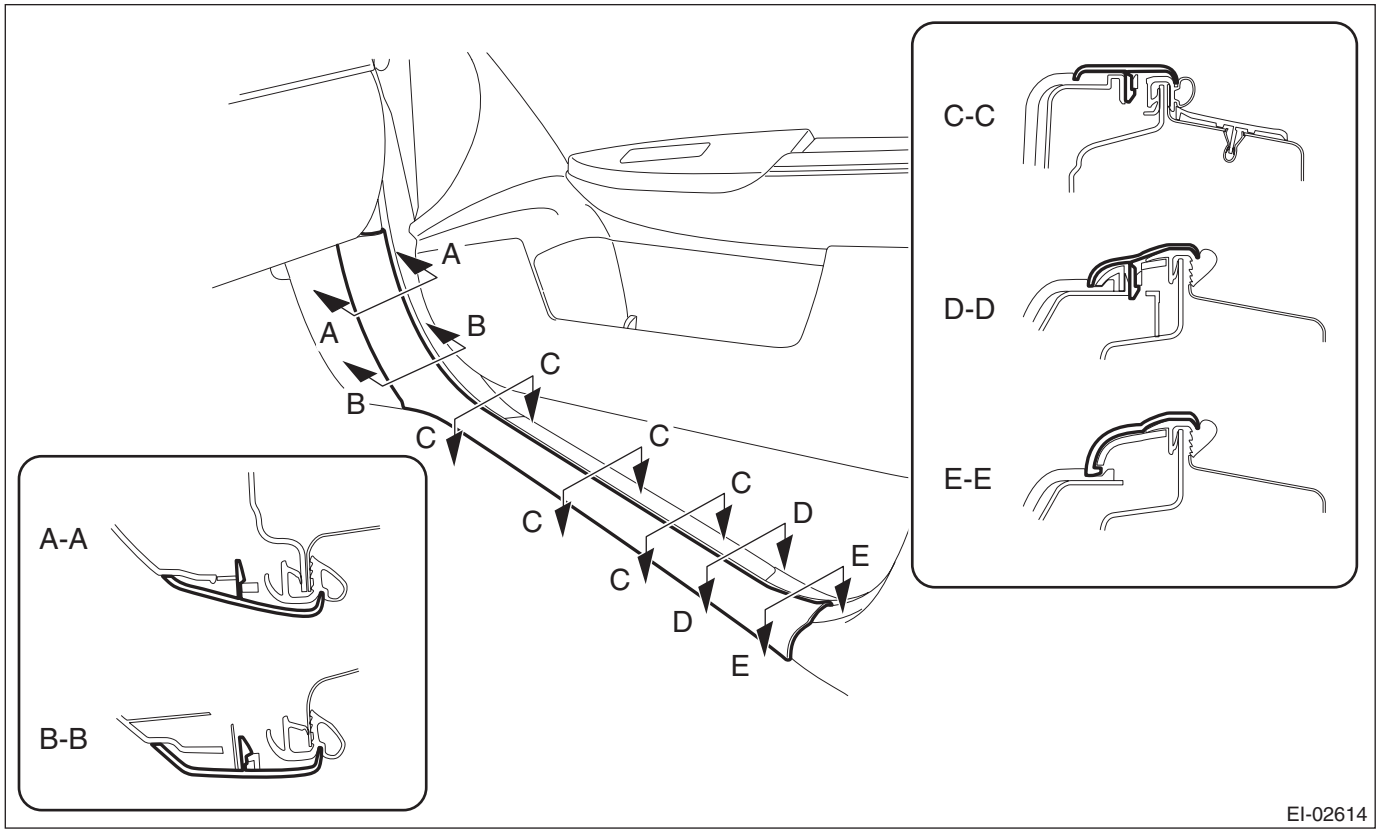
3. ADJUSTABLE ANCHOR ASSY

CAUTION:
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.
• Do not drop or subject the pretensioner to any impact.
• Since the pretensioner and bracket are integrated as a unit, do not disassemble them.
1) Before working, turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more.

NOTE:
For the power seat model, move the seat all the way forward before removing the battery ground terminal.
2) Tilt the backrest forward and move the seat to the front most position.

CAUTION:
For the power seat, after moving the seat, check that the battery ground has been removed. If not, disconnect the battery ground cable and wait for 60 seconds or more.
3) Release the claws, and then remove the side sill cover - front INN. (On the side where seat belt assembly is removed)

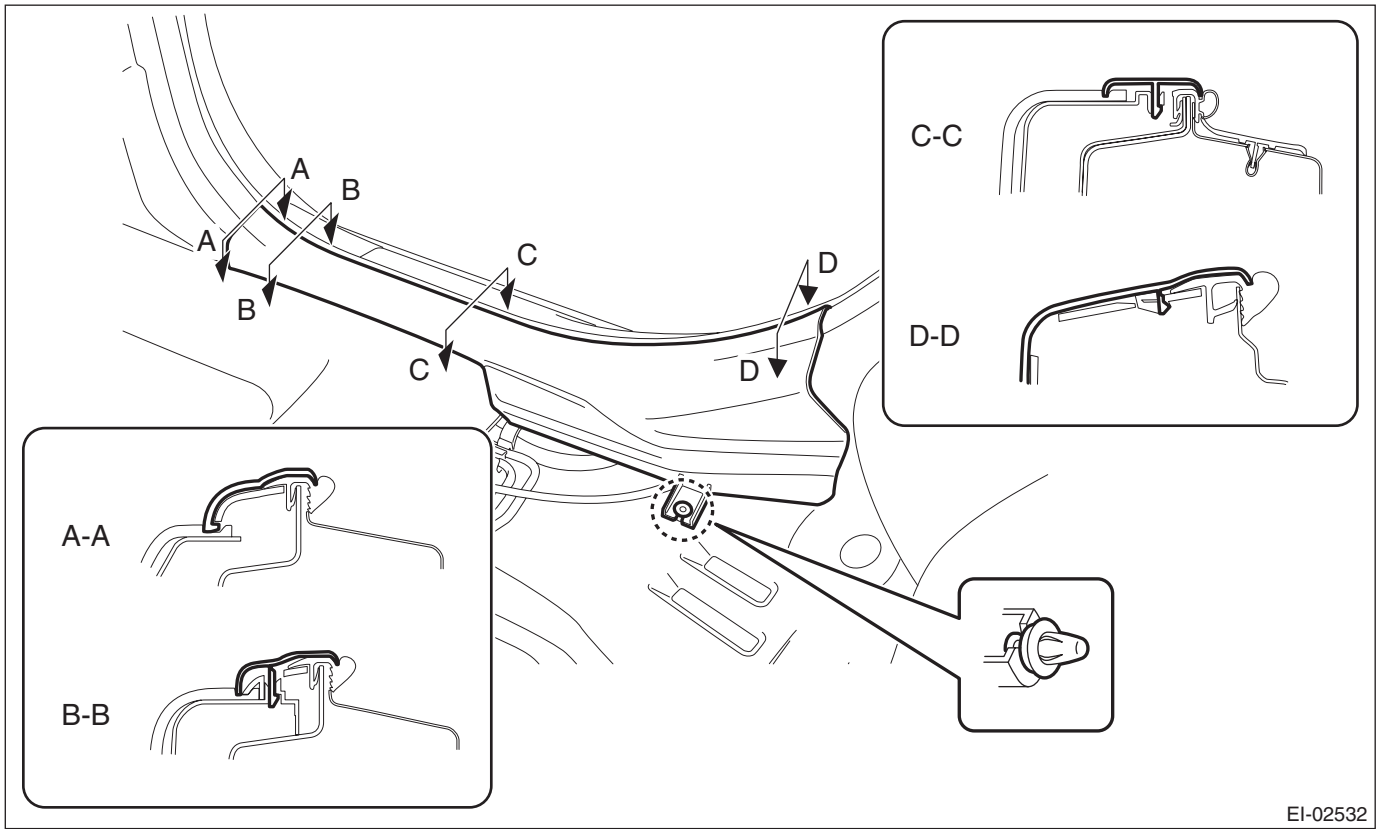
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

4) Release the clips and claws, and then remove the side sill cover - rear INN. (On the side where seat belt assembly is removed)

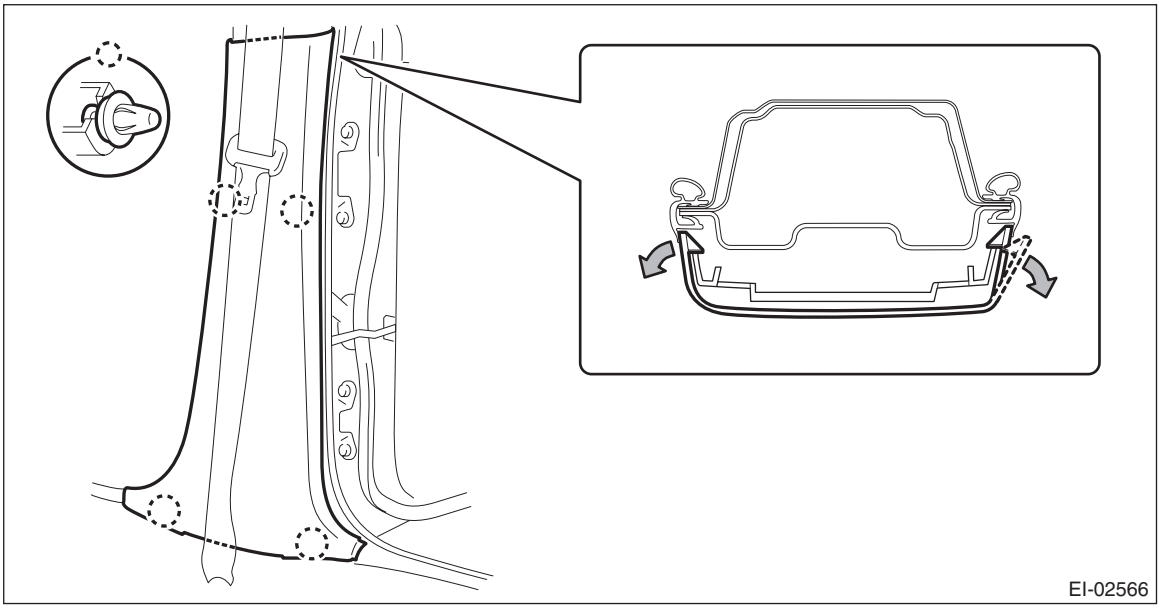
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

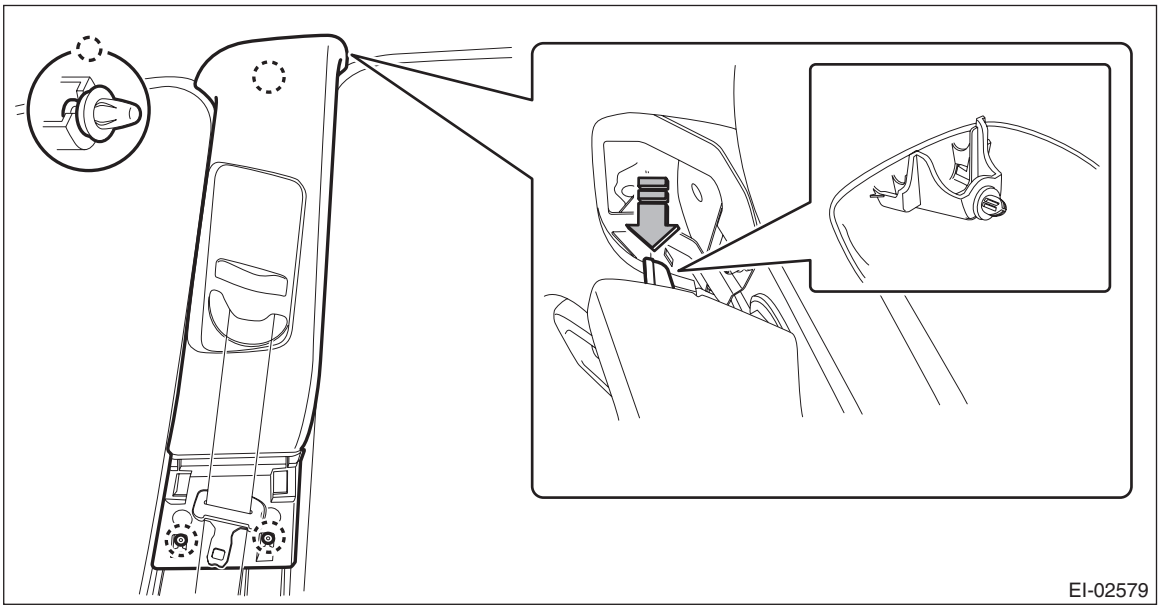
5) Remove the center pillar trim LWR. (On the side where seat belt assembly is removed)
(1) Release the clip by pulling the center pillar trim LWR toward you.
(2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.

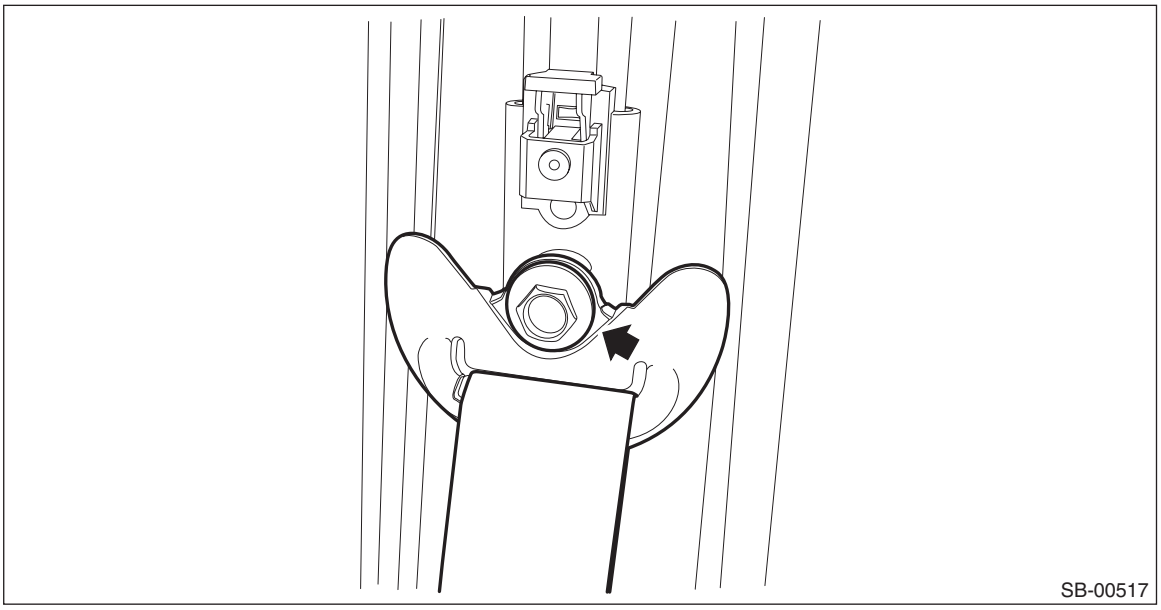

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NOTE:
First release the claw located to the rear of the vehicle.
6) Remove the center pillar trim UPR. (On the side where seat belt assembly is removed)
(1) Release the clip by pulling the lower part of the trim toward you.
(2) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the center pillar trim UPR.

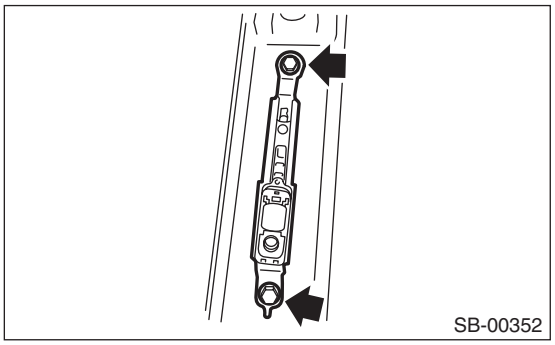
CAUTION:
Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.


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(3) Remove the shoulder anchor bolt.



7) Remove the two bolts to remove the adjustable anchor assembly.



B: INSTALLATION

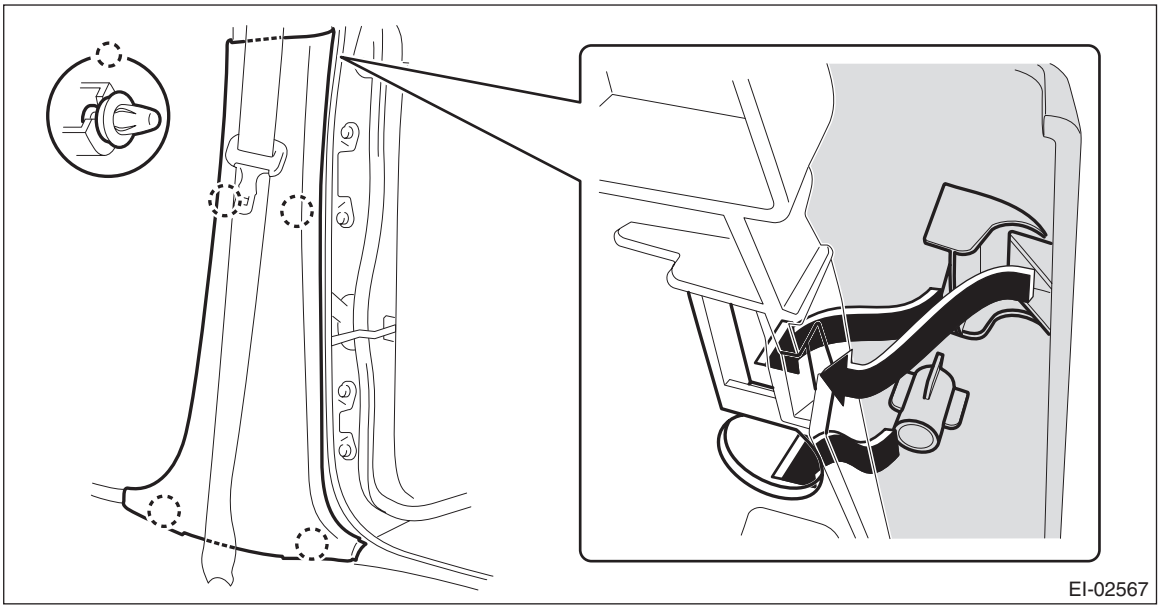
1. OUTER BELT ASSY

CAUTION:
• The parts of the driver and passenger sides are not the same. Before installation, make sure that the correct part is used.
• During installation, make sure that the seat belts are not twisted.
• After installation, make sure that the seat belt can be pulled out and retracted smoothly.
• Make sure that the seat belt harness is not caught anywhere. Wrong harness rooting may cause the harness short from pinch.
• Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.
1) Before installation, perform a unit inspection of retractor. <Ref. to SB-28, INSPECTION, Front Seat Belt.>
2) Install the outer belt assembly.

Tightening torque:
Front seat belt: <Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

3) Assemble the center pillar trim LWR to the center pillar trim UPR securely.

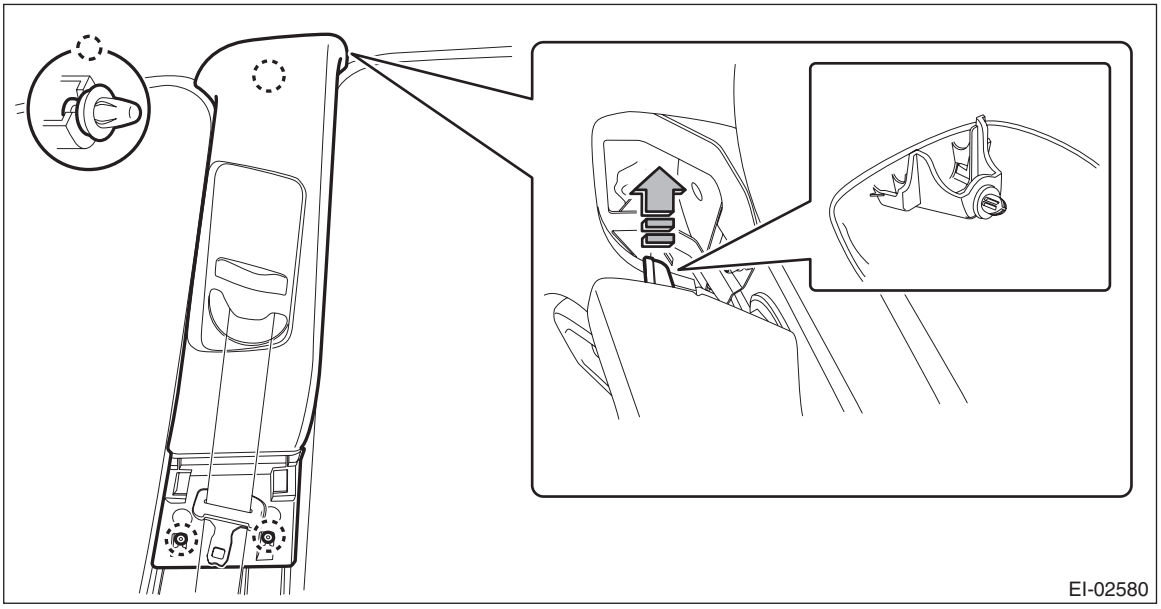
CAUTION:
Do not forget to install the seat belt.



4) Assemble the center pillar trim LWR and center pillar trim UPR to the body.

CAUTION:
Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.

(1) Guide the seat belt through the center pillar trim UPR.
(2) Attach the clip by inserting the claw on the upper part of the pillar trim.
(3) Install the center pillar trim UPR by securing the clip on the lower part of the pillar trim.



5) Install the remaining parts in the reverse order of removal.
6) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.
- The adjustable anchor can be moved smoothly.
- Check that the airbag warning light lights up for approximately 6 seconds and then turns off when connecting the battery ground cable and turning the ignition switch to ON.

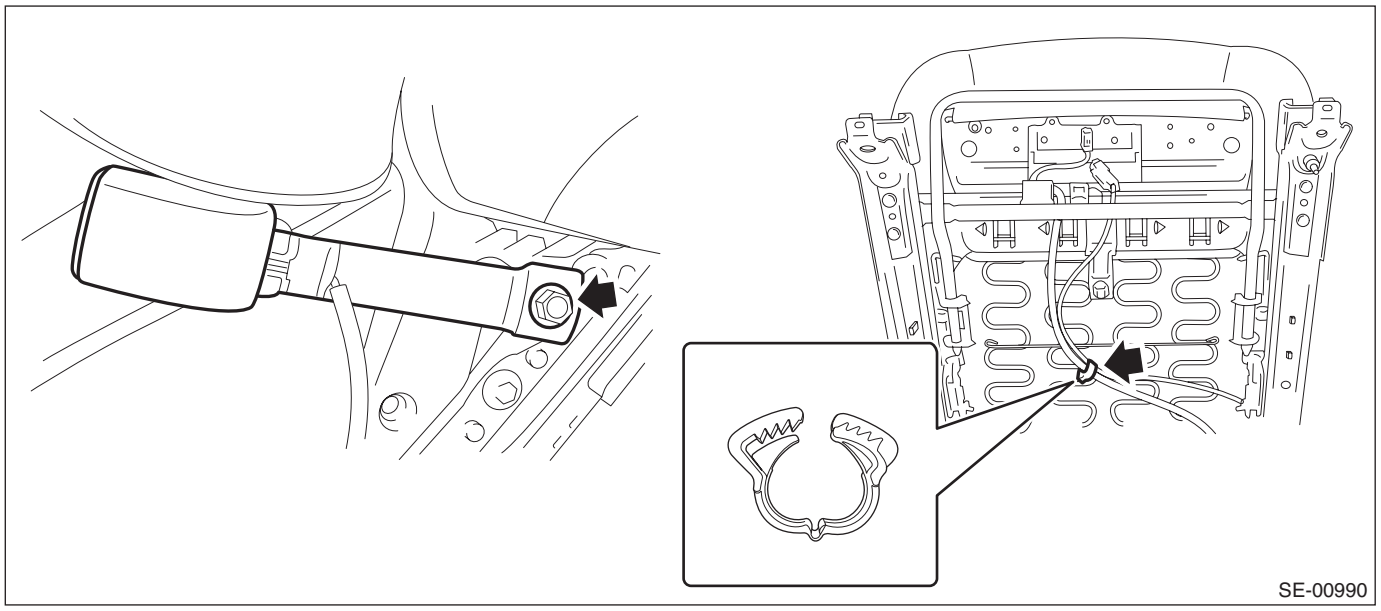
2. INNER BELT ASSY

CAUTION:
- **Before installation, make sure that the correct part is used.**
- **During installation, make sure that the seat belts are not twisted.**
- **Check that there is no pinching of the seat belt harness. Wrong harness rooting may cause the harness short from pinch.**

1) Install the inner belt assembly.

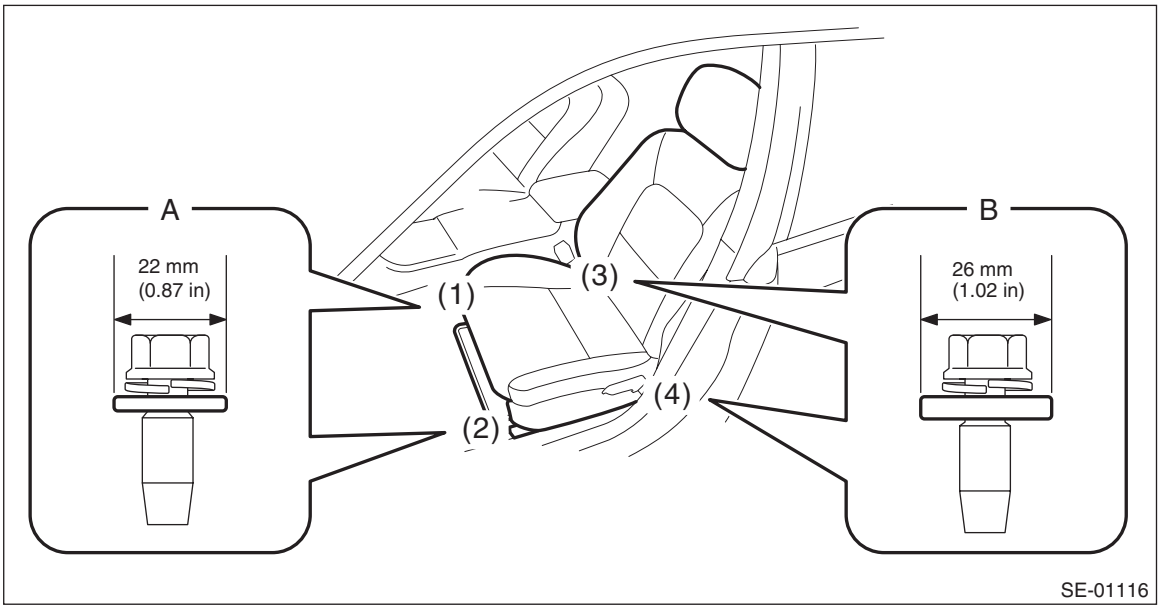
Tightening torque:
Front seat belt: <Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

2) Locate the seat belt harness and retain it with a harness clip.



3) Install the seat assembly to the body.

CAUTION:
• The seat mounting bolts differ between the front mounting points and the rear mounting points. Make sure that you are using correct bolts at correct positions.
• Tighten the slide rail installing bolts in the order as shown in the figure, in several steps by gradually increasing the torque until they reach the specified torque.



- **Front (bolt A): Washer diameter 22 mm (0.87 in)**
- **Rear (bolt B): Washer diameter 26 mm (1.02 in)**

Tightening torque:
Front seat assembly: 53 N·m (5.40 kgf-m, 39.1 ft-lb)

4) Check that no harness is caught by sliding the seat back and forth.

3. ADJUSTABLE ANCHOR ASSY

Referring to the installation procedure for outer belt ASSY, install the parts in the reverse order of removal.

Tightening torque:
Front seat belt: <Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

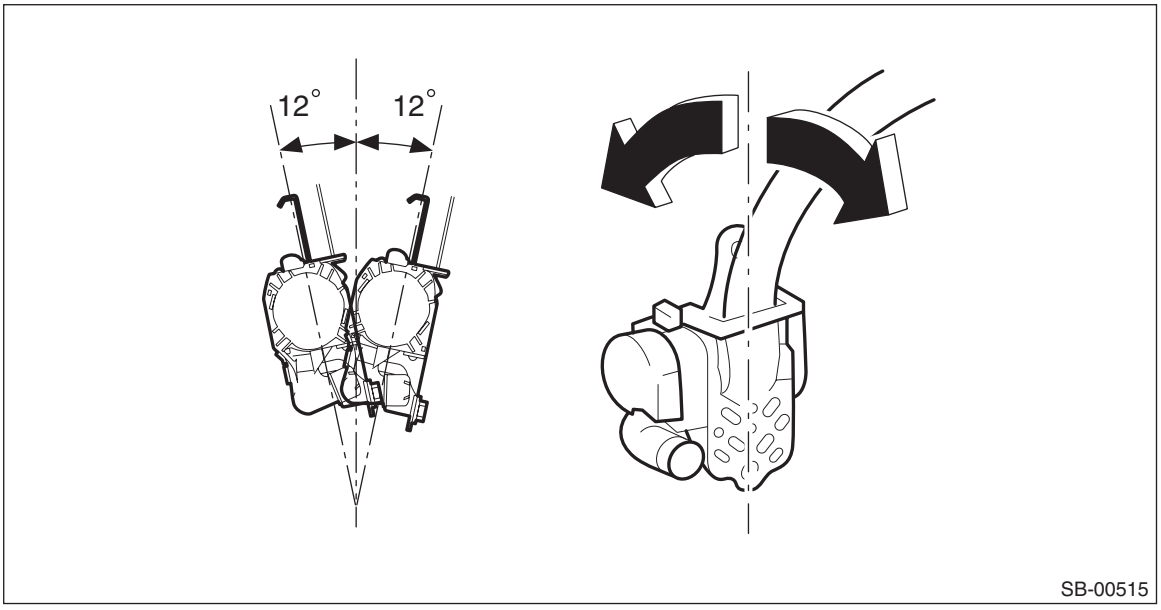
C: INSPECTION

1. VISUAL INSPECTION

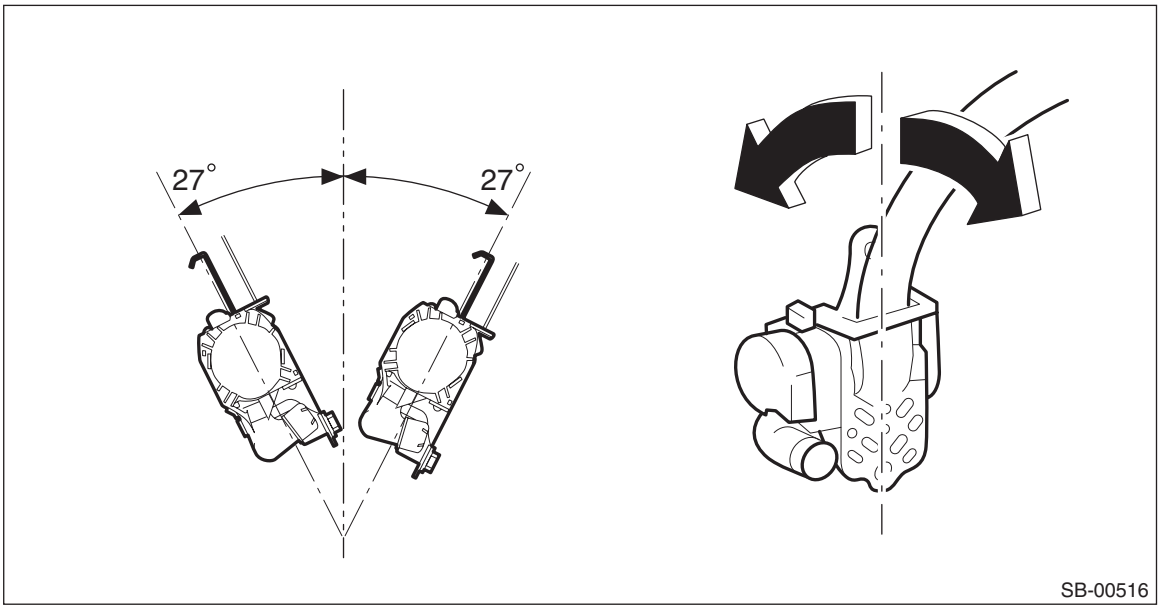
Check for the following, and replace with new parts if necessary.
- Pretensioner is cracked or deformed.
- Adjustable anchor assembly is cracked or deformed.
- Seat belt is slackened, bent or worn.
- Seat belt is abnormally wound or extended.
- Inner belt ASSY is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

2. ELR LOCK MECHANISM INSPECTION

1) Hold the retractor upright (as installed in the vehicle) and check the ELR lock mechanism.
2) Tilt the retractor from the upright posture and check the following points.
- It does not lock if the inclination angle is 12° or less.



- It remains locked if the inclination angle is 27° or more.



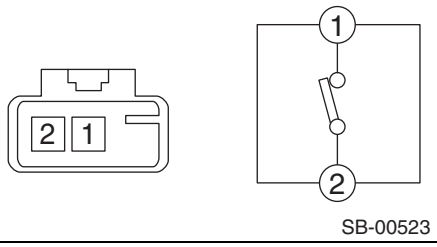
3) If the ELR lock mechanism does not operate correctly, replace the outer belt assembly with a new part.

3. SEAT BELT SWITCH INSPECTION

Preparation tool:
Circuit tester

- Driver's seat

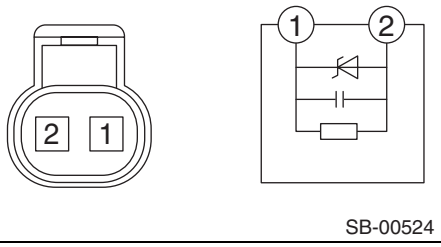
Check the resistance between the terminals when the inner belt assembly is in each of the following operation conditions.

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Tongue plate inserted	10 kΩ or more	 SB-00523
1 — 2	Tongue plate detached	Less than 1 Ω	

Replace the inner belt assembly if the inspection result is not within the standard value.

- Passenger's seat

Check the current value between the terminals when the inner belt assembly is in each of the following operation conditions.

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Tongue plate inserted	12 — 18 mA	 SB-00524
1 — 2	Tongue plate detached	4 — 7 mA	

Replace the inner belt assembly if the inspection result is not within the standard value.

6. Rear Seat Belt

A: REMOVAL

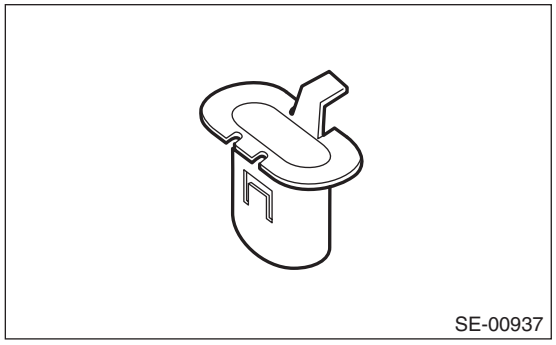
1. OUTER BELT ASSEMBLY RH & LH (SEDAN MODEL)

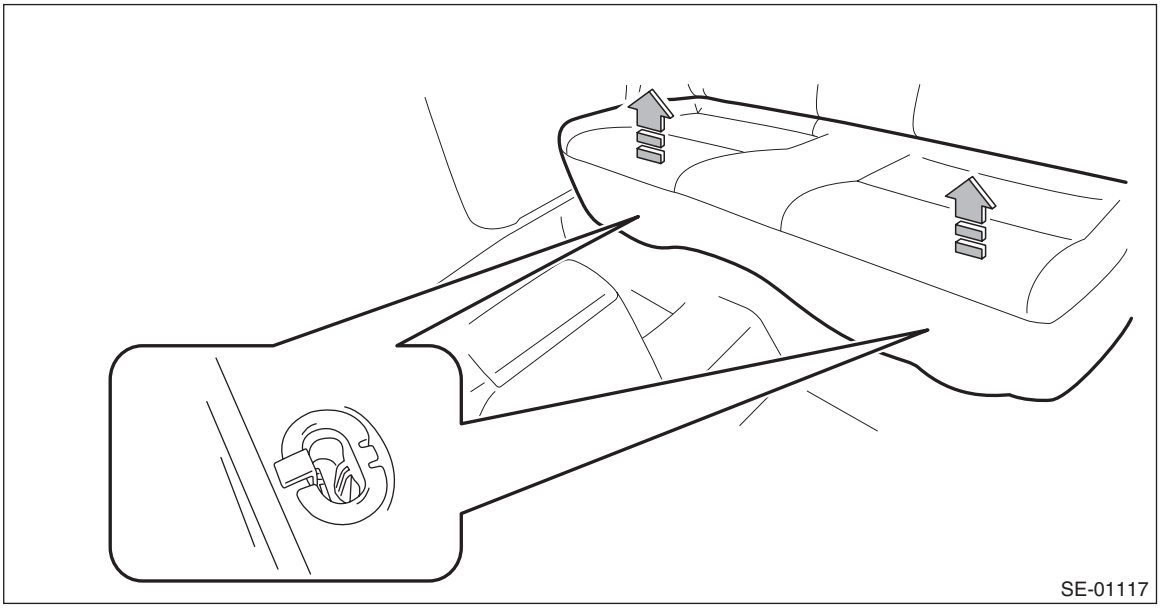
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

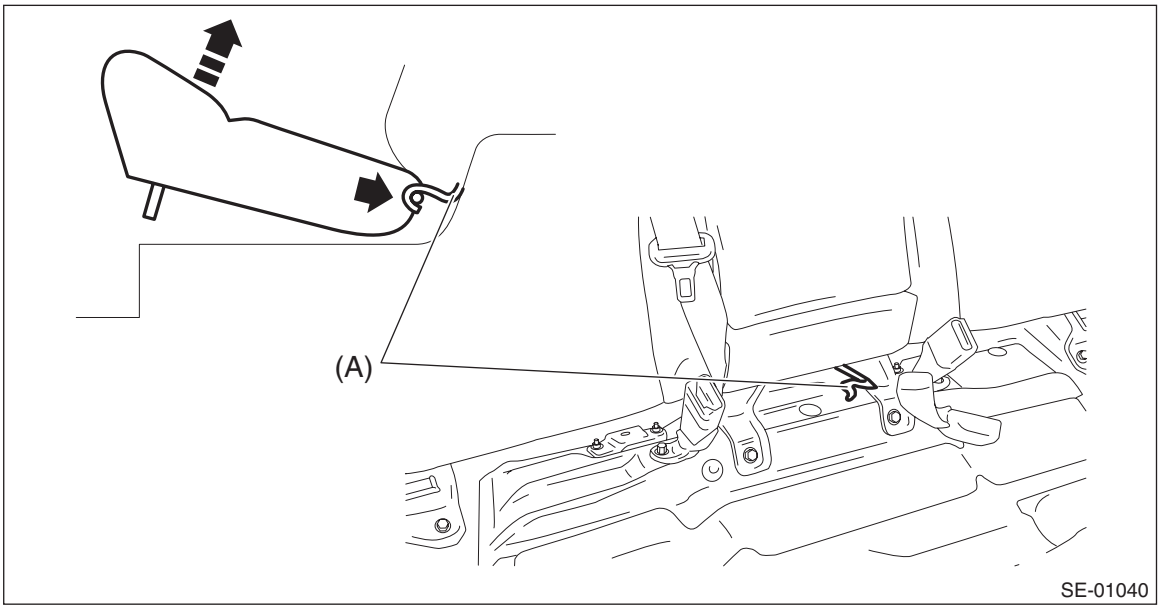
2) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


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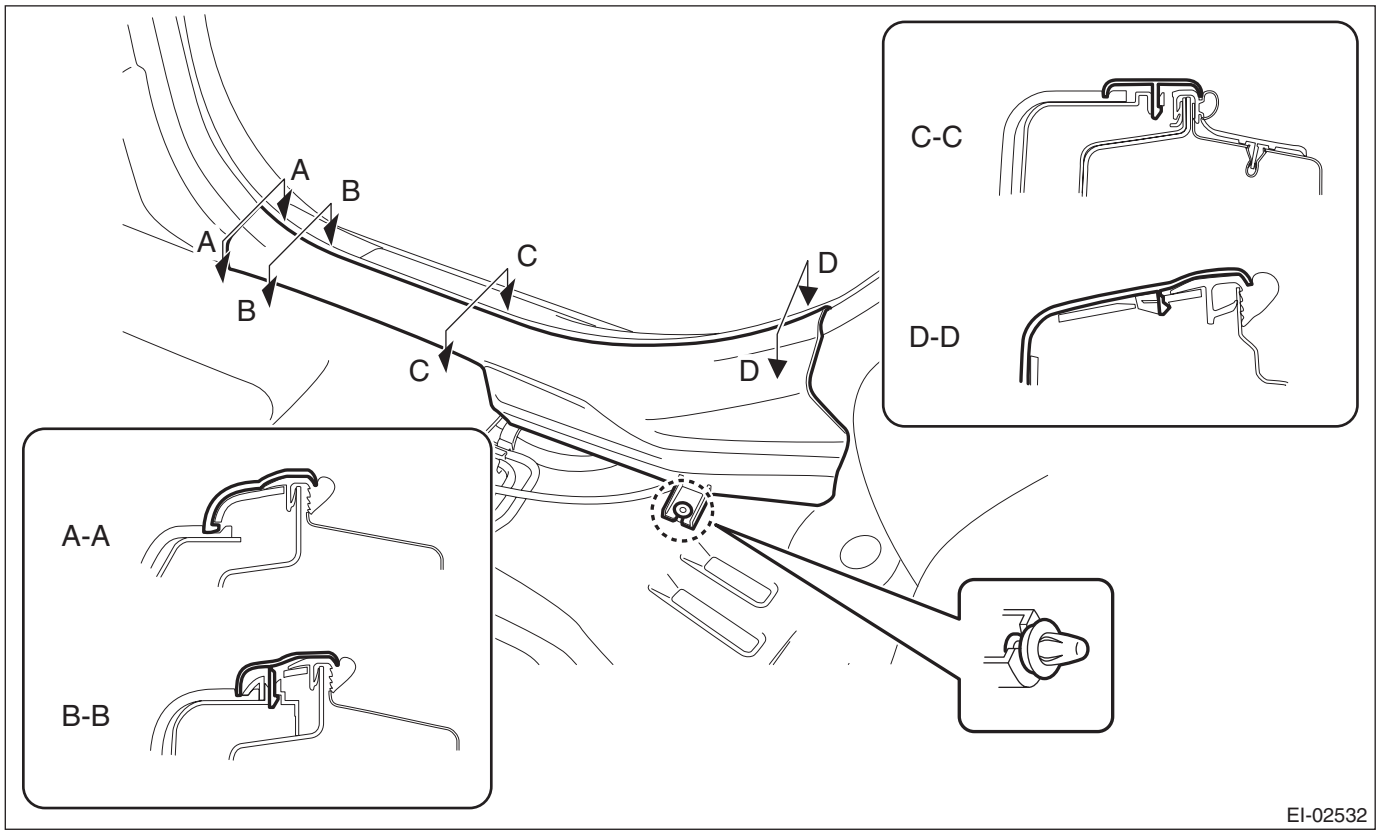

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(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



3) Release the clips and claws, and then remove the side sill cover - rear INN. (On the side where seat belt assembly is removed)

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

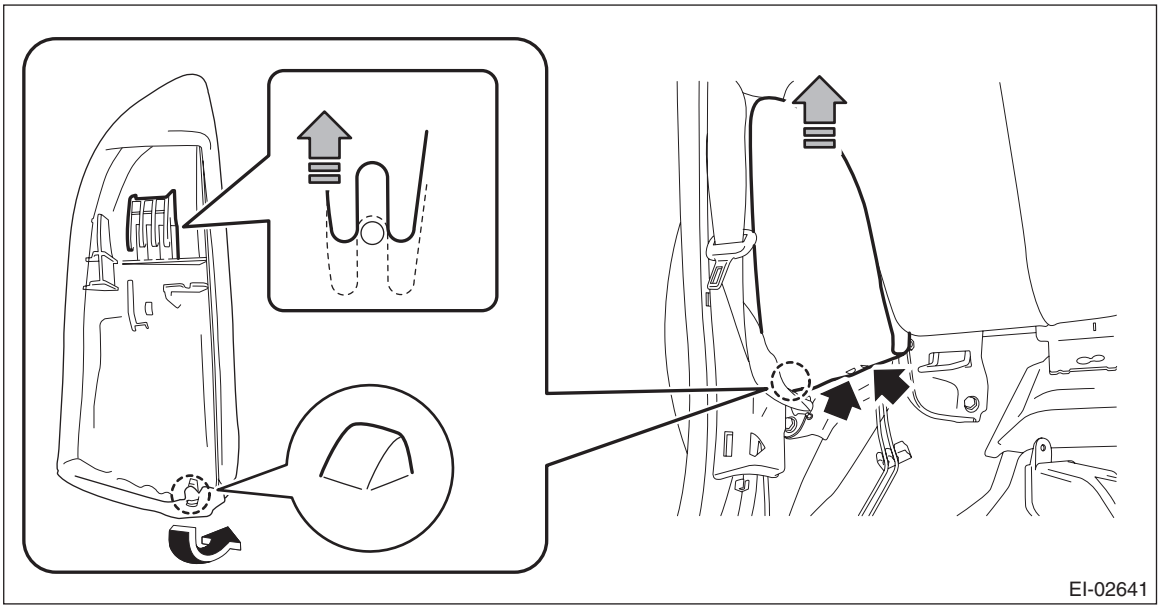


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

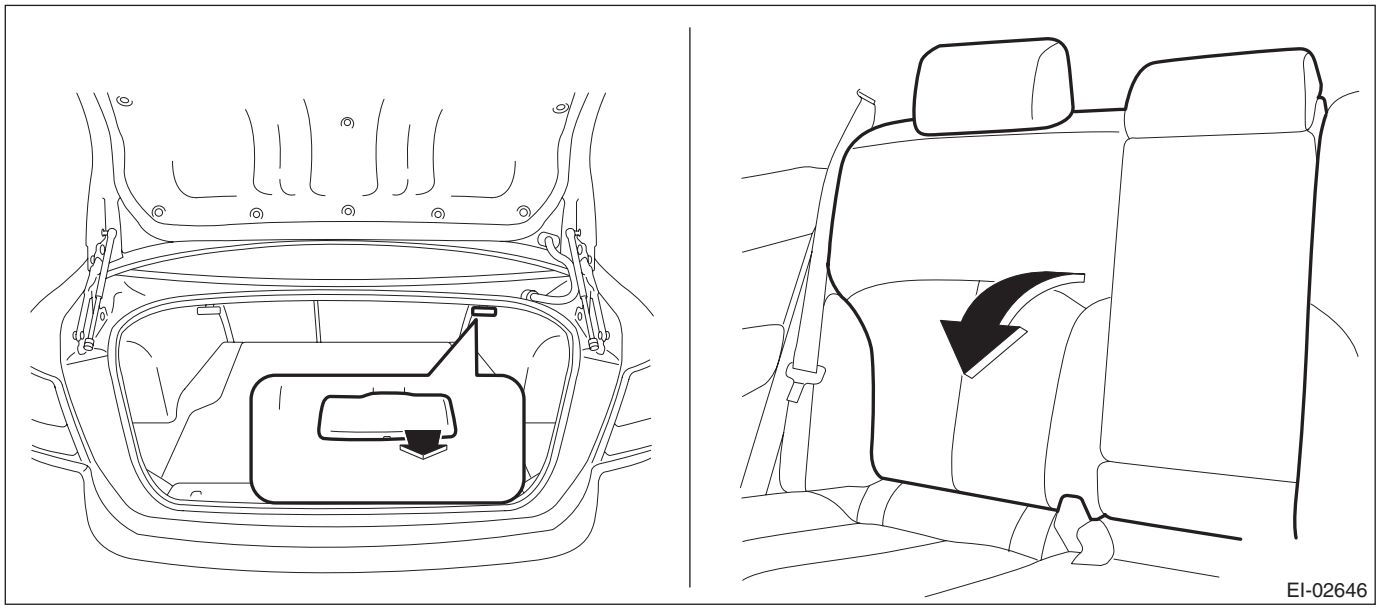
4) Remove the rear quarter trim LWR. (On the side where seat belt assembly is removed)
(1) Remove the backrest side pad assembly.
a) Remove the screws.

Preparation tool:
Stubby screwdriver

b) Turn over the bottom end of the backrest side pad in the forward direction so that the claws are released.
c) Remove the backrest side pad by pulling it up.

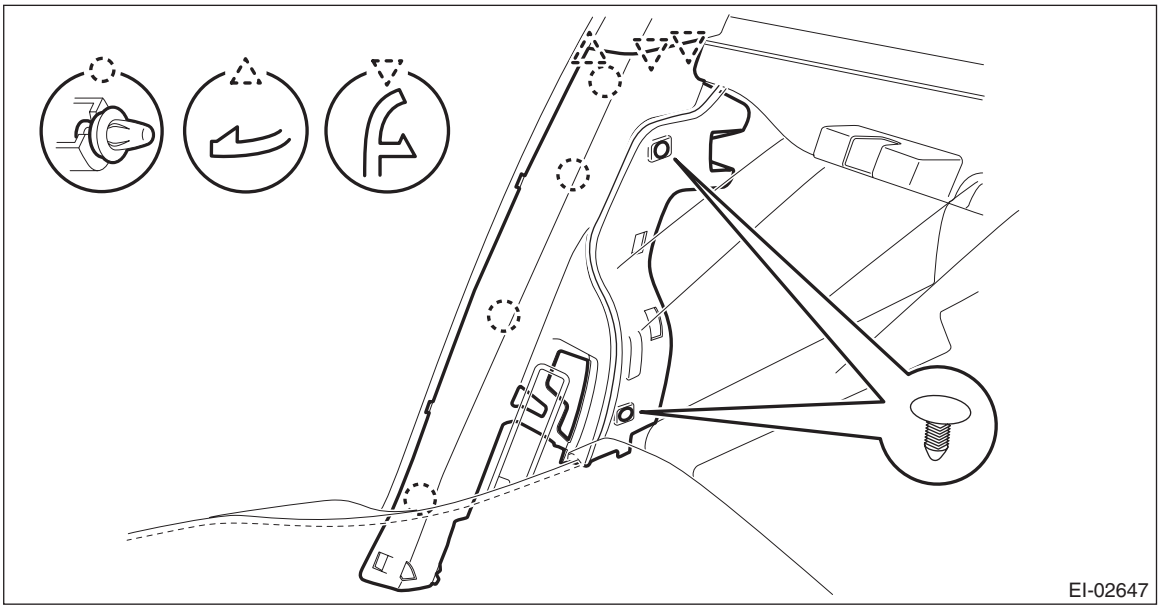


(2) Pull the release lever in the trunk room, and then tilt the backrest forward.

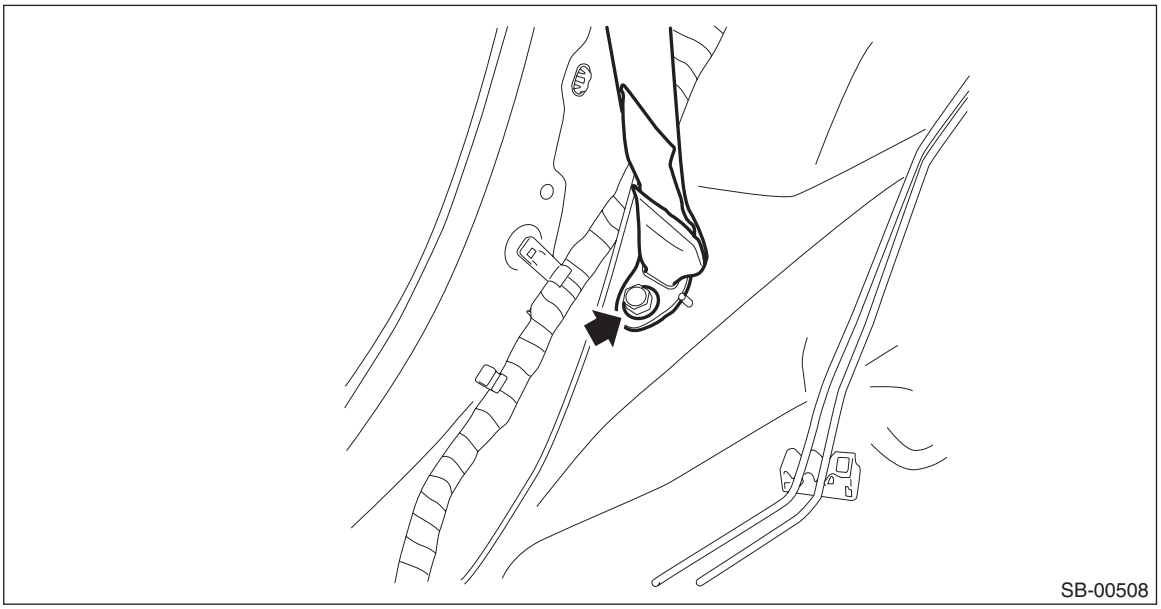


(3) Release the clips of the trunk trim panel assembly - side.

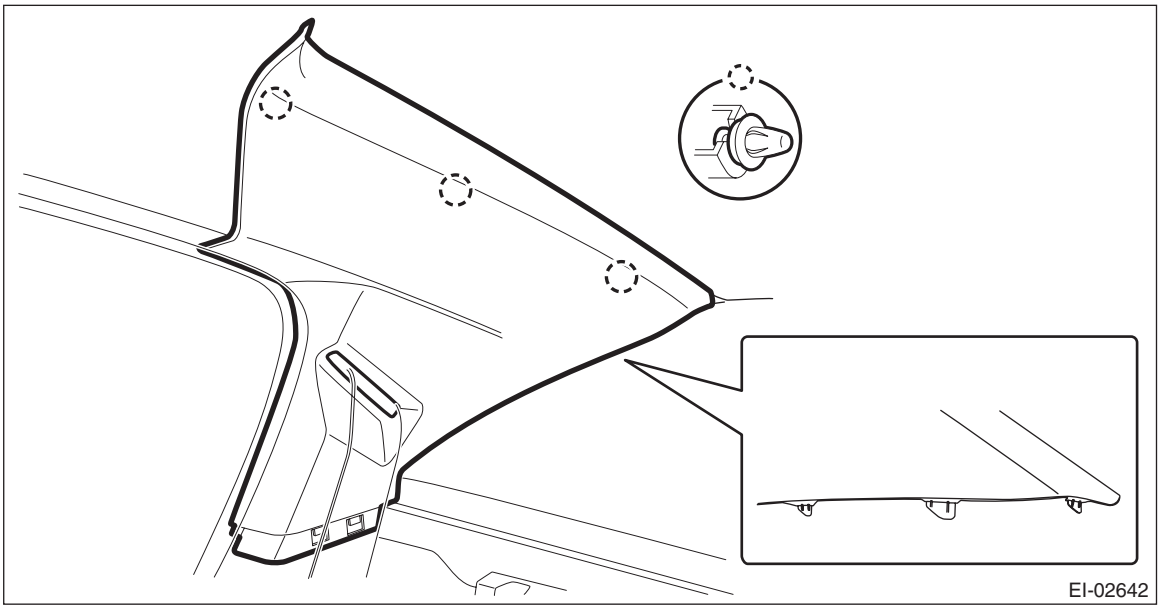
(4) Remove the clips, and remove the rear quarter trim LWR.



5) Remove the rear quarter trim UPR. (On the side where seat belt assembly is removed)
(1) Remove the lower anchor bolt of the outer belt assembly.



(2) Release the clips, and remove the rear quarter trim UPR.

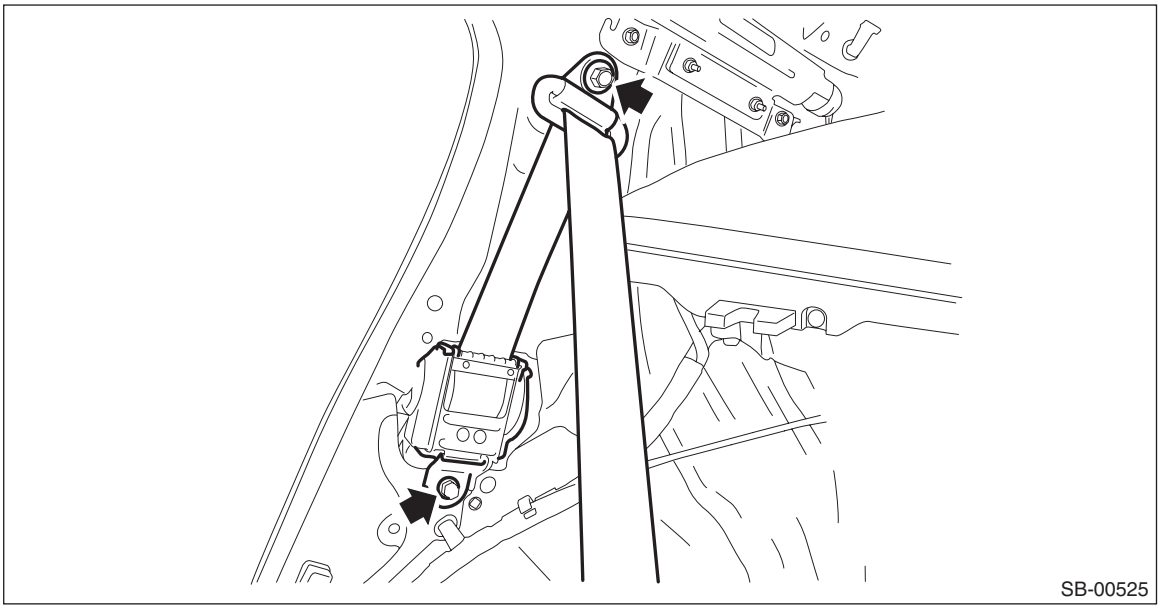


(3) Pull out the seat belt and remove the rear quarter trim UPR.

6) Remove the outer seat belt assembly.

(1) Remove the bolts and remove the seat belt anchor.

(2) Remove the bolts, and remove the seat belt retractor assembly.



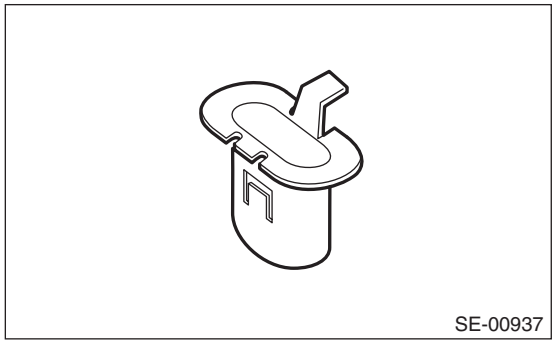
2. OUTER BELT ASSEMBLY RH & LH (OUTBACK MODEL)

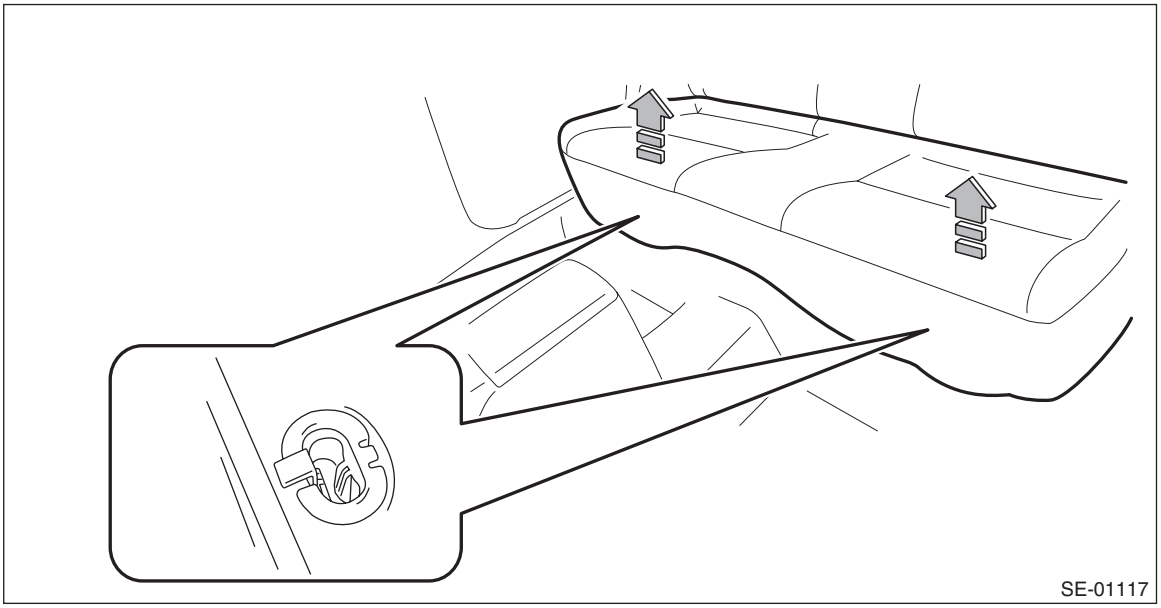
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

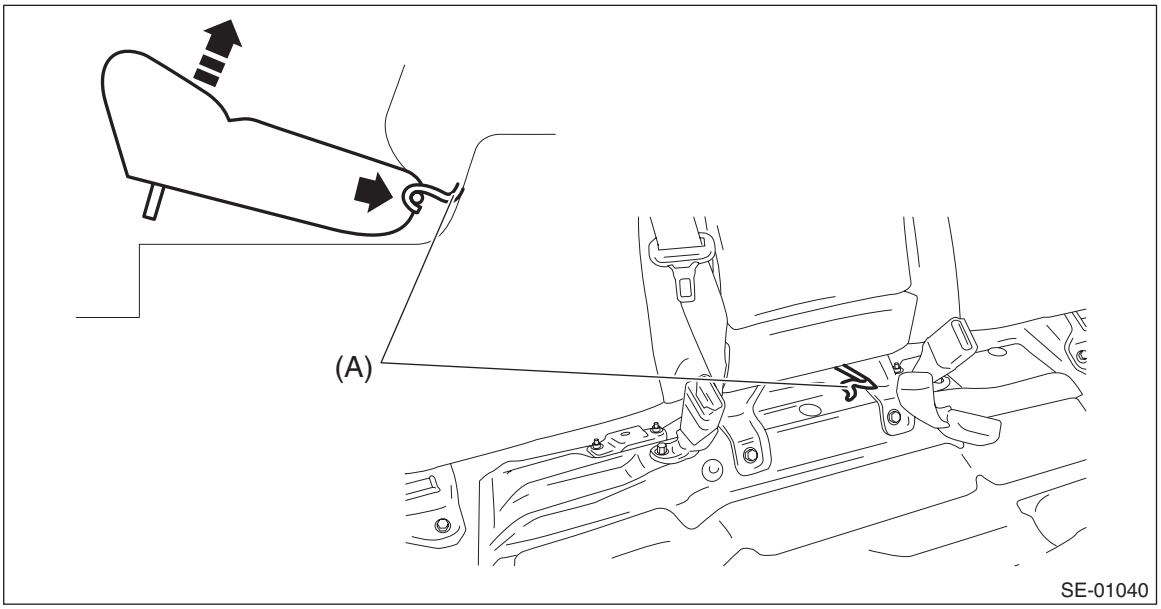
2) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


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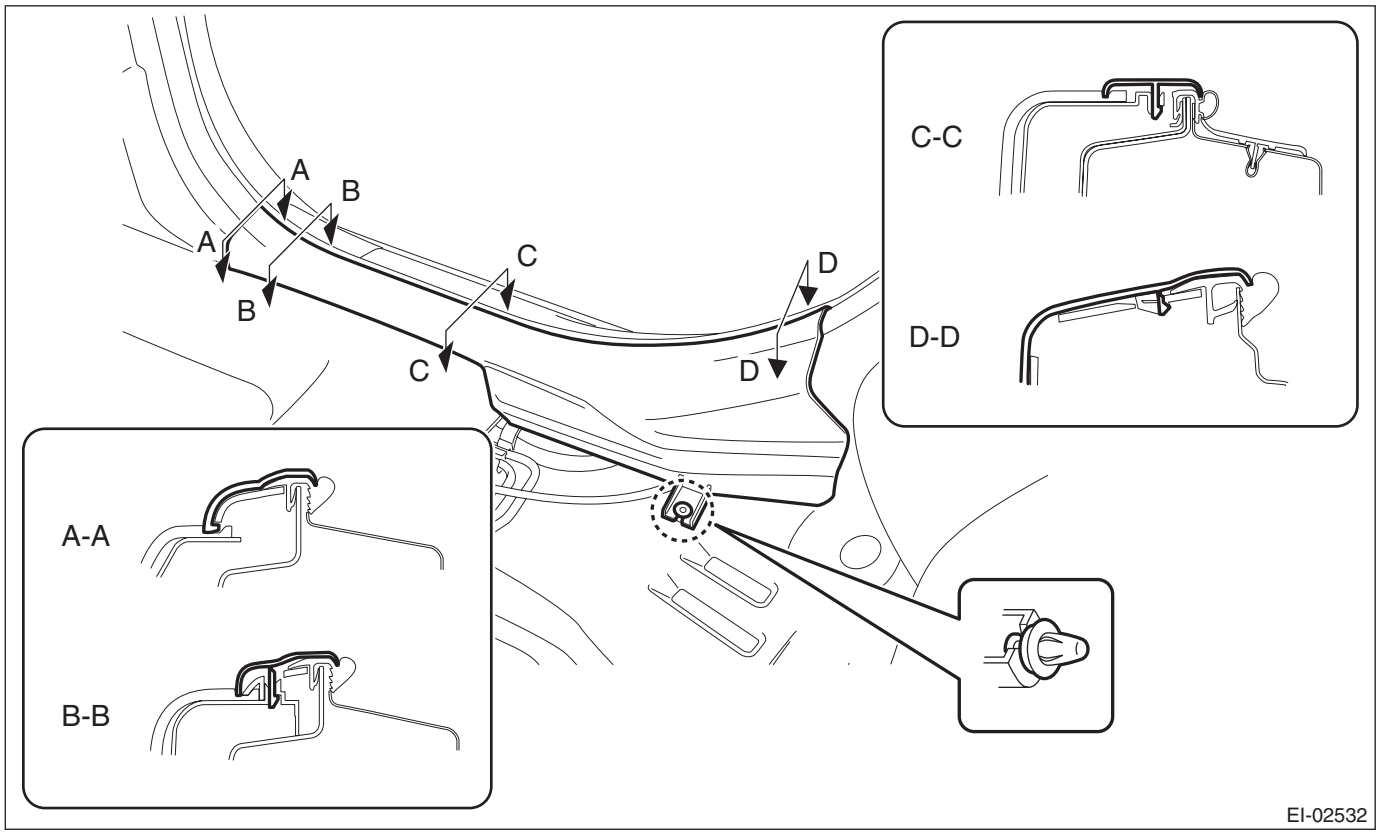

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(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



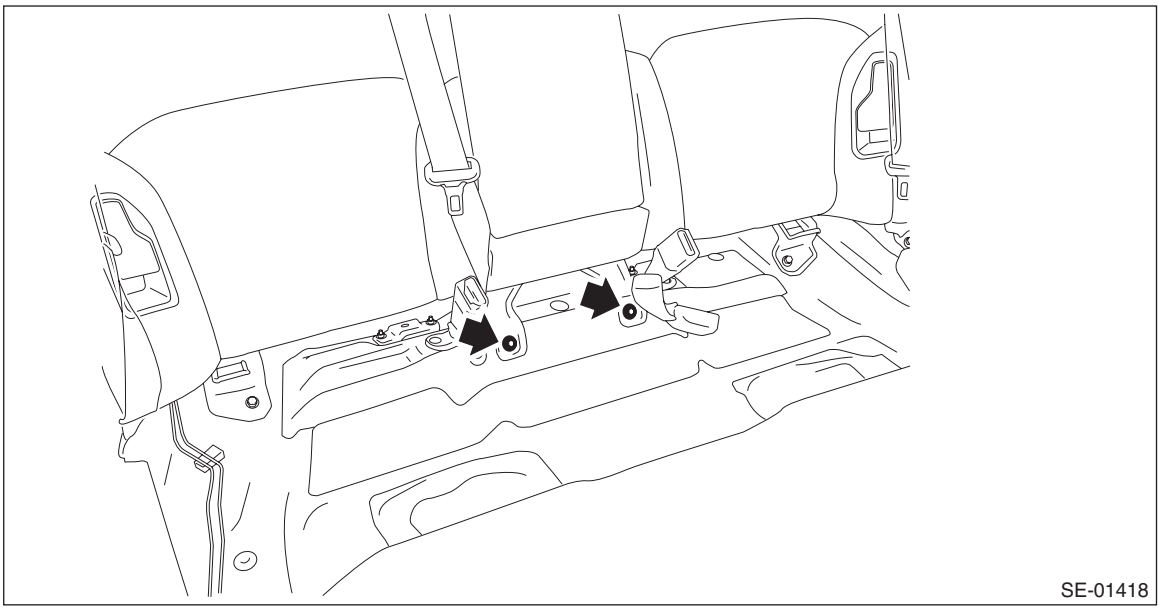
3) Release the clips and claws, and then remove the side sill cover - rear INN. (On the side where seat belt assembly is removed)

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

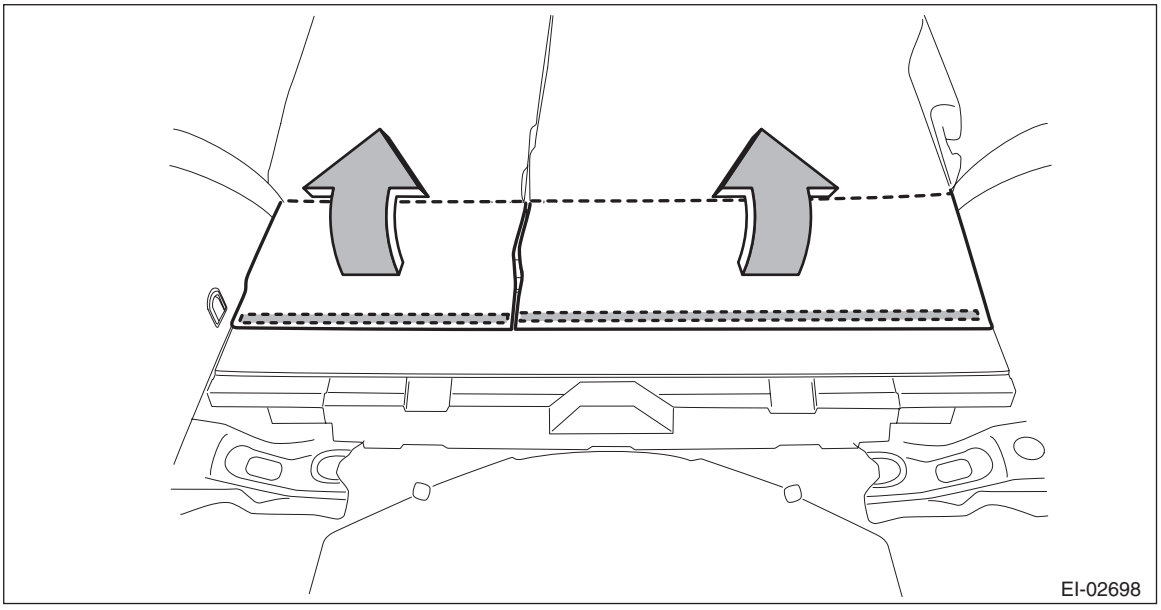


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

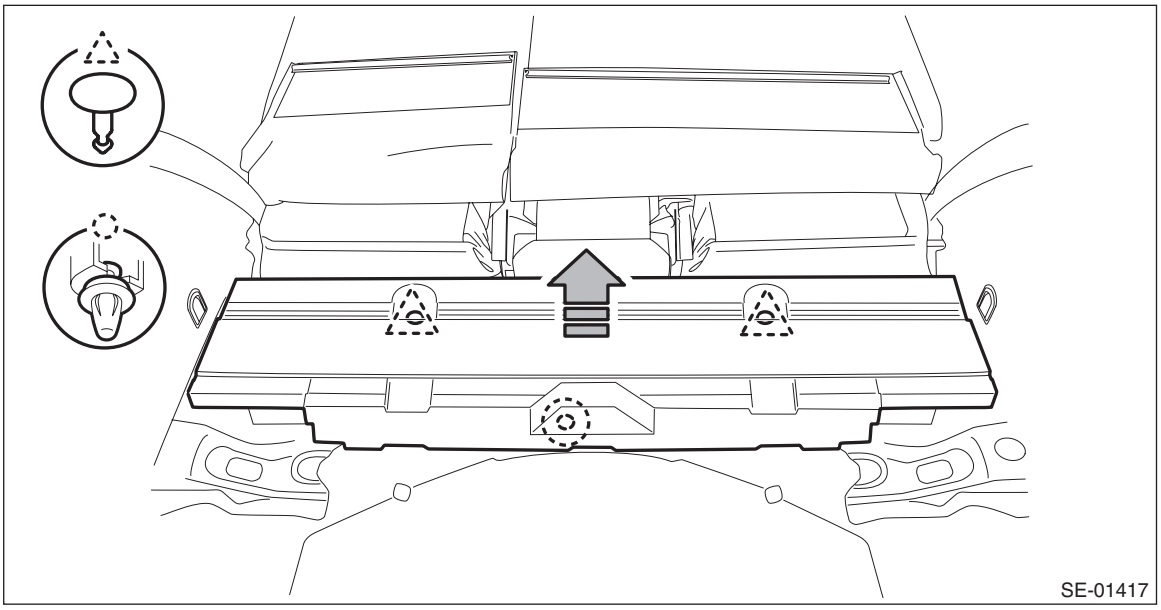
4) Remove the headrest.
5) Remove the backrest assembly RH.
(1) Remove the hinge bolts at the front of the backrest assembly RH.



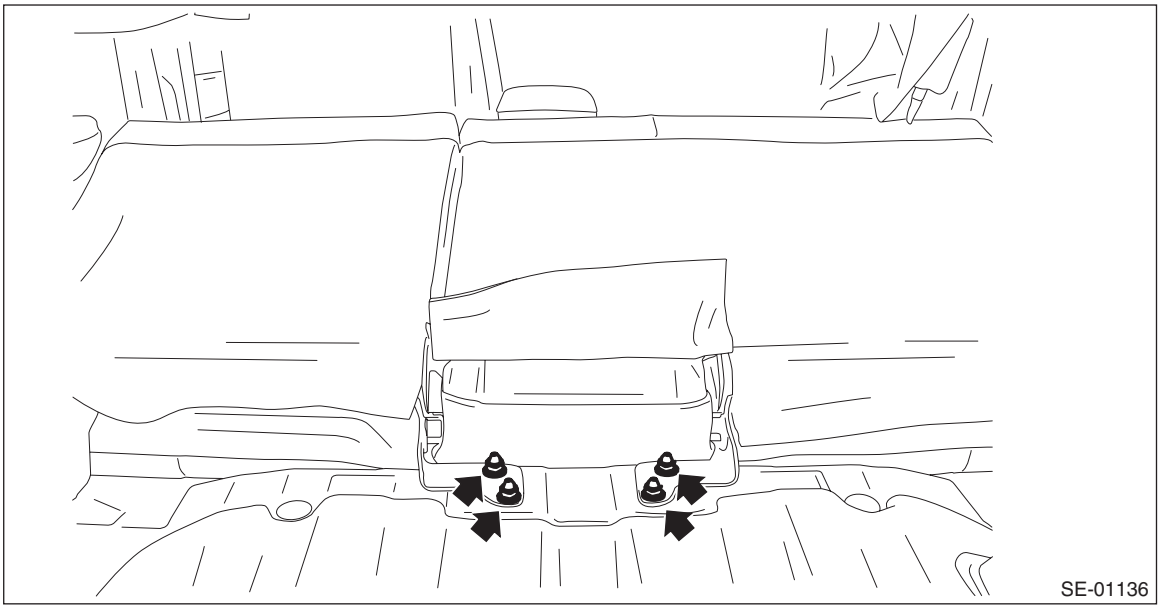
(2) Tilt the backrest forward, and then turn over the backrest backside mat.



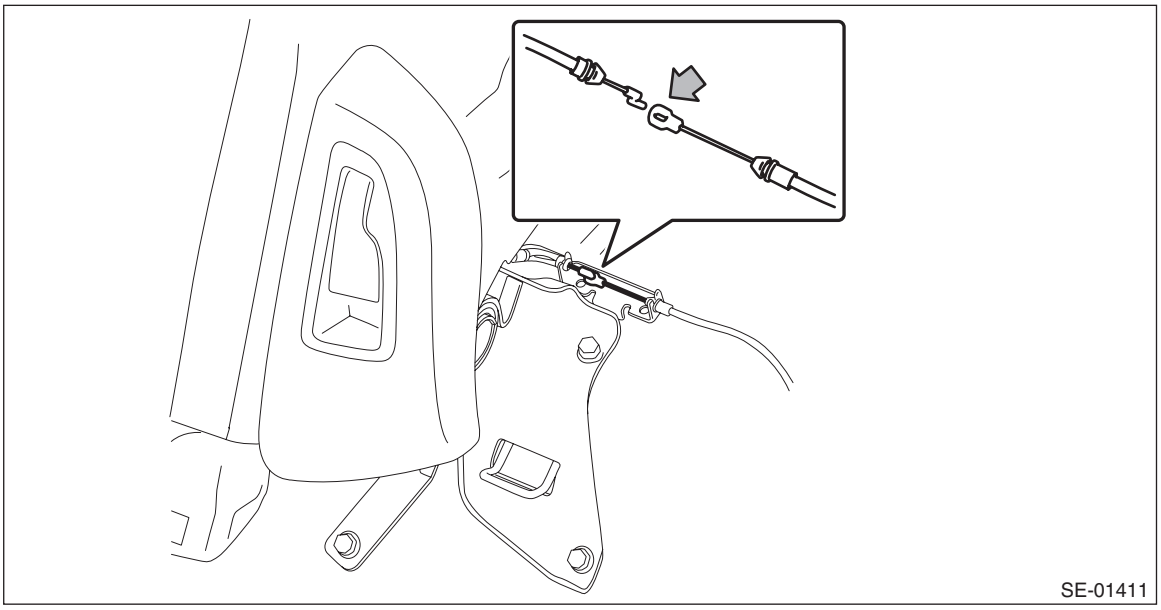
(3) Remove the clips, and remove the rear floor mat - front.



(4) Remove the nuts at the rear of backrest hinge.

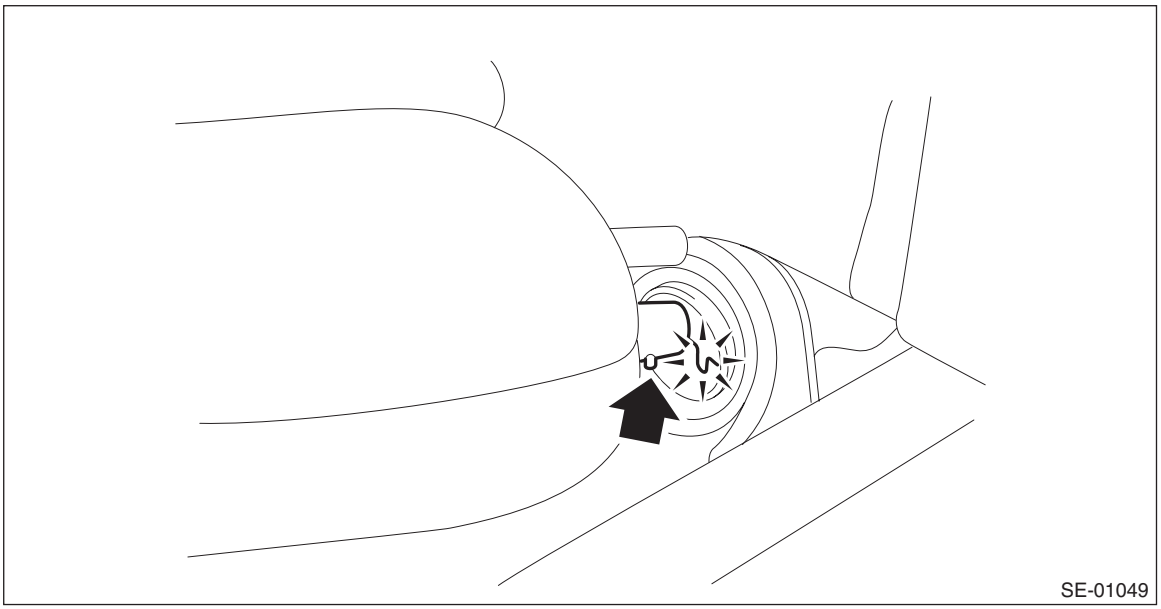


(5) Disconnect the backrest cable and reclining cable.



NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

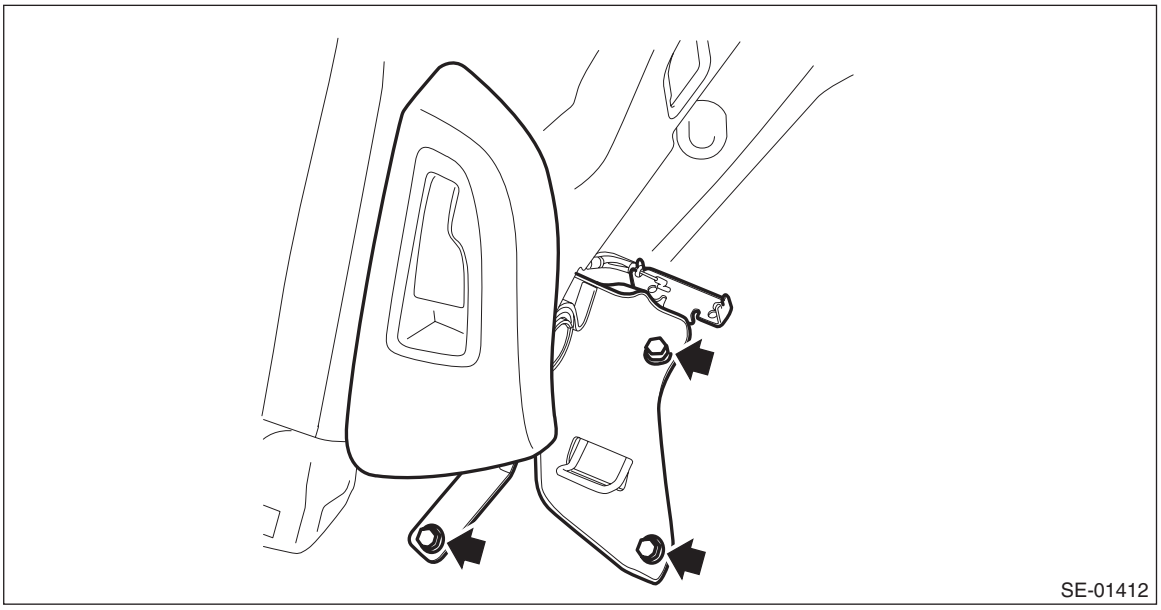
(6) Remove the backrest assembly RH from the hinge assembly RH.



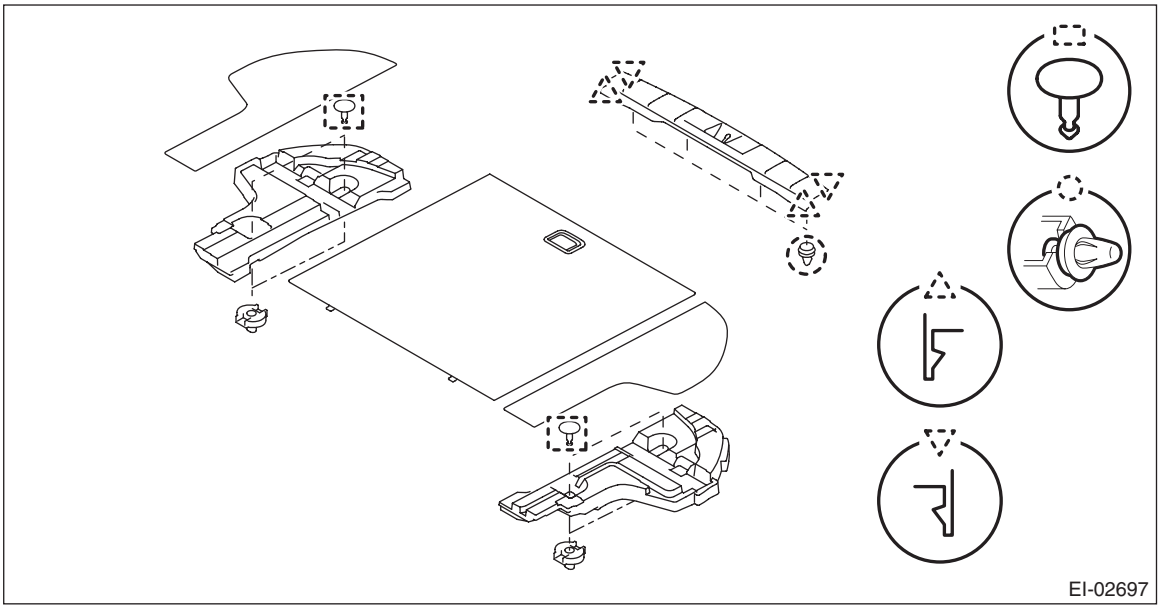
NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

(7) Take out the part outside the vehicle so that the body is not damaged by the hinges.

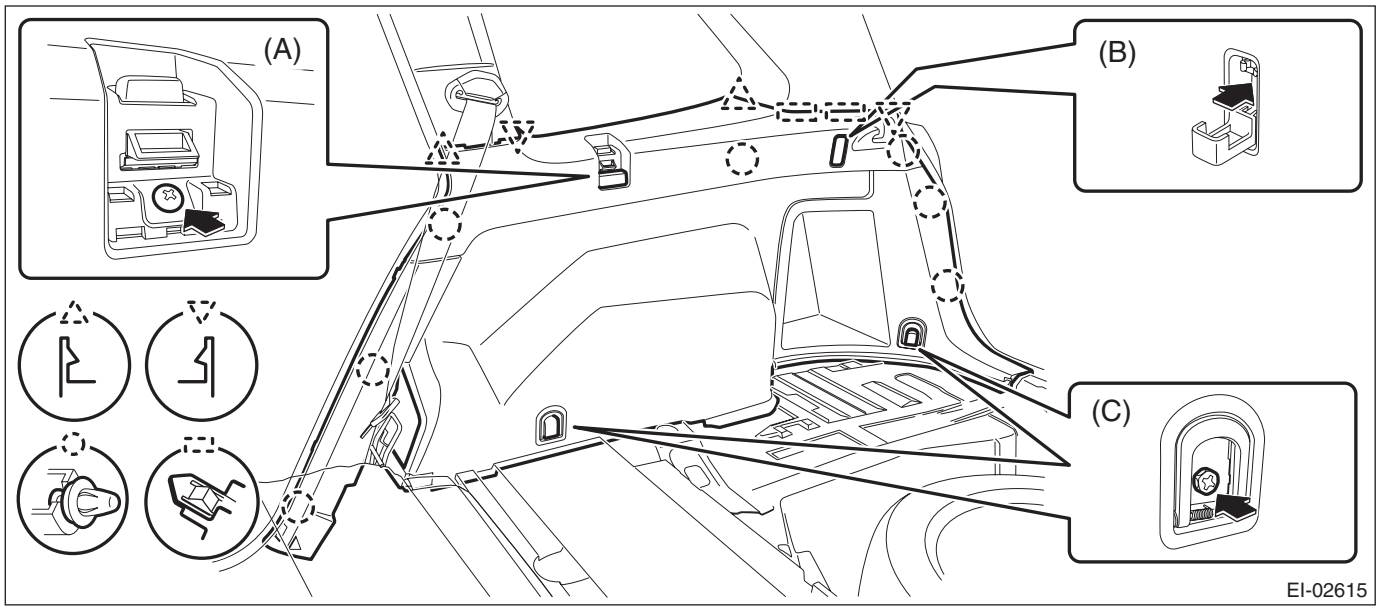
6) Remove the bolts, and remove the backrest side pad assembly RH.



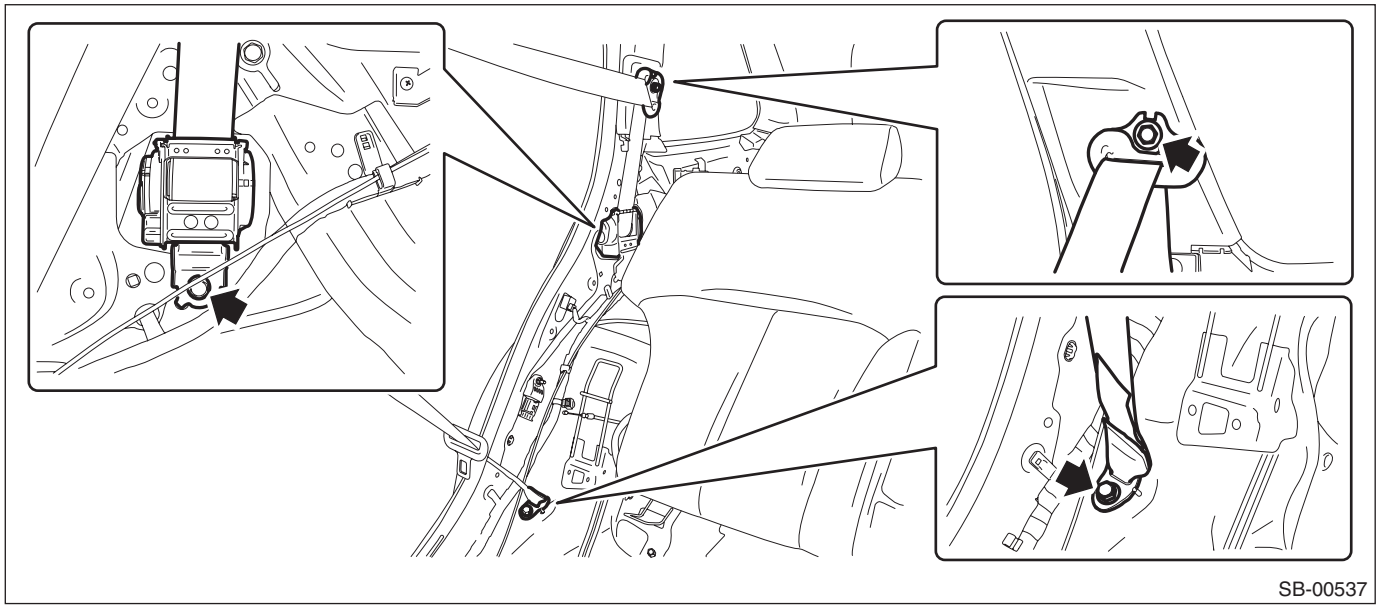
7) Remove the clips, and remove the luggage floor box and rear floor edge cover.



8) Remove the rear quarter trim LWR. (On the side where seat belt assembly is removed)
   (1) Remove the caps, screws, and bolts. (A), (C)
   (2) Take out the hook and remove the screw inside. (B)
   (3) Remove the clips, and remove the rear quarter trim LWR.



9) Remove the outer seat belt assembly.
   (1) Remove the seat belt lower anchor bolt.
   (2) Open the cap and remove the bolt to remove the seat belt anchor.
   (3) Remove the bolts, and remove the seat belt retractor assembly.



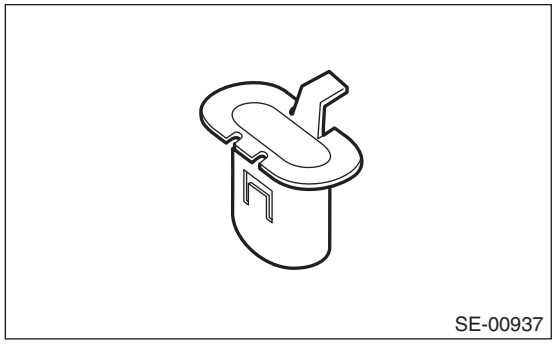
3. SHOULDER BELT ASSEMBLY CTR (SEDAN MODEL)

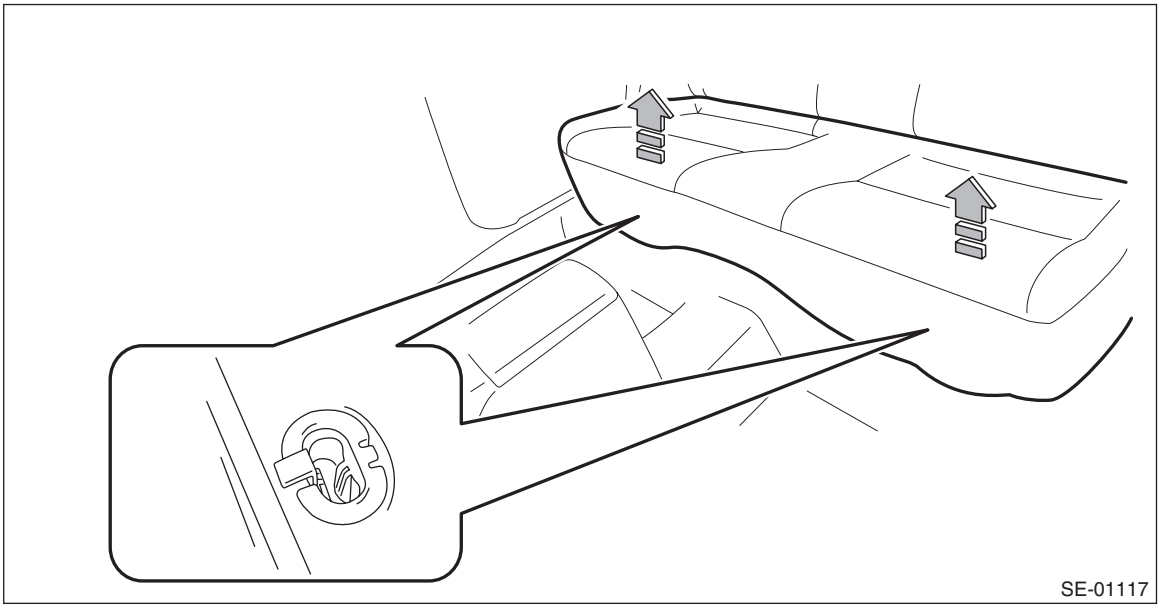
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

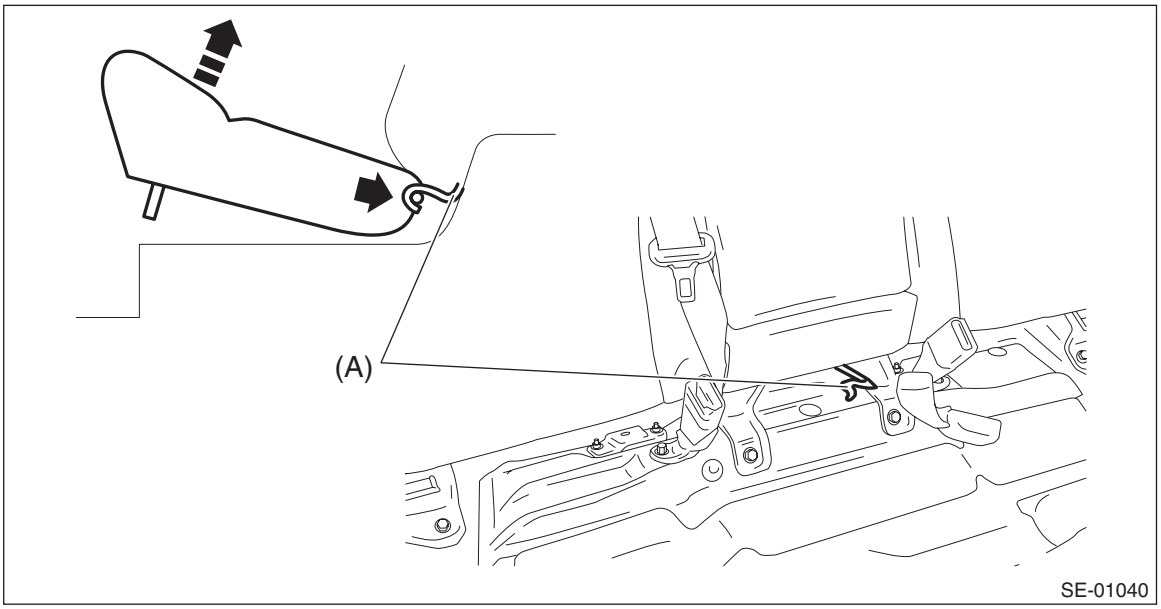
2) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


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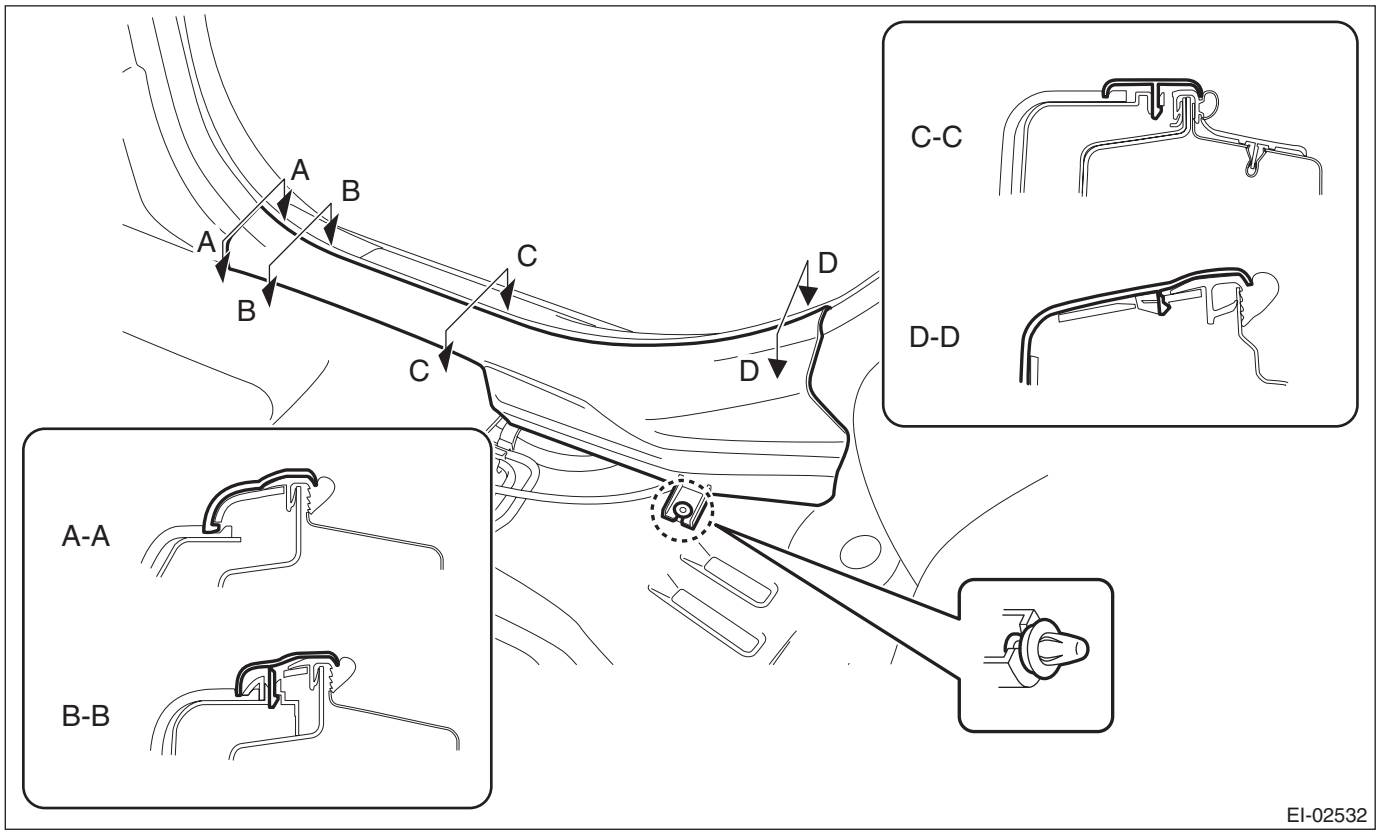

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(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



3) Release the clips and claws, and remove the side sill covers - rear INN on the left and right sides.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

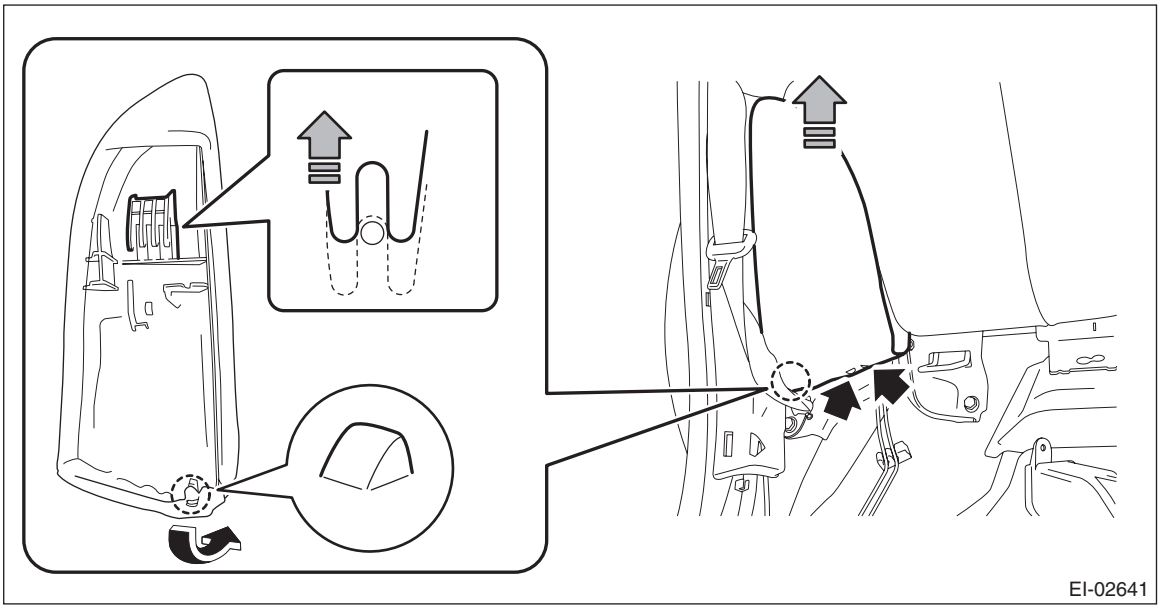


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

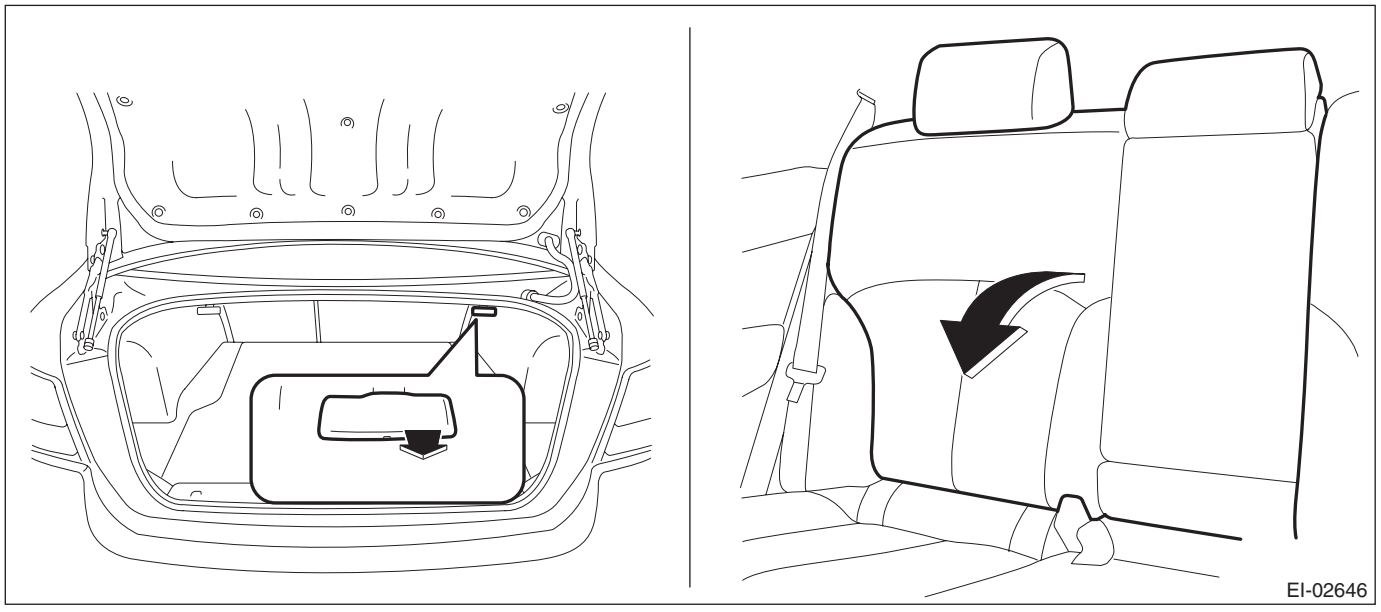
4) Remove the left and right rear quarter trim LWR.
(1) Remove the left and right backrest side pad.
a) Remove the screws.

Preparation tool:
Stubby screwdriver

b) Turn over the bottom end of the backrest side pad in the forward direction so that the claws are released.
c) Remove the backrest side pad by pulling it up.

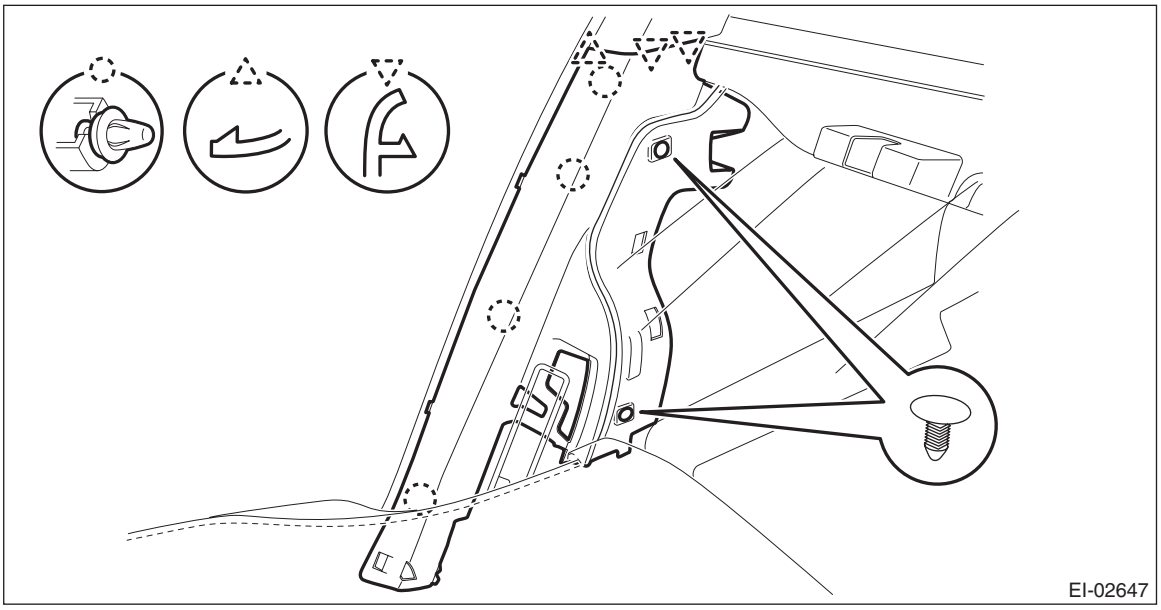


(2) Pull the release lever in the trunk room, and then tilt the left and right backrest forward.



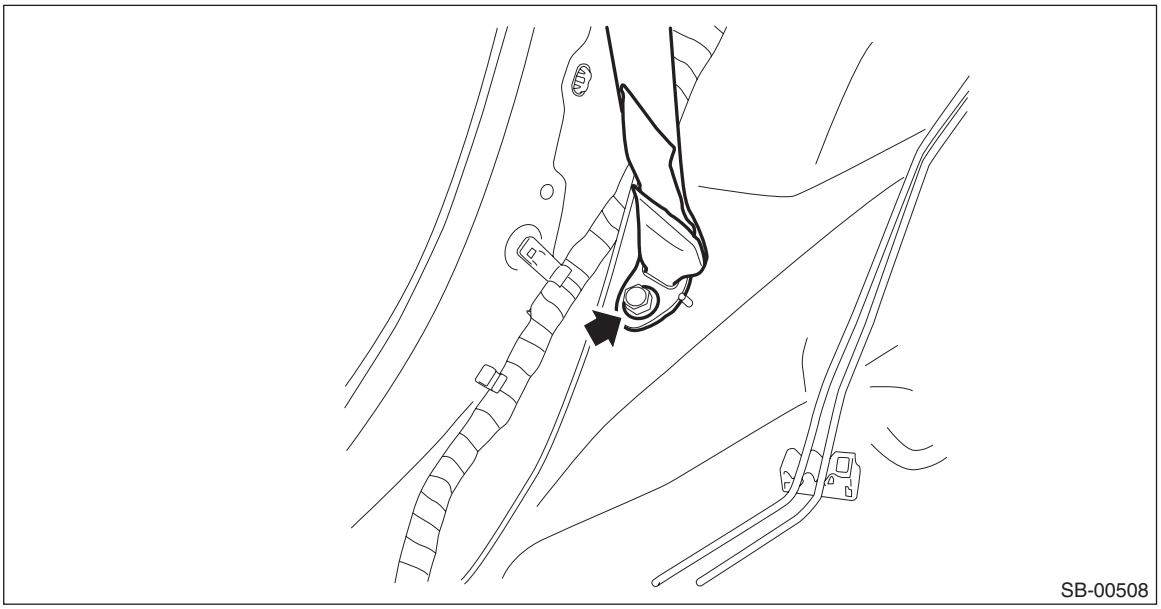
(3) Release the clips of the trunk trim panel assembly - side.

(4) Remove the clips, and remove the left and right rear quarter trim LWR.

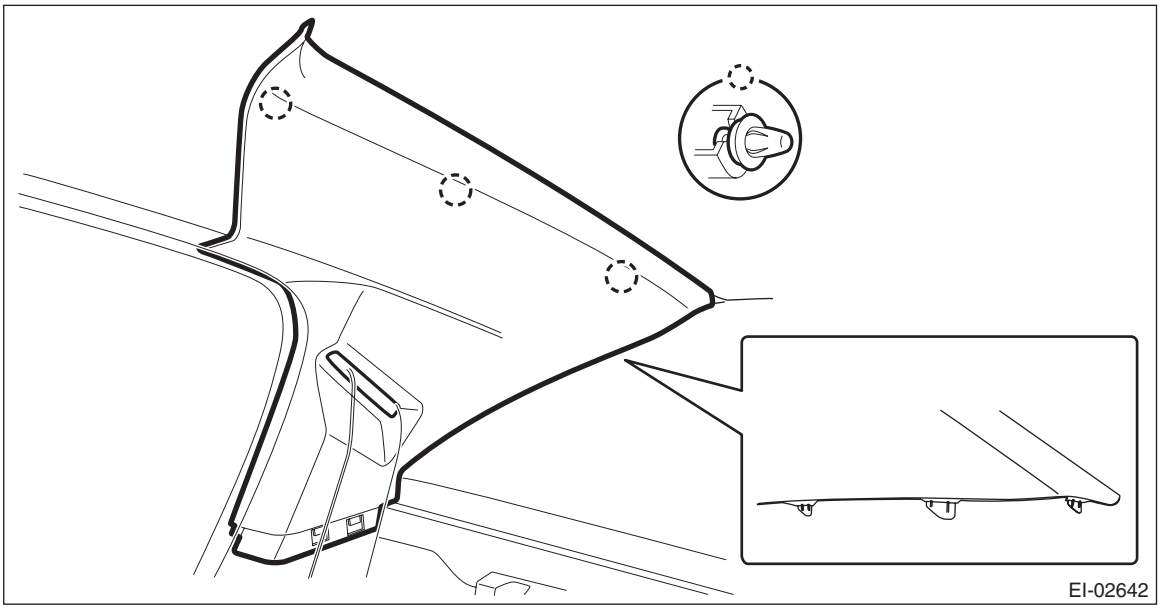


5) Remove the left and right rear quarter trim UPR.

(1) Remove the lower anchor bolt of the outer belt assembly.

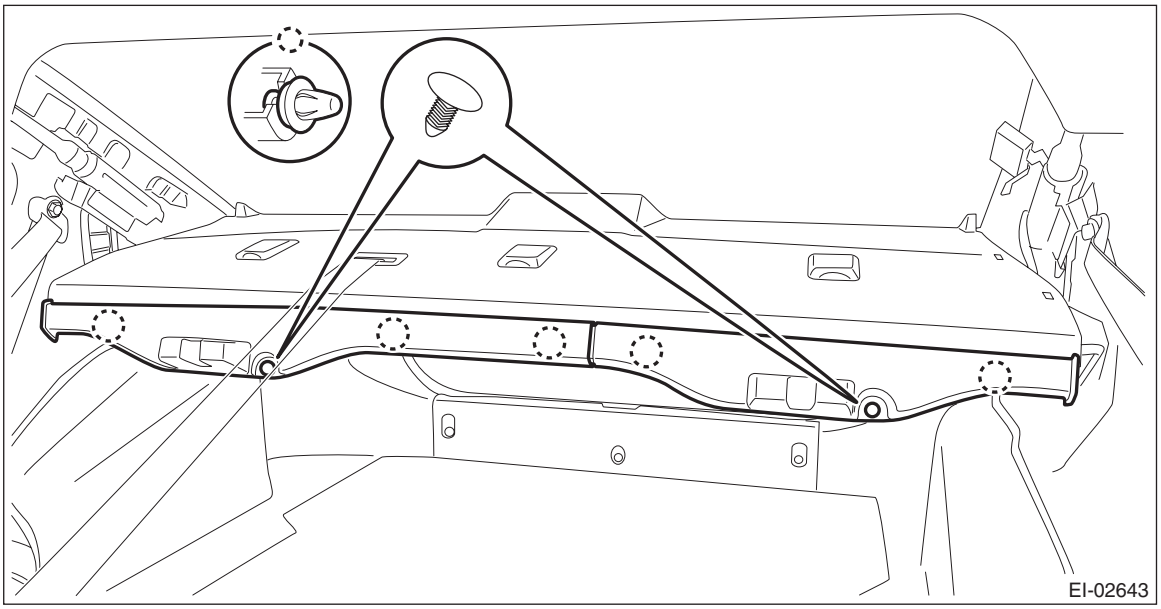


(2) Release the clips, and remove the rear quarter trim UPR.

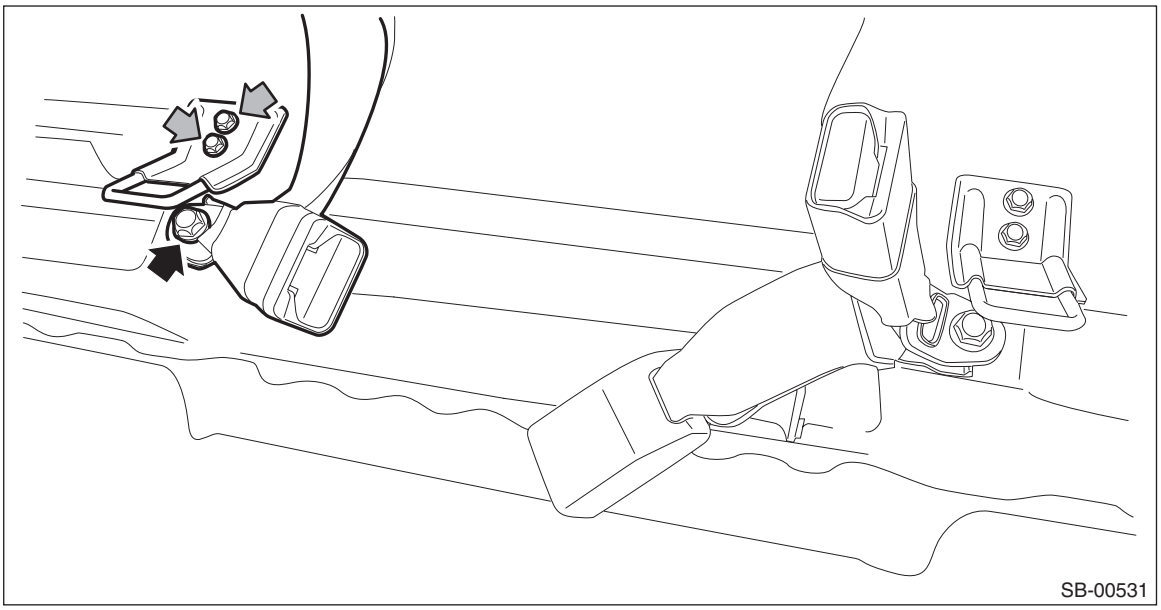


(3) Pull out the seat belt and remove the rear quarter trim UPR.

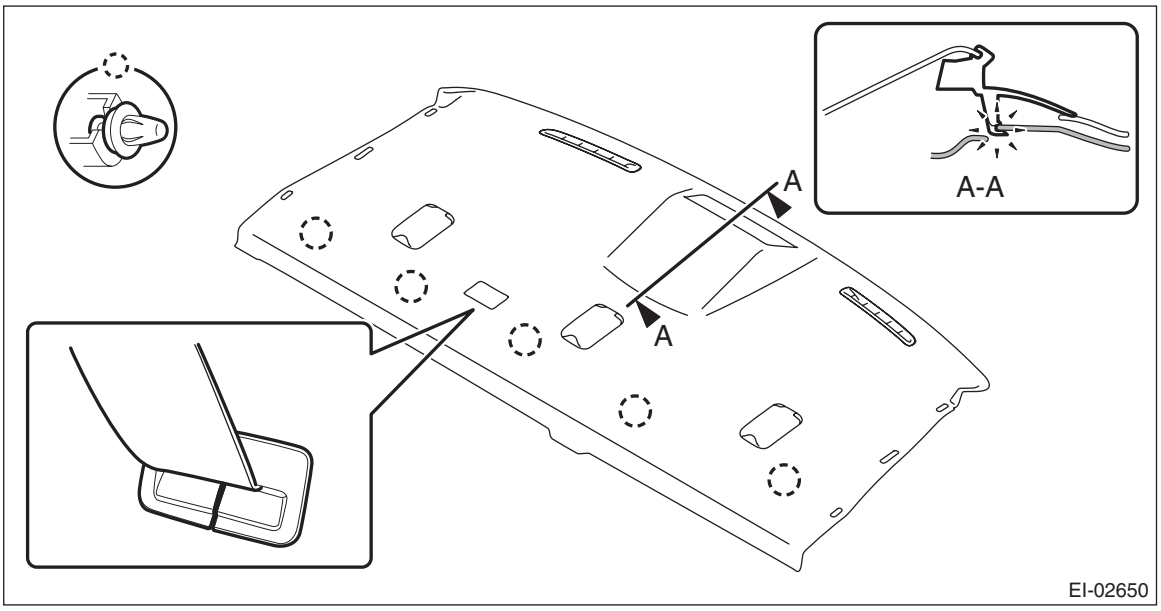
6) Release the clips and remove the trunk trim panel assembly - front on the left and right sides.



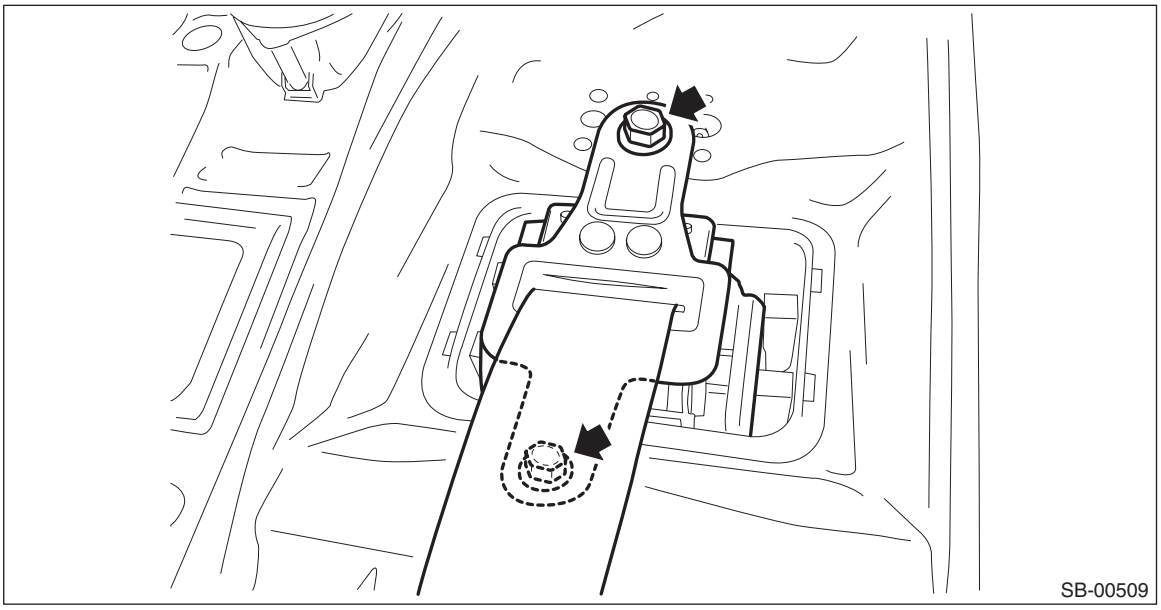
7) Remove the lower anchor of the shoulder belt assembly CTR.
   (1) Remove the nuts and remove the ISO-FIX anchor.
   (2) Remove the bolts, and remove the lower anchor of shoulder belt assembly CTR.



8) Remove the rear shelf panel assembly.
   (1) Release the clips to float the rear shelf panel assembly.
   (2) Release the belt guide and guide the anchor of rear center seat belt to behind the shelf panel.
   (3) Disconnect the connector of high-mounted stop light.
   (4) Remove the rear shelf panel assembly.



9) Remove the bolts, and remove the shoulder belt assembly CTR.



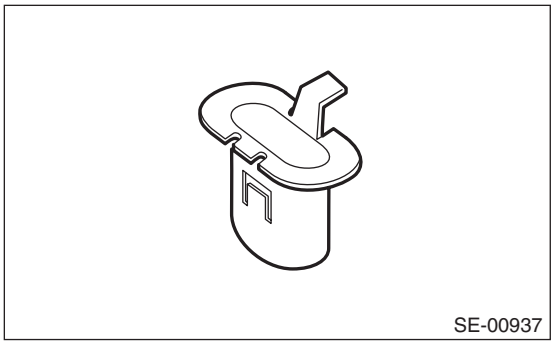
4. SHOULDER BELT ASSEMBLY CTR (OUTBACK MODEL)

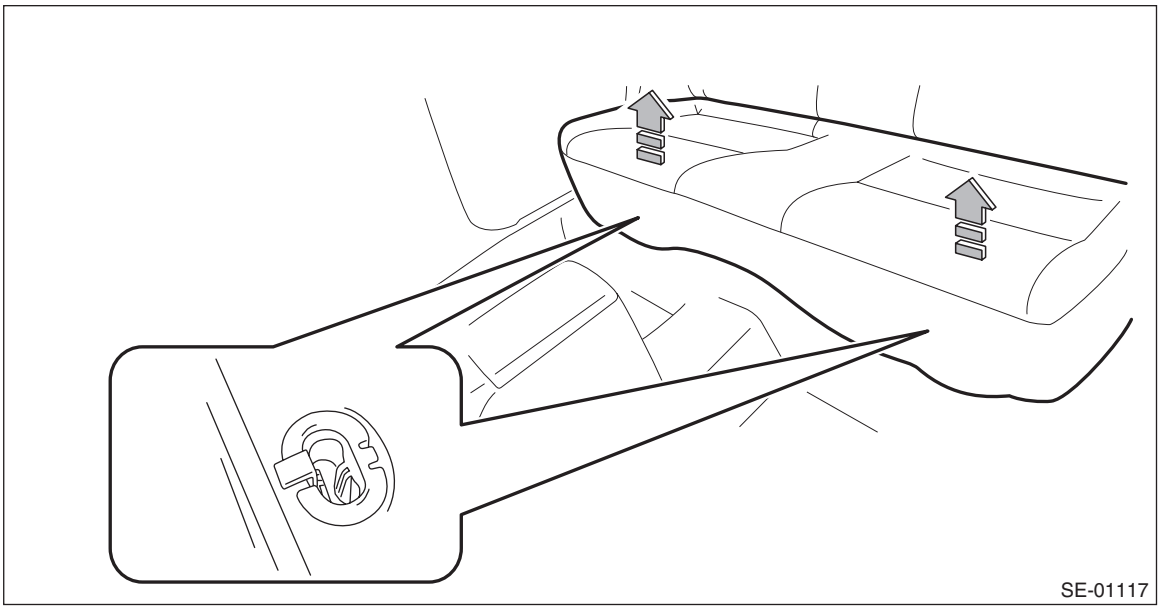
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

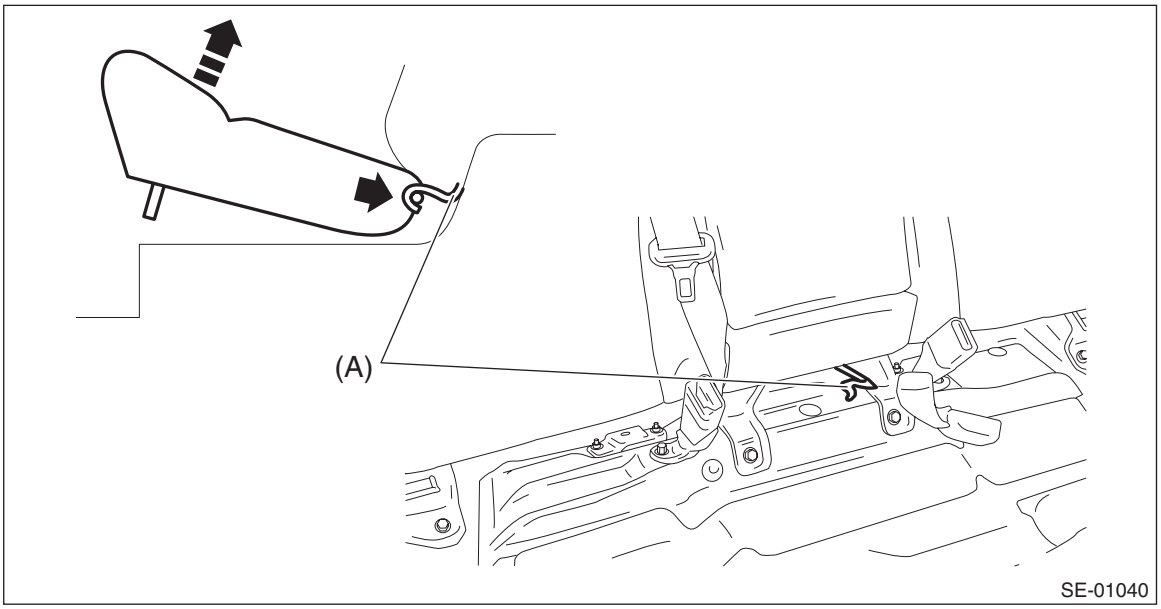
2) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.



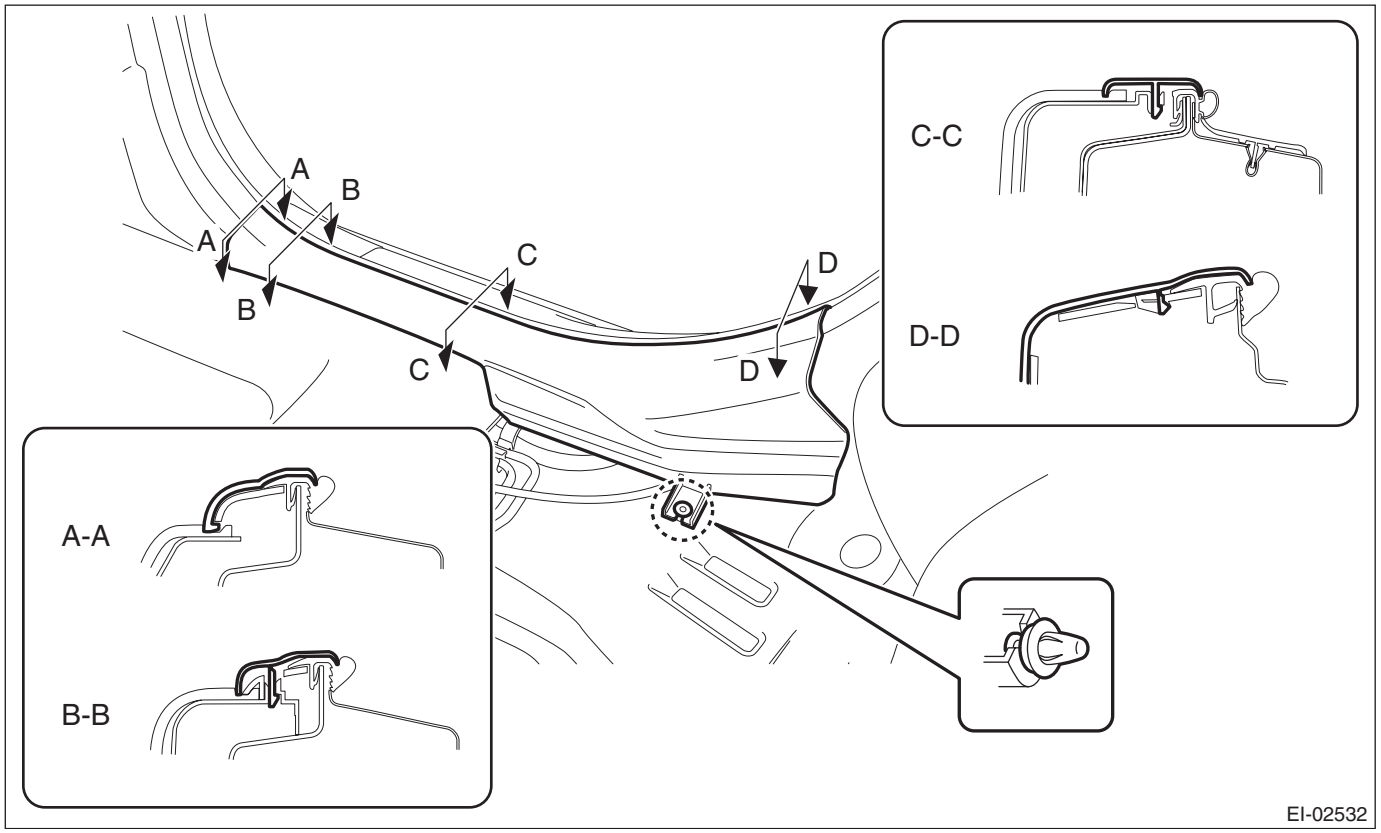


(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



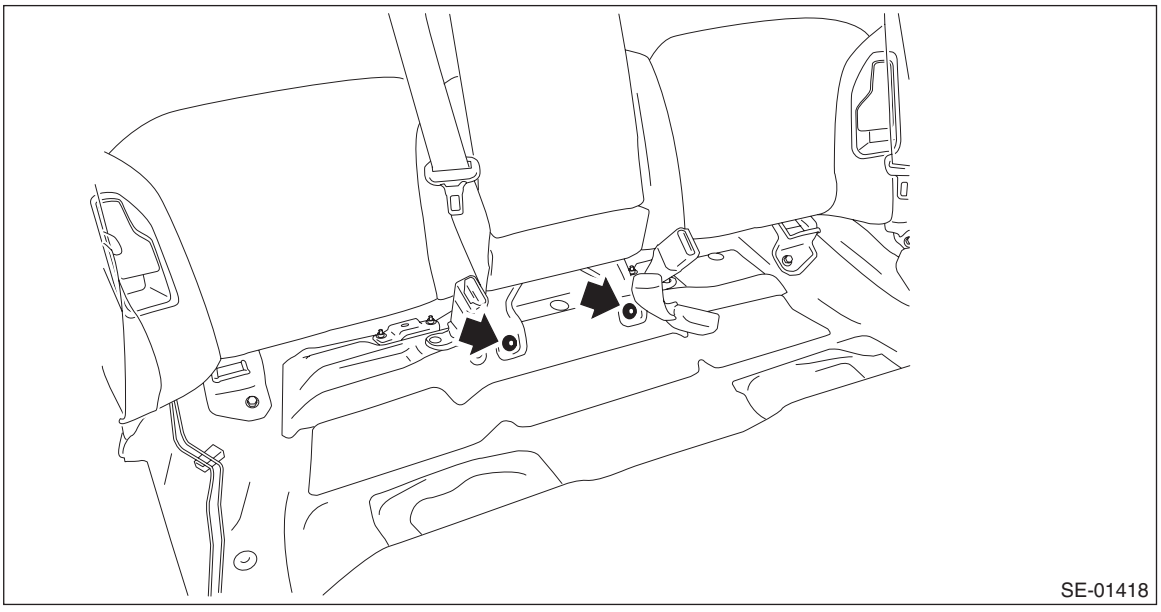
3) Release the clips and claws, and remove the side sill covers - rear INN on the left and right sides.

CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.

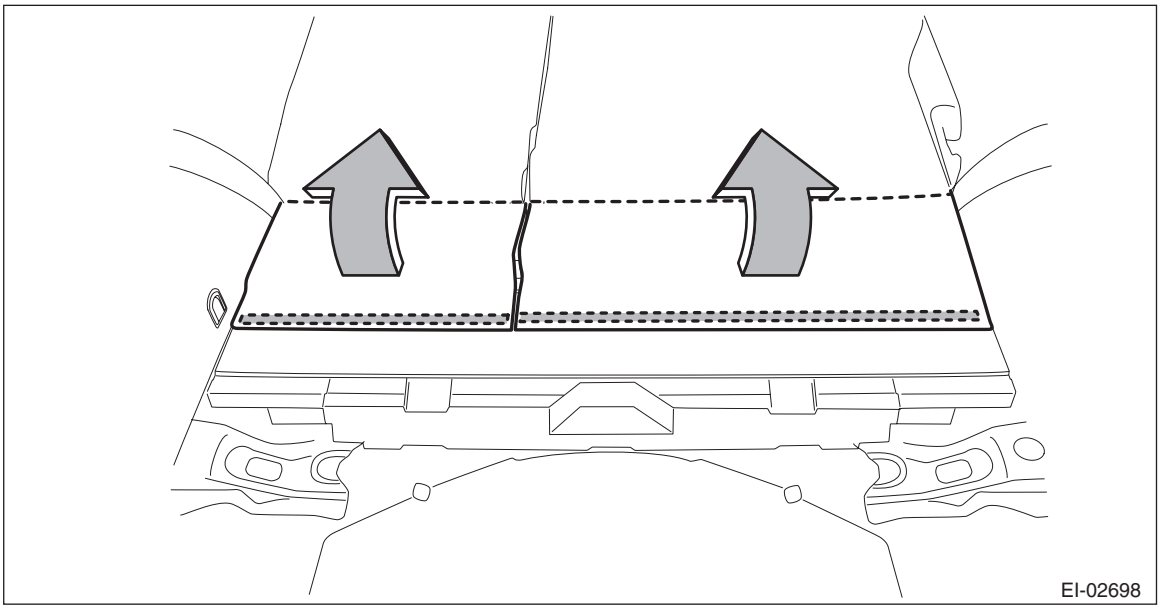


NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C and D-D) by accessing from behind the side sill cover INN.

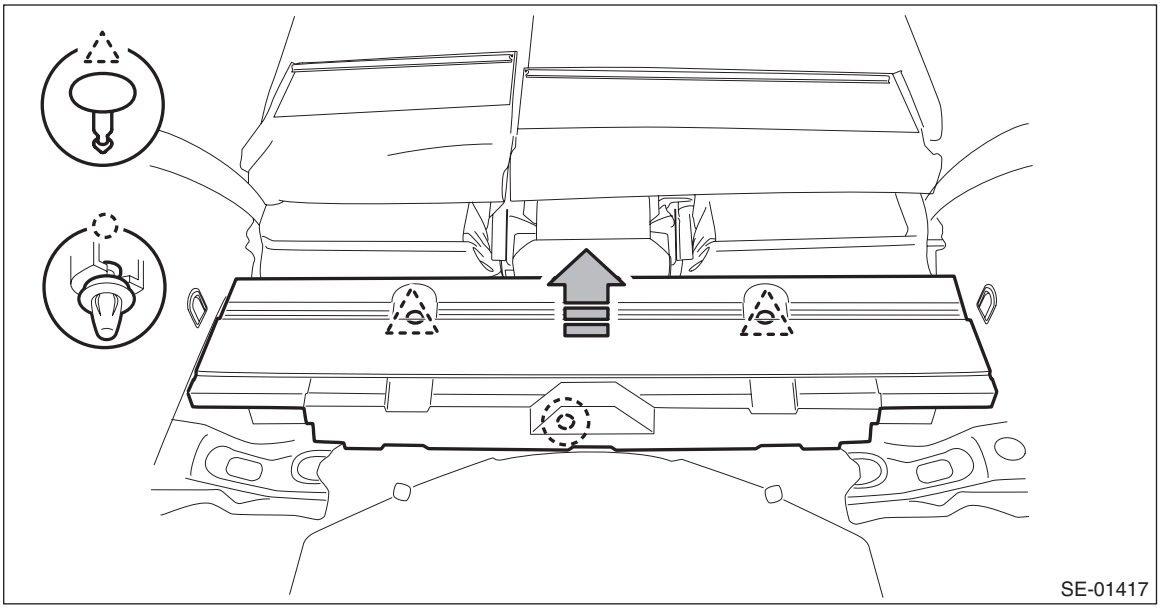
4) Remove the headrest.
5) Remove the backrest assembly RH.
(1) Remove the hinge bolts at the front of the backrest assembly RH.



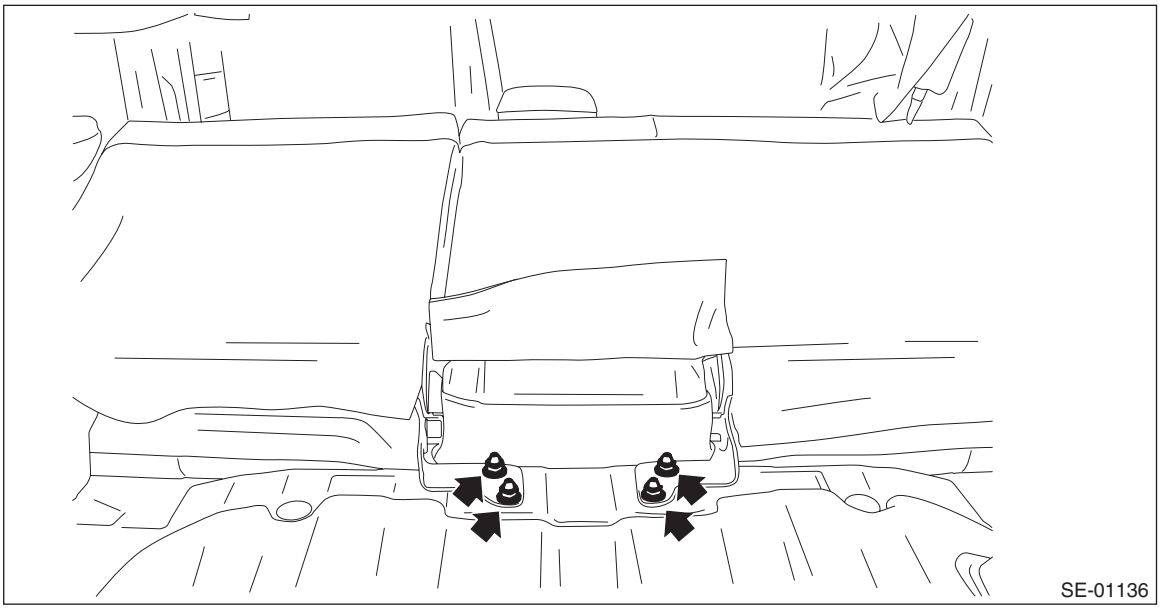
(2) Tilt the backrest forward, and then turn over the backrest backside mat.



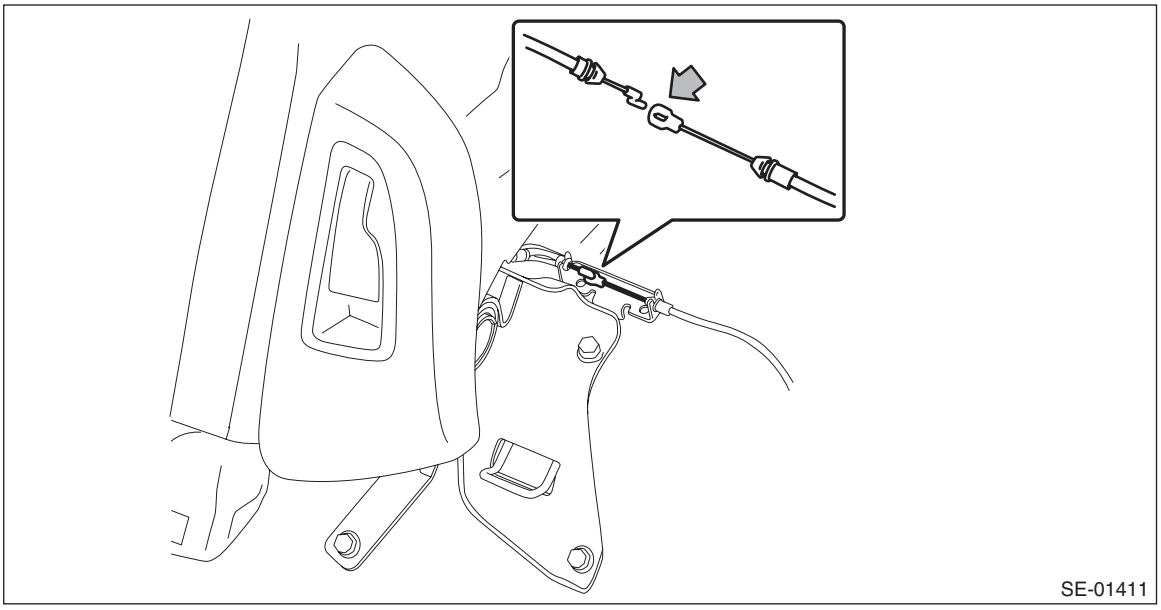
(3) Remove the clips, and remove the rear floor mat - front.



(4) Remove the nuts at the rear of backrest hinge.

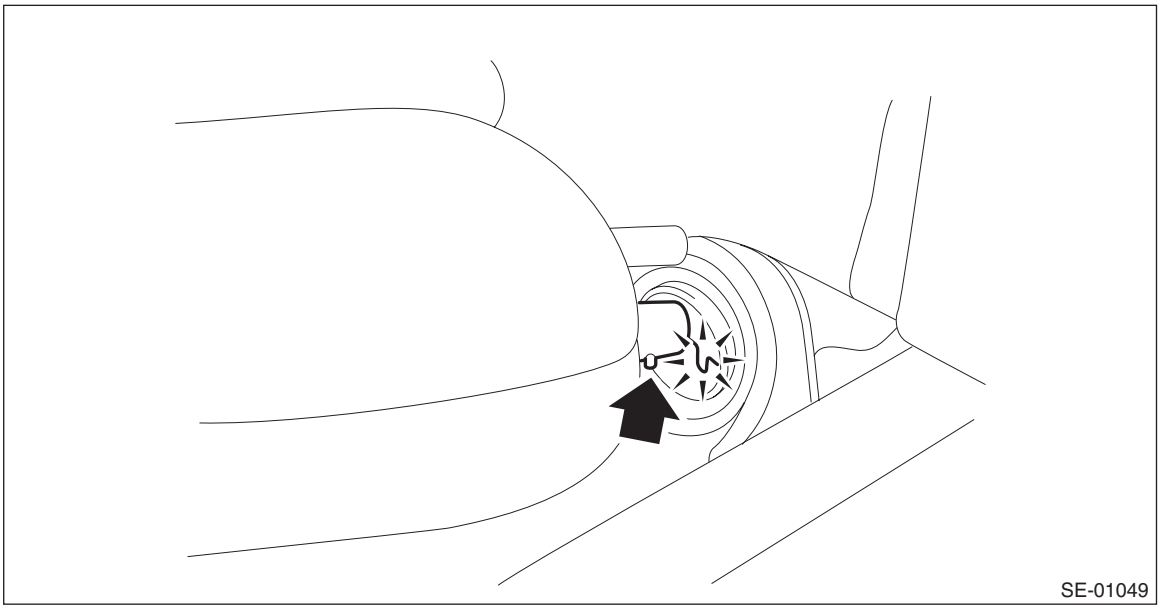


(5) Disconnect the backrest cable and reclining cable.



NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

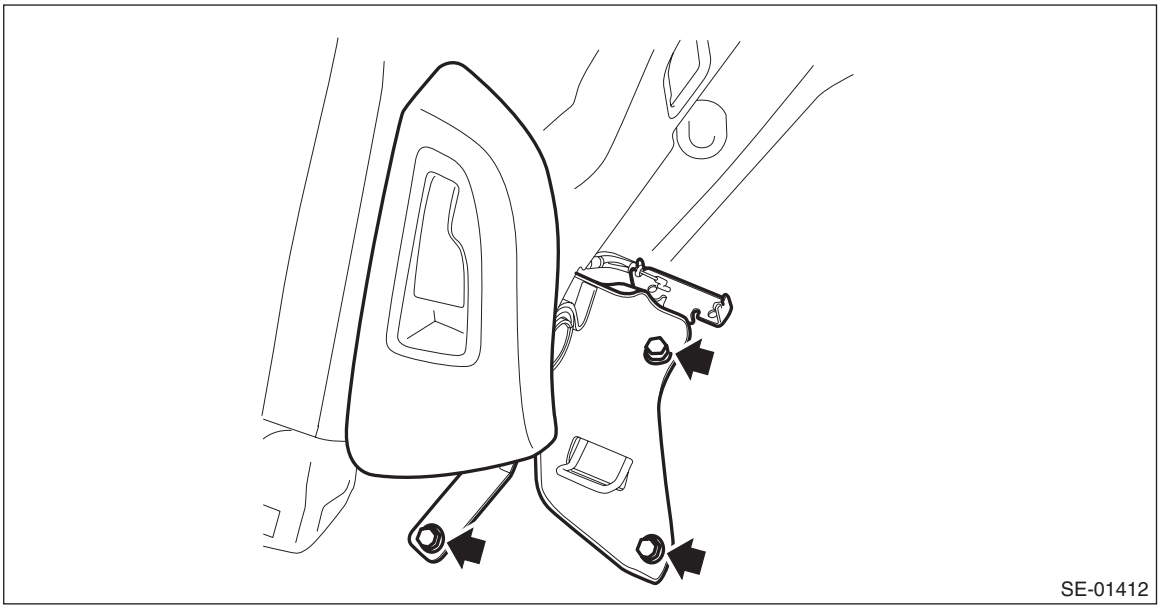
(6) Remove the backrest assembly RH from the hinge assembly RH.



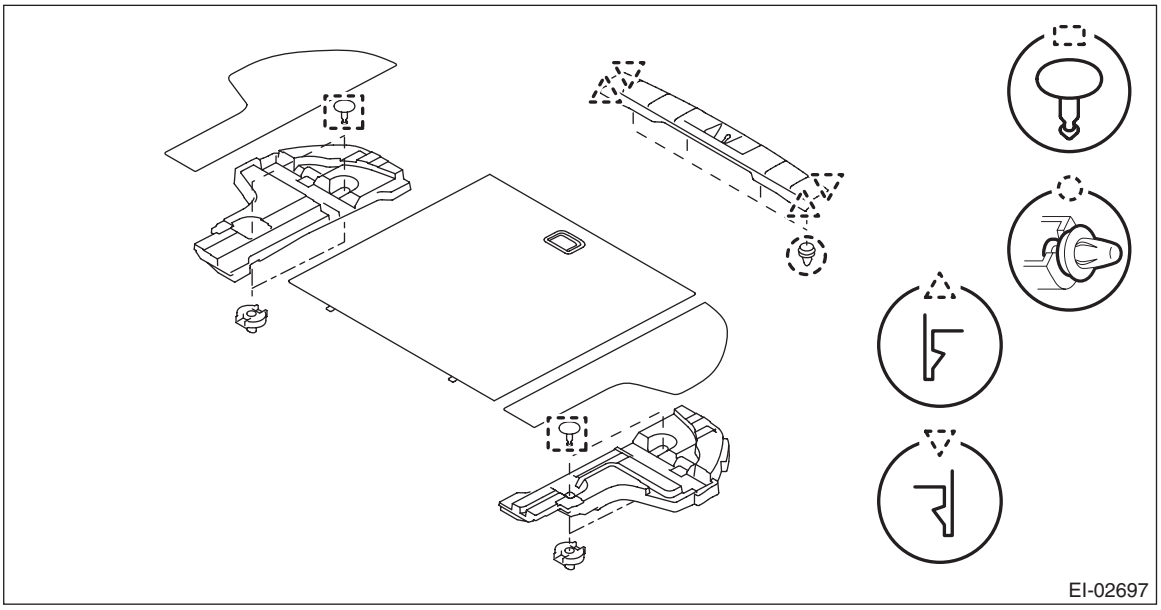
NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

(7) Take out the part outside the vehicle so that the body is not damaged by the hinges.

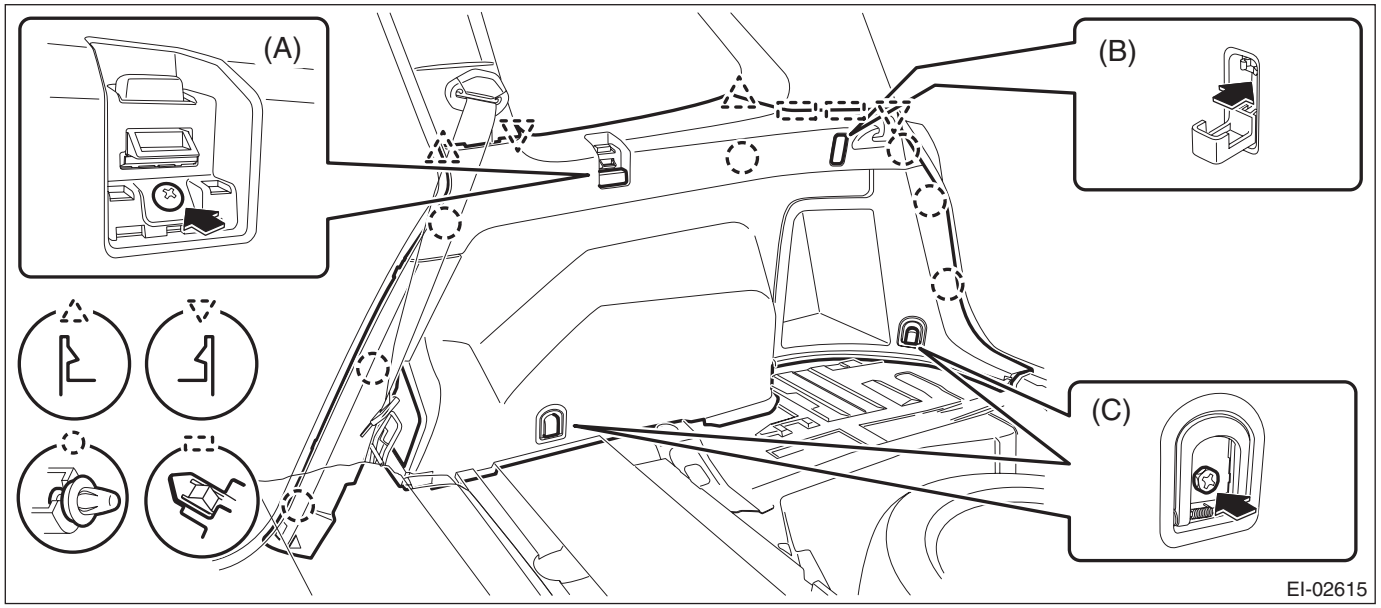
6) Remove the right and left bolts, and remove the backrest side pad assembly RH.



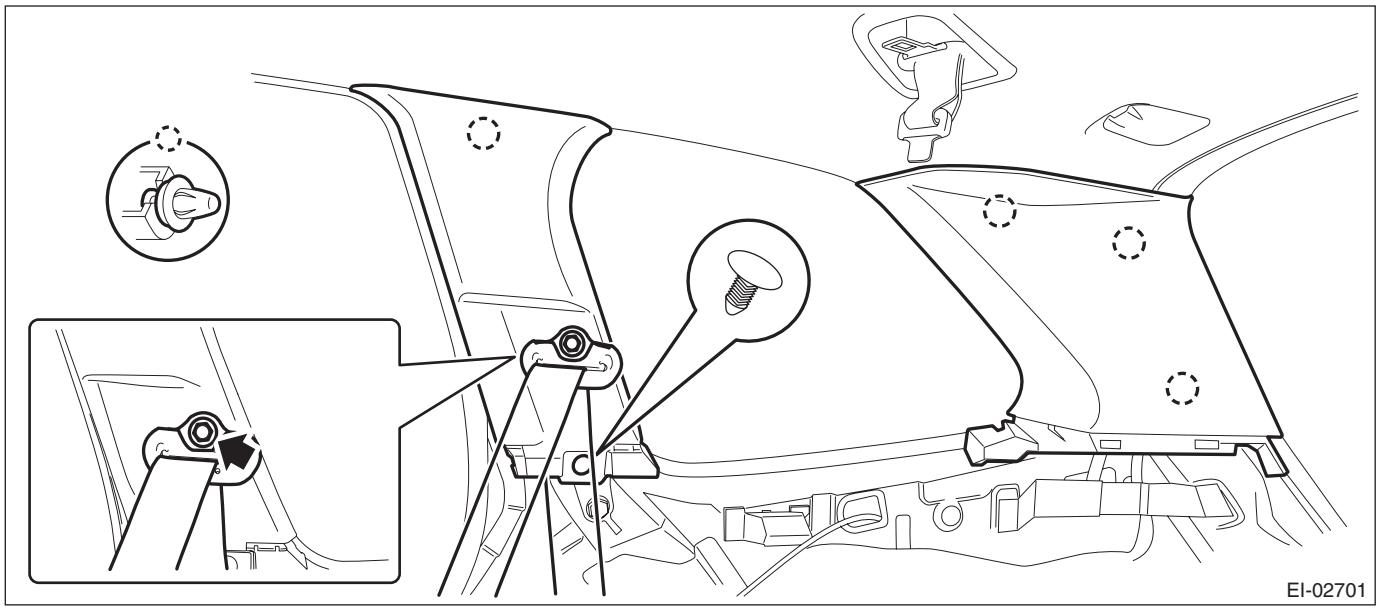
7) Remove the clips, and remove the luggage floor box and rear floor edge cover.



8) Remove the left and right rear quarter trim LWR.
   (1) Remove the caps, screws, and bolts. (A), (C)
   (2) Take out the hook and remove the screw inside. (B)
   (3) Remove the clips, and remove the rear quarter trim LWR.

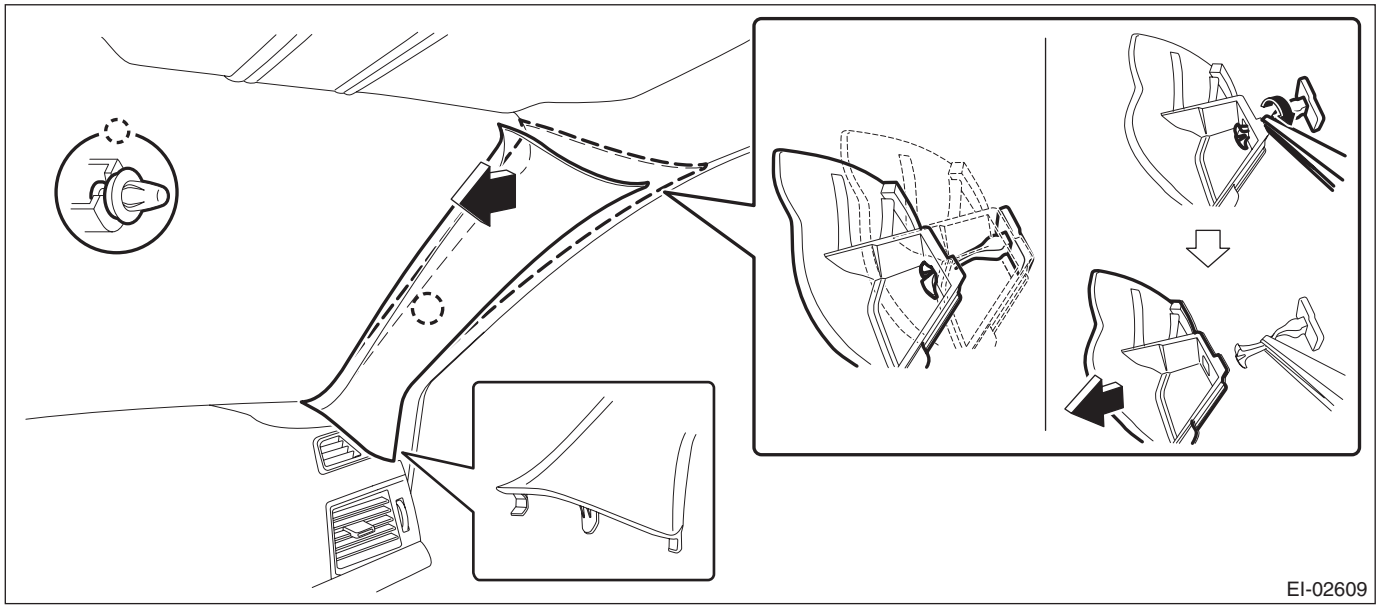


9) Remove the left and right rear quarter trim UPR.
(1) Open the cap and remove the bolt to remove the seat belt anchor.
(2) Remove the clips, and remove the rear quarter trim UPR - front.
(3) Remove the clips, and remove the rear quarter trim UPR - rear.



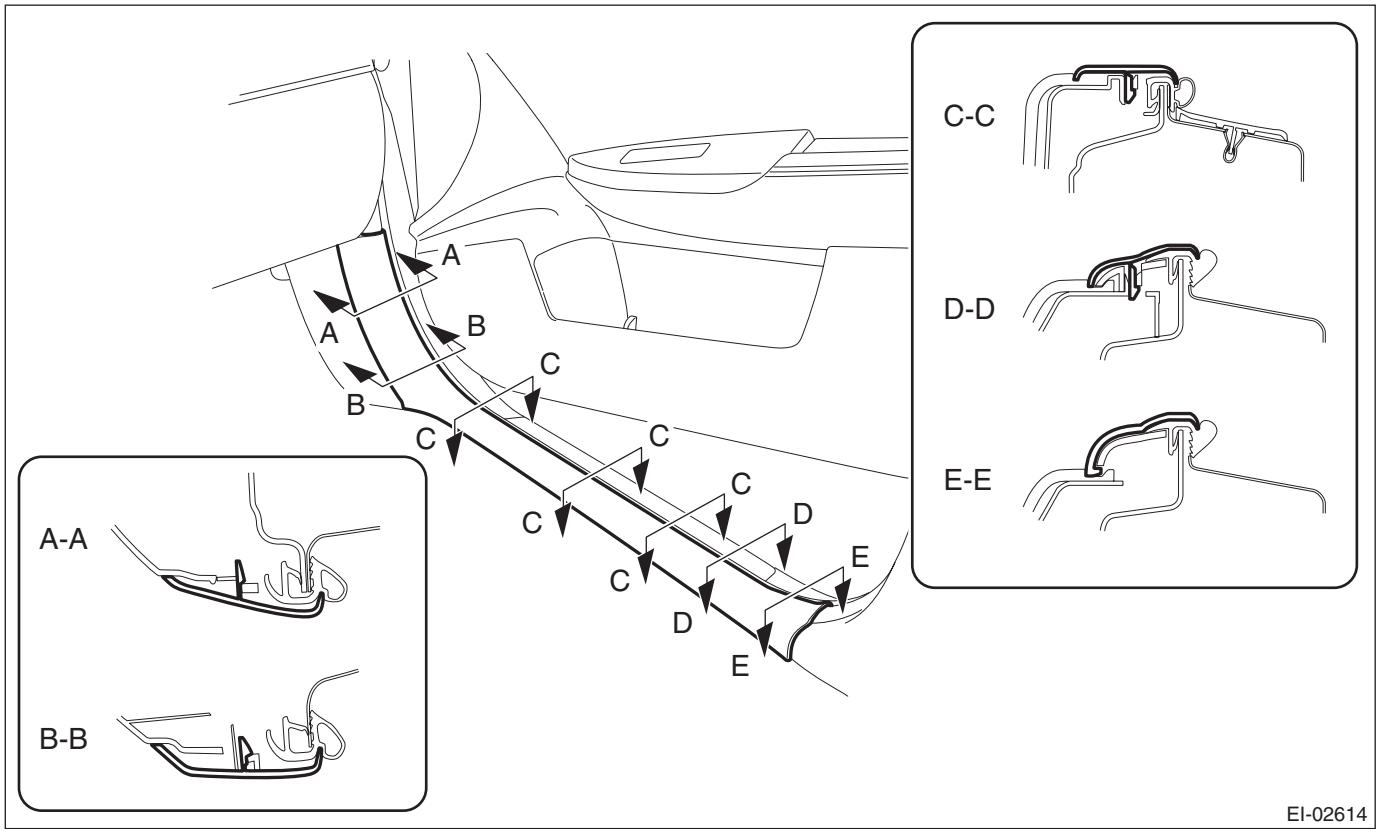
10) Remove the left and right front pillar trims.
(1) Pull the upper part of the front pillar trim towards the center of the vehicle.
(2) Insert long-nose pliers into the top part of the trim, grip the tether clip with the pliers and twist 90° in that position.

CAUTION:
Be careful not to damage the pillar trim surface and curtain airbag module when inserting the pliers.
(3) While holding the tether clip twisted as in the previous step, remove the front pillar trim from the tether clip.
(4) Remove the clip and the front pillar trim.



11) Release the claws, and then remove the side sill cover - front INN on the left and right sides.

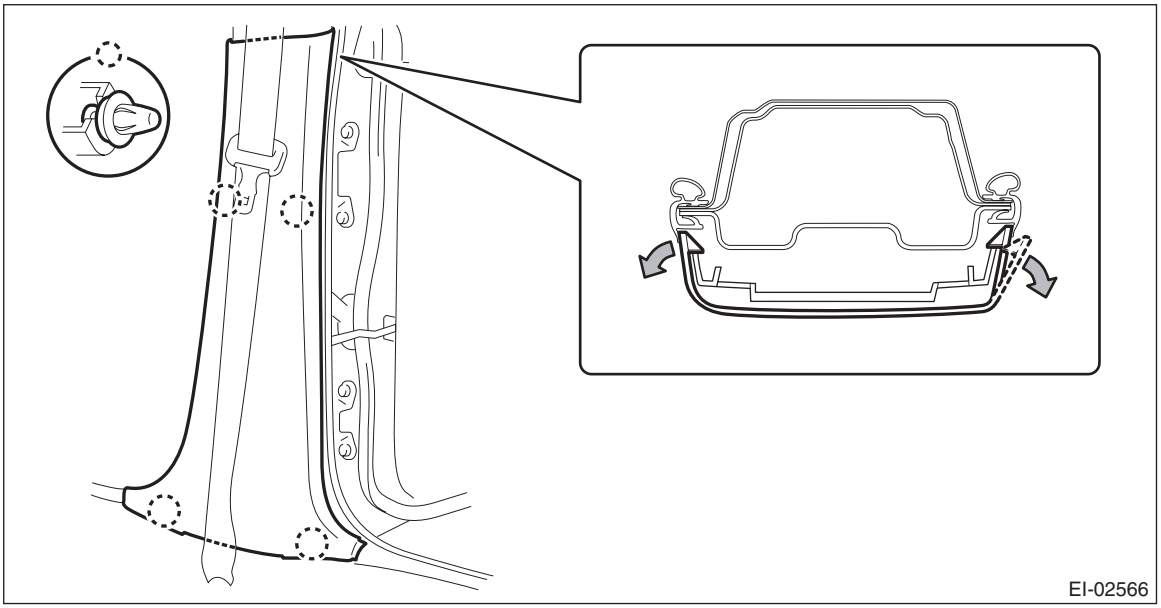
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover INN.



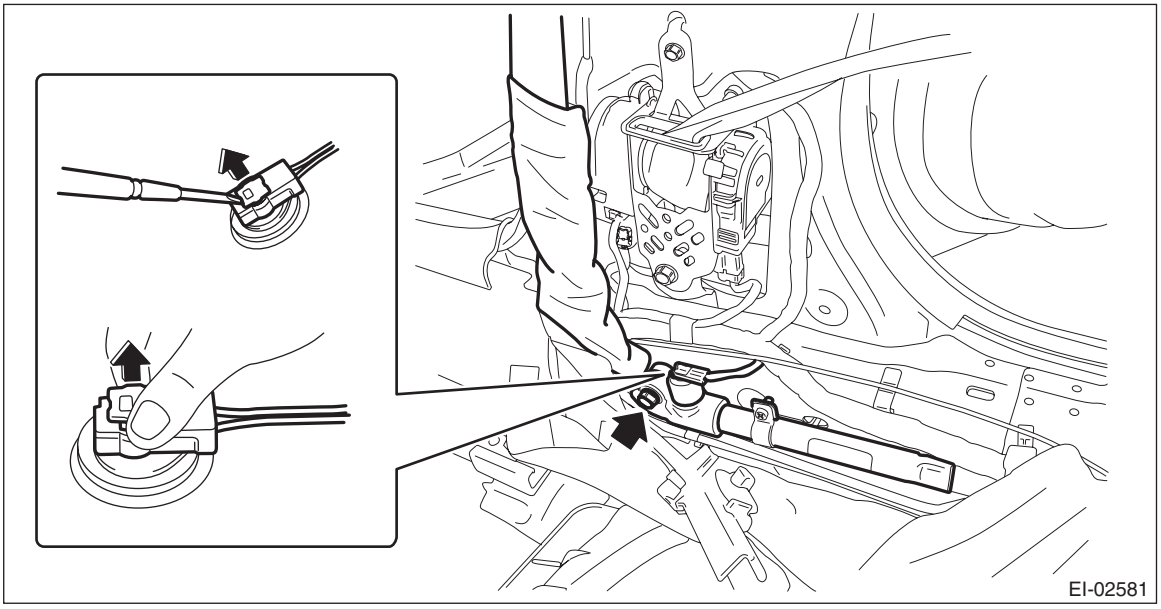
NOTE:
To release the claws of the side sill cover INN, the following steps are recommended.
1. Take out the weather strip from under the side sill cover INN.
2. Turn over the floor mat and release the claw (C-C) by accessing from behind the side sill cover INN.

12) Remove the left and right center pillar trim LWR.
(1) Release the clip by pulling the center pillar trim LWR toward you.
(2) Expand the claws of center pillar trim LWR outward and remove it from the center pillar trim UPR.

CAUTION:
Do not expand the center pillar trim LWR excessively. Doing so may damage the trim.


EI-02566

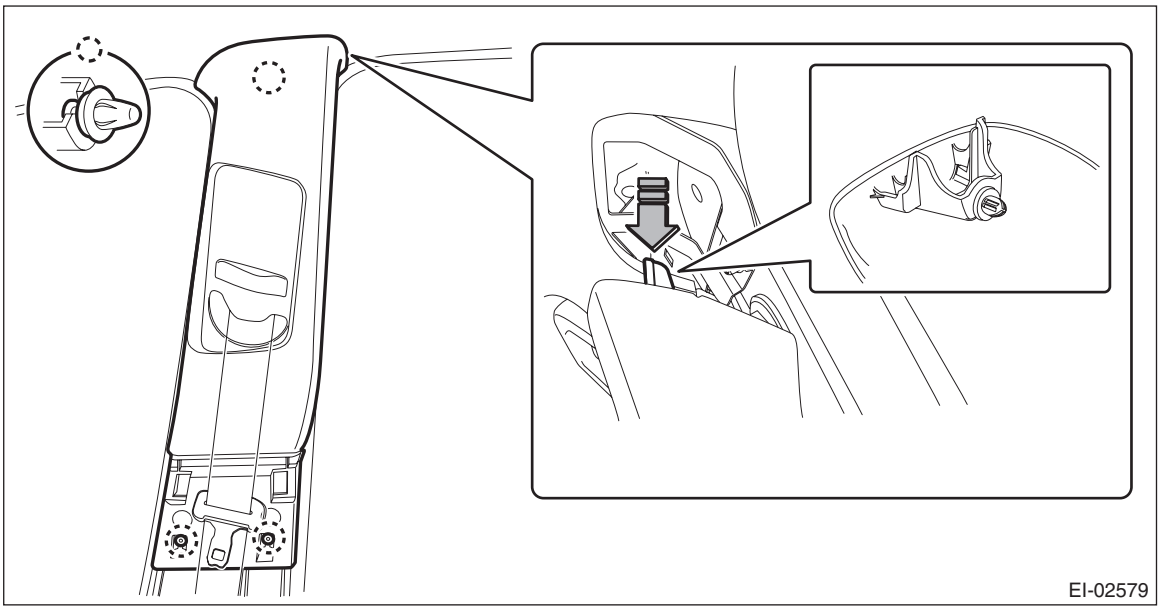
NOTE:
First release the claw located to the rear of the vehicle.
13) Remove the left and right center pillar trim UPR.
(1) Also disconnect the connector of lap seat belt pretensioner, and remove the seat belt lower anchor bolt.


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(2) Release the clip by pulling the lower part of the trim toward you.

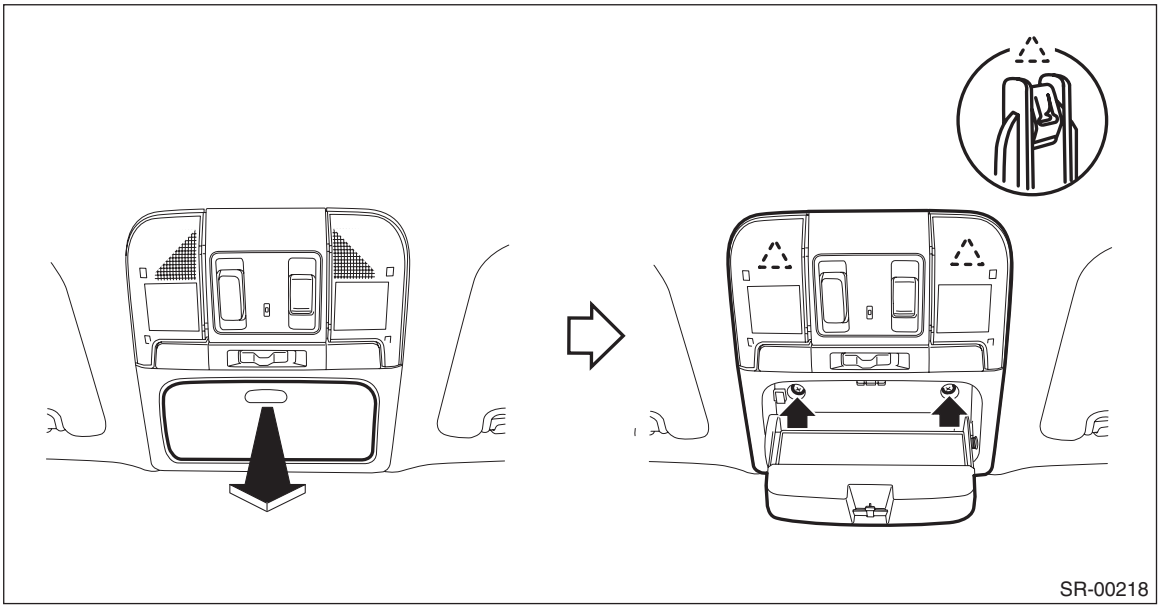
(3) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the center pillar trim UPR.

CAUTION:
Do not reuse the upper clips of the center pillar trim UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.



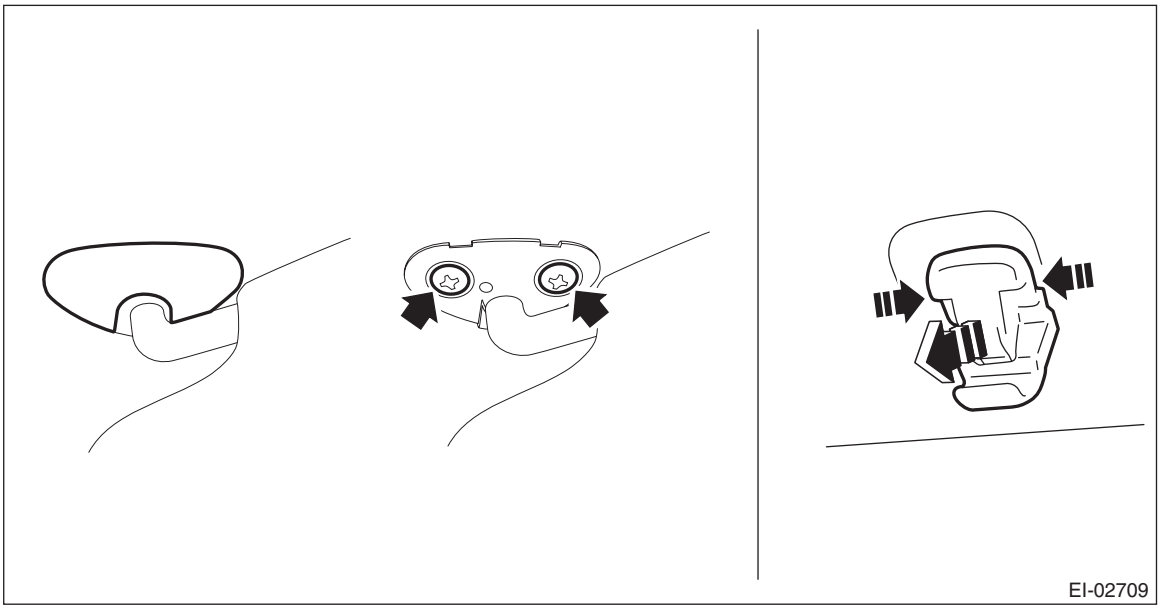
(4) Pull out the seat belt from the center pillar trim UPR.

14) Remove the overhead console assembly. (Models without EyeSight)
(1) Push and open the rear end of the overhead console lid, and remove the screws.
(2) Disconnect the connector and remove the overhead console assembly.

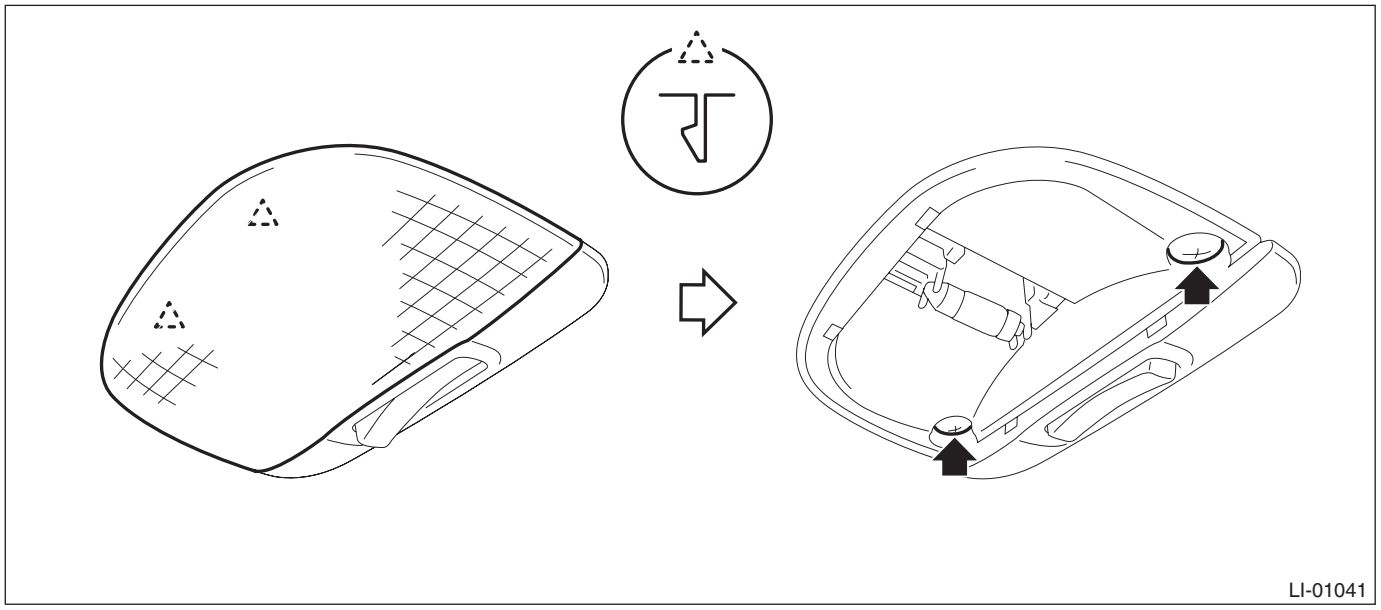


15) Remove the stereo camera cover. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>

16) Remove the left and right sun visor assembly.
(1) Remove the cover, loosen the screws, and remove the sun visor assembly.
(2) Press the both sides of the sun visor hook using a flat tip screwdriver.
(3) Remove the sun visor hook by pulling toward you.

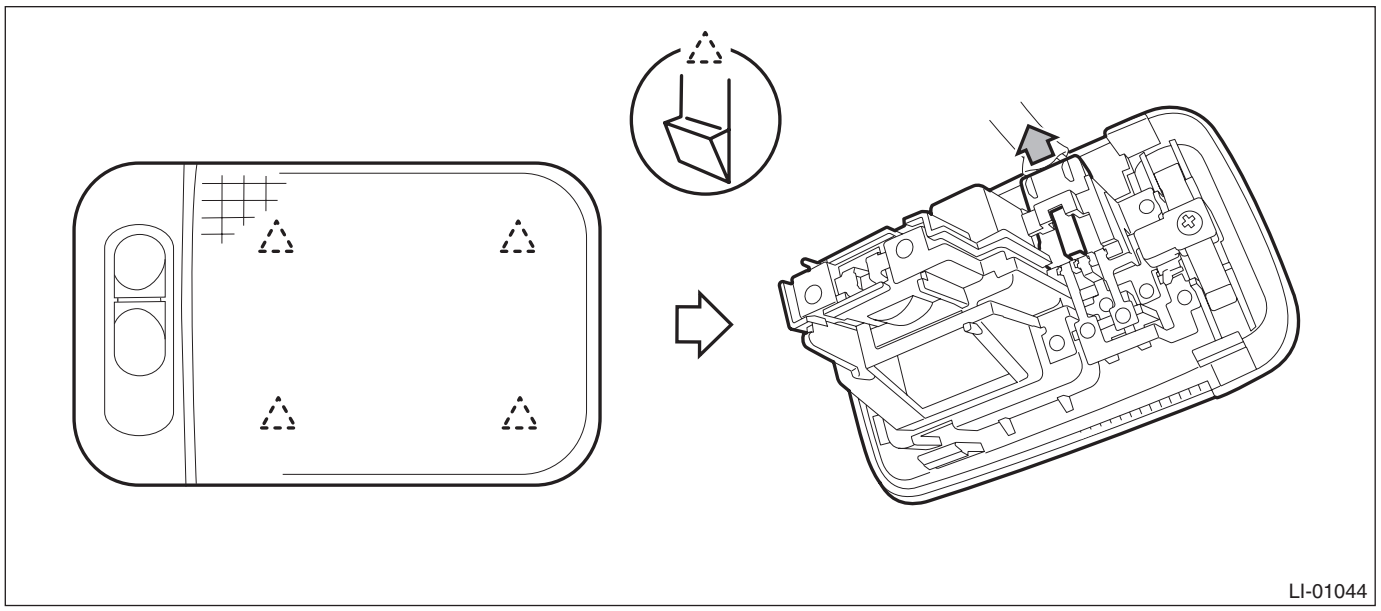


17) Remove the room light assembly.
(1) Release the claws and remove the cover.
(2) Remove the two screws.

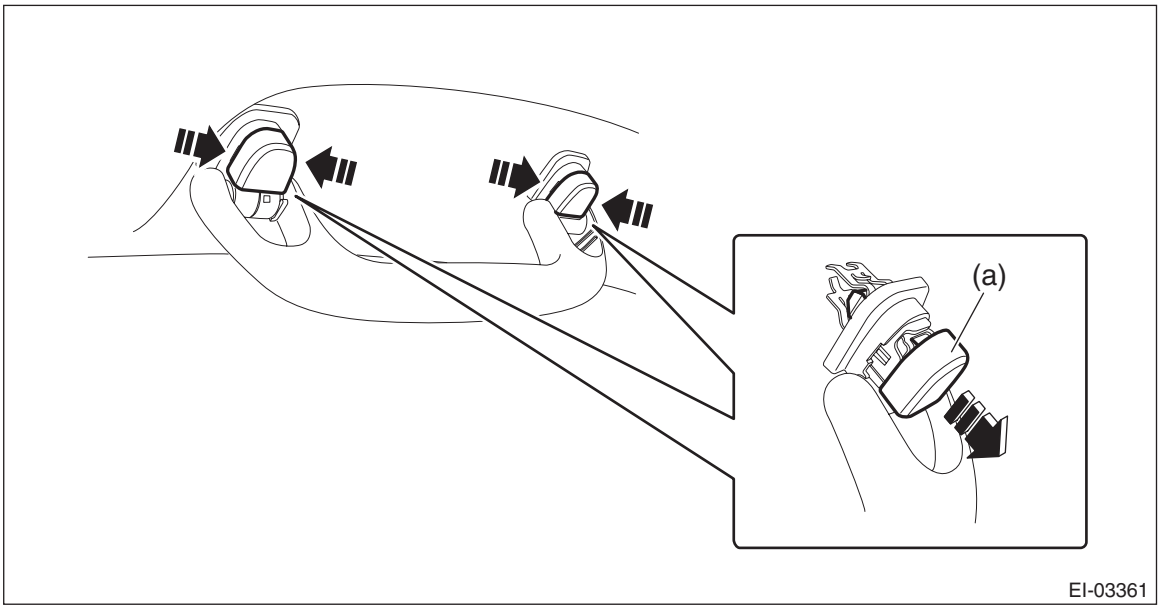


(3) Disconnect the connector and remove the room light assembly.

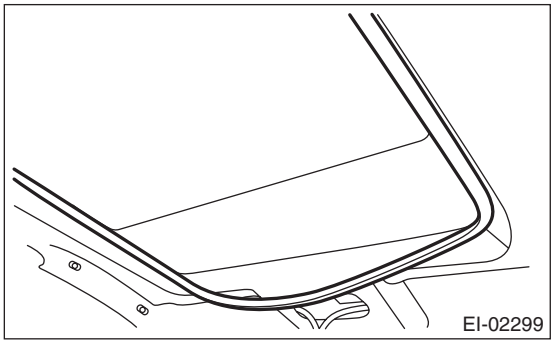
18) Remove the luggage room light.
(1) Release the claws and remove the luggage room light main body.
(2) Disconnect the connector and remove the luggage room light.



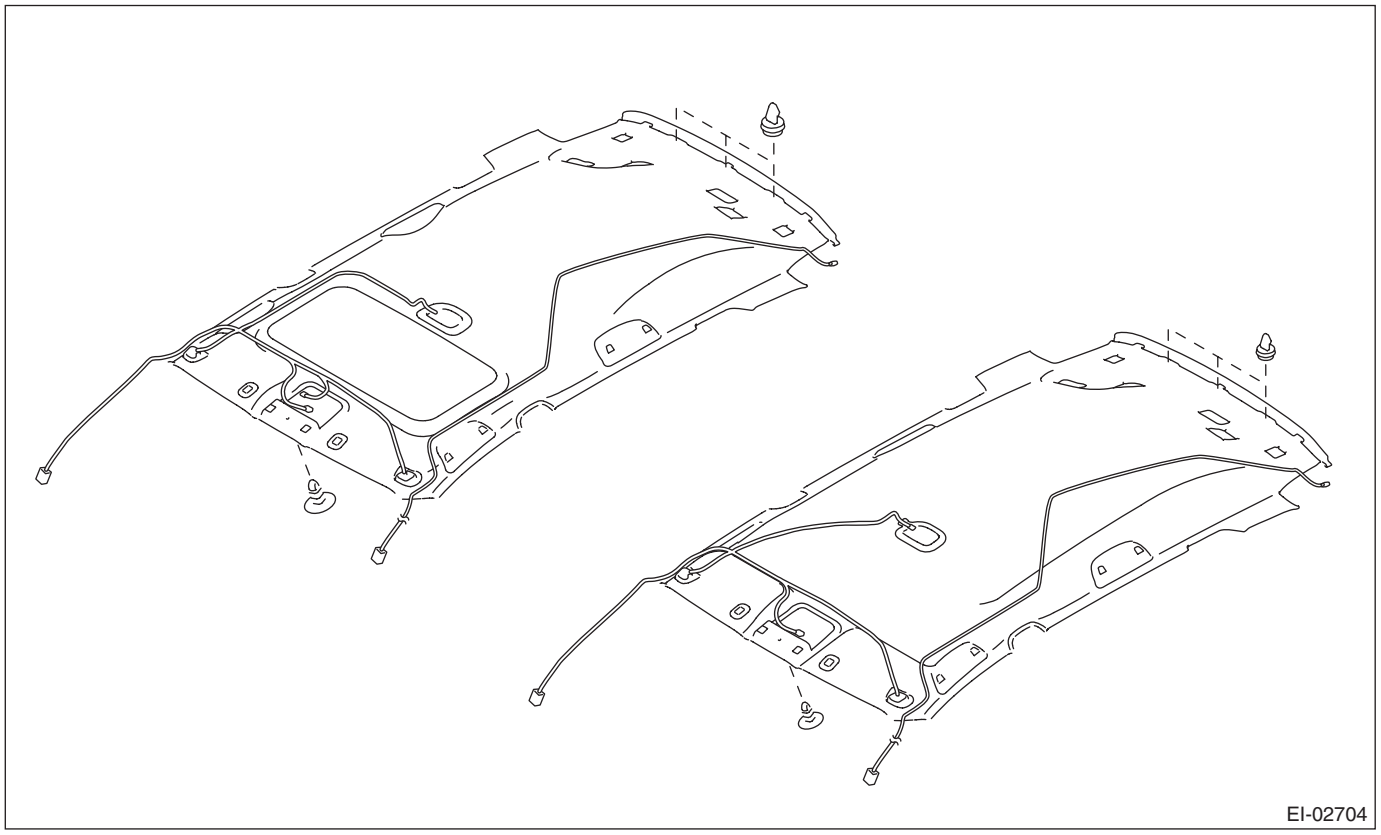
19) Remove all assist grip assembly.
(1) Remove the cap (a) by pulling the both sides of the cap (a) using a flat tip screwdriver wrapped with a protection tape.
(2) Pull the assist grip toward you (to the vehicle center) and remove the metal clip from the bracket.



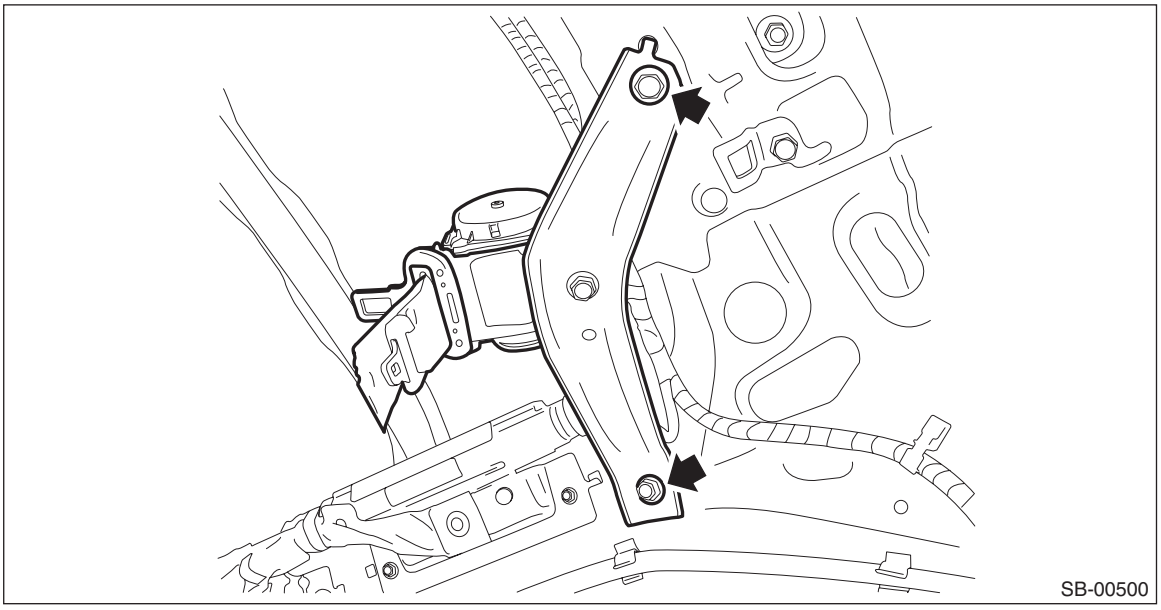
20) Remove the sun roof garnish. (model with sunroof)



21) Disconnect the roof harness connector at the front pillar RH.
22) Remove the roof trim assembly.
(1) Release the clips and remove the feeder cable from the roof trim.
(2) Take out the roof trim assembly from the rear gate opening to outside.



23) Remove the bolts, and remove the shoulder belt assembly CTR.



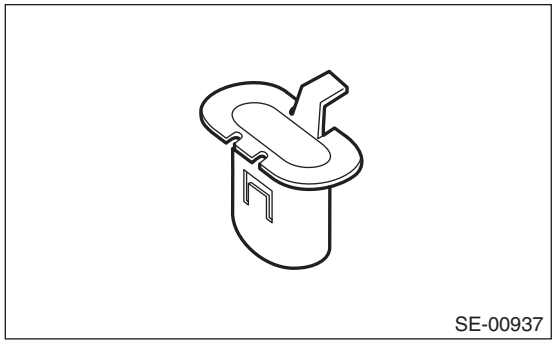
5. CENTER BELT RH ASSEMBLY & LH ASSEMBLY

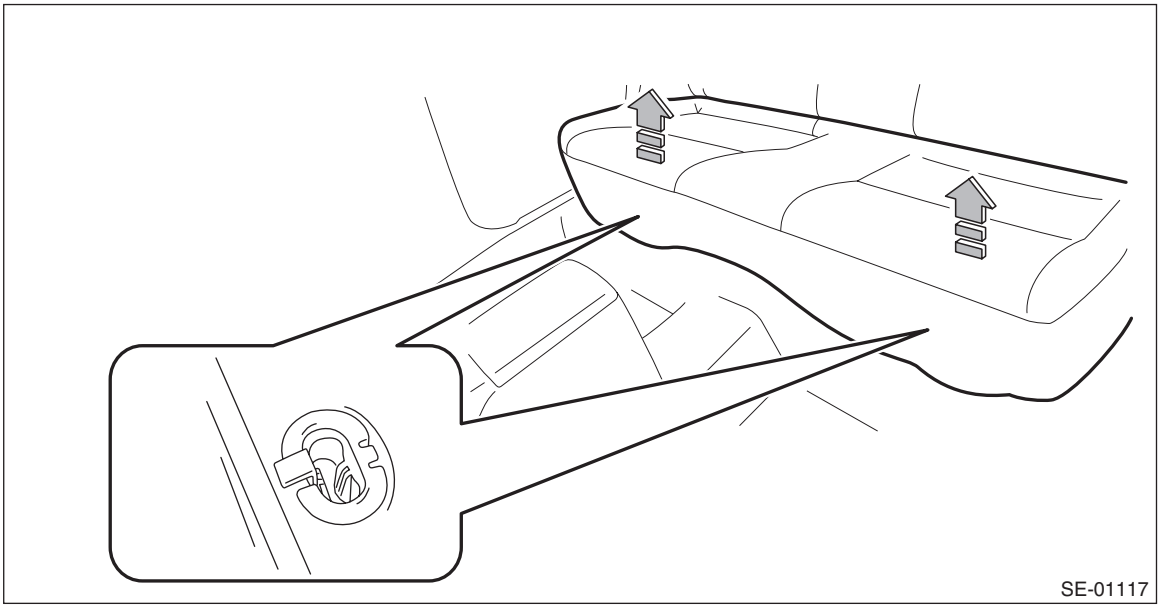
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

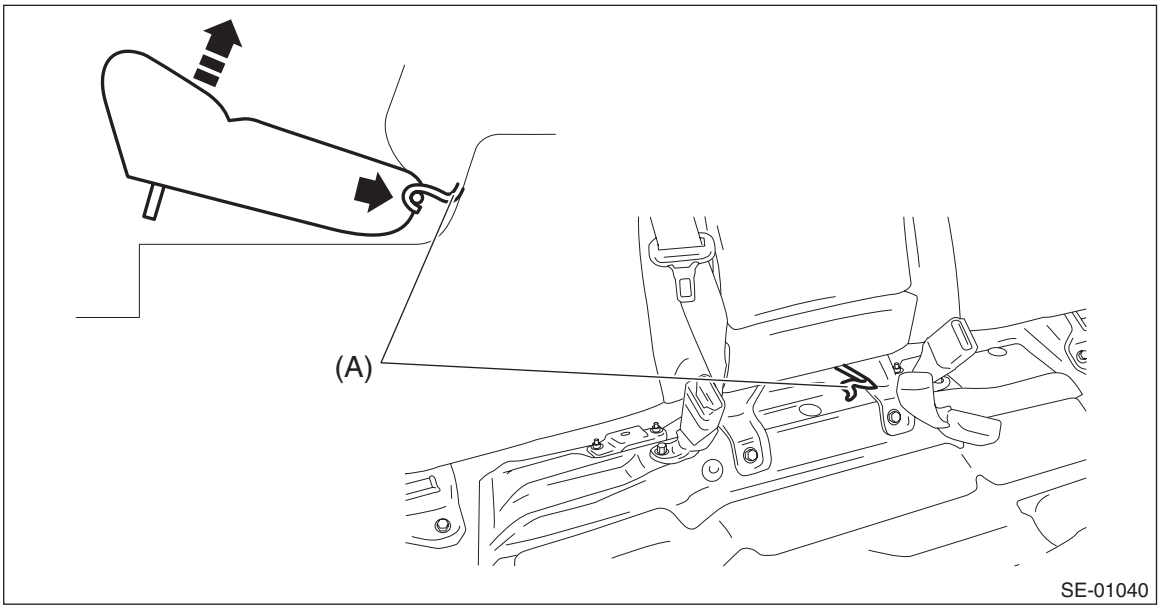
2) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.

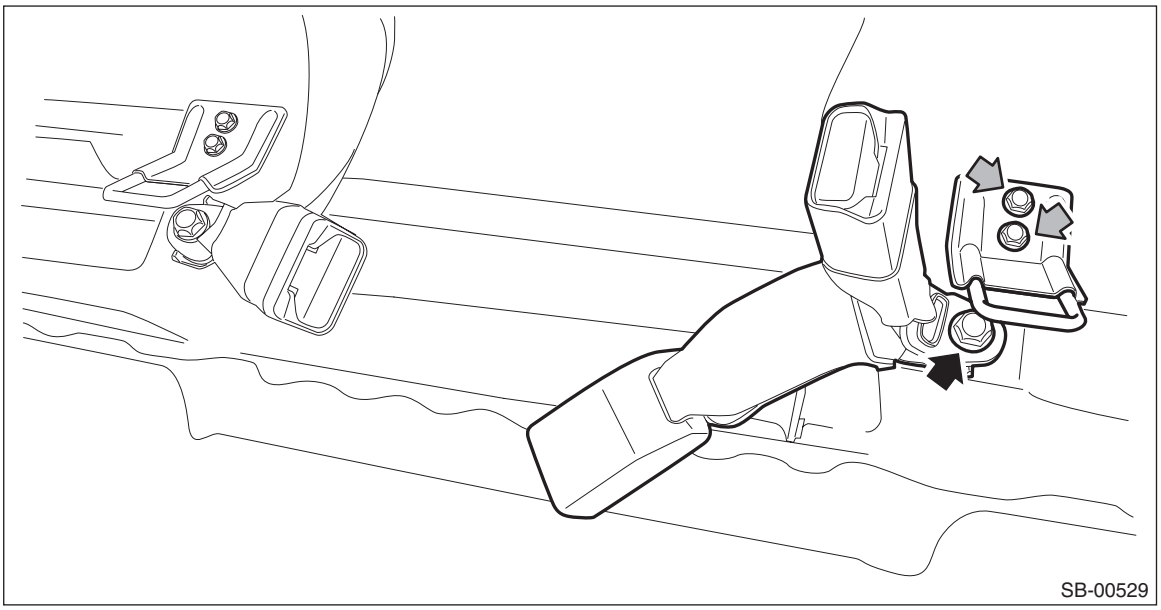

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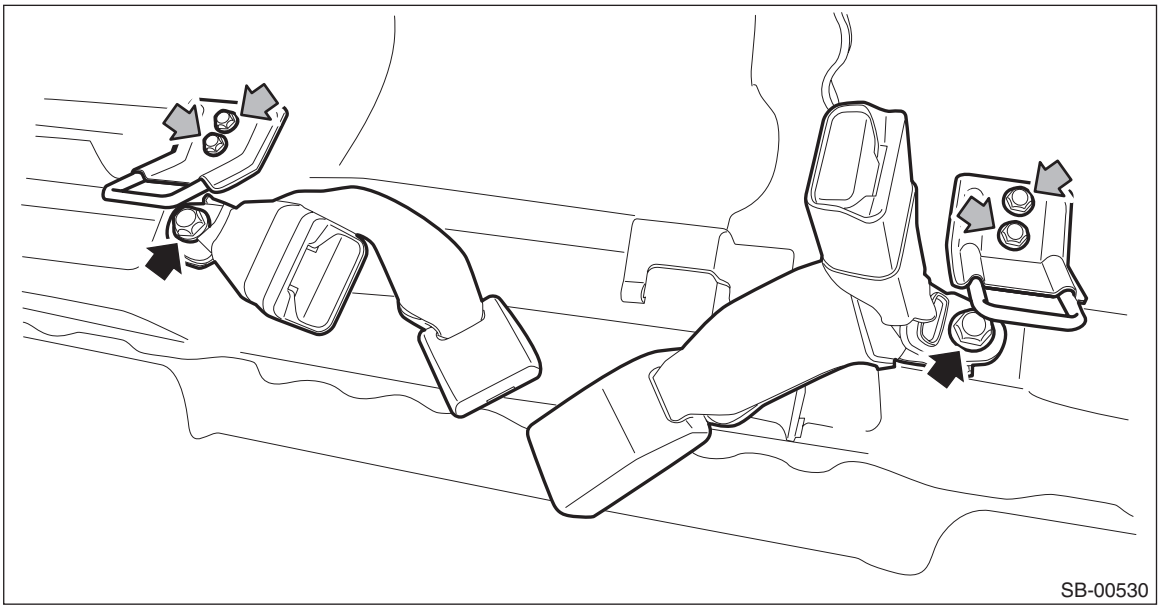
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



3) Remove the center belt RH assembly & LH assembly.
(1) Remove the bolts and remove the ISO-FIX anchor.
(2) Remove the bolts, then remove the center belt RH assembly & LH assembly.
• Sedan model



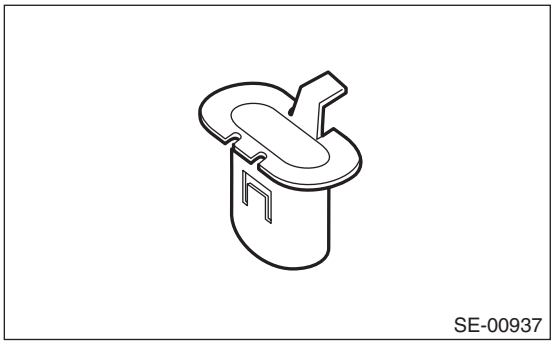
- OUTBACK model



B: INSTALLATION

1. OUTER BELT RH ASSEMBLY & LH ASSEMBLY (SEDAN MODEL)

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.



1) Before installation, perform a unit inspection of retractor. <Ref. to SB-70, INSPECTION, Rear Seat Belt.>
2) Install the outer belt assembly.

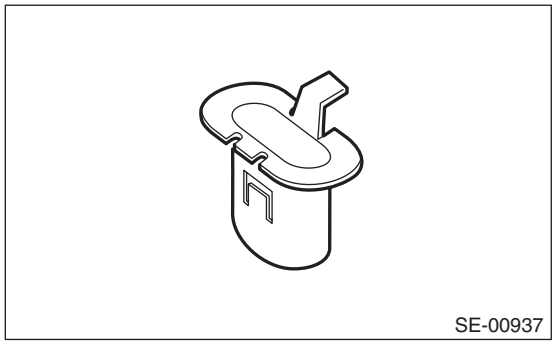
CAUTION:
- **During installation, make sure that the seat belts are not twisted.**
- **After installation, make sure that the seat belts are smoothly extended and wound.**

Tightening torque:
REAR SEAT BELT (SEDAN MODEL): <Ref. to SB-3, REAR SEAT BELT (SEDAN MODEL), COMPONENT, General Description.>

3) Install the remaining parts in the reverse order of removal.
4) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.

2. OUTER BELT RH ASSEMBLY & LH ASSEMBLY (OUTBACK MODEL)

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.



1) Before installation, perform a unit inspection of retractor. <Ref. to SB-70, INSPECTION, Rear Seat Belt.>
2) Install the outer seat belt retractor.

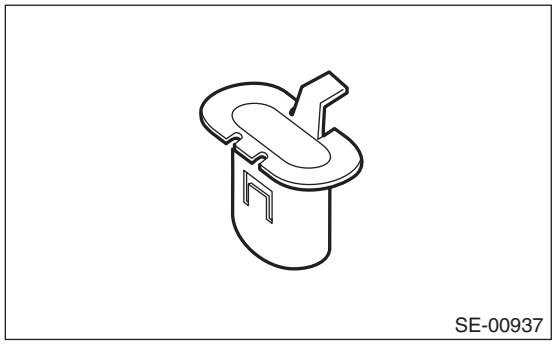
Tightening torque:
Rear seat belt (OUTBACK model): <Ref. to SB-4, REAR SEAT BELT (OUTBACK MODEL), COMPONENT, General Description.>
3) Install the rear quarter trim UPR.
4) Install the outer belt shoulder anchor.
5) Install the outer belt lower anchor.

CAUTION:
- **During installation, make sure that the seat belts are not twisted.**
- **After installation, make sure that the seat belts are smoothly extended and wound.**

Tightening torque:
Rear seat belt (OUTBACK model): <Ref. to SB-4, REAR SEAT BELT (OUTBACK MODEL), COMPONENT, General Description.>
6) Install the remaining parts in the reverse order of removal.
7) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.

3. SHOULDER BELT CTR ASSEMBLY (SEDAN MODEL)

CAUTION:
If the hook is removed from vehicle body, replace the hook with the new part to avoid the deterioration of seat securing.


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1) Install the shoulder belt retractor.

Tightening torque:
REAR SEAT BELT (SEDAN MODEL): <Ref. to SB-3, REAR SEAT BELT (SEDAN MODEL), COMPONENT, General Description.>

2) Install the rear shelf trim.
3) Install the shoulder belt lower anchor.

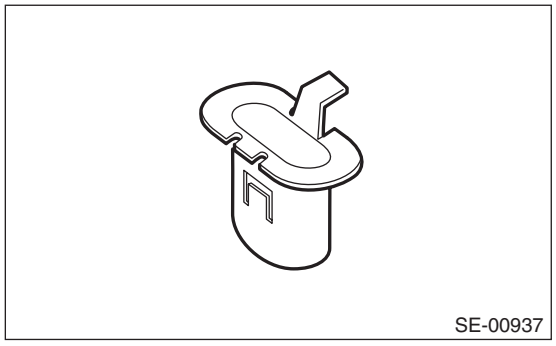
CAUTION:
- **During installation, make sure that the seat belts are not twisted.**
- **After installation, make sure that the seat belts are smoothly extended and wound.**

Tightening torque:
REAR SEAT BELT (SEDAN MODEL): <Ref. to SB-3, REAR SEAT BELT (SEDAN MODEL), COMPONENT, General Description.>

4) Rear quarter upper trim
5) Install the remaining parts in the reverse order of removal.
6) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.

4. SHOULDER BELT CTR ASSEMBLY (OUTBACK MODEL)

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.



1) Install the shoulder belt retractor.

Tightening torque:
Rear seat belt (OUTBACK model): <Ref. to SB-4, REAR SEAT BELT (OUTBACK MODEL), COMPONENT, General Description.>

2) Install the roof trim.
3) Install the remaining parts in the reverse order of removal.

CAUTION:
• For installation of the stereo camera cover, refer to "INSTALLATION", "Stereo Camera Cover" in the "EyeSight" section and observe the precautions for installation. <Ref. to ES-12, INSTALLATION, Stereo Camera.>
• Do not reuse the tether clips on the upper part of the front pillar trim. Always replace with a new part.
Once the tether clip is removed from the pillar trim, the retention power deteriorates and the front pillar trim may come off.
• Do not reuse the clips on the upper part of the center pillar trim. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.
• Before installing the front pillar trim, check the condition of (white) protective unwoven cloth of curtain airbag. If it is damaged (airbag module cloth is exposed), replace the curtain airbag module assembly with a new part.

4) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.

5. CENTER BELT ASSEMBLY RH & LH

1) Install the center belt assembly.

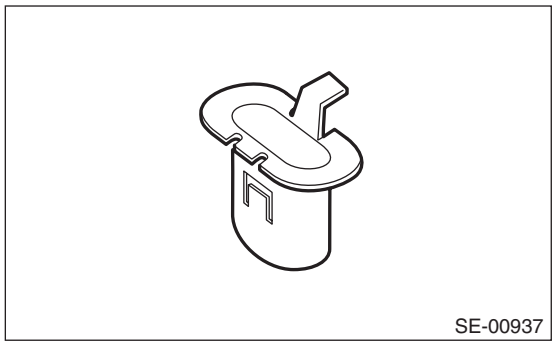
Tightening torque:
REAR SEAT BELT (SEDAN MODEL): <Ref. to SB-3, REAR SEAT BELT (SEDAN MODEL), COMPONENT, General Description.>
Rear seat belt (OUTBACK model): <Ref. to SB-4, REAR SEAT BELT (OUTBACK MODEL), COMPONENT, General Description.>

2) Install the ISO-FIX anchor.

Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)

3) Install the rear seat cushion.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.


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4) Install the remaining parts in the reverse order of removal.
5) After installation, check the following points.
- The seat belt is not twisted.
- Check that the airbag warning light lights up for approximately 6 seconds and then turns off when connecting the battery ground cable and turning the ignition switch to ON.

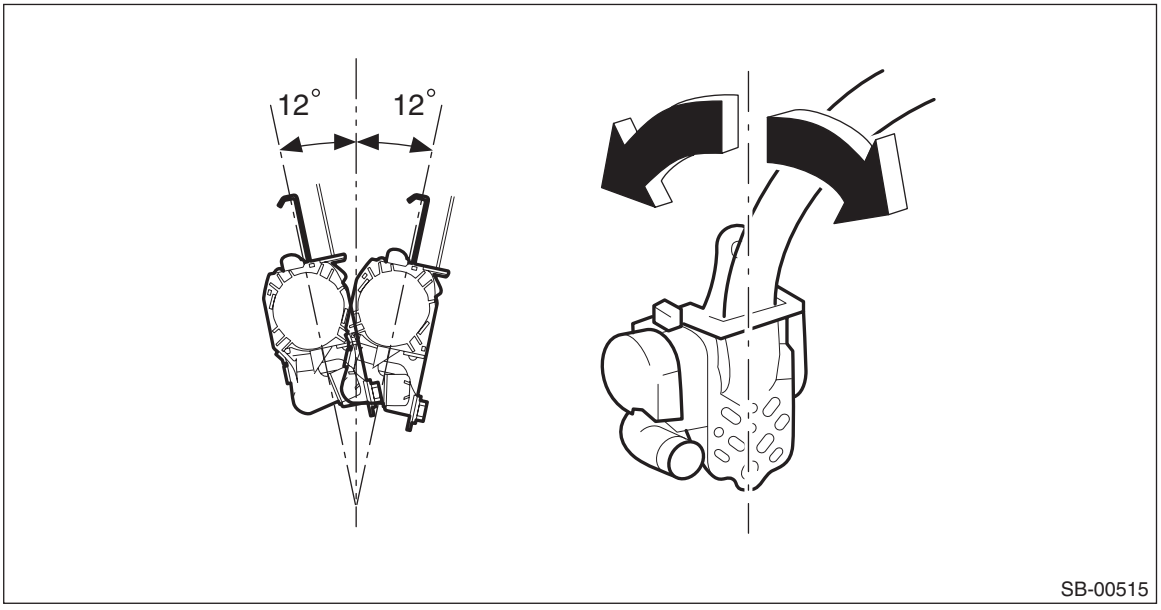
C: INSPECTION

1. VISUAL INSPECTION

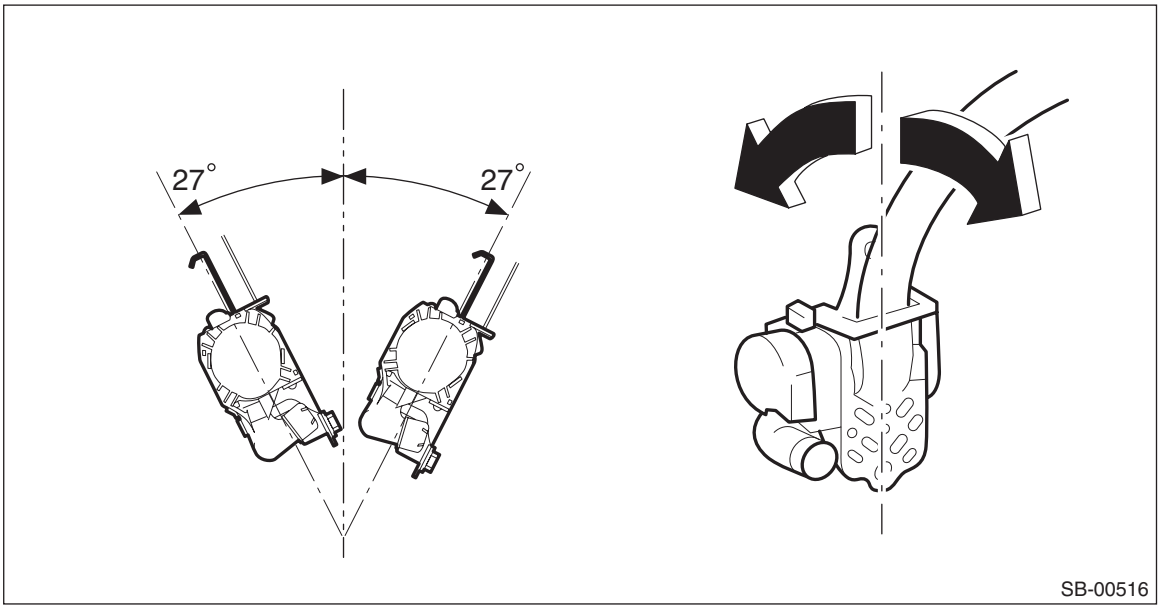
Check for the following, and replace with new parts if necessary.
- Seat belt is slackened, bent or worn.
- Seat belt is abnormally wound or extended.
- Inner belt ASSY is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

2. ELR LOCK MECHANISM INSPECTION

1) Hold the retractor upright (as installed in the vehicle) and check the ELR lock mechanism.
2) Tilt the retractor from the upright posture and check the following points.
- It does not lock if the inclination angle is 12° or less.



- It remains locked if the inclination angle is 27° or more.



3) If the ELR lock mechanism does not operate correctly, replace the outer belt assembly with a new part.

LIGHTING SYSTEM

LI

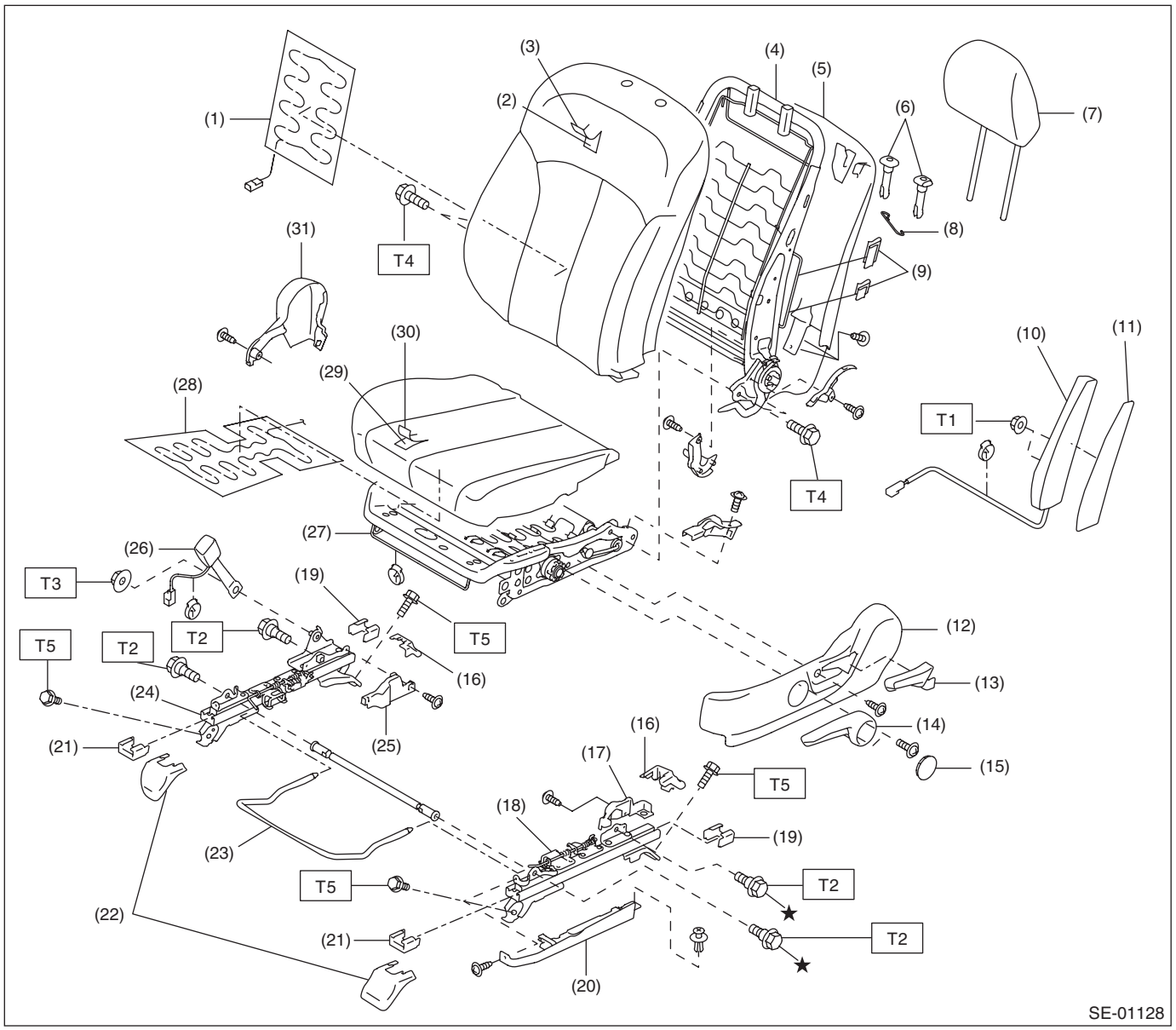
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1. General Description

A: COMPONENT

1. FRONT SEAT

- Manual seat LH

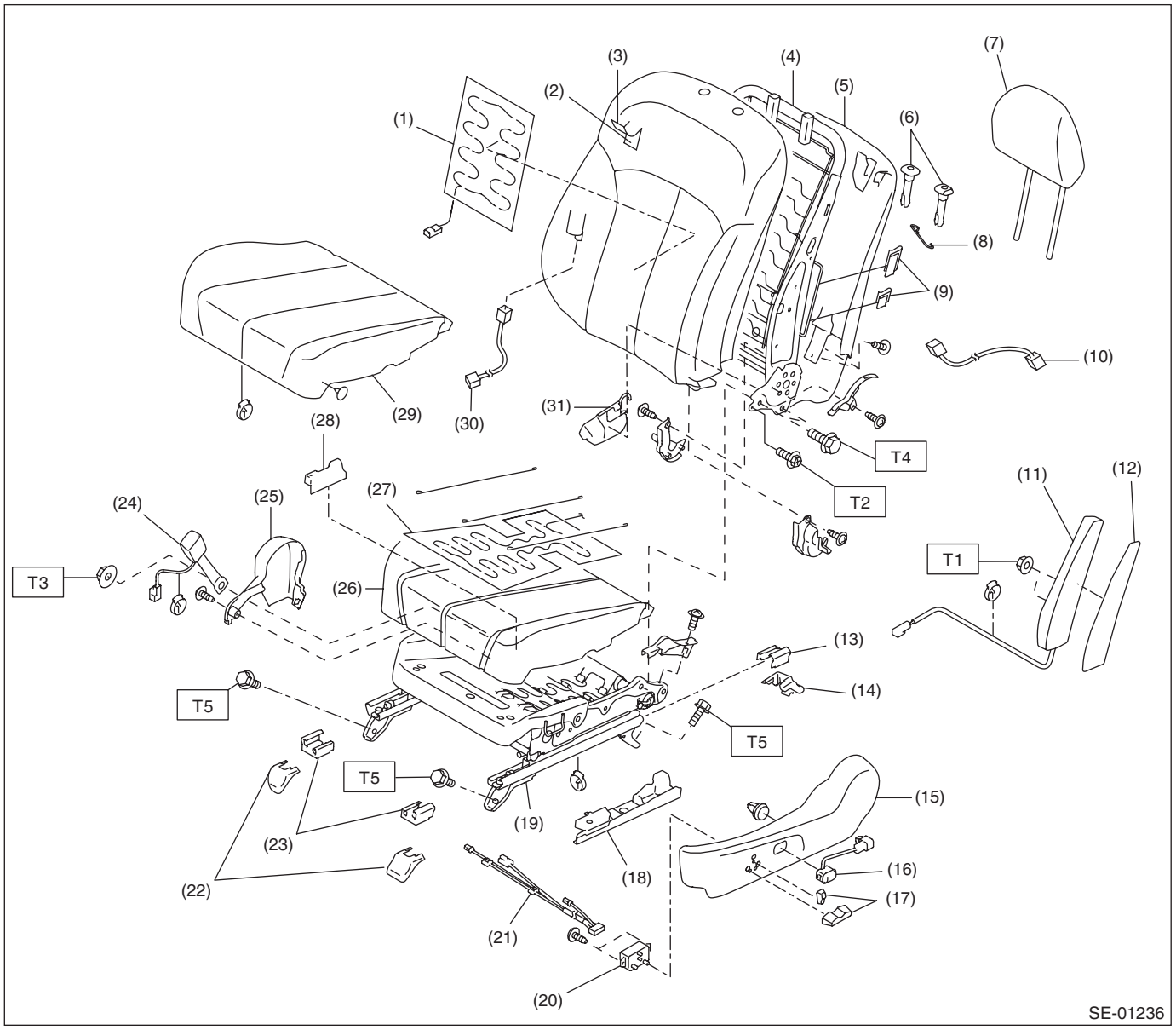


(1) Backrest heater ASSY
(2) Backrest pad
(3) Backrest cover
(4) Backrest frame ASSY
(5) Backrest back cover
(6) Headrest bushing
(7) Headrest ASSY
(8) Flat mat hook
(9) S hook
(10) Side airbag module ASSY
(11) Side airbag tape
(12) Seat side cover OUT
(13) Reclining lever
(14) Lifter lever
(15) Lifter lever cap
(16) Rear bolt cover
(17) Riser cover INN LH
(18) Slide rail ASSY LH
(19) Rail end cap rear
(20) Riser cover OUT
(21) Rail end cap front
(22) Front bolt cover
(23) Sliding adjust bar
(24) Slide rail ASSY RH
(25) Riser cover INN RH
(26) Inner seat belt ASSY
(27) Cushion frame ASSY
(28) Cushion heater ASSY
(29) Cushion pad
(30) Cushion cover
(31) Seat side cover IN

Tightening torque: N·m (kgf-m, ft-lb)

T1: 6 (0.61, 4.4)
T2: 18 (1.84, 13.3)
T3: 38 (3.87, 28.0)
T4: 52 (5.30, 38.4)
T5: 53 (5.40, 39.1)

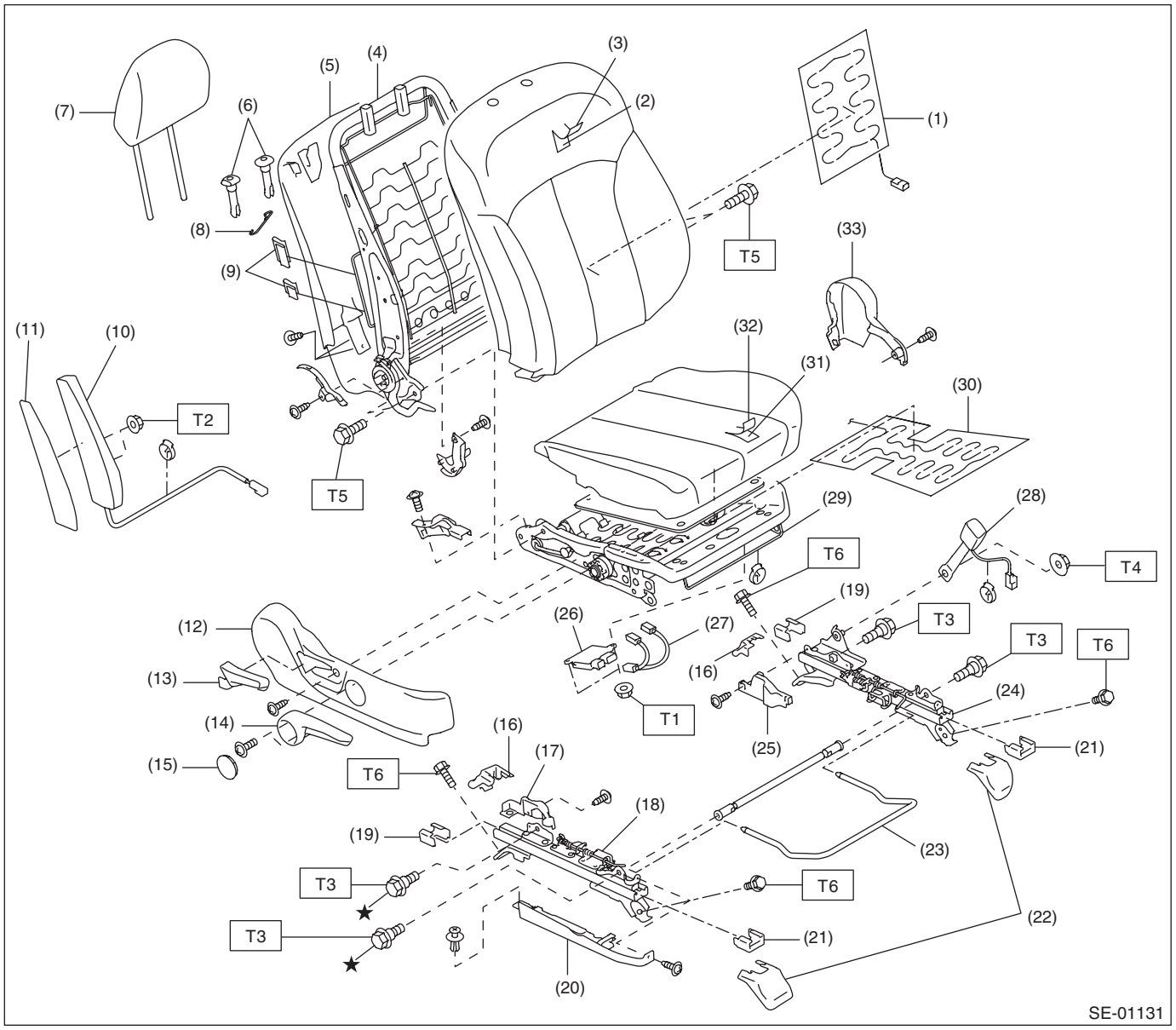
- Power seat LH



(1) Backrest heater ASSY
(2) Backrest pad
(3) Backrest cover
(4) Backrest frame ASSY
(5) Backrest back cover
(6) Headrest bushing
(7) Headrest ASSY
(8) Flat mat hook
(9) S hook
(10) Reclining motor harness
(11) Side airbag module ASSY
(12) Side airbag tape
(13) Rail end cap rear
(14) Rear bolt cover
(15) Seat side cover OUT
(16) Lumber switch ASSY
(17) Power seat switch knob
(18) Riser cover OUT LH
(19) Seat cushion frame ASSY
(20) Power seat switch ASSY
(21) Power seat switch harness
(22) Front bolt cover
(23) Rail end cap front
(24) Inner seat belt ASSY
(25) Seat side cover IN
(26) Cushion pad
(27) Cushion heater ASSY
(28) Riser cover INN RH
(29) Cushion cover
(30) Lumber motor harness
(31) Backrest inner cover

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6 (0.61, 4.4)
T2: 18 (1.84, 13.3)
T3: 38 (3.87, 28.0)
T4: 52 (5.30, 38.4)
T5: 53 (5.40, 39.1)

- Manual seat RH



(1)	Backrest heater ASSY	(15)	Lifter lever cap	(29)	Cushion frame ASSY
(2)	Backrest pad	(16)	Rear bolt cover	(30)	Cushion heater ASSY
(3)	Backrest cover	(17)	Riser cover INN RH	(31)	Cushion pad
(4)	Backrest frame ASSY	(18)	Slide rail ASSY RH	(32)	Cushion cover
(5)	Backrest back cover	(19)	Rail end cap rear	(33)	Seat side cover IN
(6)	Headrest bushing	(20)	Riser cover OUT		
(7)	Headrest ASSY	(21)	Rail end cap front		
(8)	Flat mat hook	(22)	Front bolt cover		
(9)	S hook	(23)	Sliding adjust bar		
(10)	Side airbag module ASSY	(24)	Slide rail ASSY LH		
(11)	Side airbag tape	(25)	Riser cover INN LH		
(12)	Seat side cover OUT	(26)	Occupant detection control module		
(13)	Reclining lever	(27)	Occupant detection control module harness		
(14)	Lifter lever	(28)	Inner seat belt ASSY		

Tightening torque: N·m (kgf-m, ft-lb)

T1: 5.9 (0.6, 4.4)

T2: 6 (0.61, 4.4)

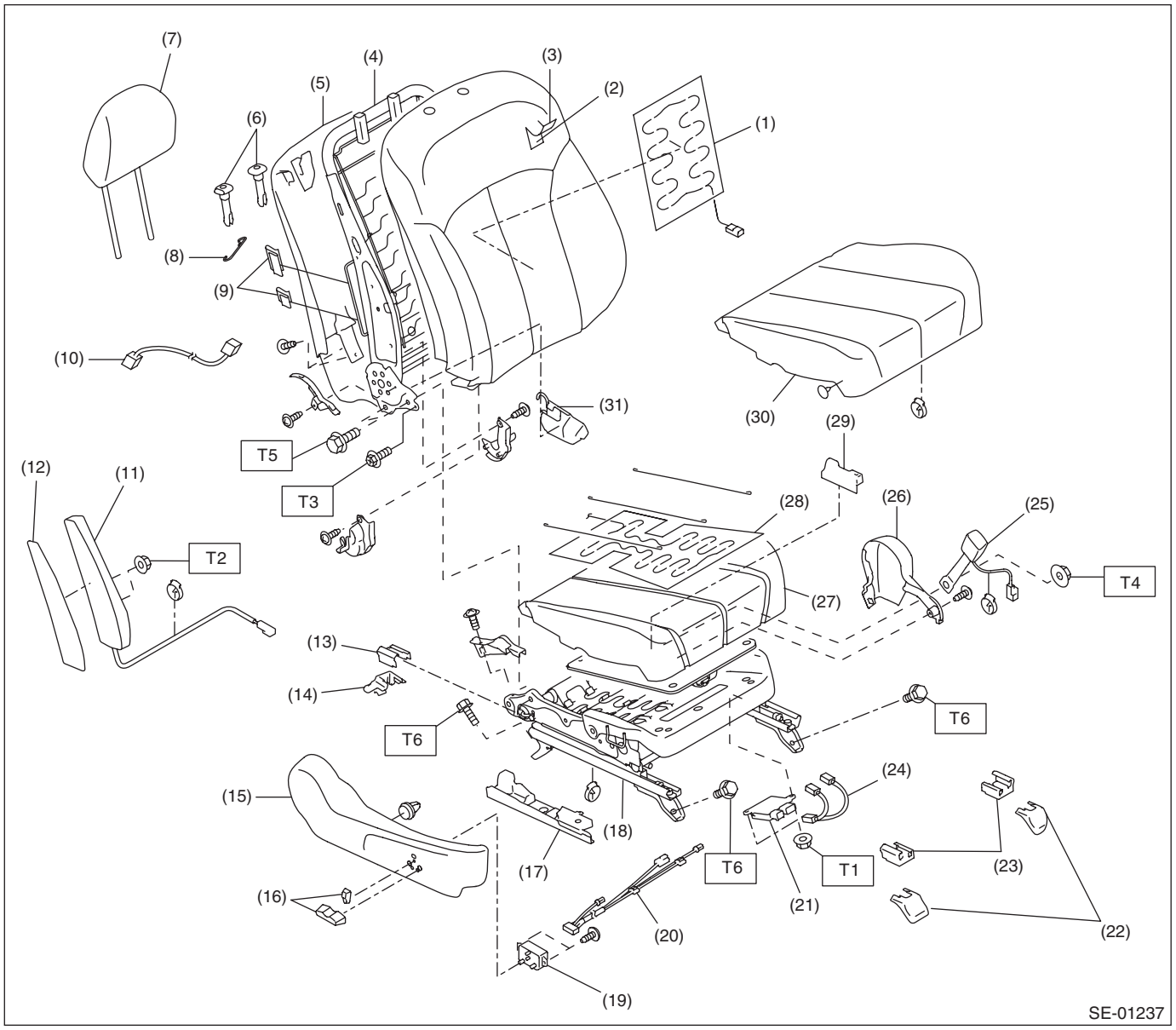
T3: 18 (1.84, 13.3)

T4: 38 (3.87, 28.0)

T5: 52 (5.30, 38.4)

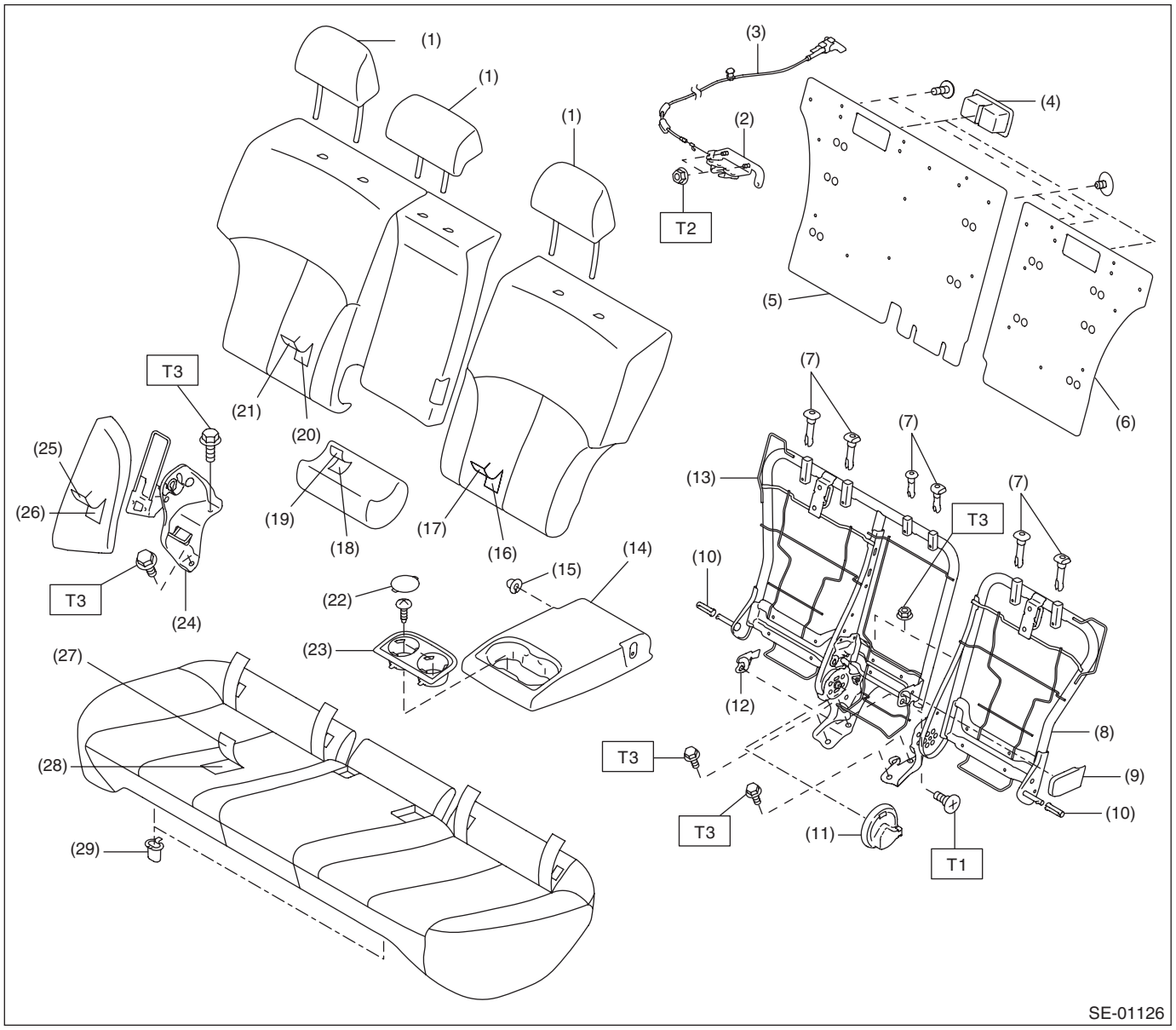
T6: 53 (5.40, 39.1)

- Power seat RH



(1)	Backrest heater ASSY	(14)	Rear bolt cover	(27)	Cushion pad
(2)	Backrest pad	(15)	Seat side cover OUT	(28)	Cushion heater ASSY
(3)	Backrest cover	(16)	Power seat switch knob	(29)	Riser cover INN RH
(4)	Backrest frame ASSY	(17)	Riser cover OUT LH	(30)	Cushion cover
(5)	Backrest back cover	(18)	Seat cushion frame ASSY	(31)	Backrest inner cover
(6)	Headrest bushing	(19)	Power seat switch ASSY		
(7)	Headrest ASSY	(20)	Power seat harness	***Tightening torque: N·m (kgf-m, ft-lb)***	
(8)	Flat mat hook	(21)	Occupant detection control module	***T1:***	***5.9 (0.6, 4.4)***
(9)	S hook	(22)	Front bolt cover	***T2:***	***6 (0.61, 4.4)***
(10)	Reclining motor harness	(23)	Rail end cap front	***T3:***	***18 (1.84, 13.3)***
(11)	Side airbag module ASSY	(24)	Occupant detection control module harness	***T4:***	***38 (3.87, 28.0)***
(12)	Side airbag tape	(25)	Inner seat belt ASSY	***T5:***	***52 (5.30, 38.4)***
(13)	Rail end cap rear	(26)	Seat side cover IN	***T6:***	***53 (5.40, 39.1)***

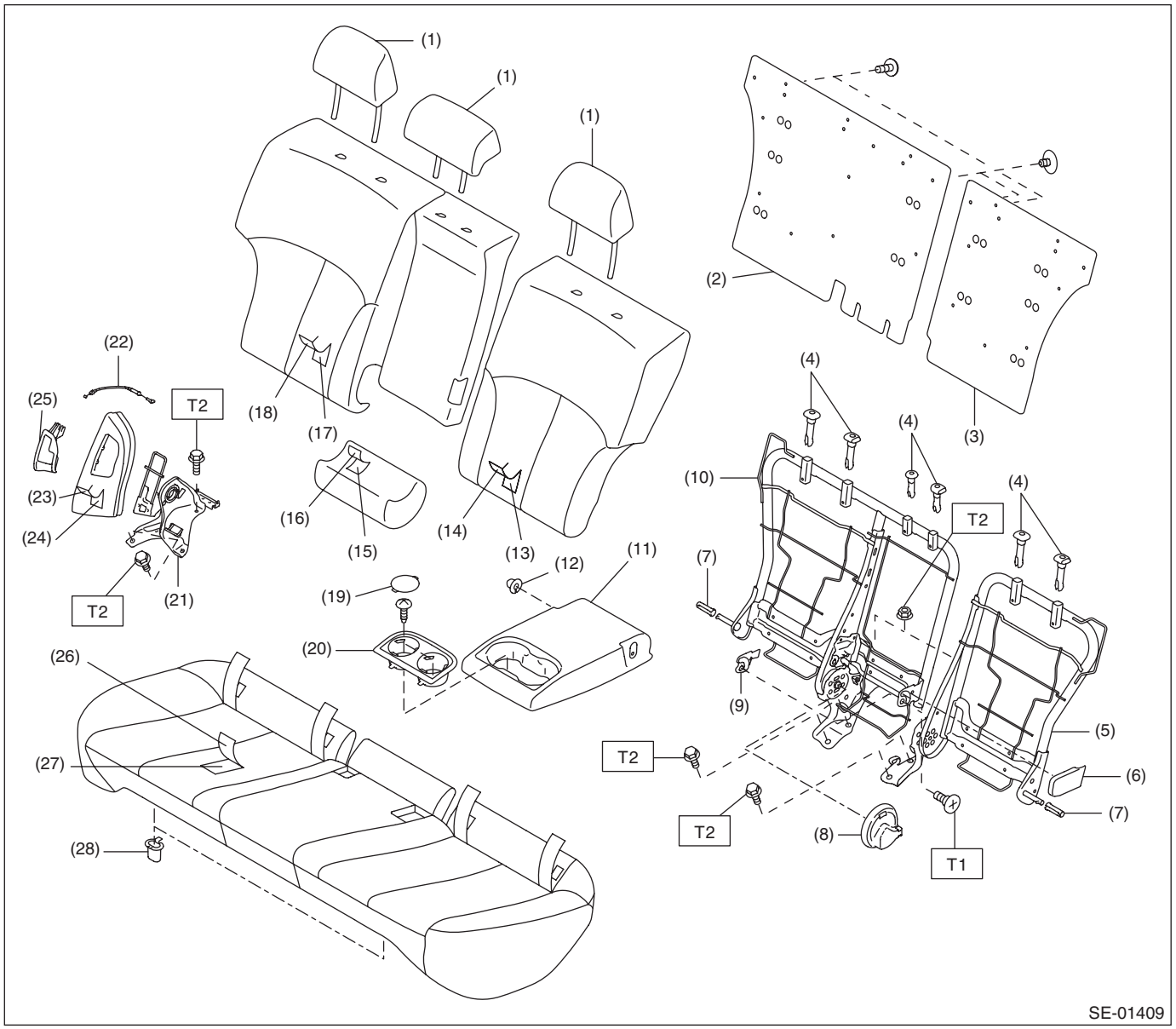
2. REAR SEAT (SEDAN MODEL)



(1) Headrest ASSY
(2) Backrest lock ASSY
(3) Release lever ASSY
(4) Backrest back board RH
(5) Backrest striker cover
(6) Backrest back board LH
(7) Headrest lock bushing
(8) Backrest frame ASSY LH
(9) Armrest hinge cover
(10) Backrest hinge bushing
(11) Reclining hinge cover RH
(12) Armrest hinge bushing
(13) Backrest frame ASSY RH
(14) Armrest ASSY
(15) Armrest bushing
(16) Backrest pad LH
(17) Backrest cover LH
(18) Seat center pad
(19) Seat center cover
(20) Backrest pad RH
(21) Backrest cover RH
(22) Cup holder rubber
(23) Cup holder ASSY
(24) Hinge ASSY
(25) Backrest side cover
(26) Backrest side pad
(27) Seat cushion cover
(28) Seat cushion pad
(29) Hook

Tightening torque: N·m (kgf-m, ft-lb)
T1: 9.8 (1.0, 7.2)
T2: 24.5 (2.5, 18.1)
T3: 53 (5.40, 39.1)

3. REAR SEAT (OUTBACK MODEL)



(1) Headrest ASSY
(2) Backrest back board RH
(3) Backrest back board LH
(4) Headrest lock bushing
(5) Backrest frame ASSY LH
(6) Armrest hinge cover
(7) Backrest hinge bushing
(8) Reclining hinge cover RH
(9) Armrest hinge bushing
(10) Backrest frame ASSY RH
(11) Armrest ASSY
(12) Armrest bushing
(13) Backrest pad LH
(14) Backrest cover LH
(15) Seat center pad
(16) Seat center cover
(17) Backrest pad RH
(18) Backrest cover RH
(19) Cup holder rubber
(20) Cup holder ASSY
(21) Hinge ASSY
(22) Reclining cable
(23) Backrest side cover
(24) Backrest side pad
(25) Reclining lever ASSY
(26) Seat cushion cover
(27) Seat cushion pad
(28) Hook

Tightening torque: N·m (kgf-m, ft-lb)
T1: 24.5 (2.5, 18.1)
T2: 53 (5.40, 39.1)

B: CAUTION

When removing the front seat from a vehicle, follow the safety instructions given in the airbag section.

C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	Remarks
Long nose plier	Used for removing the hog ring.
Hog ring pliers	Used for installing the hog ring.
Circuit tester	Used for checking voltage and continuity.

2. Front Seat

A: REMOVAL

CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

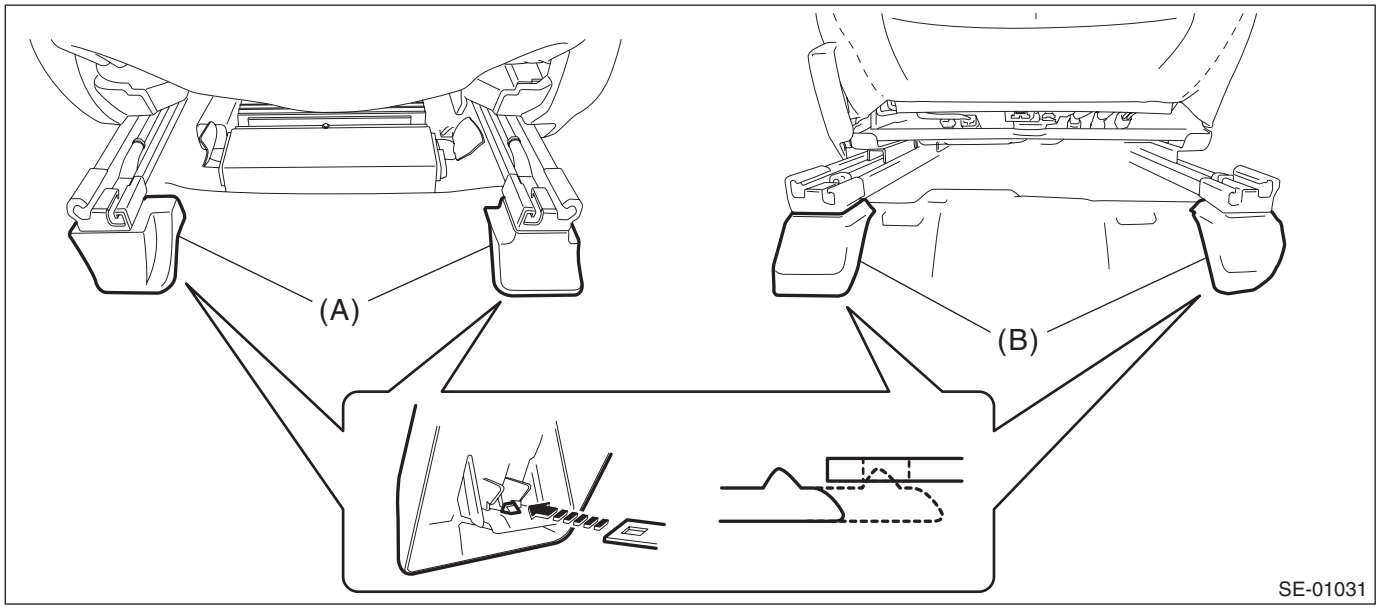
1) Remove the headrest.

NOTE:
For models with headrest monitor, remove the headrest in the following procedures.
1. Fold the backrest all the way backward, and then remove the headrest.
2. Place the headrest on the seating face.
3. Return the backrest to the original position.

2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

NOTE:
For the power seat, remove the slide rail installing bolt before removing the battery ground.

3) Remove the slide rail installing bolt.
   (1) Tilt the backrest forward and move the seat to the front most position.
   (2) Remove the rear bolt cover (A) and remove the two bolts.
   (3) Move the seat to the rearmost position.
   (4) Remove the front bolt cover (B) and remove the two bolts.



4) Disconnect the connector under the seat.

CAUTION:
Disconnect the ground cable from battery, and wait 60 seconds before disconnecting the connector.
- Seat belt warning light connector (driver's seat)
- Occupant detection system harness connector (passenger's seat)
- Side airbag connector
- Seat heater connector (model with seat heater)
- Power seat connector (model with power seats)
- Headrest monitor connector (model with headrest monitor)

5) Take out the front seat from the vehicle.

CAUTION:
Be careful not to damage the body.

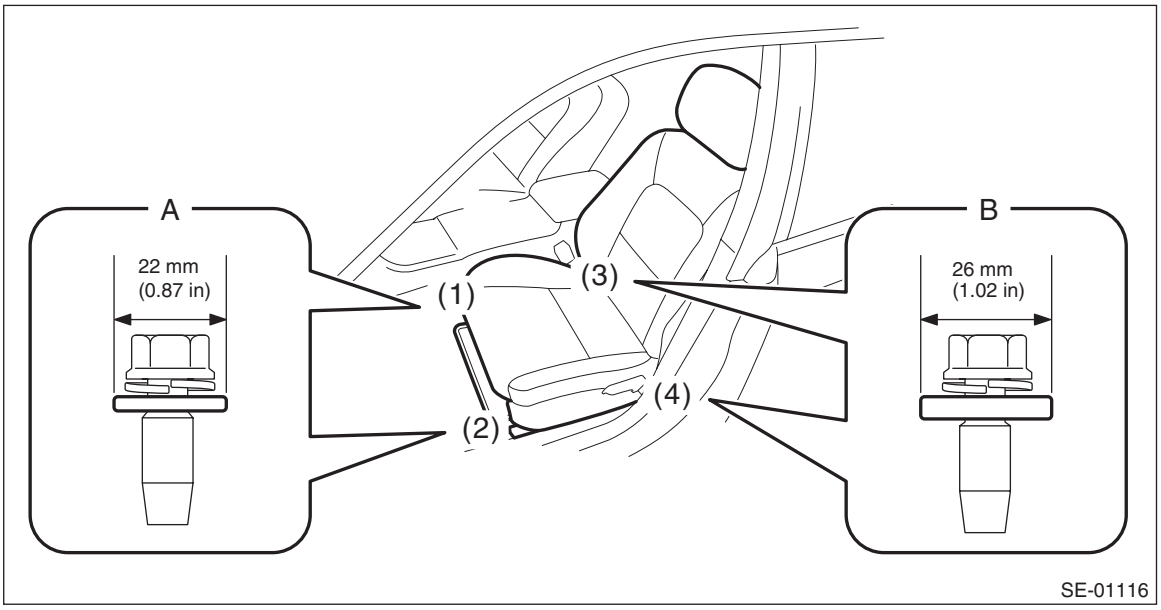
B: INSTALLATION

Install each part in the reverse order of removal.

CAUTION:

• The seat mounting bolts differ between the front mounting points and the rear mounting points. Make sure that you are using correct bolts at correct positions.

• Tighten the slide rail installing bolts in the order as shown in the figure, in several steps by gradually increasing the torque until they reach the specified torque.



- **Front (bolt A): Washer diameter 22 mm (0.87 in)**
- **Rear (bolt B): Washer diameter 26 mm (1.02 in)**

Tightening torque:

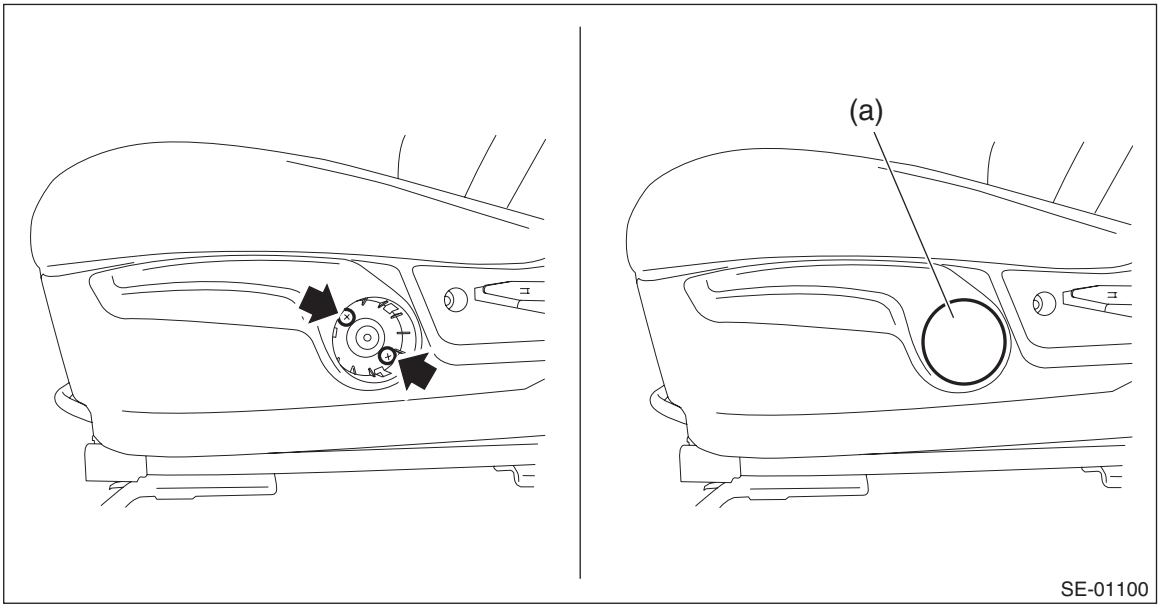
Front seat assembly: 53 N·m (5.40 kgf-m, 39.1 ft-lb)

C: DISASSEMBLY

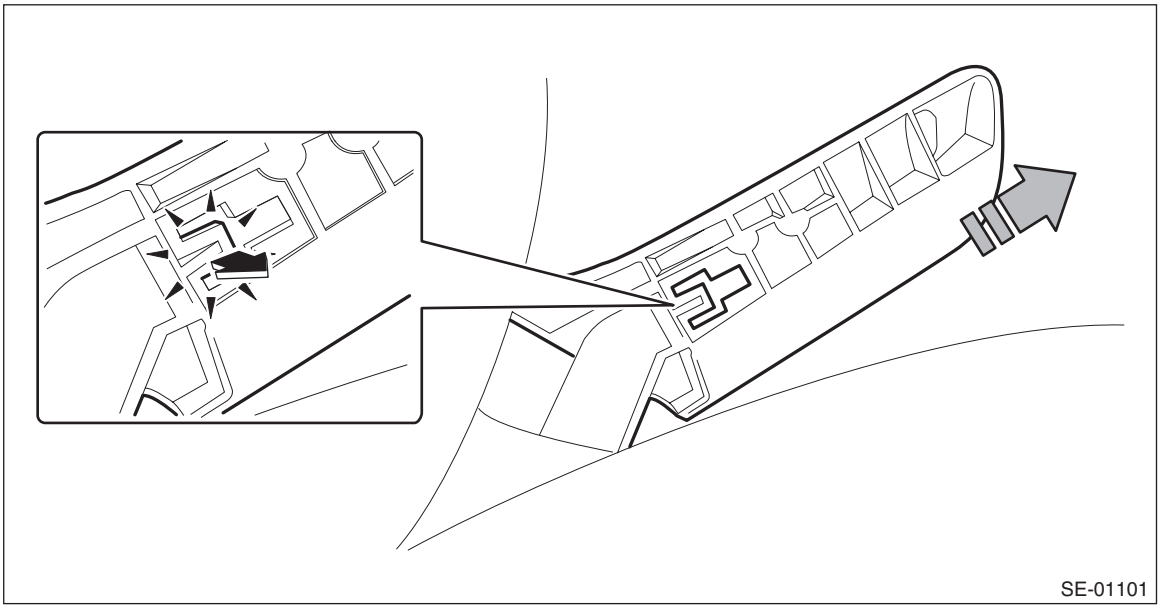
1. DRIVER SEAT (MANUAL SEAT)

CAUTION:
Before assembling, make sure how the harnesses of the side airbag and inner seat belt are routed in order to avoid misarranging. Assembling with harnesses improperly routed may cause the harness to get caught and short out.

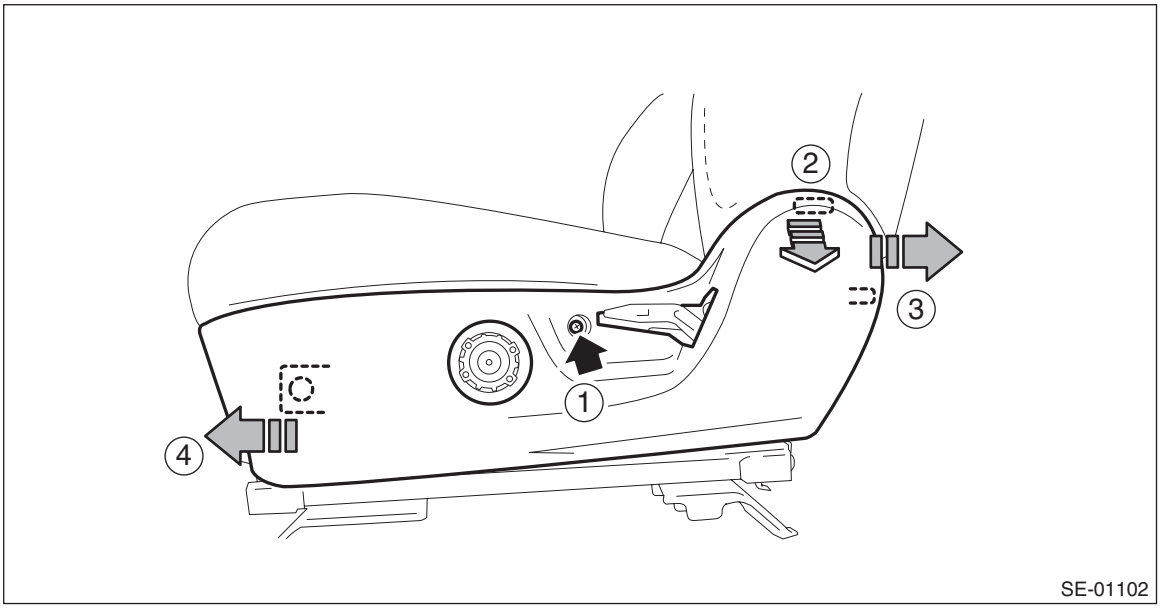
1) Remove the seat from vehicle. <Ref. to SE-10, REMOVAL, Front Seat.>
2) Remove the seat lifter lever.
   (1) Using a flat tip screwdriver, remove the seat lifter lever cover (a).
   (2) Remove the screw and remove the seat lifter lever.



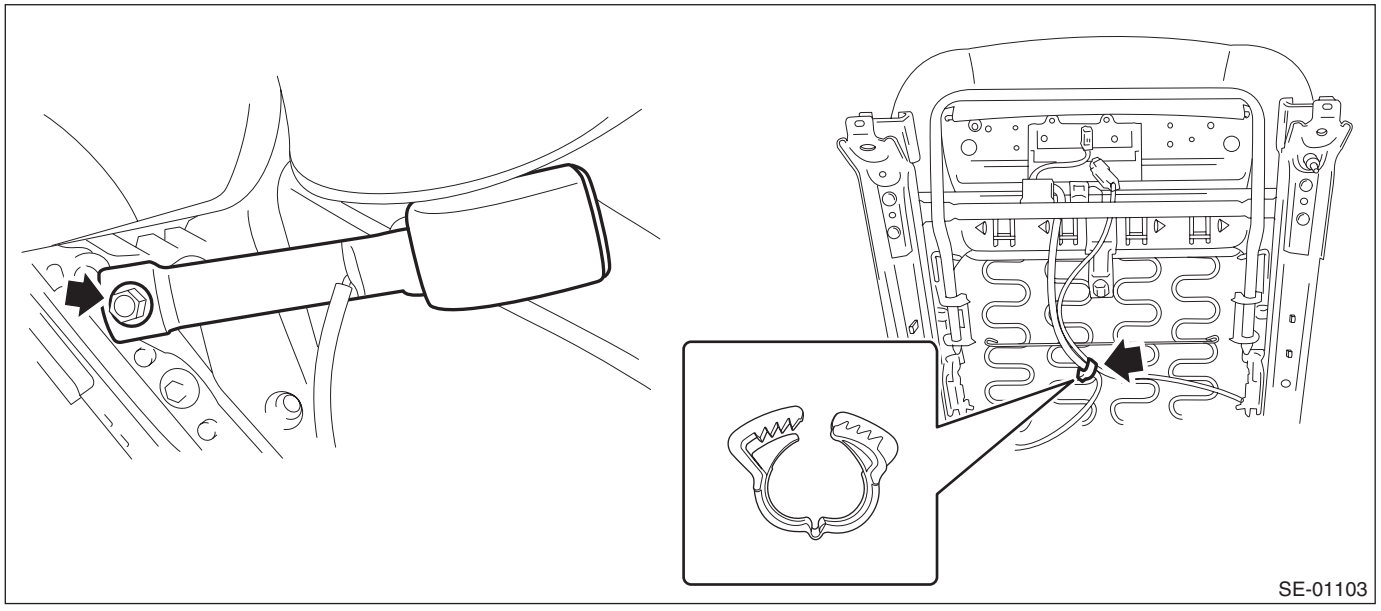
3) Remove the reclining lever cover.
   (1) Pull up the reclining lever and release the claws on the back.
   (2) Pull out the reclining lever cover.



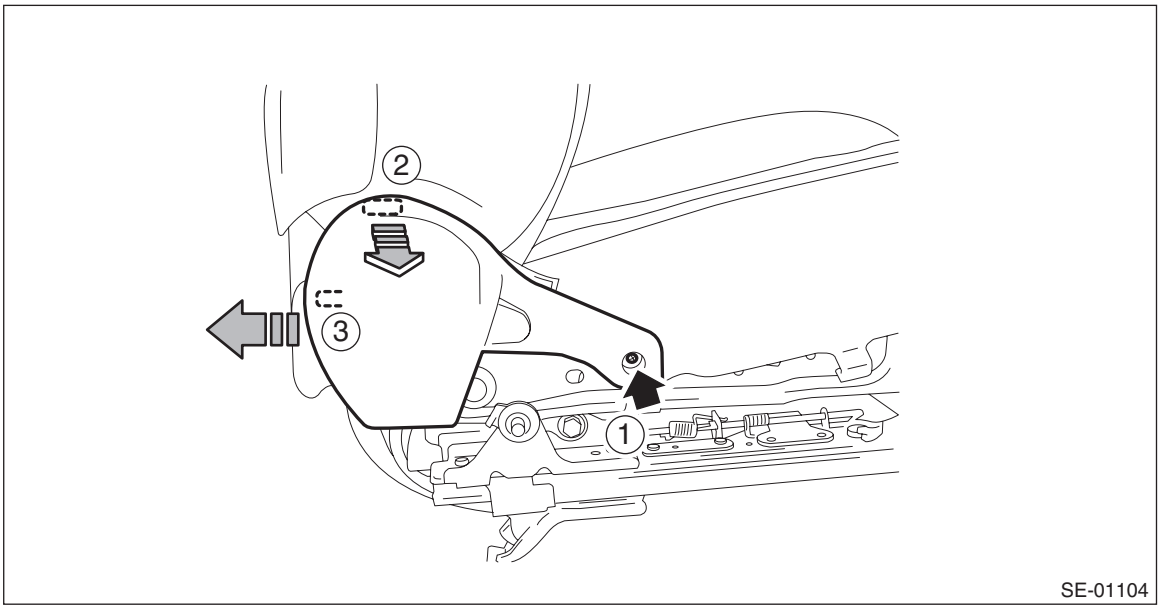
4) Remove the seat side cover OUT.
(1) Remove the screws.
(2) Release the claw in the upper section of the seat side cover.
(3) Release the claw in the rear section of the seat side cover.
(4) Release the claw in the front section of the seat side cover, then remove the seat side cover OUT.



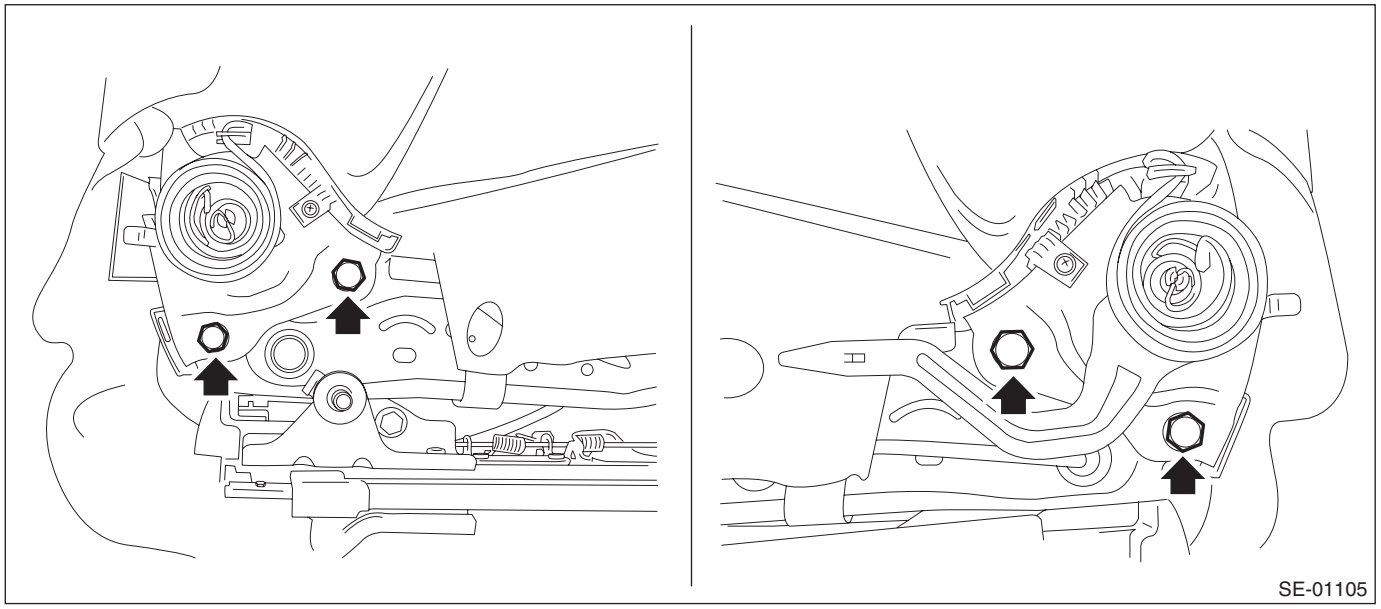
5) Remove the inner seat belt assembly.
(1) Remove the nut and remove the inner seat belt assembly.
(2) Remove the clip for the inner seat belt harness located under the seat cushion.



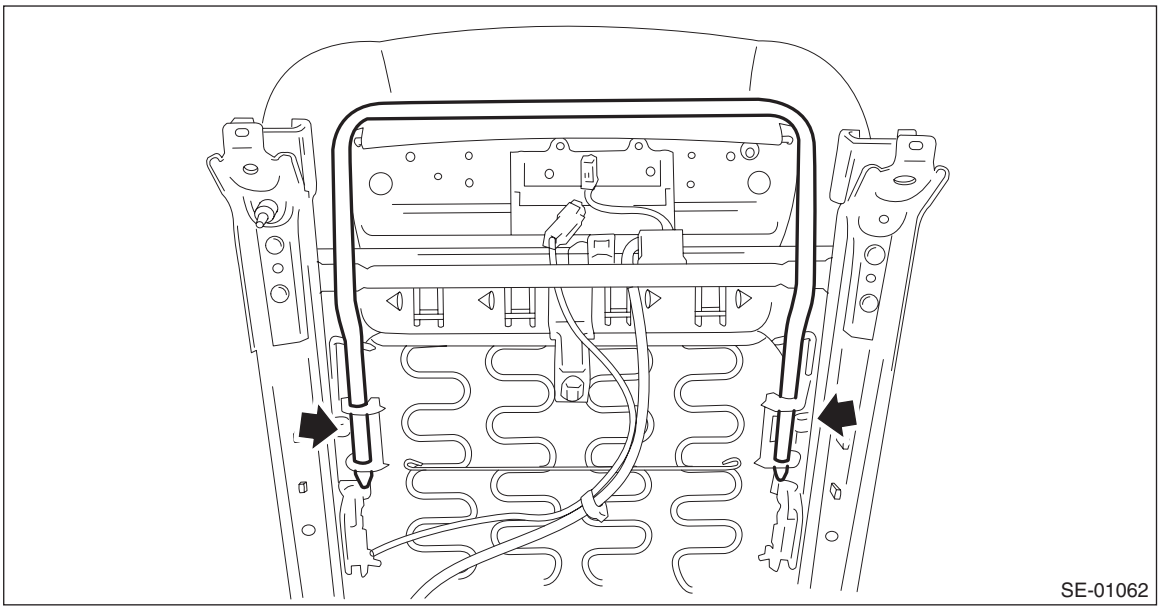
6) Remove the seat side cover IN.
(1) Remove the screws.
(2) Release the claw in the upper section of the seat side cover.
(3) Release the claw in the rear section of the seat side cover, then remove the seat side cover IN.



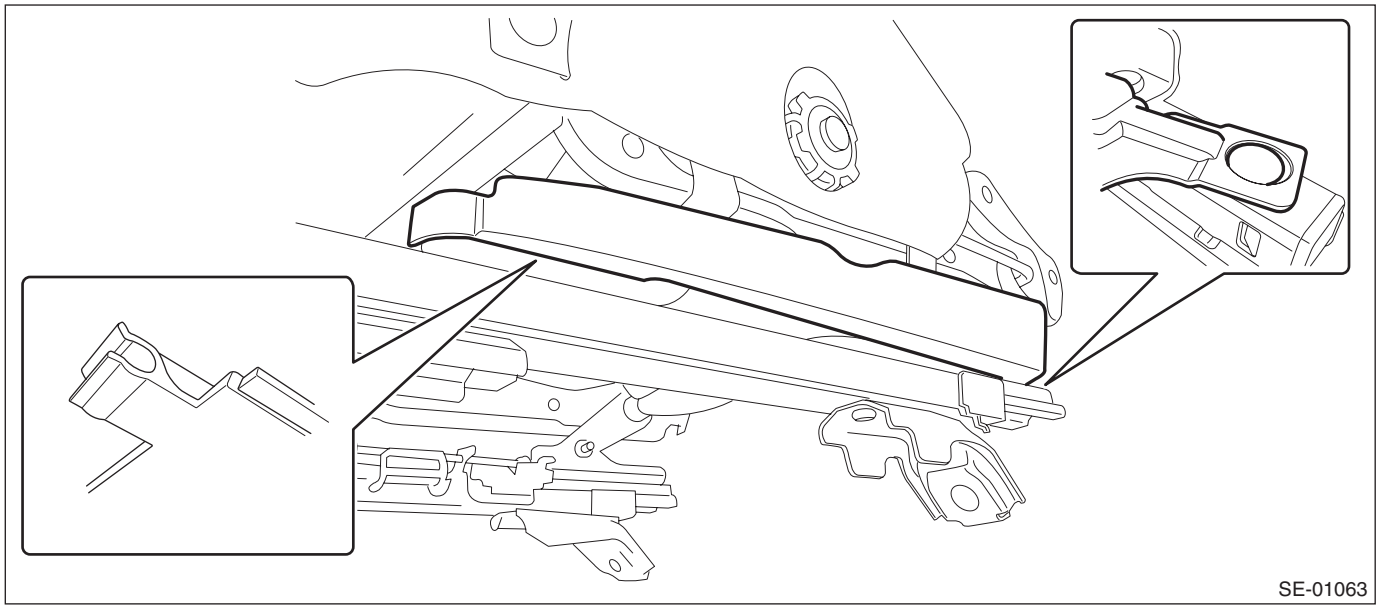
7) Separate the backrest assembly and the seat cushion assembly.
(1) Remove the clip for the side airbag harness located under the seat cushion. (seat with side airbag)
(2) Remove the bolts from reclining hinge of both sides.
(3) While taking care not to damage the airbag harness, separate the backrest assembly and the seat cushion assembly.



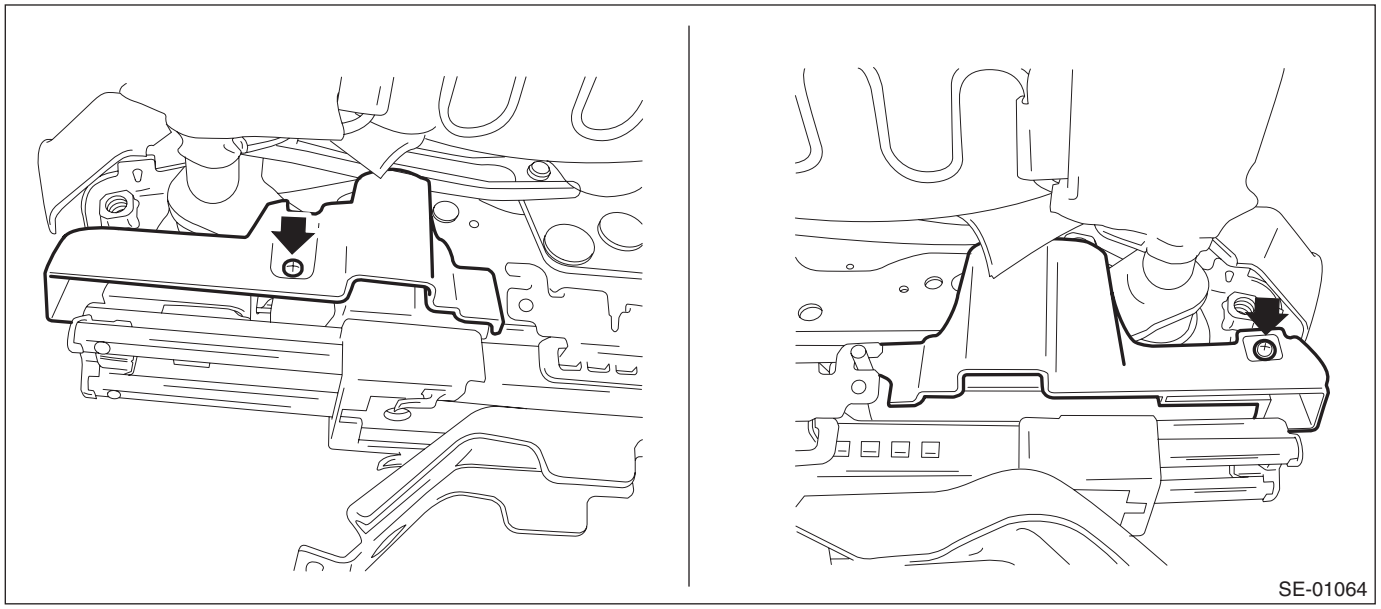
8) Remove the sliding adjuster bar.
(1) Remove the left and right spring locks.
(2) Pull out the sliding adjust bar.


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9) Remove the riser cover OUT.
(1) Remove the clip.
(2) Remove the hook, and detach the riser cover OUT.

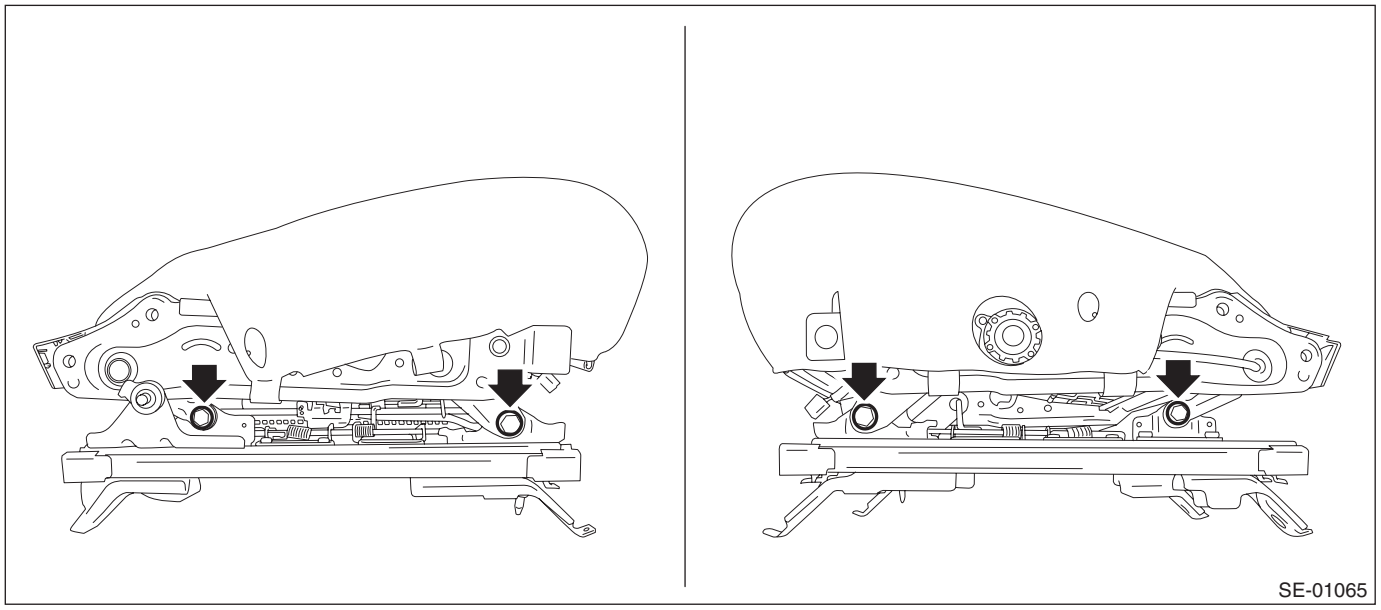

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10) Remove the screws and remove the riser cover INN LH and RH.

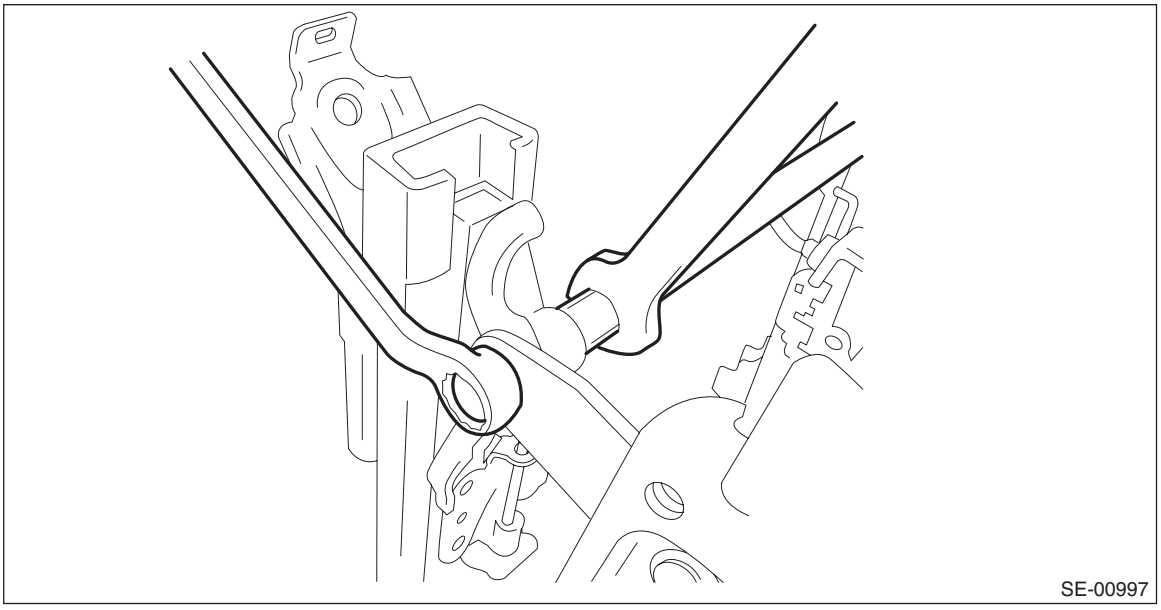


11) Remove the bolts and bushings on the seat cushion assembly (left and right) sides, and remove the slide rail assembly.

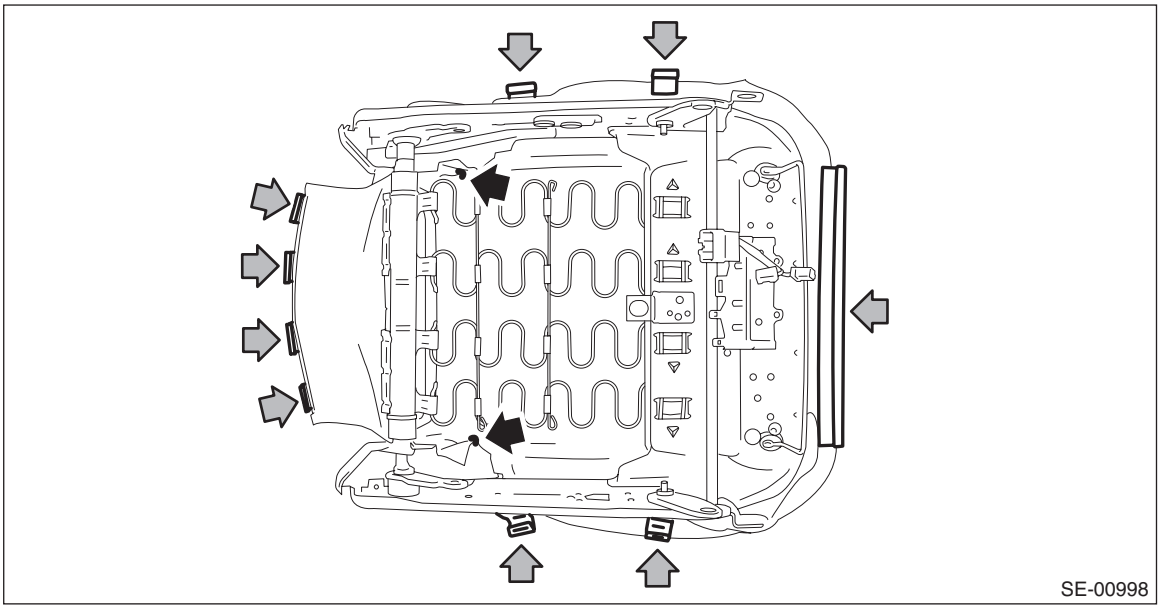
CAUTION:
Do not reuse the removed bolts because they are coated with the thread lock material. Always use new bolts during assembly.



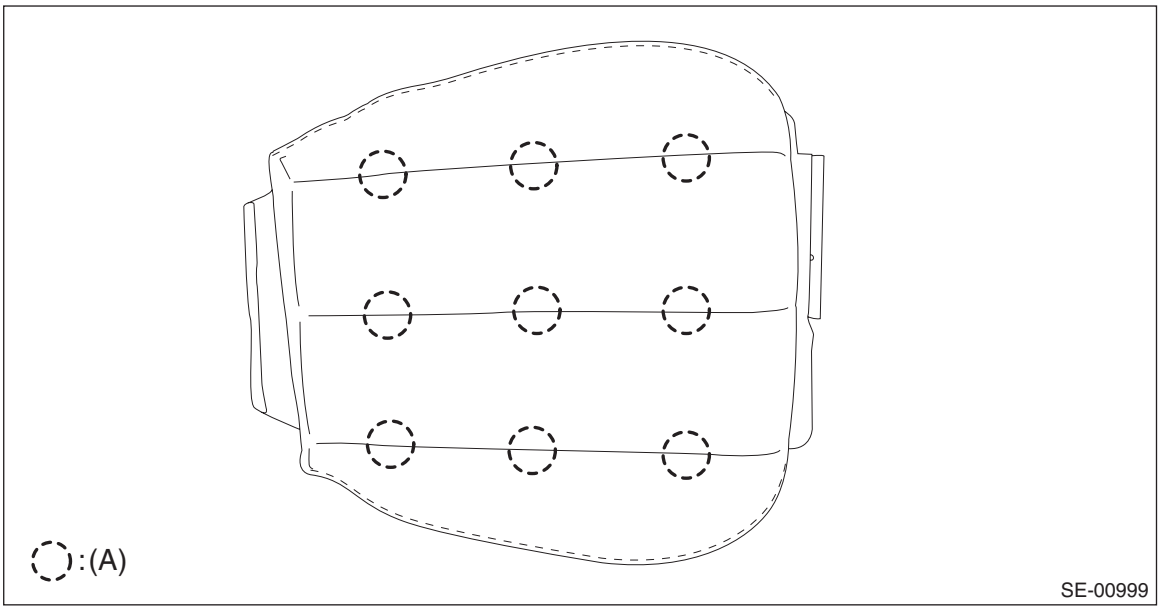
NOTE:
To remove the front bolt, use a spanner.



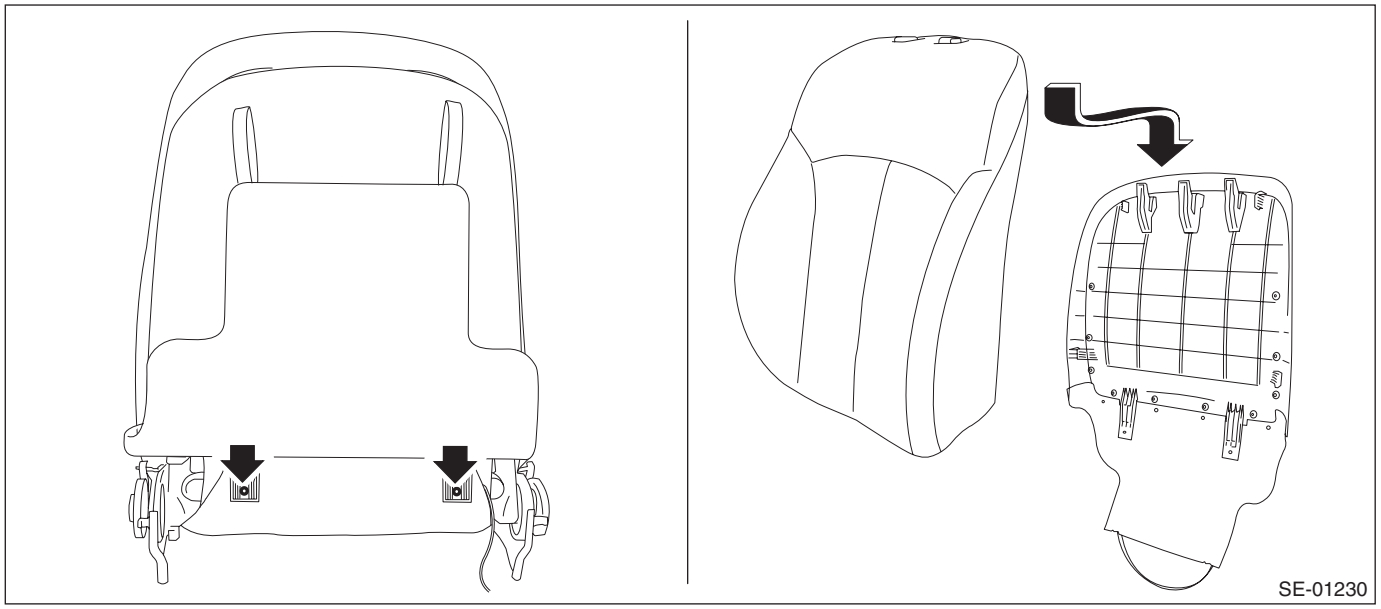
12) Remove the seat cushion pad & cover.
(1) Remove the hooks and hog rings.
(2) Remove the seat cushion pad & cover from seat cushion assembly.



13) Remove the seat cushion cover.
(1) Remove the hog ring (A).
(2) Pull out the seat cushion pad from the seat cushion cover.



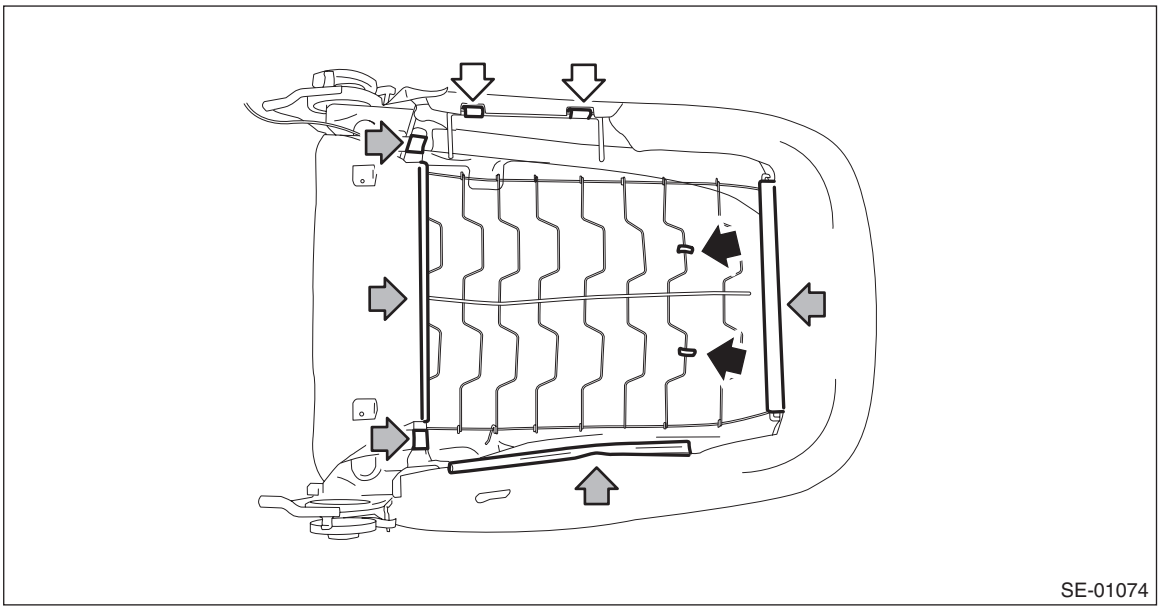
14) Remove the backrest back cover.
(1) Remove the screws.
(2) Release the hooks by pulling down the back cover and remove the backrest back cover.



15) Remove the backrest pad & cover.

CAUTION:
Be careful not to tear the vinyl inside the seat when removing the hog rings.
If torn, replace with a new part.

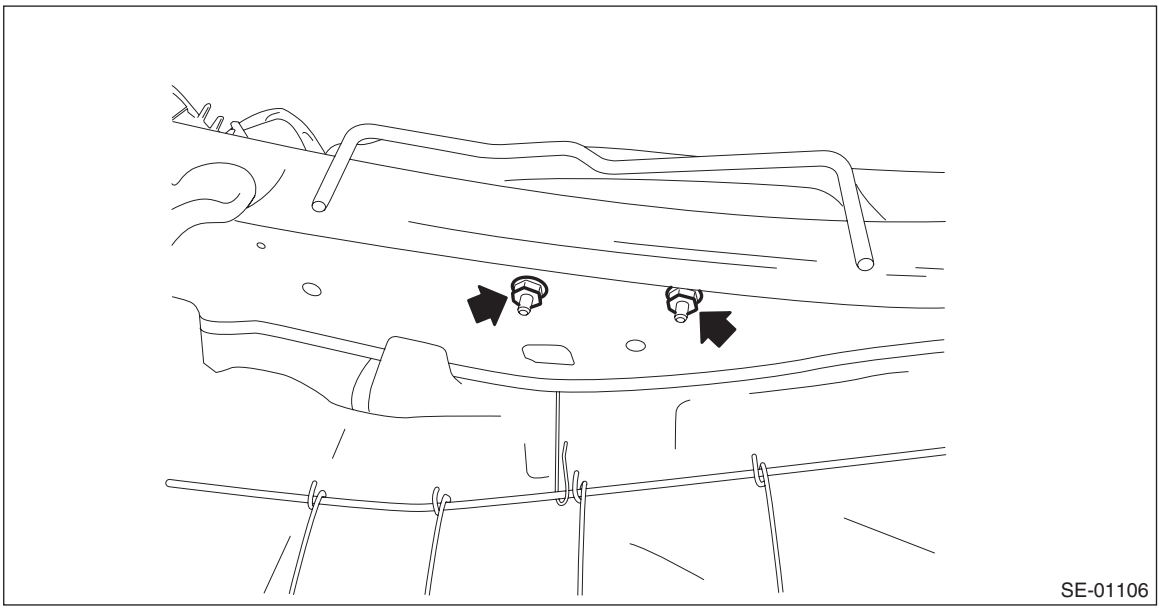
(1) Remove the hooks and hog rings.
(2) Remove the backrest pad & cover from backrest assembly.



16) Remove the side airbag module assembly.

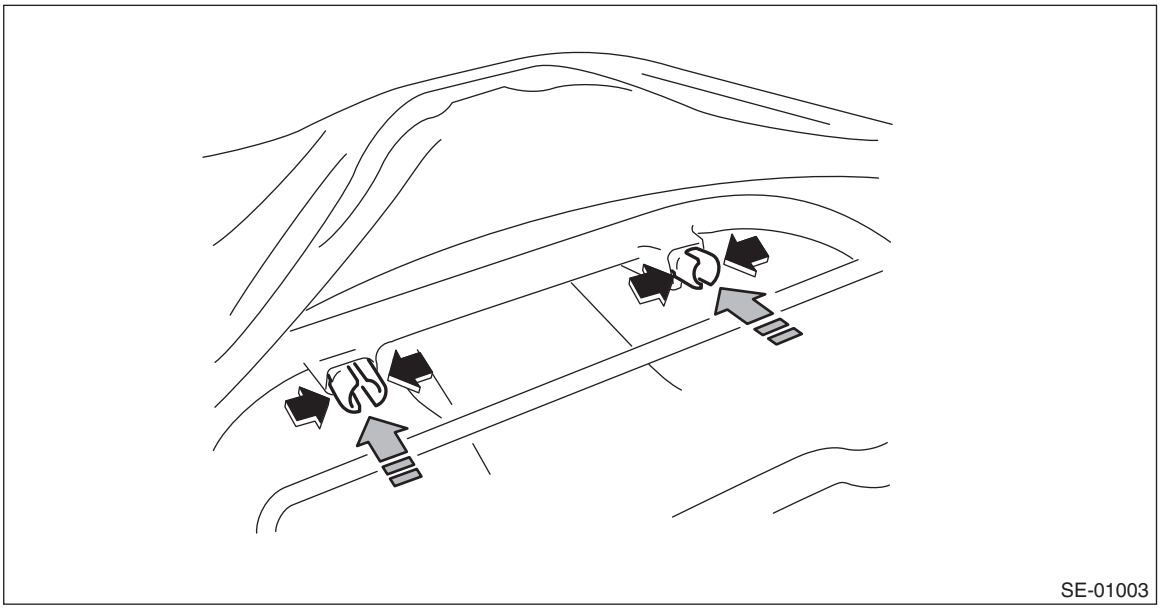
CAUTION:
Do not open the side airbag module case (plastic) of the airbag. If any damage is present in the side airbag module case (such as airbag module cloth coming out), replace the side airbag module assembly with a new one.

(1) Remove the hooks, hog rings, and S hooks.
(2) Remove the mounting nuts of the side airbag module.



(3) Remove the side airbag harness from backrest frame assembly.
(4) While taking care not to damage the side airbag module case (plastic) of the airbag, remove the side airbag module assembly.

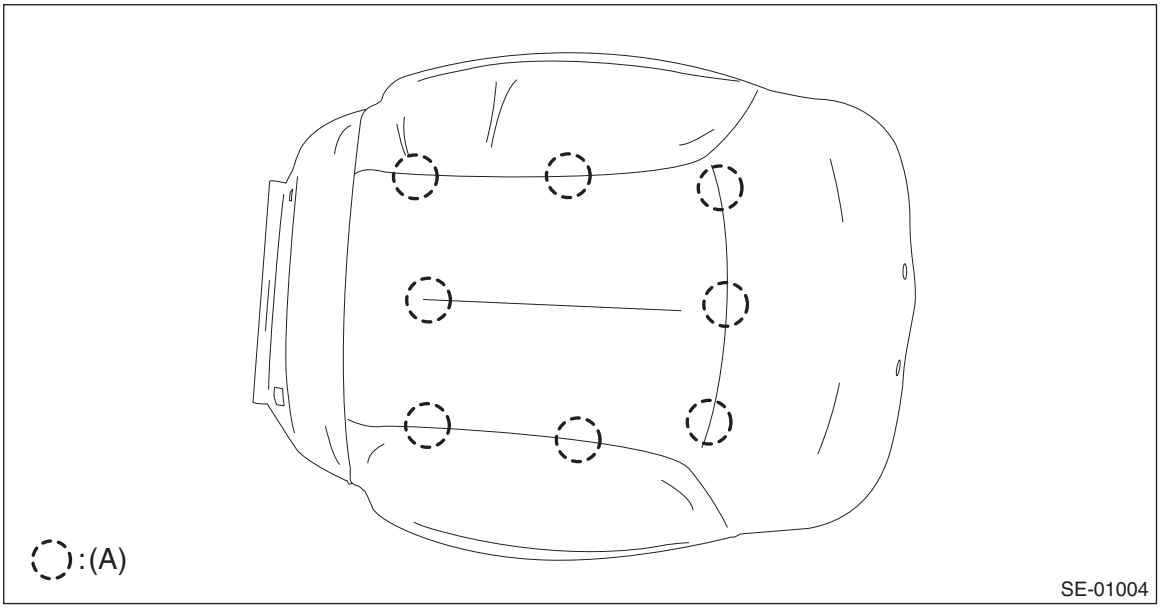
17) Remove the headrest bushing.



NOTE:
Catch the tip of headrest bushing with pliers and push it from inside seat to outside to remove it.

18) Pull out the backrest frame.

19) Remove the backrest cover.
   (1) Remove the hog ring (A).
   (2) Pull out the backrest pad from the backrest cover.



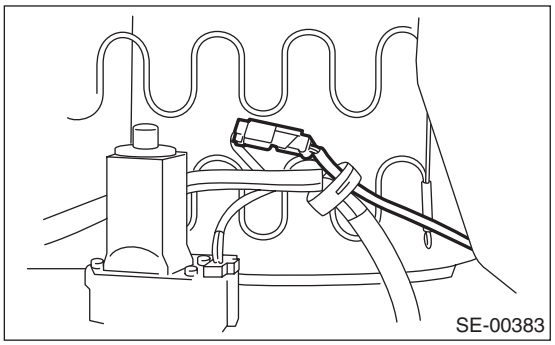
2. DRIVER SEAT (POWER SEAT)

CAUTION:
• Before assembling, make sure how the harnesses of the side airbag and inner seat belt are routed in order to avoid misarranging. Assembling with harnesses improperly routed may cause the harness to get caught and short out.
• Do not disassemble the backrest assembly and seat cushion frame and slide rail assembly.

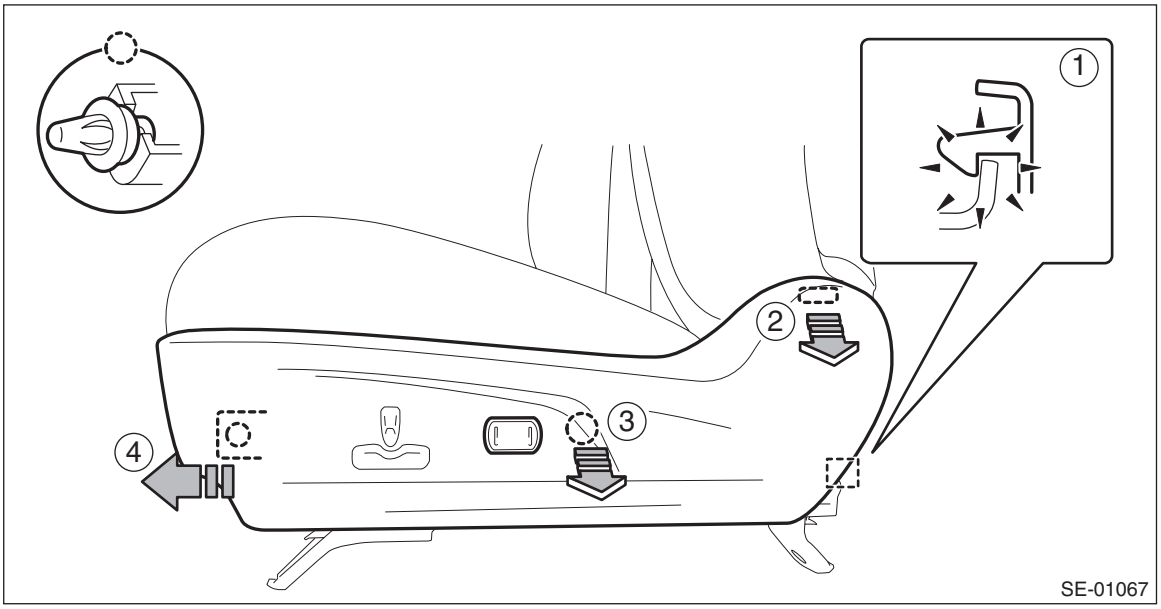
1) Remove the seat from vehicle. <Ref. to SE-10, REMOVAL, Front Seat.>

NOTE:
Before removing the seat, lift the seating face.

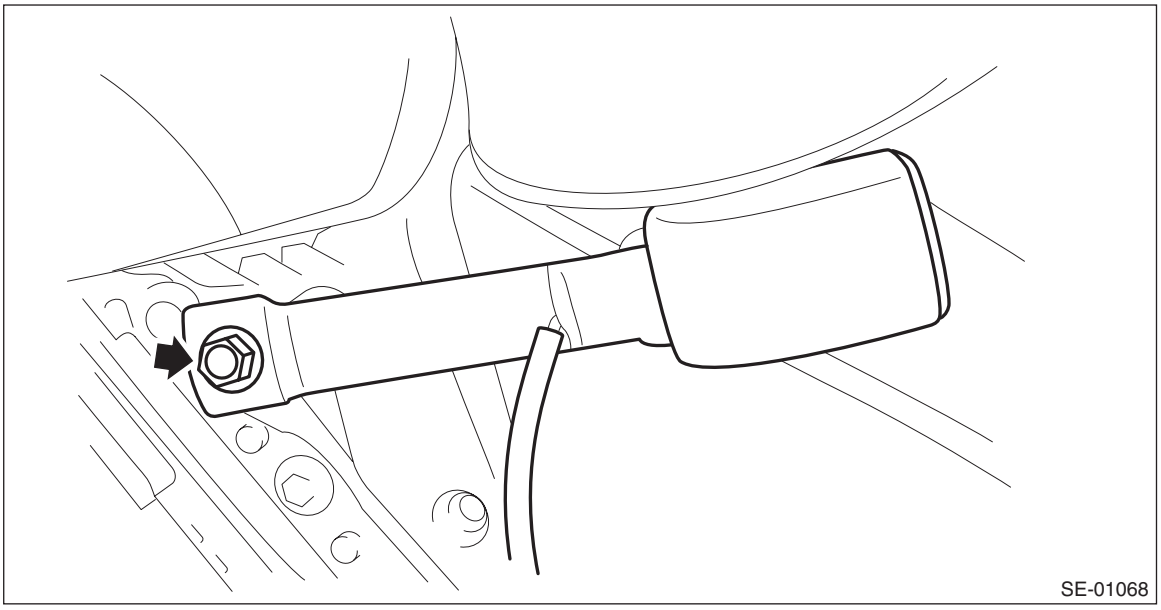
2) Disconnect the connector for reclining motor from the backside of seat cushion.



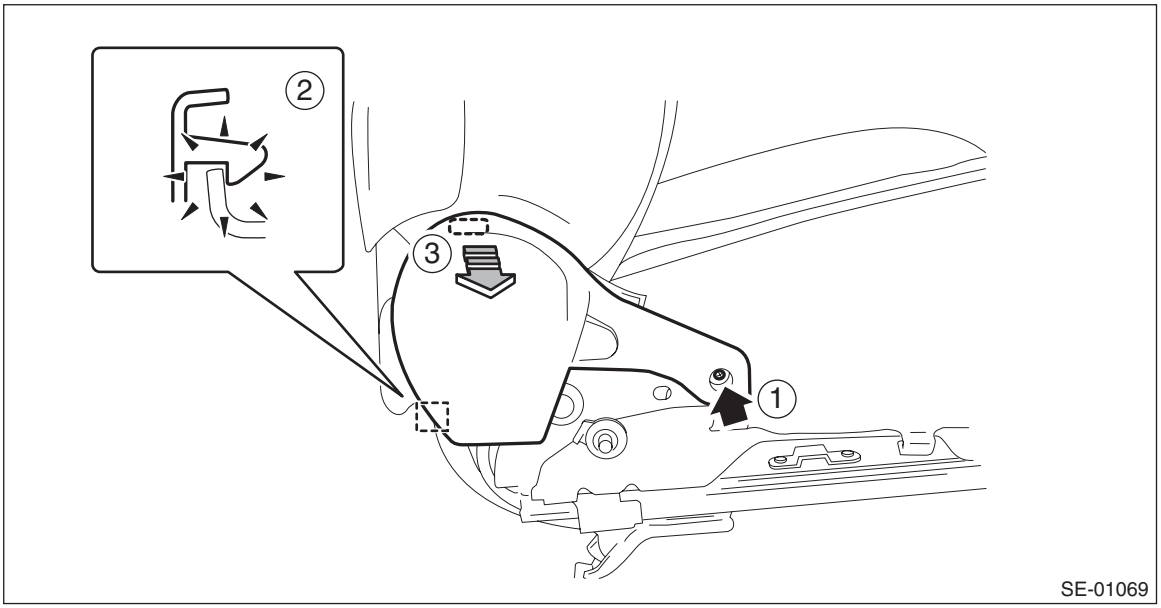
3) Remove the seat side cover OUT.
(1) Release the claw in the rear section of the seat side cover.
(2) Release the claw in the upper section of the seat side cover.
(3) Remove the clip and release the claw in the front section of the seat side cover
(4) Disconnect the power seat switch and lumber switch connector and remove the seat side cover OUT.



4) Remove the inner seat belt assembly.
   (1) Remove the nut and remove the inner seat belt assembly.
   (2) Disconnect the connector of the inner seat belt harness located under the seat cushion.

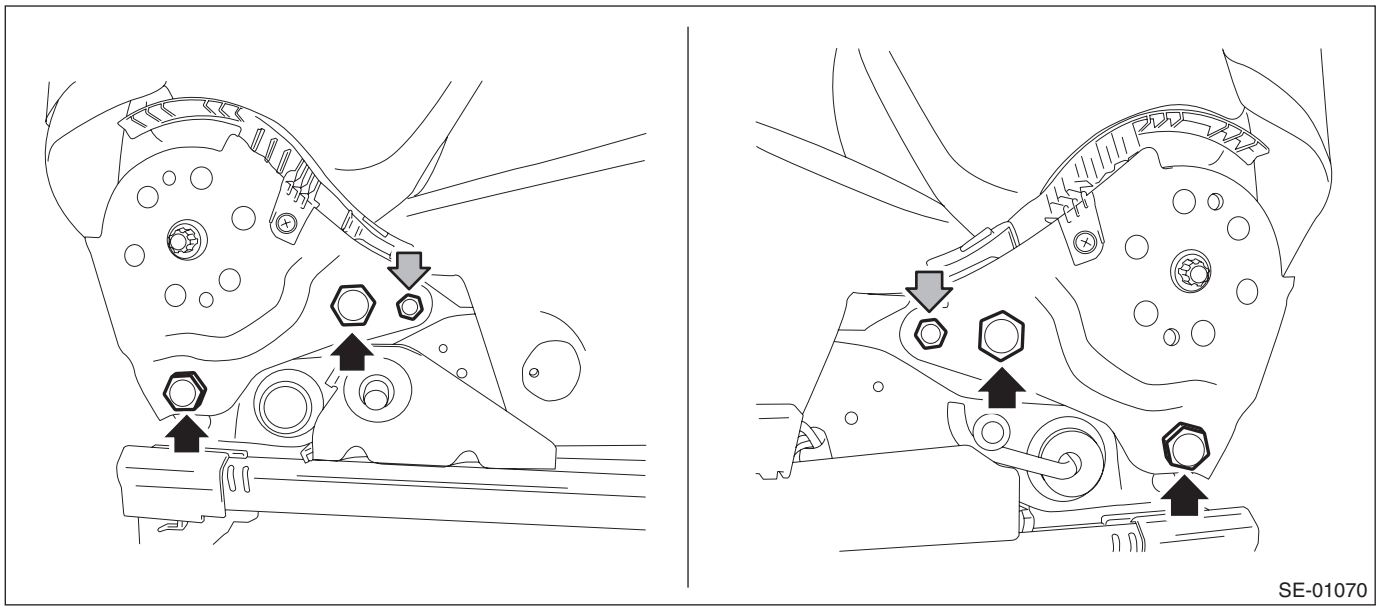

SE-01068

5) Remove the seat side cover IN.
   (1) Remove the screws.
   (2) Release the claw in the rear section of the seat side cover.
   (3) Release the claw in the upper section of the seat side cover, then remove the seat side cover IN.

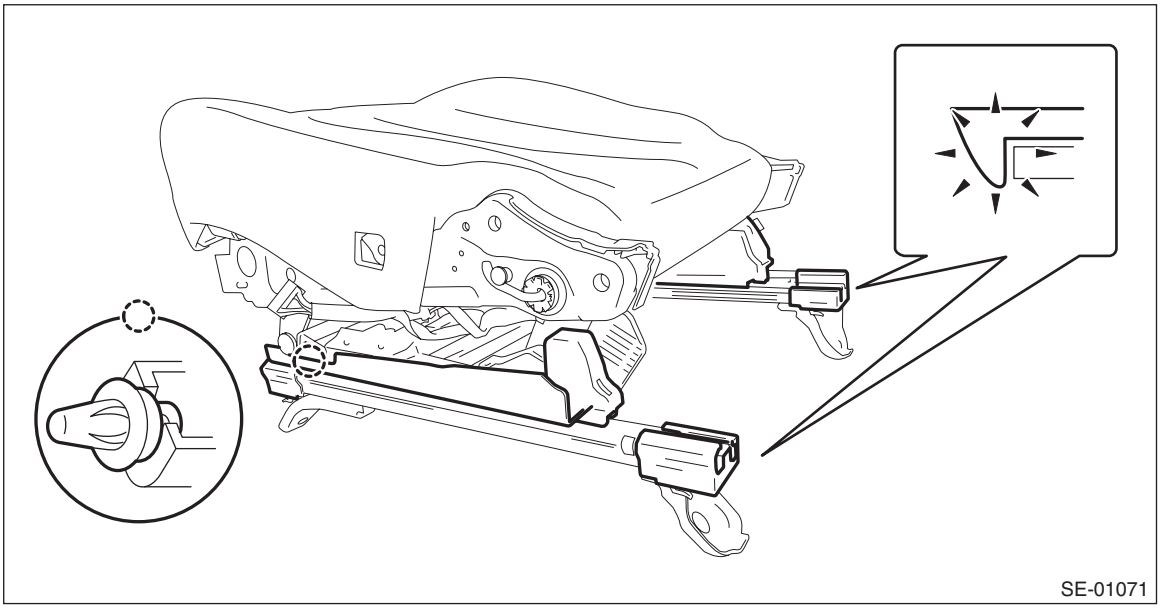


SE-01069

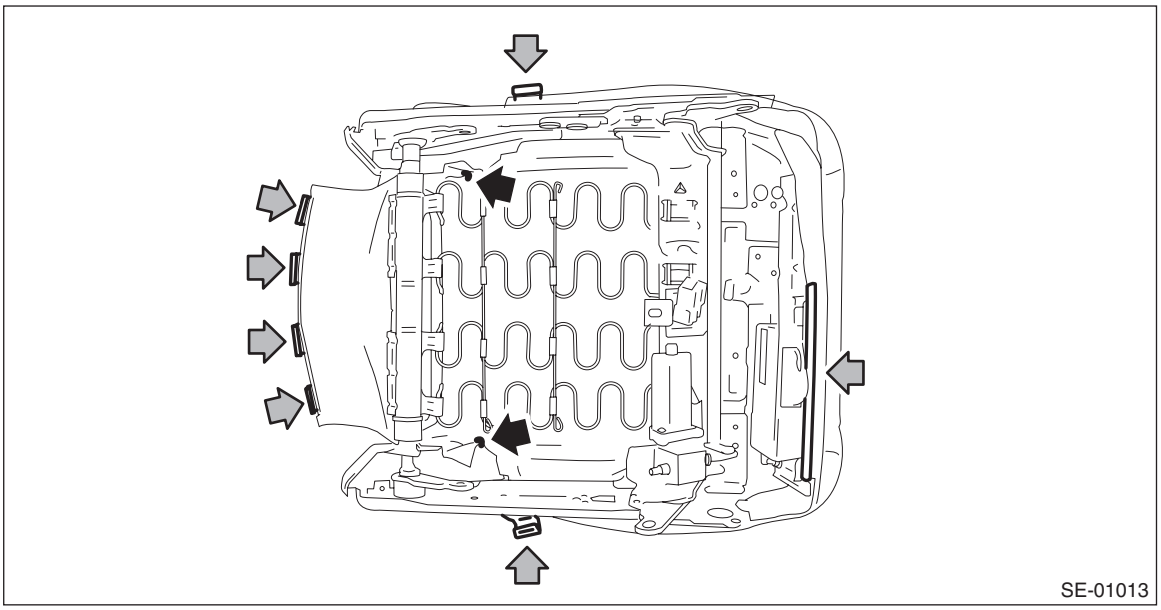
6) Separate the backrest assembly and the seat cushion assembly.
(1) Remove the clip for the side airbag harness located under the seat cushion.
(2) Remove the bolts from reclining hinge of both sides.
(3) While taking care not to damage the airbag harness, separate the backrest assembly and the seat cushion assembly.



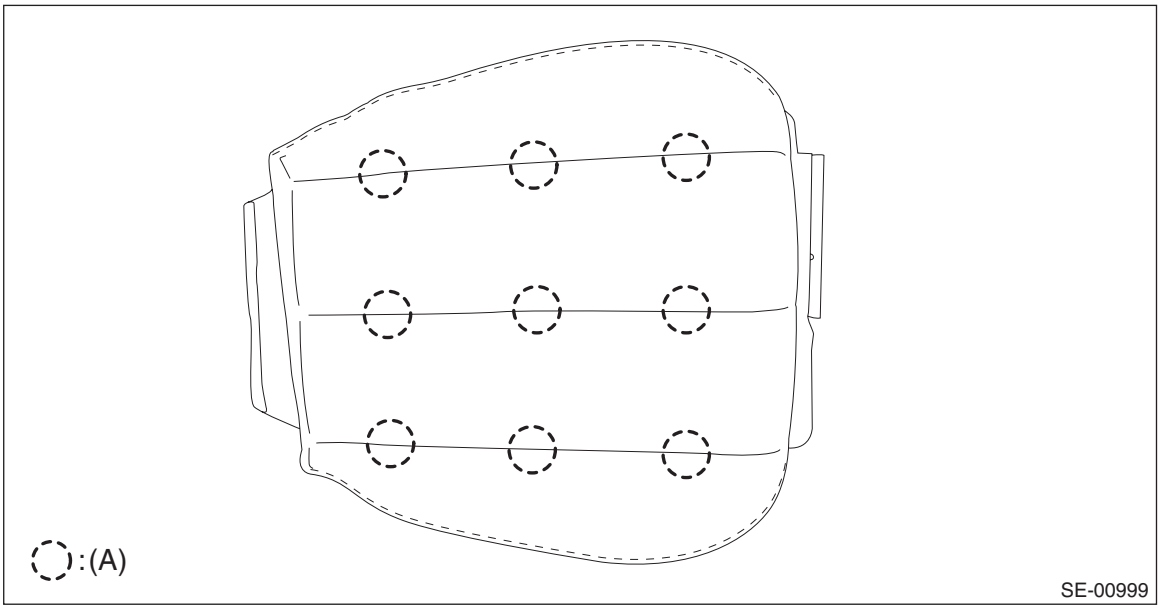
7) Remove the riser covers LH and RH as well as slide rail end cover.
(1) Remove the clips and remove the riser covers LH and RH.
(2) Remove the hook, and then remove the slide rail end cover.



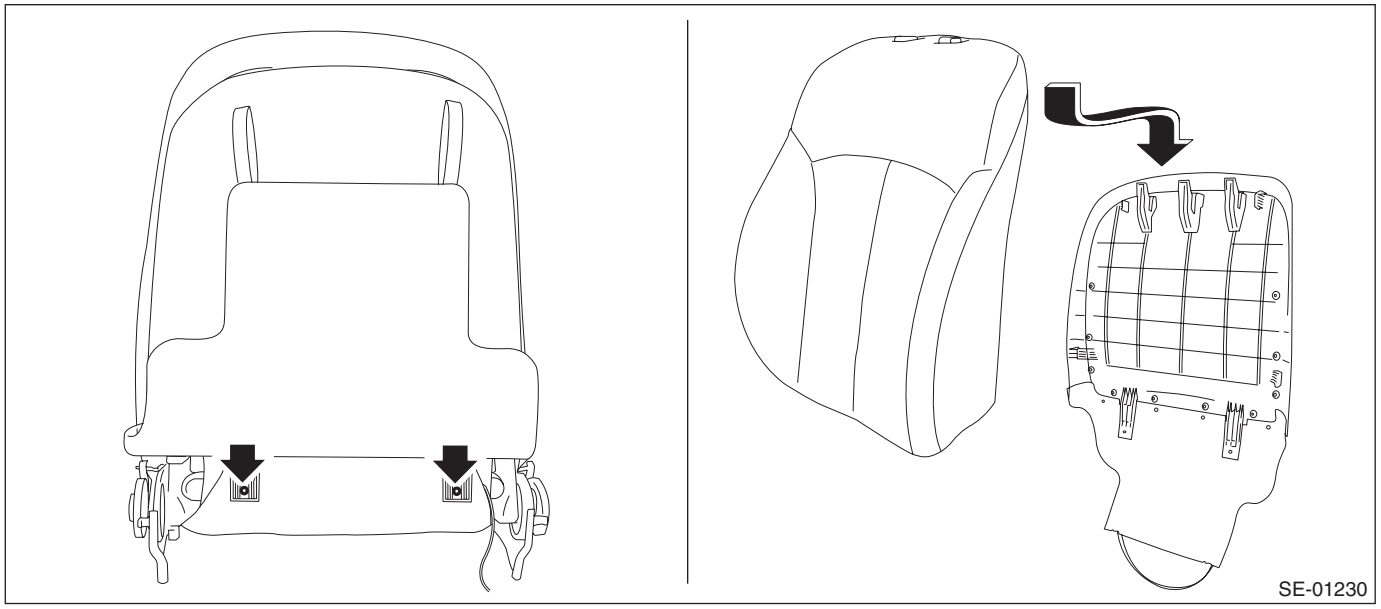
8) Remove the seat cushion pad & cover.
   (1) Remove the hooks and hog rings.
   (2) Remove the seat cushion pad & cover from seat cushion assembly.



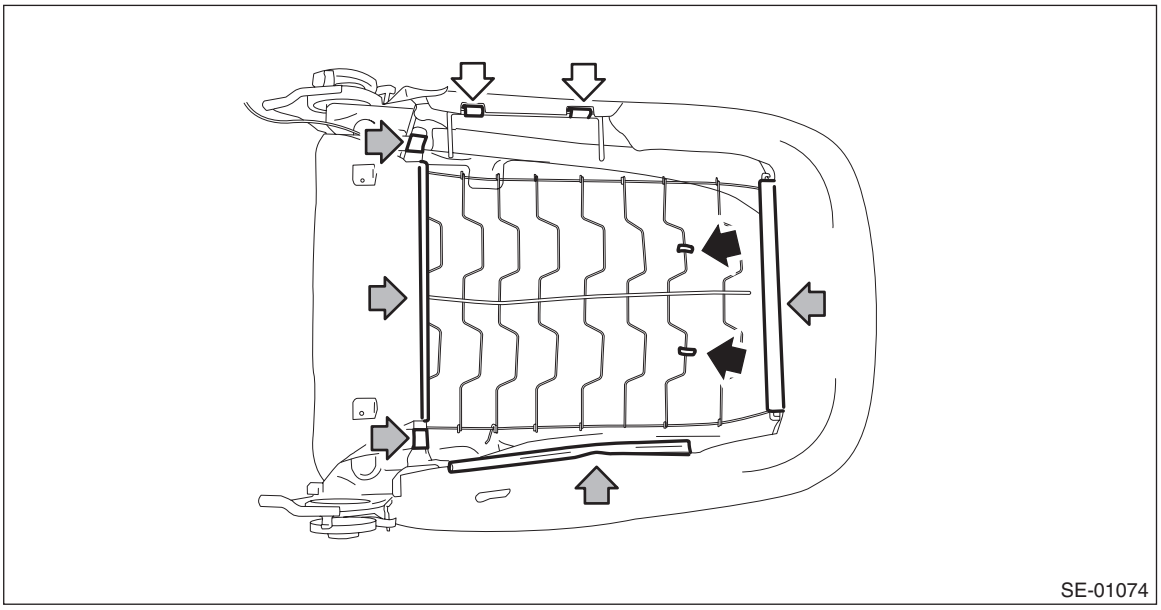
9) Remove the seat cushion cover.
   (1) Remove the hog ring (A).
   (2) Pull out the seat cushion pad from the seat cushion cover.



10) Remove the backrest back cover.
(1) Remove the screws.
(2) Release the hooks by pulling down the back cover and remove the backrest back cover.



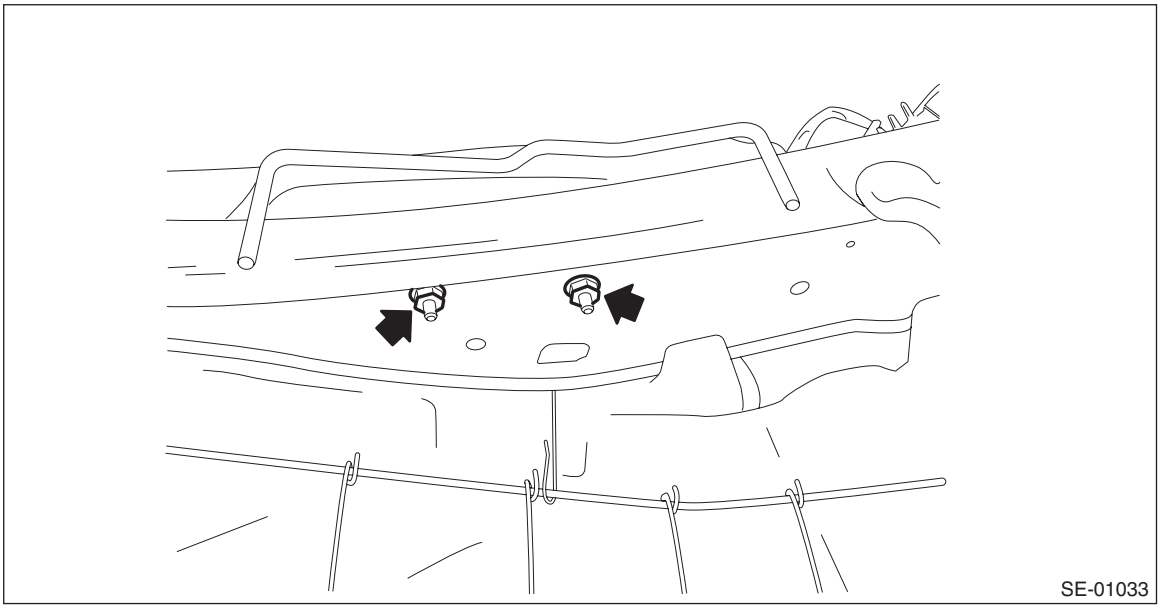
11) Remove the backrest pad & cover.
(1) Remove the hooks, hog rings, and metal clips.
(2) Remove the backrest pad & cover from backrest assembly.



12) Remove the side airbag module assembly.

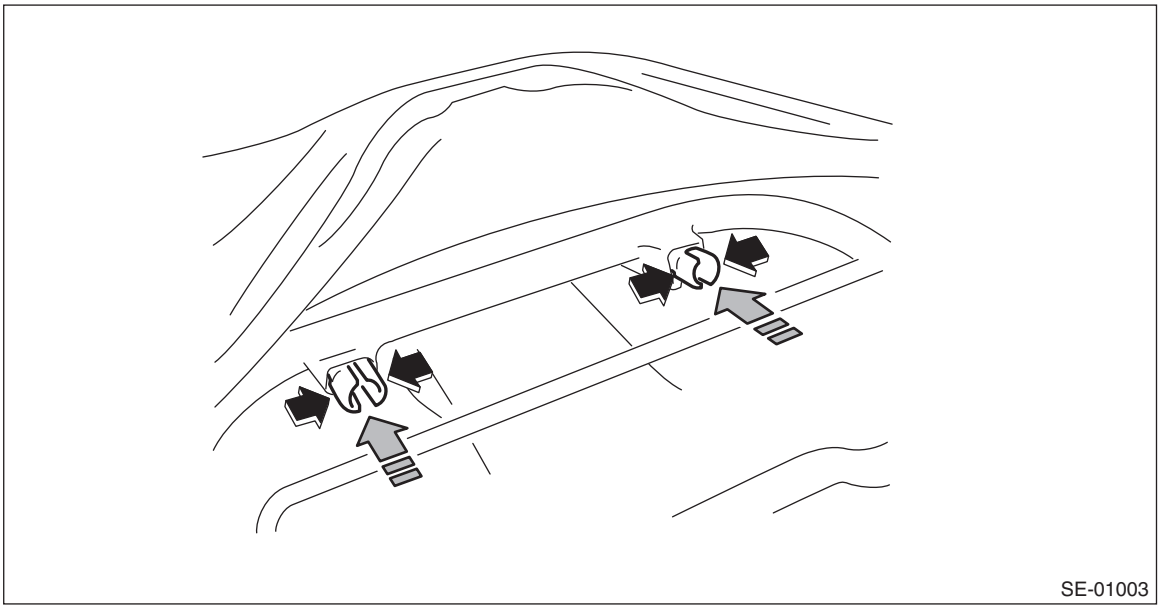
CAUTION:
Do not open the side airbag module case (plastic) of the airbag. If any damage is present in the side airbag module case (such as airbag module cloth coming out), replace the side airbag module assembly with a new one.

(1) Remove the S hook.
(2) Remove the mounting nuts of the side airbag module.


SE-01033

(3) Remove the side airbag harness from backrest frame assembly.
(4) While taking care not to damage the side airbag module case (plastic) of the airbag, remove the side airbag module assembly.

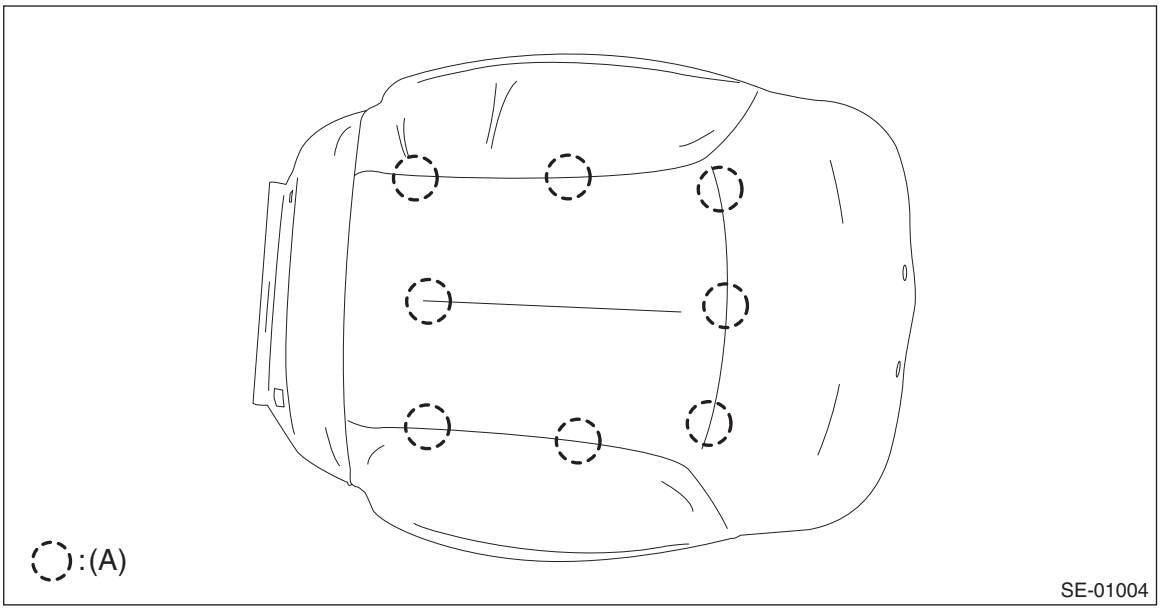
13) Remove the headrest bushing.


SE-01003

NOTE:
Catch the tip of headrest bushing with pliers and push it from inside seat to outside to remove it.

14) Pull out the backrest frame.

15) Remove the backrest cover.
(1) Remove the hog ring (A).
(2) Pull out the backrest pad from the backrest cover.



3. PASSENGER'S SEAT

CAUTION:
• If the seat cushion cover is removed or replaced, make sure to perform occupant detection system adjustment after installing the seat. <Ref. to OD(diag)-18, OPERATION, System Calibration (Rezeroing).>
Failure to do so may prevent the passenger's airbag from operating properly.
• The occupant detection system (passenger seat only) control module, occupant detection sensor, seat cushion pad and seat cushion frame are considered as a single seat cushion pad and frame assembly. Never remove the occupant detection control module or the occupant detection sensor from the seat cushion frame.
• If the seat cushion cover is removed, make sure to replace the hang wire on the seat cushion side with a new wire.

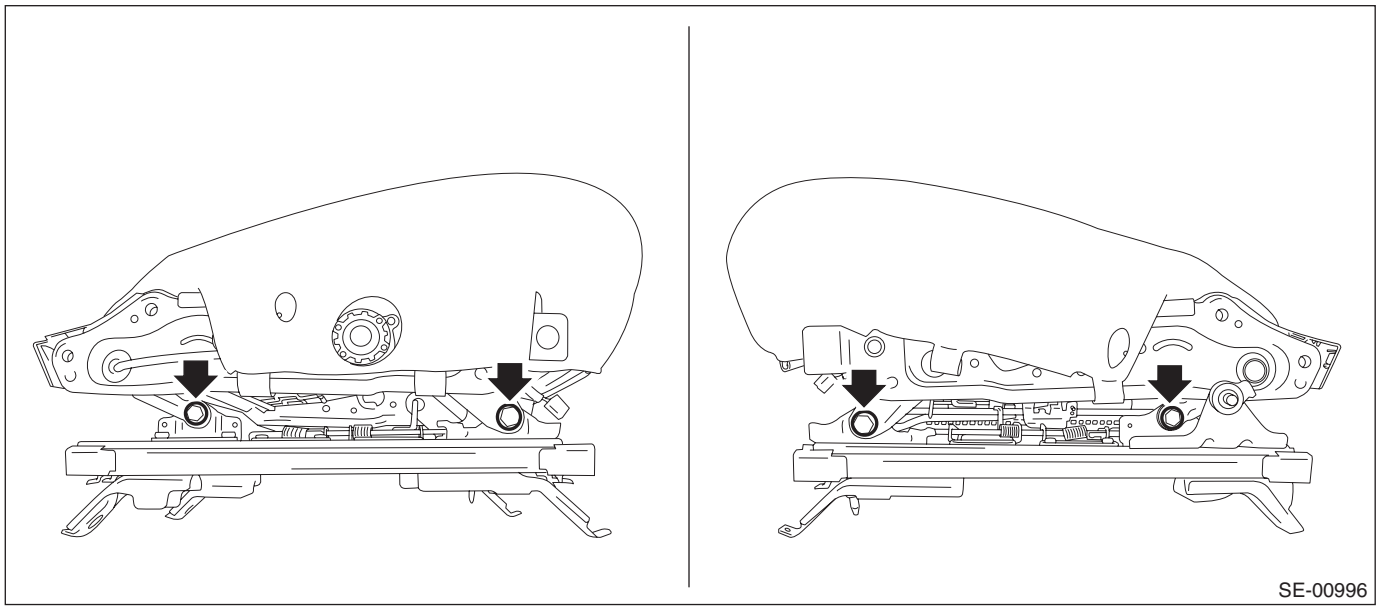
1) Remove the seat from vehicle. <Ref. to SE-10, REMOVAL, Front Seat.>

NOTE:
For power seat, lift the seating face before removing the seat.

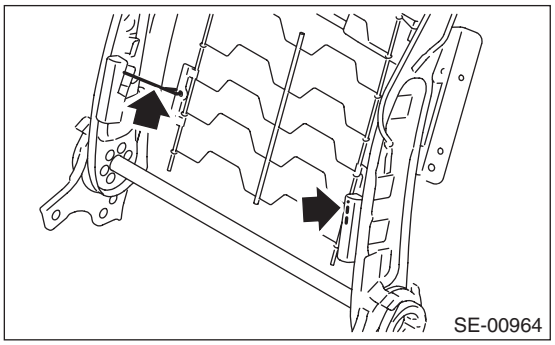
2) Refer to the disassembly procedures for the driver's seat.
- Manual seat <Ref. to SE-12, DRIVER SEAT (MANUAL SEAT), DISASSEMBLY, Front Seat.>
- Power seat <Ref. to SE-21, DRIVER SEAT (POWER SEAT), DISASSEMBLY, Front Seat.>

D: ASSEMBLY

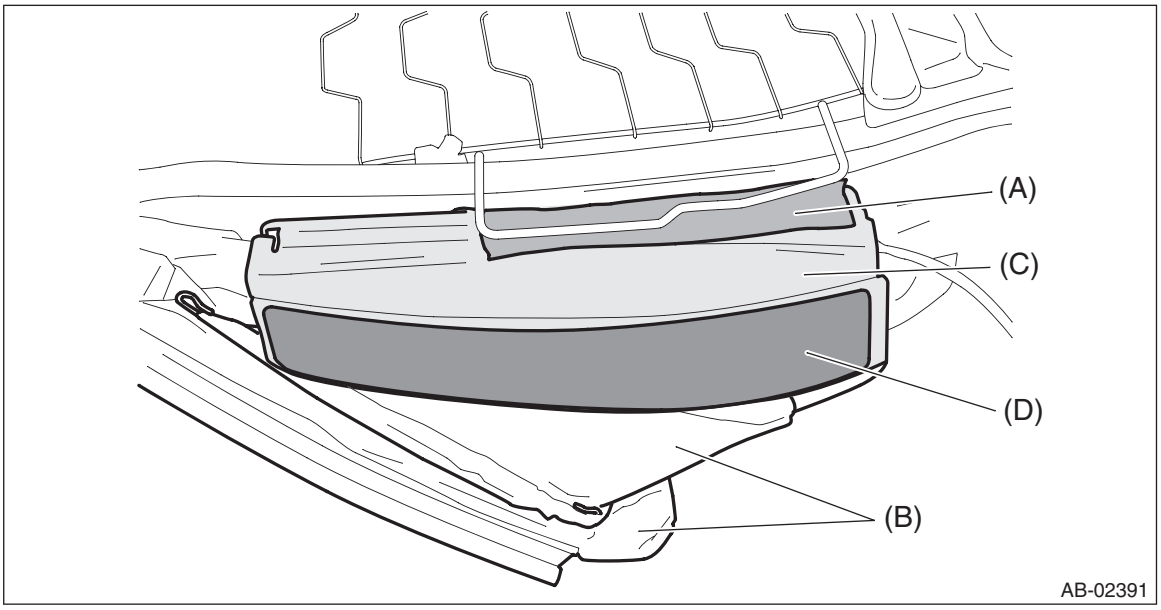
CAUTION:
• The slide rail mounting bolts for the manual seat are coated with the thread lock material. Therefore, do not reuse the removed bolts. Always use new bolts during assembly.



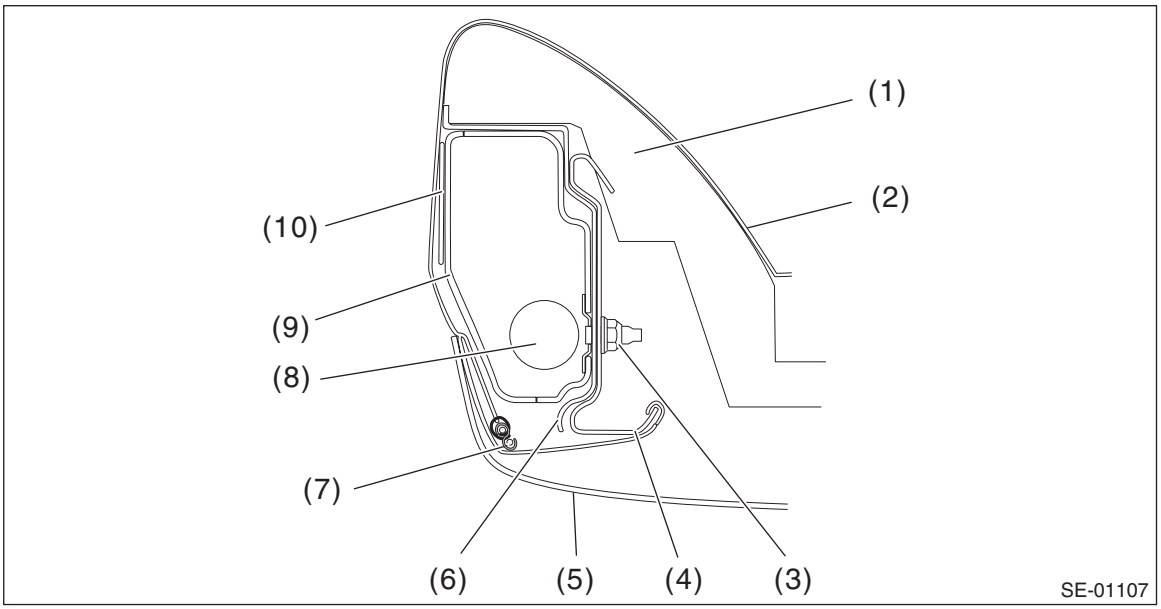
• Do not confuse the harness routing of the side airbag and inner seat belt etc. Assembling with harnesses improperly routed may cause the harness to get caught and short out.
• If the flat mat hook of the backrest frame assembly is deformed or comes off due to the deformation, replace the hook with a new part.



- **Make sure that the side airbag module assembly is installed as shown in the figure.**



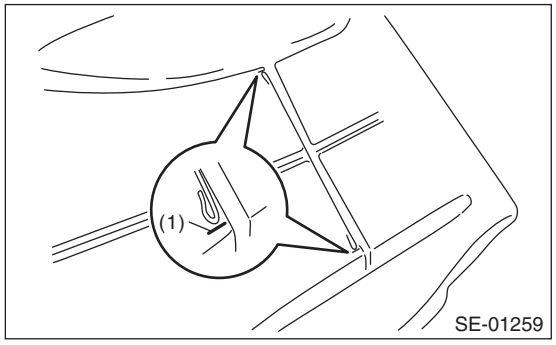
(A) Side airbag guide cloth
(B) Backrest cover
(C) Side airbag module ASSY
(D) Side airbag tape



(1) Backrest pad
(2) Backrest cover
(3) Nut
(4) Backrest frame
(5) Backrest back cover
(6) Side airbag guide cloth
(7) S hook
(8) Side airbag module inflator
(9) Side airbag module case
(10) Side airbag tape

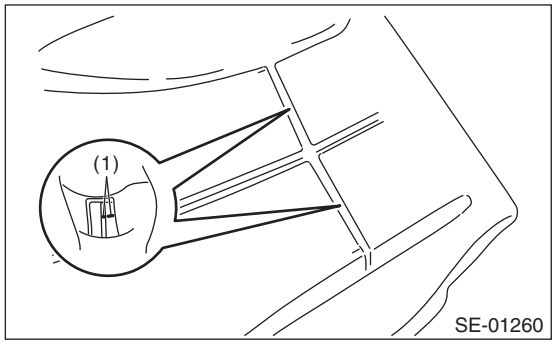
Besides, if the backrest cover is not installed securely, the side airbag module may not be activated properly, therefore keep strictly to the following procedures.
- **When replacing the side airbag assembly with new one, be sure to attach the side airbag tape.**
- **Be careful not to stain or damage the backrest cover during assembly.**
- **Do not reuse hog rings and S hooks.**
- **Secure the hog ring using hog ring pliers.**
- **Install the hog rings to the specified points securely and make sure that there is no wrinkle or twisting on backrest cover.**

1) Make sure that there is no foreign matter on side airbag module.
2) Assemble the seat cover.
   (1) Adjust so that the left and right clearances between wire and seat pad become equal, and mark the seat pad.



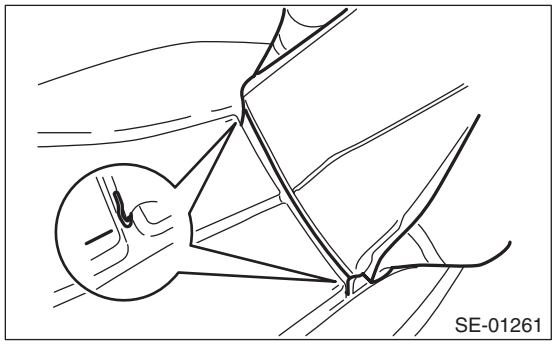
(1) Marking

   (2) Mark the center of the wire on the pad side to which the hog ring is attached.

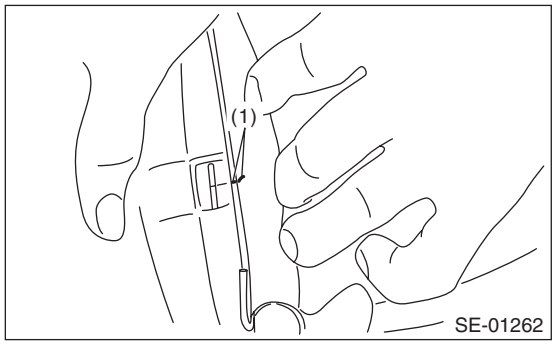


(1) Marking

   (3) Insert the wire into the seat cover, and align the wire with the position marked in step 1).

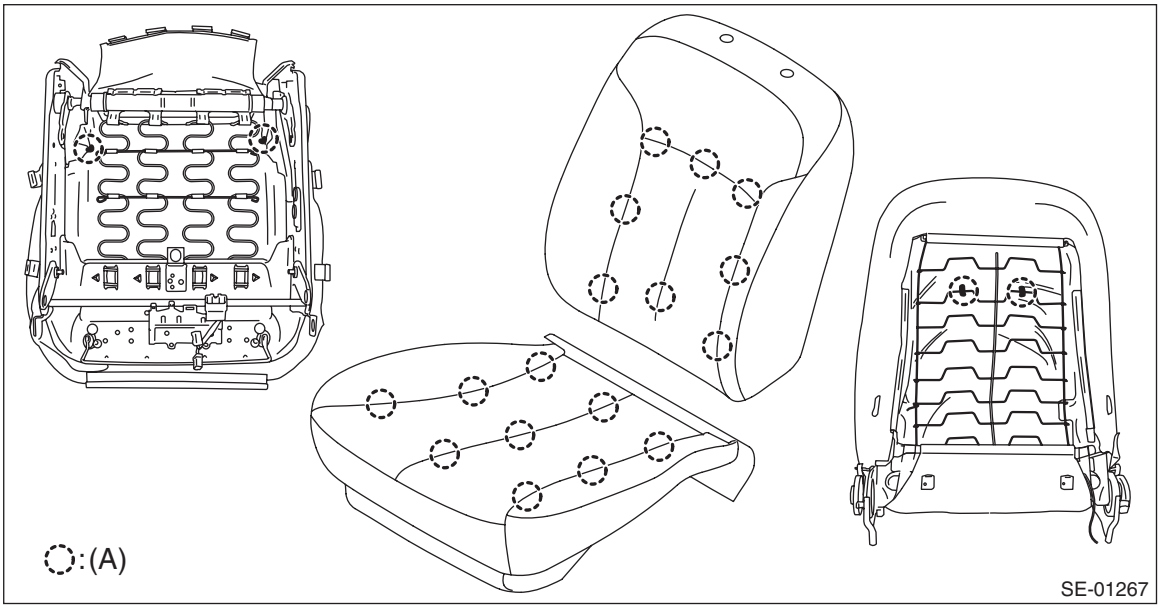


   (4) Mark the wire on the seat cover side according to the markings on the seat pad.



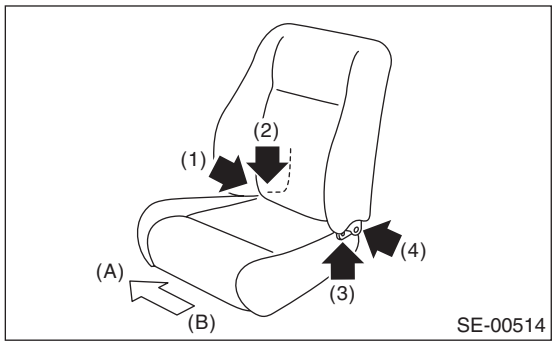
(1) Marking

(5) Perform steps 1) — 4) to all sections to which the hog rings are attached.
(6) Make sure that all hog rings (A) are attached securely.



3) Assemble remaining parts in the reverse order of disassemble.

NOTE:
• When installing the inner seat belt assembly, follow the procedures described in the seat belt section. <Ref. to SB-25, INSTALLATION, Front Seat Belt.>
• Install the backrest assembly and seat cushion assembly in the following procedure.
1. Temporarily tighten the four reclining hinge bolts.
2. Place the backrest in the most upright position.
3. Tighten the reclining hinge bolts in order from (1) to (4) two or three times, until they reach the specified torque.



(A) Vehicle inside
(B) Vehicle outside

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, FRONT SEAT, COMPONENT, General Description.>

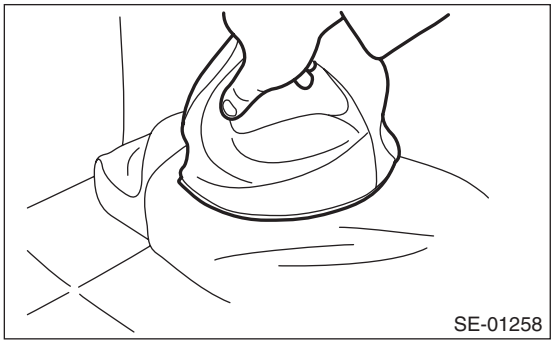
4) If any wrinkles are found after the assembly of the seat cover, finish the seat cover with iron.
(1) Place the wet towel on wrinkles.



(2) Touch up with warm iron.

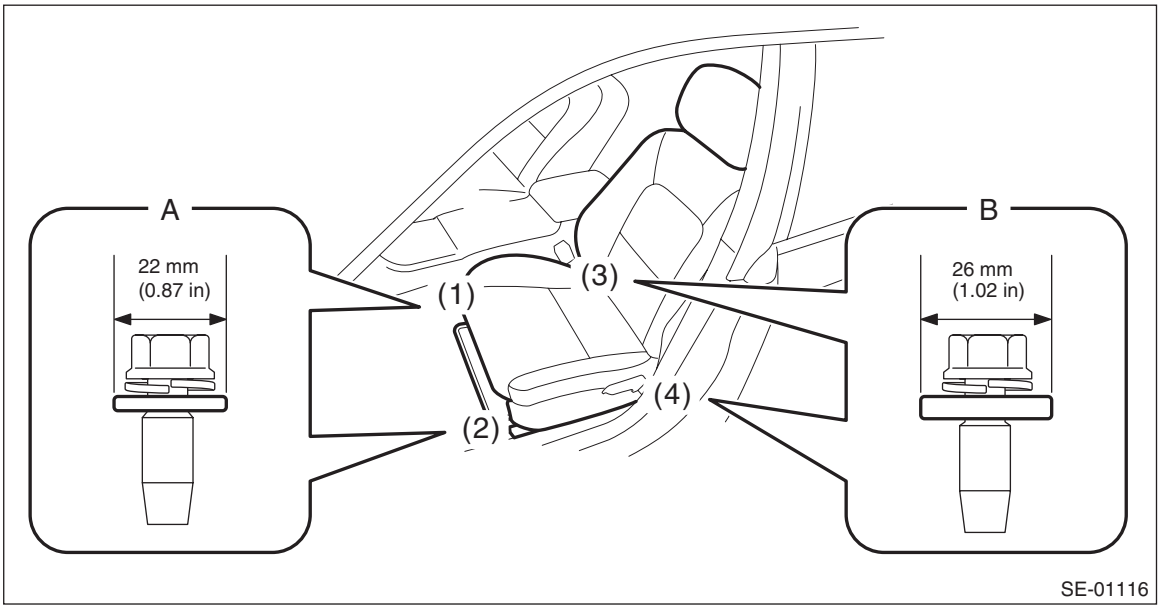
CAUTION:
Keep moving the iron, otherwise the seat cover surface can be damaged.

NOTE:
This method is available for genuine leather, synthetic leather, cloth, etc.



5) Install the seat assembly.

CAUTION:
• The seat mounting bolts differ between the front mounting points and the rear mounting points. Make sure that you are using correct bolts at correct positions.
• Tighten the slide rail installing bolts in the order as shown in the figure, in several steps by gradually increasing the torque until they reach the specified torque.



- **Front (bolt A): Washer diameter 22 mm (0.87 in)**

- **Rear (bolt B): Washer diameter 26 mm (1.02 in)**

Tightening torque: 53 N·m (5.40 kgf-m, 39.1 ft-lb)

E: INSPECTION

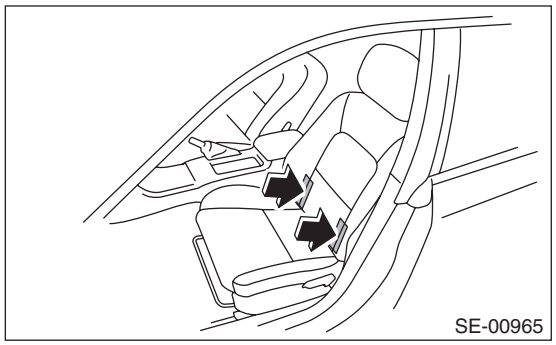
1. SEAT COVER

Check that no tear or fray on the backrest cover and seat cushion cover.

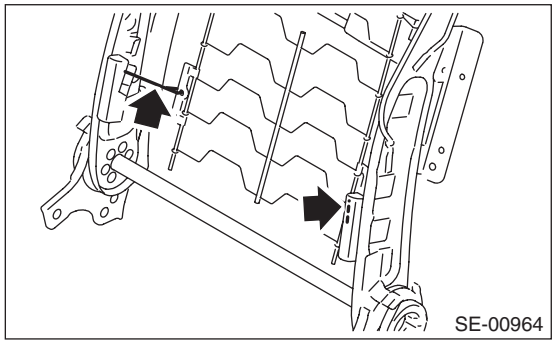
NOTE:
For model with side airbag, if the door side of the backrest cover is torn or frayed, the side airbag may not be deployed properly. In this case, replace the backrest cover.

2. FLAT MAT HOOK

Apply load to the backrest and check the flat mat hook.



NOTE:
If the backrest does not keep sufficient tension when subject to load, some hooks may be detached.
If any hook is deformed and detached, replace it with a new hook.



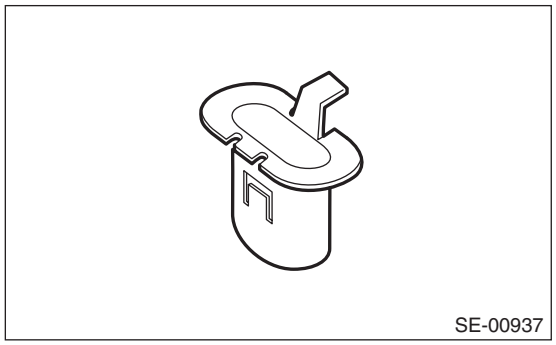
3. Rear Seat

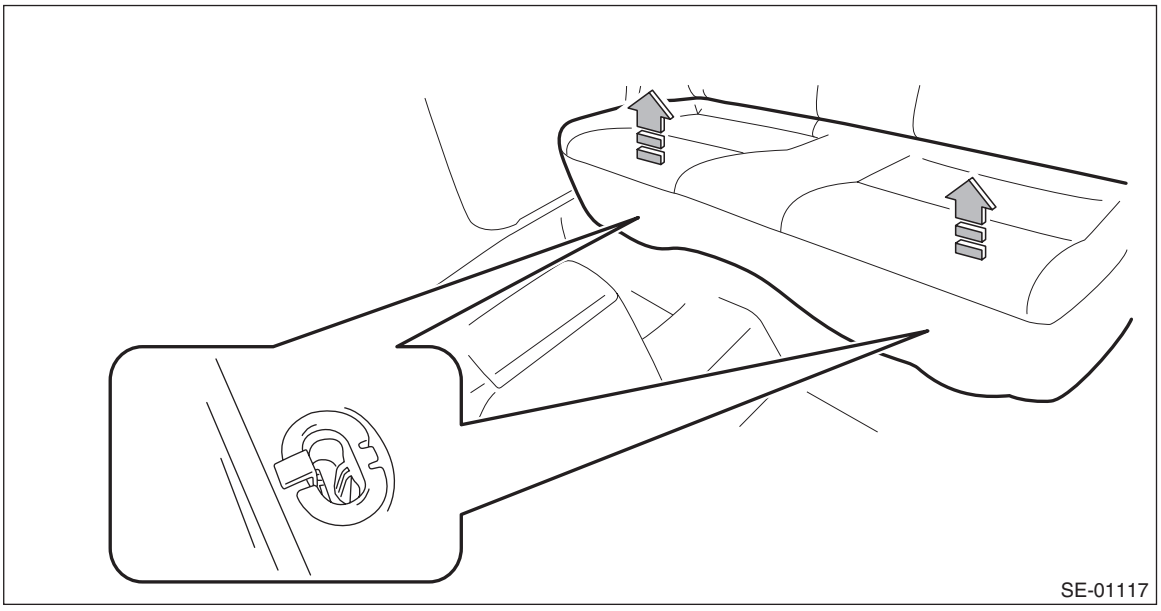
A: REMOVAL

1. SEDAN MODEL

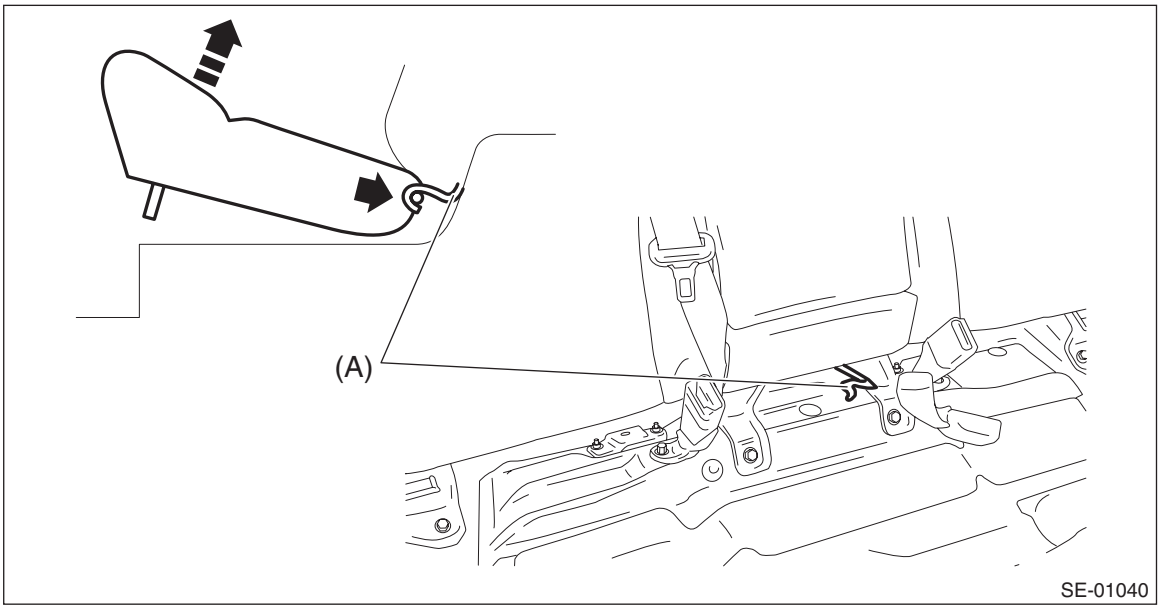
1) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is removed from vehicle body, replace the hook with the new part to avoid the deterioration of seat securing.

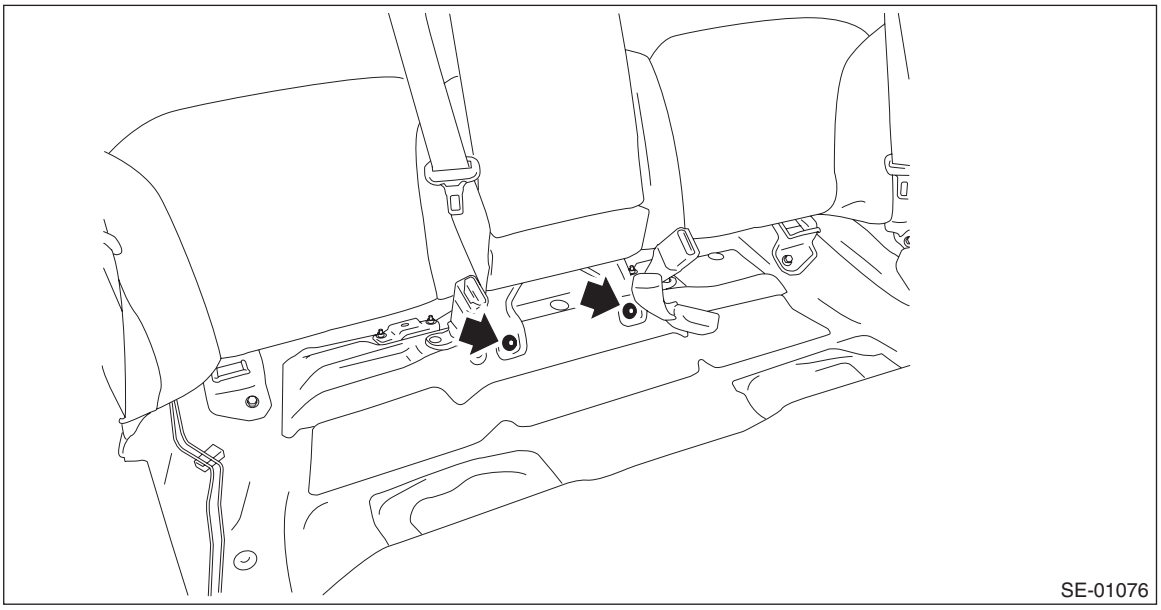

SE-00937


SE-01117

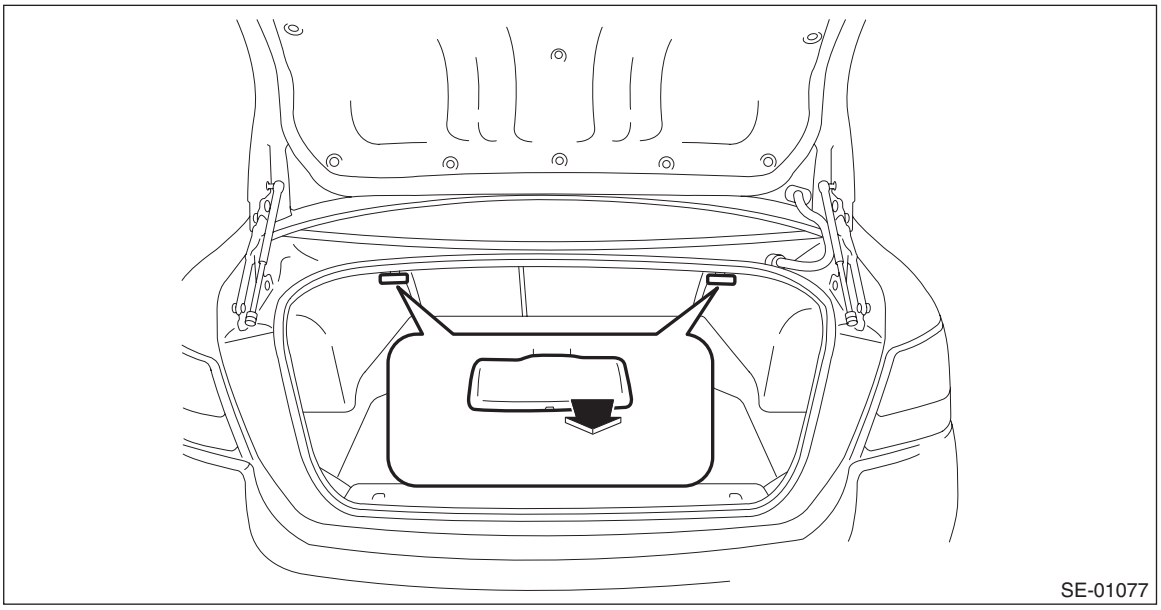
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



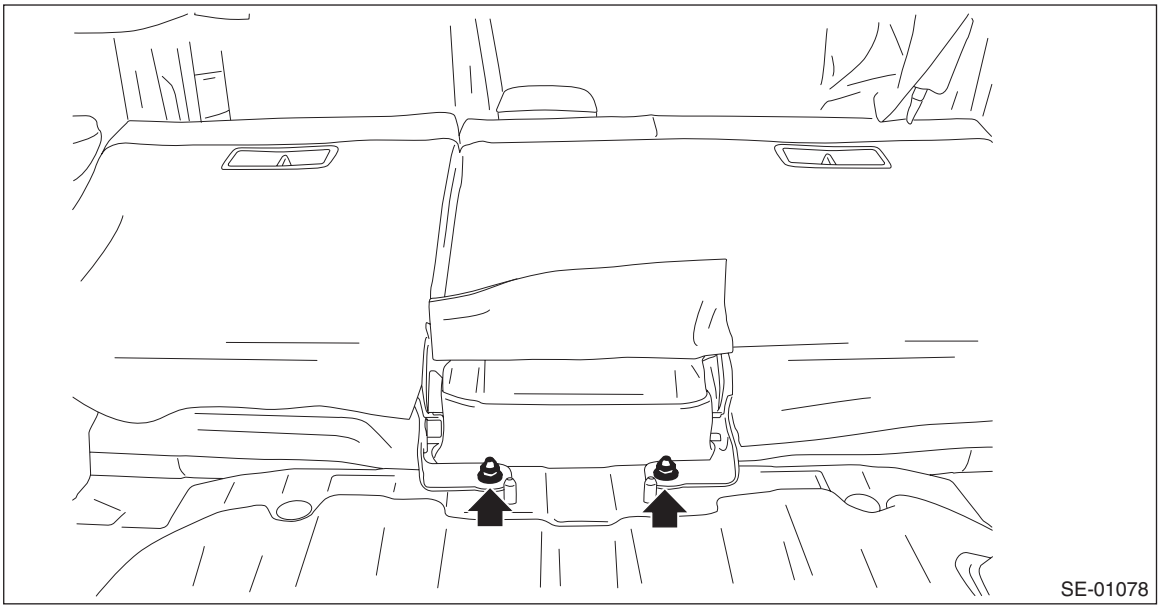
2) Remove the backrest assembly.
(1) Remove the bolts at the front of backrest hinge.



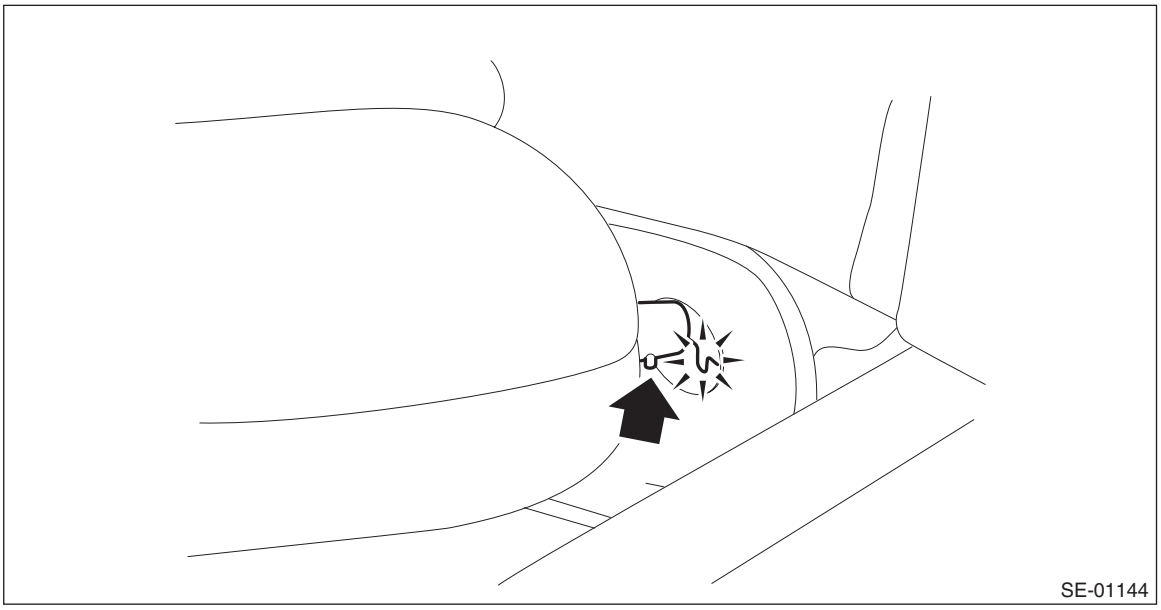
(2) Pull the release lever in the trunk room, and then tilt the backrest forward.



(3) Remove the nuts at the rear of backrest hinge.



(4) Remove the backrest assembly RH from the hinge assembly RH.

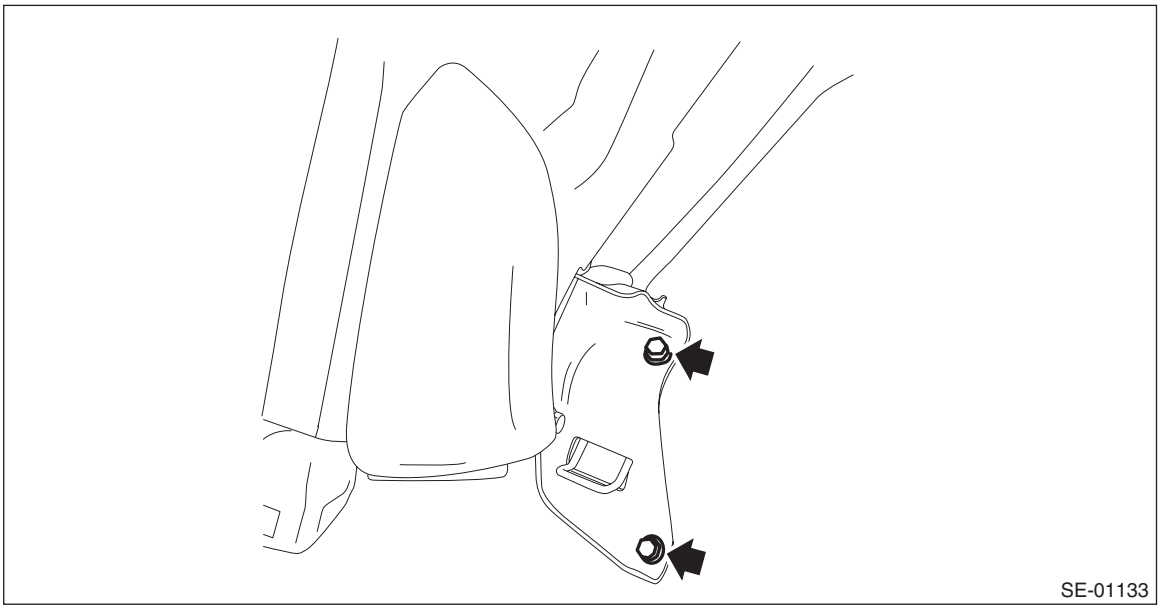


NOTE:
The backrest cannot be detached unless the backrest pin is aligned to the hinge assembly.

3) Referring to the above steps, remove the backrest assembly LH.

4) Remove the backrest side pad.

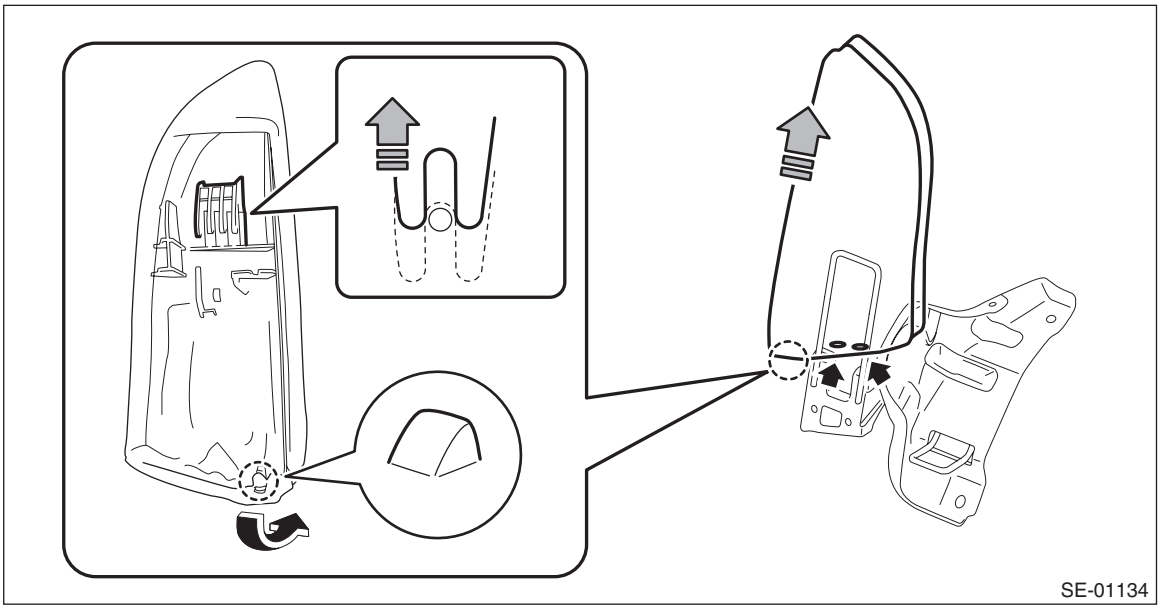
(1) Remove the bolts, and remove the backrest side pad assembly RH.



(2) Remove the screws.

(3) Turn over the bottom end of the backrest side pad in the forward direction so that the claws are released.

(4) Remove the backrest side pad by pulling it up.

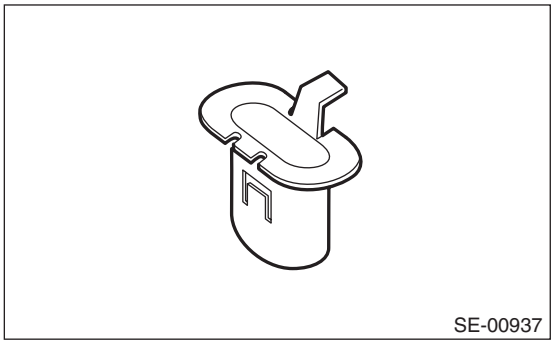


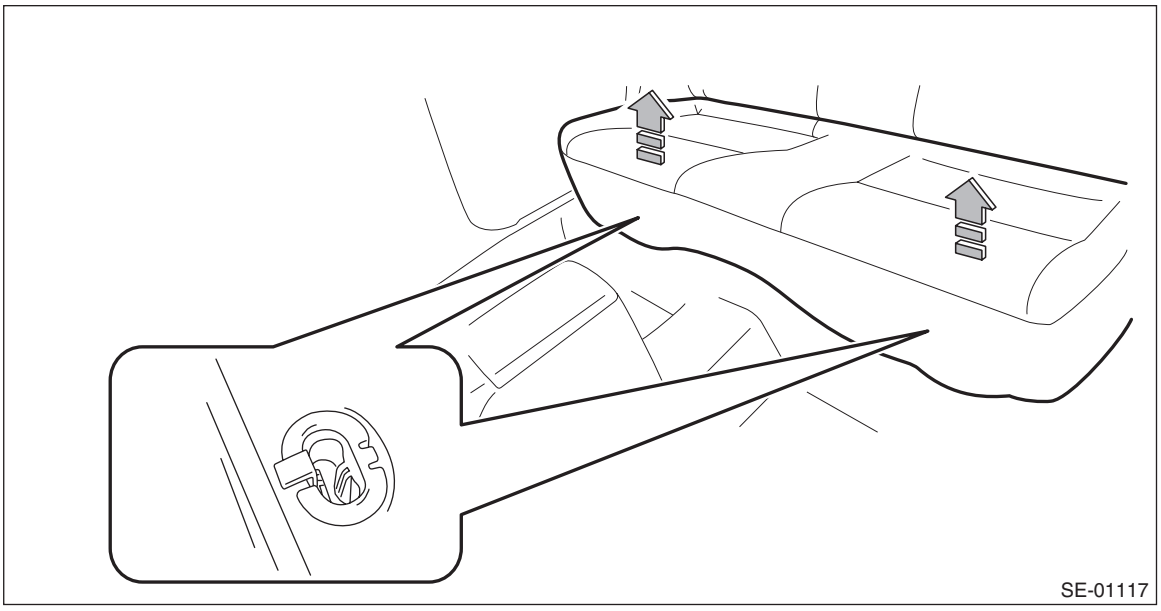
5) Referring to the above steps, remove the backrest side pad assembly LH.

2. OUTBACK MODEL

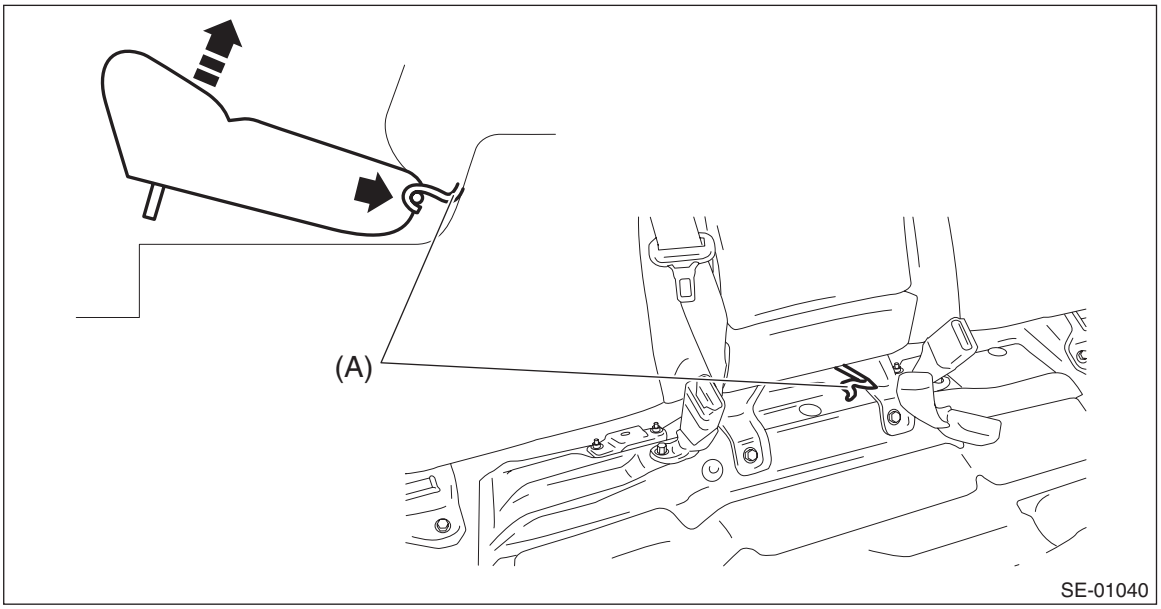
1) Disconnect the ground cable from battery.
2) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.




SE-01117

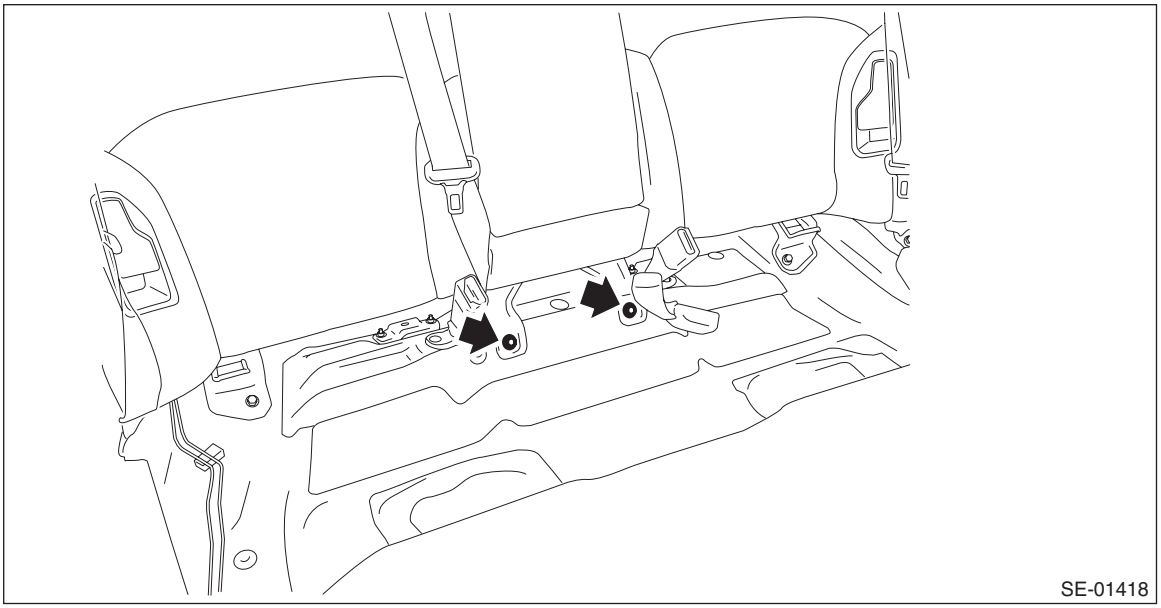
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



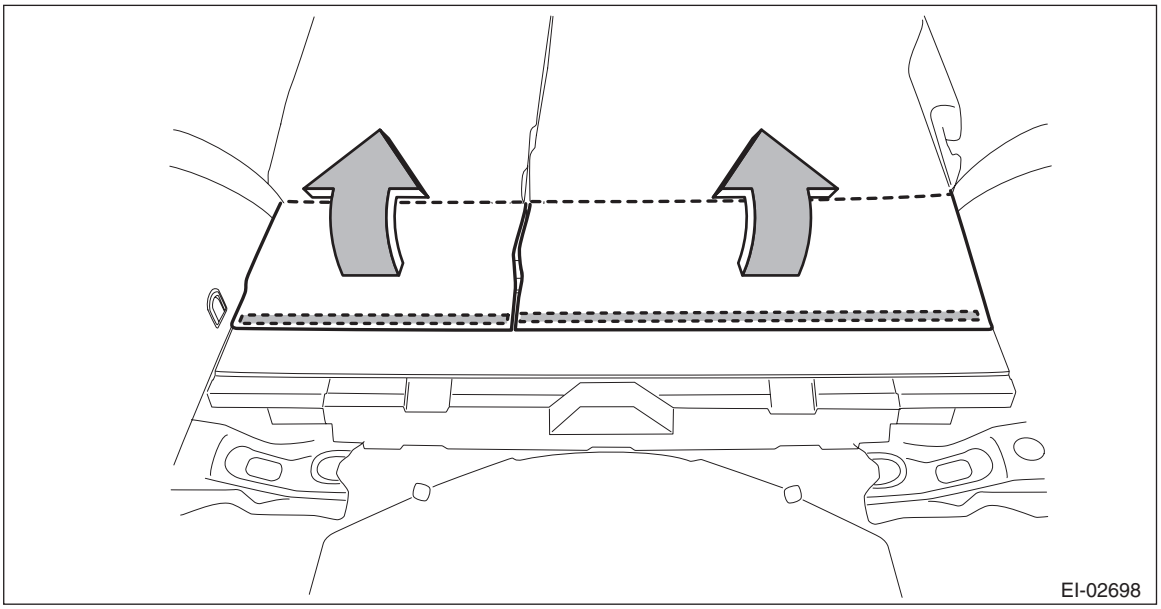
SE-01040

3) Remove the headrest.

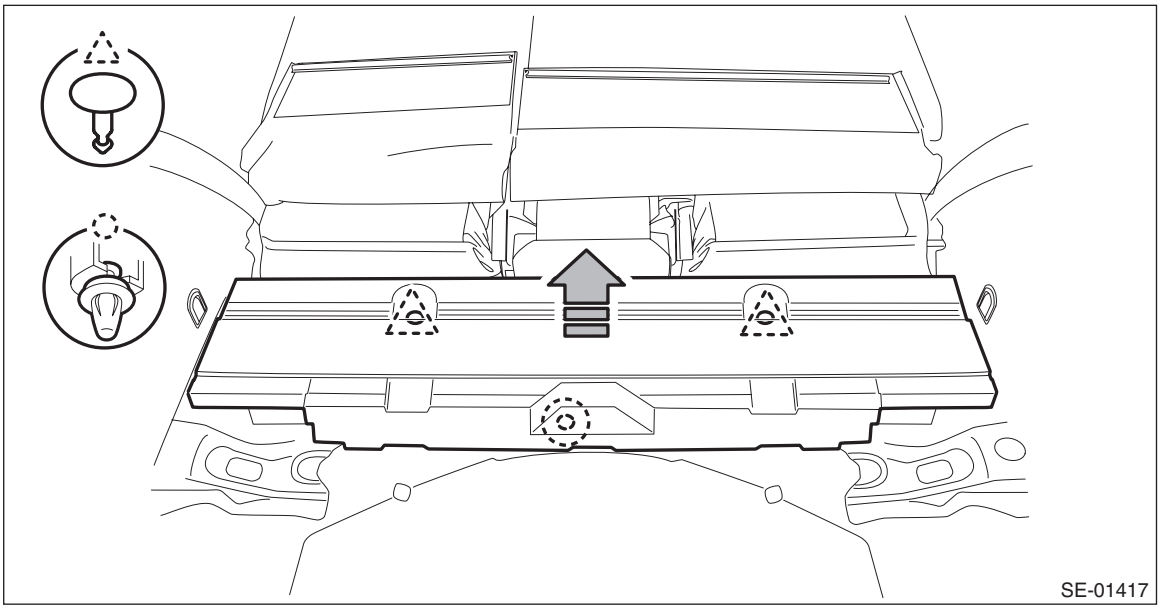
4) Remove the backrest assembly RH.
(1) Remove the hinge bolts at the front of the backrest assembly RH.



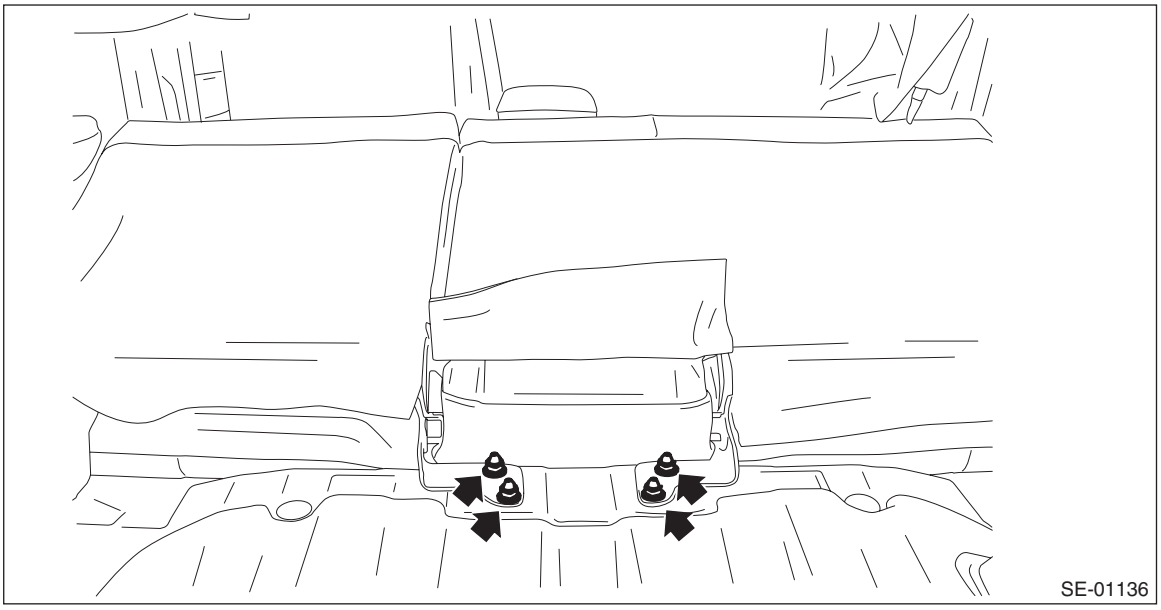
(2) Tilt the backrest forward, and then turn over the backrest backside mat.



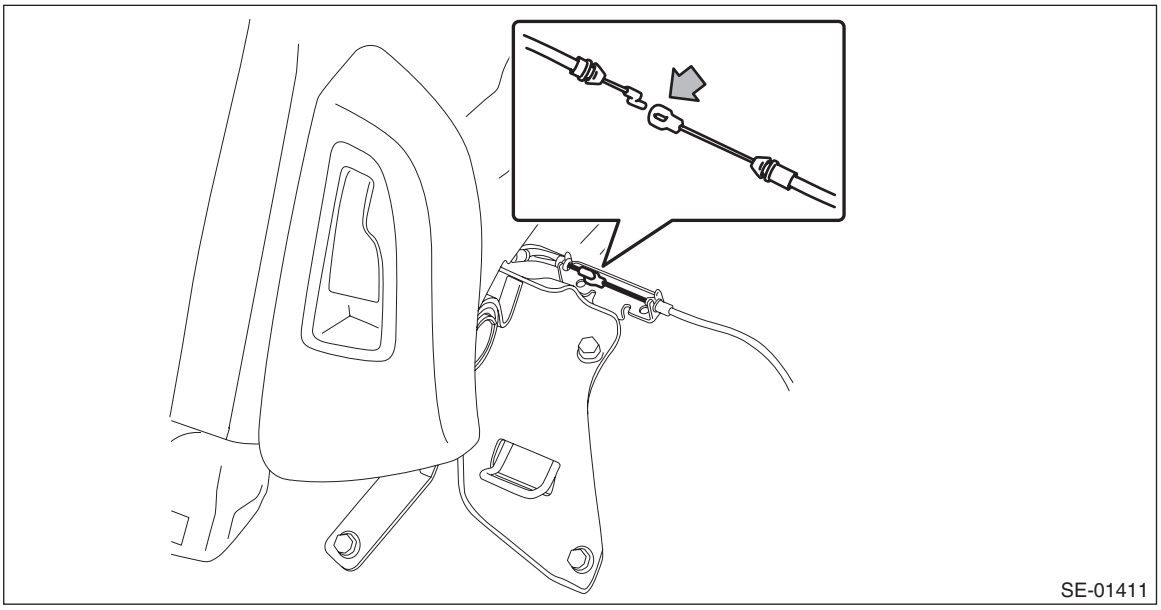
(3) Remove the clips, and remove the rear floor mat - front.



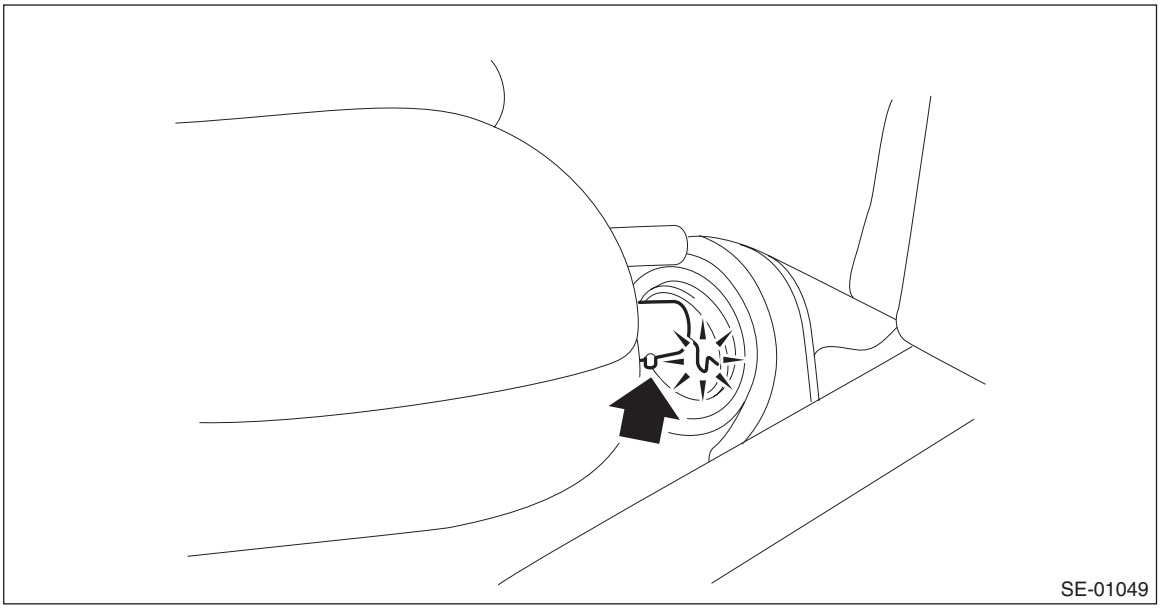
(4) Remove the nuts at the rear of backrest hinge.



(5) Disconnect the backrest cable and reclining cable.



(6) Remove the backrest assembly RH from the hinge assembly RH.

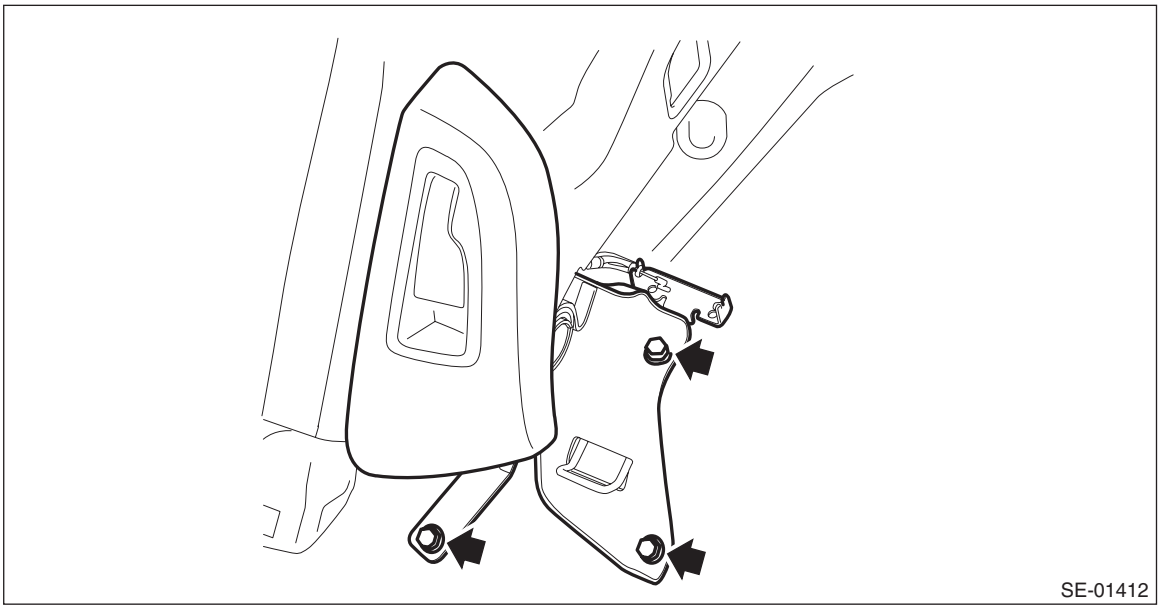


NOTE:
The backrests cannot be detached while pin positions of the hinge assembly and backrests are not aligned.

(7) Take out the part outside the vehicle so that the body is not damaged by the hinges.

5) Referring to the above steps, remove the backrest assembly LH.

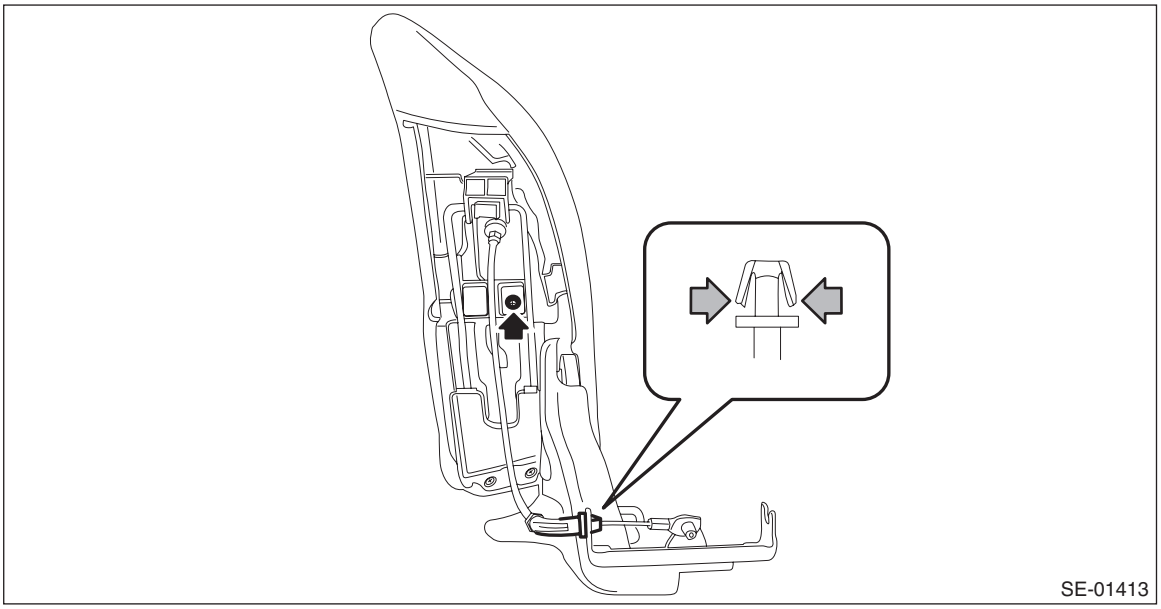
6) Remove the bolts, and remove the backrest side pad assembly RH.



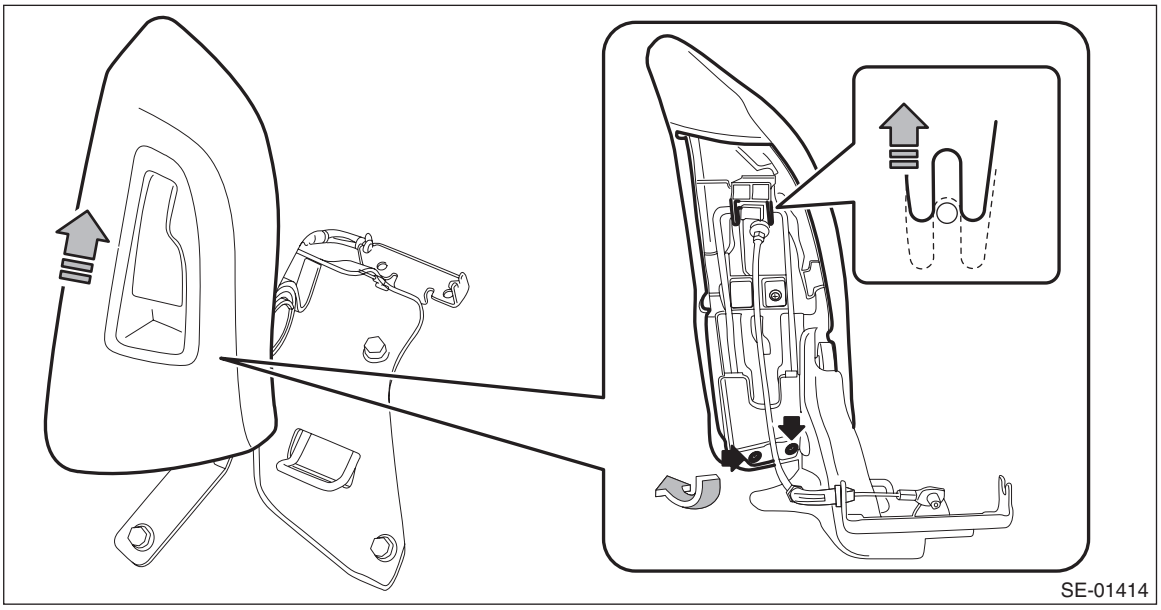
7) Remove the reclining lever assembly RH.
(1) Remove the screws.

Preparation tool:
Stubby screwdriver

(2) By pressing the wire cable claws, remove the reclining cable from the side hinge assembly.



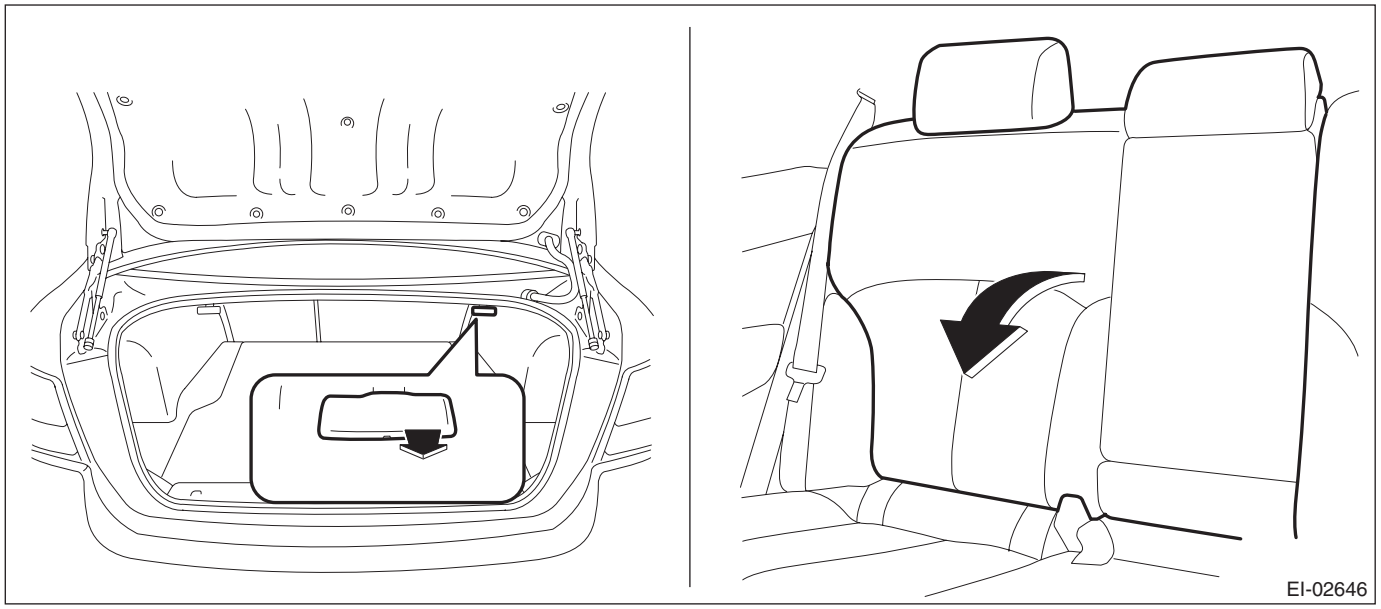
(3) Remove the two screws, and remove the backrest side pad by pulling it up.



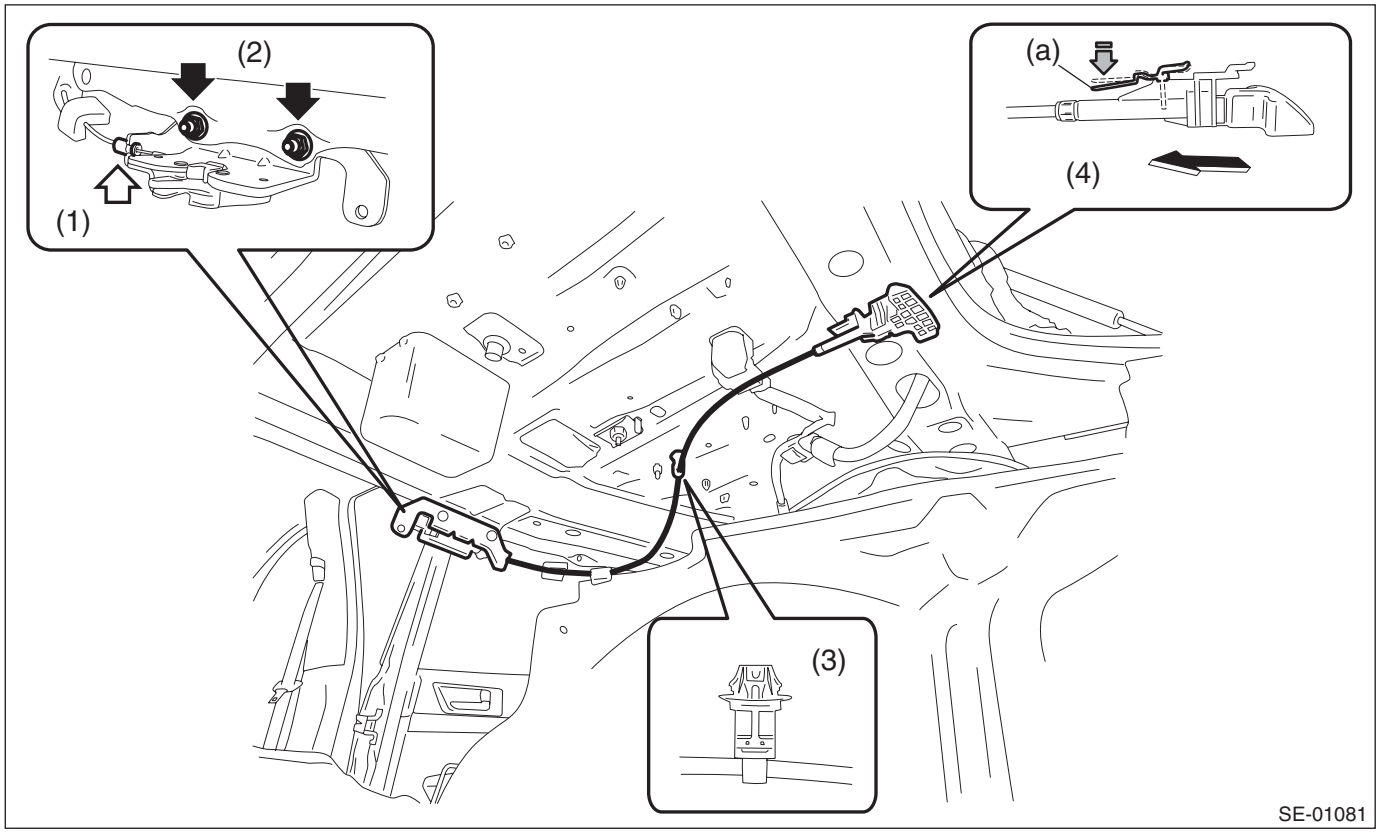
3. WIRE CABLE

Release lever cable (sedan model)

1) Pull the release lever in the trunk room, and then tilt the backrest forward.



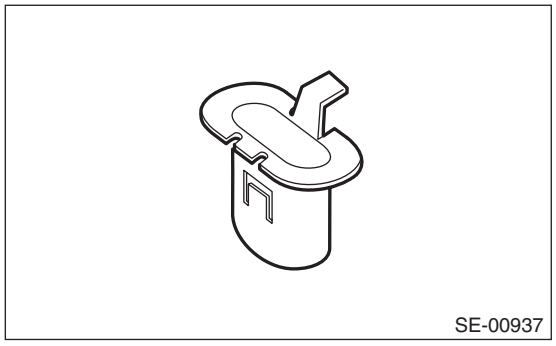
2) Remove the release lever assembly.
   (1) Remove the wire cable from lock assembly.
   (2) Remove the nuts, and then remove the lock assembly.
   (3) Remove the wire cable holder.
   (4) Press the stopper portion (a), and remove the release lever assembly while sliding it forward.

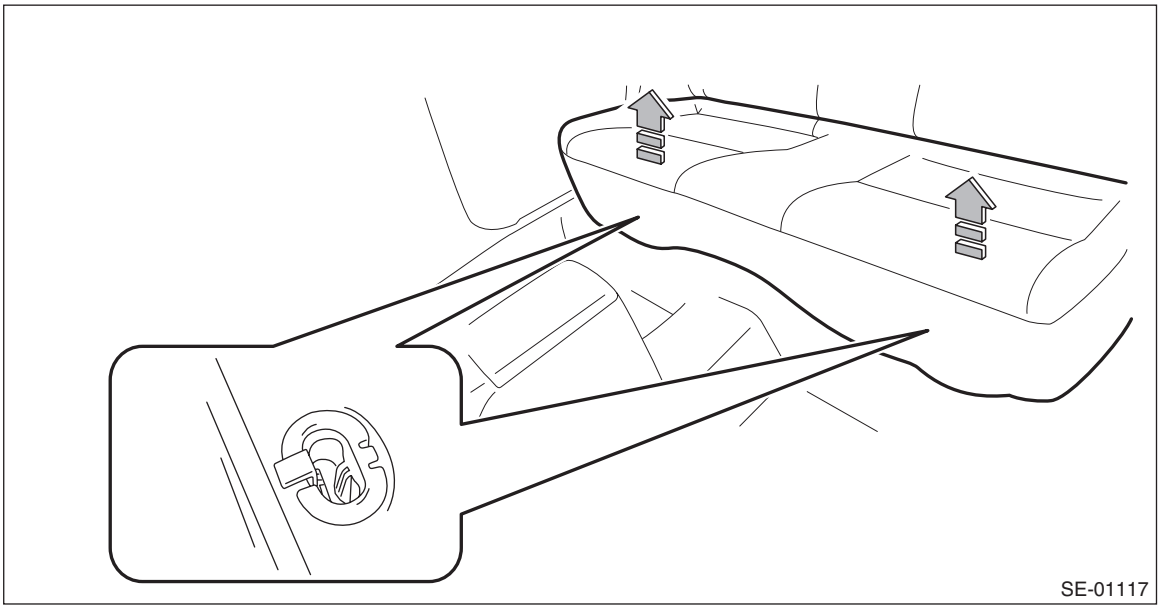


Reclining cable (OUTBACK model)

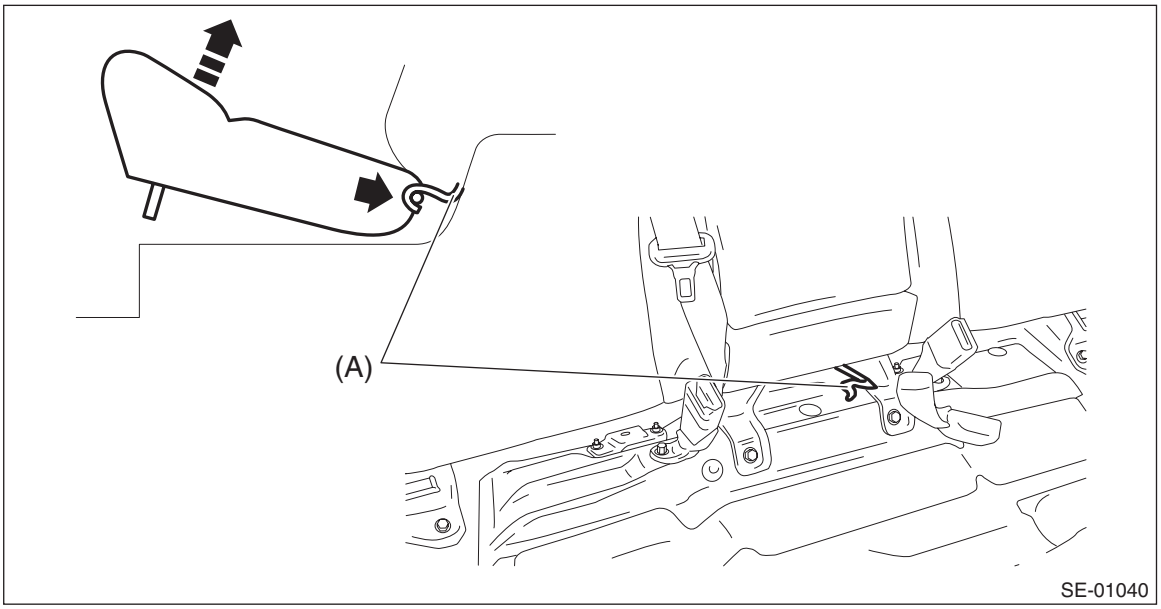
1) Remove the rear seat cushion.
   (1) Pull up the seat cushion and release the hook.

CAUTION:
If the hook is disconnected from the vehicle body, replace the hook with the new part to prevent the decline of the fixed force of the seat.

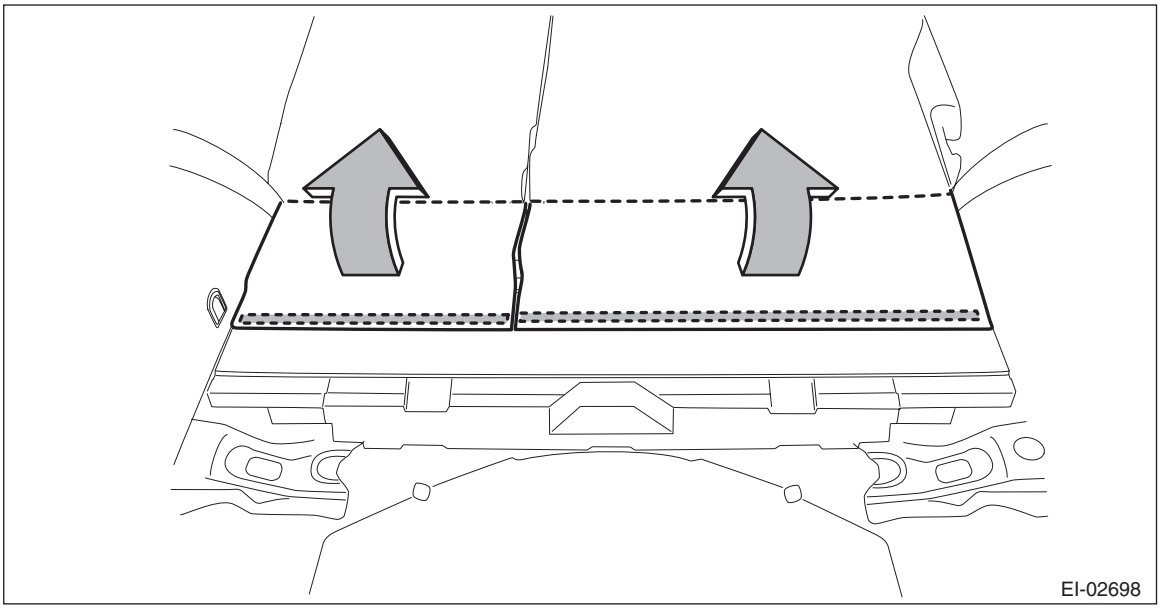

SE-00937


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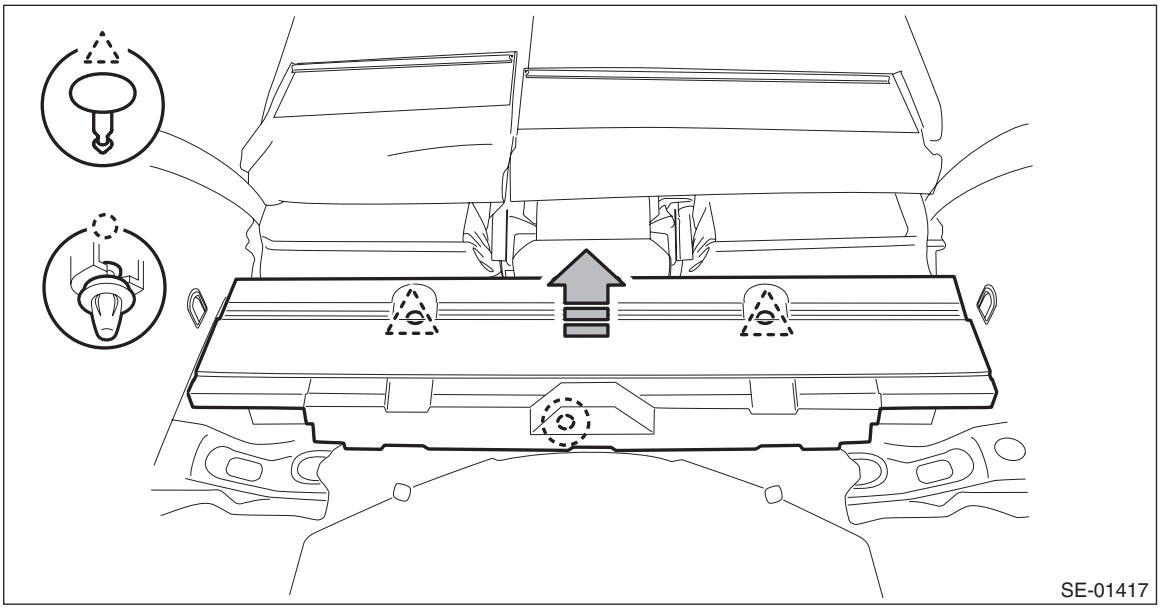
(2) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



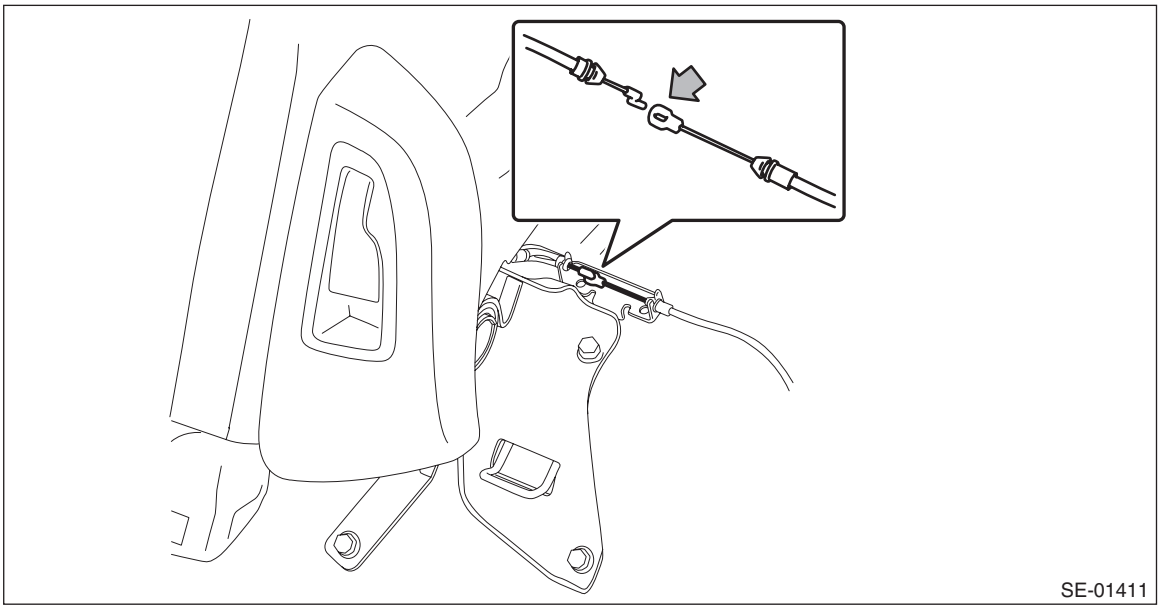
2) Tilt the backrest and turn over the seat backrest cover.



3) Remove the clips, and remove the rear floor mat - front.

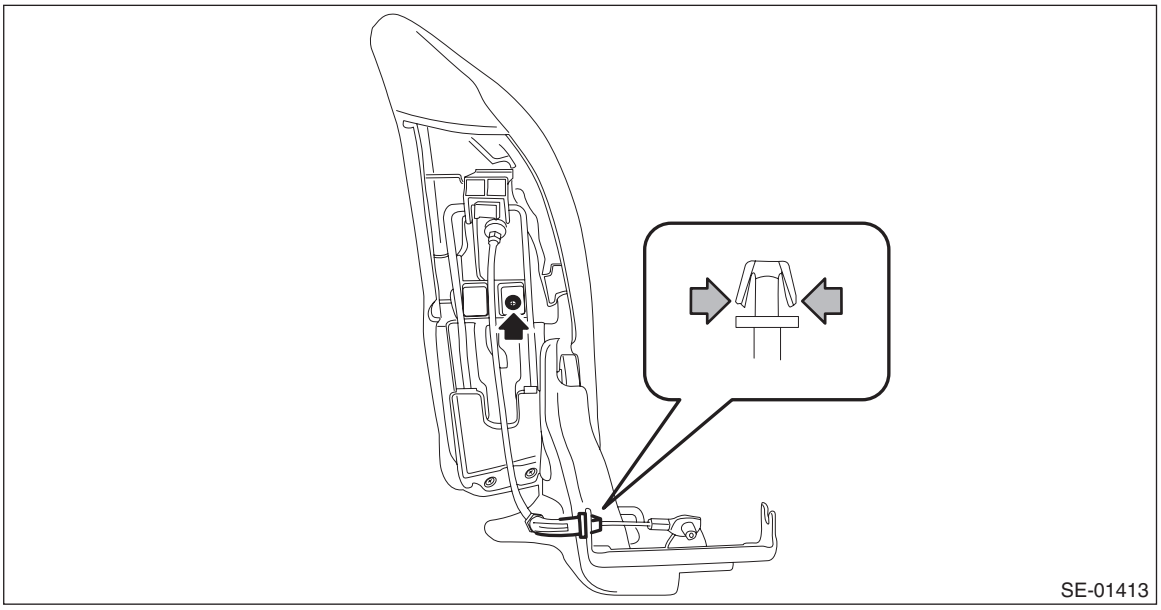


4) Remove the reclining lever assembly.
(1) Disconnect the backrest cable and reclining lever cable.



(2) Remove the screws.

(3) By pressing the wire cable claws, remove the reclining cable from the side hinge assembly.



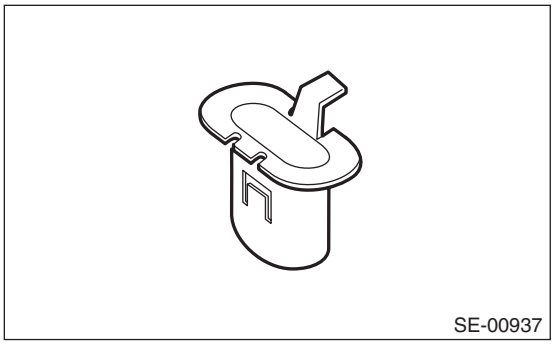
Backrest cable (OUTBACK model)

1) Remove the rear seat backrest assembly. <Ref. to SE-38, OUTBACK MODEL, REMOVAL, Rear Seat.>
2) Disassemble the backrest assembly and remove the backrest cable. <Ref. to SE-50, DISASSEMBLY, Rear Seat.>

B: INSTALLATION

Install each part in the reverse order of removal.

CAUTION:
If the hook is removed from vehicle body, replace the hook with the new part to avoid the deterioration of seat securing.



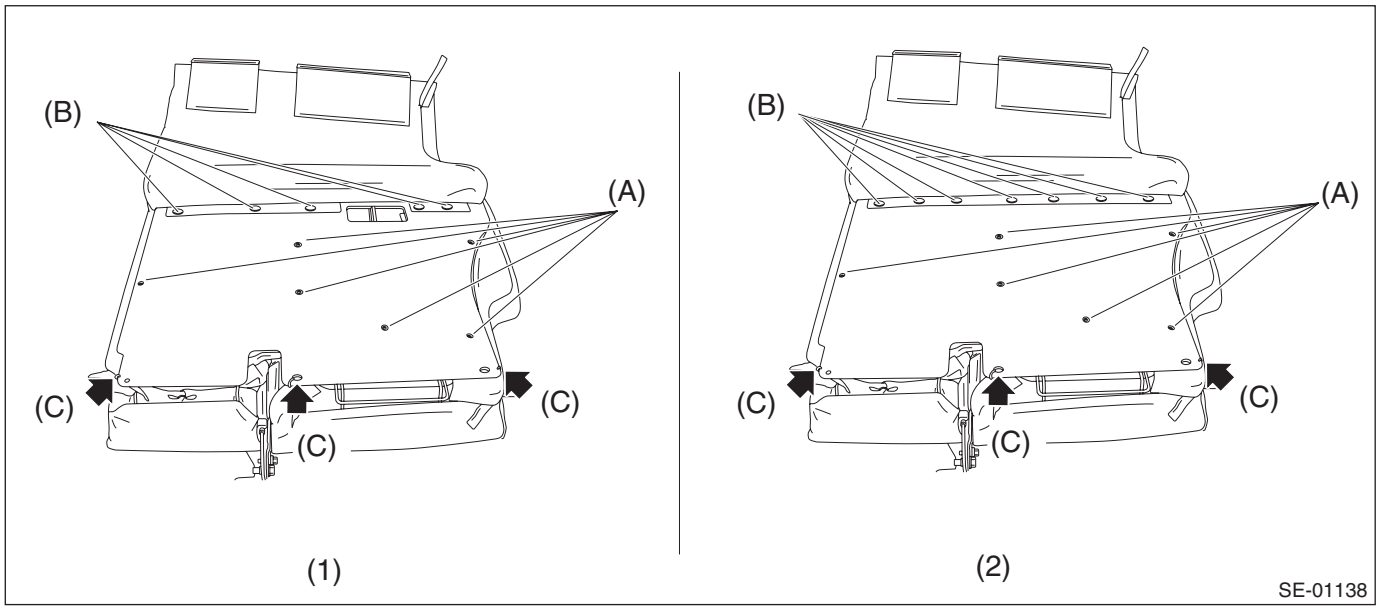
NOTE:
- After installing the backrest, make sure that each seat belt operates normally.
- Check that the remote lever and reclining lever operate normally.
- Make sure that they are properly secured on each hook on the vehicle side.

Tightening torque:
Refer to "COMPONENT" of "General Description".
Sedan model: <Ref. to SE-7, REAR SEAT (SEDAN MODEL), COMPONENT, General Description.>
OUTBACK model <Ref. to SE-8, REAR SEAT (OUTBACK MODEL), COMPONENT, General Description.>

C: DISASSEMBLY

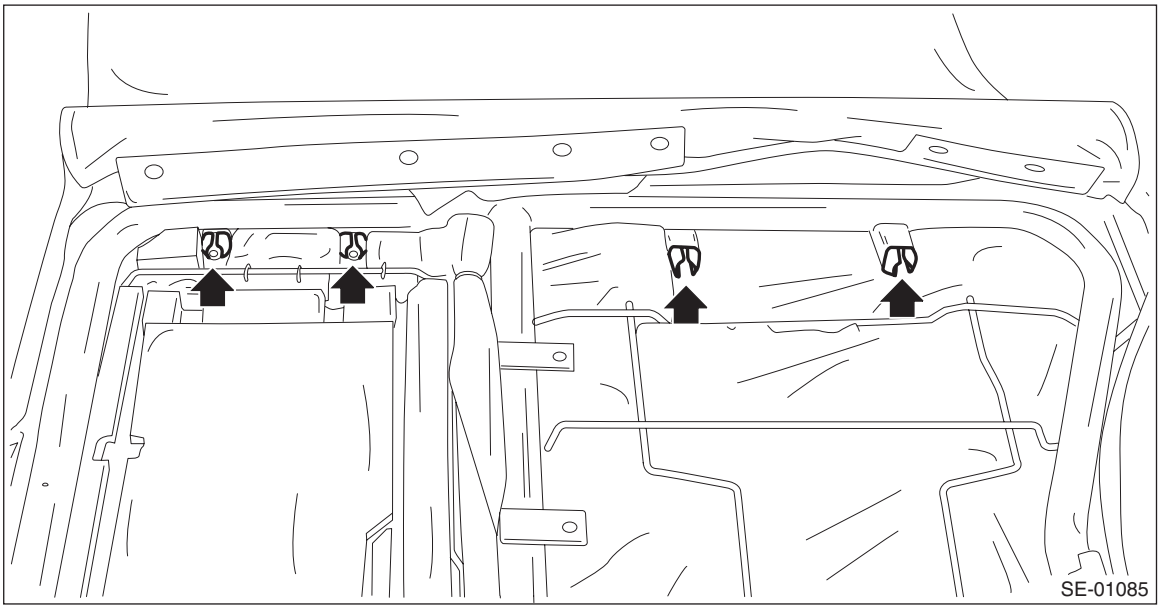
1) Remove the rear seat.
- Sedan model: <Ref. to SE-34, SEDAN MODEL, REMOVAL, Rear Seat.>
- OUTBACK model <Ref. to SE-38, OUTBACK MODEL, REMOVAL, Rear Seat.>

2) Remove the headrest.
3) Remove the backrest back board.
   (1) Remove the plastic fastener at the lower part of backrest assembly, and open the fastener at both side to turn over the backrest cover.
   (2) Remove the backrest striker cover. (Sedan model)
   (3) Remove the screws (A) and clips (B).
   (4) Remove the hog rings (C) and remove the backrest backboard.



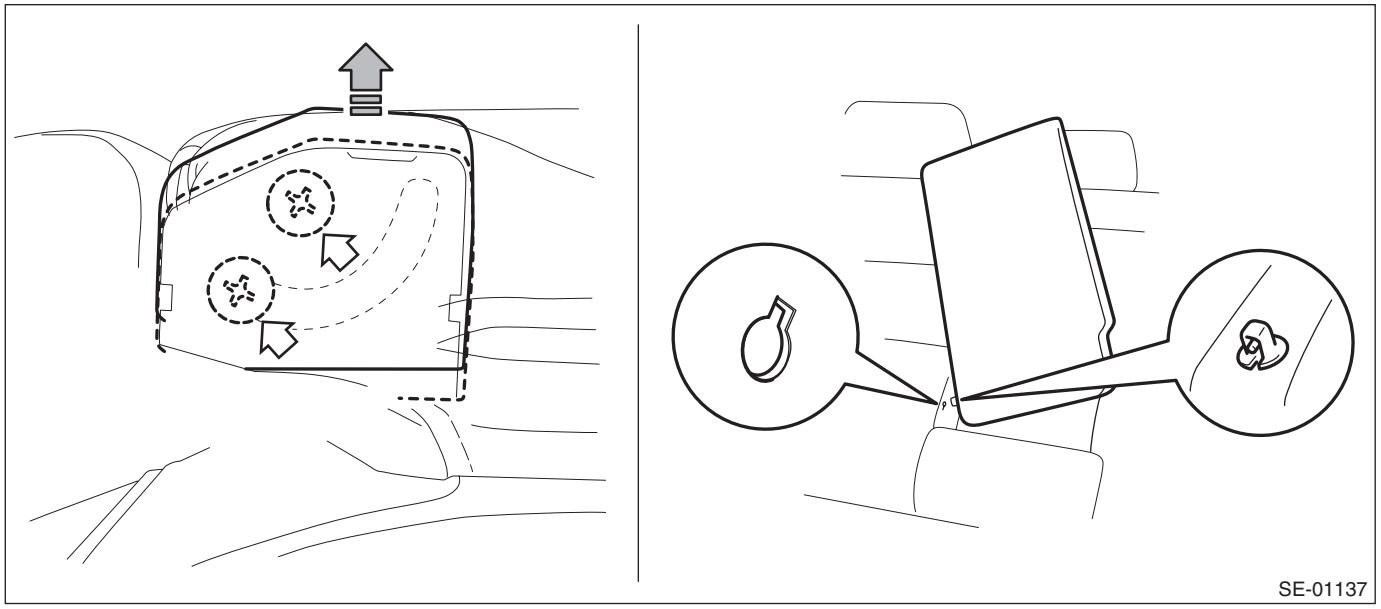
(1) Sedan model (2) OUTBACK model

4) Remove the headrest bushing.



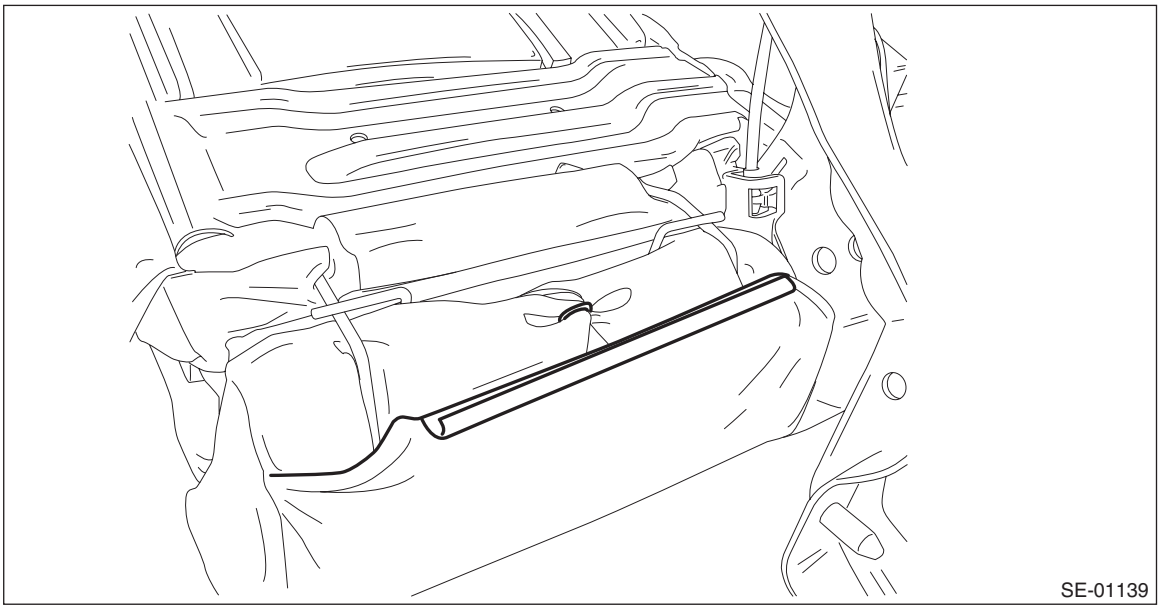
NOTE:
Catch the tip of headrest bushing with pliers and push it from inside seat to outside to remove it.

5) Remove the armrest assembly.
(1) Remove the armrest hinge cover by pulling it in the direction of arrow (black).
(2) Remove the screws, and remove the armrest.

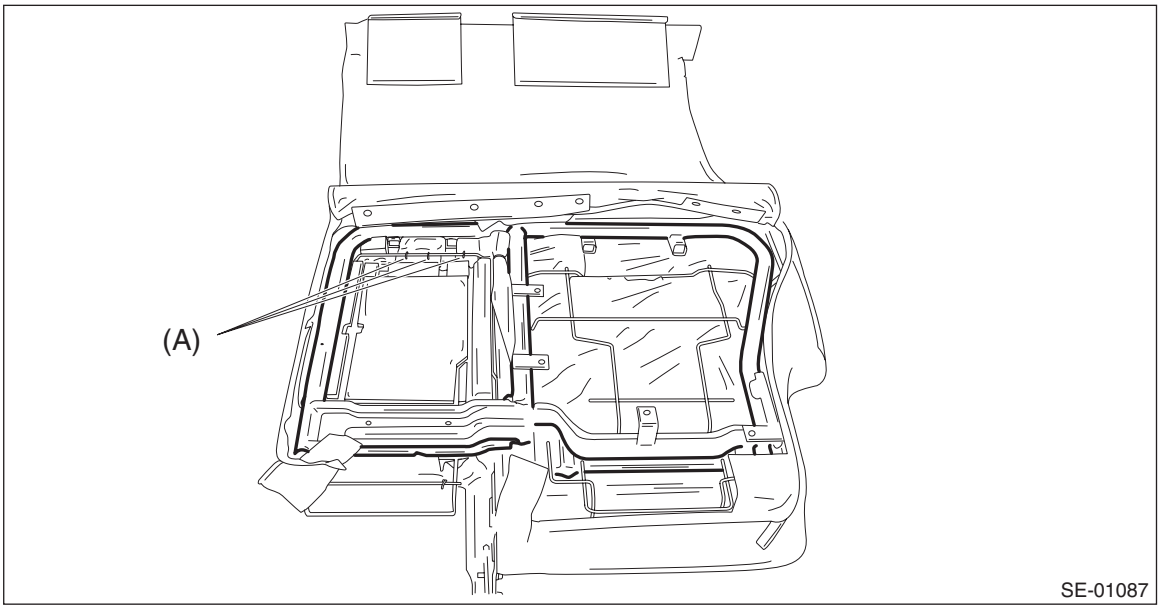


NOTE:
The armrests cannot be detached while the backrest assembly RH and armrest side pin positions are not aligned.

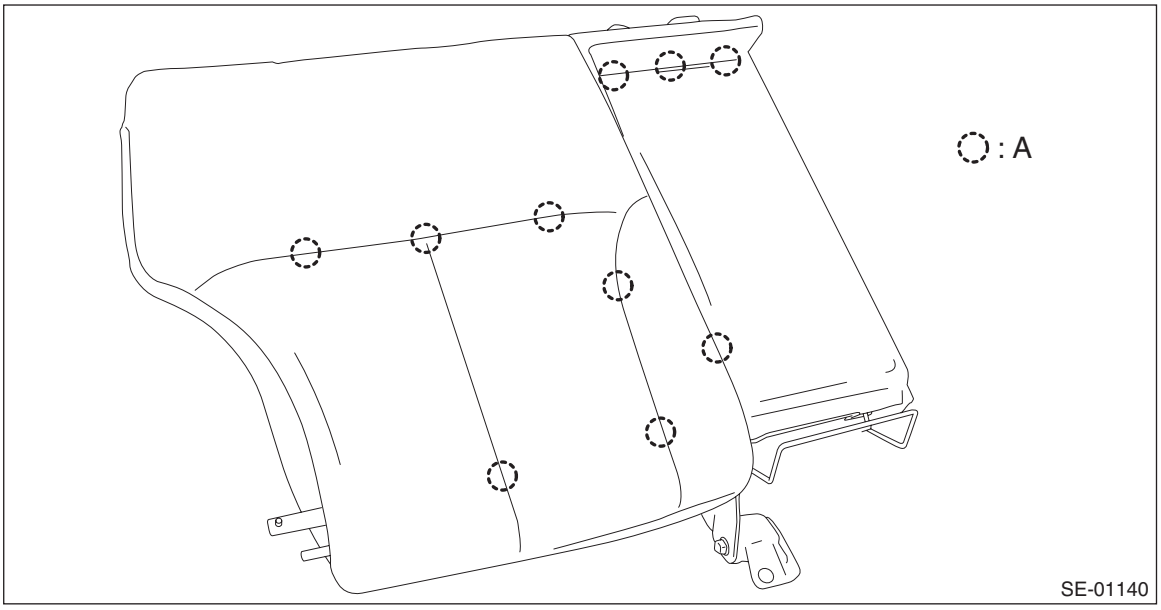
6) Remove the plastic hooks and hog rings, and remove the pad at lower side of armrest.



7) Remove the hog rings (A) and remove the backrest pad & frame assembly from the backrest assembly.

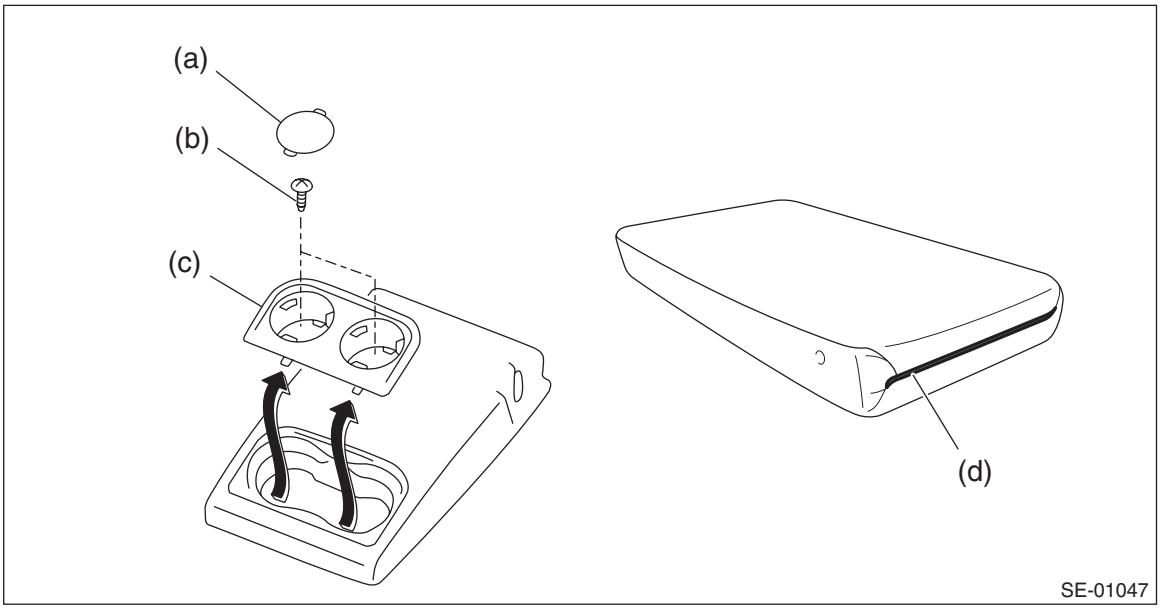


8) Remove the hog rings (A) on the front side of backrest, and then remove the backrest cover.

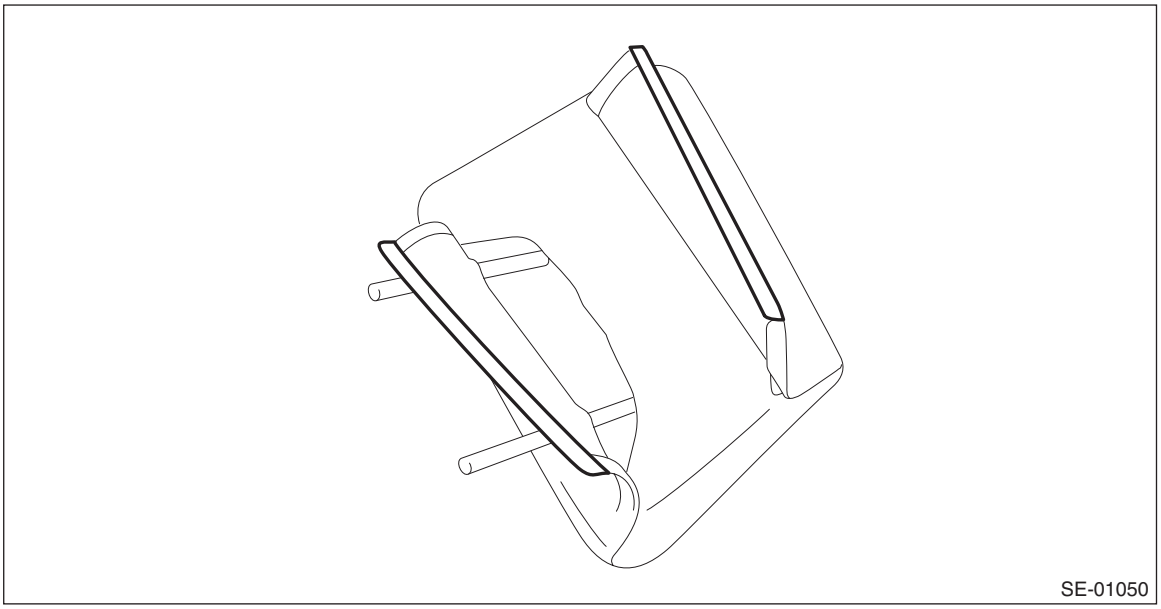


9) Referring to the step 2), disassemble the backrest assembly LH.

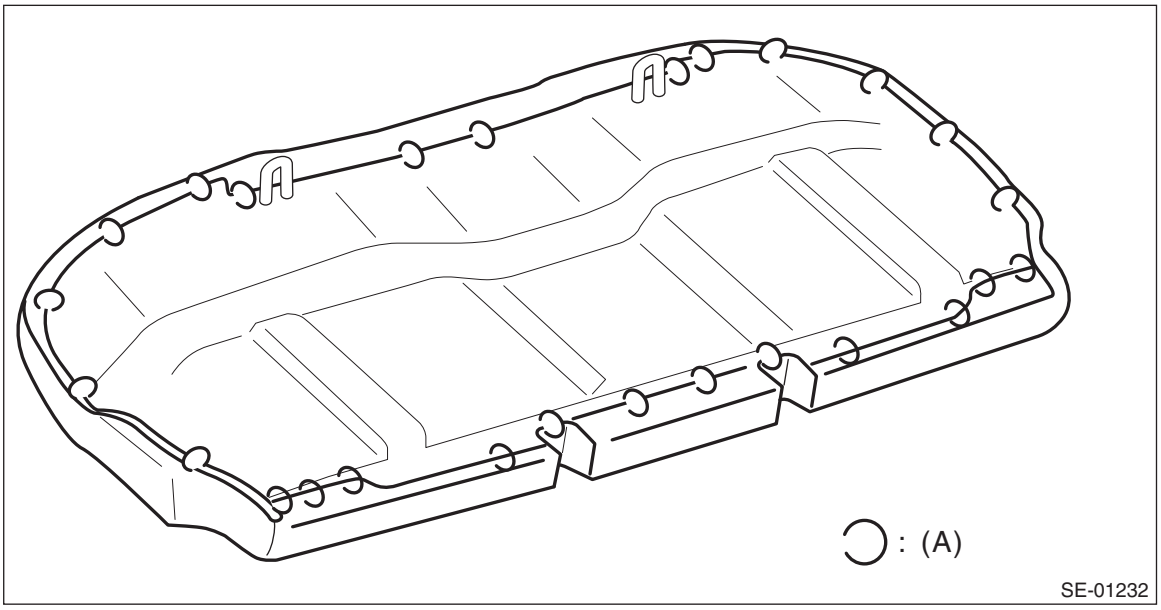
10) Remove the armrest cover.
(1) Take out the bottom sheets (a) from the cup holder and remove the screws (b).
(2) Remove the cup holder assembly (c).
(3) Detach the plastic fastener (d) and remove the armrest cover.



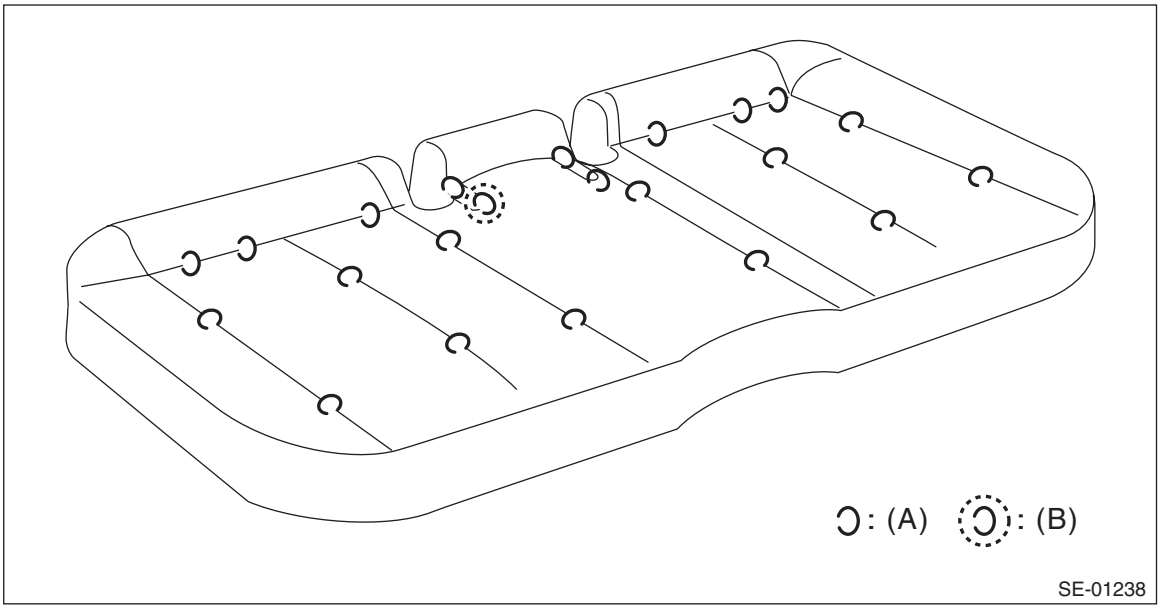
11) Detach the plastic fastener and hog ring, and then remove the headrest cover.



12) Remove the hog rings (A) on the rear side of the seat cushion.



13) Remove the hog rings (A), then remove the seat cushion cover.

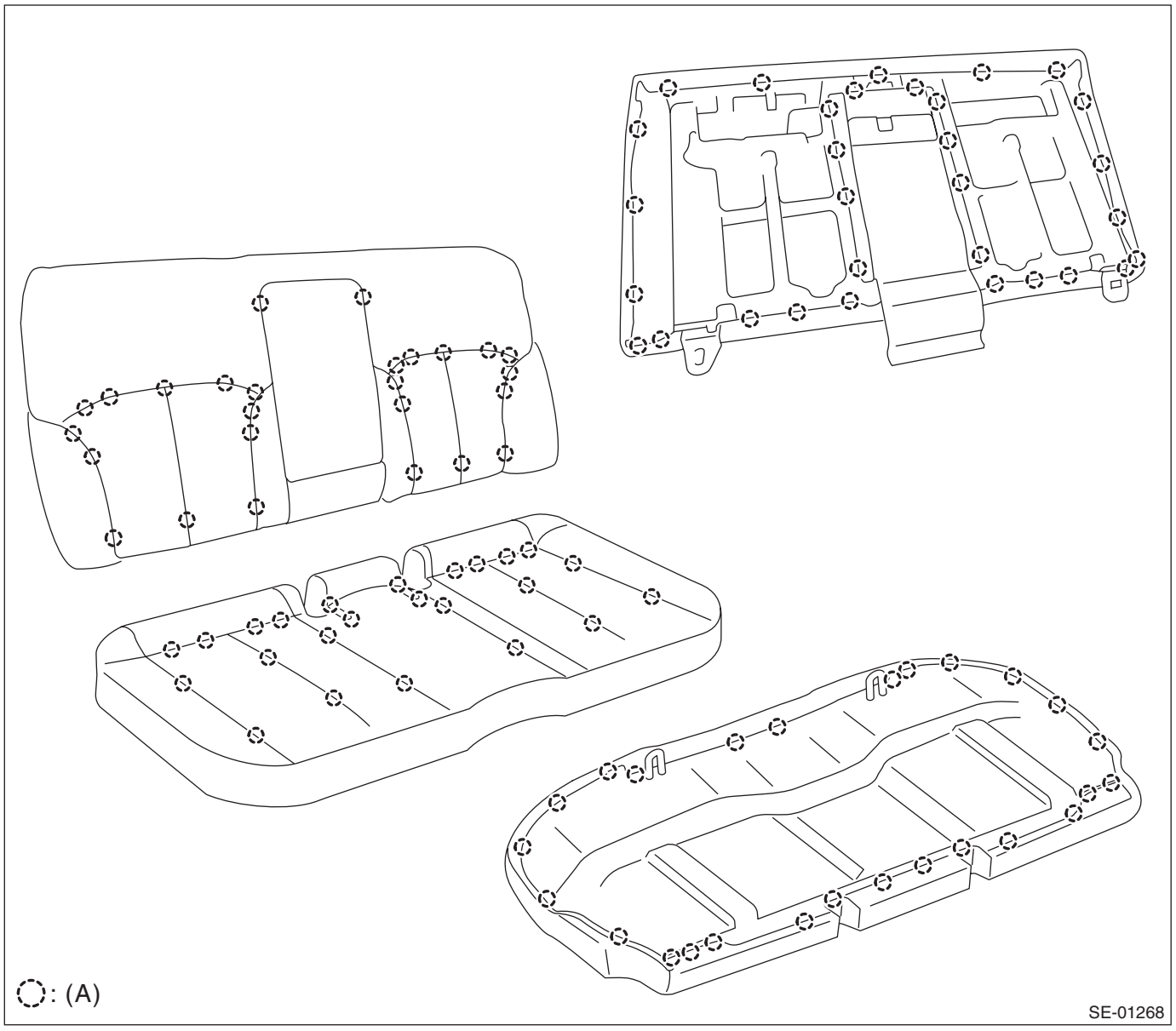


(A) Hog ring (B) OUTBACK model only

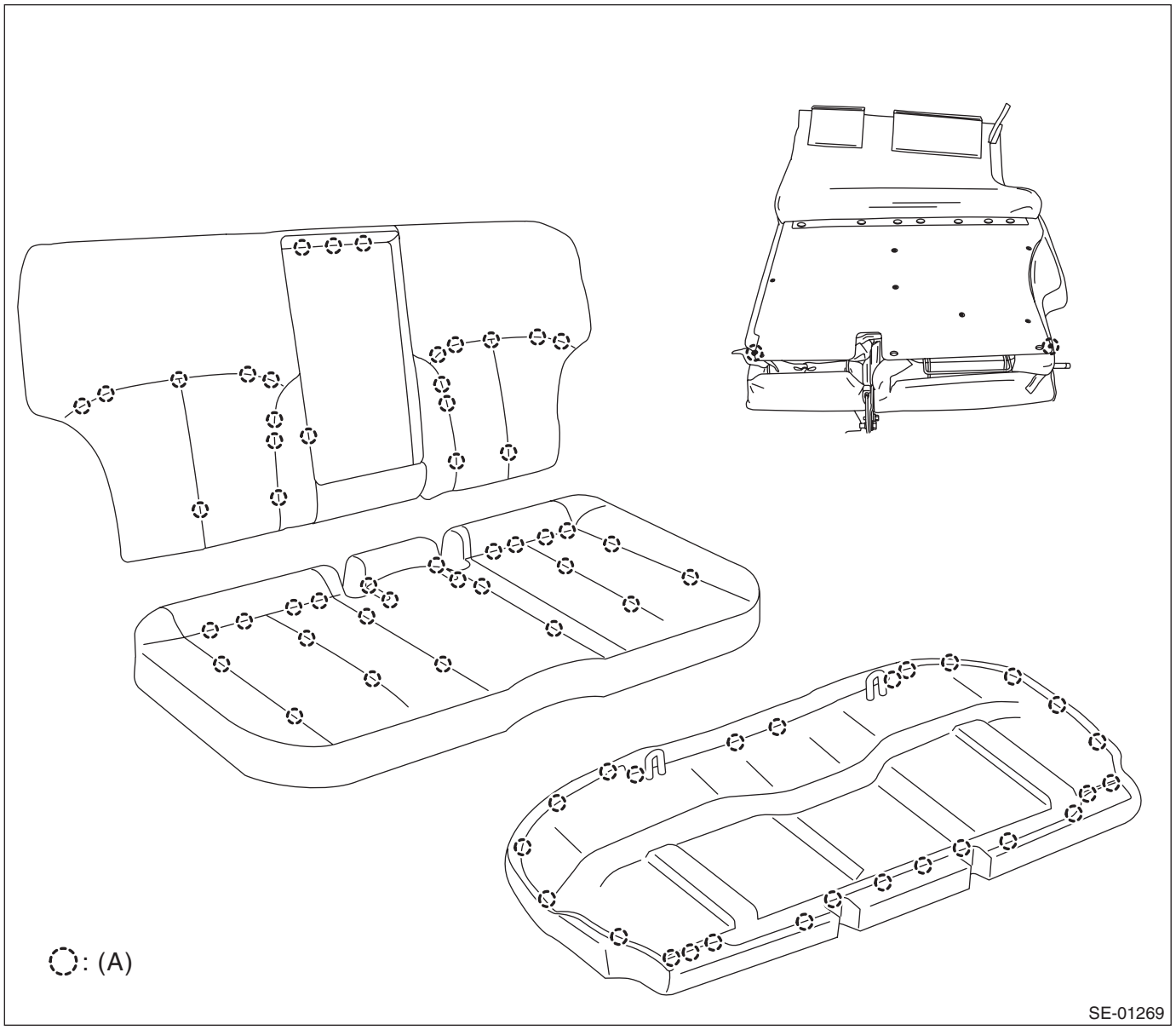
D: ASSEMBLY

CAUTION:
- **Do not reuse hog rings.**
- **Secure the hog ring using hog ring pliers.**
- **Install the hog rings to the specified points securely and make sure that there is no wrinkle or twisting on backrest cover.**

1) Assemble the seat cover in the same manner as the front seat. <Ref. to SE-28, ASSEMBLY, Front Seat.>
2) Make sure that all hog rings (A) are attached securely.
- Sedan model



- OUTBACK model



3) Assemble each part in the reverse order of disassembly.

NOTE:
- Do not contaminate or damage the cover.
- While installing the hog rings, prevent the seat from getting wrinkled.

Tightening torque:
Refer to "COMPONENT" of "General Description".
Sedan model: <Ref. to SE-7, REAR SEAT (SEDAN MODEL), COMPONENT, General Description.>
OUTBACK model: <Ref. to SE-8, REAR SEAT (OUTBACK MODEL), COMPONENT, General Description.>

4) Before installation, check the following items.
- No break and fray on seat cover.
- No fray or deformation on each wire cable.

5) Install each part in the reverse order of removal.

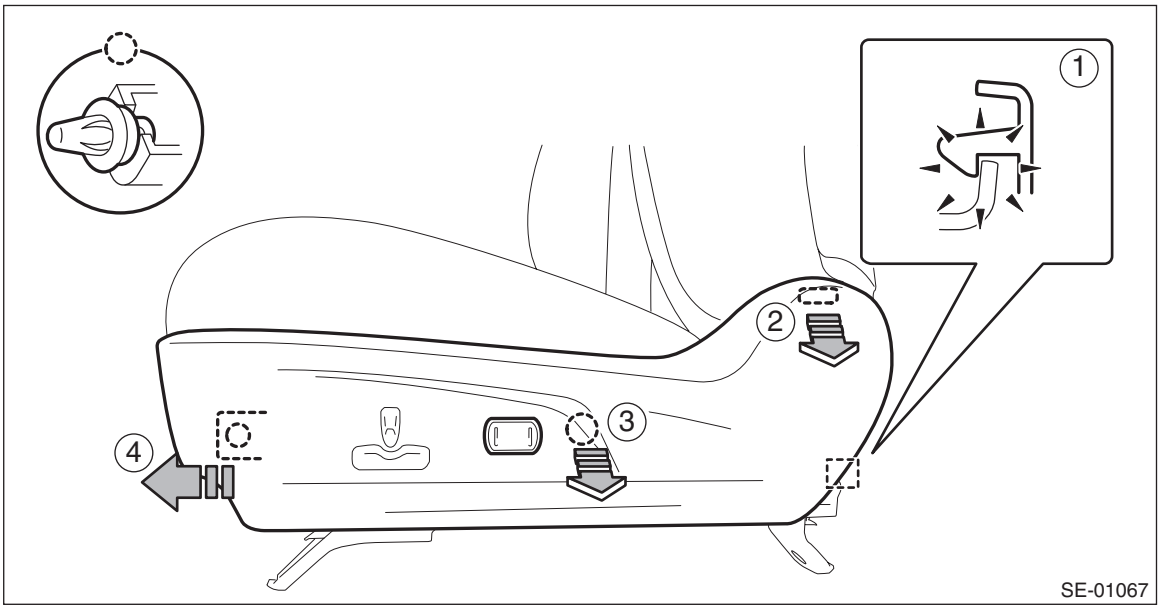
4. Power Seat System

A: REMOVAL

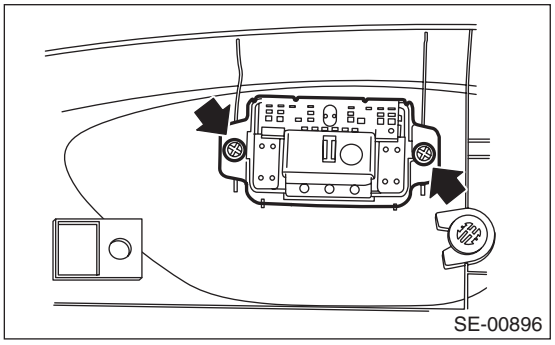
CAUTION:
When removing the front seat, Disconnect the ground cable from battery before disconnecting the side airbag module harness connector, and wait for 60 seconds before starting the operation.

1. POWER SEAT SWITCH

1) Remove the seat from vehicle. <Ref. to SE-10, REMOVAL, Front Seat.>
2) Remove the seat side cover OUT.
   (1) Release the claw in the rear section of the seat side cover.
   (2) Release the claw in the upper section of the seat side cover.
   (3) Remove the clip and release the claw in the front section of the seat side cover
   (4) Disconnect the power seat switch and lumber switch connectors and remove the seat side cover OUT.

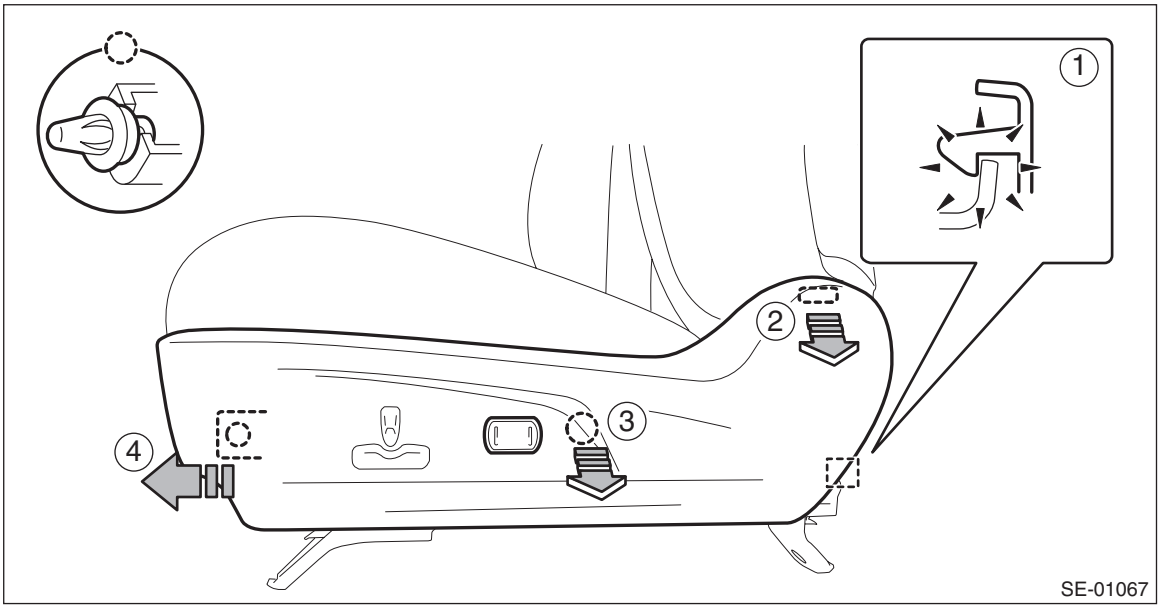


3) Remove the screws to remove the power seat switch assembly.

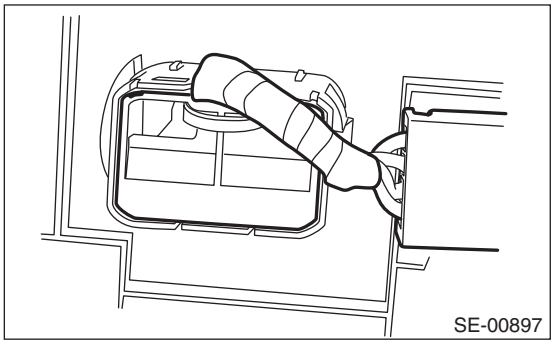


2. LUMBAR SWITCH

1) Remove the seat from vehicle. <Ref. to SE-10, REMOVAL, Front Seat.>
2) Remove the seat side cover OUT.
   (1) Release the claw in the rear section of the seat side cover.
   (2) Release the claw in the upper section of the seat side cover.
   (3) Remove the clip and release the claw in the front section of the seat side cover
   (4) Disconnect the power seat switch and lumber switch connectors and remove the seat side cover OUT.

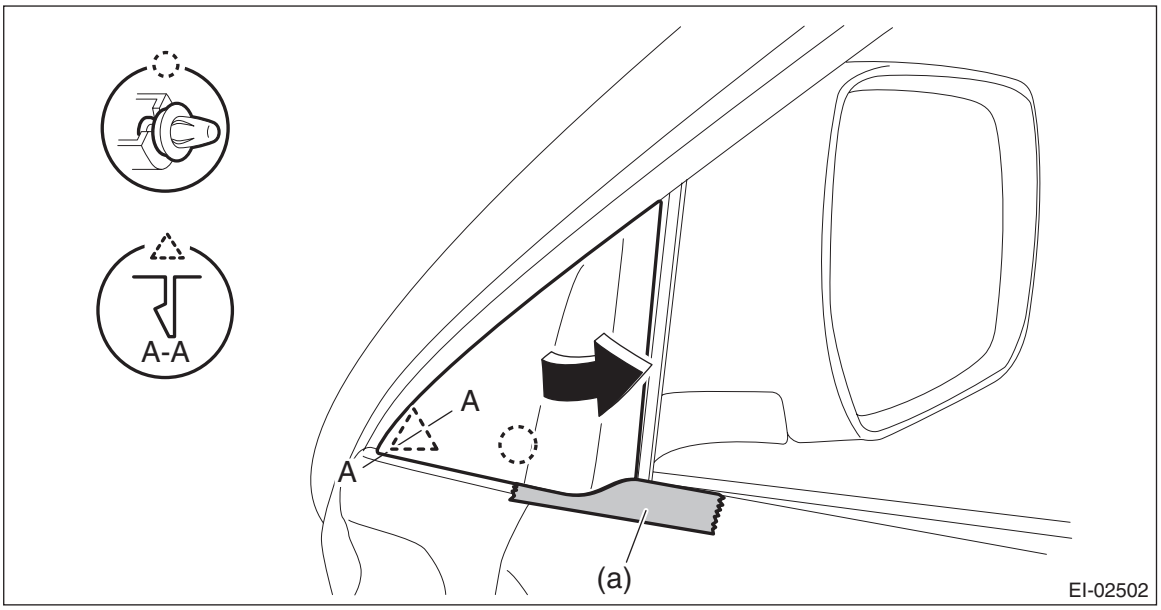


3) Disconnect the connector and remove the lumbar switch assembly.



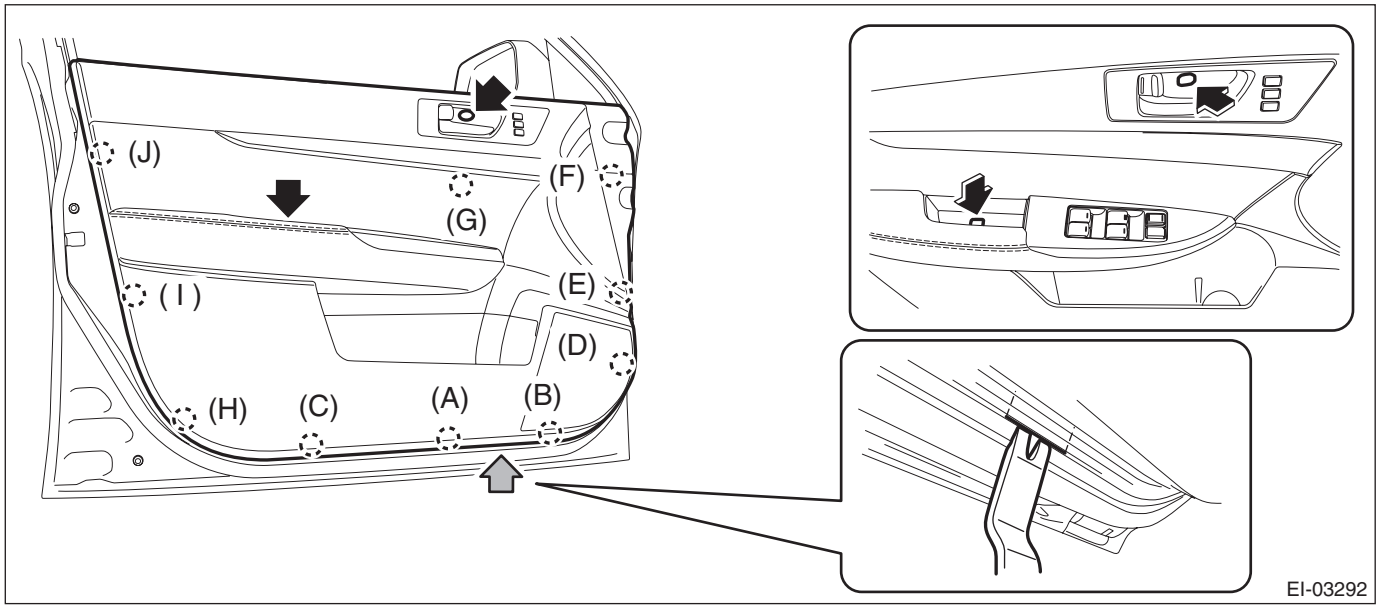
3. SEAT MEMORY SWITCH

1) Disconnect the ground cable from battery.
2) Remove the gusset cover.
   (1) Attach the protective tape (a) to the door trim.
   (2) Release the clips and claws, then detach the gusset cover.



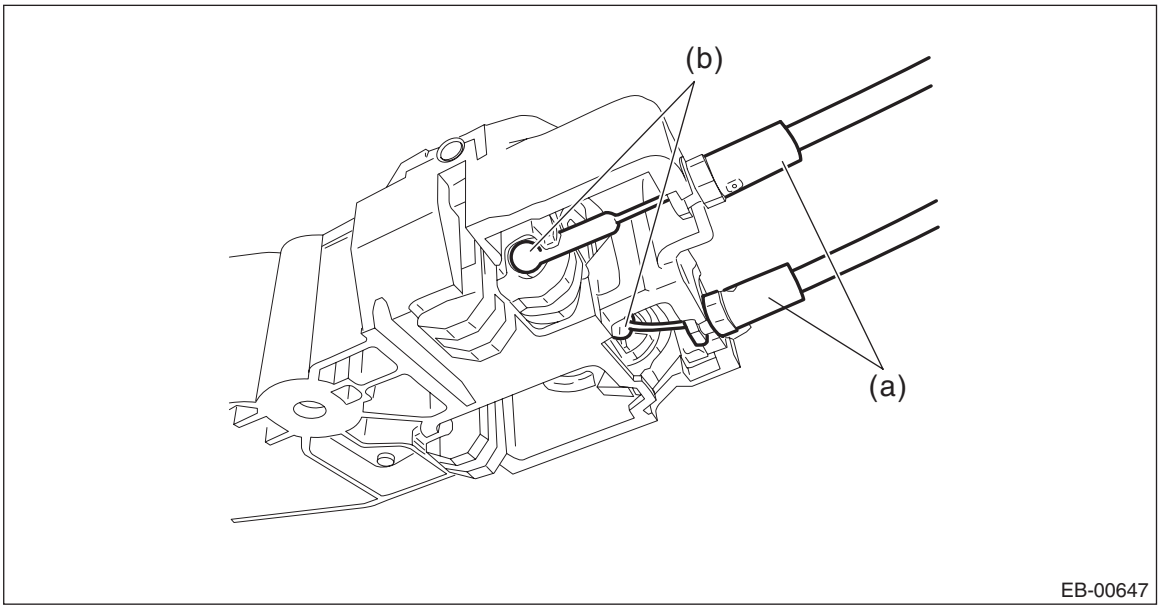
3) Remove the door trim assembly.
   (1) Open the cover and remove the screw.
   (2) Remove the clips in the order of (A) to (J) and remove the door trim assembly from the door panel.

CAUTION:
When removing the door trim, be sure to remove the clips in the correct order. Forcibly removing clips may damage the door panel assembly.



NOTE:
Insert a plastic clip remover into the slit at the bottom of the door trim, to lift the door trim.

(3) Remove the cables (a) and (b) from the cable holder of inner remote.

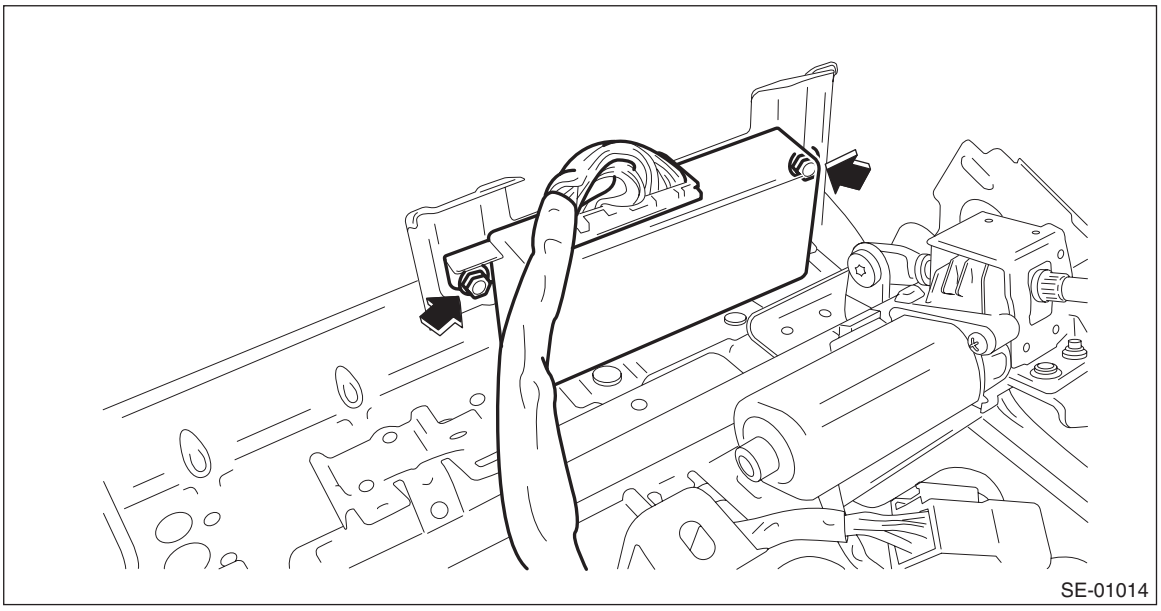


(4) Disconnect the harness connector and remove the door trim assembly.

4) Release the claws, and remove the seat memory switch assembly.

4. POWER SEAT CONTROL MODULE (SEAT WITH MEMORY FUNCTION)

1) Raise the seat cushion by operating the switch.
2) Remove the front seat from the vehicle.
3) Remove the power seat control module.
   (1) Release the hooks on seat front and turn over the cushion cover.
   (2) Remove the nuts, and remove the power seat control module.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Power seat control module: 5.9 N·m (0.60 kgf-m, 4.4 ft-lb)

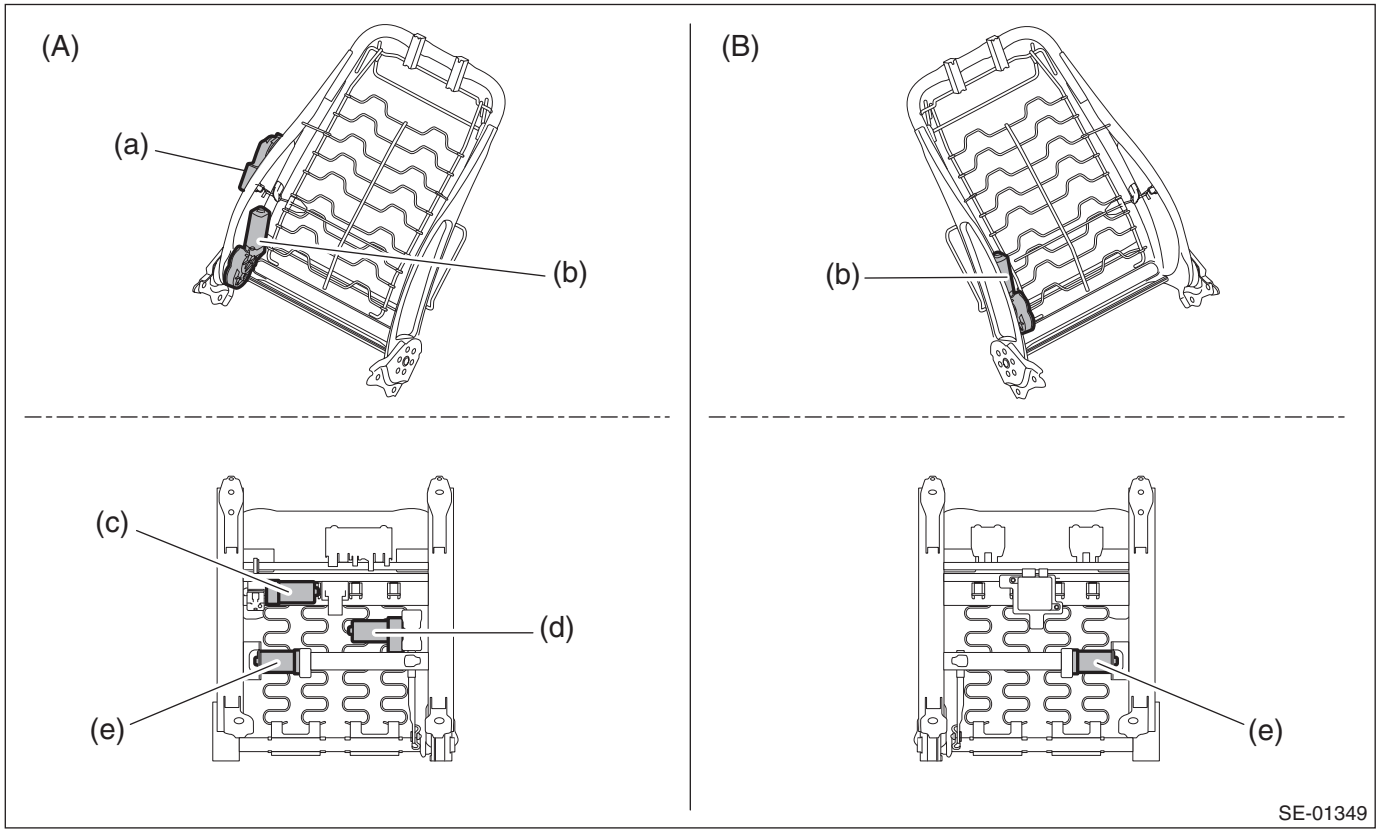
NOTE:
• The seat with memory function must be initialized after installed. <Ref. to SE-77, ADJUSTMENT, Power Seat System.>
• After replacing a seat with memory function and the power seat control module, check the following items.
1. Memory is reloaded when the ignition is ON and the select lever is shifted to “P” range.
2. Memory is not reloaded even if the seat memory switch is pressed, when the ignition is ON and the select lever is set to other than “P” range.
3. Memory is reloaded when the ignition is OFF and the driver’s door inner switch is pressed within 45 seconds after the door is opened.
4. Memory is reloaded automatically when the ignition is OFF and the driver’s door is opened after unlocked by access key. (model with smart key interlock function)

C: INSPECTION

1. WIRING DIAGRAM

Refer to “Power Seat” in WI section.
• Driver’s seat (without memory): <Ref. to WI-233, WITHOUT MEMORY, WIRING DIAGRAM, Power Seat System.>
• Driver’s seat (with memory): <Ref. to WI-235, WITH MEMORY, WIRING DIAGRAM, Power Seat System.>
• Passenger’s seat: <Ref. to WI-233, WIRING DIAGRAM, Power Seat System.>

2. NOTE



(A) Driver's seat
(B) Passenger's seat

(a) Lumber motor
(b) Reclining motor
(c) Tilt motor
(d) Lifter motor
(e) Slide motor

3. TROUBLE SYMPTOM

- Without memory function

Symptoms	Criteria
All functions do not operate. <Ref. to SE-67, ALL FUNCTIONS DO NOT OPERATE (WITHOUT MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Lumbar switch • Power seat harness • Body harness
A part of function does not operate. <Ref. to SE-67, SOME MOTORS DO NOT OPERATE (WITHOUT MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Lumbar switch • Power seat harness • Relevant motor

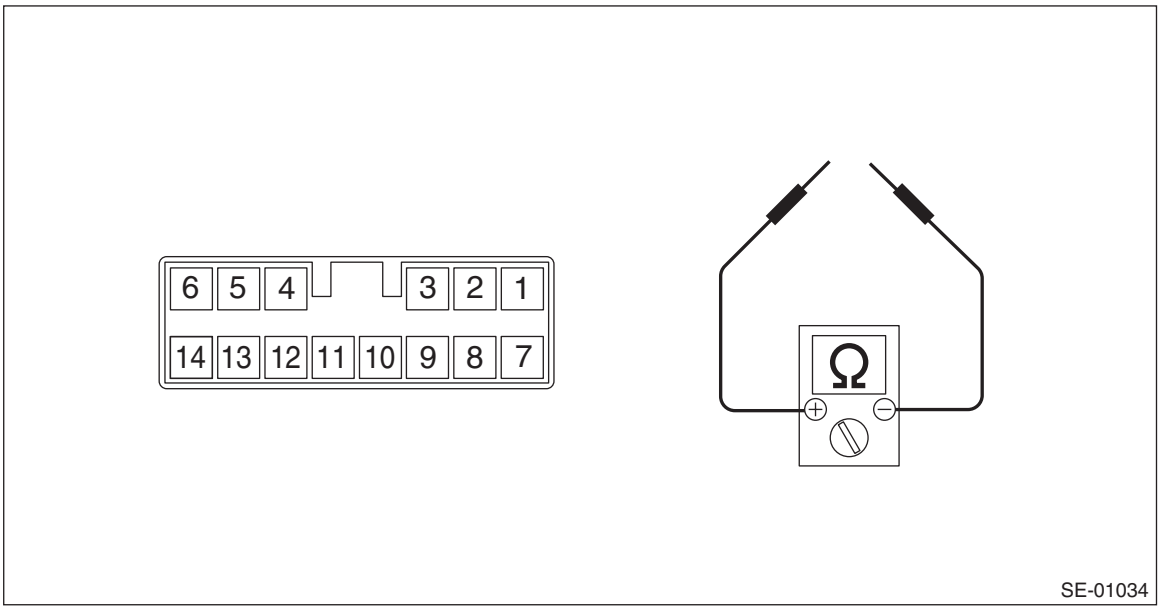
- With memory function

Symptoms	Criteria
Does not operate by manual operation. <Ref. to SE-70, IT DOES NOT FUNCTION WITH MANUAL OPERATION (WITH MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Lumbar switch • Power seat harness • Body harness • Relevant motor and encoder
A part of function does not operate. <Ref. to SE-71, SOME MOTORS DO NOT OPERATE (WITH MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Lumbar switch • Power seat harness • Relevant motor and encoder • Power seat control module
Fails to store the location to the memory <Ref. to SE-75, UNABLE TO SET POSITIONS INTO MEMORY (WITH MEMORY), INSPECTION, Power Seat System.>	• Memory switch • Power seat harness • Power seat control module
Restoring operation is impossible <Ref. to SE-75, UNABLE TO PERFORM THE RELOADING OPERATION (DRIVER'S SEAT WITH MEMORY), INSPECTION, Power Seat System.>	• Memory switch • Power seat control module • Motor and encoder • Power seat harness
No interlock with smart keyless <Ref. to SE-76, NO INTERLOCK WITH SMART KEYLESS, INSPECTION, Power Seat System.>	• Body integrated unit • Power seat control module • Motor and encoder • Power seat harness
Initial setting is impossible <Ref. to SE-77, UNABLE TO PERFORM INITIALIZATION, INSPECTION, Power Seat System.>	• Power seat harness • Power seat control module

4. CHECK POWER SEAT SWITCH

• Without memory function

Measure resistance between terminals while operating each switch.



- Driver's seat

Switch position	Terminal No.	Standard
Slide forward	7 and 14 8 and 13	Less than 10 Ω
Slide rearward	7 and 13 8 and 14	Less than 10 Ω
Tilt up	7 and 2 8 and 1	Less than 10 Ω
Tilt down	7 and 1 8 and 2	Less than 10 Ω
Lifter up	7 and 5 8 and 6	Less than 10 Ω
Lifter down	7 and 6 8 and 5	Less than 10 Ω
Reclining forward	7 and 3 8 and 4	Less than 10 Ω
Reclining rearward	7 and 4 8 and 3	Less than 10 Ω

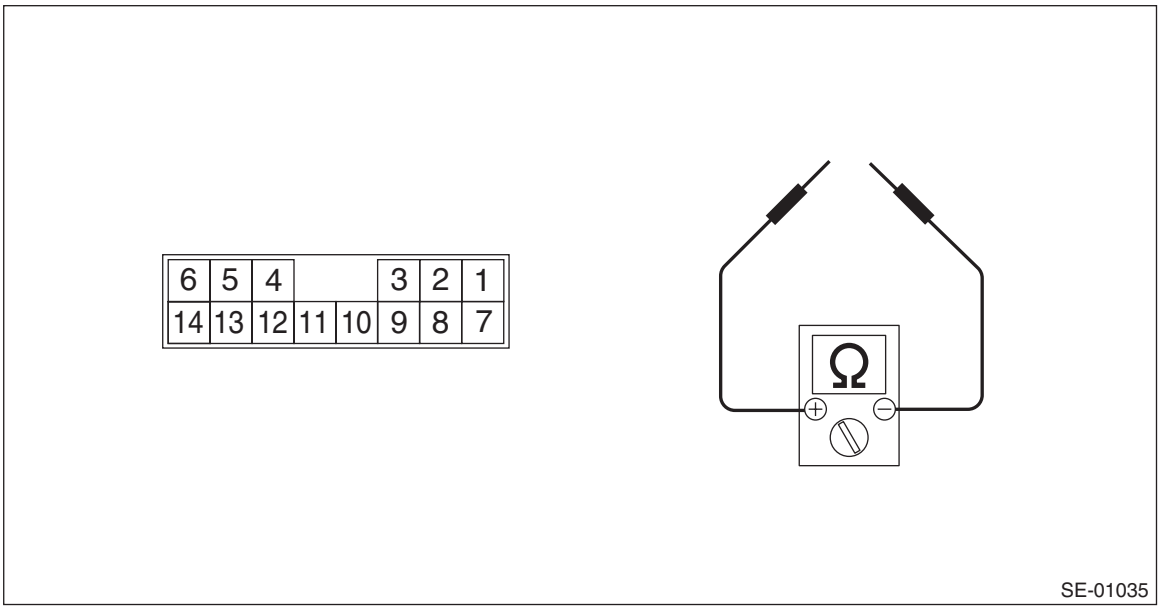
- Passenger's seat

Switch position	Terminal No.	Standard
Slide forward	7 and 13 8 and 14	Less than 10 Ω
Slide rearward	7 and 14 8 and 13	Less than 10 Ω
Reclining forward	7 and 4 8 and 3	Less than 10 Ω
Reclining rearward	7 and 3 8 and 4	Less than 10 Ω

Replace the power seat switch if the inspection result is not within the standard value.

- **With memory function**

Measure resistance between terminals while operating each switch.

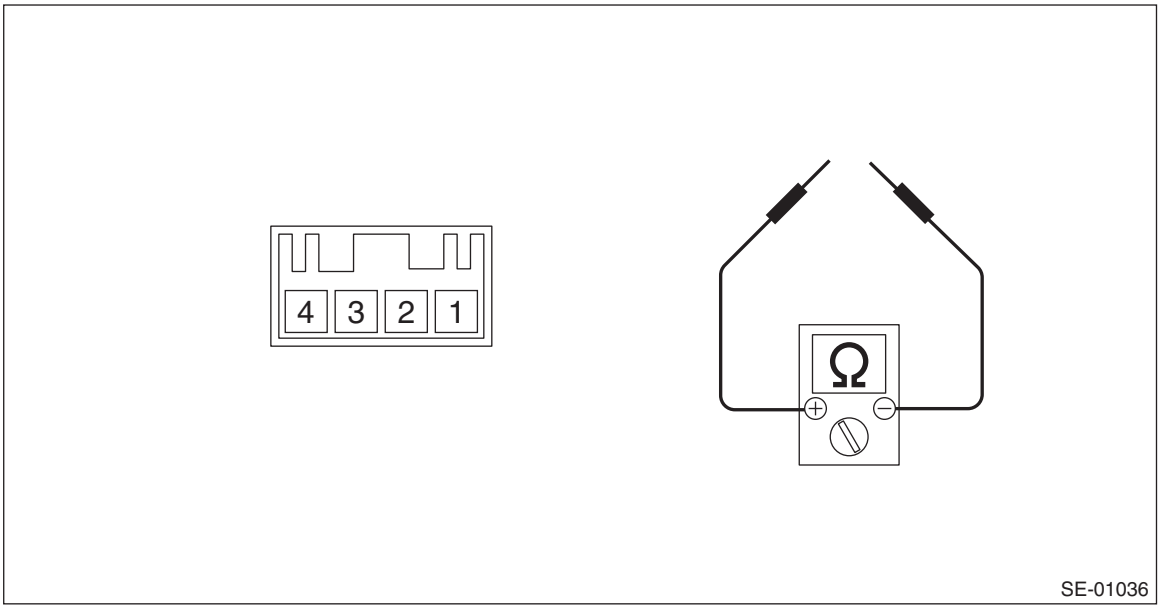


Switch position	Terminal No.	Standard
Slide forward	13 and 7	Less than 10 Ω
Slide rearward	14 and 7	Less than 10 Ω
Tilt up	2 and 7	Less than 10 Ω
Tilt down	1 and 7	Less than 10 Ω
Lifter up	5 and 7	Less than 10 Ω
Lifter down	6 and 7	Less than 10 Ω
Reclining forward	4 and 7	Less than 10 Ω
Reclining rearward	3 and 7	Less than 10 Ω

Replace the power seat switch if the inspection result is not within the standard value.

5. CHECK LUMBAR SWITCH

Measure resistance between terminals while operating each switch.

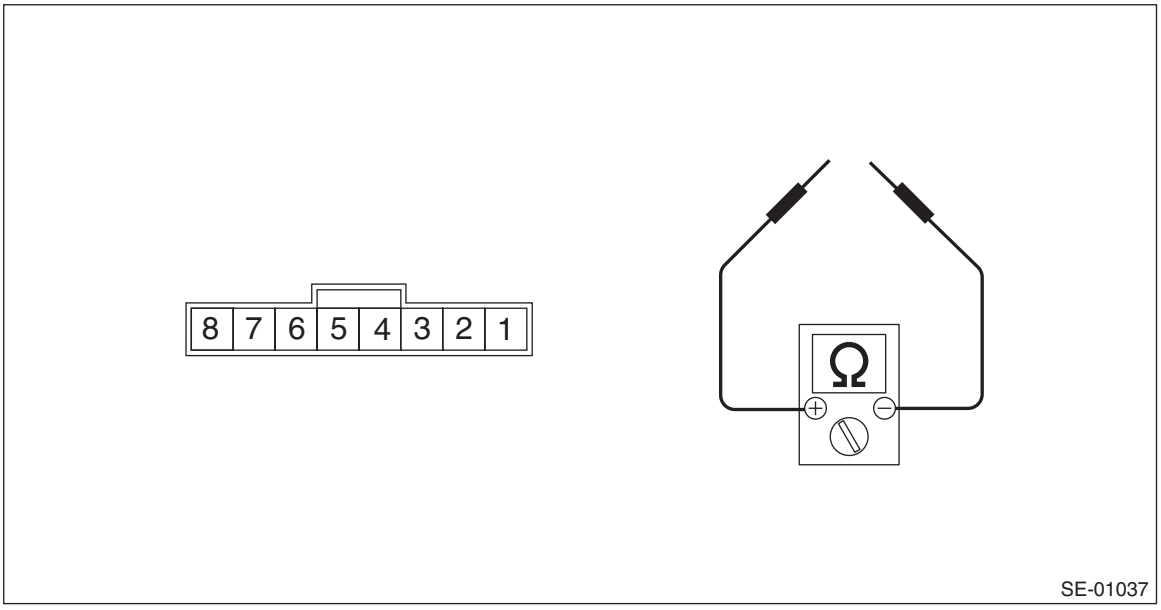


Switch position	Terminal No.	Standard
Lumbar forward	1 and 4 2 and 3	Less than 10 Ω
Lumbar backward	1 and 3 2 and 4	Less than 10 Ω

Replace the lumbar switch if the inspection result is not within the standard value.

6. CHECK MEMORY SWITCH (WITH MEMORY FUNCTION)

Measure resistance between terminals while operating each switch.



Switch position	Terminal No.	Standard
Memory 1	2 and 1	Less than 10 Ω
Memory 2	3 and 1	Less than 10 Ω
Set	8 and 1	Less than 10 Ω

Replace the memory switch if the inspection result is not within the standard value.

7. ALL FUNCTIONS DO NOT OPERATE (WITHOUT MEMORY)

	Step	Check	Yes	No
1	**CHECK SEAT FUNCTIONS.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fails to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-67, SOME MOTORS DO NOT OPERATE (WITHOUT MEMORY), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***Driver's seat*** ***(R369) No. 7 (+) — Chassis ground (–):*** ***Passenger's seat*** ***(R190) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between power seat switch harness connector and chassis ground. ***Connector & terminal*** ***Driver's seat*** ***(R369) No. 8 — Chassis ground:*** ***Passenger's seat*** ***(R190) No. 8 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the power seat switch assembly.	Check body harness.

8. SOME MOTORS DO NOT OPERATE (WITHOUT MEMORY)

- Slide operation failure

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between power seat switch connector and slide motor connector. ***Connector & terminal*** ***Driver's seat*** ***(R370) No. 2 — (R369) No. 13:*** ***(R370) No. 1 — (R369) No. 14:*** ***Passenger's seat*** ***(R192) No. 2 — (R190) No. 13:*** ***(R192) No. 1 — (R190) No. 14:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.

	Step	Check	Yes	No
3	**CHECK SLIDE MOTOR.** 1) Connect the power seat switch connector and slide motor connector. 2) Apply 12 V to the slide motor and check the motor rotation. ***Connector & terminal*** ***Driver's seat*** ***(R369) No. 13 (+) — (R369) No. 14 (–):*** ***(R369) No. 14 (+) — (R369) No. 13 (–):*** ***Passenger's seat*** ***(R190) No. 13 (+) — (R190) No. 14 (–):*** ***(R190) No. 14 (+) — (R190) No. 13 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in slide rail.	Slide motor problem. Replace the seat cushion frame assembly.

- Malfunction of tilt operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and tilt motor connector. 2) Measure the resistance between power seat switch connector and tilt motor connector. ***Connector & terminal*** ***Driver's seat*** ***(R372) No. 2 — (R369) No. 1:*** ***(R372) No. 1 — (R369) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK TILT MOTOR.** 1) Connect the power seat switch connector and tilt motor connector. 2) Apply 12 V to the tilt motor and check the motor rotation. ***Connector & terminal*** ***Driver's seat*** ***(R369) No. 1 (+) — (R369) No. 2 (–):*** ***(R369) No. 2 (+) — (R369) No. 1 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in tilt mechanism.	Tilt motor problem. Replace the seat cushion frame assembly.

- Malfunction of lifter operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.

	Step	Check	Yes	No
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and lifter motor connector. 2) Measure the resistance between power seat switch connector and lifter motor connector. ***Connector & terminal*** ***Driver's seat*** ***(R371) No. 2 — (R369) No. 6:*** ***(R371) No. 1 — (R369) No. 5:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK LIFTER MOTOR.** 1) Connect the power seat switch connector and lifter motor connector. 2) Apply 12 V voltage to the lifter motor and check the motor rotation. ***Connector & terminal*** ***Driver's seat*** ***(R369) No. 6 (+) — (R369) No. 5 (–):*** ***(R369) No. 5 (+) — (R369) No. 6 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in lifter mechanism.	Lifter motor problem. Replace the seat cushion frame assembly.

- Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between power seat switch connector and reclining motor connector. ***Connector & terminal*** ***Driver's seat*** ***(R375) No. 2 — (R369) No. 4:*** ***(R375) No. 1 — (R369) No. 3:*** ***Passenger's seat*** ***(R368) No. 2 — (R190) No. 4:*** ***(R368) No. 1 — (R190) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK RECLINING MOTOR.** 1) Connect the power seat switch connector and reclining motor connector. 2) Apply 12 V voltage to the reclining motor and check the motor rotation. ***Connector & terminal*** ***Driver's seat*** ***(R369) No. 4 (+) — (R369) No. 3 (–):*** ***(R369) No. 3 (+) — (R369) No. 4 (–):*** ***Passenger's seat*** ***(R190) No. 4 (+) — (R190) No. 3 (–):*** ***(R190) No. 3 (+) — (R190) No. 4 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in reclining hinge.	Reclining motor problem. Replace the backrest frame assembly.

- Malfunction of lumbar operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of lumbar switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lumbar forward and lumbar backward. <Ref. to SE-66, CHECK LUMBAR SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the lumbar switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the lumbar switch connector and lumbar motor connector. 2) Measure the resistance between lumbar switch connector and lumbar motor connector. ***Connector & terminal*** ***Driver's seat*** ***(R379) No. 1 — (R376) No. 4:*** ***(R379) No. 2 — (R376) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK LUMBAR MOTOR.** 1) Connect the lumbar switch connector and lumbar motor connector. 2) Apply 12 V voltage to the lumbar motor and check the motor rotation. ***Connector & terminal*** ***Driver's seat*** ***(R376) No. 4 (+) — (R376) No. 3 (–):*** ***(R376) No. 3 (+) — (R376) No. 4 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in lumbar mechanism.	Lumbar motor problem. Replace the backrest frame assembly.

9. IT DOES NOT FUNCTION WITH MANUAL OPERATION (WITH MEMORY)

	Step	Check	Yes	No
1	**CHECK SEAT FUNCTIONS.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fail to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-71, SOME MOTORS DO NOT OPERATE (WITH MEMORY), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the power seat control module connector. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R388) No. 10 (+) — Chassis ground (–):*** ***(R389) No. 8 (+) — Chassis ground (–):*** ***(R389) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between power seat control module harness connector and chassis ground. ***Connector & terminal*** ***(R389) No. 14 — Chassis ground:*** ***(R389) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check body harness.

	Step	Check	Yes	No
5	**CHECK IGNITION CIRCUIT.** Measure the voltage between harness connector and chassis ground while turning the ignition switch to ON. ***Connector & terminal*** ***(R388) No. 11 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Check body harness.
6	**CHECK TRANSMISSION CIRCUITS.** Measure the resistance between harness connector and chassis ground under the following condition. • AT/CVT model: Shift the select lever to "P" position. • MT model: Pull parking brake lever. ***Connector & terminal*** ***(R388) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **7**.	Check body harness.
7	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Replace the power seat control module.	Replace the power seat switch assembly.

10.SOME MOTORS DO NOT OPERATE (WITH MEMORY)

• Slide operation failure

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the slide motor rotation while moving the switch to slide forward and slide backward.	Does the motor operate at least 1 second when the switch is operated?	Go to step **2**.	Encoder defection. Replace the seat cushion frame assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is the inspection result normal?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between the power seat control module connector and power seat switch connector. ***Connector & terminal*** ***(R388) No. 7 — (R369) No. 13:*** ***(R388) No. 6 — (R369) No. 14:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the slide motor connector. 2) Measure the resistance between power seat control module connector and slide motor connector. ***Connector & terminal*** ***(R389) No. 15 — (R370) No. 2:*** ***(R389) No. 16 — (R370) No. 1:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.

	Step	Check	Yes	No
5	**CHECK SLIDE MOTOR.** 1) Connect the slide motor connector. 2) Apply battery voltage to the power seat control module connector and check the motor rotation. ***Connector & terminal*** ***(R389) No. 15 (+) — (R389) No. 16 (–):*** ***(R389) No. 16 (+) — (R389) No. 15 (–):***	Does the motor rotate normally?	Replace the power seat control module.	Slide motor problem. Replace the seat cushion frame assembly.

- Malfunction of tilt operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the tilt motor rotation while moving the switch to tilt up and tilt down.	Does the motor operate at least 1 second when the switch is operated?	Go to step **2**.	Encoder defection. Replace the seat cushion frame assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is the inspection result normal?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and tilt motor connector. 2) Measure the resistance between the power seat control module connector and power seat switch connector. ***Connector & terminal*** ***(R388) No. 5 — (R369) No. 2:*** ***(R388) No. 4 — (R369) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the tilt motor connector. 2) Measure the resistance between power seat control module connector and tilt motor connector. ***Connector & terminal*** ***(R389) No. 5 — (R372) No. 2:*** ***(R389) No. 4 — (R372) No. 1:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK TILT MOTOR.** 1) Connect the tilt motor connector. 2) Apply battery voltage to the power seat control module connector and check the motor rotation. ***Connector & terminal*** ***(R389) No. 5 (+) — (R389) No. 4 (–):*** ***(R389) No. 4 (+) — (R389) No. 5 (–):***	Does the motor rotate normally?	Replace the power seat control module.	Tilt motor problem. Replace the seat cushion frame assembly.

• Malfunction of lifter operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the lifter motor rotation while turning the switch to lifter up and lifter down.	Does the motor operate at least 1 second when the switch is operated?	Go to step **2**.	Encoder defection. Replace the seat cushion frame assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is the inspection result normal?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and lifter motor connector. 2) Measure the resistance between the power seat control module connector and power seat switch connector. ***Connector & terminal*** ***(R388) No. 3 — (R369) No. 5:*** ***(R388) No. 2 — (R369) No. 6:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the lifter motor connector. 2) Measure the resistance between power seat control module connector and lifter motor connector. ***Connector & terminal*** ***(R389) No. 2 — (R371) No. 2:*** ***(R389) No. 1 — (R371) No. 1:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK LIFTER MOTOR.** 1) Connect the lifter motor connector. 2) Apply battery voltage to the power seat control module connector and check the motor rotation. ***Connector & terminal*** ***(R389) No. 2 (+) — (R389) No. 1 (–):*** ***(R389) No. 1 (+) — (R389) No. 2 (–):***	Does the motor rotate normally?	Replace the power seat control module.	Lifter motor problem. Replace the seat cushion frame assembly.

• Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the reclining motor rotation while moving the switch to reclining forward and reclining backward.	Does the motor operate at least 1 second when the switch is operated?	Go to step **2**.	Encoder defection. Replace the backrest frame assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is the inspection result normal?	Go to step **3**.	Replace the power seat switch assembly.

	Step	Check	Yes	No
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between the power seat control module connector and power seat switch connector. ***Connector & terminal*** ***(R388) No. 9 — (R369) No. 4:*** ***(R388) No. 8 — (R369) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the slide motor connector. 2) Measure the resistance between power seat control module connector and reclining motor connector. ***Connector & terminal*** ***(R389) No. 6 — (R375) No. 1:*** ***(R389) No. 7 — (R375) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK RECLINING MOTOR.** 1) Connect the slide motor connector. 2) Apply battery voltage to the power seat control module connector and check the motor rotation. ***Connector & terminal*** ***(R389) No. 6 (+) — (R389) No. 7 (–):*** ***(R389) No. 7 (+) — (R389) No. 6 (–):***	Does the motor rotate normally?	Replace the power seat control module.	Reclining motor problem. Replace the backrest frame assembly.

- Malfunction of lumbar operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of lumbar switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lumbar forward and lumbar backward. <Ref. to SE-66, CHECK LUMBAR SWITCH, INSPECTION, Power Seat System.>	Is the inspection result normal?	Go to step **2**.	Replace the lumbar switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the lumbar switch connector and lumbar motor connector. 2) Measure the resistance between lumbar switch connector and lumbar motor connector. ***Connector & terminal*** ***(R376) No. 4 — (R379) No. 1:*** ***(R376) No. 3 — (R379) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK LUMBAR MOTOR.** 1) Connect the lumbar switch connector and lumbar motor connector. 2) Apply 12 V voltage to the lumbar motor and check the motor rotation. ***Connector & terminal*** ***(R376) No. 4 (+) — (R376) No. 3 (–):*** ***(R376) No. 3 (+) — (R376) No. 4 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in lumbar mechanism.	Lumbar motor problem. Replace the backrest frame assembly.

11.UNABLE TO SET POSITIONS INTO MEMORY (WITH MEMORY)

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the harness connector of memory switch assembly. 2) Check memory switch. <Ref. to SE-66, CHECK MEMORY SWITCH (WITH MEMORY FUNCTION), INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the memory switch assembly.
2	**CHECK HARNESS.** Measure the resistance between the memory switch connector and power seat control module connector. ***Connector & terminal*** ***(R388) No. 13 — (D143) No. 2:*** ***(R388) No. 14 — (D143) No. 3:*** ***(R388) No. 15 — (D143) No. 8:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK COMBINATION METER.** Turn the ignition switch to ON and check the indicator light inside the meter. • AT/CVT model: Select lever shifted to "P" position.	Does the indicator display "P"?	Go to step **4**.	Check the combination meter. <Ref. to IDI-14, INSPECTION, Combination Meter System.>
4	**SYSTEM INITIALIZATION.** Initialize memory seat system. <Ref. to SE-77, ADJUSTMENT, Power Seat System.>	Is the initialization completed successfully?	Replace the power seat control module.	<Ref. to SE-77, UNABLE TO PERFORM INITIALIZATION, INSPECTION, Power Seat System.>

12.UNABLE TO PERFORM THE RELOADING OPERATION (DRIVER'S SEAT WITH MEMORY)

	Step	Check	Yes	No
1	**CHECK MEMORY FUNCTIONS.** Perform the memory operation of the seat position, and check the memory replay operation.	Does the seat position memory replay correctly?	Memory function is normal. It is considered that the memory was cleared because the voltage falls below the operation-ensured voltage temporarily during memory restoration or manual operation. It operates normally by registering a memory.	Go to step **2**.
2	**CHECK MEMORY FUNCTIONS.** At the memory operation of step 1, check the beep sound (once).	Was it possible to confirm the beep sound?	Go to step **3**.	<Ref. to SE-75, UNABLE TO SET POSITIONS INTO MEMORY (WITH MEMORY), INSPECTION, Power Seat System.>

	Step	Check	Yes	No
3	**CHECK SWITCH.** 1) Disconnect the harness connector of memory switch assembly. 2) Check memory switch. <Ref. to SE-66, CHECK MEMORY SWITCH (WITH MEMORY FUNCTION), INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **4**.	Replace the memory switch assembly.
4	**CHECK HARNESS.** Measure the resistance between the memory switch connector and power seat control module connector. ***Connector & terminal*** ***(R388) No. 13 — (D143) No. 2:*** ***(R388) No. 14 — (D143) No. 3:*** ***(R388) No. 15 — (D143) No. 8:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK COMBINATION METER.** Turn the ignition switch to ON and check the indicator light inside the meter. • AT/CVT model: Select lever shifted to "P" position.	Does the indicator display "P"?	Go to step **6**.	Check the combination meter. <Ref. to IDI-14, INSPECTION, Combination Meter System.>
6	**CHECK OPERATION.** Operate all power seat switches to check operation of each motor.	Does each motor rotate for one second or more when operating each switch?	Replace the power seat control module.	Encoder defection. Replace the appropriate motor as a frame assembly.

13.NO INTERLOCK WITH SMART KEYLESS

	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is a DTC detected?	Perform a check according to the DTC.	Go to step **2**.
2	**CHECK MEMORY FUNCTIONS.** Perform the memory operation of the seat position, and check the memory replay operation.	Does the seat position memory replay correctly?	Function is normal. It is considered that the memory was cleared because the voltage falls below the operation-ensured voltage temporarily during memory restoration or manual operation. It operates normally by registering a memory.	Perform the check item for "UNABLE TO PERFORM THE RELOADING OPERATION (DRIVER'S SEAT WITH MEMORY)".

14.UNABLE TO PERFORM INITIALIZATION

	Step	Check	Yes	No
1	**CHECK OPERATION.** Operate all power seat switches to check operation of each motor.	Does each motor rotate for one second or more when operating each switch?	Go to step **2**.	Encoder defection. Replace the appropriate motor as a frame assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure resistance between all terminals of power seat switch assembly. <Ref. to SE-63, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Replace the power seat control module.	Replace the power seat switch assembly.

D: ADJUSTMENT

NOTE:
System calibration is necessary for driver's side seat with memory function only.

1. CONDITIONS FOR INITIALIZATION

The power seat control module must be initialized if the following conditions are met.
- The seat is removed from vehicle.
- Power seat control module is replaced.
- Slide rail assembly or backrest frame assembly is removed or replaced.
- Pulse generated when seat is moved do not match with the amount of actual travel. (When memory is not correctly reloaded.)

2. INITIALIZATION PROCEDURES

NOTE:
- Initialize the records inside the module by performing all the following steps regardless the item order.
- With each seat locked*, operating switches for 3 seconds make the buzzer sound once.
- If initialization is done after completing all items, the buzzer sounds three times when the last operation is completed and the switch is turned on then off.

1) Move the seat rearward using the slide switch, and keep the seat lock* status for three seconds or more.
2) Move the seat downward using tilt switch, and keep the seat lock* status for three seconds or more.
3) Move the seat downward using lifter switch, and keep the seat lock* status for three seconds or more.
4) Move the seat forward using reclining switch, and keep the seat lock* status for three seconds or more.

*: Seat lock is the status that there is no pulse output from the encoder within the specified period of time although it reaches the movable position end.

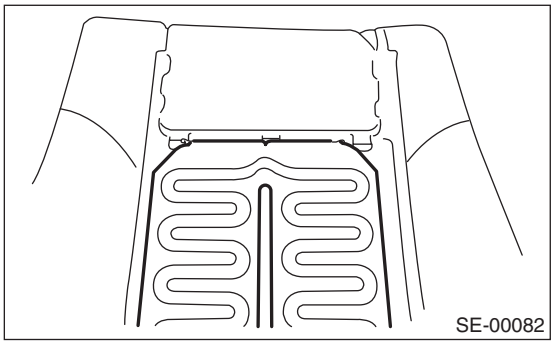
NOTE:
When the following conditions are met, the initializing operation is cancelled even though the procedure is carried out halfway.
- Interval between each initialization procedure of 1) to 4) exceeds 10 seconds.
- If any of initialization procedures 1) to 4) are not performed.
- The battery runs out or the voltage to the power seat control module falls out of the operation range during initialization.

5. Seat Heater System

A: REMOVAL

1. SEAT HEATER UNIT

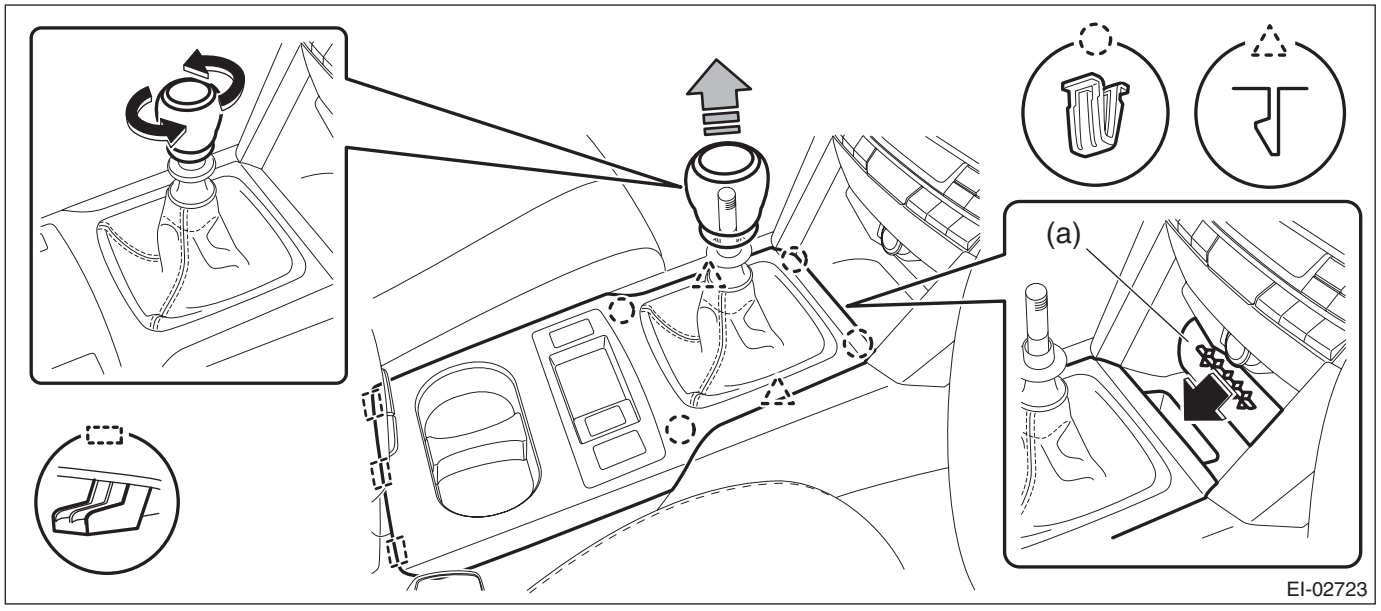
1) Remove the front seats. <Ref. to SE-10, REMOVAL, Front Seat.>
2) Remove the backrest cover of front seat and seat cushion cover. <Ref. to SE-12, DISASSEMBLY, Front Seat.>
3) Remove the seat heater unit.



2. SEAT HEATER SWITCH

1) Disconnect the ground cable from battery.
2) Remove the console front cover assembly.

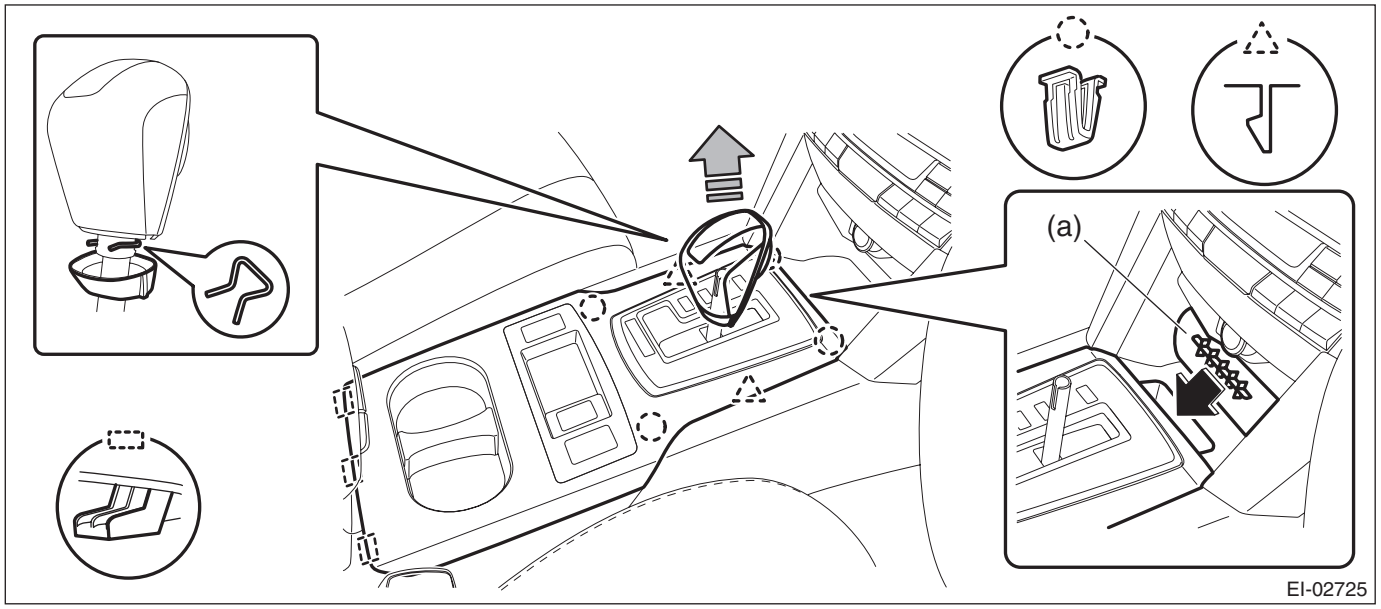
- MT model
  1. Remove the shift knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

- AT model / CVT model
  1. Remove the select lever knob.
     a. Lower the cover grip AT.
     b. Remove the clamp grip pin, then remove the select lever knob.
  2. Release the clips and claws, then pull up the console front cover assembly.



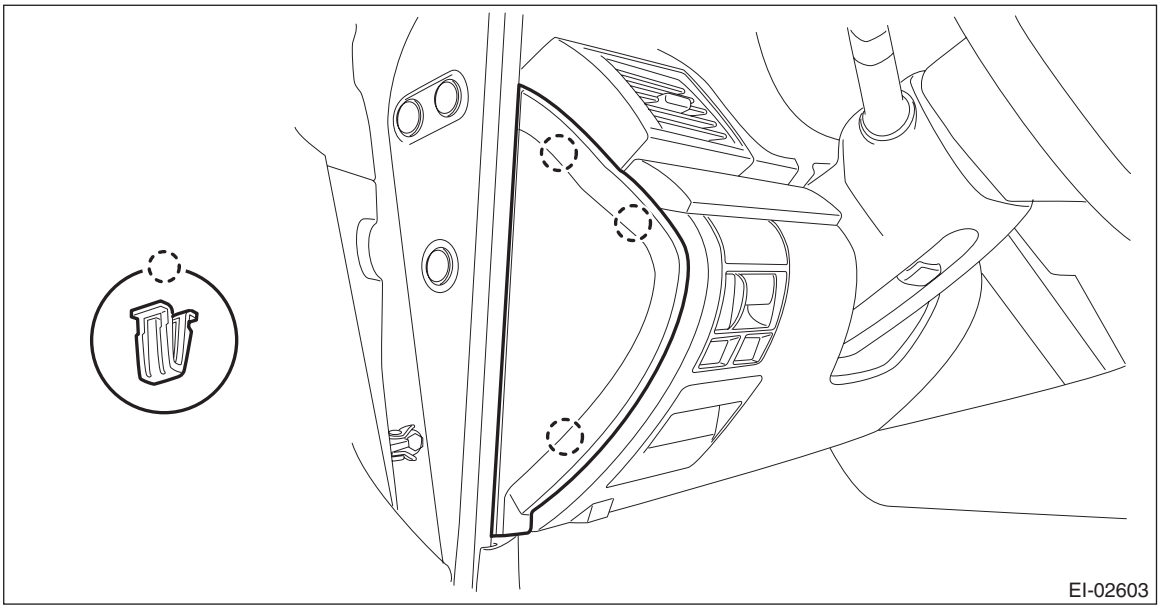
NOTE:
Turn over the front center pocket mat (a) and pull up the console front cover from the slit.

  3. Disconnect the harness connector and remove the console front cover assembly.

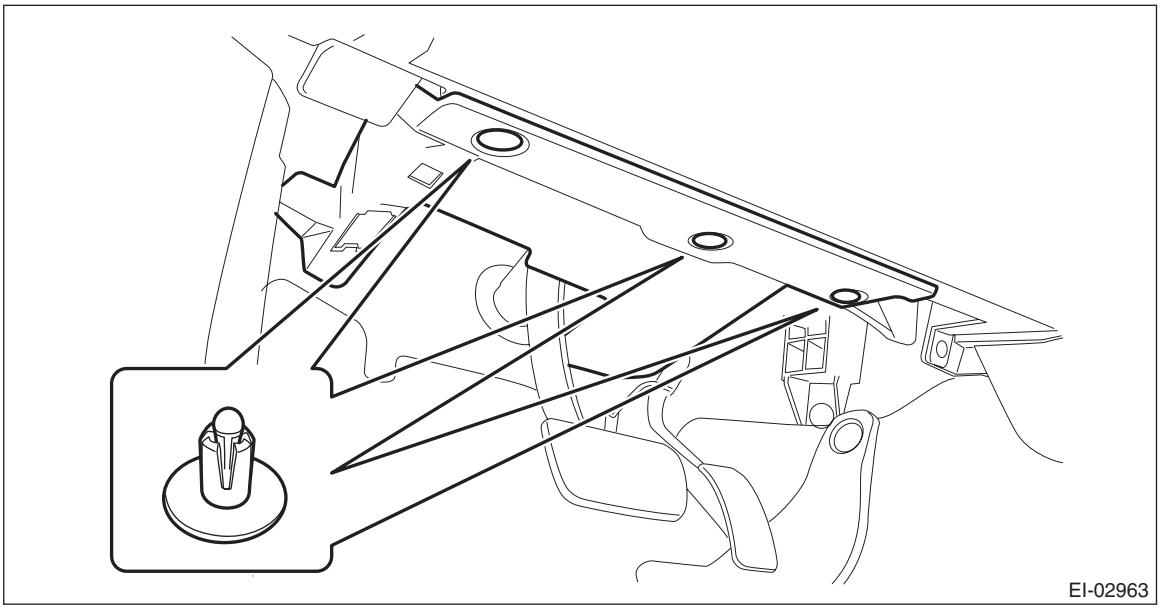
3) Release the claws and remove the seat heater switch from the back of console front cover.

3. SEAT HEATER RELAY AND FUSE

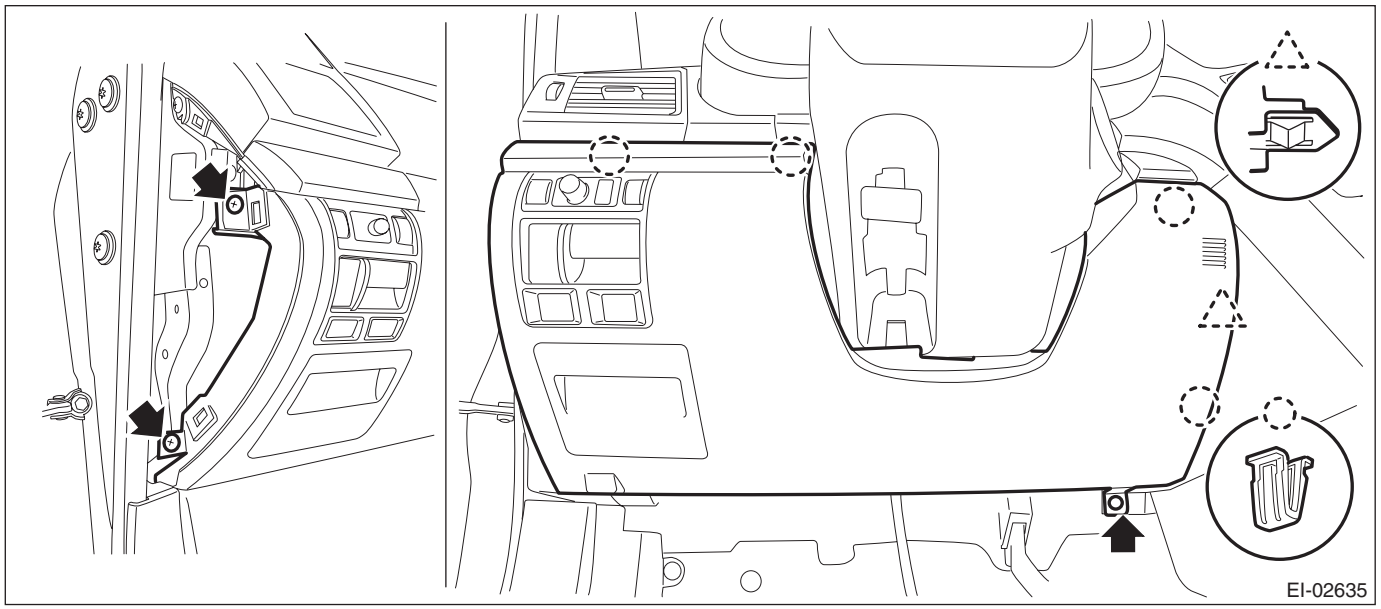
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover.
   (1) Remove the clips, and remove the instrument panel side cover LH.



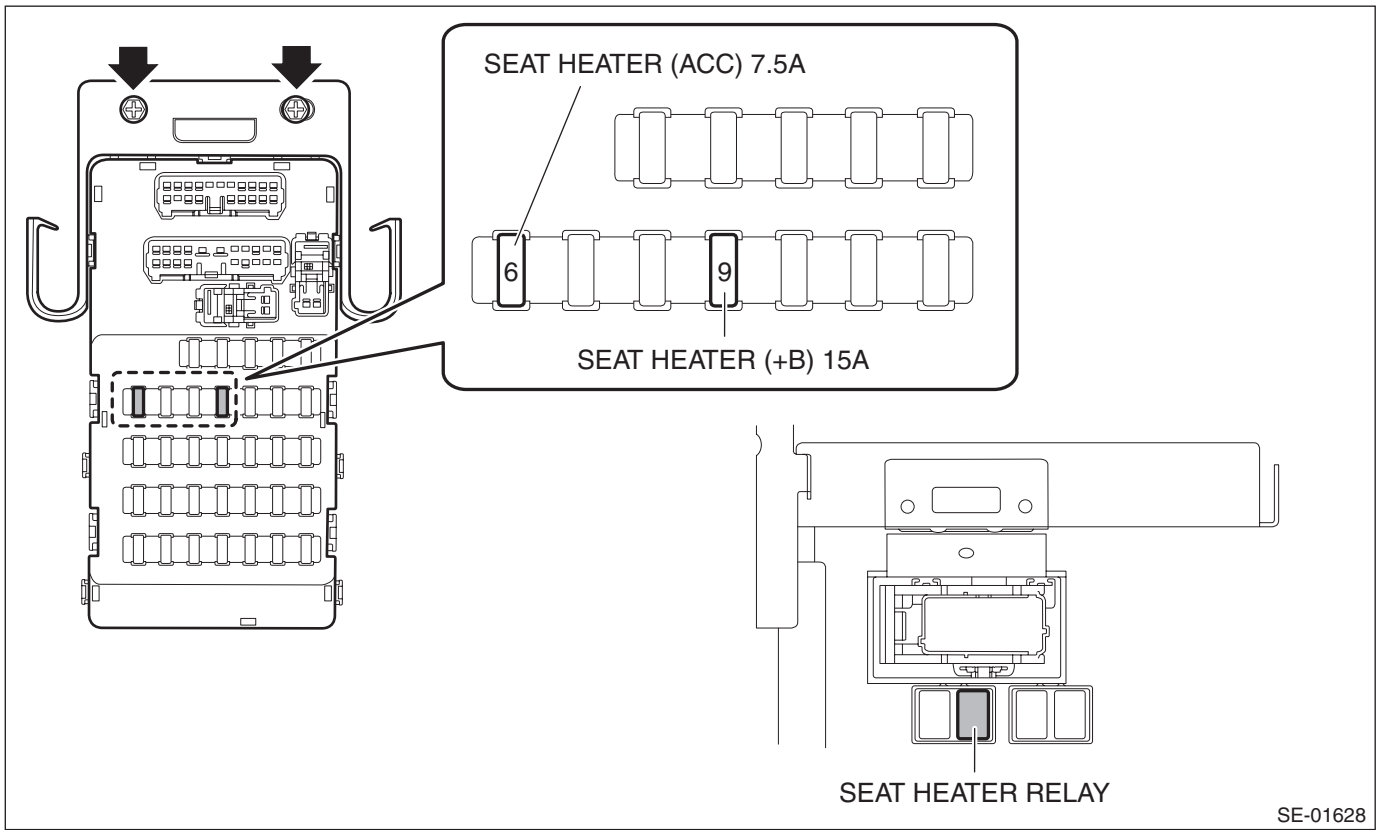
(2) Remove the clips and data link connector, and remove the instrument panel lower cover under.



(3) Remove the screws and clips and release the claws, and remove the instrument panel lower cover while disconnecting the harness connectors.



3) Remove the seat heater relay and fuse.
   (1) Remove the joint box bolts.
   (2) Remove the seat heater relay.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1. WIRING DIAGRAM

Refer to “Seat Heater System” in the wiring diagram. <Ref. to WI-275, WIRING DIAGRAM, Seat Heater System.>

2. DIAGNOSTIC CHART

Symptoms	Repair order
Seat heater does not operate.	1. Check the fuse. <Ref. to SE-81, CHECK SEAT HEATER FUSE, INSPECTION, Seat Heater System.>
	2. Check the seat heater relay. <Ref. to SE-82, CHECK SEAT HEATER RELAY, INSPECTION, Seat Heater System.>
	3. Check the seat heater switch. <Ref. to SE-82, CHECK SEAT HEATER SWITCH, INSPECTION, Seat Heater System.>
	4. Check the power supply and ground circuit for the seat heater system. <Ref. to SE-82, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Seat Heater System.>

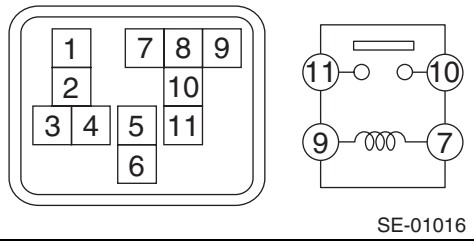
3. CHECK SEAT HEATER FUSE

Remove the seat heater fuse and inspect visually.
Is the fuse blown out?
- **Yes** → Replace the fuse.
- **No** → Check the power supply and ground circuits.

4. CHECK SEAT HEATER RELAY

1) Remove the seat heater relay from the relay holder.
2) Measure the resistance between seat heater relay terminals.

Preparation tool: Circuit tester

Terminal No.	Inspection conditions	Specification	Circuit
11 — 10	Always	1 MΩ or more	
11 — 10	Apply battery voltage between terminals 9 — 7.	Less than 1 Ω	

SE-01016

3) Replace the seat heater relay if the inspection result is not within the standard value.

5. CHECK SEAT HEATER SWITCH

1) Check seat heater switch.
   (1) Turn the ignition switch to ON.
   (2) Measure the voltage between the seat heater switch and chassis ground when turning the switch to a position other than OFF.

Connector & terminal
LHD side seat
(R42) No. 4 (+) — Chassis ground (–):
RHD side seat
(R45) No. 4 (+) — Chassis ground (–):
Does the voltage fluctuate between 12 V ←→ 0 V?
- **Yes** → Harness faulty, open circuit of heater or thermostat faulty.
- **No** → Replace the seat heater switch.

6. CHECK POWER SUPPLY AND GROUND CIRCUIT

1) Check power supply circuit.
   (1) Disconnect the seat heater switch.
   (2) Turn the ignition switch to ON.
   (3) Measure the voltage between harness connector terminal and chassis ground.

Connector & terminal
Driver's seat
(R42) No. 4 (+) — Chassis ground (–):
Passenger's seat
(R45) No. 4 (+) — Chassis ground (–):
Is the voltage 12 V or more?
- **Yes** → Go to step 2.
- **No** → Check the harness between the seat heater switch and fuse.

2) Check ground circuit.
Measure the resistance between harness connector terminal and chassis ground.

Connector & terminal
Driver seat (manual seat)
(R42) No. 6 — Chassis ground:
(R41) No. 1 — Chassis ground:
Passenger seat (manual seat)
(R45) No. 6 — Chassis ground:
(R44) No. 1 — Chassis ground:
Driver seat (power seat)
(R42) No. 6 — Chassis ground:
(R380) No. 1 — Chassis ground:
Passenger seat (power seat)
(R45) No. 6 — Chassis ground:
(R363) No. 1 — Chassis ground:
Is the resistance less than 10 Ω?
- **Yes** → The power supply and ground circuits are normal.
- **No** → Repair the harness.

POWER SEAT MEMORY SYSTEM (DIAGNOSTICS)

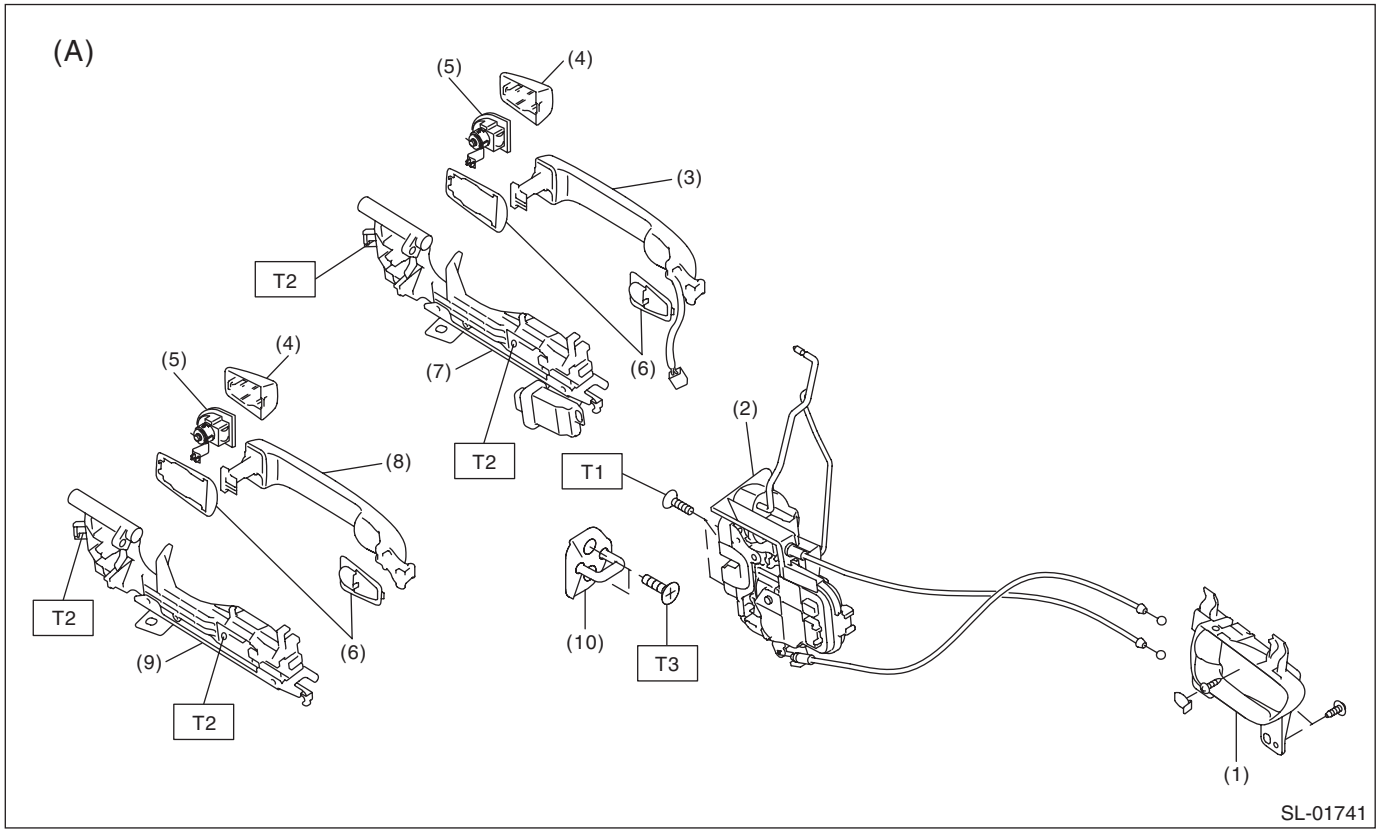
PSM(diag)

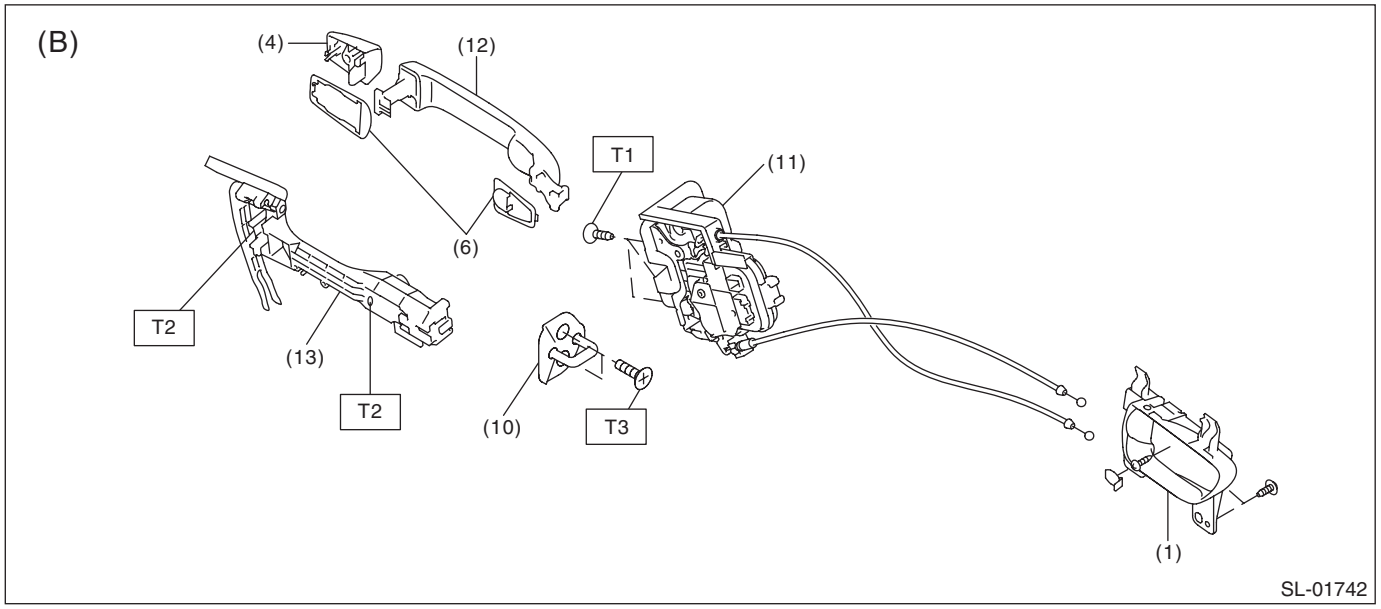
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2.	Check List for Interview	3
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1. General Description

A: COMPONENT

1. DOOR LOCK ASSEMBLY



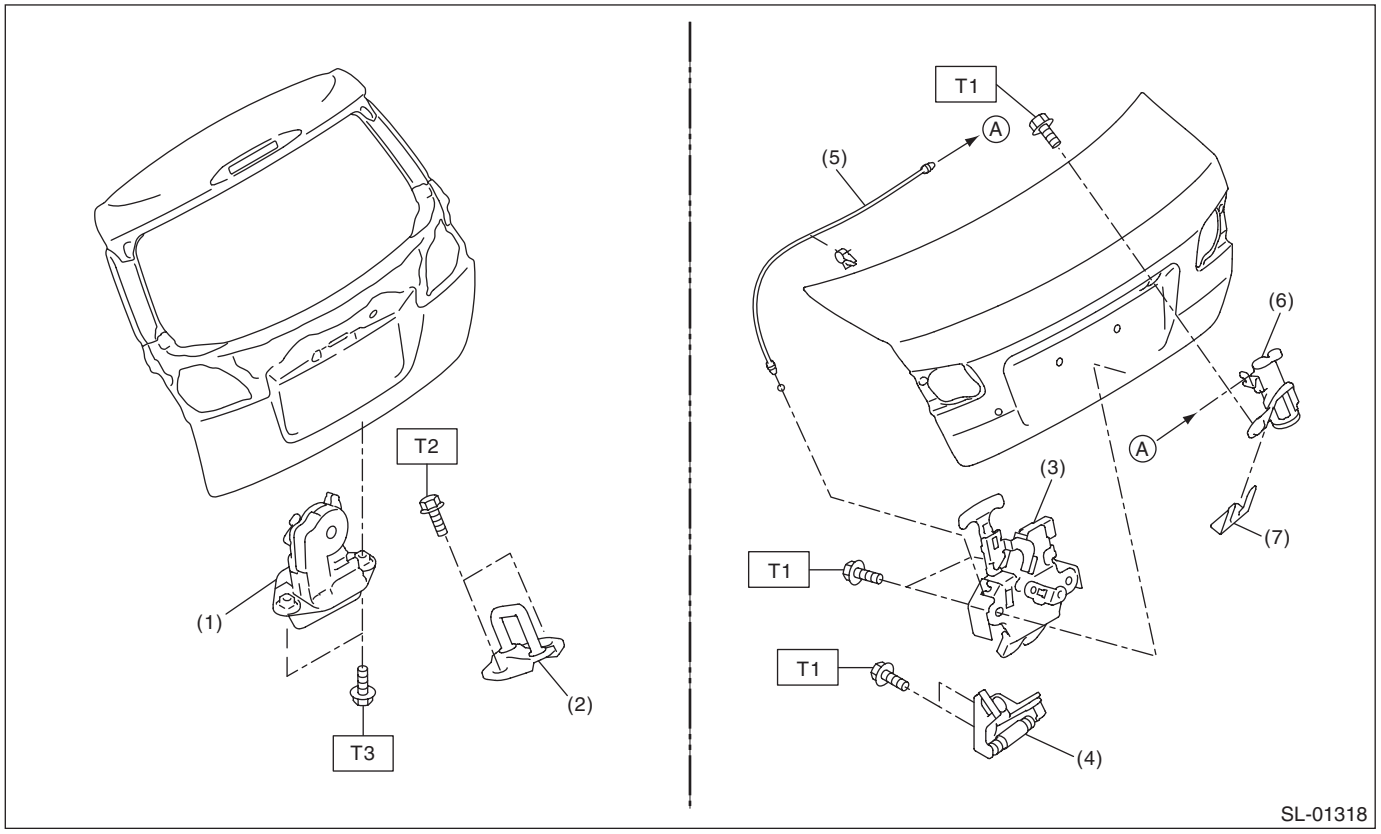


(A) Front
(B) Rear

(1) Inner remote ASSY
(2) Front door latch and door lock actuator ASSY
(3) Front door outer handle (model with keyless access)
(4) Door outer handle cover
(5) Key cylinder (driver's seat only)
(6) Door outer handle spacer
(7) Front door outer handle frame ASSY (model with keyless access)
(8) Front door outer handle
(9) Front door outer handle frame ASSY
(10) Striker
(11) Rear door latch and door lock actuator ASSY
(12) Rear door outer handle
(13) Rear door outer handle frame ASSY

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.5 (0.66, 4.8)
T2: 7.5 (0.76, 5.5)
T3: 18 (1.84, 13.3)

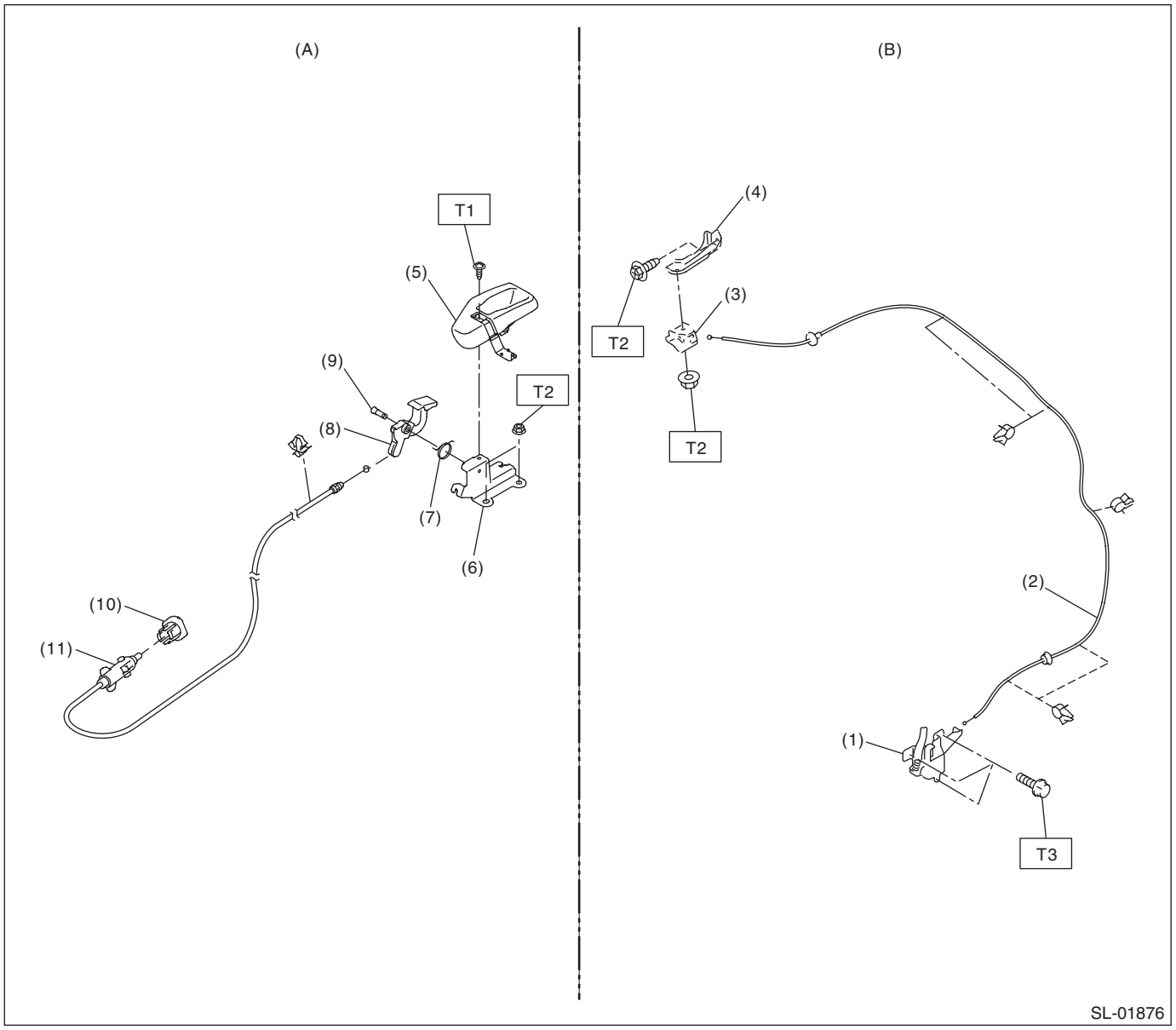
2. REAR GATE LOCK AND TRUNK LID LOCK



(1) Rear gate latch and actuator ASSY
(2) Rear gate striker
(3) Trunk lid latch and actuator ASSY
(4) Trunk lid striker
(5) Cable
(6) Key cylinder (trunk lid only)
(7) Clip

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.55, 18.4)
T3: 28 (2.86, 20.7)

3. FRONT HOOD LOCK AND REMOTE OPENERS



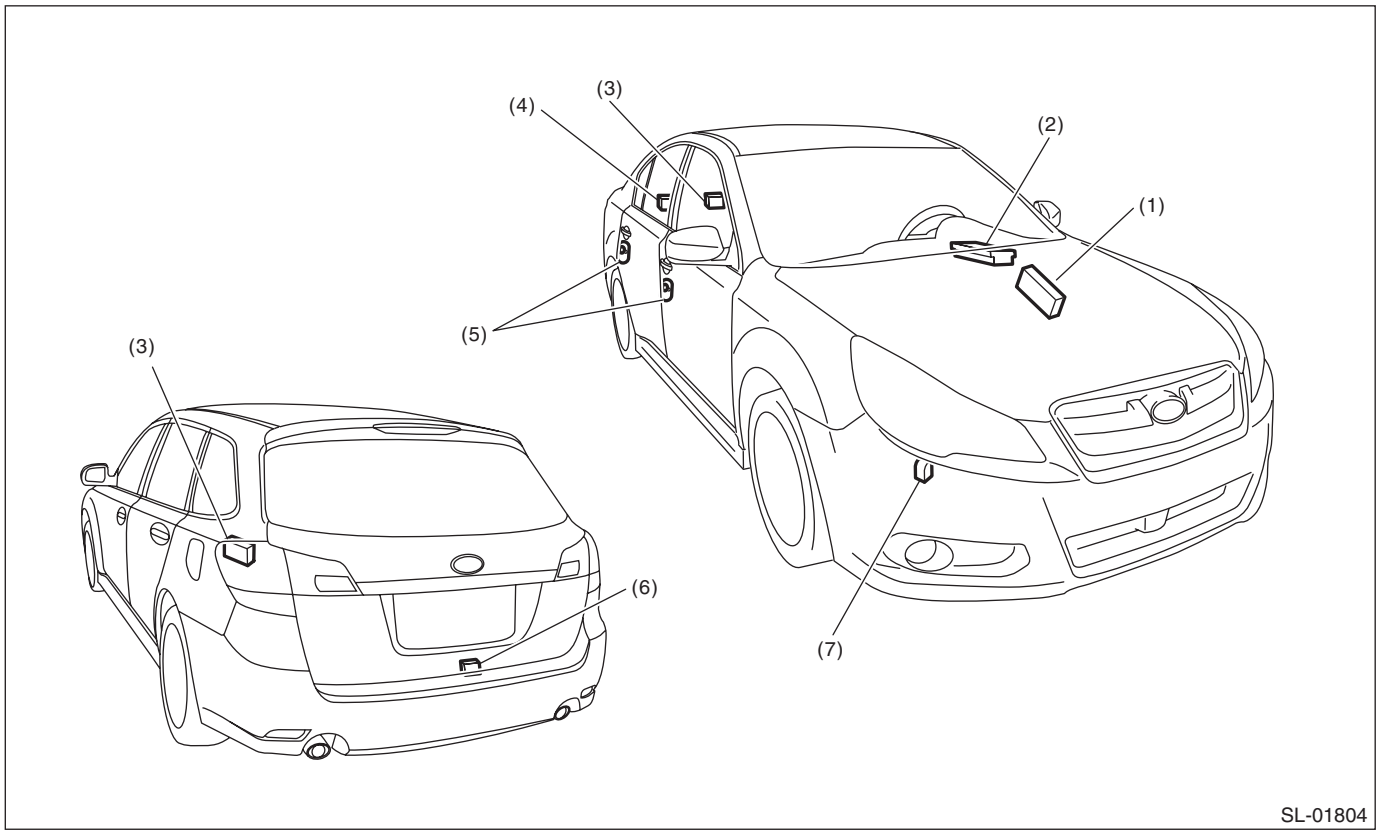
(A) Fuel lock release
(B) Hood lock release

(1) Front hood lock ASSY
(2) Cable
(3) Lever ASSY
(4) Bracket
(5) Cover
(6) Bracket
(7) Spring
(8) Pull handle ASSY
(9) Pin
(10) Holder
(11) Fuel lock

Tightening torque: N·m (kgf-m, ft-lb)
T1: 4.5 (0.46, 3.3)
T2: 7.5 (0.76, 5.5)
T3: 33 (3.36, 24.3)

4. KEYLESS ENTRY SYSTEM

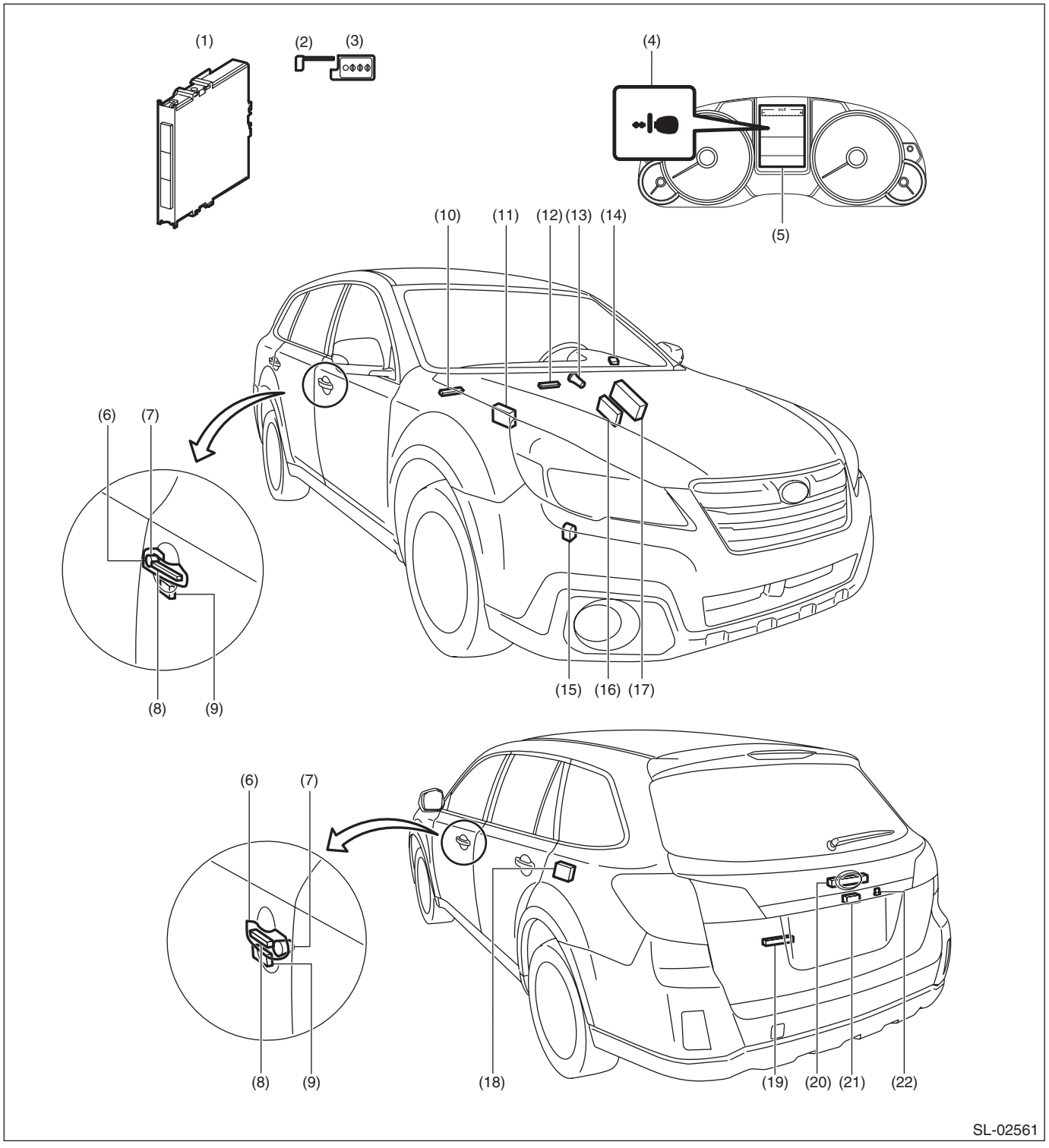
NOTE:
Except for model with keyless access.



(1) Body integrated unit
(2) Power window main switch
(3) Keyless entry control module
(4) Trunk lid latch switch (sedan model)
(5) Door switch
(6) Rear gate latch switch (OUTBACK model)
(7) Keyless buzzer

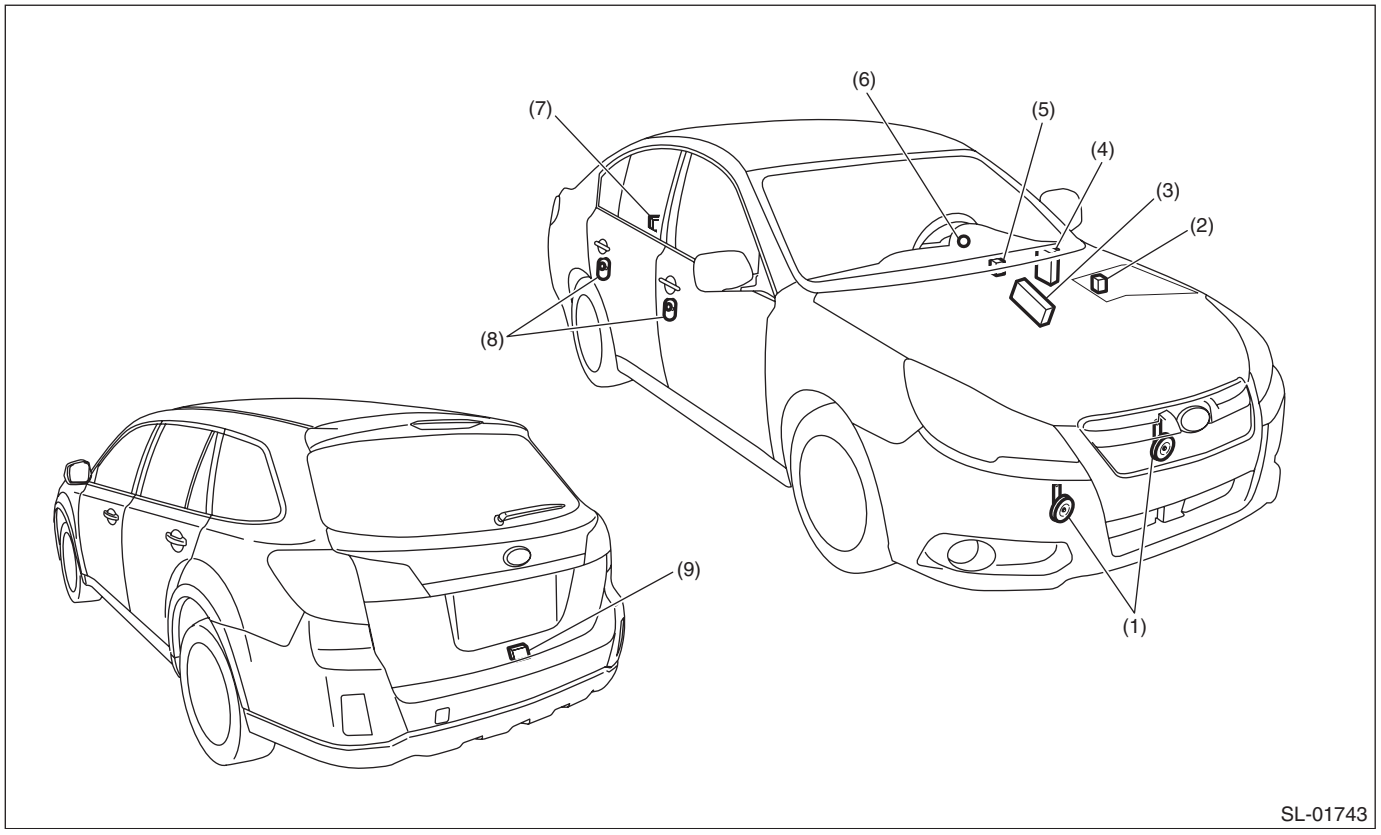
5. KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM

NOTE:
Except for model without keyless access.



(1) Keyless access CM
(2) Mechanical key
(3) Access key
(4) Access key warning light
(5) Multi-information display
(6) Touch sensor
(7) Front lock button
(8) Front exterior antenna
(9) Oscillator
(10) Center interior antenna
(11) ECM
(12) Front interior antenna
(13) Push button ignition switch
(14) Steering lock CM
(15) Access buzzer
(16) TCM
(17) Body integrated unit
(18) Receiver
(19) Rear interior antenna
(20) Rear exterior antenna
(21) Rear gate opener button
(22) Rear lock button

6. SECURITY SYSTEM



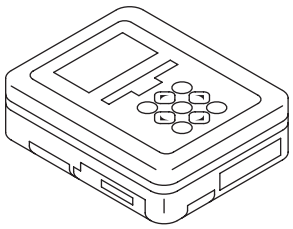
(1) Horn
(2) Horn relay (in main fuse box)
(3) Body integrated unit
(4) Impact sensor (driver's seat instrument panel side) (dealer option)
(5) Turn signal and hazard module
(6) Security indicator light (in combination meter)
(7) Trunk lid latch switch (Sedan model)
(8) Door switch
(9) Rear gate latch switch (OUTBACK model)

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.
• If any immobilizer related part has been replaced, make sure to register the immobilizer.
• Do not use any electrical test equipment on the airbag system wiring harnesses and connector circuits.
• Be careful not to damage the airbag system wiring harness when servicing the ignition key cylinder and steering lock CM.

C: PREPARATION TOOL

1. SPECIAL TOOL

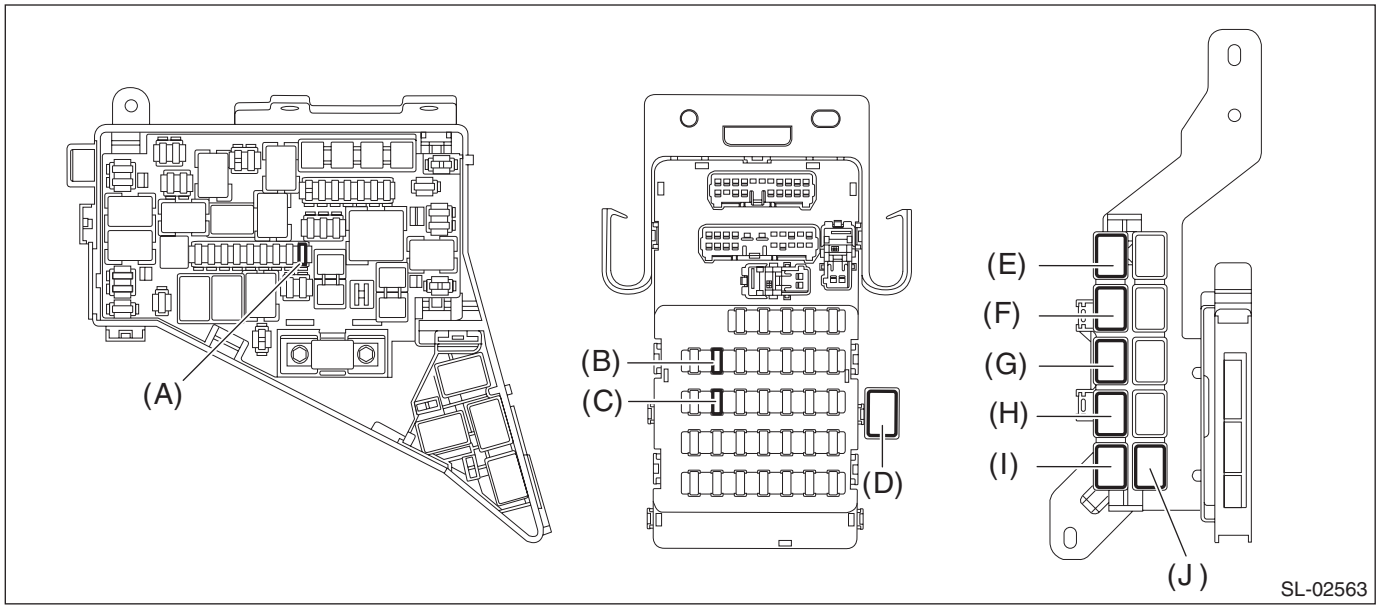
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Drill	Used for replacing the ignition key lock and steering lock CM.
TORX® T30	Used for removing and installing door outer handle.
Clip remover	Used for removing trim clip.

2. Relay and Fuse

A: LOCATION



Main fuse box	Fuse 20A (K/L)	(A)
Relay & fuse box	Fuse 7.5A (K/L, K/A)	(B)
	Fuse 7.5A (K/A)	(C)
	Starter relay (K/L)	(D)
Smart module bracket	Accessory relay (push button start) (K/A)	(E)
	IG relay 2 (push button start) (K/A)	(F)
	IG relay 1 (push button start) (K/A)	(G)
	Starter relay (push button start) (K/A)	(H)
	Starter relay (K/A)	(I)
	Starter cut relay (K/A)	(J)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

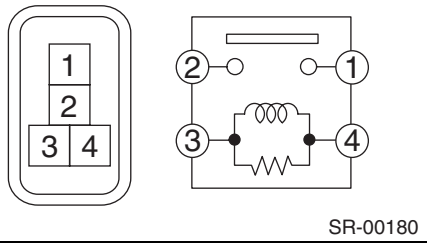
B: INSPECTION

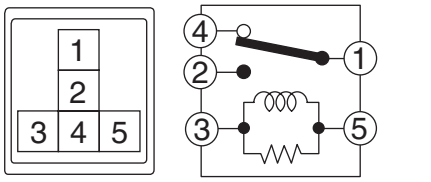
1. CHECK FUSE

1) Remove the fuse and check visually.
2) If the fuse is blown out, replace the fuse.

2. CHECK RELAY

1) Check the resistance between relay terminals.

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Always	1 MΩ or more	 SR-00180
1 — 2	Apply battery voltage between terminals 4 — 3.	Less than 1 Ω	

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Always	1 MΩ or more	 SL-01085
1 — 4	Always	Less than 1 Ω	
1 — 2	Apply battery voltage between terminals 3 — 5.	Less than 1 Ω	

2) Replace the relay if the inspection result is not within the standard value.

3. Door Lock Control System

A: WIRING DIAGRAM

Refer to “Keyless Entry System” in the wiring diagram. <Ref. to WI-215, WIRING DIAGRAM, Keyless Entry System.>

B: ELECTRICAL SPECIFICATION

1. BODY INTEGRATED UNIT

Refer to “Control Module I/O Signal” of “BODY CONTROL SYSTEM (DIAGNOSTICS)” section. <Ref. to BC(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. SYMPTOM CHART

Symptoms	Repair order	Reference
The door lock control system does not operate.	1. Remove and visually inspect the following fuses. • No. 7 (in fuse & relay box) • No. 14 (in fuse & relay box) • No. 19 (in main fuse box)	If the fuse is blown out, replace the fuse with a new part. When there is no defective with the fuse, check the power supply and ground circuit. <Ref. to SL-12, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	2. Check the power supply and ground circuit for body integrated unit.	<Ref. to SL-12, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	3. Check the door lock switch and the circuit.	<Ref. to SL-12, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>
	4. Check the rear gate/trunk opener button and the circuit.	<Ref. to SL-13, CHECK REAR GATE/TRUNK OPENER BUTTON CIRCUIT, INSPECTION, Door Lock Control System.>
	5. Check the door lock actuator and the circuit.	<Ref. to SL-14, CHECK DOOR LOCK ACTUATOR AND CIRCUIT (WITHOUT DOUBLE LOCK), INSPECTION, Door Lock Control System.>
A specific door lock actuator does not operate.	Check the door lock actuator and circuit.	<Ref. to SL-14, CHECK DOOR LOCK ACTUATOR AND CIRCUIT (WITHOUT DOUBLE LOCK), INSPECTION, Door Lock Control System.>

2. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the body integrated unit connector. 2) Measure the voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(i84) No. 6 (+) — Chassis ground (–):*** ***(i171) No. 1 (+) — Chassis ground (–):*** ***(B281) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short circuit between body integrated unit and fuse.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(i84) No. 1 — Chassis ground:*** ***(i171) No. 29 — Chassis ground:*** ***(B280) No. 1 — Chassis ground:*** ***(B281) No. 31 — Chassis ground:***	Is the resistance less than 10 Ω?	The power supply and ground circuit are OK.	Repair or replace the harness.

3. CHECK DOOR LOCK SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Current Data Display & Save}. 5) Select {Manual lock SW input}.	Does the display switch between OFF ←→ ON when each door lock switch is moved to LOCK?	Go to step **2**.	Go to step **3**.
2	**CHECK DOOR LOCK SWITCH.** From the condition in step 1), operate each door lock switch (driver’s and passenger’s) in the UNLOCK direction.	Does the display switch between OFF ←→ ON?	The door lock switch is OK.	Go to step **4**.
3	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the door lock switch connector. 2) Check the continuity when the door lock switch is operated to the LOCK direction. ***Connector & terminal*** ***Driver’s side*** ***(D95) No. 3 — (D7) No. 1:*** ***Passenger’s side*** ***(D125) No. 4 — (D125) No. 5:***	Did the indicator change from “No continuity” (1 MΩ or more) to “Continuity exists” (less than 10 Ω)?	Go to step **4**.	Replace the power window main switch or door lock switch.
4	**CHECK DOOR LOCK SWITCH.** Check the continuity when the door lock switch is operated to the UNLOCK direction. ***Connector & terminal*** ***Driver’s side*** ***(D95) No. 9 — (D7) No. 1:*** ***Passenger’s side*** ***(D125) No. 2 — (D125) No. 5:***	Did the indicator change from “No continuity” (1 MΩ or more) to “Continuity exists” (less than 10 Ω)?	Go to step **5**.	Replace the power window main switch or door lock switch.

	Step	Check	Yes	No
5	**CHECK HARNESS.** Measure the resistance between the door lock switch connector and chassis ground. ***Connector & terminal*** ***Driver's side*** ***(D95) No. 1 — Chassis ground:*** ***Passenger's side*** ***(D125) No. 5 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the harness.
6	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Measure the resistance between body integrated unit connector and door lock switch connector. ***Connector & terminal*** ***Driver's side*** ***(D95) No. 3 — (i84) No. 9:*** ***(D95) No. 9 — (i84) No. 20:*** ***Passenger's side*** ***(D125) No. 4 — (i84) No. 9:*** ***(D125) No. 2 — (i84) No. 20:***	Is the resistance less than 10 Ω?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Repair or replace the harness.

4. CHECK REAR GATE/TRUNK OPENER BUTTON CIRCUIT

	Step	Check	Yes	No
1	**CHECK REAR GATE/TRUNK OPENER BUTTON.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Current Data Display & Save}. 5) Select the {Rear gate/Trunk release switch}.	Does the display switch between OFF ←→ ON when the rear gate/trunk opener button is operated?	The rear gate/trunk opener button is normal.	Go to step **2**.
2	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector and rear gate/trunk opener button connector. 2) Check the harness between body integrated unit connector and rear gate/trunk opener button connector. ***Connector & terminal*** ***Sedan model*** ***(i84) No. 10 — (i162) No. 4:*** ***OUTBACK model*** ***(i84) No. 10 — (D77) No. 5:***	Is harness normal?	Go to step **3**.	Repair or replace the harness.
3	**CHECK HARNESS.** Measure the resistance between the rear gate/trunk opener button connector and chassis ground. ***Connector & terminal*** ***Sedan model*** ***(i162) No. 2 — Chassis ground:*** ***OUTBACK model*** ***(D77) No. 6 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.

	Step	Check	Yes	No
4	**CHECK REAR GATE/TRUNK OPENER BUTTON.** Measure the resistance between connector terminals both when the rear gate/trunk opener button is pressed and when not pressed. ***Connector & terminal*** ***Sedan model*** ***(i162) No. 4 — (i162) No. 2:*** ***OUTBACK model*** ***(D77) No. 5 — (D77) No. 6:***	Is the resistance less than 10 Ω when the switch is pressed and 1 MΩ or more when not pressed?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the rear gate/trunk opener button.

5. CHECK DOOR LOCK ACTUATOR AND CIRCUIT (WITHOUT DOUBLE LOCK)

	Step	Check	Yes	No
1	**CHECK HARNESS (DOOR LOCK).** 1) Disconnect the body integrated unit connector and each door lock actuator. 2) Check the harness between body integrated unit connector and each door lock actuator connector. ***Connector & terminal*** ***Front door RH*** ***(i171) No. 2 — (D72) No. 1:*** ***Front door LH*** ***(i171) No. 2 — (D18) No. 1:*** ***Rear door RH*** ***(i171) No. 2 — (D32) No. 1:*** ***Rear door LH*** ***(i171) No. 2 — (D26) No. 1:***	Is harness normal?	Go to step **2**.	Repair or replace the harness.
2	**CHECK HARNESS (DOOR UNLOCK).** Check the harness between body integrated unit connector and each door lock actuator connector. ***Connector & terminal*** ***Front door RH*** ***(i171) No. 3 — (D72) No. 2:*** ***Front door LH*** ***(i171) No. 4 — (D18) No. 2:*** ***Rear door RH*** ***(i171) No. 3 — (D32) No. 2:*** ***Rear door LH*** ***(i171) No. 3 — (D26) No. 2:***	Is harness normal?	OUTBACK model:Go to step **3**. Sedan model:Go to step **5**.	Repair or replace the harness.
3	**CHECK HARNESS (REAR GATE UNLOCK).** Check the harness between body integrated unit connector and rear gate lock actuator connector. ***Connector & terminal*** ***(i171) No. 7 — (D47) No. 1:***	Is harness normal?	Go to step **4**.	Repair or replace the harness.
4	**CHECK HARNESS (REAR GATE UNLOCK).** Measure the resistance between the rear gate lock actuator connector and chassis ground. ***Connector & terminal*** ***(D47) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair or replace the harness.
5	**CHECK HARNESS (TRUNK UNLOCK).** Check the harness between body integrated unit connector and trunk lid lock actuator connector. ***Connector & terminal*** ***(i171) No. 7 — (R186) No. 1:***	Is harness normal?	Go to step **6**.	Repair or replace the harness.

	Step	Check	Yes	No
6	**CHECK HARNESS (TRUNK UNLOCK).** Measure the resistance between the trunk lid lock actuator connector and chassis ground. ***Connector & terminal*** ***(R186) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **7**.	Repair or replace the harness.
7	**CHECK BODY INTEGRATED UNIT OUTPUT SIGNAL.** 1) Connect the body integrated unit connector. 2) Measure the voltage between the terminals of the body integrated unit connector when operating the door lock switch to LOCK direction. ***Connector & terminal*** ***Except for front door LH*** ***(i171) No. 2 (+) — (i171) No. 3 (–):*** ***Front door LH*** ***(i171) No. 2 (+) — (i171) No. 4 (–):***	Does the voltage change from less than 1 V → 9 V or more? (During lock output)	Go to step **8**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
8	**CHECK BODY INTEGRATED UNIT OUTPUT SIGNAL.** Measure the voltage between the terminals of the body integrated unit connector when operating the door lock switch to UNLOCK direction. ***Connector & terminal*** ***Except for front door LH*** ***(i171) No. 3 (+) — (i171) No. 2 (–):*** ***Front door LH*** ***(i171) No. 4 (+) — (i171) No. 2 (–):***	Does the voltage change from less than 1 V → 9 V or more? (During unlock output)	Go to step **9**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
9	**CHECK BODY INTEGRATED UNIT OUTPUT SIGNAL.** Measure the voltage between body integrated unit connector and chassis ground when operating the rear gate/trunk opener button. ***Connector & terminal*** ***(i171) No. 7 (+) — Chassis ground (–):***	Does the voltage change from less than 1 V → 9 V or more? (During unlock output)	Go to step **10**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
10	**CHECK DOOR LOCK ACTUATOR.** Check the door lock actuator. • Front door lock actuator:<Ref. to SL-43, INSPECTION, Front Door Latch and Door Lock Actuator Assembly.> • Rear door lock actuator:<Ref. to SL-50, INSPECTION, Rear Door Latch and Door Lock Actuator Assembly.>	Is the door lock actuator OK?	OUTBACK model:Go to step **11**. Sedan model:Go to step **12**.	Replace the door latch and door lock actuator assembly.
11	**CHECK REAR GATE LOCK ACTUATOR.** Check the rear gate lock actuator. <Ref. to SL-56, Rear Gate Latch and Actuator Assembly.>	Is the rear gate lock actuator normal?	Check the connection status of the harness and connector that may have a temporary poor contact.	Replace the rear gate latch and actuator assembly.
12	**CHECK TRUNK LID LOCK ACTUATOR.** Check the trunk lid lock actuator. <Ref. to SL-58, Trunk Lid Latch and Actuator Assembly.>	Is trunk lid lock actuator normal?	Check the connection status of the harness and connector that may have a temporary poor contact.	Replace the trunk lid latch & actuator assembly.

4. Keyless Entry System

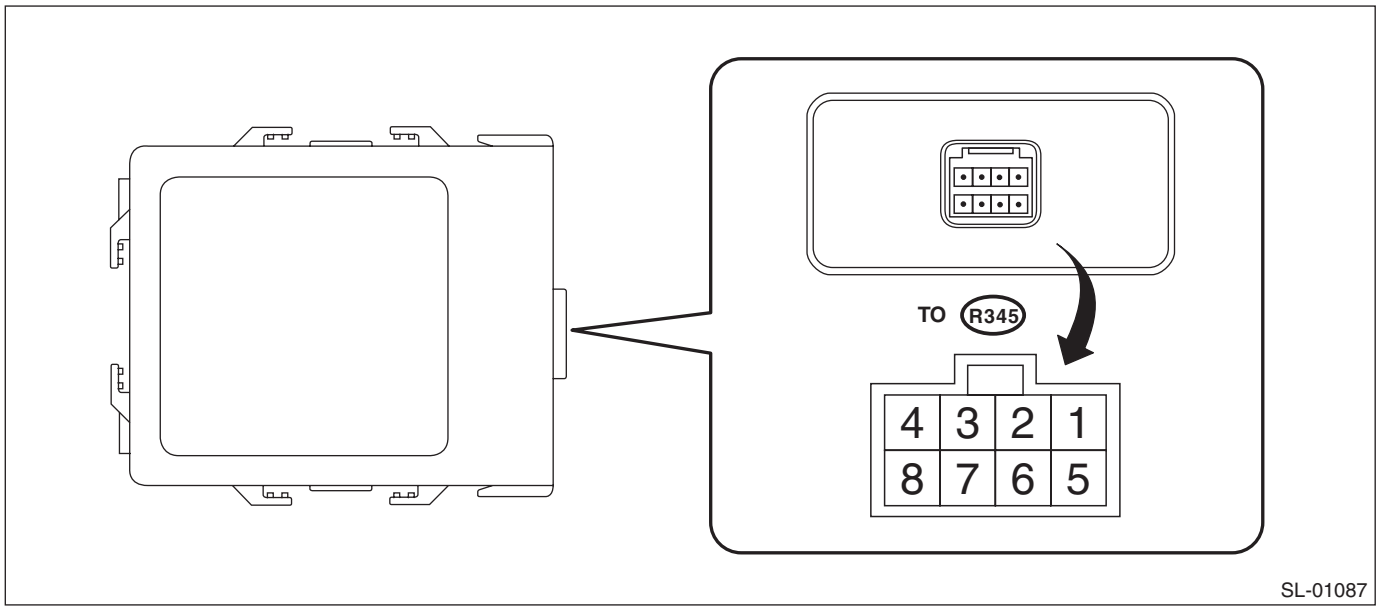
A: WIRING DIAGRAM

Refer to “Keyless Entry System” in the wiring diagram. <Ref. to WI-215, WIRING DIAGRAM, Keyless Entry System.>

B: ELECTRICAL SPECIFICATION

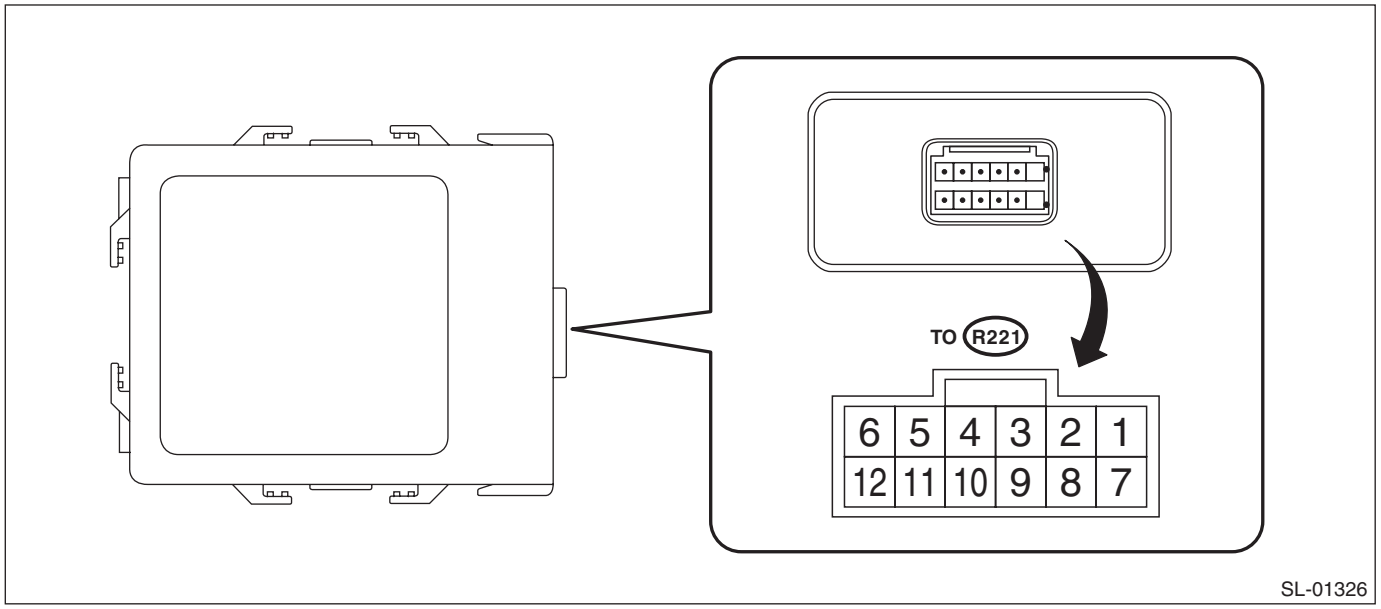
1. KEYLESS ENTRY CONTROL MODULE

- Model without tire pressure monitoring system



Terminal No.	Item	Measuring condition	Standard
3 (U-ART com.)	—	Cannot be measured	—
4 (+B) ←→ Chassis ground	Voltage	Always	10 — 14 V
7 (GND) ←→ chassis ground	Resistance	Always	Less than 1 Ω

- Model with tire pressure monitoring system



Terminal No.	Item	Measuring condition	Standard
2 ←→ Chassis ground	Voltage	Tire pressure warning light: Not illuminated → Illuminated	0 V → 10 — 14 V
3 ←→ Chassis ground	Waveform	Speedometer	Pulse generation
4 (IG) ←→ Chassis ground	Resistance	IG OFF → ON	0 V → 10 — 14 V
5 (GND) ←→ chassis ground	Resistance	Always	Less than 1 Ω
6 (+B) ←→ Chassis ground	Voltage	Always	10 — 14 V
11 (U-ART com.)	—	Cannot be measured	—
12 (SSM communication)	—	Cannot be measured	—

2. BODY INTEGRATED UNIT

Refer to “Control Module I/O Signal” of “BODY CONTROL SYSTEM (DIAGNOSTICS)” section. <Ref. to BC(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. SYMPTOM CHART

Symptoms	Repair order	Reference
None of the functions of the keyless entry system operate.	1. Check the keyless transmitter or transmitter battery.	<Ref. to SL-20, CHECK KEYLESS TRANSMITTER OR TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Remove and visually inspect the following fuses. • No. 7 (in fuse & relay box) • No. 14 (in fuse & relay box) • No. 19 (in main fuse box)	If the fuse is blown out, replace the fuse with a new part. When there is no defective with the fuse, check the power supply and ground circuit. <Ref. to SL-12, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	3. Check the keyless entry control module.	<Ref. to SL-20, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	4. Check the power supply and ground circuit for body integrated unit.	<Ref. to SL-21, CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.>
	5. Check the key warning switch.	<Ref. to SL-24, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	6. Check the door switch signal.	<Ref. to SL-22, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	7. Check the body integrated unit.	<Ref. to BC(diag)-2, Basic Diagnostic Procedure.>
The keyless transmitter cannot be registered.	1. Check the keyless transmitter or transmitter battery.	<Ref. to SL-20, CHECK KEYLESS TRANSMITTER OR TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the key warning switch.	<Ref. to SL-24, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	3. Check the door lock switch signal.	<Ref. to SL-28, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the body integrated unit.	<Ref. to BC(diag)-2, Basic Diagnostic Procedure.>

Symptoms	Repair order	Reference
Door lock or unlock does not operate. NOTE: If the door lock control system does not operate when using the door lock switch, check the door lock control system. <Ref. to SL-11, INSPECTION, Door Lock Control System.>	1. Check the keyless transmitter or transmitter battery.	<Ref. to SL-20, CHECK KEYLESS TRANSMITTER OR TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the keyless entry control module.	<Ref. to SL-20, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	3. Check the key warning switch.	<Ref. to SL-24, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the door switch signal.	<Ref. to SL-22, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the body integrated unit.	<Ref. to BC(diag)-2, Basic Diagnostic Procedure.>
The keyless buzzer and hazard light do not operate.	1. Check the keyless buzzer operation.	<Ref. to SL-27, CHECK KEYLESS BUZZER, INSPECTION, Keyless Entry System.>
	2. Check the hazard light operation.	<Ref. to SL-26, CHECK HAZARD LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	3. Check the body integrated unit.	<Ref. to BC(diag)-2, Basic Diagnostic Procedure.>
Room light does not operate.	1. Check the room light operation.	<Ref. to SL-25, CHECK ROOM LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated unit.	<Ref. to BC(diag)-2, Basic Diagnostic Procedure.>
Ignition switch illumination does not operate.	1. Check the ignition switch illumination.	<Ref. to SL-28, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated unit.	<Ref. to BC(diag)-2, Basic Diagnostic Procedure.>

2. CHECK KEYLESS TRANSMITTER OR TRANSMITTER BATTERY AND FUNCTION

CAUTION:
Be sure to reset keyless transmitter of other vehicles registered to the inspection target vehicle, and vehicles to which keyless transmitters were registered for inspection, to the condition before performing the inspection. (Re-register the keyless transmitters.)

	Step	Check	Yes	No
1	**CHECK KEYLESS TRANSMITTER BATTERY.** 1) Remove the battery from the keyless transmitter. <Ref. to SL-81, REMOVAL, Keyless Transmitter.> 2) Check the battery voltage. <Ref. to SL-81, INSPECTION, Keyless Transmitter.>	Is the voltage 2.5 V or more?	Go to step **2**.	Replace the keyless transmitter battery.
2	**CHECK KEYLESS TRANSMITTER.** Register the keyless transmitter which operates normally on other vehicles to the inspection target vehicle. <Ref. to SL-81, KEYLESS TRANSMITTER REGISTRATION, REPLACEMENT, Keyless Transmitter.> 1) Close all the doors and rear gate (OUTBACK model) or trunk lid (sedan model) of inspection target vehicle. 2) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle. For the 4 door model, unlock the trunk lid.	Can the check vehicle be locked and unlocked properly?	Go to step **3**.	Due to vehicle malfunction, continue the keyless entry system diagnosis.
3	**CHECK KEYLESS TRANSMITTER.** Register the keyless transmitter of the inspected vehicle to another vehicle whose keyless system operates normally. <Ref. to SL-81, KEYLESS TRANSMITTER REGISTRATION, REPLACEMENT, Keyless Transmitter.>	Is the keyless transmitter registered correctly?	Go to step **4**.	Replace the keyless transmitter and perform registration.
4	**CHECK KEYLESS TRANSMITTER.** Check the registered keyless transmitter. 1) Close all the doors and rear gate of the vehicle which keyless system operates normally. 2) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle. For the 4 door model, unlock the trunk lid.	Does the vehicle operate lock and unlock normally?	Keyless transmitter is OK.	Replace the keyless transmitter and perform registration.

3. CHECK KEYLESS ENTRY CONTROL MODULE

	Step	Check	Yes	No
1	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Diagnostic Code(s) Display}.	Is DTC B1500 “KEYLESS UART COM. MALFUNCTION” displayed?	Go to step **2**.	Keyless entry control module is normal.

Step		Check	Yes	No
2	**CHECK POWER SUPPLY.** 1) Disconnect the keyless entry control module connector. 2) Measure the voltage between keyless entry control module connector and chassis ground. ***Connector & terminal*** ***Model without tire pressure monitoring system*** ***(R345) No. 4 (+) — Chassis ground (–):*** ***Model with tire pressure monitoring system*** ***(R221) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short circuits between the keyless entry control module and the fuse.
3	**CHECK GROUND CIRCUIT.** Measure the resistance between keyless entry control module connector and chassis ground. ***Connector & terminal*** ***Model without tire pressure monitoring system*** ***(R345) No. 7 — Chassis ground:*** ***Model with tire pressure monitoring system*** ***(R221) No. 5 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK KEYLESS ENTRY CONTROL MODULE CIRCUIT.** 1) Disconnect the body integrated unit connector. 2) Measure the resistance between keyless entry control module connector and body integrated unit connector. ***Connector & terminal*** ***Model without tire pressure monitoring system*** ***(i171) No. 11 — (R345) No. 3:*** ***Model with tire pressure monitoring system*** ***(i171) No. 11 — (R221) No. 11:***	Is the resistance less than 10 Ω?	Replace the keyless entry control module.	Repair or replace the harness.

4. CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT

Refer to the “INSPECTION of POWER SUPPLY AND GROUND CIRCUIT” of “Door Lock Control System” for detailed procedures. <Ref. to SL-12, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.>

5. CHECK DOOR SWITCH

	Step	Check	Yes	No
1	**CHECK INPUT CIRCUIT.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Current Data Display & Save}. 5) Select the {Driver's door SW input}, {P-door SW input}, {Rear right door SW input}, {Rear left door SW input}, and {R Gate SW input}.	Does the display switch between OFF ←→ ON when each door, rear gate, or trunk lid is opened/closed?	The door switches, trunk lid latch switch or rear gate latch switch are normal.	Go to step **2**.
2	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Disconnect the door switch connector that the display does not change. 3) Check the harness between body integrated unit connector and defective door switch connector. ***Connector & terminal*** ***Front door RH*** ***(i84) No. 13 — (R12) No. 2:*** ***Front door LH*** ***(i84) No. 14 — (R9) No. 2:*** ***Rear door RH*** ***(i84) No. 25 — (R16) No. 2:*** ***Rear door LH*** ***(i84) No. 24 — (R22) No. 2:*** ***Trunk lid*** ***(i84) No. 33 — (R186) No. 3:*** ***Rear gate*** ***(i84) No. 33 — (D46) No. 3:***	Is harness normal?	Go to step **3**.	Repair or replace the harness.
3	**CHECK HARNESS.** Measure the resistance between the faulty door switch connector and chassis ground. ***Connector & terminal*** ***Front door RH*** ***(R12) No. 3 — Chassis ground:*** ***Front door LH*** ***(R9) No. 3 — Chassis ground:*** ***Rear door RH*** ***(R16) No. 3 — Chassis ground:*** ***Rear door LH*** ***(R22) No. 3 — Chassis ground:*** ***Trunk lid*** ***(R186) No. 2 — Chassis ground:*** ***Rear gate*** ***(D47) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.

Step		Check	Yes	No
4	**CHECK DOOR SWITCH.** Measure the resistance between terminals of faulty door switch, trunk lid switch or rear gate latch switch. ***Connector & terminal*** ***Front RH door switch*** ***(R12) No. 2 — No. 3:*** ***Front LH door switch*** ***(R9) No. 2 — No. 3:*** ***Rear RH door switch*** ***(R16) No. 2 — No. 3:*** ***Rear LH door switch*** ***(R22) No. 2 — No. 3:*** ***Trunk lid latch switch*** ***(R186) No. 3 — No. 2:*** ***Rear gate latch switch*** ***(D47) No. 3 — No. 4:***	Is the resistance 1 MΩ or more when the door switch is pushed, or the trunk lid or rear gate is closed?	Go to step **5**.	Replace the faulty parts. • Door switch • Trunk lid latch and actuator ASSY • Rear gate latch and actuator assembly
5	**CHECK DOOR SWITCH.** Measure the resistance between terminals of faulty door switch, trunk lid switch or rear gate latch switch. ***Connector & terminal*** ***Front RH door switch*** ***(R12) No. 2 — No. 3:*** ***Front LH door switch*** ***(R9) No. 2 — No. 3:*** ***Rear RH door switch*** ***(R16) No. 2 — No. 3:*** ***Rear LH door switch*** ***(R22) No. 2 — No. 3:*** ***Trunk lid latch switch*** ***(R186) No. 3 — No. 2:*** ***Rear gate latch switch*** ***(D47) No. 3 — No. 4:***	Is the resistance less than 10 Ω when switch is released?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the faulty parts. • Door switch • Trunk lid latch and actuator ASSY • Rear gate latch and actuator assembly

6. CHECK KEY WARNING SWITCH

	Step	Check	Yes	No
1	**CHECK KEY WARNING SWITCH.** 1) Prepare the Subaru Select Monitor kit. 2) On «System Selection Menu» display, select {Integ. unit mode}. 3) Select {Current Data Display & Save}. 4) Select the {key-lock warning SW}.	Is the normal input signal displayed when the key is inserted in/removed from the ignition switch?	The key warning switch is OK.	Go to step **2**.
2	**CHECK FUSE.** Remove and visually check fuse No. 18 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new part.	Go to step **3**.
3	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Disconnect the body integrated unit connector. 2) Insert the key into ignition switch. (LOCK position) 3) Measure the voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B280) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Go to step **5**.
4	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Remove the key from ignition switch. 2) Measure the voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B280) No. 4 (+) — Chassis ground (–):***	Is the voltage less than 1.5 V?	The key warning switch is OK.	Go to step **5**.
5	**CHECK KEY WARNING SWITCH.** 1) Disconnect the key warning switch connector. 2) Insert the key into ignition switch. (LOCK position) 3) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **6**.	Replace the key warning switch.
6	**CHECK KEY WARNING SWITCH.** 1) Remove the key from ignition switch. 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance 1 MΩ or more?	Check the following: • Harness for open circuits and shorts between the key warning switch and fuse. • Harness for open or short between the body integrated unit and key warning switch	Replace the key warning switch.

7. CHECK ROOM LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK ROOM LIGHT OPERATION.** Make sure the room light illuminates when the room light switch is ON, and goes off when the switch is OFF.	Does the room light illuminate or go off?	Go to step **2**.	Check the room light circuit. <Ref. to LI-68, INSPECTION, Room Light.>
2	**CHECK ROOM LIGHT OPERATION.** 1) Turn the room light switch to the "DOOR" position. 2) Open and close any door.	Does the room light illuminate ←→ go off (including off delay) when the door is opened and closed?	Go to step **3**.	Go to step **4**.
3	**CHECK KEYLESS ENTRY OPERATION.** Press the LOCK/UNLOCK button of the keyless transmitter.	Does it operate properly?	Room light is normal.	Check keyless entry system. <Ref. to SL-18, SYMPTOM CHART, INSPECTION, Keyless Entry System.>
4	**CHECK ROOM LIGHT.** 1) Disconnect the room light connector. 2) Check the room light. <Ref. to LI-68, INSPECTION, Room Light.>	Is room light normal?	Go to step **5**.	Replace the bulb or room light assembly.
5	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Check the harness between body integrated unit connector and room light connector. ***Connector & terminal*** ***(i84) No. 4 — (R52) No. 2:***	Is harness normal?	Go to step **6**.	Repair or replace the harness.
6	**CHECK HARNESS.** Measure the voltage between room light connector and chassis ground. ***Connector & terminal*** ***(R52) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Repair or replace the harness.

8. CHECK HAZARD LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK HAZARD LIGHT OPERATION.** Make sure the hazard light blinks when hazard switch is turned to ON.	Does the hazard light blink?	Go to step **2**.	Check the hazard light circuit.
2	**CHECK BODY INTEGRATED UNIT.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Hazard answer-back setup} from {Unit customizing}.	Is the setting ON?	Go to step **3**.	Turn the setting to ON.
3	**CHECK OUTPUT TO HAZARD LIGHT.** 1) Remove the key from ignition switch. 2) Prepare the Subaru Select Monitor kit. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) From {Current Data Display & Save}, select {Hazard Output}.	Is output signal present when operating the transmitter LOCK/UNLOCK button?	Go to step **4**.	Go to step **5**.
4	**CHECK KEYLESS ENTRY OPERATION.** Press the LOCK/UNLOCK button of the keyless transmitter.	Does it operate properly?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Check keyless entry system. <Ref. to SL-18, SYMPTOM CHART, INSPECTION, Keyless Entry System.>
5	**CHECK HAZARD LIGHT CIRCUIT.** 1) Disconnect the body integrated unit connector. 2) Disconnect the turn signal & hazard unit connector. 3) Measure the resistance between body integrated unit connector and turn signal & hazard unit connector. ***Connector & terminal*** ***(i171) No. 18 — (i170) No. 8:***	Is the resistance less than 10 Ω?	Check body integrated unit. <Ref. to BC(diag)-2, Basic Diagnostic Procedure.>	Repair or replace the harness.

9. CHECK KEYLESS BUZZER

	Step	Check	Yes	No
1	**CHECK KEYLESS BUZZER SETTING.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Answer-back buzzer setup} from {Unit customizing}.	Is the setting ON?	Go to step **2**.	Turn the setting to ON.
2	**CHECK BODY INTEGRATED UNIT.** 1) Select the {Function check} from {Integ. unit mode}. 2) Select the {Keyless Buzzer Output} and execute it.	Does the keyless buzzer sound?	Go to step **7**.	Go to step **3**.
3	**CHECK KEYLESS BUZZER CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector and keyless buzzer connector. 3) Measure the resistance between body integrated unit connector and keyless buzzer connector. ***Connector & terminal*** ***(B280) No. 20 — (B490) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK KEYLESS BUZZER CIRCUIT.** Measure the resistance between keyless buzzer connector and chassis ground. ***Connector & terminal*** ***(B490) No. 1 — Chassis ground:***	Is the resistance value 10 kΩ or more?	Go to step **5**.	Repair or replace the harness.
5	**CHECK KEYLESS BUZZER CIRCUIT.** Measure the resistance between keyless buzzer connector and chassis ground. ***Connector & terminal*** ***(B490) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the harness.
6	**CHECK BODY INTEGRATED UNIT.** 1) Select the {Function check} from {Integ. unit mode}. 2) Select the {Keyless Buzzer Output} and execute it. 3) Measure the voltage between body integrated unit connector and chassis ground.	Is the frequency 2 kHz, and the voltage 9 V or more?	Replace the keyless buzzer.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
7	**CHECK OUTPUT OF BODY INTEGRATED UNIT.** 1) Select the {Current Data Display & Save} from {Integ. unit mode}. 2) Select the {Keyless Buzzer Output}. 3) Press the LOCK/UNLOCK button of the keyless transmitter.	Is output signal present when operating the LOCK/UNLOCK button?	System is normal.	Inspect the keyless entry system. If there are no problems, replace the body integrated unit. • Inspection:<Ref. to SL-18, SYMPTOM CHART, INSPECTION, Keyless Entry System.> • Replacement:<Ref. to SL-80, Body Integrated Unit.>

10.CHECK DOOR LOCK SWITCH

For procedures, refer to the “INSPECTION OF DOOR LOCK SWITCH” of the “Door Lock Control System”. <Ref. to SL-12, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>

11.CHECK IGNITION SWITCH ILLUMINATION

	Step	Check	Yes	No
1	**CHECK IGNITION CIRCUIT.** Check the ignition circuit.	Is the circuit normal?	Go to step **2**.	Repair or replace.
2	**CHECK DOOR SWITCH CIRCUIT.** Inspect door switch circuit.	Is the circuit normal?	Go to step **3**.	Repair or replace.
3	**CHECK FUSE.** Remove and visually check fuse No. 18 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new part.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the ignition switch illumination connector. 2) Measure the voltage between ignition switch illumination connector and chassis ground. ***Connector & terminal*** ***(B350) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Check the harness for open or short circuits between the ignition switch illumination and fuse.
5	**CHECK IGNITION SWITCH ILLUMINATION CIRCUIT.** 1) Disconnect the body integrated unit connector. 2) Check the harness between body integrated unit connector and ignition switch illumination connector. ***Connector & terminal*** ***(B280) No. 25 — (B350) No. 2:***	Is harness normal?	Go to step **6**.	Check the harness for open circuits and shorts between the body integrated unit and ignition switch illumination.
6	**CHECK IGNITION SWITCH ILLUMINATION BULB.** Apply battery voltage to the bulb.	Does the bulb illuminate?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the ignition switch illumination bulb. <Ref. to LI-74, REMOVAL, Ignition Switch Illumination.>

5. Keyless Access System

A: WIRING DIAGRAM

For wiring diagrams related to the keyless access system, refer to the following items.
Keyless access system: <Ref. to WI-208, WIRING DIAGRAM, Keyless Access System.>
Push button start system: <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>

B: ELECTRICAL SPECIFICATION

Refer to “Control Module I/O Signal” of “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-11, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM

Refer to “Basic Diagnostic Procedure” of “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-2, Basic Diagnostic Procedure.>

6. Push Button Start System

A: WIRING DIAGRAM

For wiring diagrams related to the push button start system (ignition change), refer to the following items.
Keyless access system: <Ref. to WI-208, WIRING DIAGRAM, Keyless Access System.>
Push button start system: <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>

B: ELECTRICAL SPECIFICATION

Refer to “Control Module I/O Signal” of “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-11, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. IGNITION/ACC CHANGE FUNCTION CHECK

1) Check of push button ignition switch function
(1) Check the power supply change control through push button ignition switch, brake pedal, clutch pedal operation, and shift position.

Shift lever position	Brake pedal operation	Push button ignition switch operation
P	Released	Repeat Ignition OFF → ACC ON → Ignition ON → Ignition OFF
P	Released	Engine running → Ignition OFF
P	Depressed	Ignition OFF → Engine started
P	Depressed	ACC ON → Engine started
P	Depressed	Ignition ON → Engine started
P	Depressed	Engine running → Ignition OFF
N	Released	Repeat Ignition OFF → ACC ON → Ignition ON → ACC ON
N	Released	Engine running → ACC ON
N	Depressed	Ignition OFF → Engine started
N	Depressed	ACC ON → Engine started
N	Depressed	Ignition ON → Engine started
N	Depressed	Engine running → ACC ON
Other than P or N	Released	Repeat Ignition OFF → ACC ON → Ignition ON → ACC ON
Other than P or N	Released	Engine running → ACC ON
Other than P or N	Depressed	Ignition OFF → Ignition ON
Other than P or N	Depressed	ACC ON → Ignition ON
Other than P or N	Depressed	Engine running → ACC ON

(2) Check the changeover functions other than push button ignition switch operation.
With the ignition ON or ACC ON, and for the AT model with the select lever in “P” position, check that the ACC is ON → Ignition is OFF when the vehicle is left for 1 hour or more.
(3) If the inspection result indicates an improper operation, check the push button start system. <Ref. to KPS(diag)-87, POWER SUPPLY SWITCHING SYSTEM, INSPECTION, General Diagnostic Table.>

2) Check power status display
(1) Check the power indicator display of the push button ignition switch.

NOTE:
*1: Key collation is normal, and the stop light switch (AT) is ON.
Indicator display

Push button ignition switch status	Indicator lighting status
Ignition OFF (except for condition *1)	Light OFF
ACC ON (except for condition *1)	Orange light
Ignition ON (except for condition *1)	Orange light
Engine start standby (*1)	Green light
After engine is started	Light OFF

(2) If the inspection result indicates malfunction of the display, check the push button start system. <Ref. to KPS(diag)-87, POWER SUPPLY SWITCHING SYSTEM, INSPECTION, General Diagnostic Table.>

NOTE:
The indicator blinks if any of the following malfunctions are detected.

Detected malfunction	Indicator lighting status
Steering lock stuck	Green blinking
Clutch switch failure	Orange blinking
Steering lock CM internal malfunction	Orange blinking
Keyless access CM internal malfunction	Orange blinking

7. Security System

A: WIRING DIAGRAM

Refer to “Security System” in the wiring diagram. <Ref. to WI-277, WIRING DIAGRAM, Security System.>

B: ELECTRICAL SPECIFICATION

Refer to “Control Module I/O Signal” of “BODY CONTROL SYSTEM (DIAGNOSTICS)” section. <Ref. to BC(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

1. BASIC DIAGNOSTIC PROCEDURE

	Step	Check	Yes	No
1	**INITIAL CHECK.** Check the keyless entry system or keyless access system operation.	Does the keyless entry system or keyless access system operate normally?	Go to step **2**.	Check the keyless entry system or keyless access system. • Keyless entry system: <Ref. to SL-18, INSPECTION, Keyless Entry System.> • Keyless access system: <Ref. to KPS(diag)-4, KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM, CAUTION, General Description.>
2	**CHECK SECURITY ON/OFF SETTING.** 1) Press the LOCK button of the keyless transmitter or access key. 2) Check the security indicator light blinking patterns.	Is the security indicator light blinking patterns as follows? / When monitoring lag is set to 0 seconds: flashes twice within 0.5 seconds, in 2 second intervals / When monitoring lag is set to 30 seconds: illuminates for 0.2 seconds and flashes for 0.2 seconds within 30 seconds.	Go to step **5**.	Go to step **3**.

Step		Check	Yes	No
3	**CHANGE SETTING OF SECURITY SYSTEM.** Change the setting of security system to ON. <Ref. to SL-34, SECURITY SYSTEM ON/OFF SETTING, INSPECTION, Security System.>	Is setting change completed correctly?	Go to step **4**.	• Check the ignition switch circuit. <Ref. to SL-35, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.> • Check the push button ignition switch circuit. <Ref. to SL-109, Push Button Ignition Switch.> • Check the door lock switch circuit. <Ref. to SL-28, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.>
4	**CHECK SETTING CHANGE OF SECURITY SYSTEM.** 1) Remove the key from ignition switch or turn the ignition switch to OFF, and close all doors. 2) Press the LOCK button of the keyless transmitter or access key. 3) Check the security indicator light blinking patterns.	Is the security indicator light blinking patterns as follows? / When monitoring lag is set to 0 seconds: flashes twice within 0.5 seconds, in 2 second intervals / When monitoring lag is set to 30 seconds: illuminates for 0.2 seconds and flashes for 0.2 seconds within 30 seconds.	Go to step **5**.	Check the security indicator light. <Ref. to SL-35, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.>
5	**CHECK SECURITY SYSTEM OPERATION.** Press the LOCK button on the keyless transmitter or access key, then wait for 30 seconds.	Does the security indicator light blink twice within 0.5 seconds in 2 second intervals?	Go to step **6**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
6	**CHECK SECURITY ALARM OPERATION.** 1) Unlock all doors using the door lock switch on driver's door. 2) Open any door, trunk lid or rear gate.	Does the security alarm operate when opening any door, trunk lid, or rear gate?	Go to step **7**.	Check the door switches, trunk lid latch switch or rear gate latch switch. <Ref. to SL-34, CHECK DOOR SWITCH, INSPECTION, Security System.>
7	**CHECK SECURITY ALARM OPERATION.** Check the security alarm operation.	Do all security alarms operate? / Horn sound / Hazard lights flash / Security indicator light illuminates	Go to step **8**.	• Check the horn. <Ref. to SL-35, CHECK HORN, INSPECTION, Security System.> • Check the hazard light. <Ref. to SL-35, CHECK HAZARD LIGHT OPERATION, INSPECTION, Security System.>

	Step	Check	Yes	No
8	**CHECK SECURITY ALARM CANCEL OPERATION.** Press any button of transmitter while the security alarm is operating. Or turn the ignition switch to ON.	Do all security alarms stop? / Horn / Hazard lights	Go to step **9**.	Check the ignition switch circuit. <Ref. to SL-35, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.>
9	**CHECK SECURITY SYSTEM CONDITION MEMORY.** Check that the system functions properly even when the battery is not connected temporarily. <Ref. to SL-34, CHECK SECURITY SYSTEM CONDITION MEMORY, INSPECTION, Security System.>	Does the system function properly when the battery is not connected temporarily?	Go to step **10**.	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>
10	**CHECK IMPACT SENSOR (DEALER OPTION).** Check the sensibility of impact sensor. <Ref. to SL-75, CHECK IMPACT SENSOR, ADJUSTMENT, Impact Sensor.>	Is the sensibility set properly?	Press the UNLOCK button on the keyless transmitter or access key to finish the diagnosis.	Adjust the sensitivity. <Ref. to SL-76, IMPACT SENSITIVITY ADJUSTMENT, ADJUSTMENT, Impact Sensor.>

NOTE:
If the horn sounds when the security is turned on (monitor condition) using the keyless transmitter, check the function setting of the body integrated unit. As a cause, it is possible that the impact sensor present (ON) / not present (OFF) setting is set to ON in the customization function though there is no impact sensor. <Ref. to BC(diag)-17, User Customizing.>

2. CHECK SECURITY SYSTEM CONDITION MEMORY

1) Pull out the key from the ignition switch, or turn the ignition to OFF.
2) Close all the doors, trunk lid and rear gate.
3) Open the front hood.
4) Press the LOCK button of the keyless transmitter or access key.

NOTE:
Wait until the security indicator light blinks twice within 0.5 seconds at 2 second intervals.
If the 30 second monitoring lag has been set, wait for 30 seconds.
5) Disconnect the ground cable from battery.
6) Connect the battery ground terminal.
7) Check that the security indicator light blinks twice within 0.5 seconds at 2 second intervals. When it does not blink, replace the body integrated unit.

3. SECURITY SYSTEM ON/OFF SETTING

1) Close all doors and rear gate, and sit in the driver's seat. Press the UNLOCK button of the access key.
2) Press the push button ignition switch to turn ignition ON.
3) Press the central door unlock switch and open the driver's door simultaneously. (Keep the central door unlock switch pressed down.)
4) When the condition in step 3) continues for 10 seconds, the system switches to a mode reverse to the current mode.

Setting	Horn activation	Meter display
ON → OFF	2 times	[AL_OF]
OFF → ON	Once	[AL_ON]

4. CHECK DOOR SWITCH

For operation procedure, refer to "CHECK DOOR SWITCH" of "Keyless Entry System". <Ref. to SL-22, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>

5. CHECK SECURITY INDICATOR LIGHT CIRCUIT

For operation procedures, refer to “CHECK SECURITY INDICATOR LIGHT CIRCUIT” of “IMMOBILIZER (DIAGNOSTICS)” section. <Ref. to IM(diag)-11, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Diagnostics Chart for Security Indicator Light.>

6. CHECK HORN

	Step	Check	Yes	No
1	**CHECK HORN OPERATION.** Check the horn sounds when the horn switch is pushed.	Does the horn sound?	Go to step **2**.	Check the horn circuit.
2	**CHECK OUTPUT TO HORN RELAY.** 1) Connect the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Function check}. 5) Select {Horn Output} and execute.	Does the horn sound?	Horn circuit is OK.	Go to step **3**.
3	**CHECK HORN RELAY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Remove the horn relay. 4) Measure the resistance between body integrated unit connector and horn relay. ***Connector & terminal*** ***(B280) No. 24 — Horn relay No. 4:***	Is the resistance less than 10 Ω?	Check body integrated unit. <Ref. to BC(diag)-2, Basic Diagnostic Procedure.>	Repair or replace the harness.

7. CHECK HAZARD LIGHT OPERATION

For operation procedure, refer to “CHECK HAZARD LIGHT OPERATION” of “Keyless Entry System”. <Ref. to SL-26, CHECK HAZARD LIGHT OPERATION, INSPECTION, Keyless Entry System.>

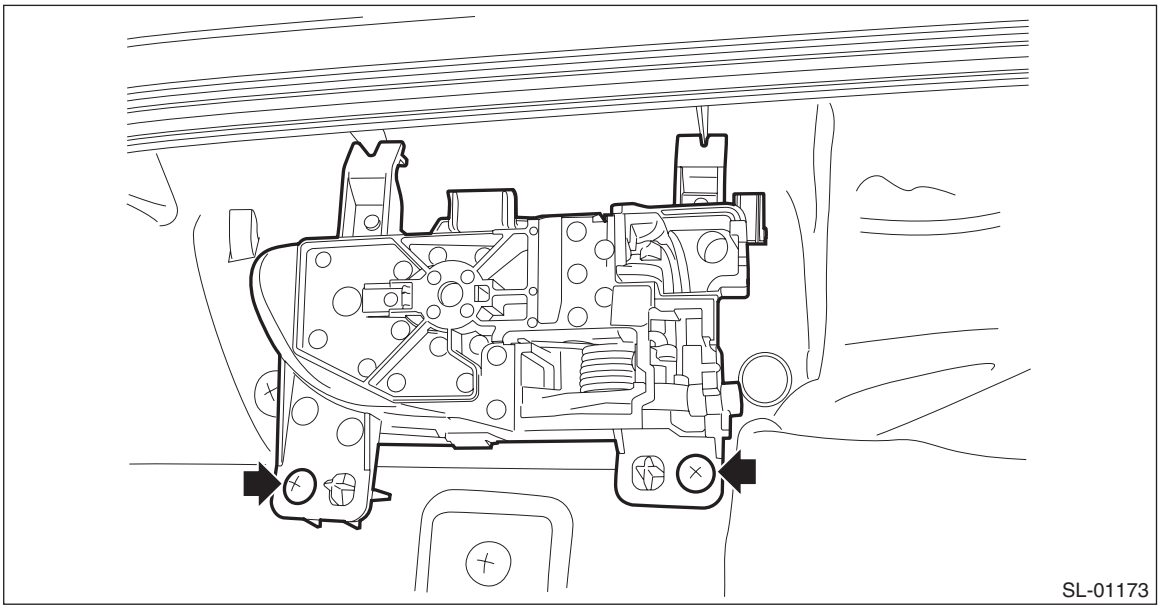
8. CHECK IGNITION SWITCH CIRCUIT

	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH VOLTAGE.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”. 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select {Current Data Display & Save}. 5) Select the {BATT voltage} and {IG power supply voltage}.	Does the {IG power supply voltage} indicates 0 V when ignition is OFF or a value in a range of ±1 V from the {BATT voltage} when ignition is ON.	The ignition switch input circuit is OK.	Go to step **2**.
2	**CHECK IGNITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(i171) No. 17 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check body integrated unit. <Ref. to BC(diag)-2, Basic Diagnostic Procedure.>	Check the harness for open or short circuit between body integrated unit and fuse.

8. Front Inner Remote

A: REMOVAL

1) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the screws to detach the front inner remote handle.



B: INSTALLATION

1) Before installation, check the following items.
- Cable is free from deformation such as fray.
- Grease is applied sufficiently to cable joints.

If grease is insufficient, add it as necessary before assembling the cable.
2) Install each part in the reverse order of removal.

C: INSPECTION

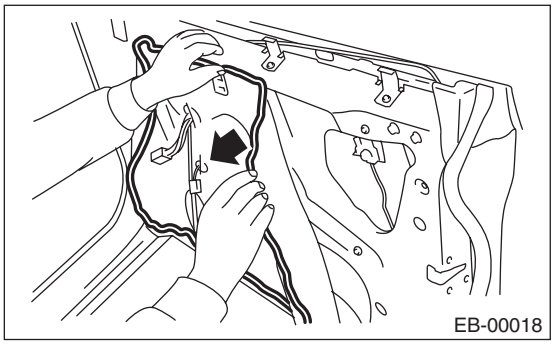
Check if the front remote handle operates normally.
- If the lever is faulty, replace the front inner remote handle.
- If the cable is deformed, replace the front door latch & door lock actuator assembly.

9. Front Outer Handle

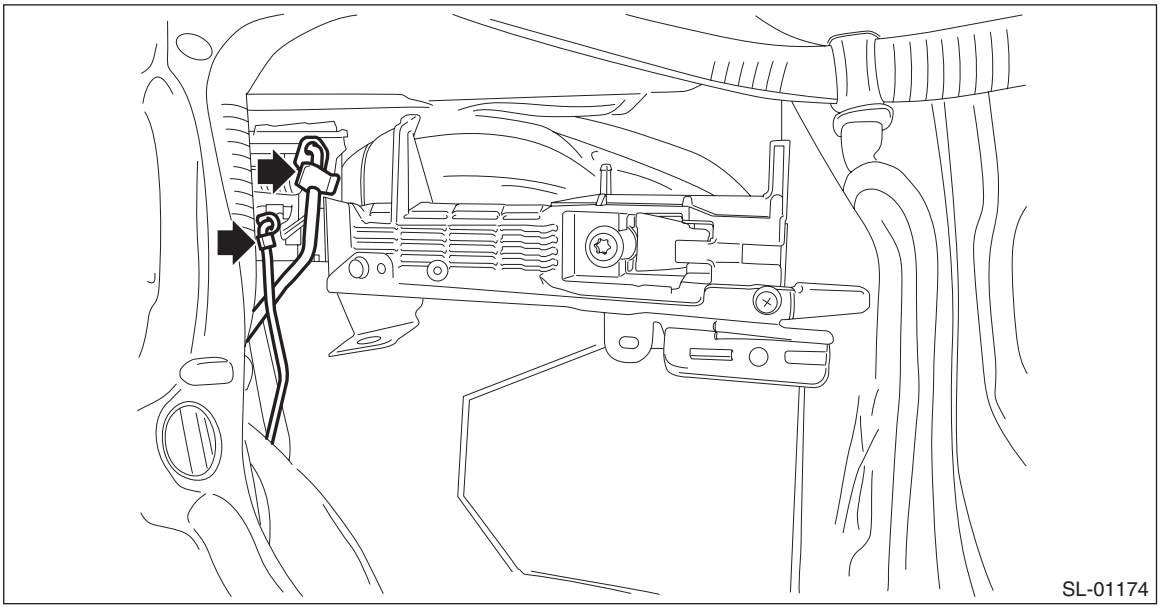
A: REMOVAL

1) Raise the front door glass to the top position.
2) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
3) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**



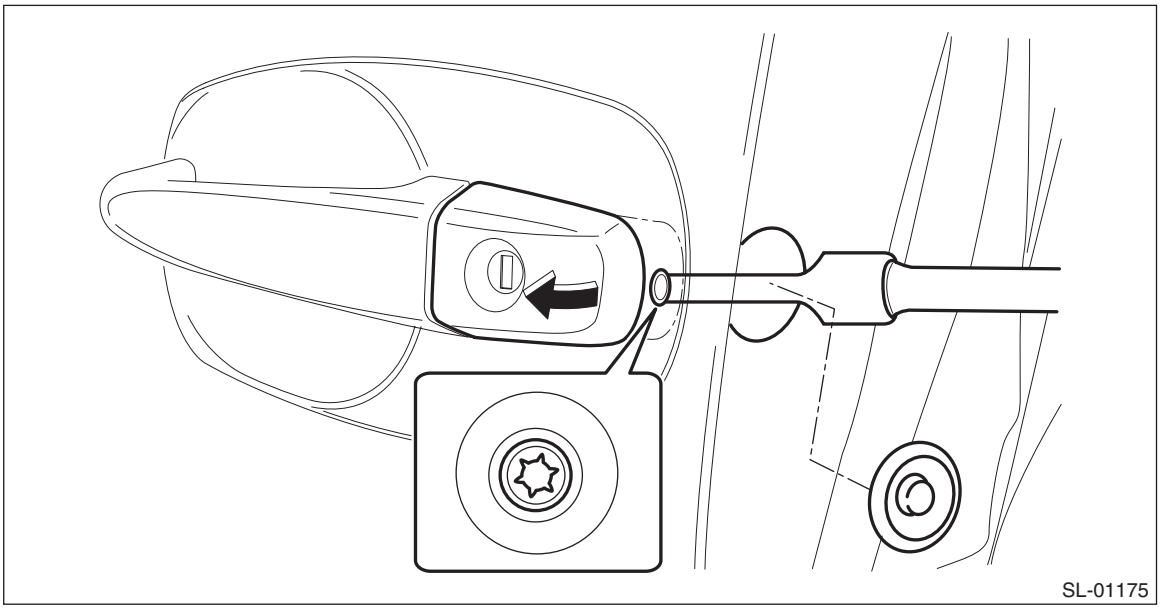
4) Remove the rod from the outer handle rod clamp.



5) Remove the door outer handle cover.

Preparation tool:
TORX® T30

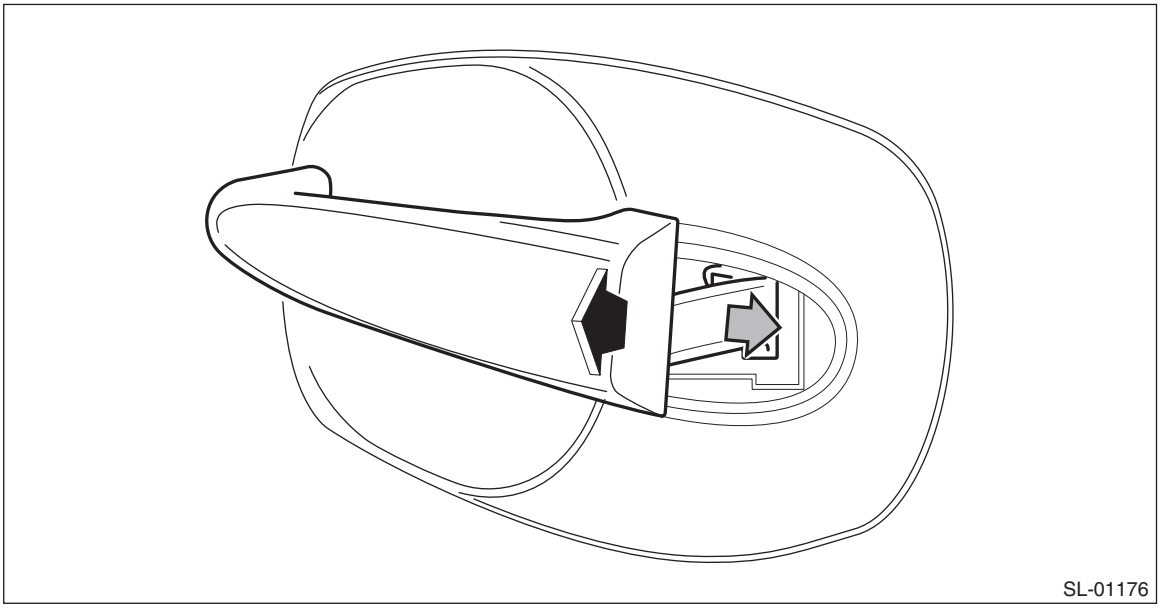
(1) Remove the plug to the rear of the door panel.
(2) Loosen the TORX® bolt and remove the door outer handle cover.



6) Remove the front outer handle.

CAUTION:
Do not apply excessive force to remove the handle from the door panel. The door panel may become deformed.

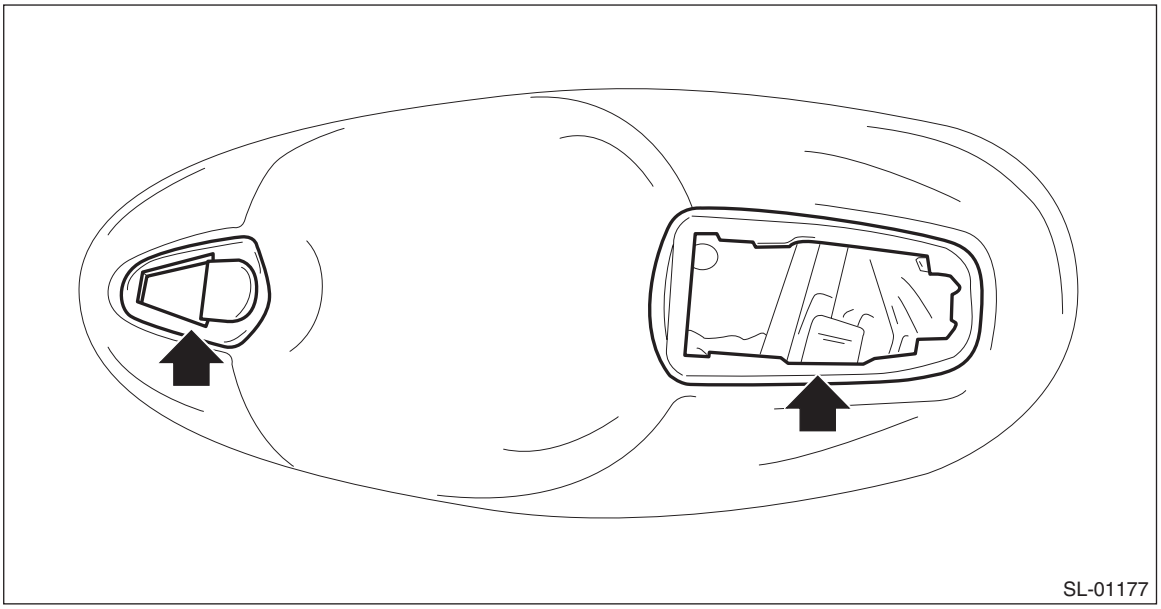
(1) On models with keyless access, disconnect the connectors.
(2) Move the front outer handle towards the rear, and remove the front outer handle.



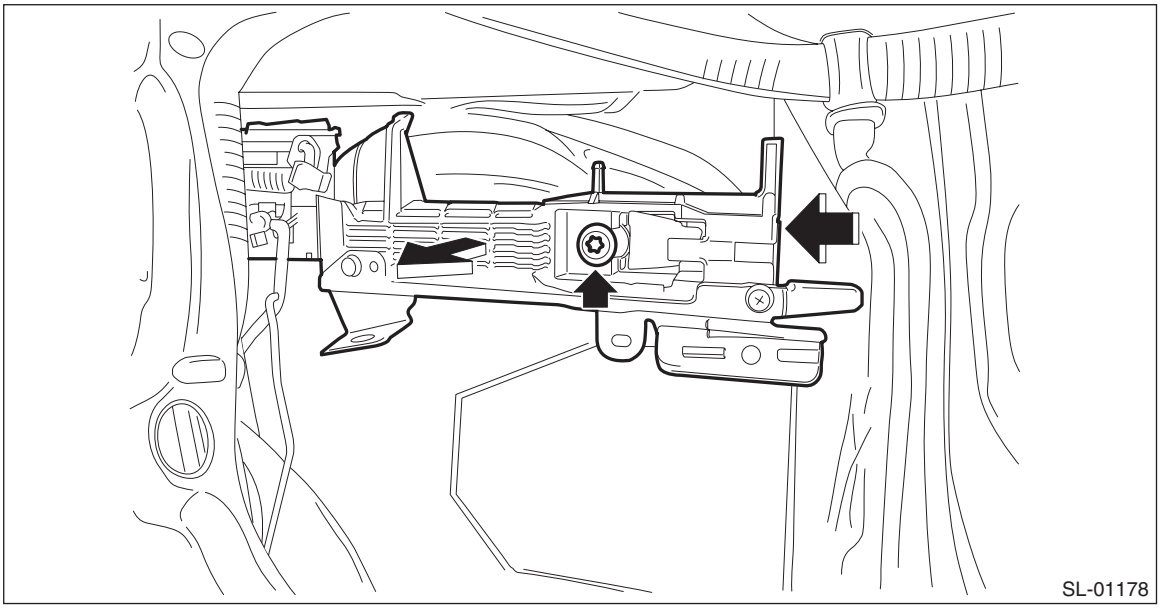
7) Remove the frame assembly.

Preparation tool:
TORX® T30

(1) Remove the outer side spacer.



(2) Loosen the TORX® bolt and remove the frame assembly from the door panel.



B: INSTALLATION

1) Before installation, check the following items.
- Rod is free from deformation.
- Grease is applied sufficiently to rod joints.

If grease is insufficient, add it as necessary before assembling the rod.
2) Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

C: INSPECTION

1) Check if the front outer handle operates normally.
- If the lever is faulty, replace the front outer handle.
- If the rod is deformed, replace the front door latch & door lock actuator assembly.

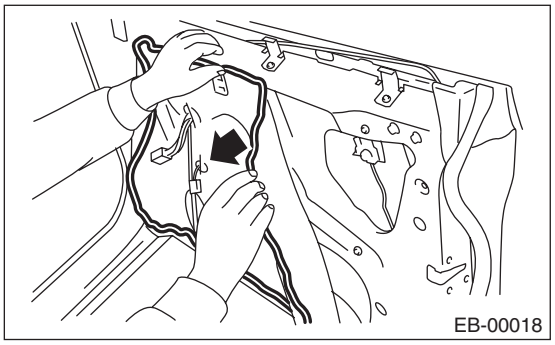
2) For model with keyless access system, check that keyless access function operates normally.
If the system does not operate normally, refer to KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS). <Ref. to KPS(diag)-86, KEYLESS ACCESS SYSTEM, INSPECTION, General Diagnostic Table.>

10.Front Door Latch and Door Lock Actuator Assembly

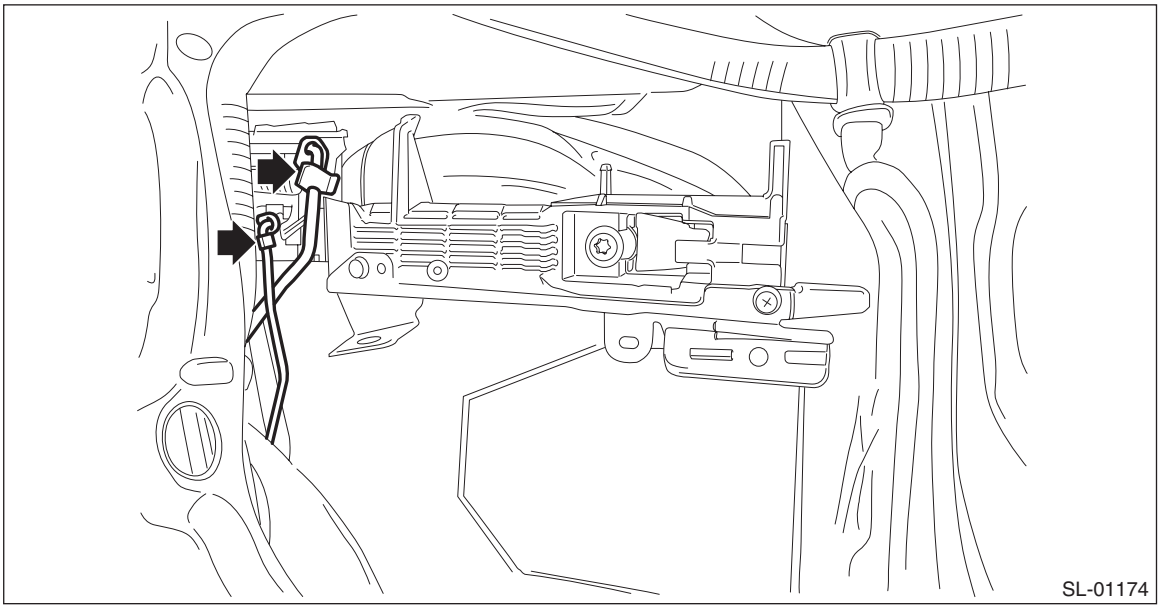
A: REMOVAL

1) Raise the front door glass to the top position.
2) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
3) Remove the sealing cover.

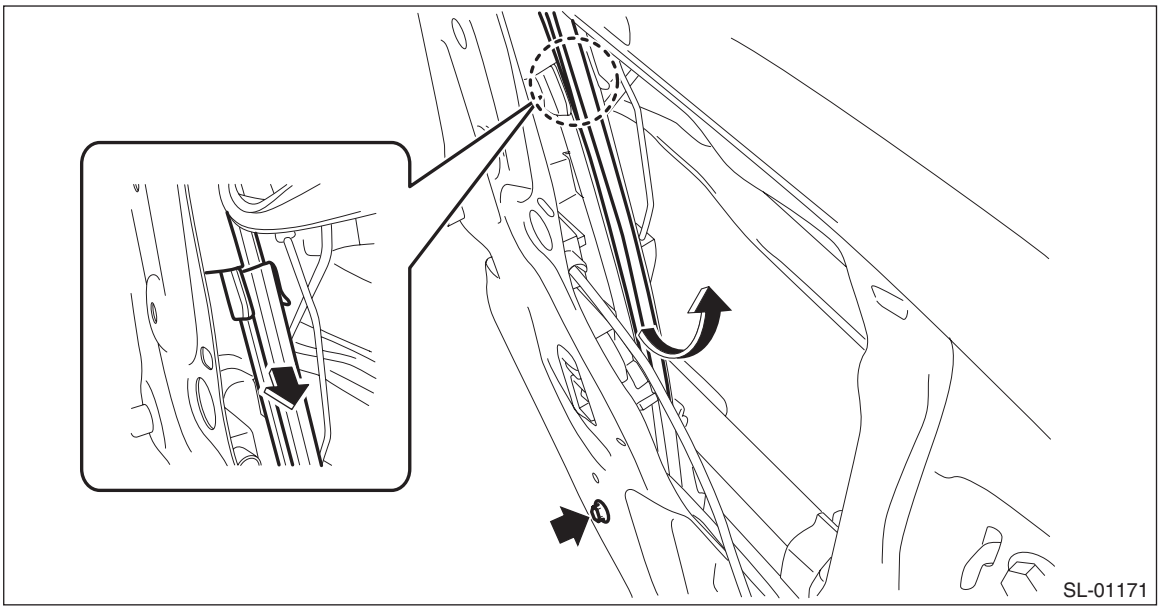
CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**



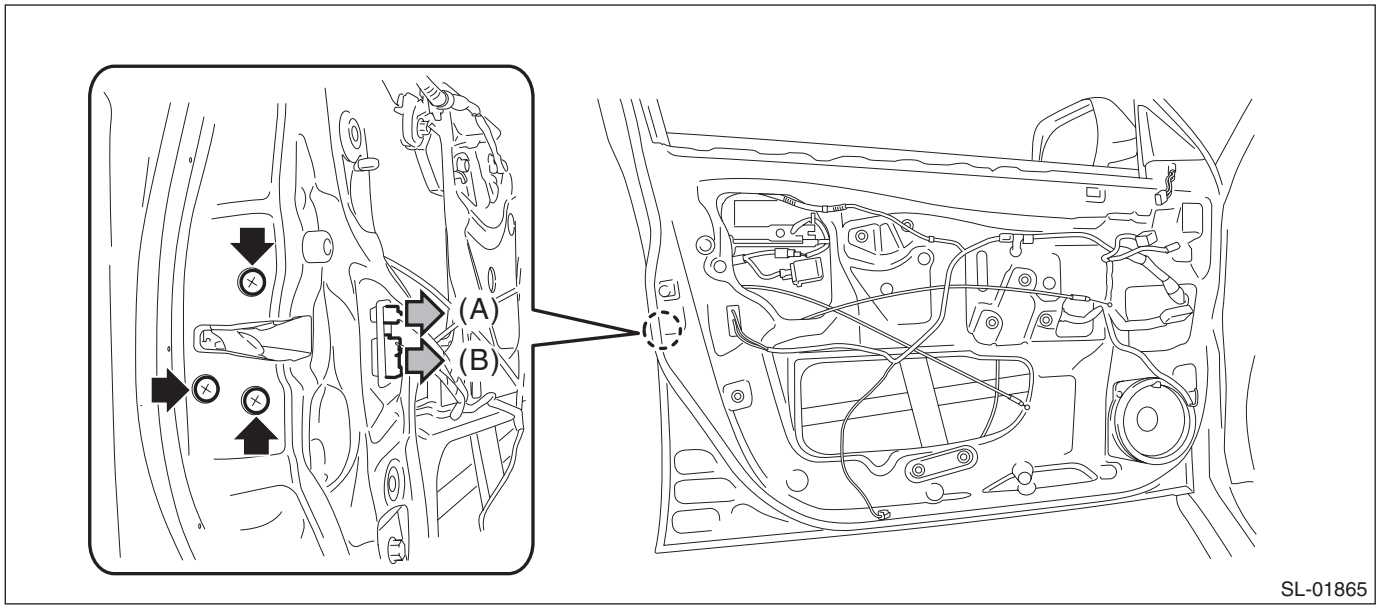
4) Remove the rod from the outer handle rod clamp.



5) Remove the door sash lower.
(1) Remove the lower side of the glass run rubber.
(2) Remove the bolts, and then remove the door sash lower.



6) Remove the front door latch and door lock actuator assembly.
(1) Disconnect the connector.
(2) Remove the screws, and remove the front door latch & door lock actuator assembly.



(A) Door lock actuator connector
(B) Status switch connector (model with keyless access)

B: INSTALLATION

1) Before installation, check the following items.
- Cable and rod are free from deformation.
- Grease is applied sufficiently to rod joints.

If grease is insufficient, add it as necessary before assembling the rod.
2) Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

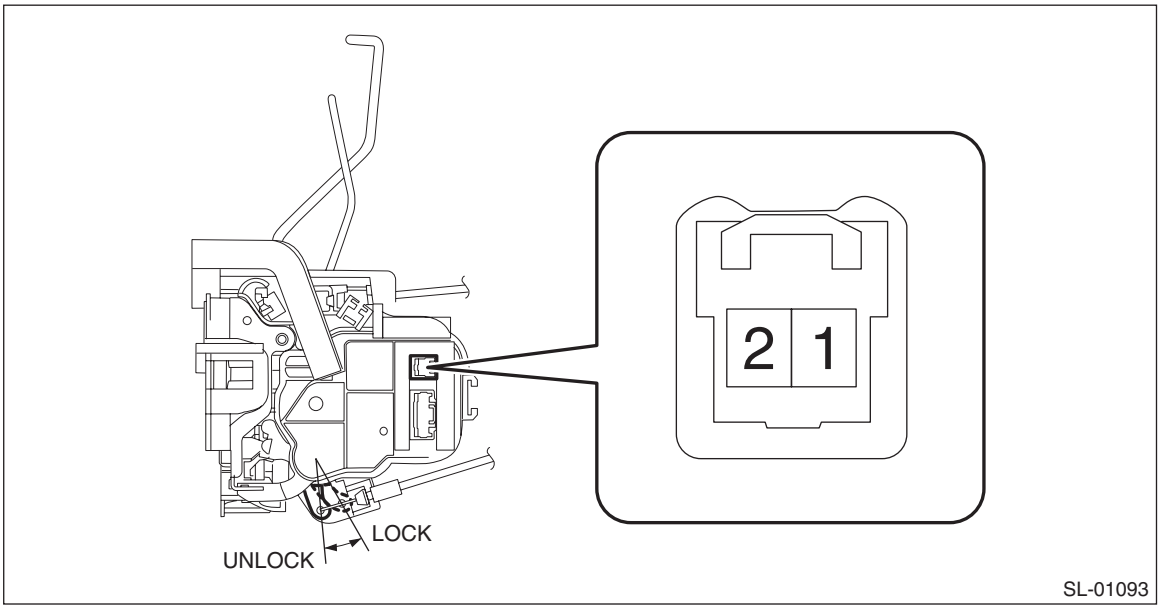
C: INSPECTION

1. FRONT DOOR LATCH

Check if the front door latch operates normally.
If the cable or rod is faulty, replace the front door latch & door lock actuator assembly.

2. FRONT DOOR LOCK ACTUATOR (MODEL WITHOUT DOUBLE LOCK)

1) Disconnect the front door lock actuator connector.
2) Check the door lock operation by applying battery voltage between the terminals of front door lock actuator.



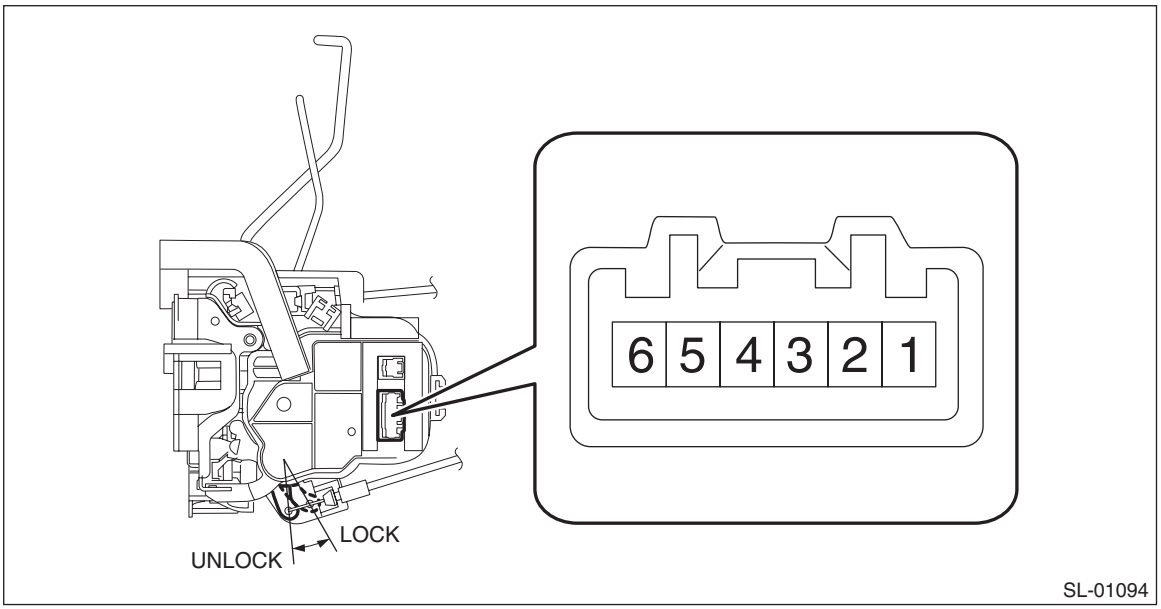
Inspection conditions	Terminal No.	
	1	2
LOCK → UNLOCK	–	+
UNLOCK → LOCK	+	–

3) If the actuator does not operate normally, replace the front door latch & door lock actuator assembly.

3. CHECK STATUS SWITCH (WITH KEYLESS ACCESS)

1) Disconnect the status switch connector.
2) Measure the resistance between status switch terminals.

Preparation tool:
Circuit tester



- RH

Terminal No.	Inspection conditions	Standard
1 — 3	LOCK	1 MΩ or more
	UNLOCK	Less than 1 Ω

- LH

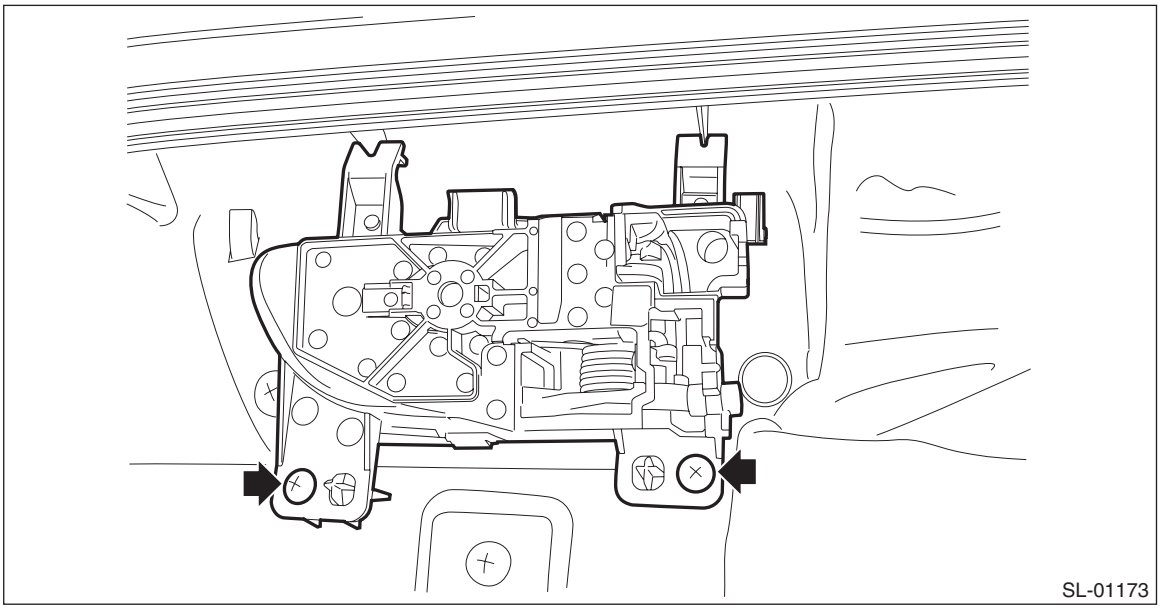
Terminal No.	Inspection conditions	Standard
4 — 6	LOCK	1 MΩ or more
	UNLOCK	Less than 1 Ω

3) If the inspection result is not within the standard value, replace the front door latch & door lock actuator assembly.

11.Rear Inner Remote

A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>
2) Remove the screws and detach the rear inner remote handle.



B: INSTALLATION

1) Before installation, check the following items.
- Cable is free from deformation such as fray.
- Grease is applied sufficiently to cable joints.

If grease is insufficient, add it as necessary before assembling the cable.
2) Install each part in the reverse order of removal.

C: INSPECTION

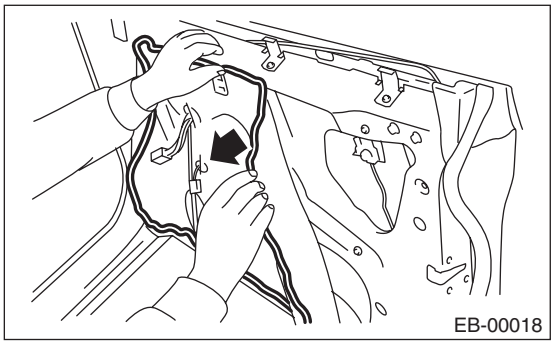
Check if the rear remote handle operates normally.
- If the lever is faulty, replace the rear inner remote handle.
- If the cable is deformed, replace the rear door latch & door lock actuator assembly.

12.Rear Outer Handle

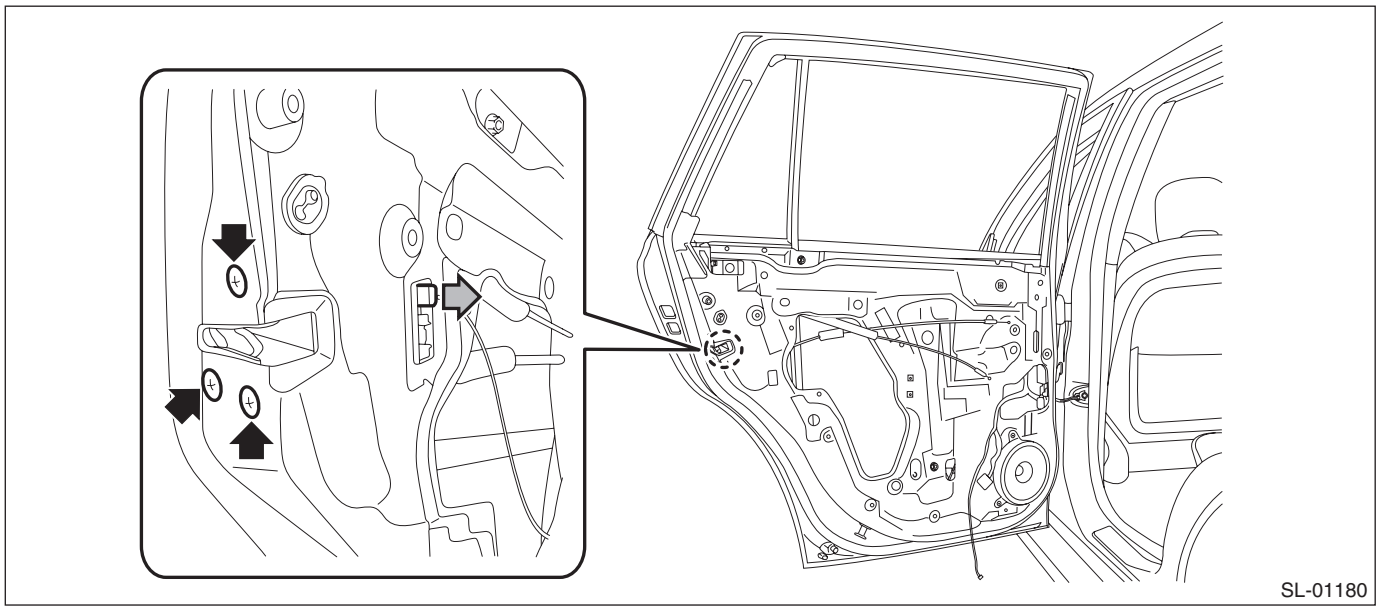
A: REMOVAL

1) Raise the rear door glass to the top position.
2) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>
3) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**


EB-00018

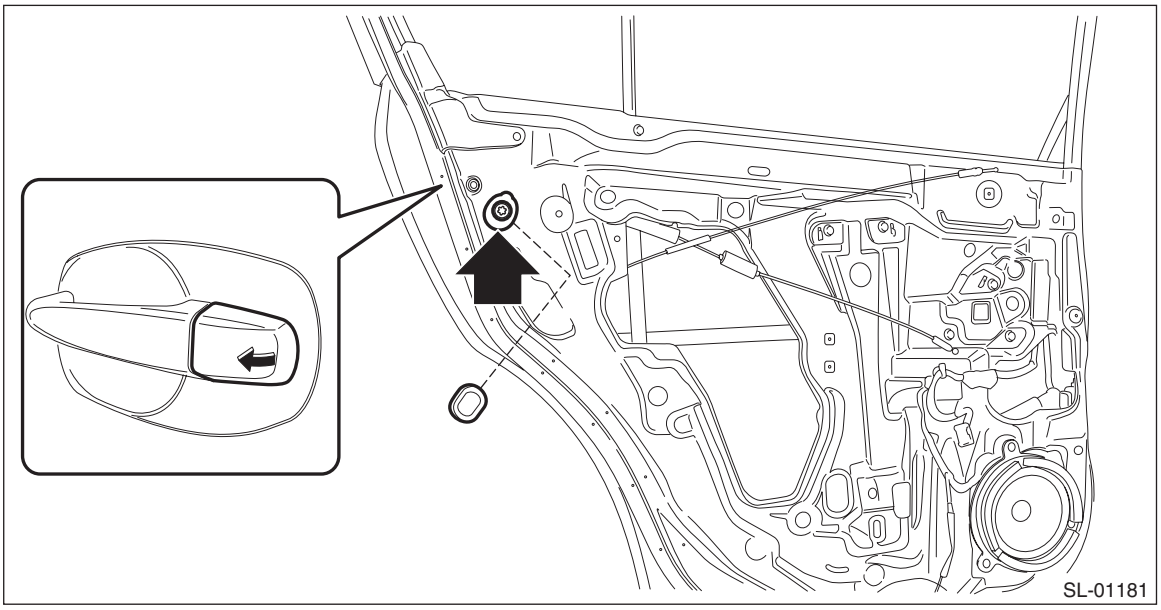
4) Move downward the rear door latch & door lock actuator assembly.
   (1) Disconnect the connector.
   (2) Remove the screws and move downward the rear door latch & door lock actuator assembly.


SL-01180

5) Remove the door outer handle cover.

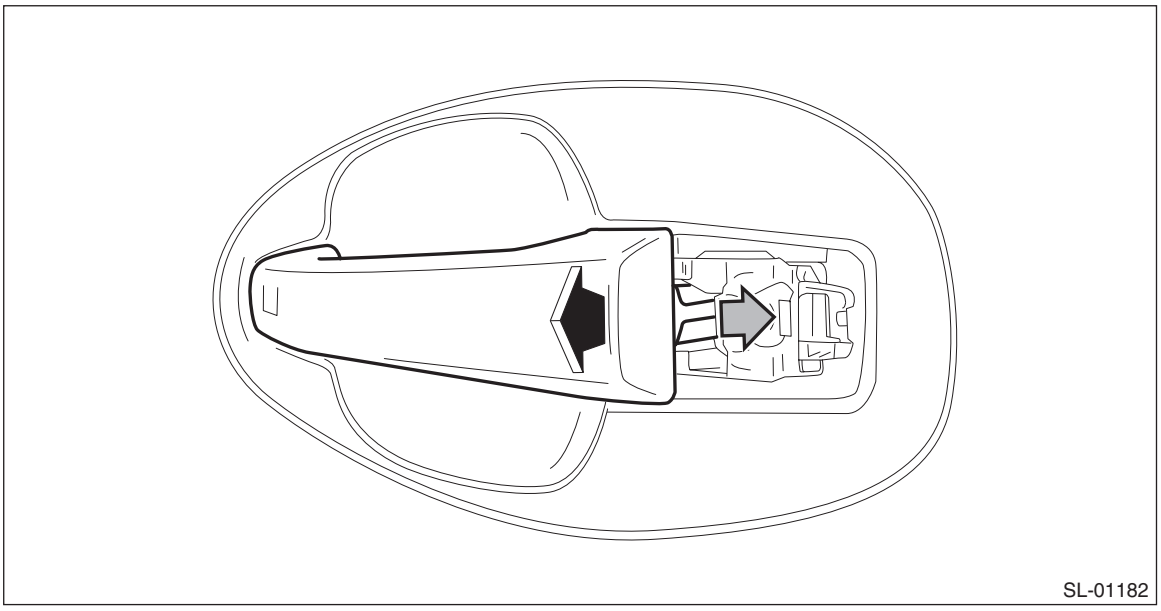
Preparation tool:
TORX® T30

(1) Remove the child protector cover.
(2) Loosen the TORX® bolt and remove the door outer handle cover.


SL-01181

6) Remove the rear outer handle by moving it rearward.

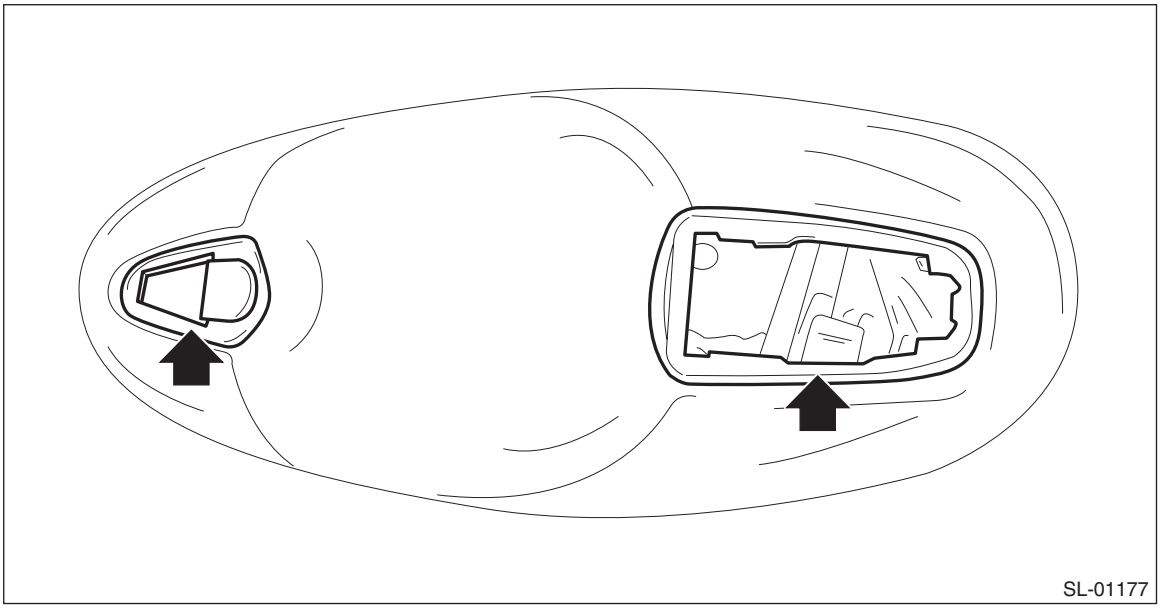
CAUTION:
Do not apply excessive force to remove the handle from the door panel. The door panel may become deformed.


SL-01182

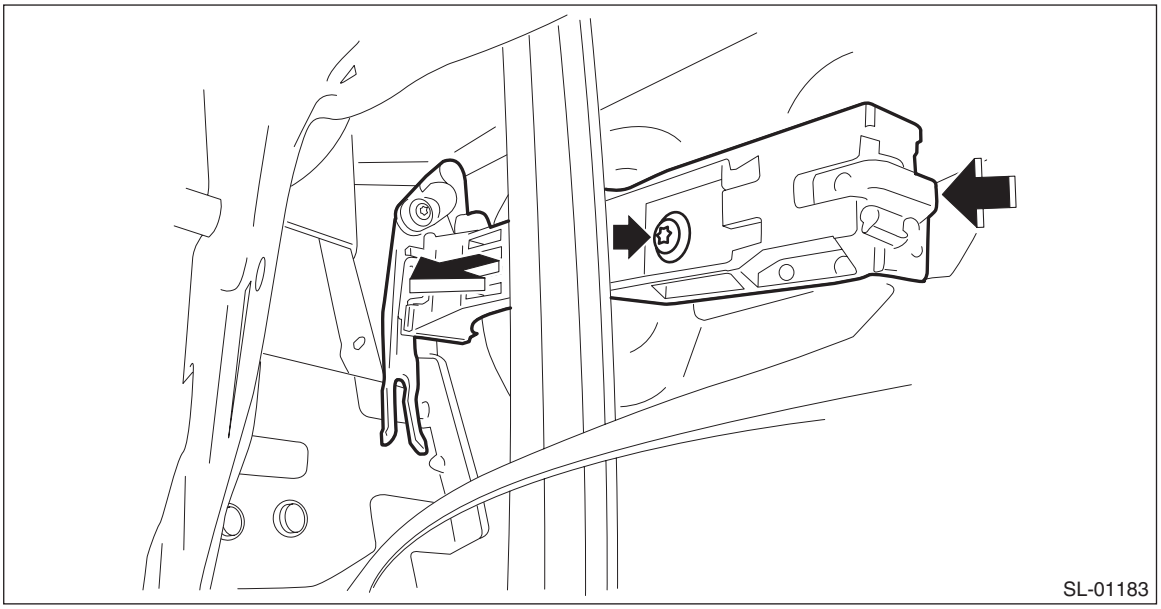
7) Remove the frame assembly.

Preparation tool:
TORX® T30

(1) Remove the outer side spacer.


SL-01177

(2) Remove the TORX® bolt and remove the frame assembly from the door panel.


SL-01183

B: INSTALLATION

1) Before installation, check the following items.
- Lever is free from deformation.
- Grease is applied sufficiently to lever joints.

If grease is insufficient, add it as necessary before assembling.
2) Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

C: INSPECTION

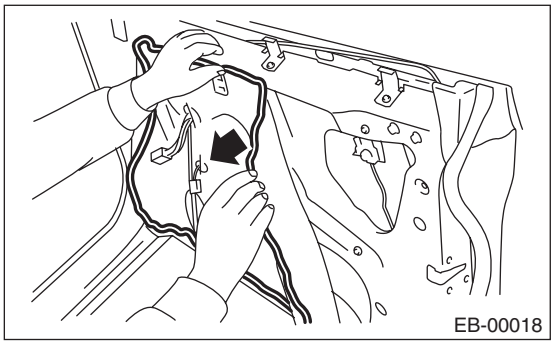
Check if the rear outer handle operates normally.
If the lever is faulty, replace the rear outer handle.

13.Rear Door Latch and Door Lock Actuator Assembly

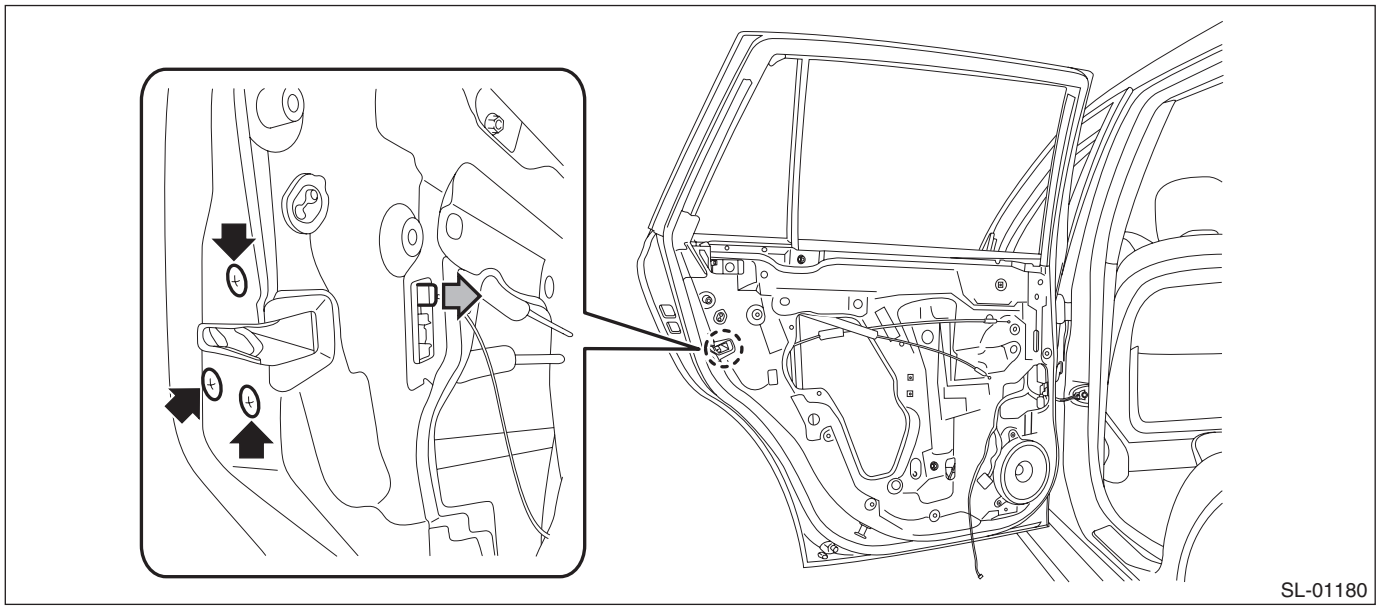
A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear door trim. <Ref. to EI-60, REAR DOOR, REMOVAL, Door Trim.>
3) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**



4) Remove the rear door glass. <Ref. to GW-30, REMOVAL, Rear Door Glass.>
5) Remove the rear door latch and door lock actuator assembly.
   (1) Disconnect the connector.
   (2) Remove the screws, and remove the rear door latch & door lock actuator assembly.



B: INSTALLATION

1) Before installation, check the following items.
- Cable is free from deformation.
- Grease is applied sufficiently to lever joints.

If grease is insufficient, add it as necessary before assembling.
2) Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

NOTE:
Make sure the child safety lock works correctly after installation.

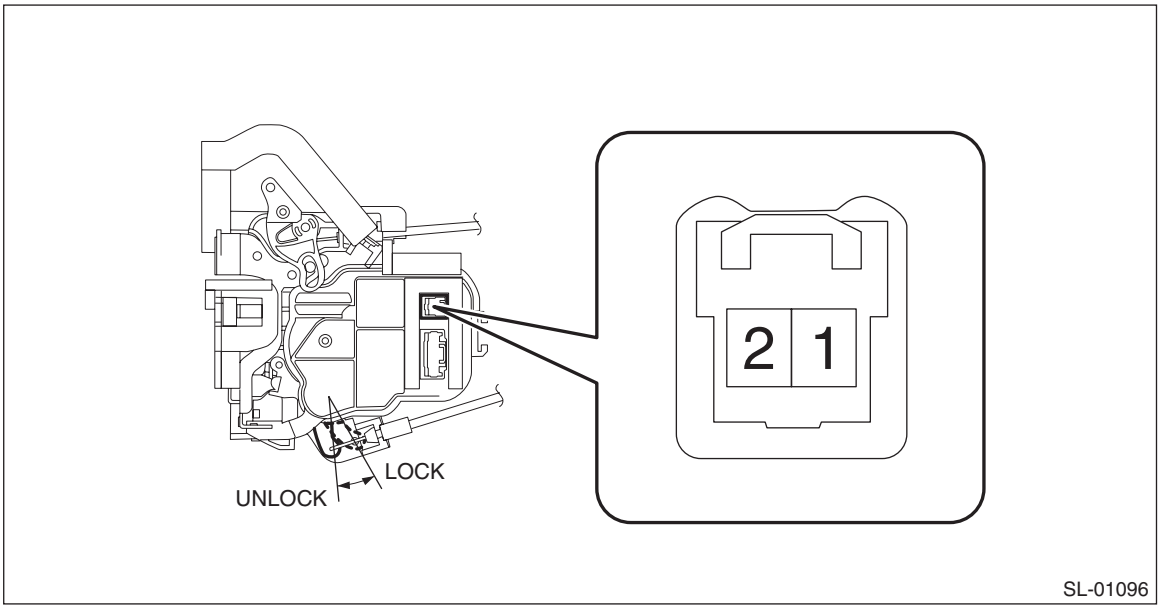
C: INSPECTION

1. REAR DOOR LATCH

Check if the rear door latch operates normally.
If the cable is faulty, replace the rear door latch & door lock actuator assembly.

2. REAR DOOR LOCK ACTUATOR

1) Disconnect the rear door lock actuator connector.
2) Check the door lock operation by applying battery voltage between the terminals of rear door lock actuator.



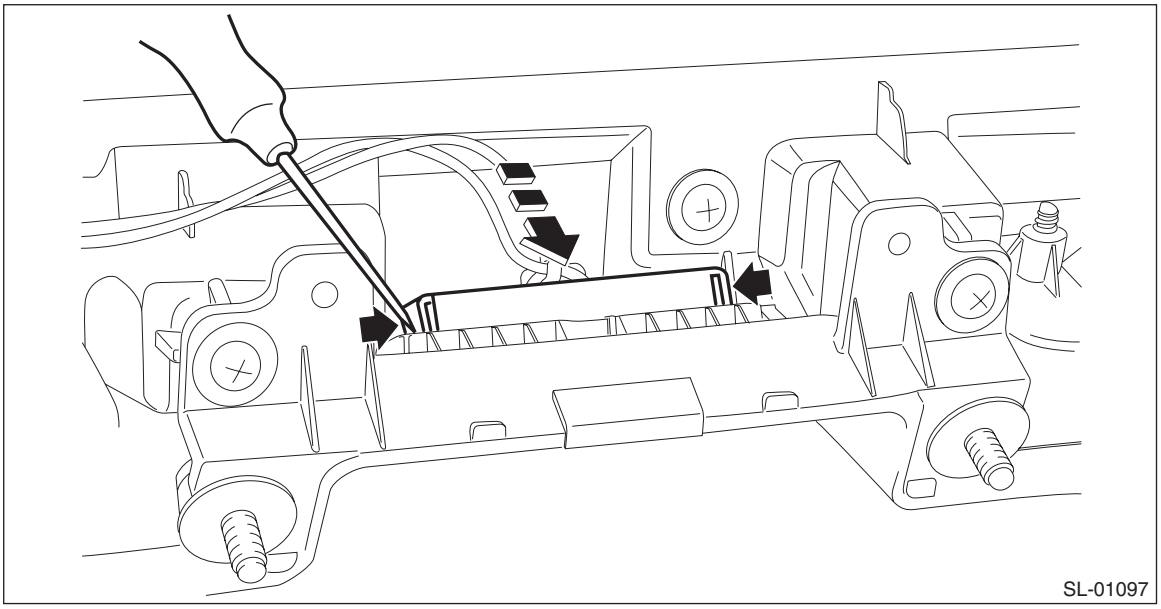
Inspection conditions	Terminal No.	
	1	2
LOCK → UNLOCK	–	+
UNLOCK → LOCK	+	–

3) If the actuator does not operate normally, replace the rear door latch & door lock actuator assembly.

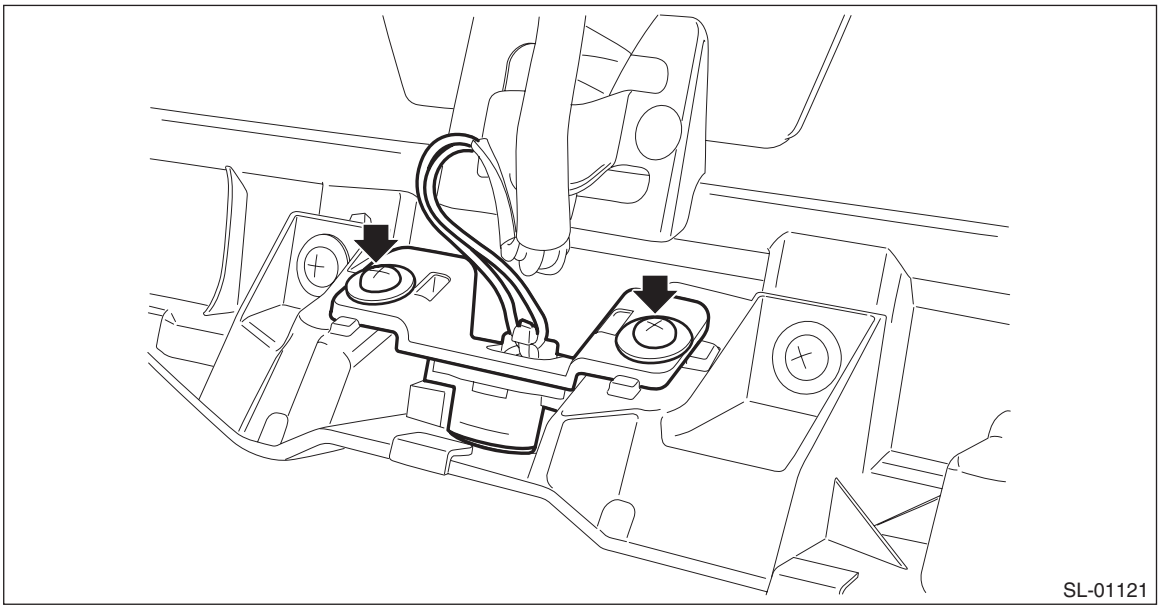
14.Rear Gate Opener Button

A: REMOVAL

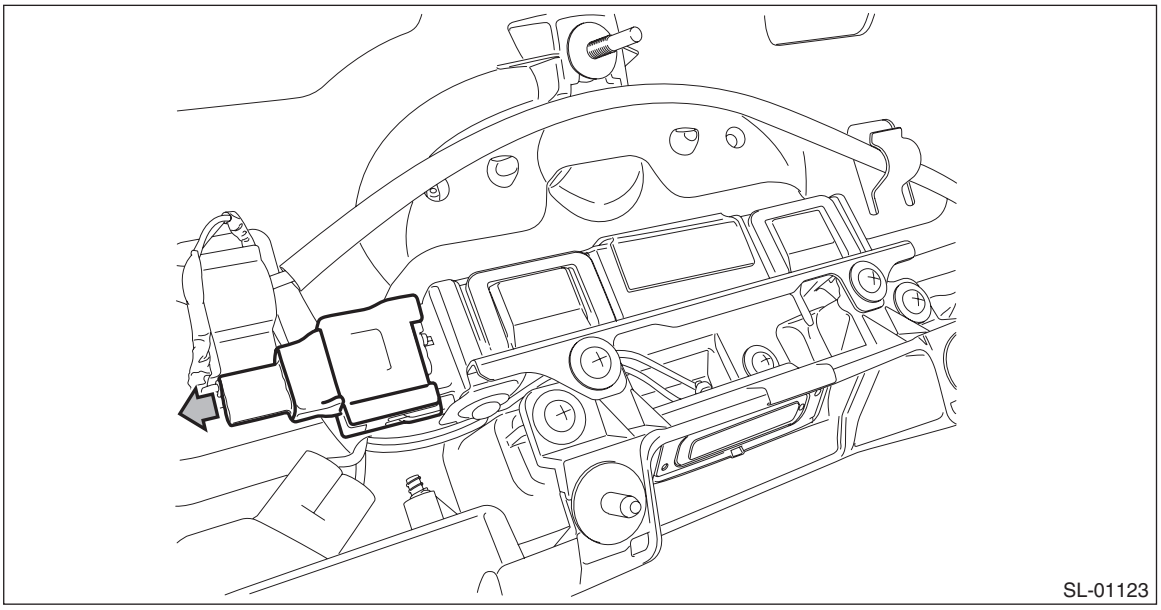
NOTE:
The rear gate opener button is integrated into the license plate light assembly harness.
1) Remove the rear gate garnish. <Ref. to EI-171, REMOVAL, Rear Gate Garnish.>
2) Remove the rear gate opener button.
(1) Release the locks at both ends of the rear gate opener button by pushing with a flat tip screwdriver.



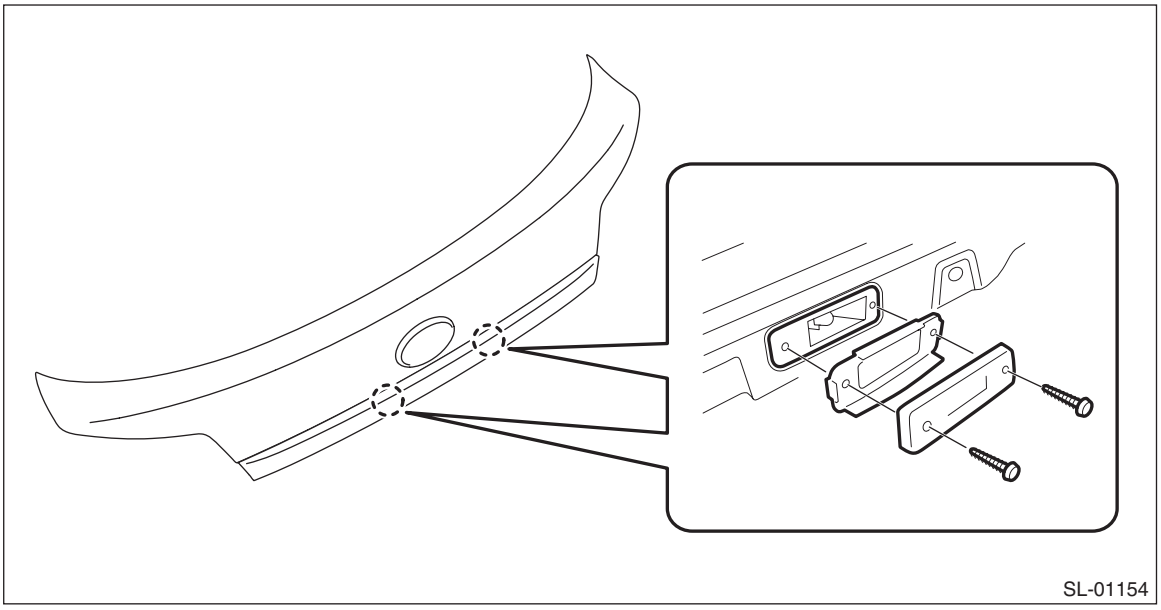
(2) Remove the screws and remove the rear lock button (lock). (model with keyless access)



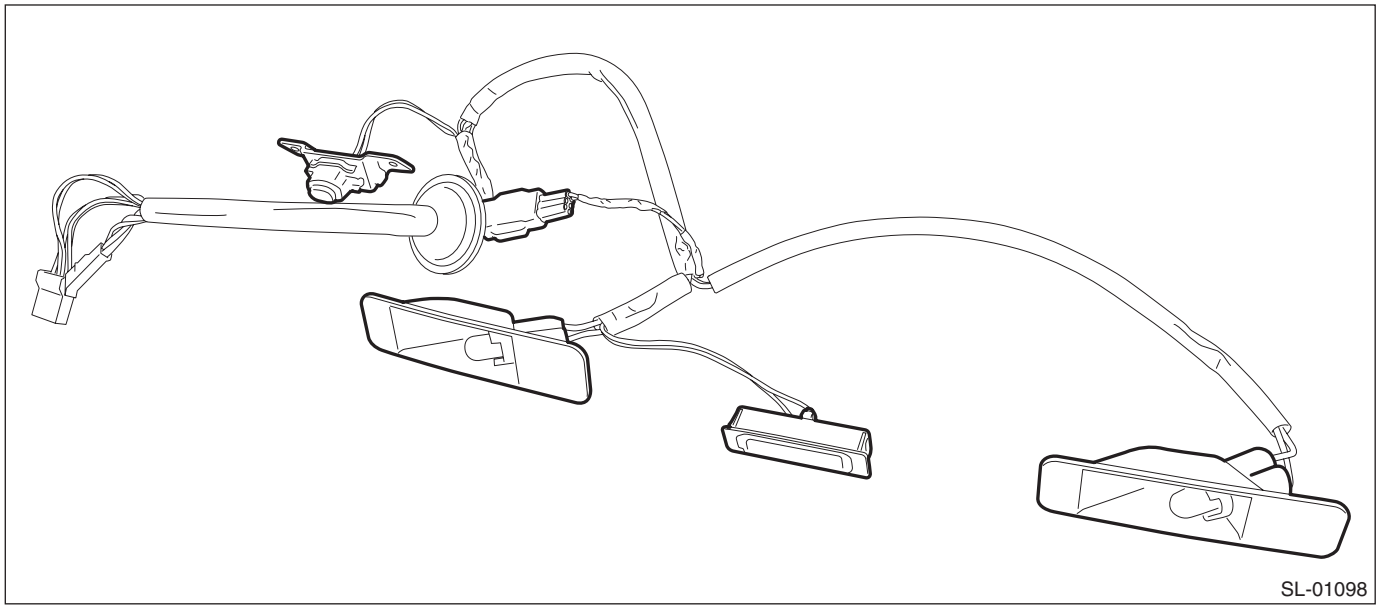
(3) Disconnect the rear exterior antenna connector. (model with keyless access)



(4) Remove the screws and remove the license plate light.



(5) Remove the license plate light assembly harness from the rear gate garnish.



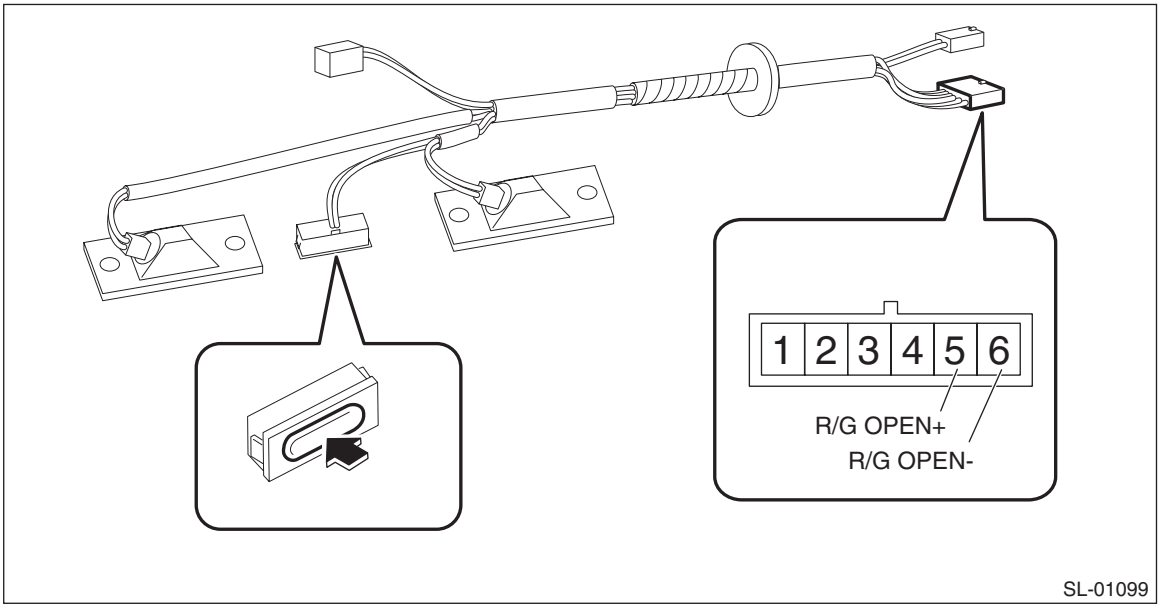
B: INSTALLATION

CAUTION:
Make sure that the harness grommet is installed securely.
Incomplete installation causes water leak.
Install each part in the reverse order of removal.

C: INSPECTION

1) Disconnect the rear gate opener button connector.
2) Measure the resistance between rear gate opener button terminals.

Preparation tool:
Circuit tester



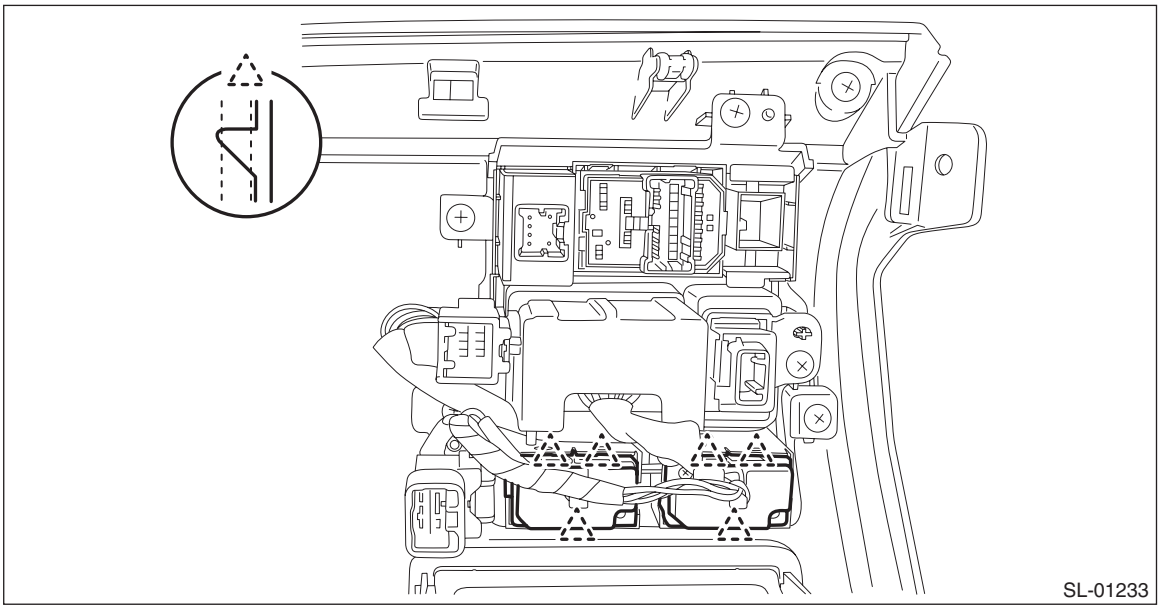
Terminal No.	Inspection conditions	Standard
5 — 6	Open	Less than 1 Ω
	Close	1 MΩ or more

3) Replace the rear gate opener button if the inspection result is not within the standard value.

15.Trunk Opener Switch

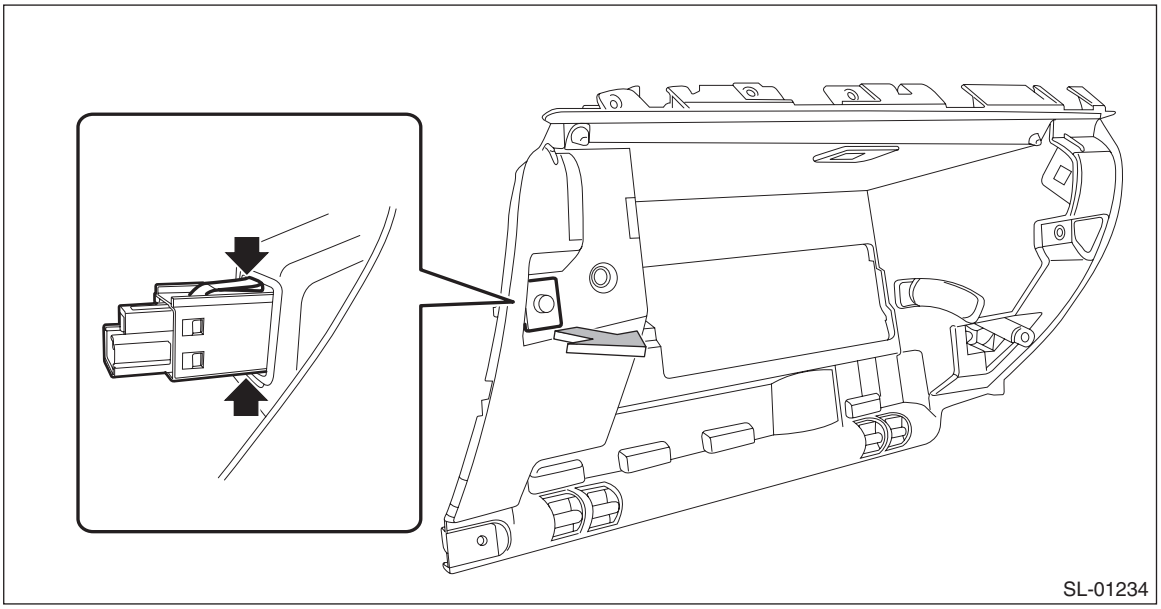
A: REMOVAL

NOTE:
The trunk opener button is integrated with the VDC OFF switch.
1) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
2) Release the claws and remove the trunk opener button.



1. TRUNK OPENER CANCEL BUTTON

1) Remove the glove box. <Ref. to EI-65, REMOVAL, Glove Box.>
2) Release the claws and remove the trunk opener cancel button.



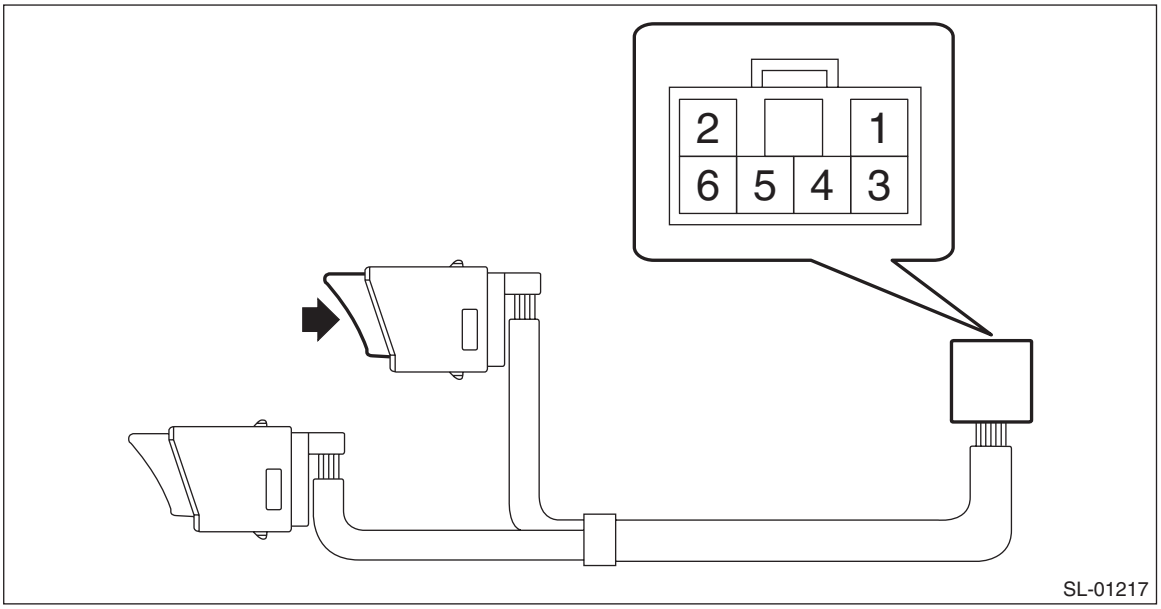
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Disconnect the trunk opener button connector.
2) Measure the resistance between trunk opener button terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions	Standard
4 — 2	Open	Less than 1 Ω
	Close	1 MΩ or more

3) Replace the trunk opener button if the inspection result is not within the standard value.

1. TRUNK OPENER CANCEL BUTTON

1) Disconnect the trunk opener cancel button connector.
2) Measure the resistance between trunk opener cancel button terminals.

Preparation tool:
Circuit tester

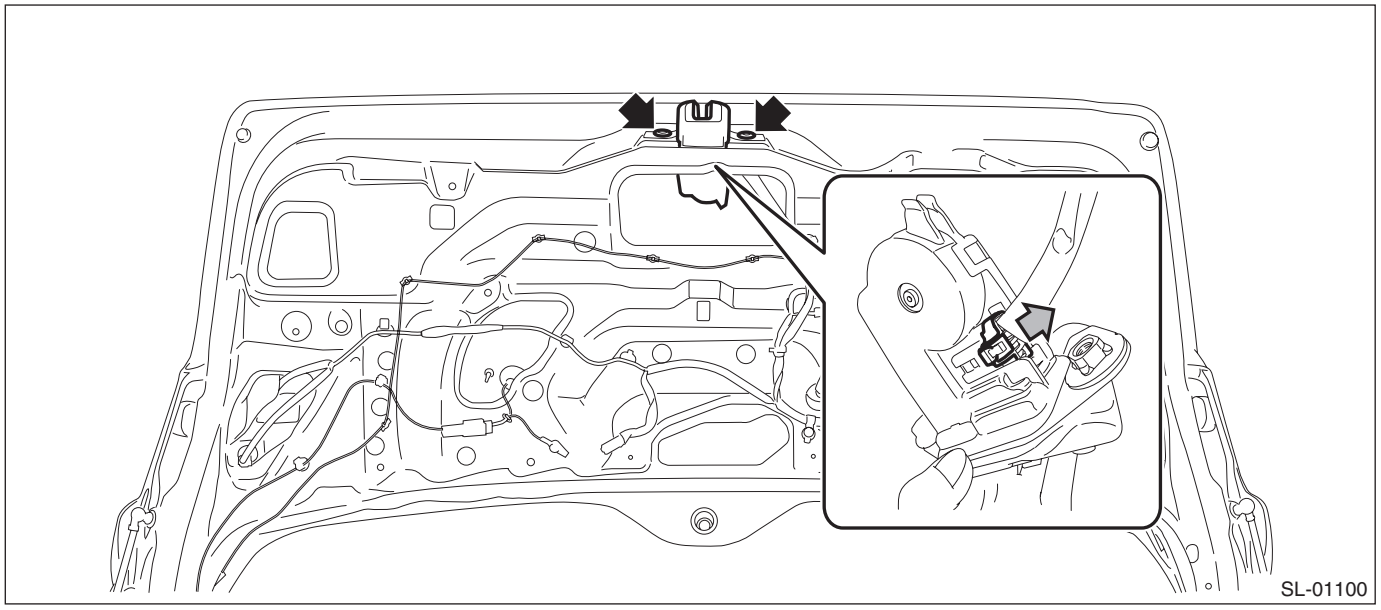
Terminal No.	Inspection conditions	Standard
1 — 2	Switch ON	Less than 1 Ω
	Switch OFF	1 MΩ or more

3) Replace the trunk opener button if the inspection result is not within the standard value.

16.Rear Gate Latch and Actuator Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the rear gate trim. <Ref. to EI-166, REMOVAL, Rear Gate Trim.>
3) Remove the rear gate latch & actuator assembly.
   (1) Remove the bolts and pull out the rear gate latch & actuator assembly to the vehicle front.
   (2) Disconnect the connectors, and then remove the rear gate latch & actuator assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-3, REAR GATE LOCK AND TRUNK LID LOCK, COMPONENT, General Description.>

C: INSPECTION

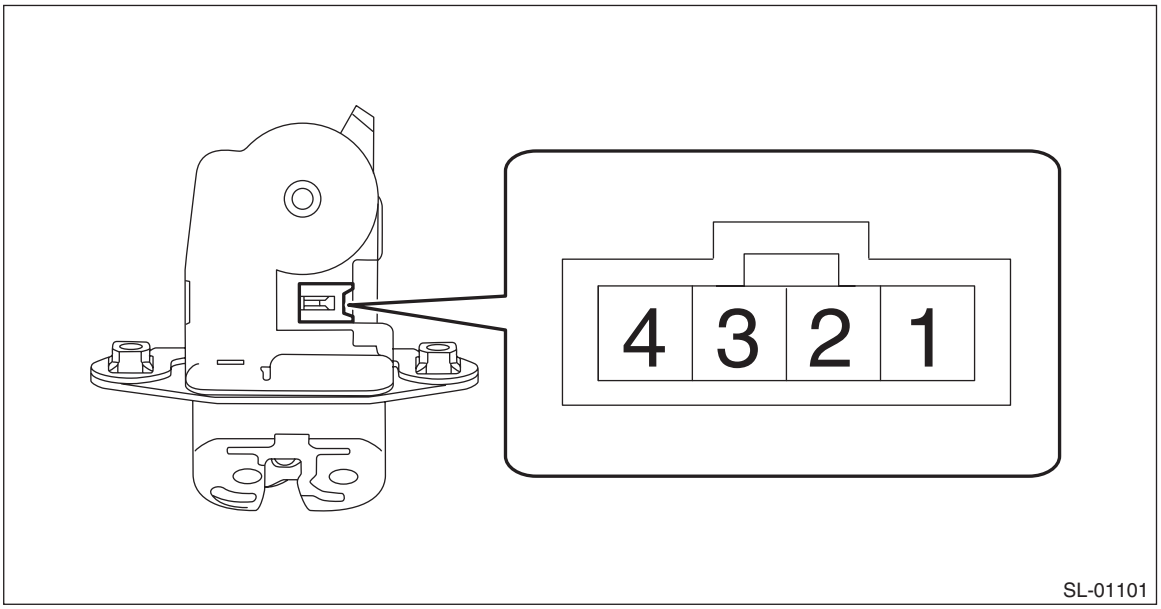
1. REAR GATE LATCH

Check if the rear gate latch operates normally.
If latch deformation, abnormal wear, or unsmooth lock operation is observed, replace the rear gate latch & actuator assembly.

2. LOCK ACTUATOR

1) Disconnect the rear gate latch & actuator assembly connector.
2) Check the door lock operation when battery voltage is applied between the terminals of rear gate latch & actuator.

Preparation tool:
Circuit tester



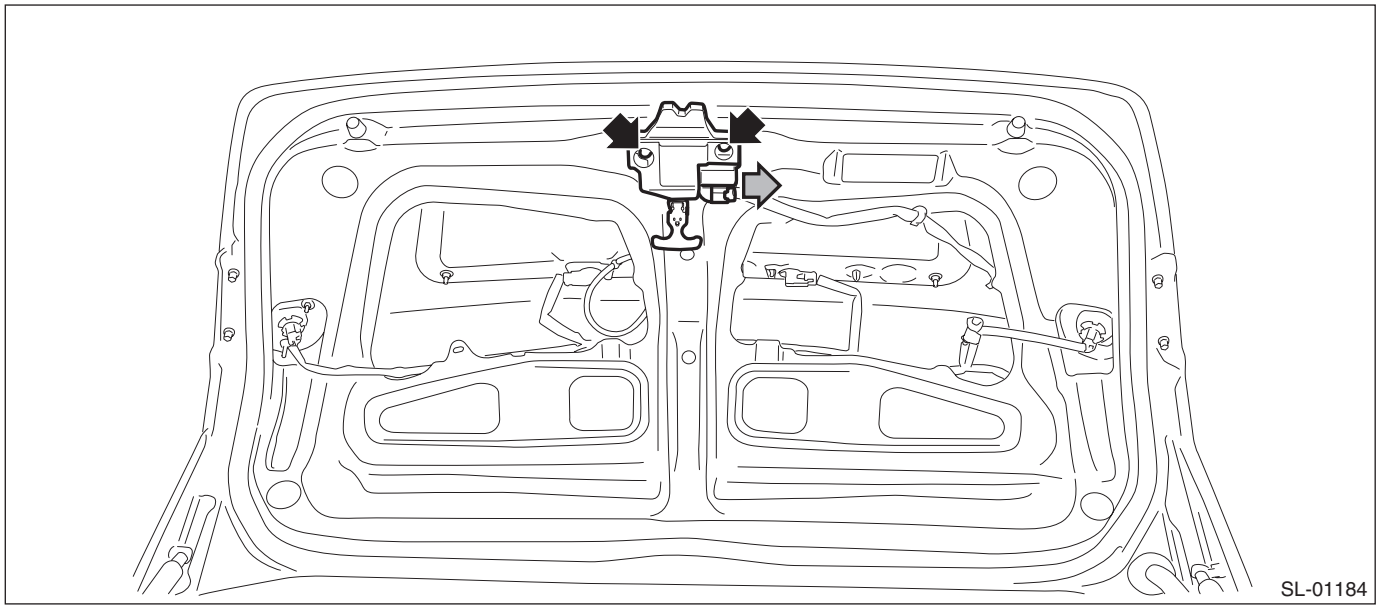
Inspection conditions	Terminal No.	
	1	2
OPEN	+	–

3) If the actuator does not operate normally, replace the rear gate latch & actuator assembly.

17.Trunk Lid Latch and Actuator Assembly

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the trunk lid trim. <Ref. to EI-130, TRUNK LID TRIM, REMOVAL, Trunk Room Trim.>
3) Remove the trunk lid latch and actuator assembly.
   (1) Disconnect the connector.
   (2) Remove the bolts, and remove the trunk lid latch & actuator assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-3, REAR GATE LOCK AND TRUNK LID LOCK, COMPONENT, General Description.>

C: INSPECTION

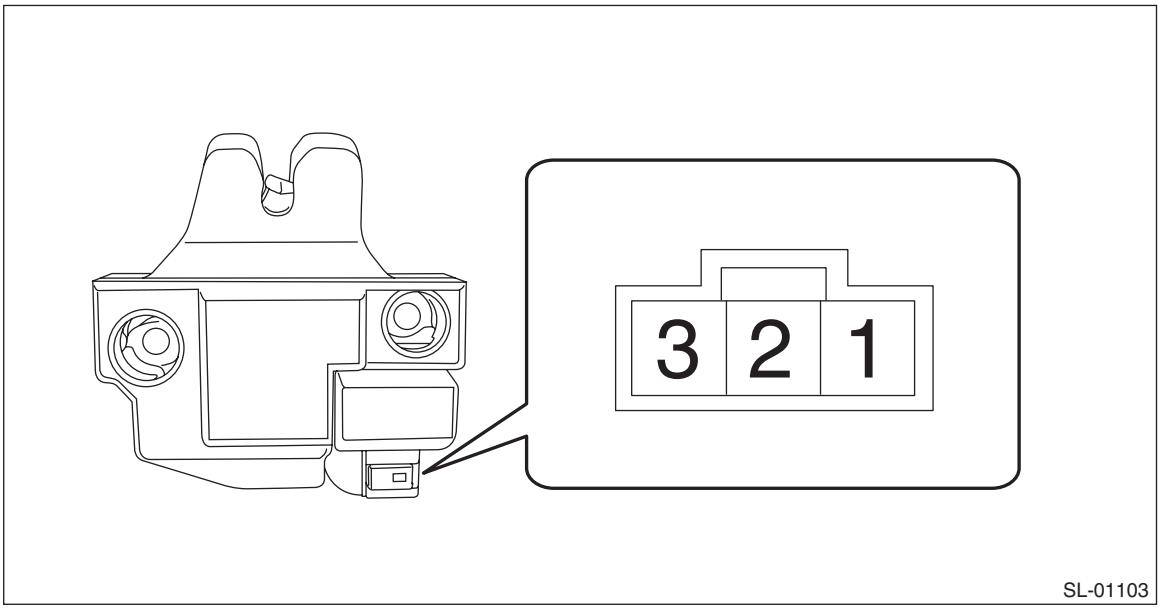
1. TRUNK LID LATCH

Check if the trunk lid latch operates normally.
If latch deformation, abnormal wear, or unsmooth lock operation is observed, replace the rear gate latch & actuator assembly.

2. LOCK ACTUATOR

1) Disconnect the trunk lid latch & actuator assembly connector.
2) Check the door lock operation when battery voltage is applied between the terminals of trunk lid latch & actuator.

Preparation tool:
Circuit tester



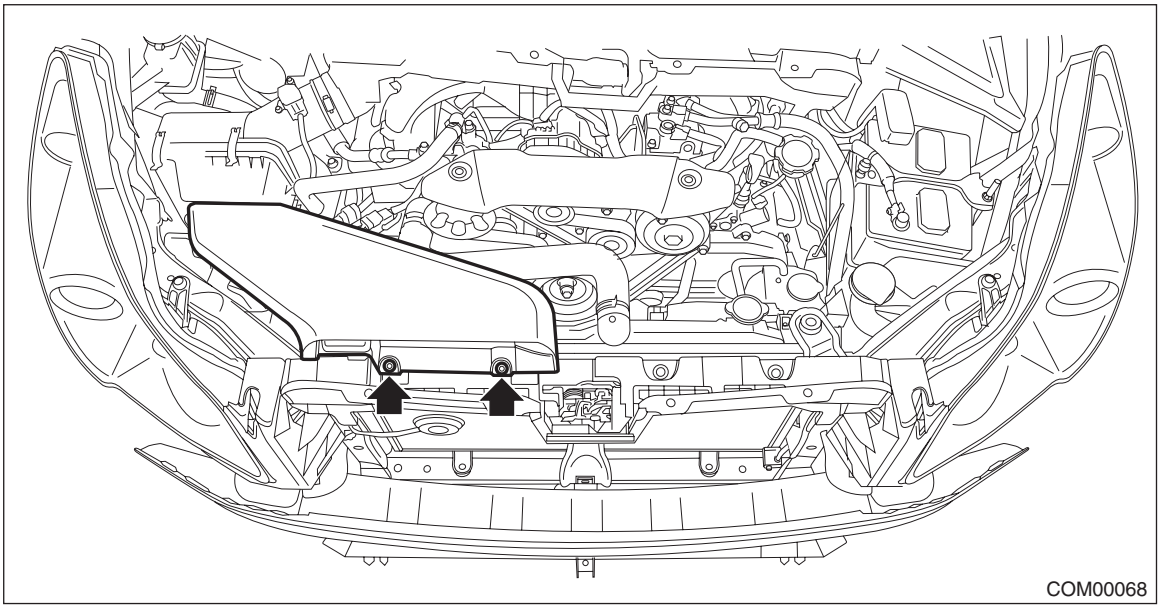
Inspection conditions	Terminal No.	
	1	2
LOCK → UNLOCK	+	–

3) If the actuator does not operate normally, replace the trunk lid latch & actuator assembly.

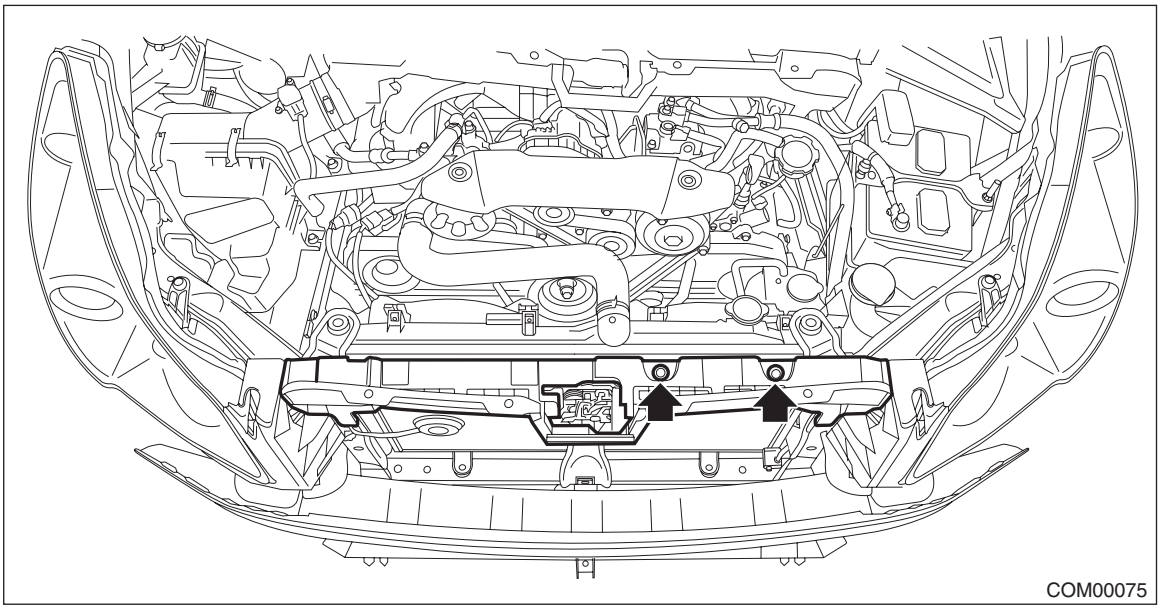
18.Front Hood Lock Assembly

A: REMOVAL

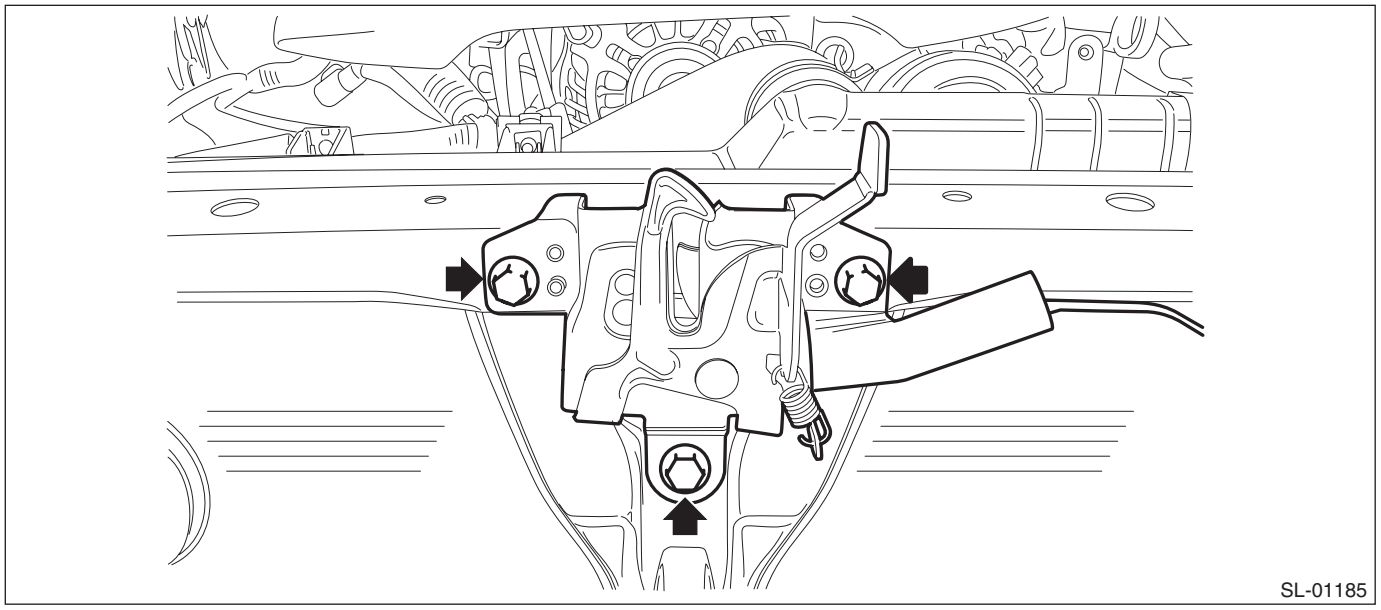
1) Open the front hood.
2) Remove the front bumper face assembly. <Ref. to EI-37, REMOVAL, Front Bumper.>
3) Remove the clips and remove the air intake duct.



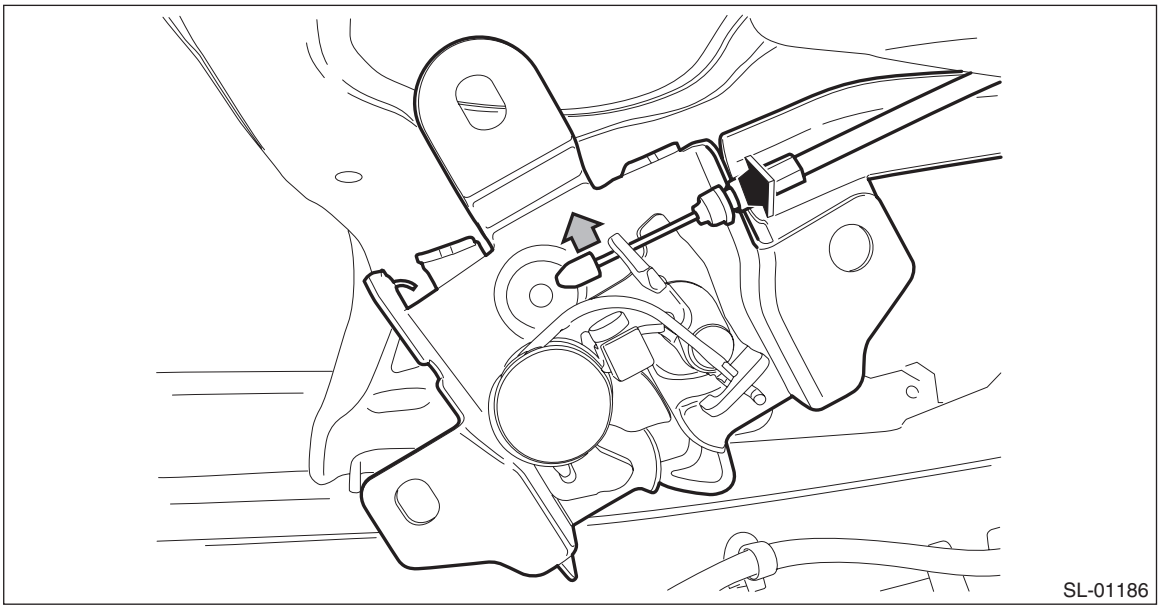
4) Remove the clips and remove the grille bracket.



5) Remove the front hood lock assembly.
(1) Remove the bolt.


SL-01185

(2) Remove the release cable, and detach the front hood lock assembly.


SL-01186

B: INSTALLATION

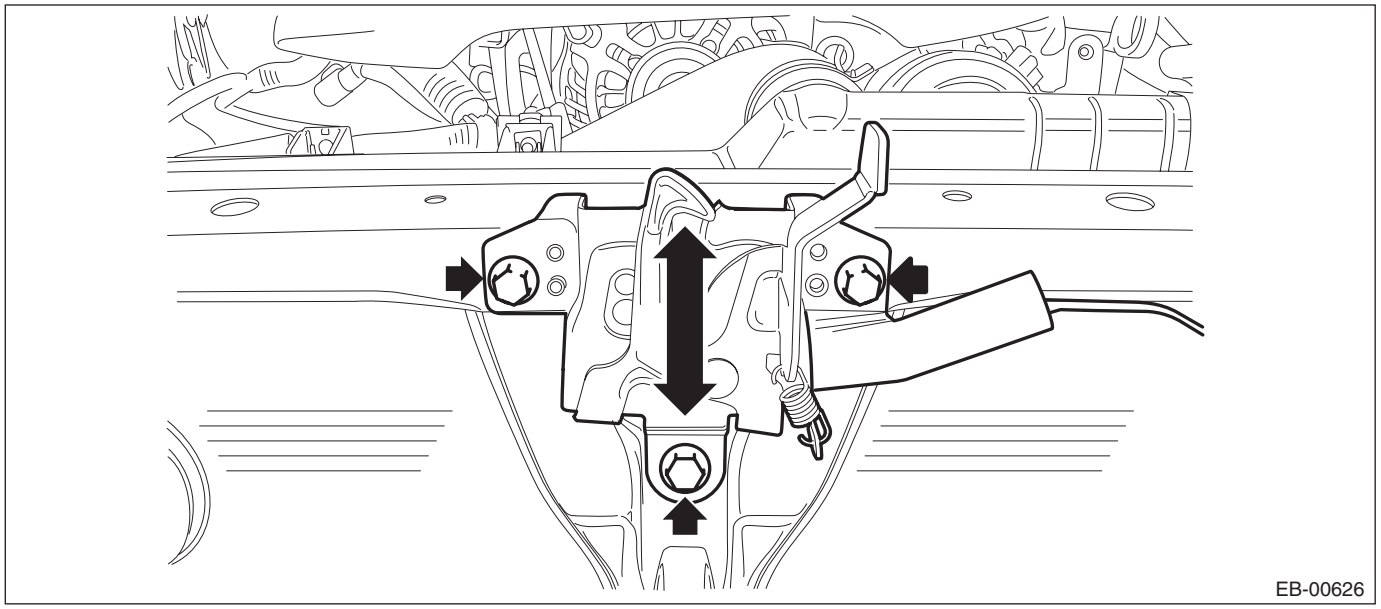
1) Before installation, check the following items.
- Grease is applied sufficiently to cable joints.

If grease is insufficient, add it as necessary before assembling the cable.
2) Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-4, FRONT HOOD LOCK AND REMOTE OPENERS, COMPONENT, General Description.>

C: ADJUSTMENT

1) Loosen the bolt, and adjust the lock assembly while moving it up and down.



2) After adjustment, tighten the bolts securely.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-4, FRONT HOOD LOCK AND REMOTE OPENERS, COMPONENT, General Description.>

D: INSPECTION

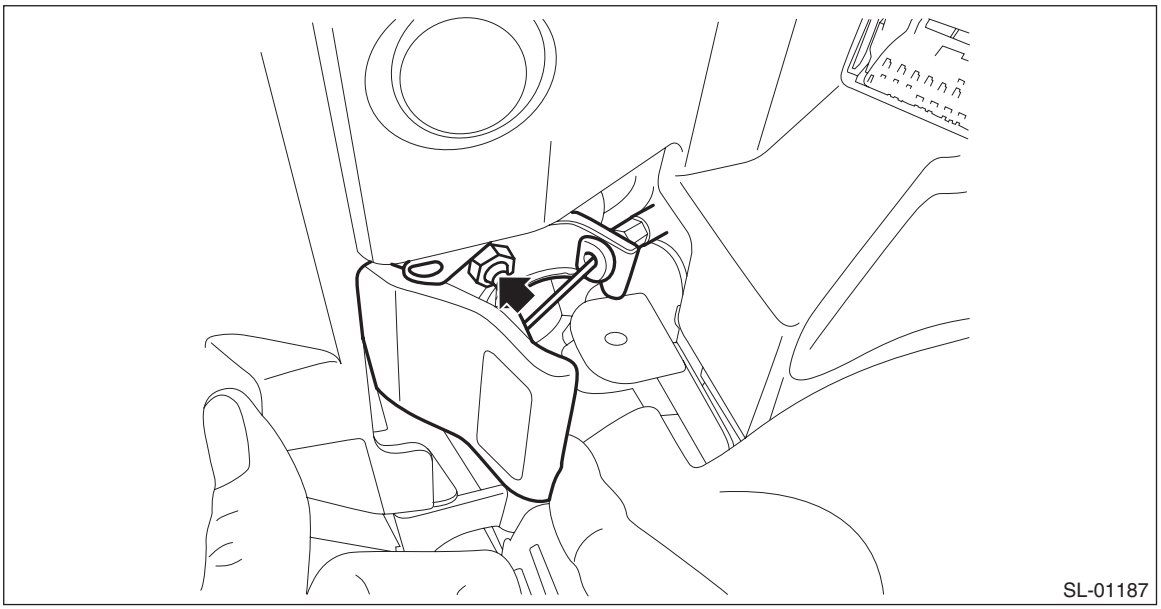
Check if the front hood lock ASSY operates normally.
If latch deformation, abnormal wear, or unsmooth lock operation is observed, replace the front hood lock assembly.

19.Remote Openers

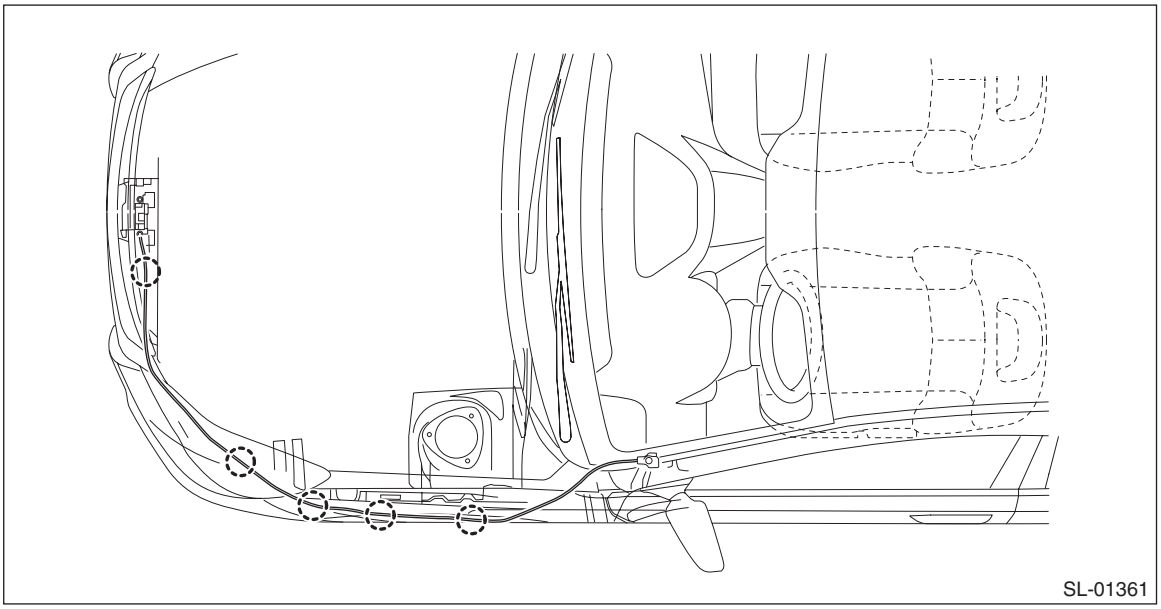
A: REMOVAL

1. FRONT HOOD OPENER

1) Remove the opener lever.
   (1) Remove the cable.
   (2) Remove the nut, and detach the opener lever.

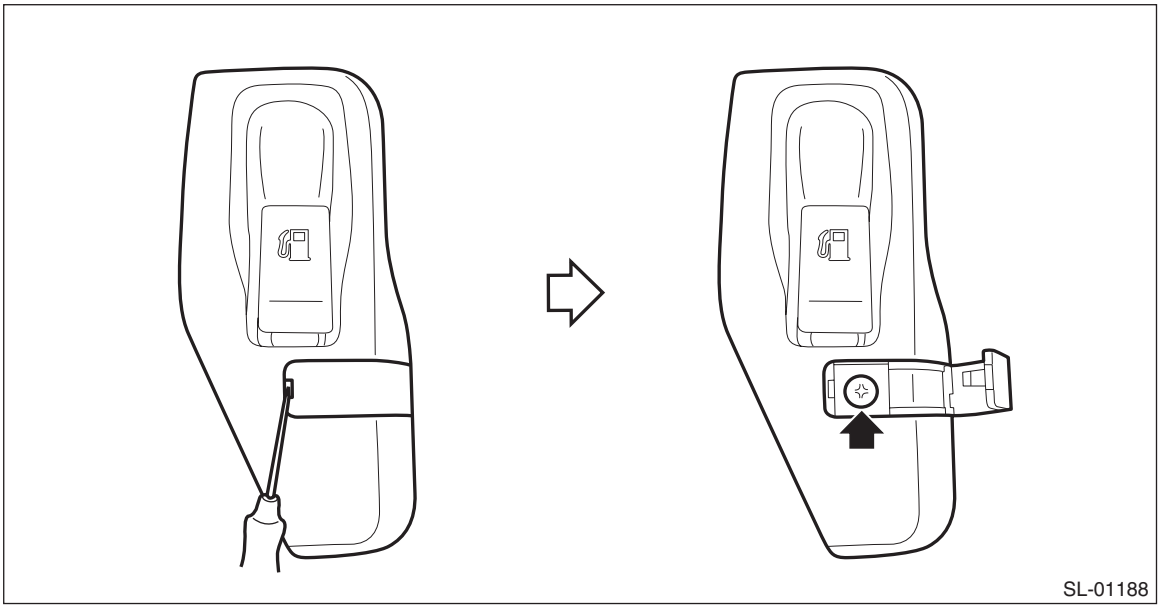


2) Remove the following parts and remove the cable clip and cable.
- Front hood lock ASSY: <Ref. to SL-60, REMOVAL, Front Hood Lock Assembly.>
- Instrument panel lower cover: <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>

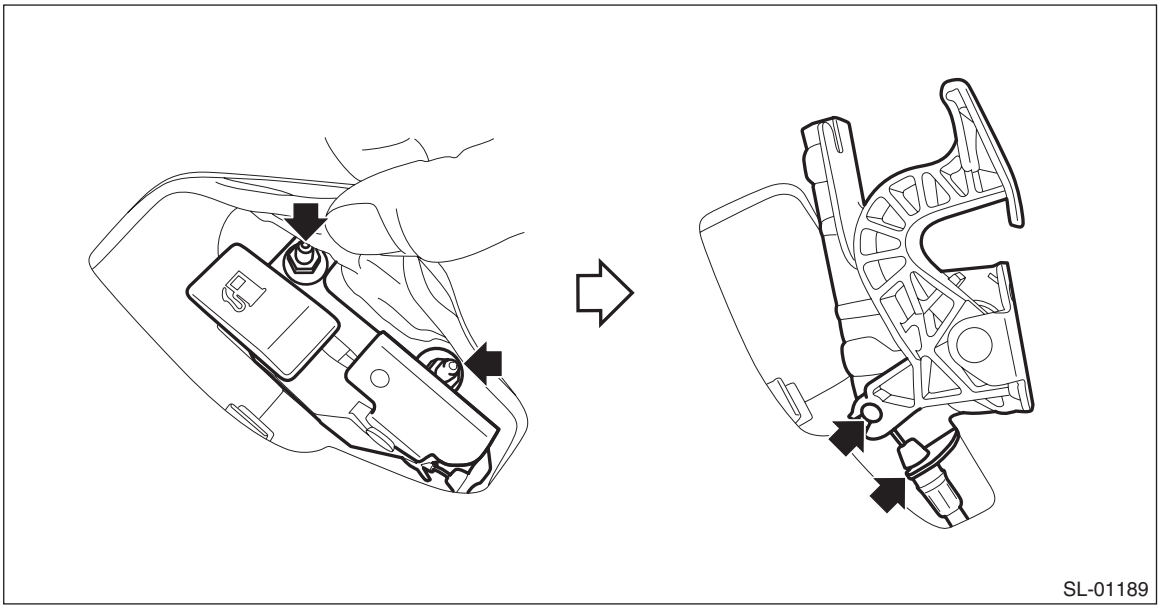


2. FUEL FLAP OPENER

1) Remove the pull handle cover.
   (1) Open the cover by using a flat tip screwdriver.
   (2) Remove the screw and remove the pull handle cover.

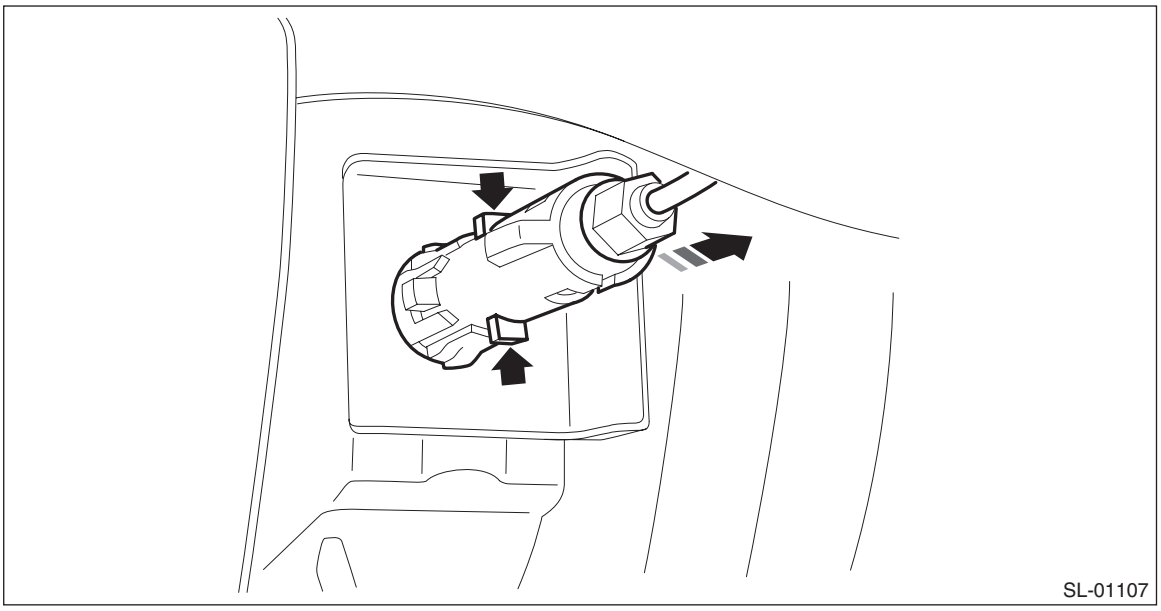


2) Remove the opener handle.
   (1) Remove the nut.
   (2) Remove the cable from opener pull handle.



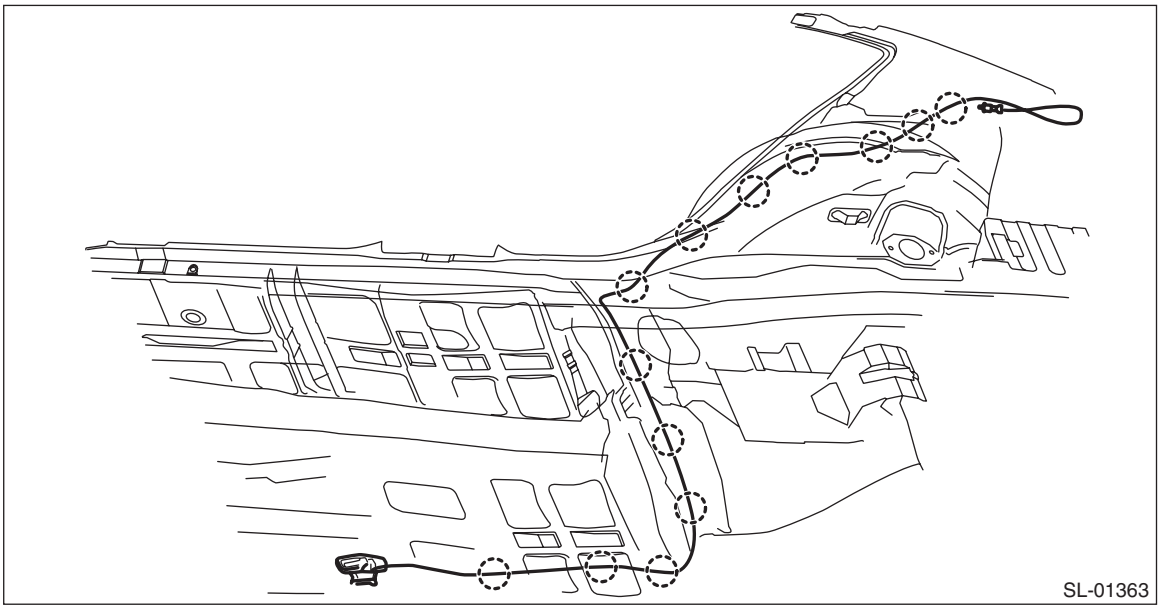
3) Remove the rear quarter trim RH. (OUTBACK model) <Ref. to EI-115, OUTBACK MODEL, REMOVAL, Rear Quarter Trim.>
4) Remove the trunk room trim (RH). (Sedan model) <Ref. to EI-130, TRUNK ROOM TRIM, REMOVAL, Trunk Room Trim.>

5) Remove the fuel lock inside the quarter panel.
   (1) Press the claws of the fuel lock.
   (2) While keeping the condition in step (1), pull the fuel lock to the rearward of the vehicle.

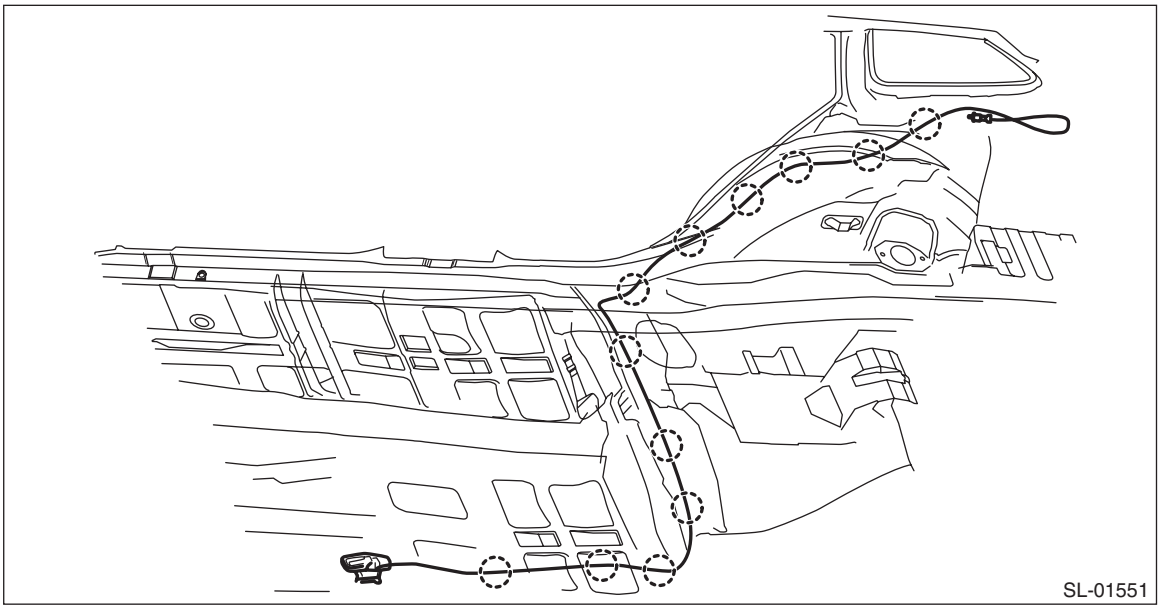

SL-01107

6) Remove the lower inner trim. <Ref. to EI-97, REMOVAL, Lower Inner Trim.>
7) Remove the cable from the clip.

- Sedan model


SL-01363

- OUTBACK model



B: INSTALLATION

1) Before installation, check the following items.
- Cable is free from deformation such as fray.

2) Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-4, FRONT HOOD LOCK AND REMOTE OPENERS, COMPONENT, General Description.>

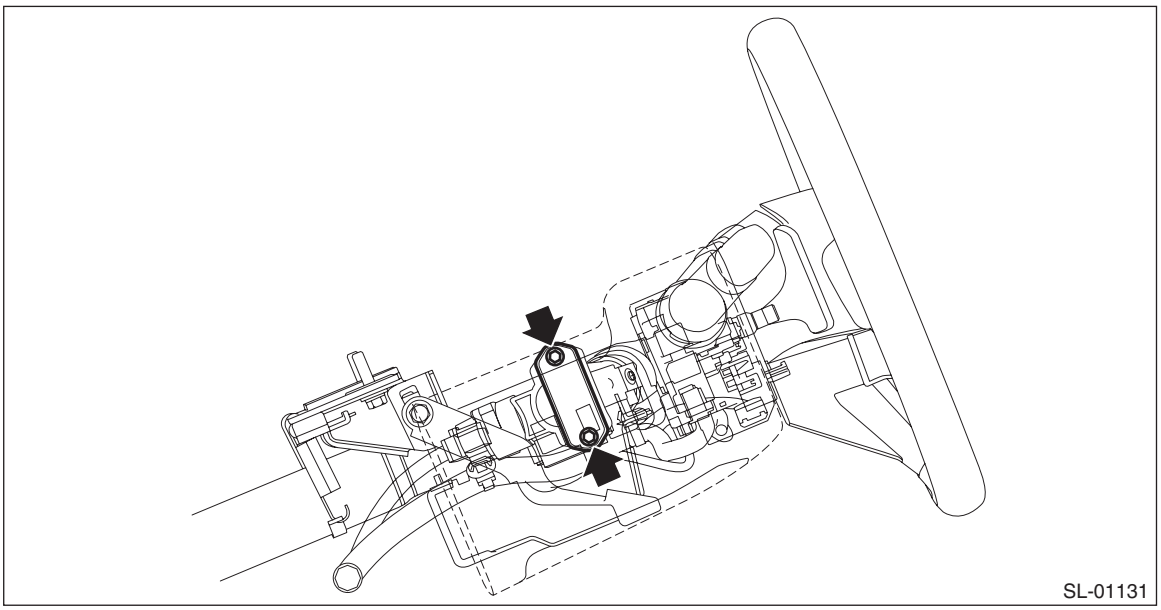
C: INSPECTION

Check if the front hood and fuel flap operate normally.

20.Ignition Key Lock

A: REPLACEMENT

1) Disconnect the ground cable from battery.
2) Remove the steering column. <Ref. to PS-25, REMOVAL, Steering Column.>
3) Remove the ignition key lock.
   (1) Secure the steering column in a vise.
   (2) Drill out the bolts and remove the ignition key lock.

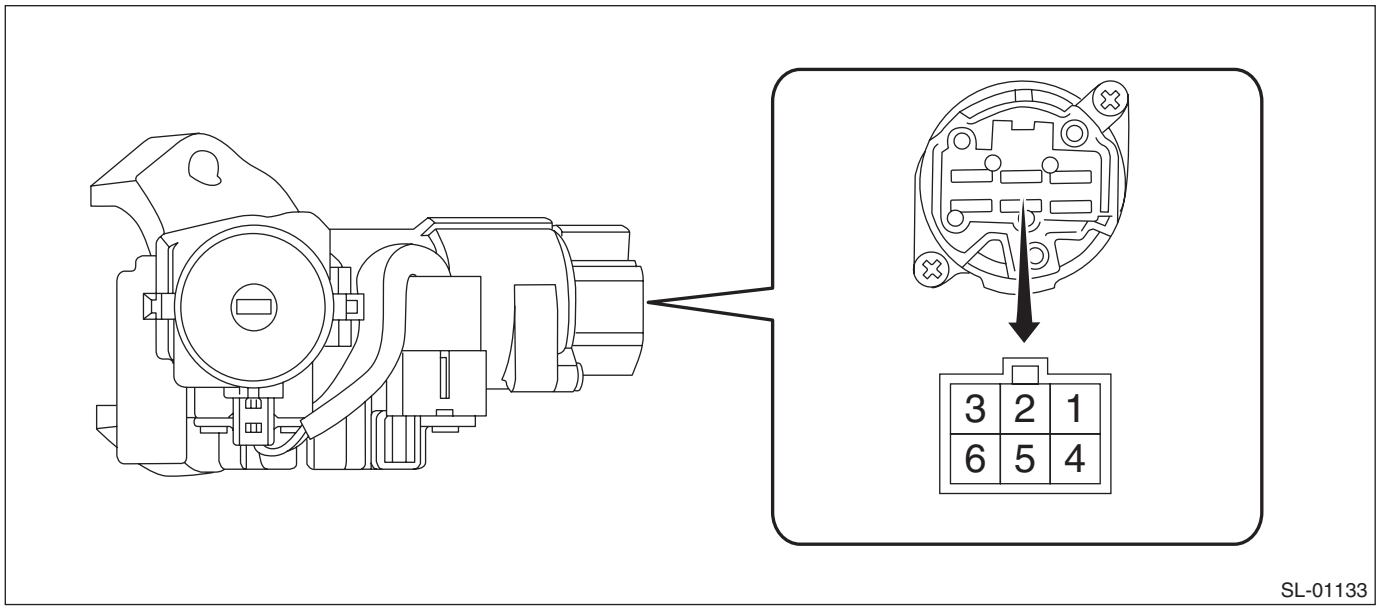


4) Install the ignition key lock.
   (1) Secure the ignition key lock to the steering column.
   (2) Use new bolts. Tighten the bolt until the bolt head is broken (bolt head wrenched off).

B: INSPECTION

1) Disconnect the ignition switch connector.
2) Measure the resistance between ignition switch terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection Conditions	Standard
—	LOCK	—
3 — 5	ACC	Less than 1 Ω
3 — 1, 4 3 — 5	ON	Less than 1 Ω
3 — 2, 6 3 — 1	ST	Less than 1 Ω

3) Replace the ignition switch if the inspection result is not within the standard value.

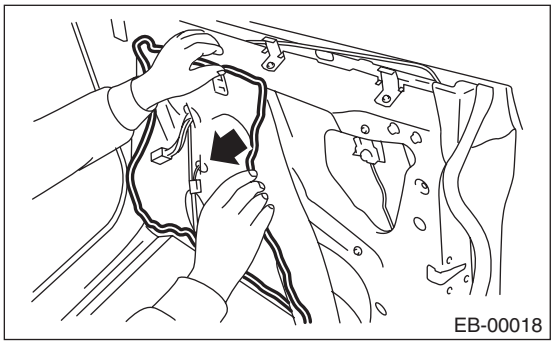
21.Key Lock Cylinders

A: REPLACEMENT

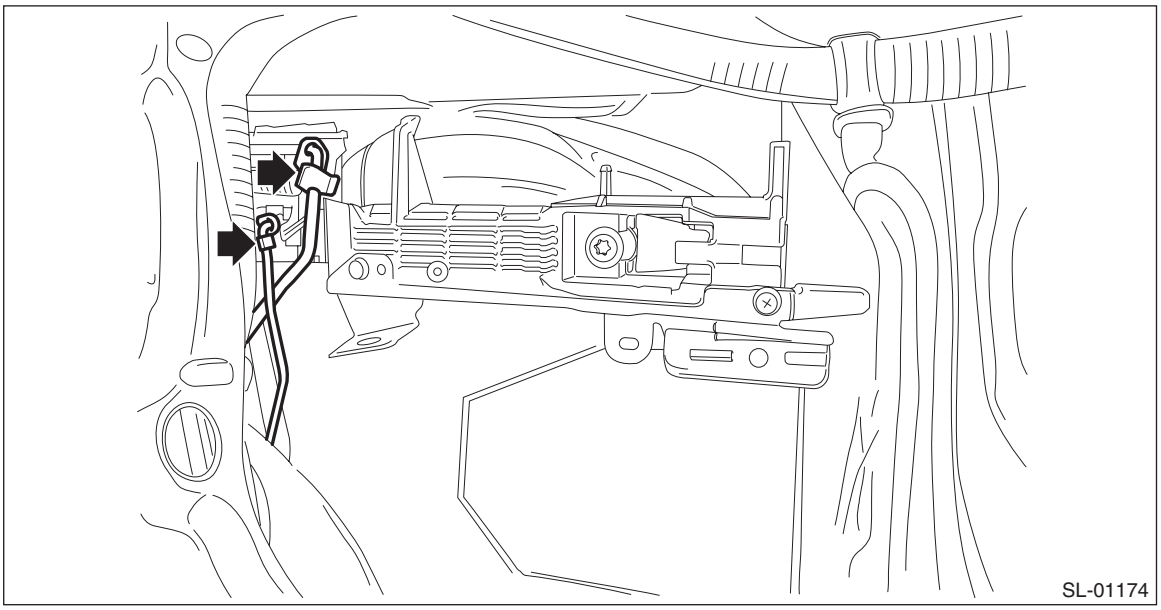
1. FRONT DOOR

1) Raise the front door glass to the top position.
2) Remove the front door trim. <Ref. to EI-59, FRONT DOOR, REMOVAL, Door Trim.>
3) Remove the sealing cover.

CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the cover.**
- **If the sealing cover gets broken, replace it with a new part.**



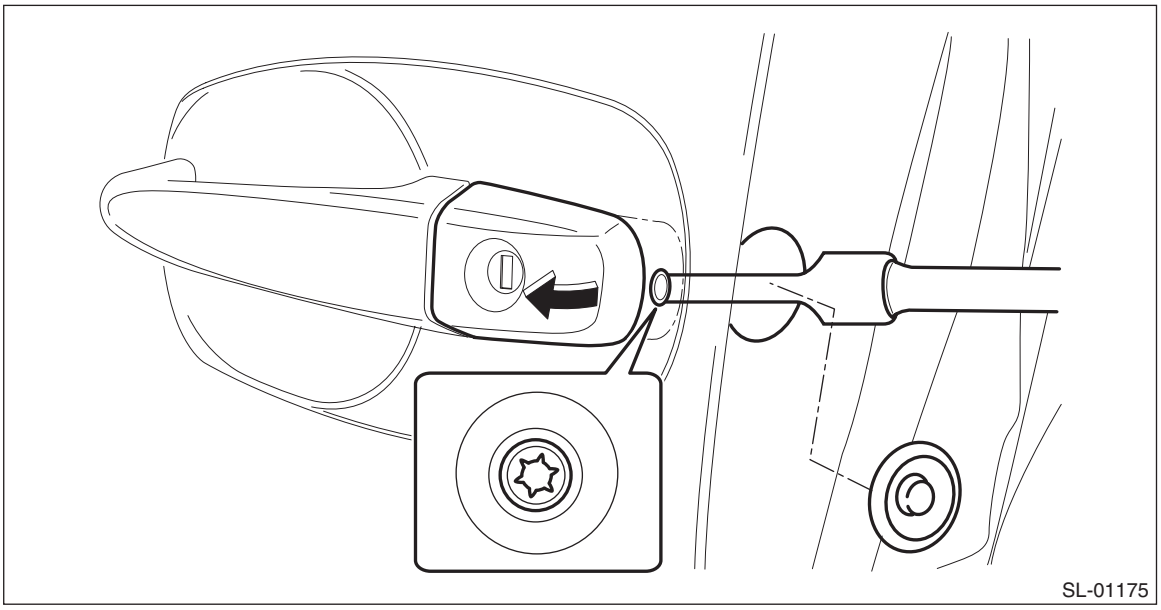
4) Remove the rod from the outer handle rod clamp.



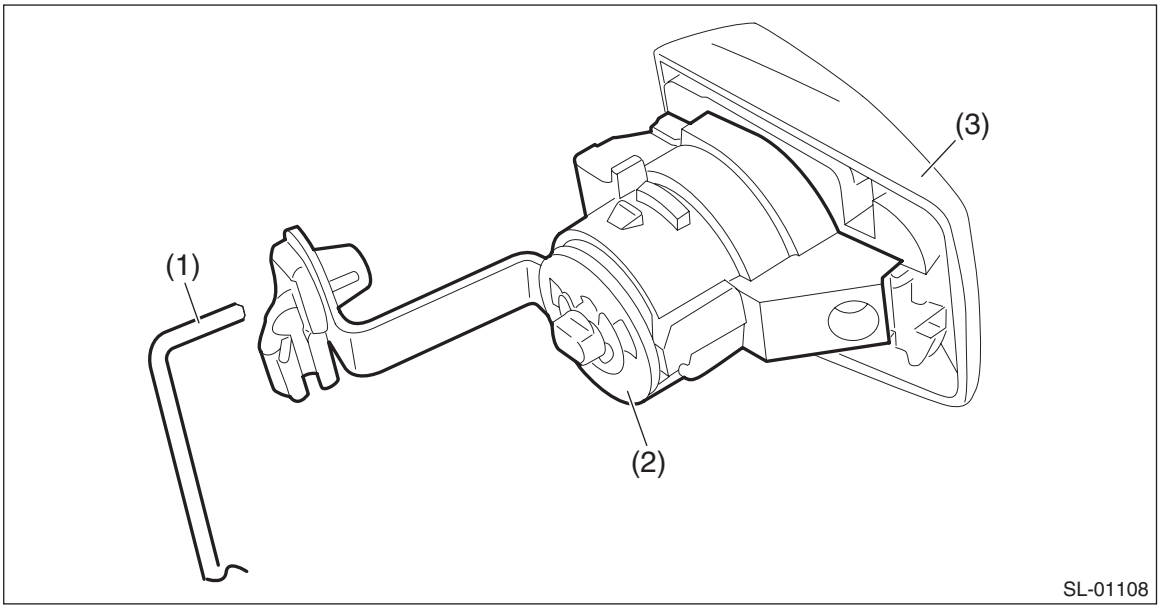
5) Remove the door outer handle cover.

Preparation tool:
TORX® T30

(1) Remove the plug to the rear of the door panel.
(2) Loosen the TORX® bolt and remove the door outer handle cover.



6) Remove the key cylinder from the door outer handle cover, and replace the key cylinder.

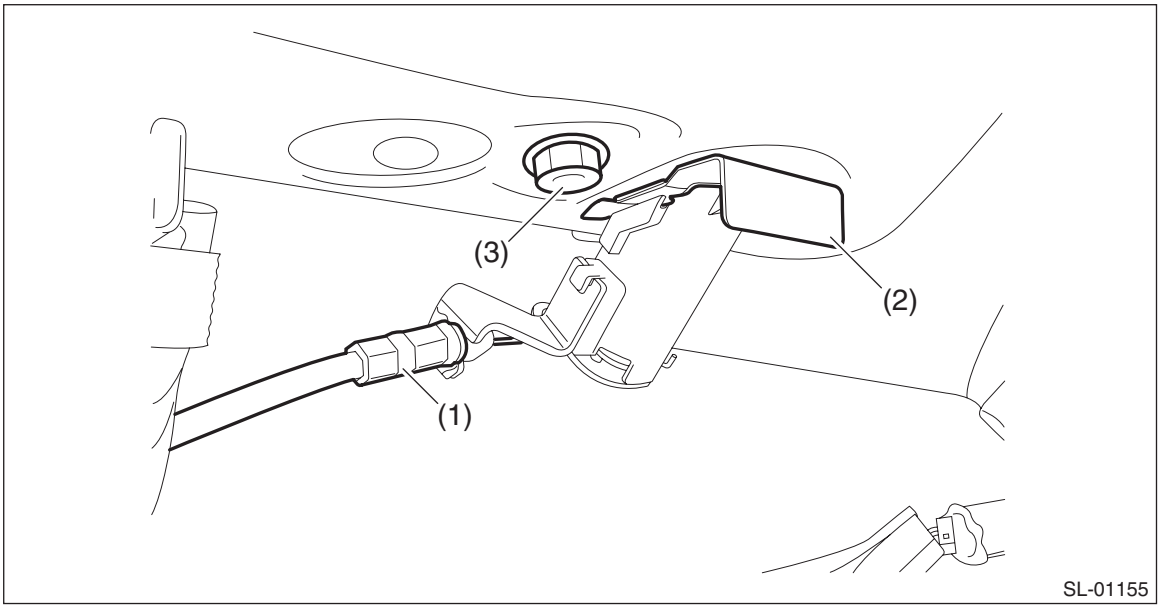


(1) Latch connection rod
(2) Key cylinder
(3) Door outer handle cover (driver's seat only)

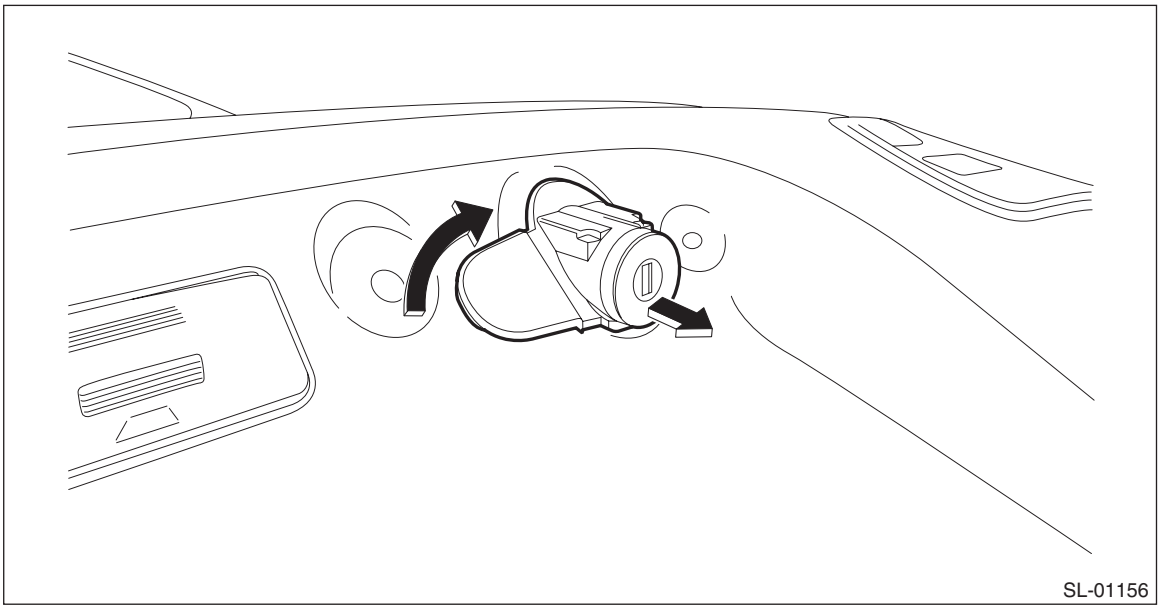
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SL-2, DOOR LOCK ASSEMBLY, COMPONENT, General Description.>

2. TRUNK LID

1) Remove the trunk lid garnish. <Ref. to EI-170, REMOVAL, Trunk Lid Garnish.>
2) Remove the key cylinder.
   (1) Remove the cable (1), clip (2) and bolt (3).



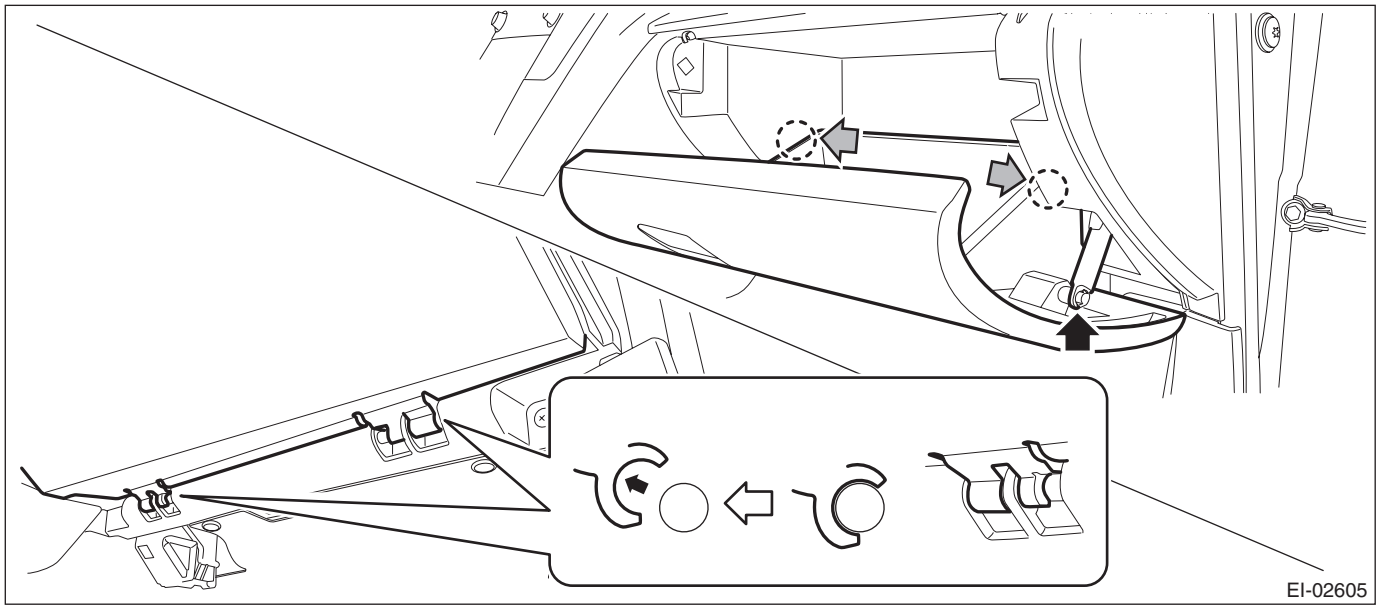
   (2) Remove the key cylinder from the trunk lid, and replace the key cylinder.



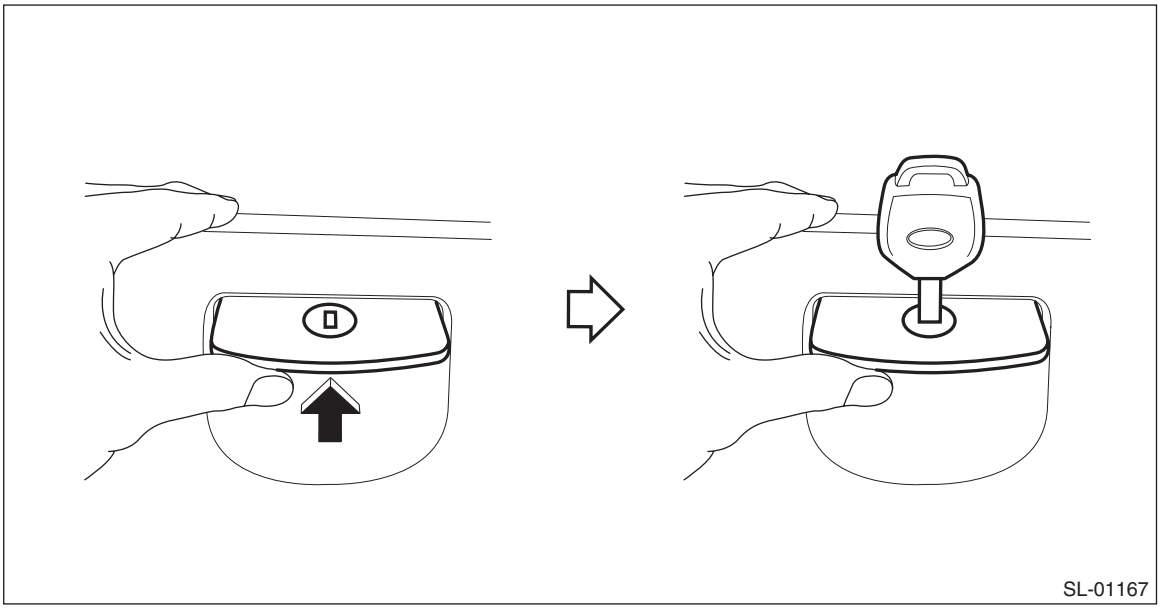
Tightening torque:
Key cylinder: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

3. GLOVE BOX LID

1) Remove the glove box lid assembly.
   (1) Remove the glove box damper.
   (2) Release the stoppers and remove the glove box lid assembly by pulling it toward you.

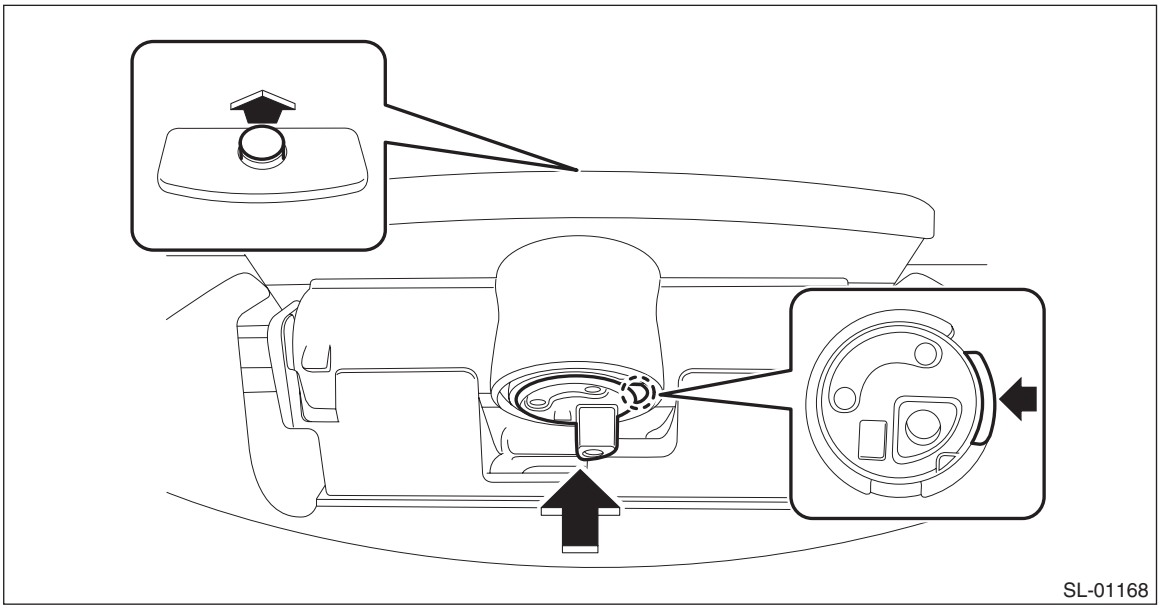


2) Remove the key cylinder.
   (1) UNLOCK the key cylinder, and pull up the lock knob.
   (2) While maintaining the condition (1), insert the key to set LOCK condition



   (3) Push out the key cylinder, while pressing in the metal plate.

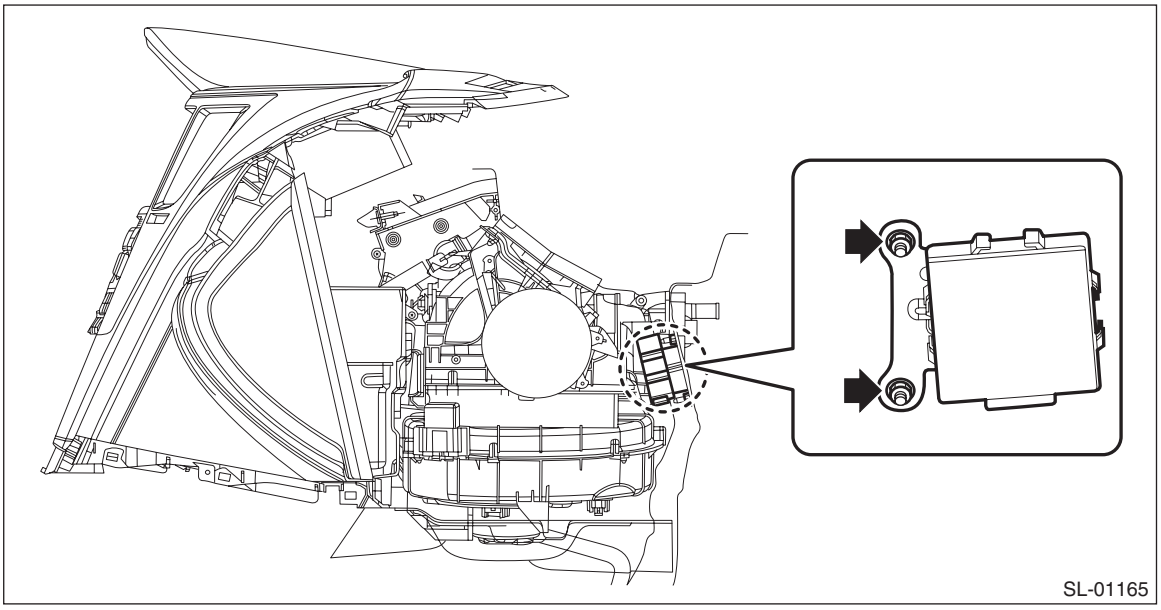
(4) Remove the key cylinder from lock knob, and replace the key cylinder.



22.Security Control Module

A: REMOVAL

1) Remove the heater and cooling unit. <Ref. to AC-64, REMOVAL, Heater and Cooling Unit.>
2) Remove the security control module.
   (1) Disconnect the connector.
   (2) Remove the nuts, and remove the security control module.



B: INSTALLATION

CAUTION:
You must register the immobilizer when a immobilizer-related control module has been replaced. For procedures, refer to the "PC application help for Subaru Select Monitor".
Install each part in the reverse order of removal.

Tightening torque:
Security control module: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

23.Impact Sensor

A: REMOVAL

1) Remove the key from ignition switch.
2) Close all the doors and rear gate.
3) Press the UNLOCK button of the keyless transmitter.
4) Disconnect the ground cable from battery.
5) Remove the impact sensor.
6) Change the setting of impact sensor using Subaru Select Monitor.

B: INSTALLATION

1) Remove the key from ignition switch.
2) Close all the doors and rear gate.
3) Press the UNLOCK button of the keyless transmitter.
4) Disconnect the ground cable from battery.
5) Install the impact sensor.
6) Change the setting of impact sensor using Subaru Select Monitor.

C: OPERATION

1. IMPACT SENSOR SETTING USING SUBARU SELECT MONITOR

1) Prepare the Subaru Select Monitor kit.
2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”.
3) On «System Selection Menu» display, select {Integ. unit mode}.
4) Select {Unit customizing}.
5) Make an impact monitor setting.
- When installing: ON
- When removing: OFF

6) Make a impact monitor ON/OFF setting.
- When installing: ON
- When removing: OFF

7) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

D: ADJUSTMENT

1. CHECK IMPACT SENSOR

1) Remove the key from ignition switch.
2) Close all the windows.
3) Close all the doors and rear gate. Leave open the front hood.
4) Press the LOCK button of the keyless transmitter from outside of vehicle.
5) Check that the security indicator light blinks twice within 0.5 seconds in 2 second cycles after 30 seconds.
6) Hit all windows with the palm with force repeatedly, to check for whether the security alarm operates. Lift up the front hood approx. 12 cm (4.7 in) or more, and then drop it off to check the operation of security alarm.
7) If NG, adjust the impact sensitivity.

2. IMPACT SENSITIVITY ADJUSTMENT

1) Prepare the Subaru Select Monitor kit.
2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor”.
3) On the «System Selection Menu», select the {Impact Sensor}.
4) Make a {Sensitivity Adjustment Mode}.
- Sensitivity can be adjusted in 11 levels (0 to 10).
- Initial setting is 5.
- Smaller number means more sensitive.
- Larger number means less sensitive.

5) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

NOTE:
- Set the sensor so that it is not triggered by normal vibrations (someone reclining on the door, hit by a ball, etc.).
- Set the sensor to operate the alarm when the windshield glass or door is hit hard repeatedly, etc, where it can be assumed that there is an attempt to damage the car by a burglar, etc.
- Even if there is no burglary attempt, if there is vibration (road construction, elevated parking lots, passage of trains or boarding of ferries), the alarm can be triggered. Because of this, ask the customer about their parking conditions, and set an appropriate sensitivity level after discussion.
- If the sensitivity setting was not performed properly, a buzzer will sound four times. In this case, check the following:
  - Is there an error in CAN communication?
  - Is there an open circuit in the harness between the body integrated unit and the impact sensor?
  - Body integrated unit, or impact sensor failure

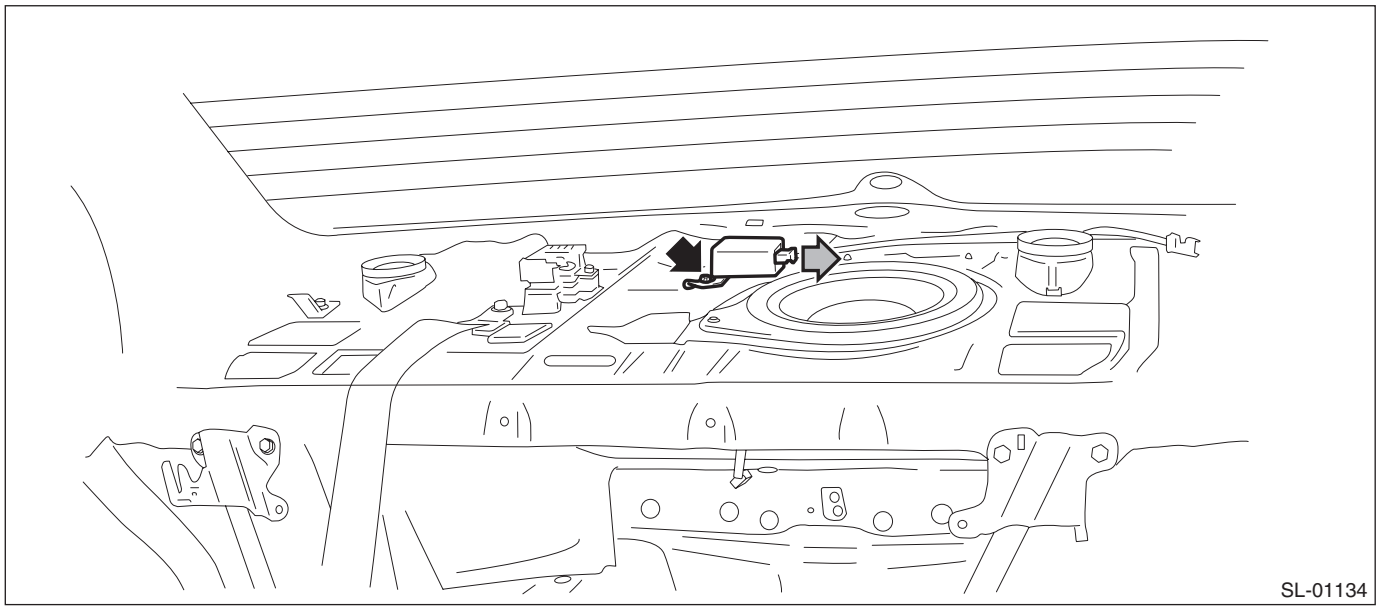
24.Keyless Entry Control Module

A: REMOVAL

NOTE:
Except for model with keyless access

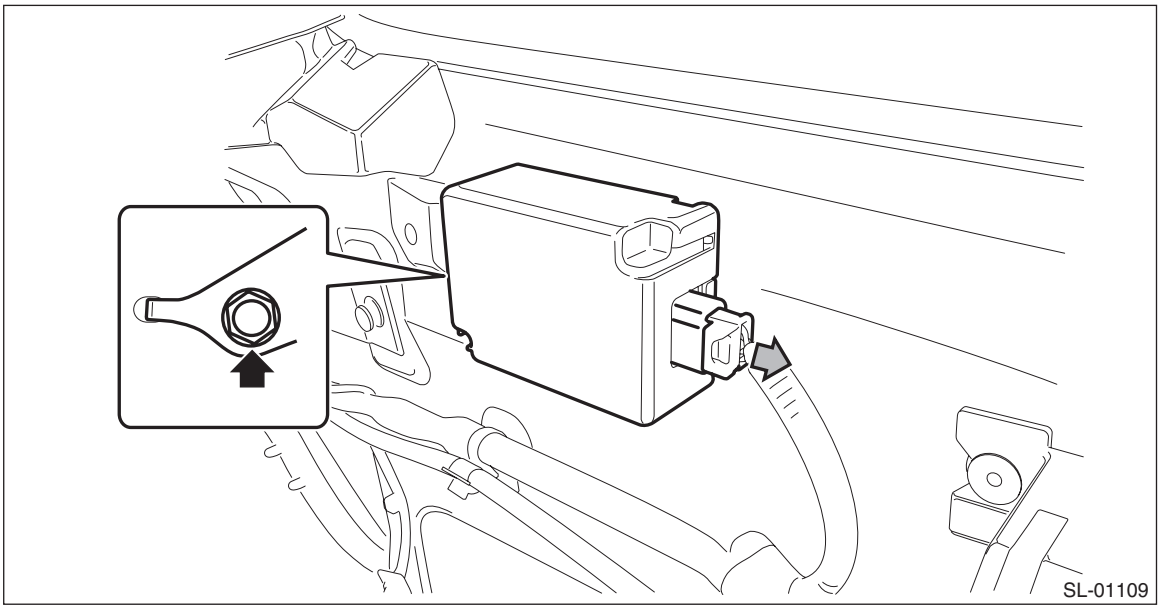
1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear shelf trim. <Ref. to EI-123, REMOVAL, Rear Shelf Trim.>
3) Remove the keyless entry control module.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the keyless entry control module.



2. WAGON/OUTBACK MODEL

1) Disconnect the ground cable from battery.
2) Remove the rear quarter trim LH. <Ref. to EI-115, OUTBACK MODEL, REMOVAL, Rear Quarter Trim.>
3) Remove the keyless entry control module.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the keyless entry control module.



B: INSTALLATION

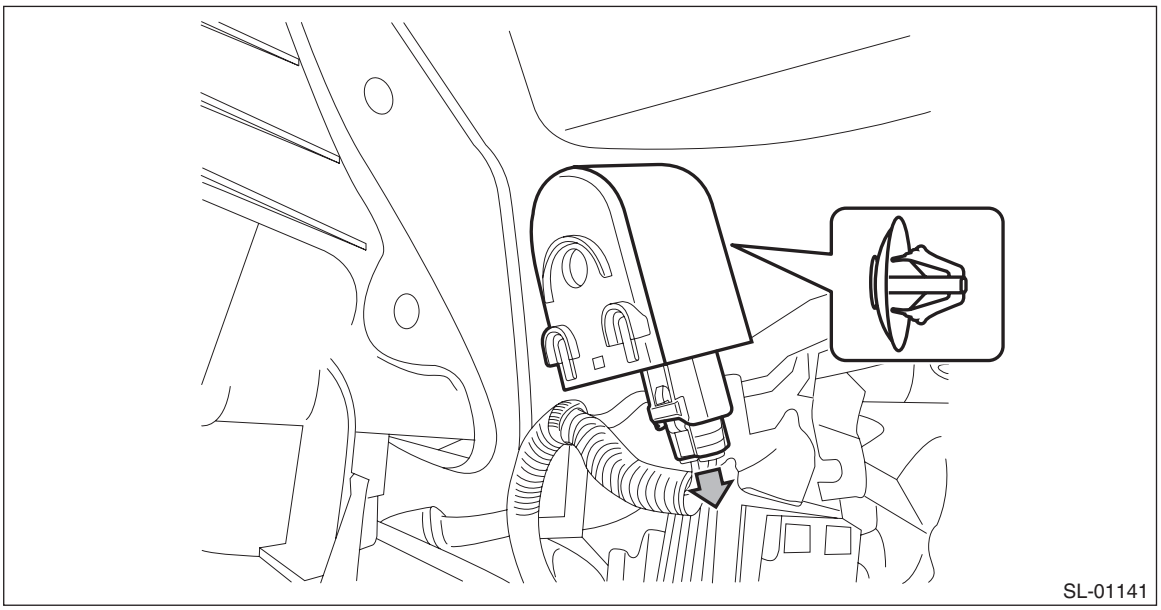
Install each part in the reverse order of removal.

Tightening torque:
Keyless entry control module: 13 N·m (1.33 kgf-m, 9.6 ft-lb)

25.Keyless Buzzer

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front bumper face assembly. <Ref. to EI-37, REMOVAL, Front Bumper.>
3) Remove the keyless buzzer.
   (1) Disconnect the connector.
   (2) Remove the clip and detach the keyless buzzer.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Using the Subaru Select Monitor, perform forced operation of the keyless buzzer. <Ref. to BC(diag)-23, OPERATION, Function Check.>
2) If the buzzer does not sound, replace the keyless buzzer.

26.Body Integrated Unit

A: NOTE

1. WHEN REPLACING THE BODY INTEGRATED UNIT

1) Check and record the current setting. <Ref. to BC(diag)-19, CONFIRM CURRENT SETTING, OPERATION, Registration Body Integrated Unit.>
2) Prepare the following.
- Security ID plate (models without keyless access)
- Required number of registered immobilizer keys or new (not registered) immobilizer keys (model without keyless access).

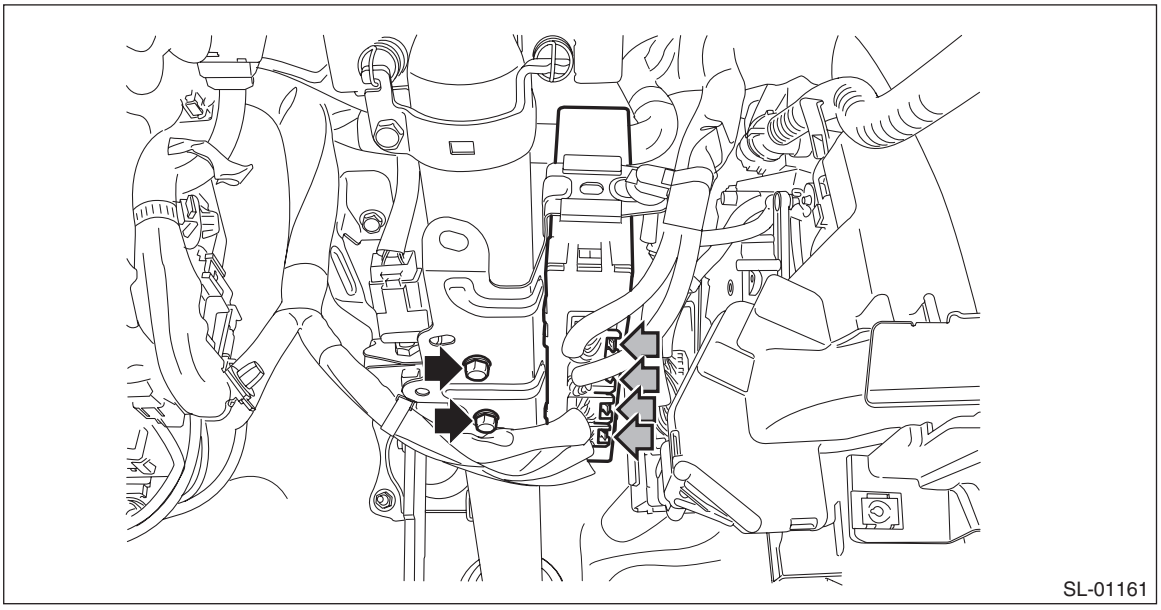
2. AFTER REPLACING THE BODY INTEGRATED UNIT

1) Register the immobilizer. For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”. (Model without keyless access)
2) Set the current settings as recorded.

B: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the body integrated unit.

CAUTION:
Be careful to keep water and other foreign materials away from body integrated unit.
(1) Remove the harness clip and connector.
(2) Remove the bolts, and remove the body integrated unit.



C: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Body integrated unit: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

NOTE:
Make sure that there are no differences from the contents of the current settings after installation. <Ref. to BC(diag)-12, LIST, Read Current Data.>

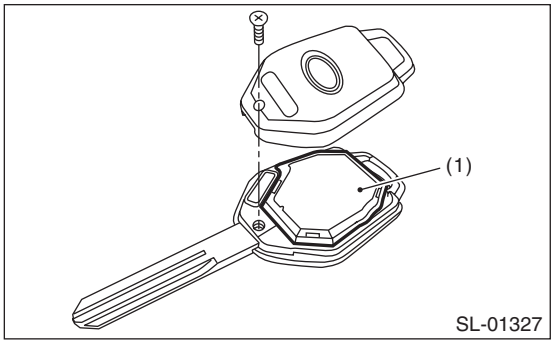
27.Keyless Transmitter

A: REMOVAL

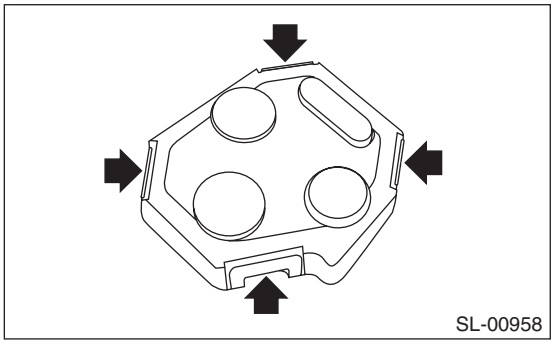
1. KEYLESS TRANSMITTER BATTERY

CAUTION:
To prevent static electricity damage to the keyless transmitter printed circuit board, touch the steel area of building with hand to discharge static electricity carried on body or clothes before disassembling the keyless transmitter.

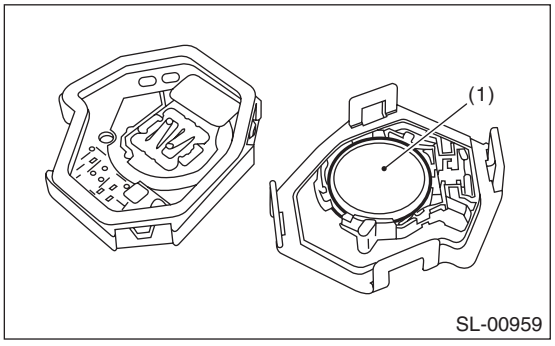
1) Disassemble the keyless transmitter, and take out the transmitter case (1).



2) Release the claws, and open the transmitter case.



3) Remove the battery (1) from the transmitter.



B: INSTALLATION

1. KEYLESS TRANSMITTER BATTERY

Install each part in the reverse order of removal.

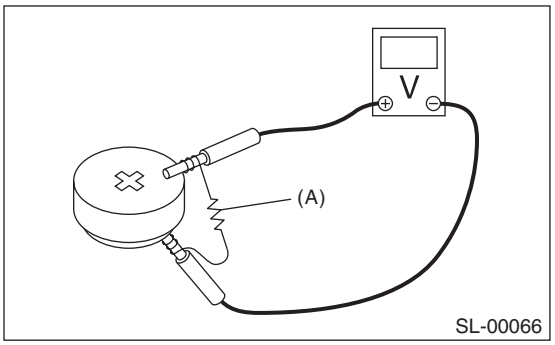
C: INSPECTION

1. KEYLESS TRANSMITTER BATTERY

1) Check the keyless transmitter battery voltage.

Preparation tool:
Circuit tester

NOTE:
Complete the measurement within 5 seconds because the battery discharges during measurement.



Battery terminal	Inspection Conditions	Standard
(+) — (–)	Connect resistor (A) 47 Ω	2.5 — 3.0 V

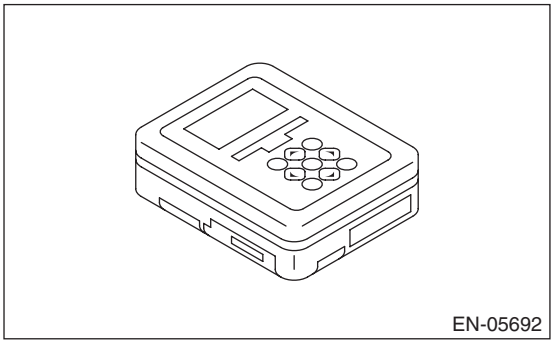
2) Replace the battery if the inspection result is not within the standard value. (Use CR1620 or equivalent.)

D: REPLACEMENT

1. KEYLESS TRANSMITTER REGISTRATION

NOTE:
• A maximum of four keyless transmitters can be registered for each individual vehicle.
• When replacing or adding the keyless transmitter, new registration of transmitter is necessary.

1) Prepare the Subaru Select Monitor kit. <Ref. to SL-8, SPECIAL TOOL, PREPARATION TOOL, General Description.>



2) Prepare PC with Subaru Select Monitor installed.

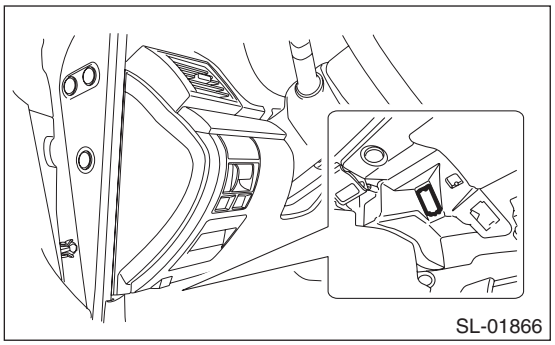
3) Connect the USB cable to SDI (Subaru Diagnosis Interface) and USB port on the personal computer (dedicated port for the Subaru Select Monitor).

NOTE:
The dedicated port for the Subaru Select Monitor means the USB port which was used to install the Subaru Select Monitor.

4) Connect the diagnosis cable to SDI.

5) Connect SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.



6) Start the PC.

7) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor".

8) On the «Main Menu» of the Subaru Select Monitor, select the {Each System Check} → {Integ. unit mode} → {Keyless ID registration}.

9) Input the 8-digit ID number attached to the tag plate of the transmitter or inside the transmitter, from left to right. Press the [OK] key.

10) The ID number you have entered will be shown. Make sure that the ID number shown is the same as that of plastic bag or inside of transmitter.

11) Press the [OK] key if the ID number is correct. Press the [EXIT] key if incorrect, to return to the step 3) and enter the ID number again.

12) «ID is being registered... » is displayed and registration starts.

13) «ID registration completed » will be displayed when the registration process is done.

14) To exit, select «Quit: NO» to return to {Keyless ID registration}. If there are additional keyless transmitters to be registered, select «The following are registered: OK» to return to the step 4).

NOTE:
• If the registration fails, «ID cannot register Please try again» will be shown. Select the [OK] key to return to the {Keyless ID registration}. Retry starting from the step 3).
• «Quit: NO» is shown on the Subaru Select Monitor when fourth keyless transmitter has been registered. Select the [NO] key to return to {Keyless ID registration}.

28.Access Key

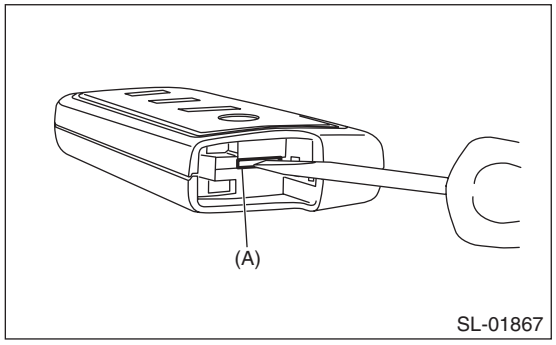
A: REMOVAL

NOTE:
Refer to keyless transmitter for models without keyless access. <Ref. to SL-81, KEYLESS TRANSMITTER BATTERY, REMOVAL, Keyless Transmitter.>

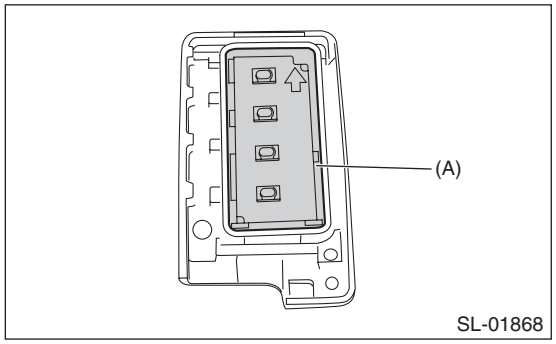
1. ACCESS KEY BATTERY

CAUTION:
To prevent static electricity damage to the access key printed circuit board, touch the steel area of building with hand to discharge static electricity carried on body or clothes before disassembling the access key.

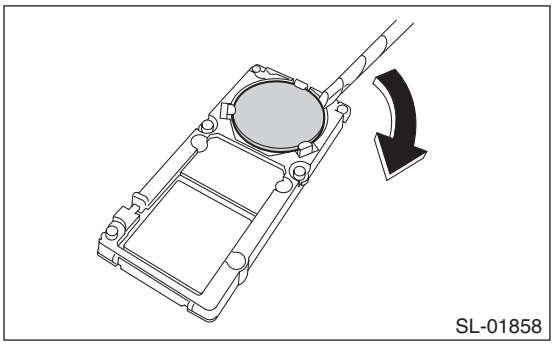
1) Remove the mechanical key from the access key.
2) Insert a flat tip screwdriver into the slot indicated by (A) after the mechanical key is removed to open the case.



3) Being careful not to touch the access key printed circuit, remove the printed circuit board (A).



4) Insert a flat tip screwdriver along the side of the access key battery to remove the battery.



B: INSTALLATION

1. ACCESS KEY BATTERY

Install each part in the reverse order of removal.

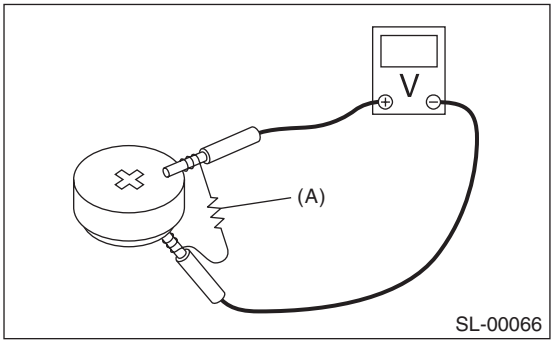
C: INSPECTION

1. ACCESS KEY BATTERY

Check the access key battery voltage.

Preparation tool:
Circuit tester

NOTE:
Complete the measurement within 5 seconds because the battery discharges during measurement.



Battery terminal	Inspection conditions	Standard
(+) — (–)	Connect resistor (A) 47 Ω	2.5 — 3.0 V

Replace the battery if the inspection result is not within the standard value. (Use CR1632 V or equivalent.)

D: REPLACEMENT

1. ACCESS KEY REGISTRATION

NOTE:
• A maximum of seven access keys can be registered for each individual vehicle.
• When replacing or adding an access key, new registration of the access key is necessary.
• When replacing the access key, registration in the immobilizer system is necessary.
Refer to the “PC application help for Subaru Select Monitor” for access key registration.

2. CLEARING ACCESS KEY REGISTRATION

Refer to the “PC application help for Subaru Select Monitor” for clearing access key registration.

29.Immobilizer Control Module

A: NOTE

NOTE:
Except for models with keyless access.
The control of immobilizer system is carried out in body integrated unit. For operation procedures, refer to “Body Integrated Unit”.

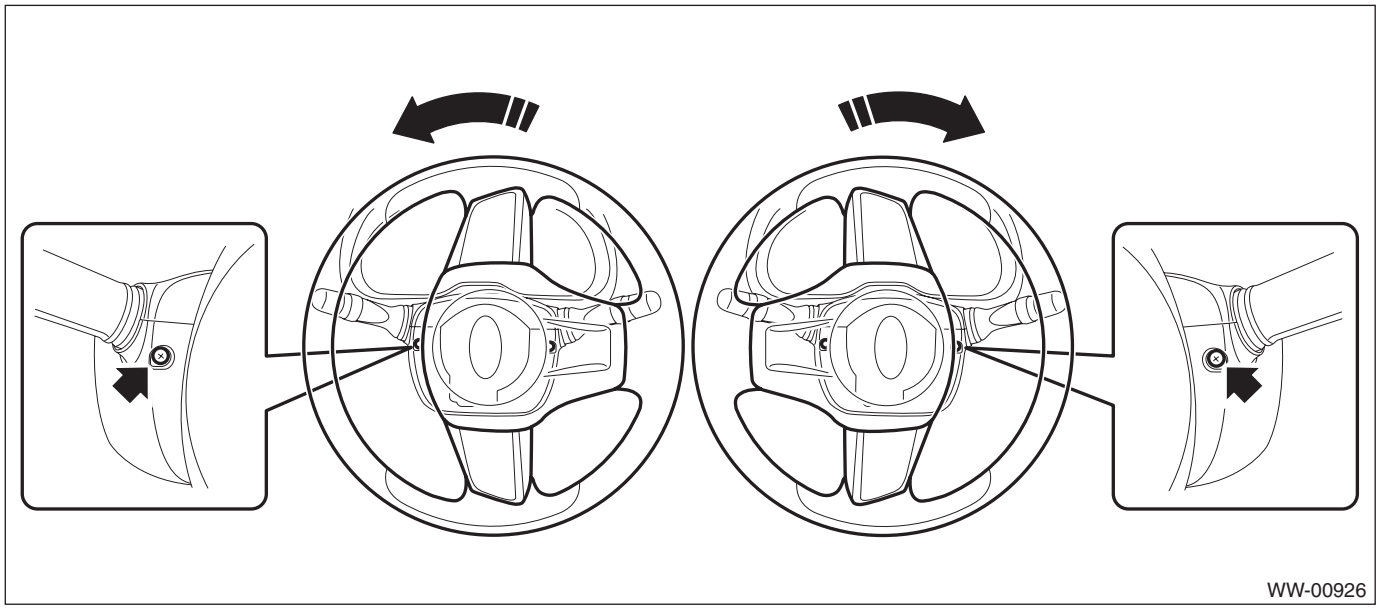
- Removal: <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
- Installation: <Ref. to SL-80, INSTALLATION, Body Integrated Unit.>

30.Immobilizer Antenna

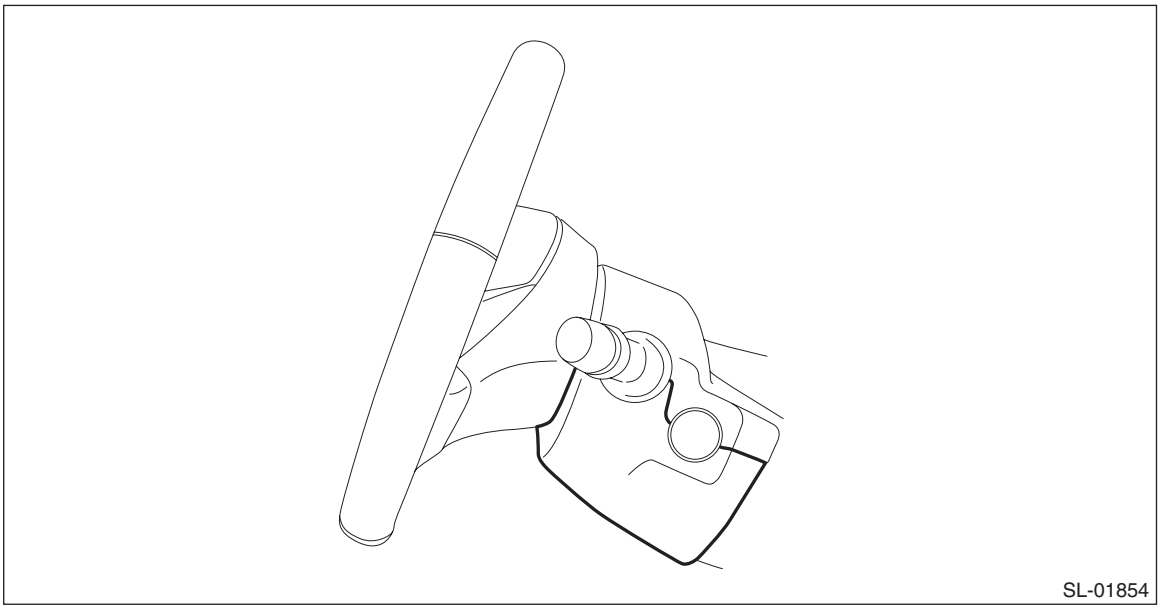
A: REMOVAL

1. MODEL WITHOUT KEYLESS ACCESS

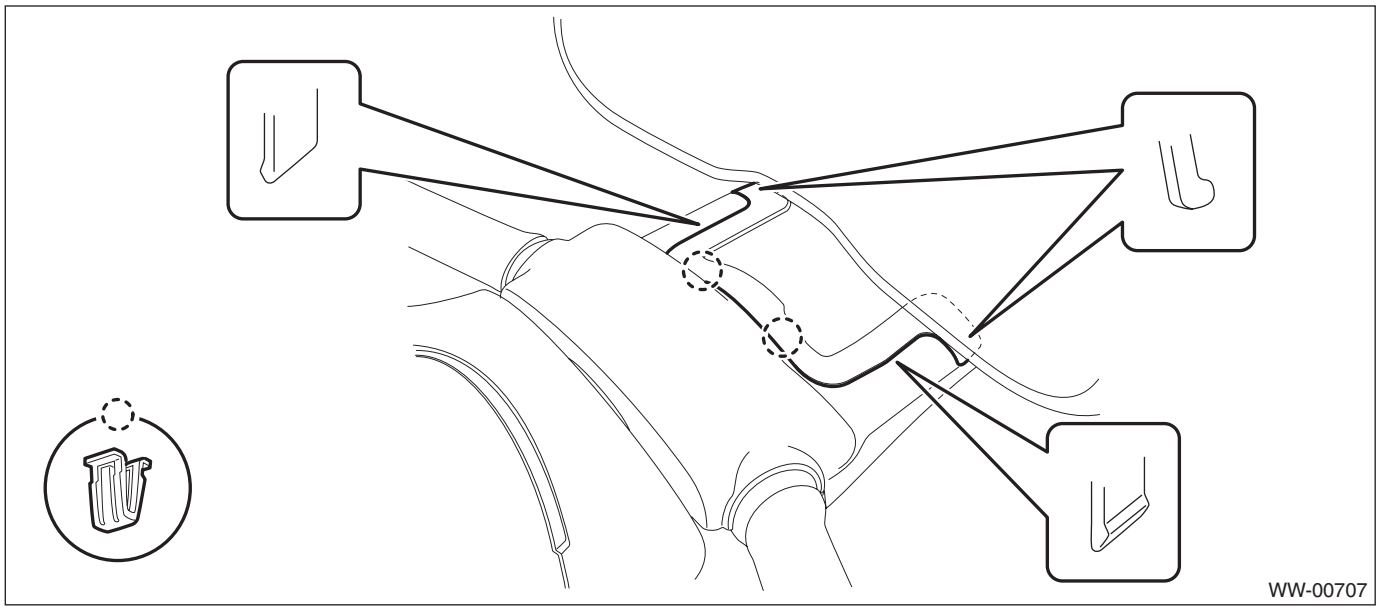
1) Disconnect the ground cable from battery.
2) Remove the steering column cover.
   (1) Remove the screws by turning the steering wheel to right and left.



   (2) Release the claws and remove the steering column lower cover.



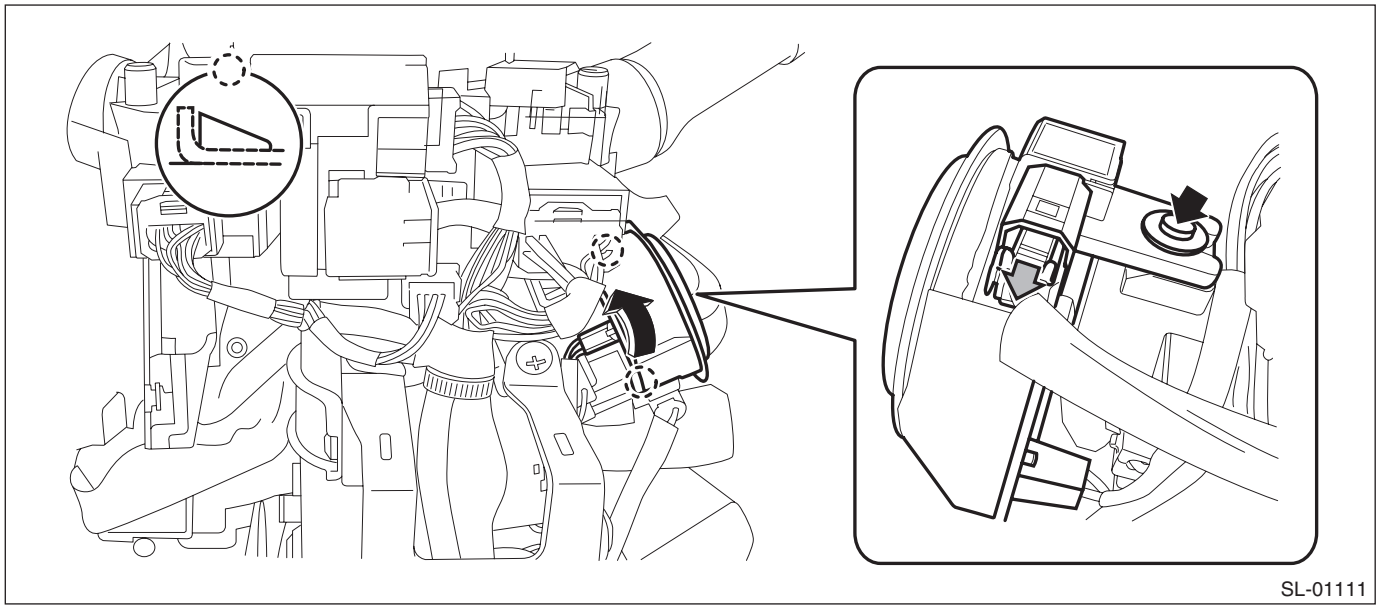
(3) Separate the steering column upper cover and steering upper cover, and remove the steering column upper cover.



3) Remove the immobilizer antenna.

CAUTION:
Do not apply excessive force to remove the immobilizer antenna and lock. Otherwise they may be broken because those parts are the products made of a plastic.

(1) Disconnect the connector and remove the screw.
(2) Remove the ignition illumination light and release the claws, then detach the immobilizer antenna.

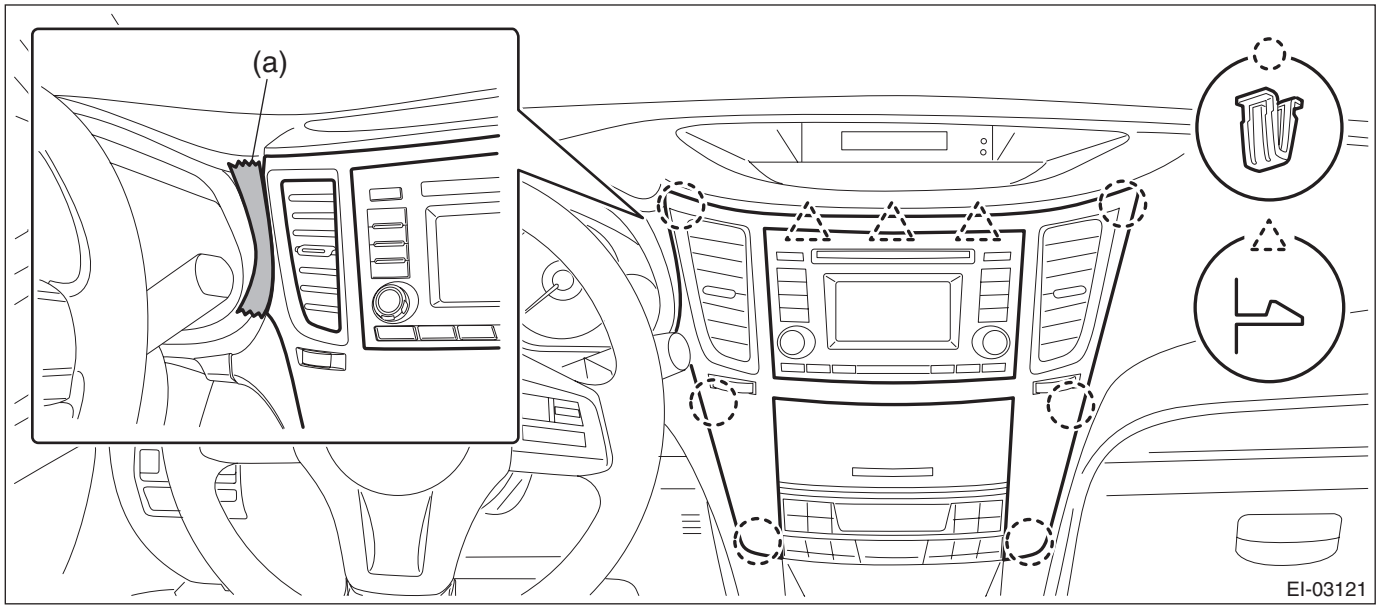


2. MODEL WITH KEYLESS ACCESS

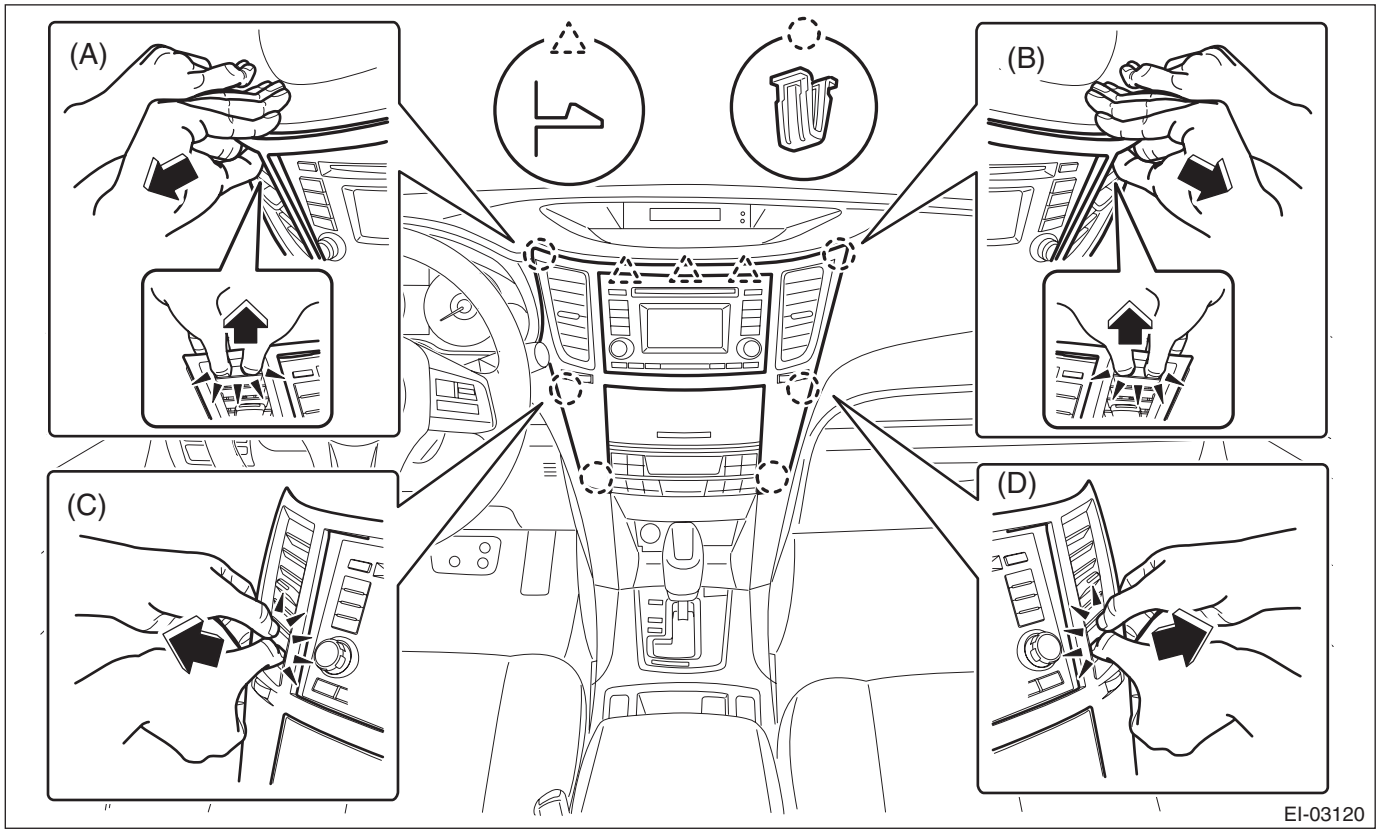
1) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

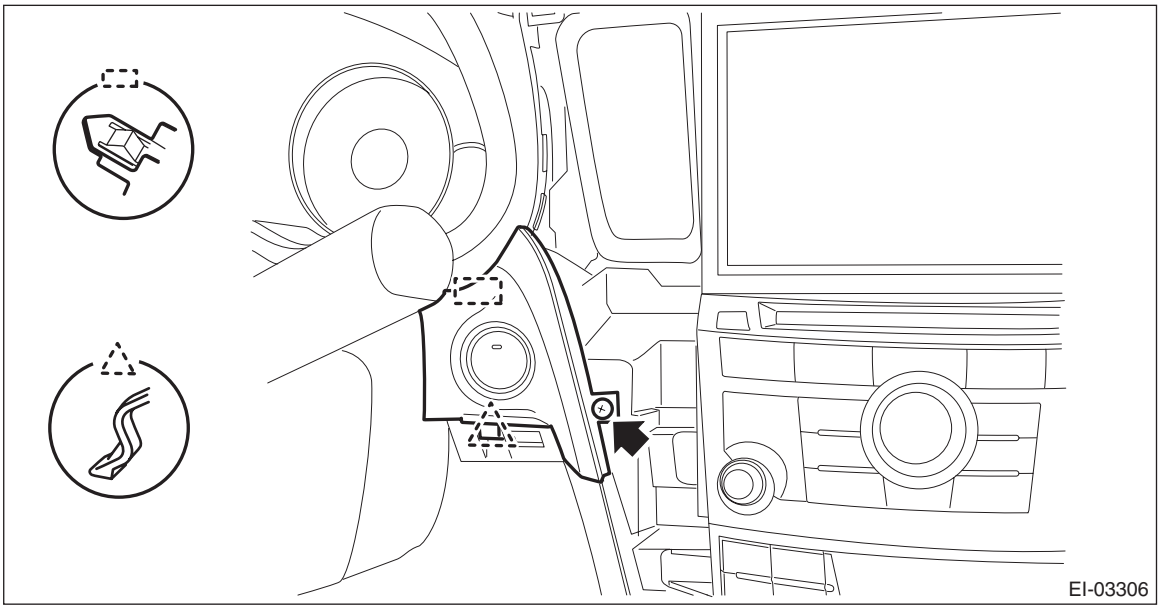
(1) Attach the protective tape (a) to the meter visor.



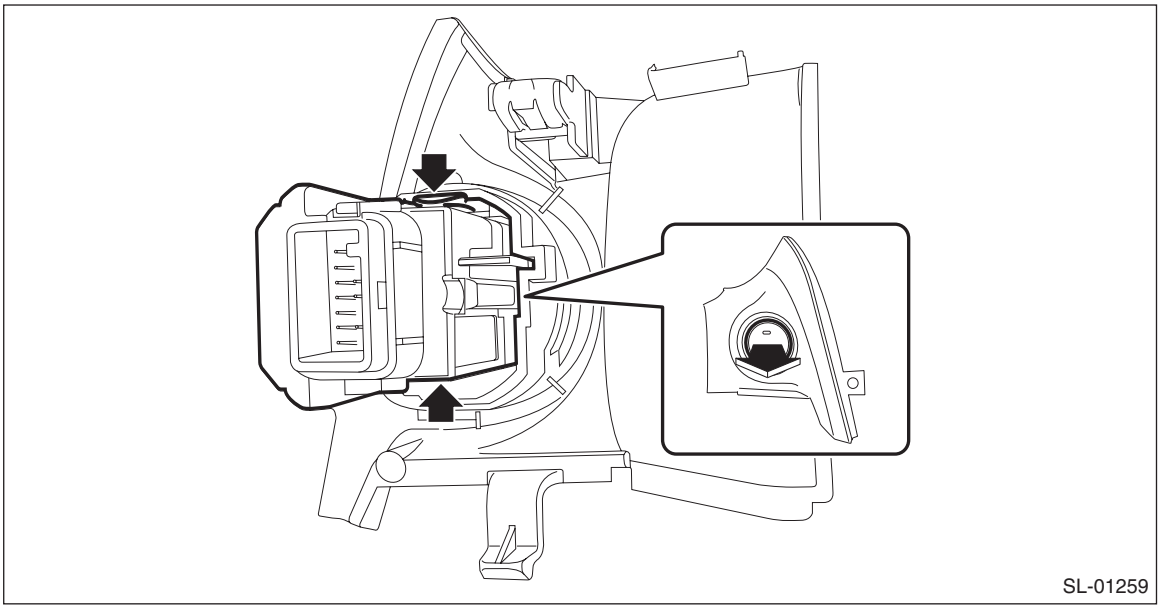
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



3) Remove the screws and release the claws, then detach the starter cover assembly.



4) Release the claws and remove the push button ignition switch from the starter cover assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

31.Keyless Access Indoor Antenna

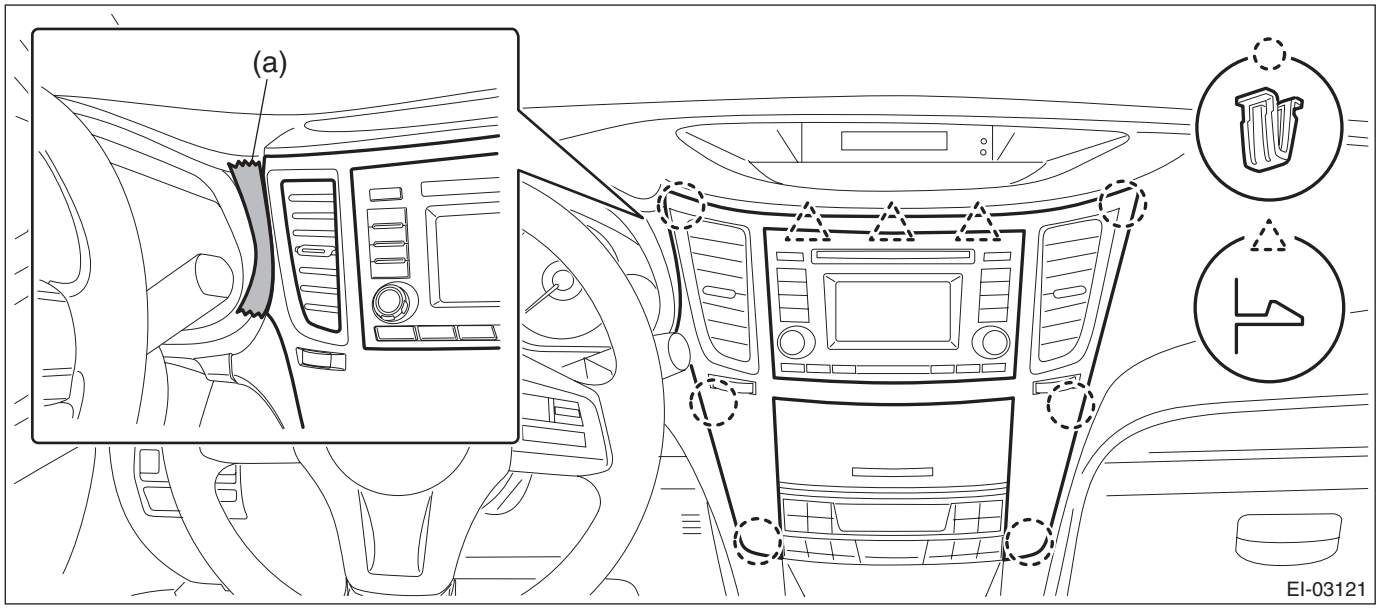
A: REMOVAL

1. FRONT ANTENNA

1) Disconnect the ground cable from battery.
2) Remove the center panel assembly.

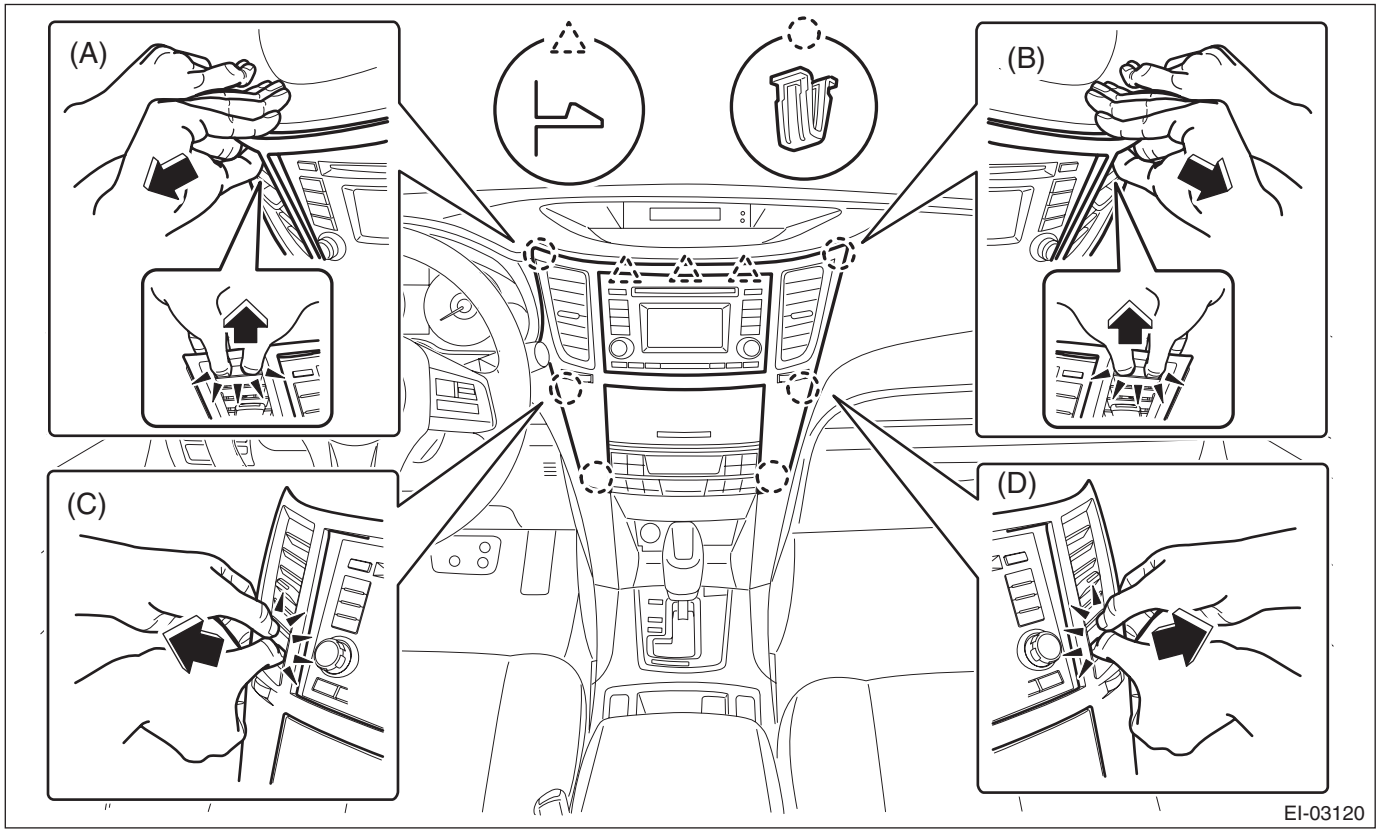
CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

(1) Attach the protective tape (a) to the meter visor.

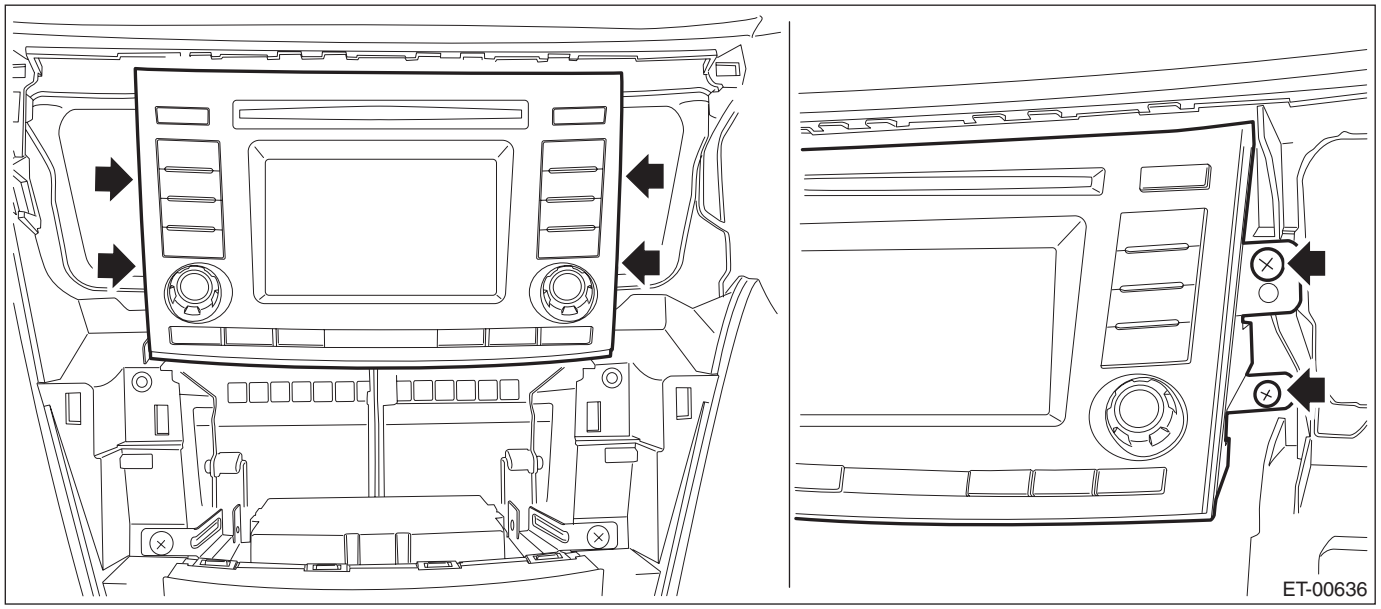


(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)

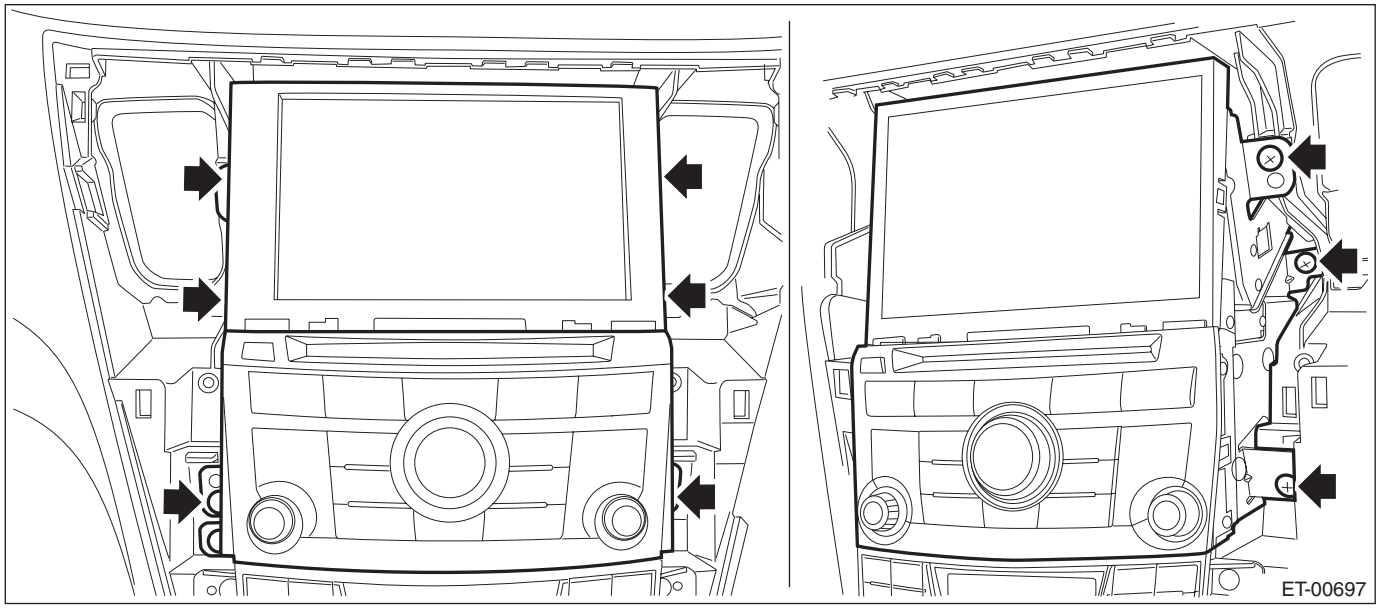
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



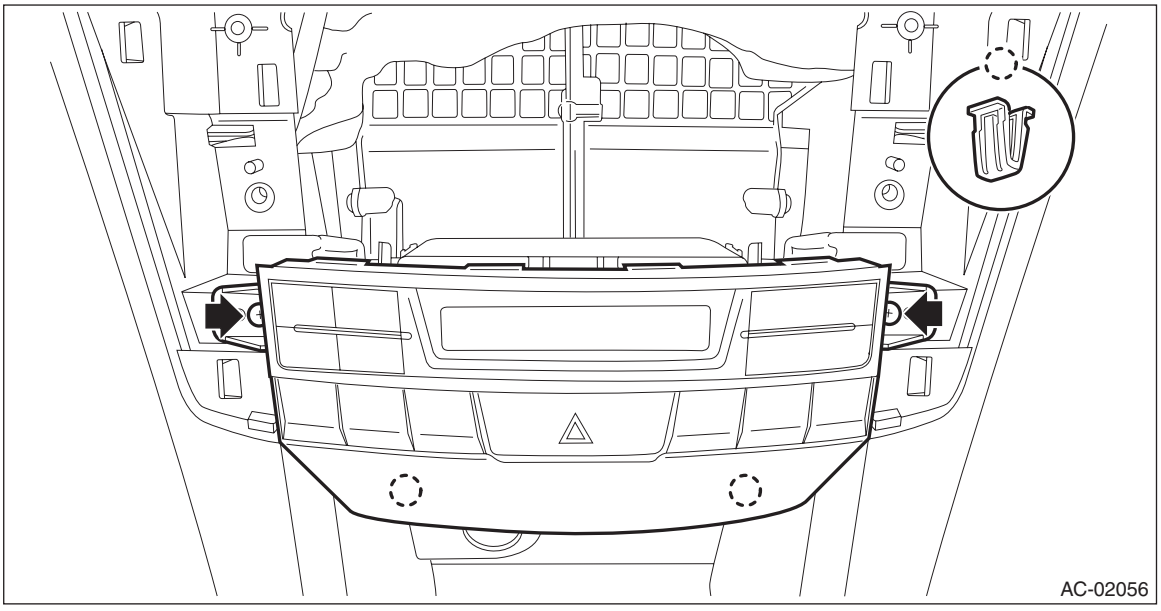
3) Remove the audio assembly.
(1) Remove the left and right screws, and partially pull the audio out from center console.
(2) Disconnect the connectors, and remove the audio assembly.



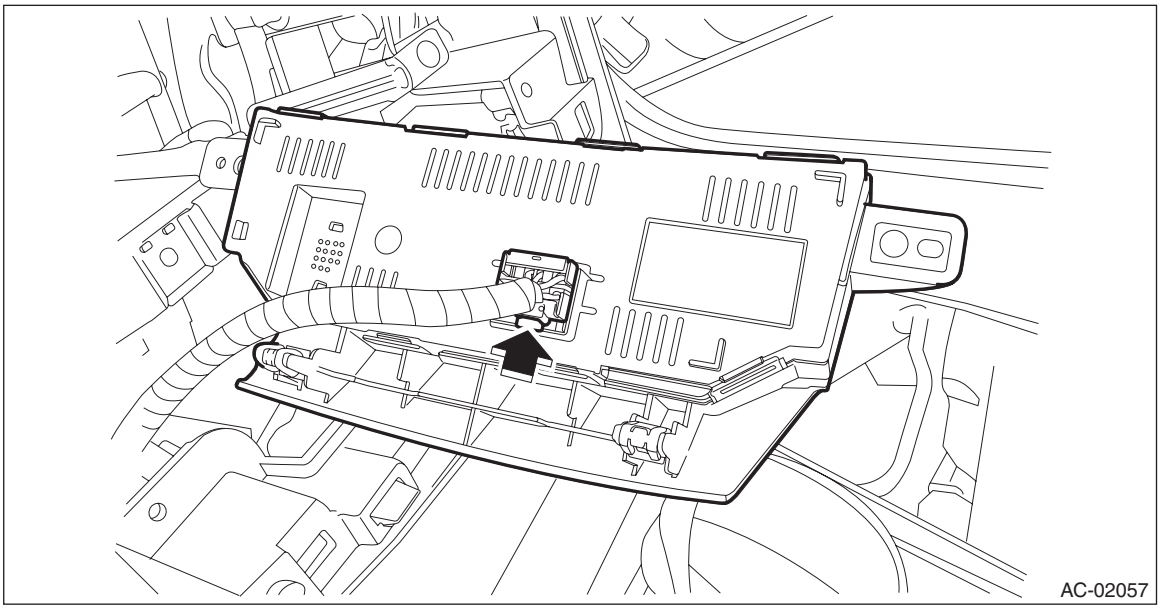
4) Remove the navigation assembly. (model with navigation)
   (1) Remove the left and right screws.
   (2) Disconnect the connectors, and remove the navigation assembly.



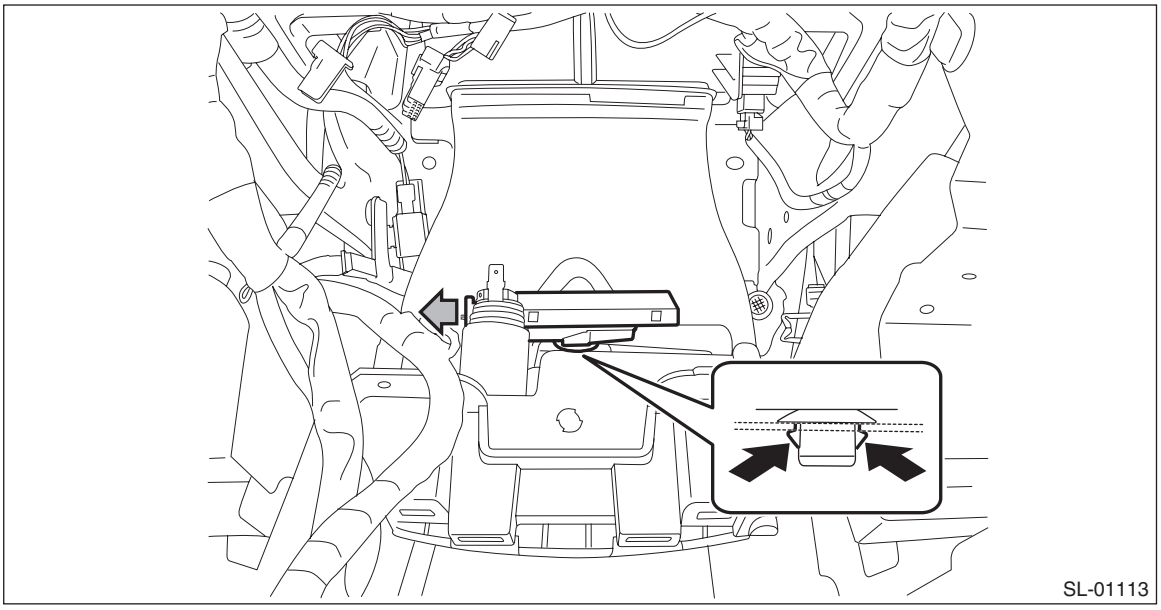
5) Remove the control panel.
   (1) Remove the screws.



(2) Pull forward the control module and disconnect the connector.

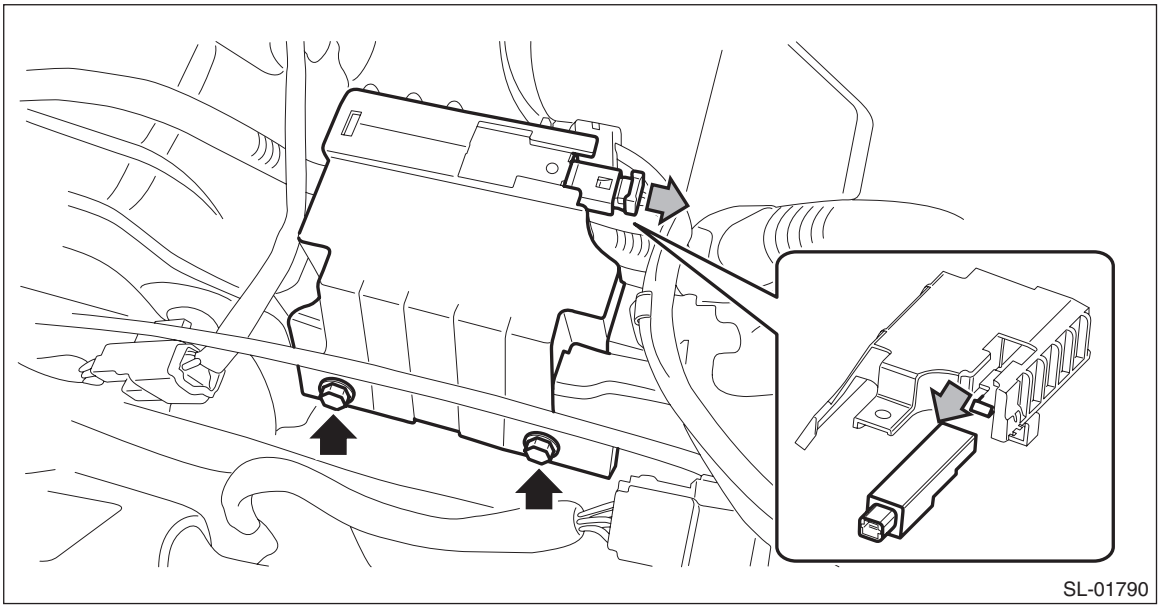


6) Disconnect the connector and remove the front interior antenna.



2. CENTER ANTENNA

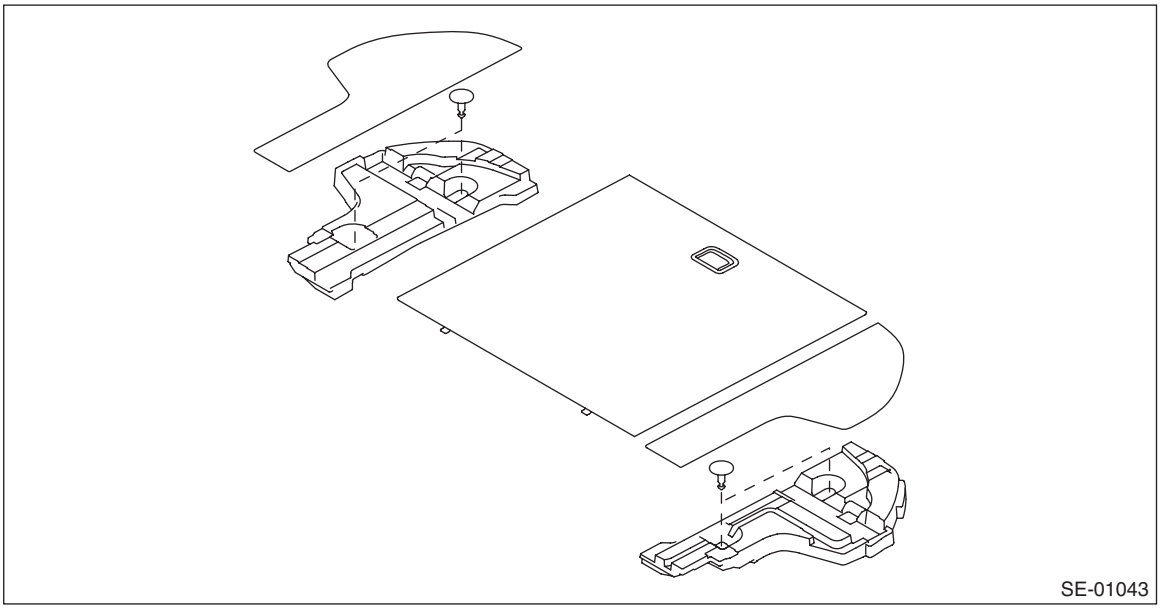
1) Disconnect the ground cable from battery.
2) Remove the rear seat cushion. <Ref. to SE-38, OUTBACK MODEL, REMOVAL, Rear Seat.>
3) Remove the center antenna.
   (1) Disconnect the center antenna connector.
   (2) Remove the two bolts and remove the center antenna case.
   (3) Release the claws, and then remove the center antenna from the center antenna case.


SL-01790

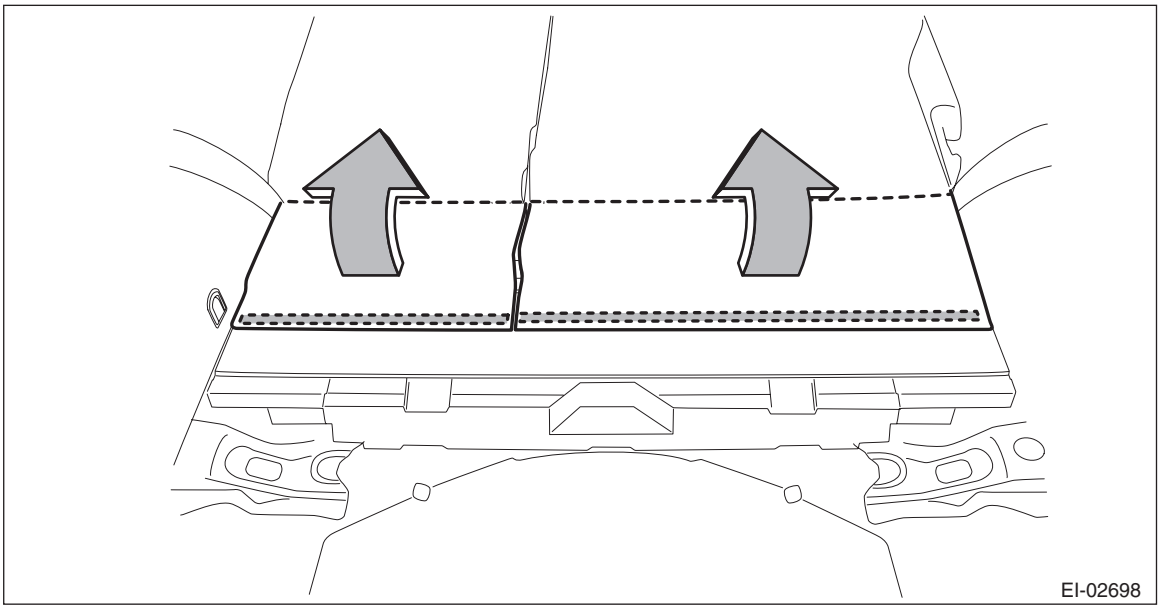
3. REAR ANTENNA

• OUTBACK model

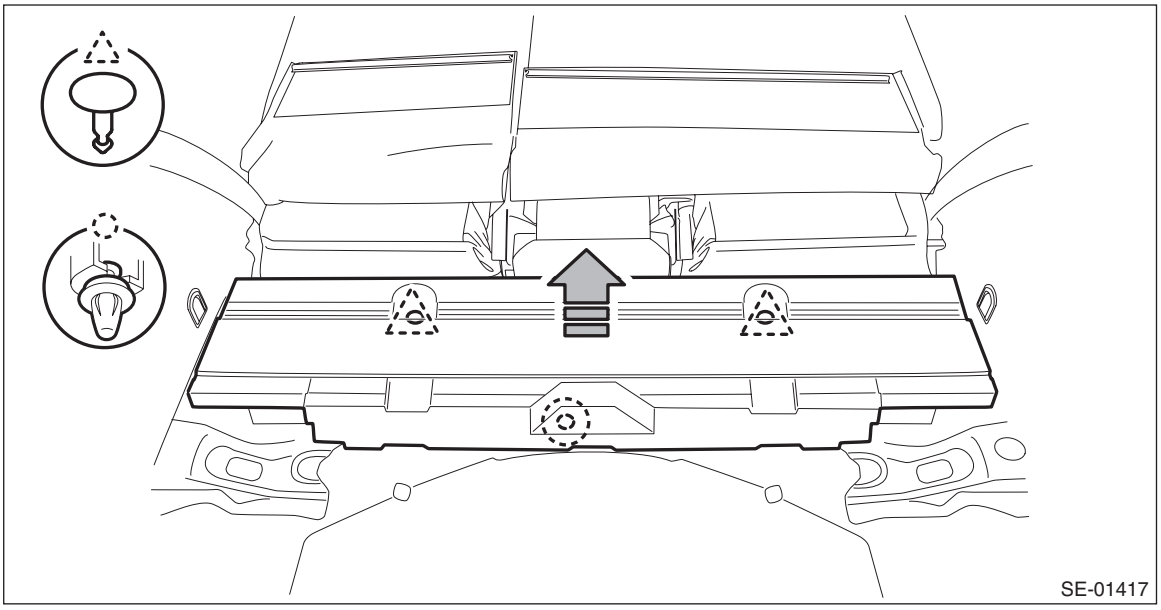
1) Disconnect the ground cable from battery.
2) Remove the luggage floor box.


SE-01043

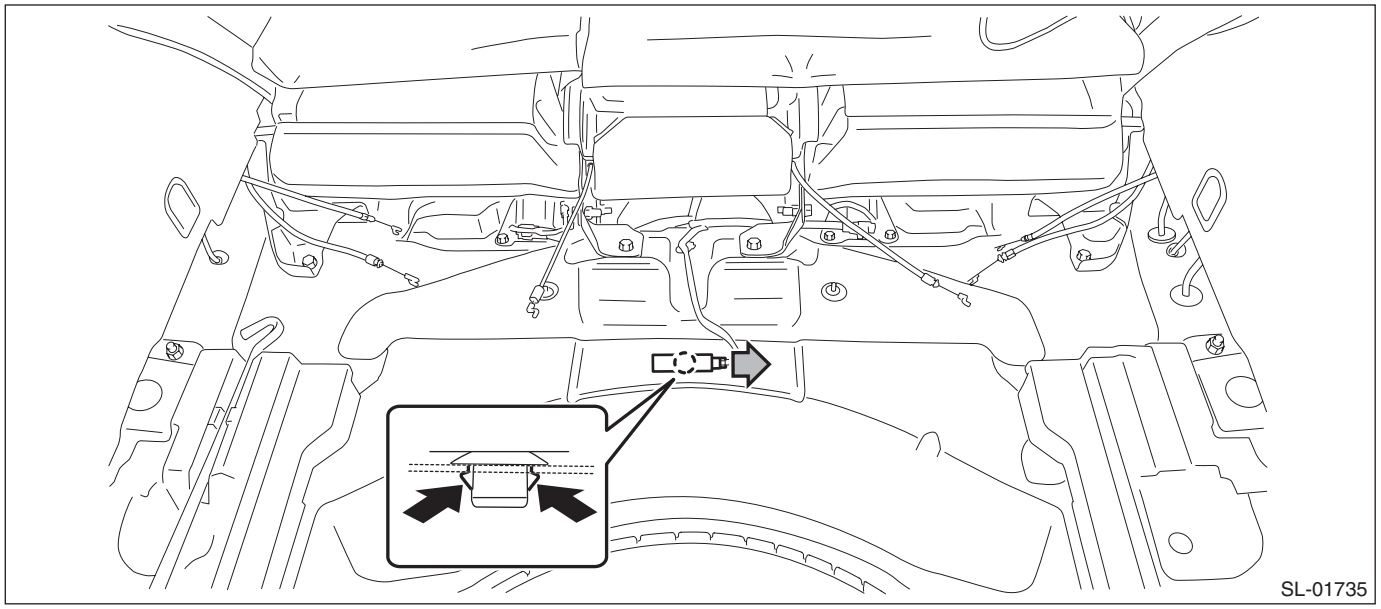
3) Tilt the backrest and turn over the seat backrest cover.



4) Remove the rear floor spacer CTR - front.



5) Disconnect the connector and remove the rear interior antenna.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Antenna bracket: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

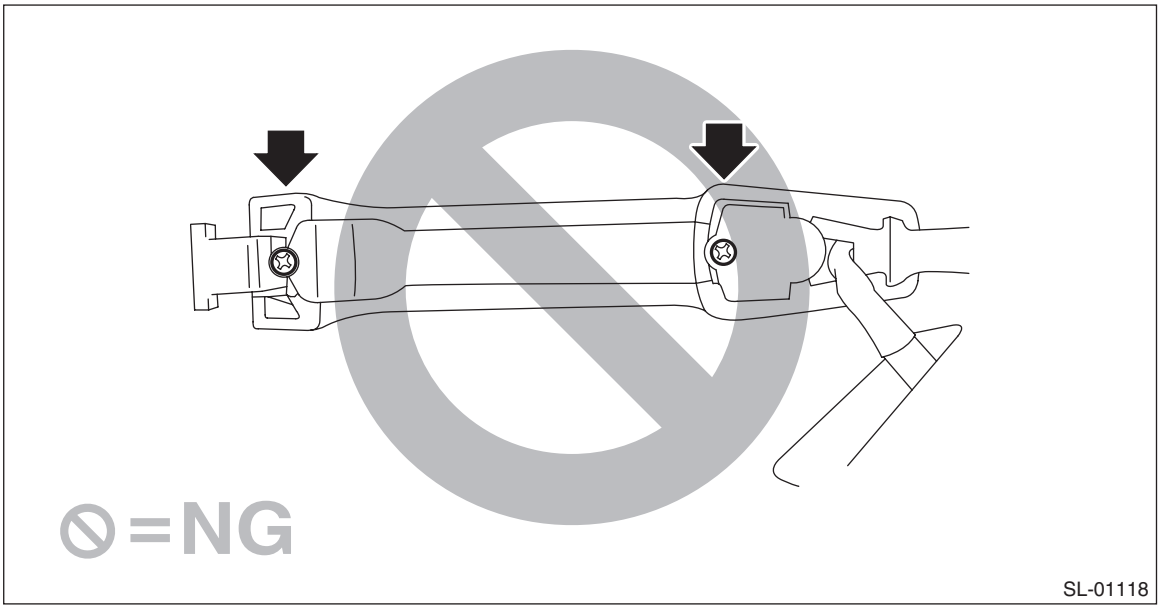
1) Check the setting by performing Keyless access system check using the Subaru Select Monitor. <Ref. to KPS(diag)-31, OPERATION, Keyless Access System Check.>
2) Disconnect the Subaru Select Monitor. After placing the access key in the compartment, operate the push button ignition switch to check that the power can be switched.
3) If the system does not operate normally as the result of inspection, refer to “General Diagnostic Table” of the “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-86, KEYLESS ACCESS SYSTEM, INSPECTION, General Diagnostic Table.>

32.Keyless Access Outdoor Antenna

A: REMOVAL

1. FRONT ANTENNA

CAUTION:
Do not detach the antenna from the front door outer handle.
If it requires replacement, replace the entire front outer handle assembly.

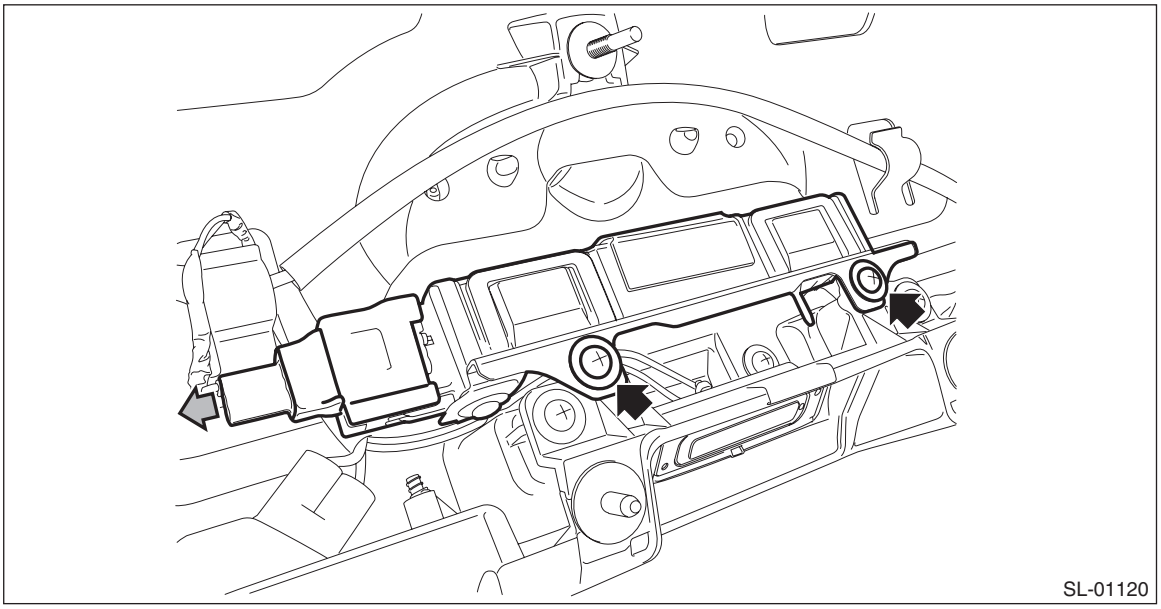


Remove the front outer handle assembly. <Ref. to SL-37, REMOVAL, Front Outer Handle.>

2. REAR ANTENNA

CAUTION:
Do not detach the antenna except when replacing it. Detaching unnecessarily will lead to insecure attachment of the antenna.

1) Remove the rear gate garnish. <Ref. to EI-171, REMOVAL, Rear Gate Garnish.>
2) Remove the rear exterior antenna.
   (1) Disconnect the connector.
   (2) Remove the screws, then remove the rear exterior antenna.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Rear outside antenna (sedan models): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

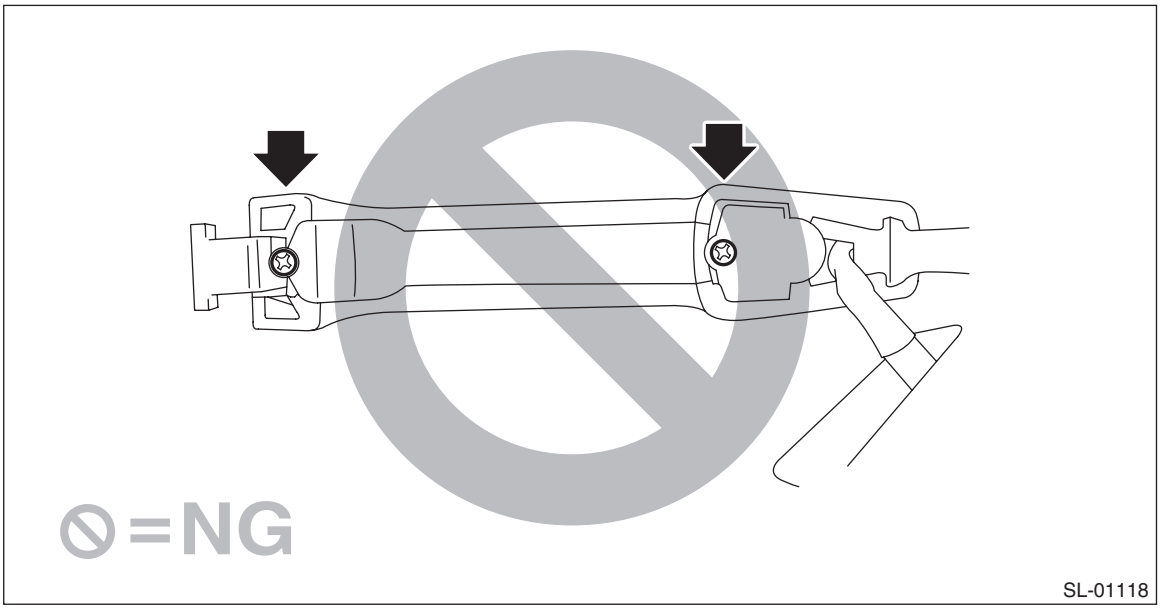
C: INSPECTION

1) Check the setting by performing Keyless access system check using the Subaru Select Monitor. <Ref. to KPS(diag)-31, OPERATION, Keyless Access System Check.>
2) Disconnect the Subaru Select Monitor. Operate the touch sensor of the door outer handle and the opener switch on the rear gate to check if door unlock operates.
3) If the system does not operate normally as the result of inspection, refer to “General Diagnostic Table” of the “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-86, KEYLESS ACCESS SYSTEM, INSPECTION, General Diagnostic Table.>

33.Front Lock Button

A: REMOVAL

CAUTION:
Front lock button is integrated into the keyless access front exterior antenna.
Do not detach the antenna from the front door outer handle.
If replacement is required, replace the front outer handle assembly as a whole.



Remove the front outer handle assembly. <Ref. to SL-37, REMOVAL, Front Outer Handle.>

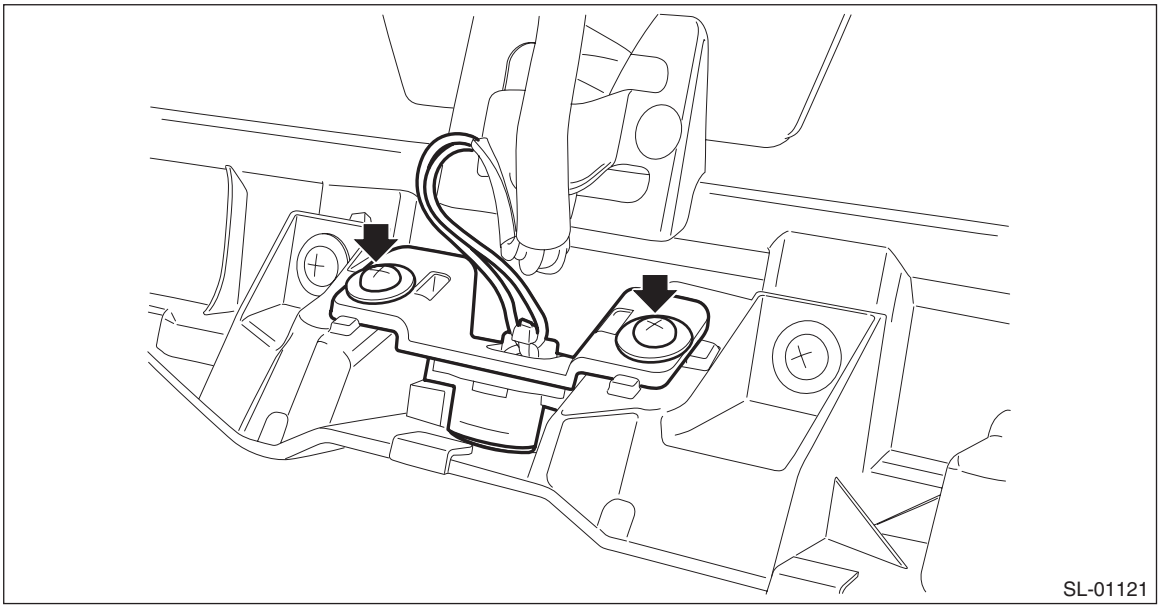
B: INSPECTION

1) Display the current data using the Subaru Select Monitor.
2) Check if the display changes when the front lock button is operated.
3) If the display is not correct as the result of inspection, refer to “General Diagnostic Table” of the “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-86, KEYLESS ACCESS SYSTEM, INSPECTION, General Diagnostic Table.>

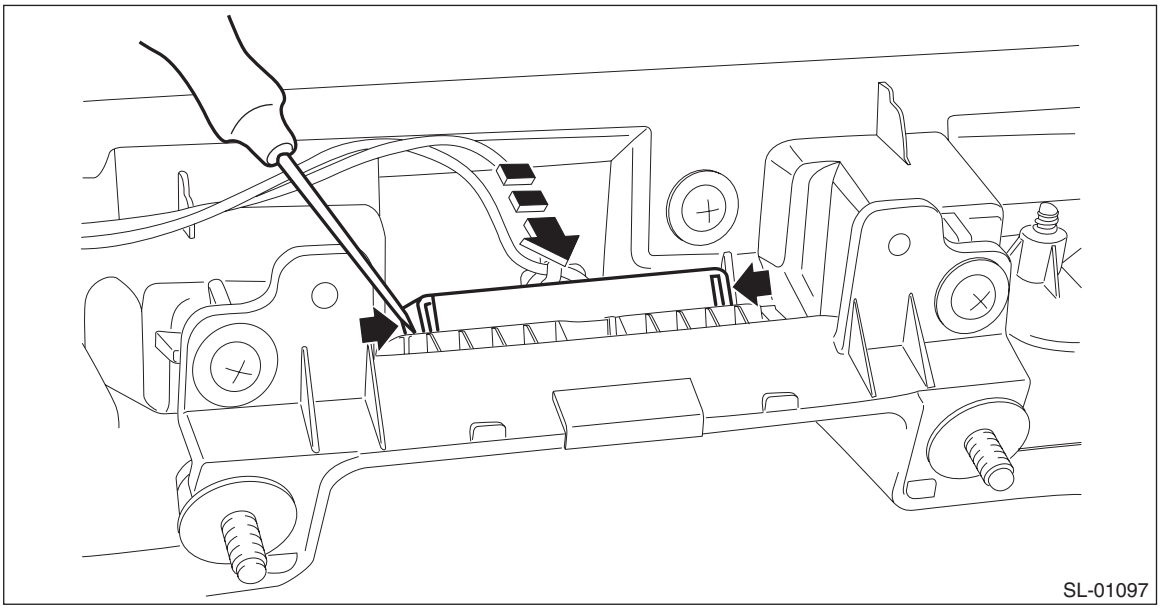
34.Rear Lock Button

A: REMOVAL

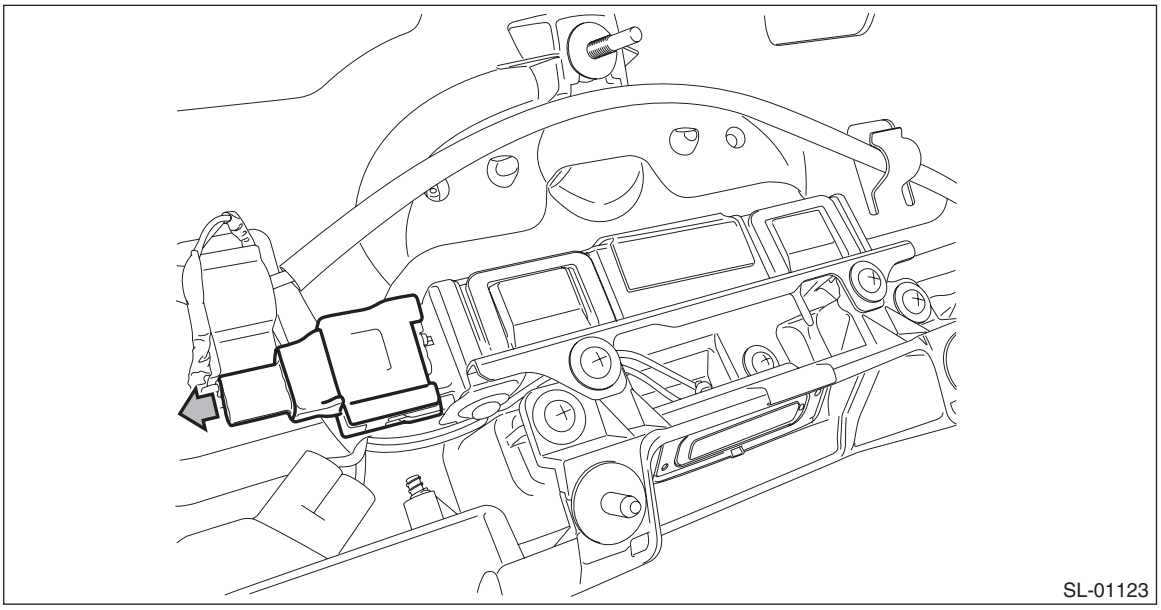
NOTE:
The rear lock button (lock) is integrated into the license plate light assembly harness.
1) Remove the rear gate garnish assembly. <Ref. to EI-171, REMOVAL, Rear Gate Garnish.>
2) Remove the rear lock button (lock).
(1) Remove the screws and remove the rear lock button (lock).



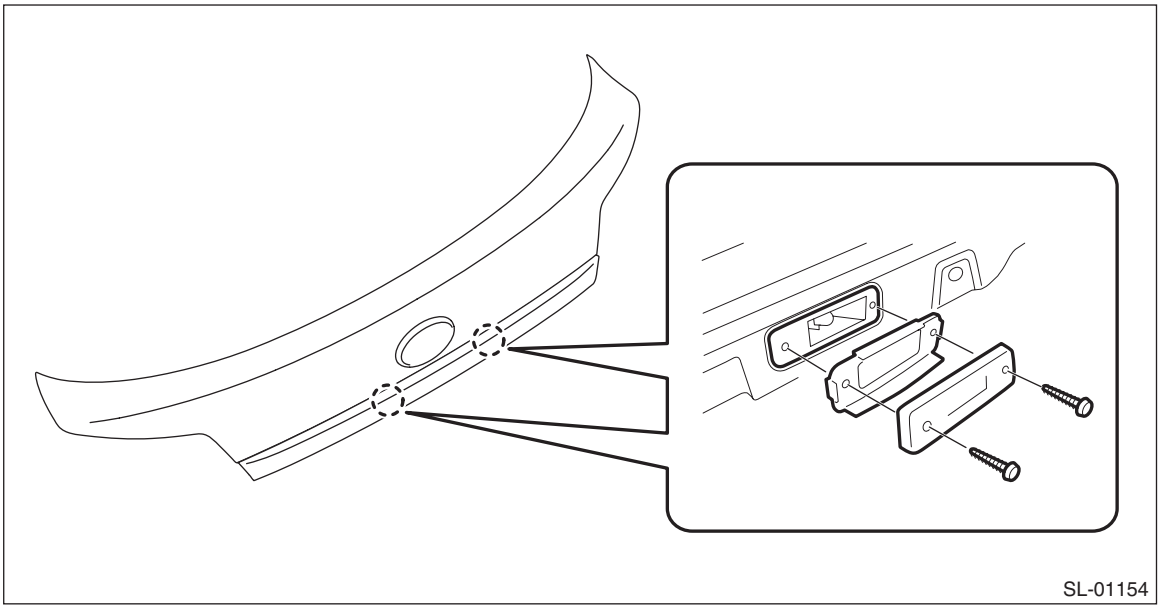
(2) Release the locks at both ends of the rear gate opener button by pushing with a flat tip screwdriver.



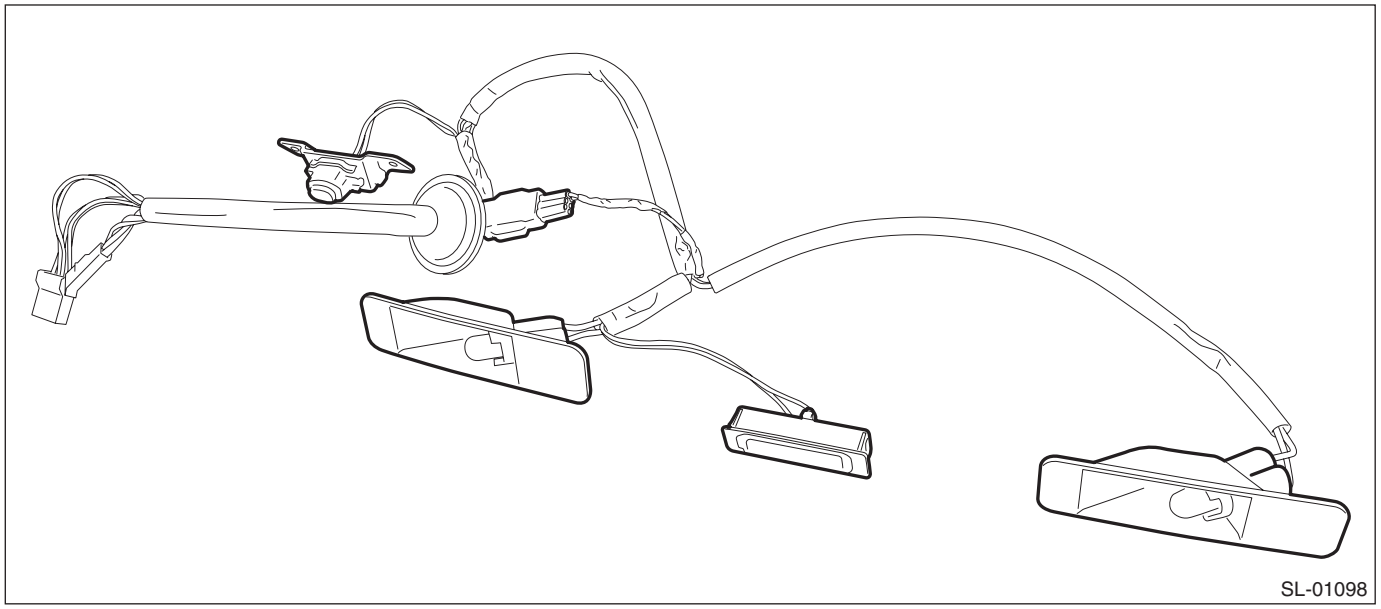
(3) Disconnect the rear exterior antenna connector.



(4) Remove the screws and remove the license plate light.



(5) Remove the license plate light assembly harness from the rear gate garnish assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

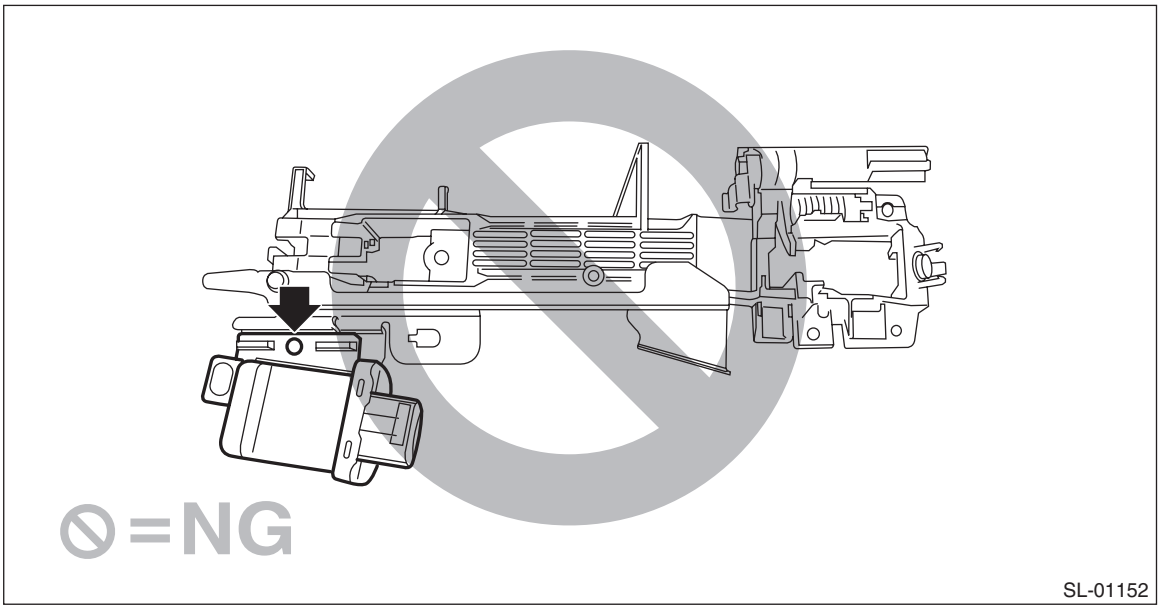
C: INSPECTION

1) Display the current data using the Subaru Select Monitor.
2) Check if the display changes when the rear lock button is operated.
3) If the display is not correct as the result of inspection, refer to “General Diagnostic Table” of the “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-86, KEYLESS ACCESS SYSTEM, INSPECTION, General Diagnostic Table.>

35.Oscillator

A: REMOVAL

CAUTION:
The oscillator is integrated with the front door outer handle frame assembly.
Do not detach the oscillator from the front door outer handle frame assembly.
If it requires replacement, replace the entire front outer handle frame assembly.



To remove the front door outer handle frame assembly, refer to the removal of front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>

B: INSTALLATION

Install each part in the reverse order of removal.

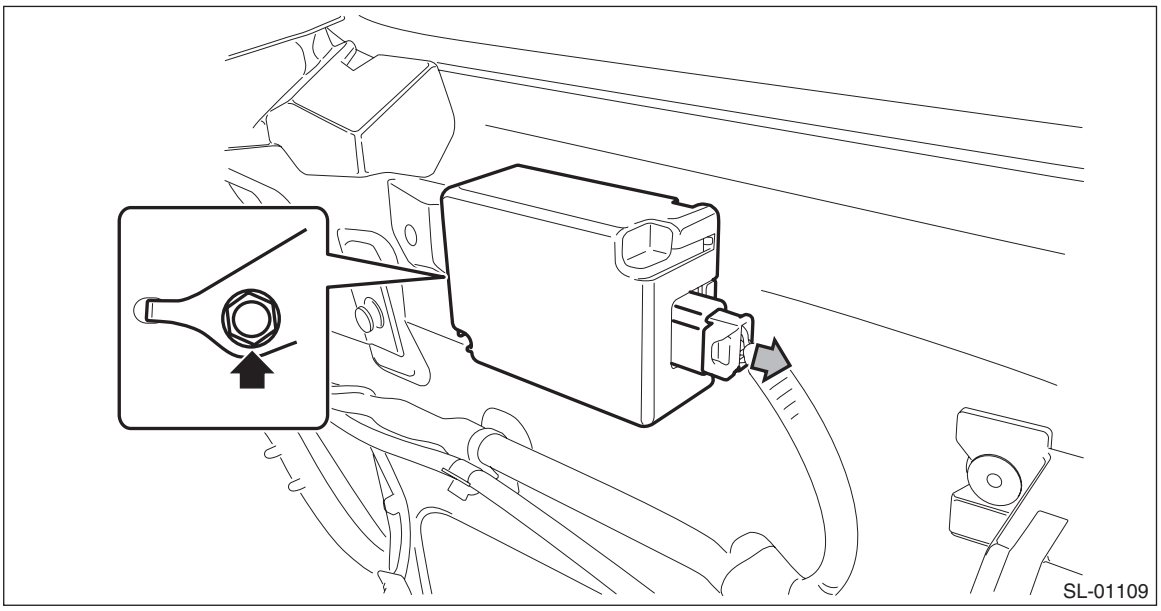
C: INSPECTION

1) Check the range by performing Keyless access system check using the Subaru Select Monitor.
2) Disconnect the Subaru Select Monitor. Operate the touch sensor of the door outer handle to check if the door unlock functions normally.
3) If the system does not operate normally as the result of inspection, refer to “General Diagnostic Table” of the “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-86, KEYLESS ACCESS SYSTEM, INSPECTION, General Diagnostic Table.>

36.Receiver

A: REMOVAL

NOTE:
Except for model with keyless entry
1) Disconnect the ground cable from battery.
2) Remove the rear quarter trim LH. <Ref. to EI-115, OUTBACK MODEL, REMOVAL, Rear Quarter Trim.>
3) Remove the receiver.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the receiver.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Receiver: 13 N·m (1.33 kgf-m, 9.6 ft-lb)

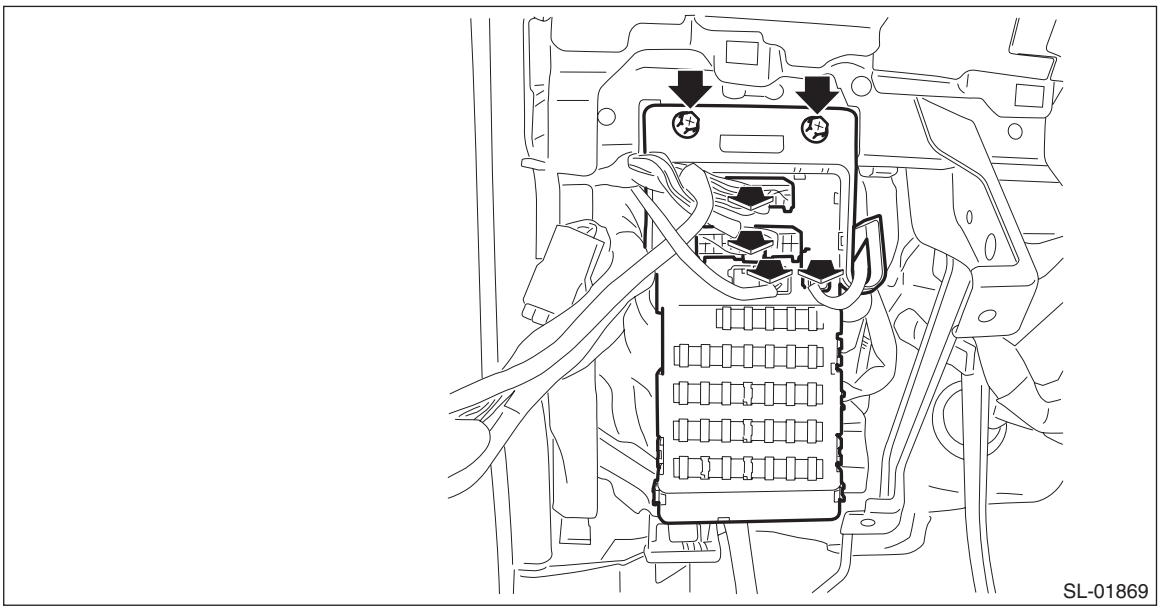
C: INSPECTION

1) Check if the door lock operates when the front lock button and rear lock button are operated.
2) If the system does not operate normally as the result of inspection, refer to “General Diagnostic Table” of the “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-86, KEYLESS ACCESS SYSTEM, INSPECTION, General Diagnostic Table.>

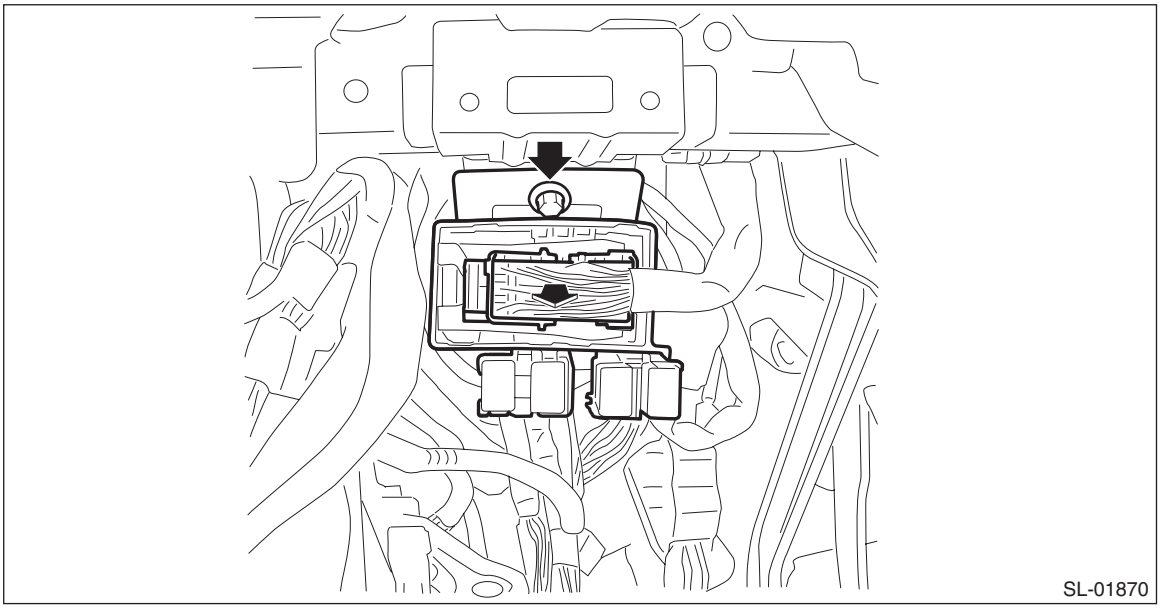
37.Keyless Access CM

A: REMOVAL

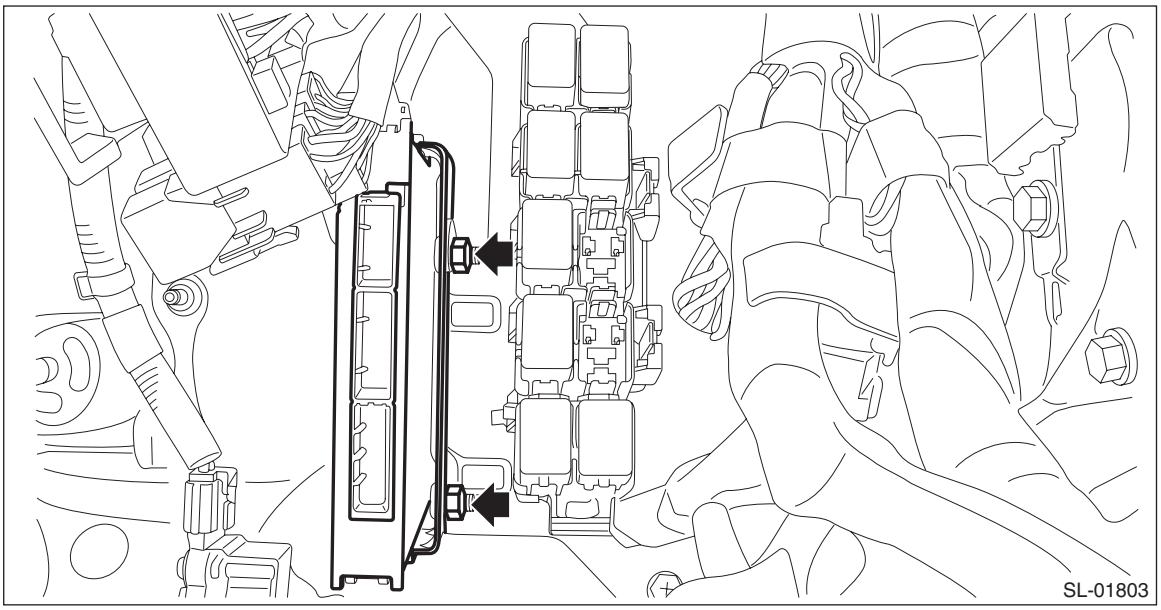
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the relay & fuse box.
   (1) Disconnect connectors.
   (2) Remove the bolts and remove the relay & fuse box.



4) Remove the holder.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the connector holder.



5) Remove the keyless access CM.
   (1) Disconnect connectors.
   (2) Remove the nut and remove the keyless access CM.



B: INSTALLATION

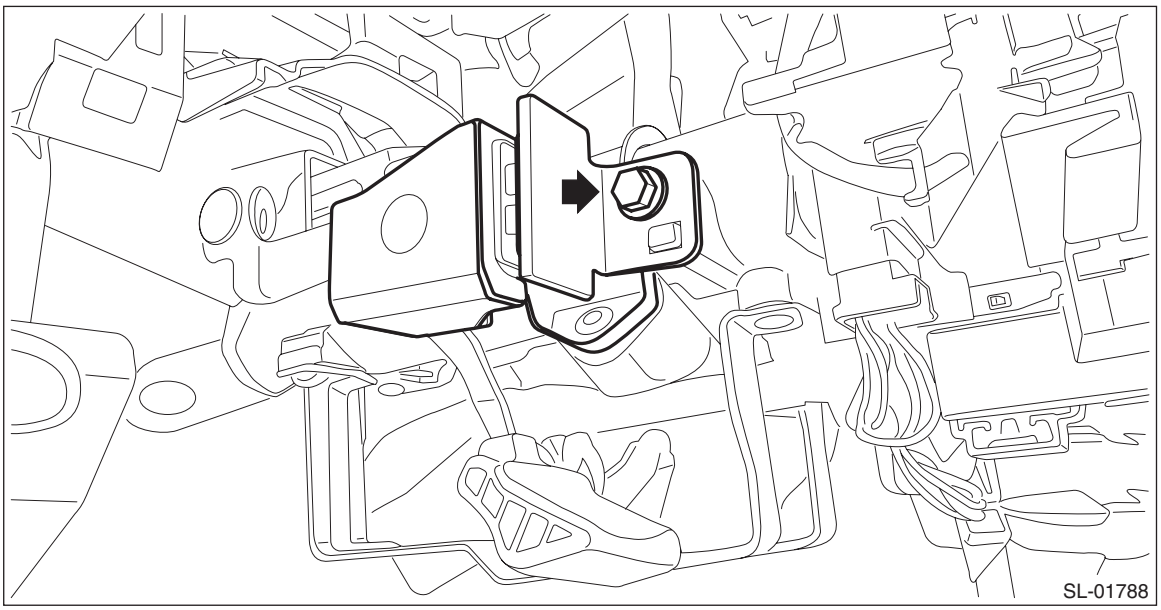
CAUTION:
Registration of the immobilizer is necessary when a immobilizer-related control module has been replaced. For detailed operation procedure, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
Install each part in the reverse order of removal.

Tightening torque:
Keyless access CM: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Relay & fuse box: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

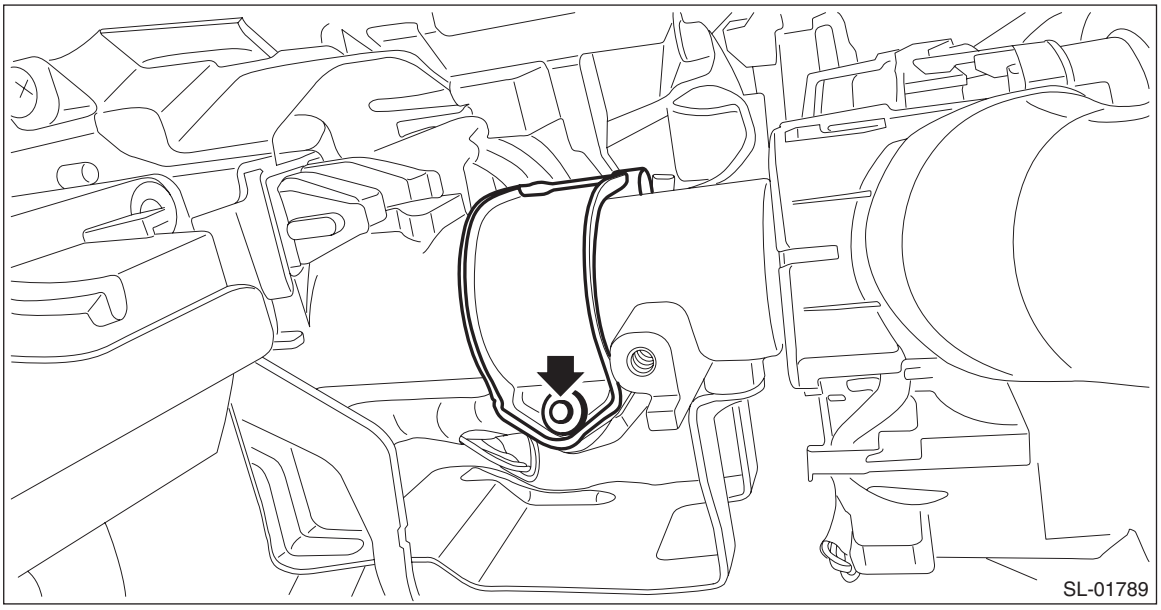
38.Steering Lock CM

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the steering column assembly. <Ref. to PS-25, REMOVAL, Steering Column.>
3) Remove the steering lock CM.
   (1) Secure the steering column in a vise.
   (2) Remove the bolts, and remove the dynamic damper.



   (3) Drill out the bolts and remove the steering lock CM.



B: INSTALLATION

CAUTION:
You must register the immobilizer when a immobilizer-related control module has been replaced. For procedures, refer to the "PC application help for Subaru Select Monitor".

1) Secure the steering lock CM to the steering column.
2) Use new bolts. Tighten the bolt until the bolt head is broken (bolt head wrenched off).

C: INSPECTION

1) Check if the steering lock is released when you start the engine using the push button ignition switch.
2) If the system does not operate normally as the result of inspection, refer to “General Diagnostic Table” of the “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-87, STEERING LOCK SYSTEM, INSPECTION, General Diagnostic Table.>

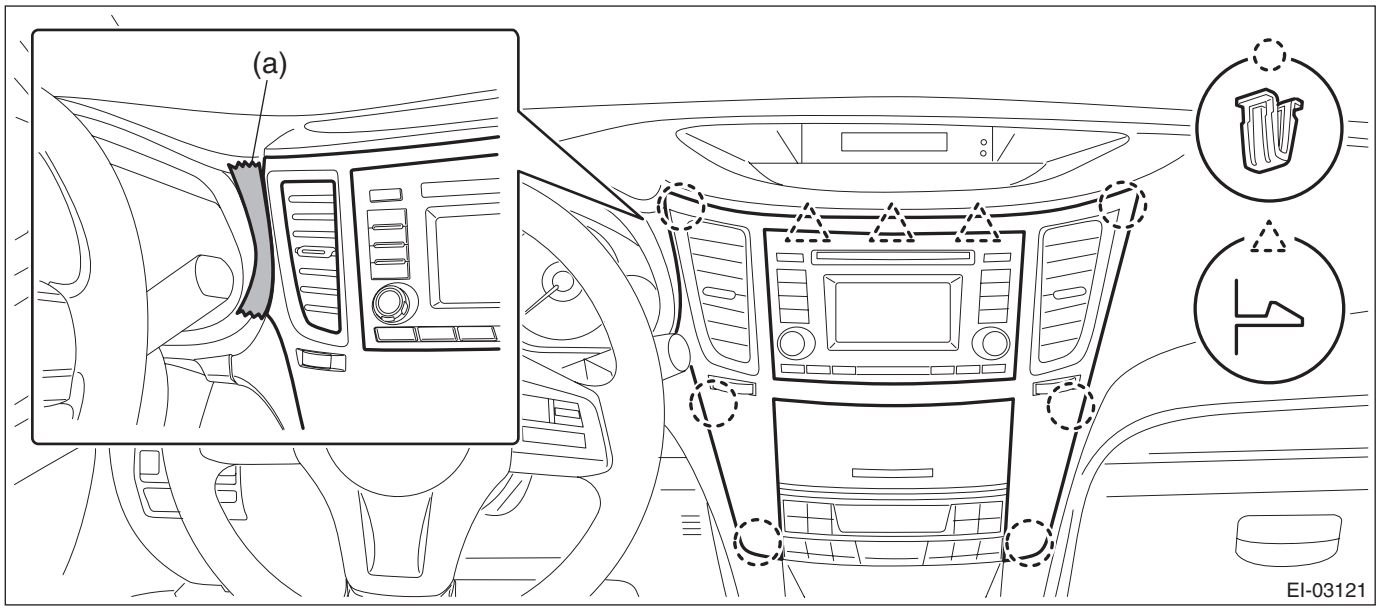
39.Push Button Ignition Switch

A: REMOVAL

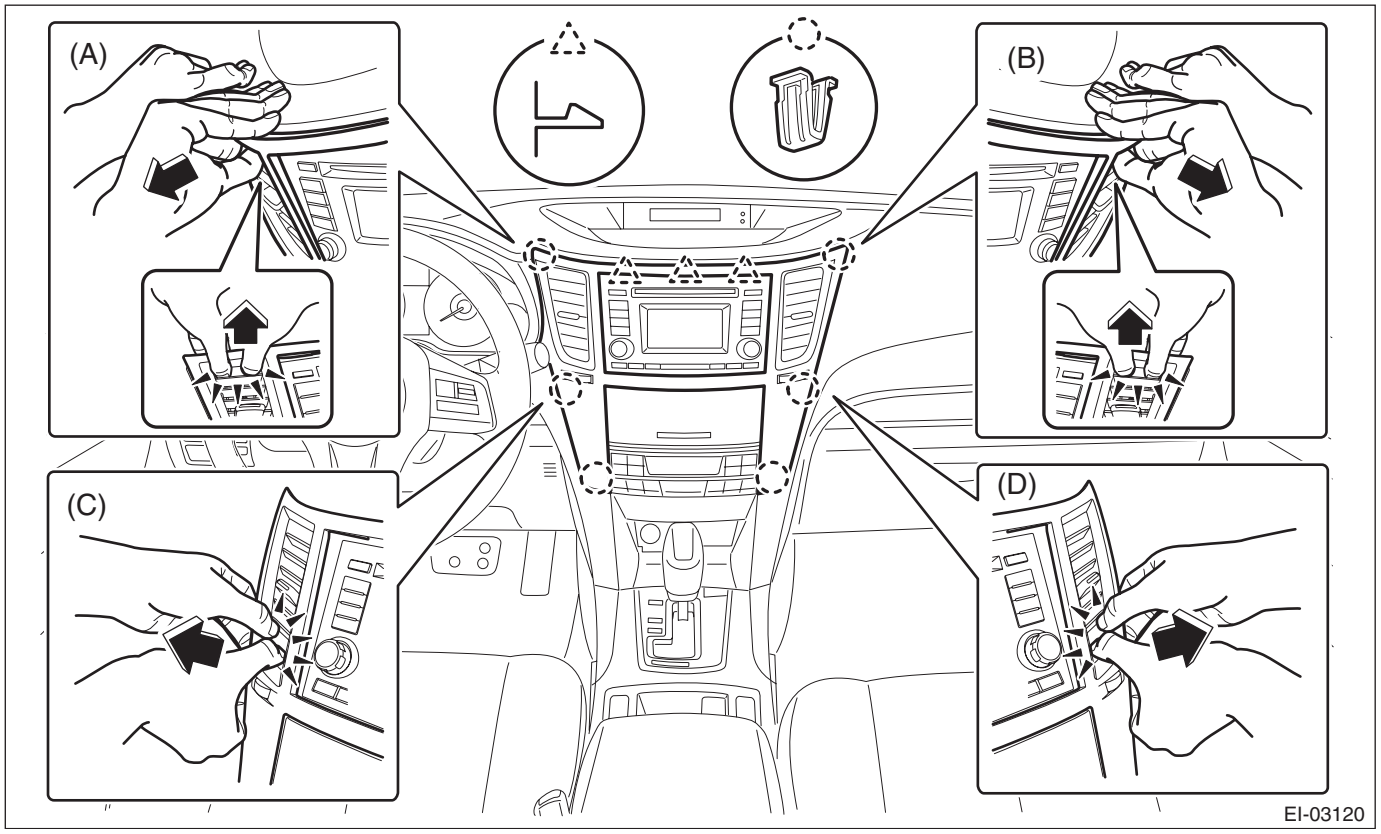
1) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the center panel assembly.

CAUTION:
Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.

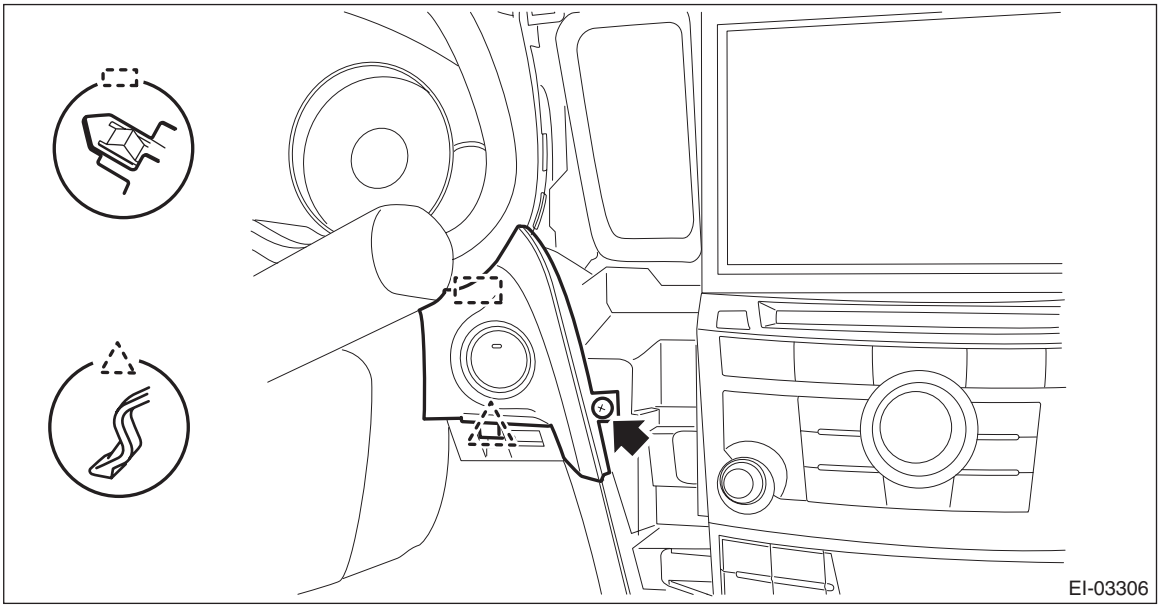
(1) Attach the protective tape (a) to the meter visor.



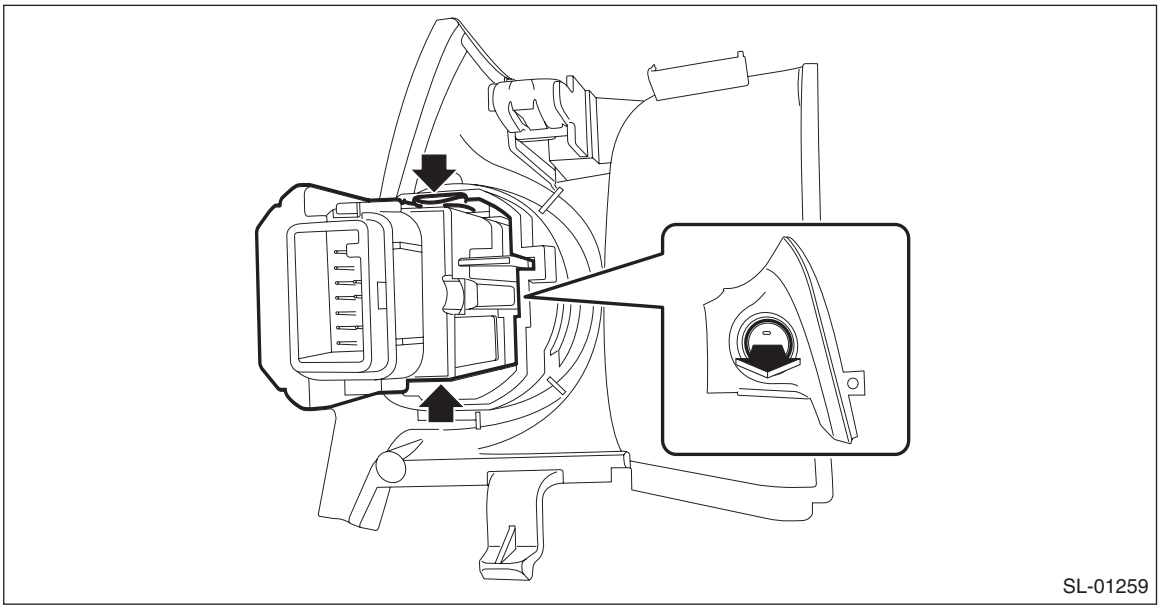
(2) Insert a finger into the air vent grille and release the left and right clips at the top of the center panel. (A), (B)
(3) Insert a finger into the air vent grille and release the left and right clips at the center of the center panel. (C), (D)
(4) Release the clips at the bottom of the center panel and remove the center panel assembly.



3) Remove the screws and release the claws, then detach the starter cover assembly.



4) Release the claws and remove the push button ignition switch from the starter cover assembly.



B: INSTALLATION

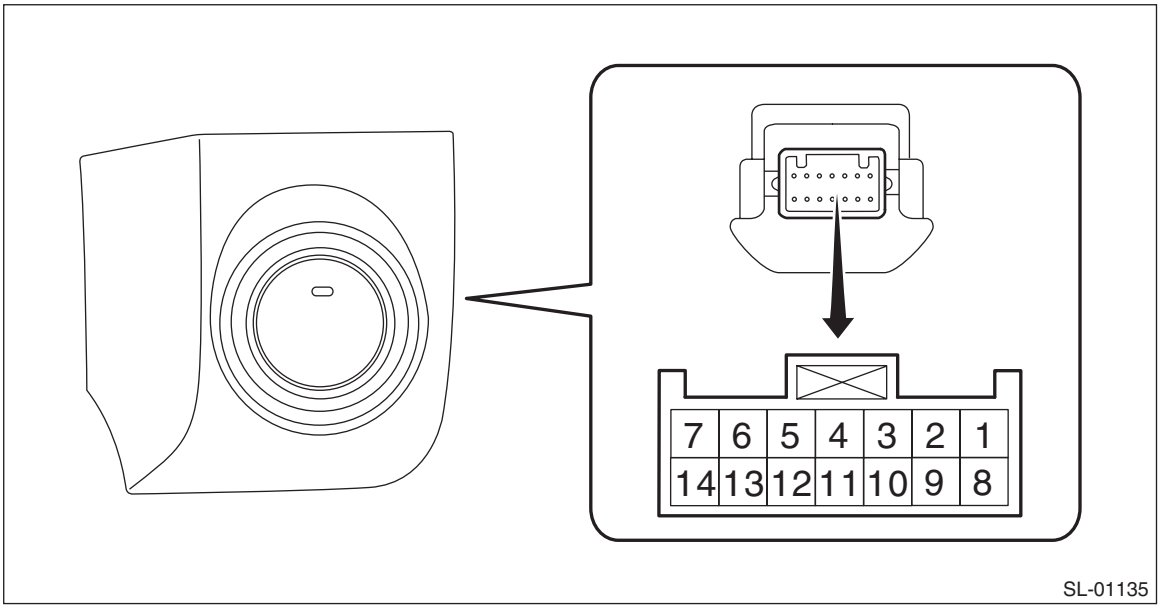
Install each part in the reverse order of removal.

C: INSPECTION

1) Disconnect the push button ignition switch connector.
2) Perform the following inspection for the push button ignition switch.

Preparation tool:
Circuit tester

(1) Check the continuity between push button ignition switch connector terminals.
(2) Check the push button ignition switch operation when battery voltage is applied between the terminals of push button ignition switch.



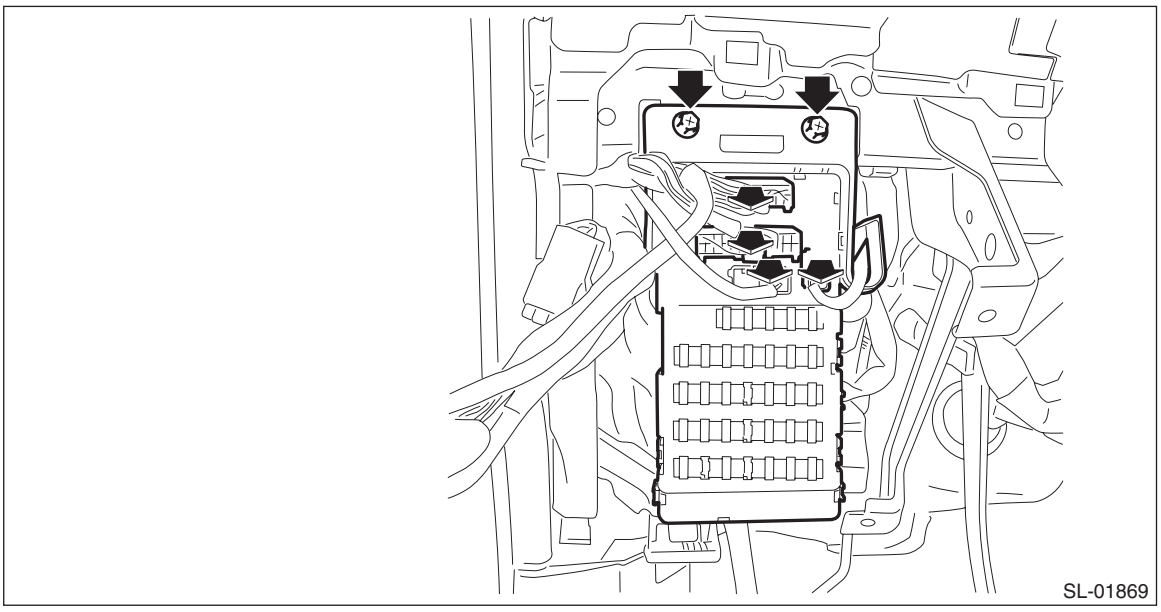
Terminal No.	Inspection conditions	Standard
4 (COM) ←→ 5 (GND)	Always	Continuity exists
7 (SSW1) ←→ 5 (GND)	Push button ignition switch released → pressed	Continuity exists
2 (SSW2) ←→ 5 (GND)	Push button ignition switch released → pressed	Continuity exists
11 (SWIL) ←→ 5 (GND)	Battery voltage applied between terminals 11 (+) ←→ 4 (–)	Goes off → Red switch illumination light
12 (INDS) ←→ 5 (GND)	Battery voltage applied between terminals 12 (+) ←→ 4 (–)	Turns off → Switch indicator lights in green
13 (INDW) ←→ 5 (GND)	Battery voltage applied between terminals 13 (+) ←→ 4 (–)	Turns off → Switch indicator lights in orange

3) Replace the push button ignition switch if the inspection result is not within the standard value.

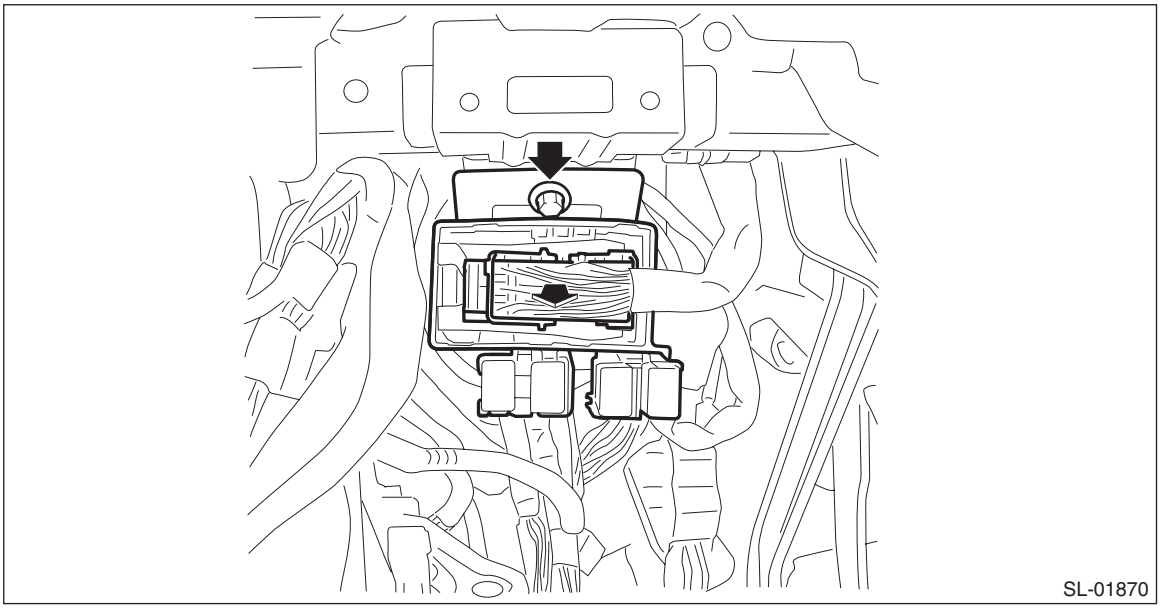
40.Starter Relay (Push Button Start)

A: REMOVAL

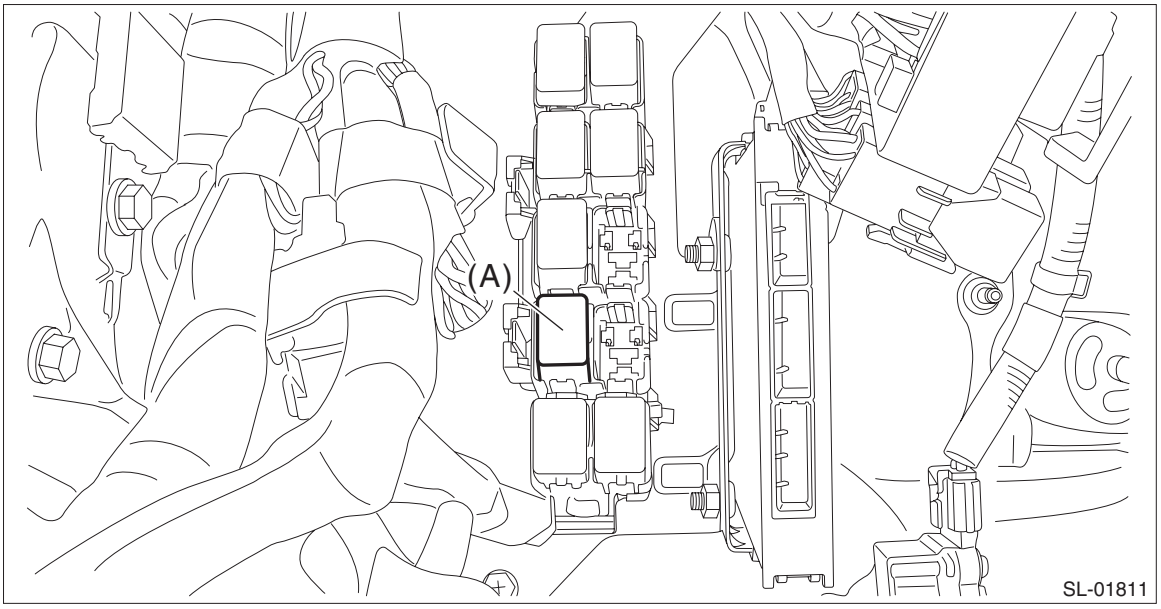
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the relay & fuse box.
   (1) Disconnect connectors.
   (2) Remove the bolts and remove the relay & fuse box.



4) Remove the connector holder.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the connector holder.



5) Remove the starter relay (push button start) (A) from the relay holder.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Relay & fuse box: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

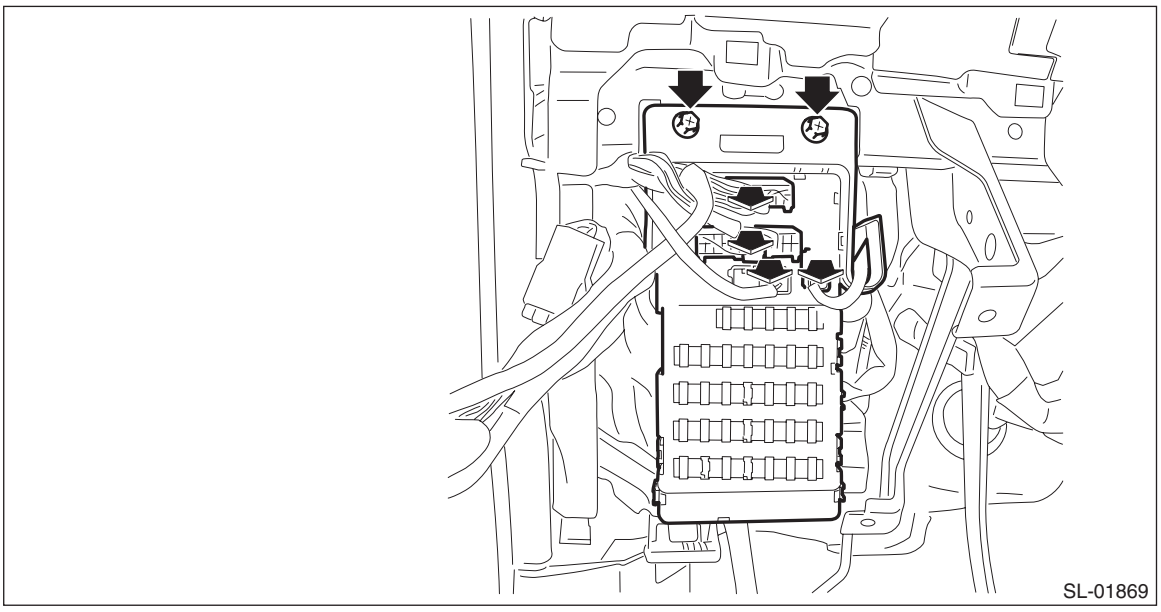
C: INSPECTION

Refer to “CHECK RELAY” in “Relay and Fuse”. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>

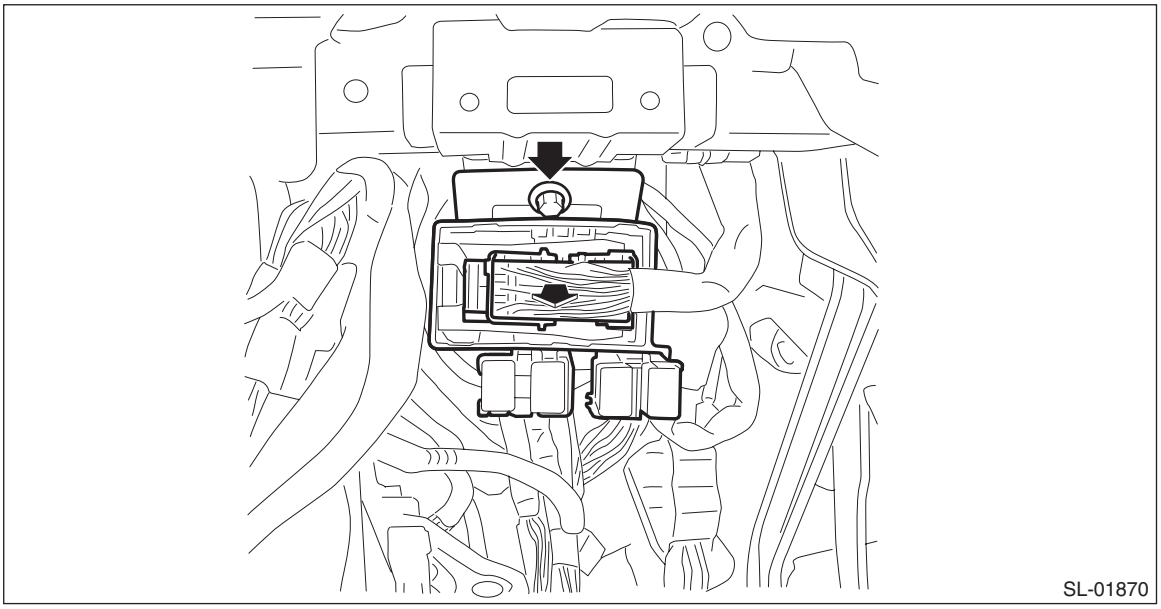
41.IG Relay1 (Push Button Start)

A: REMOVAL

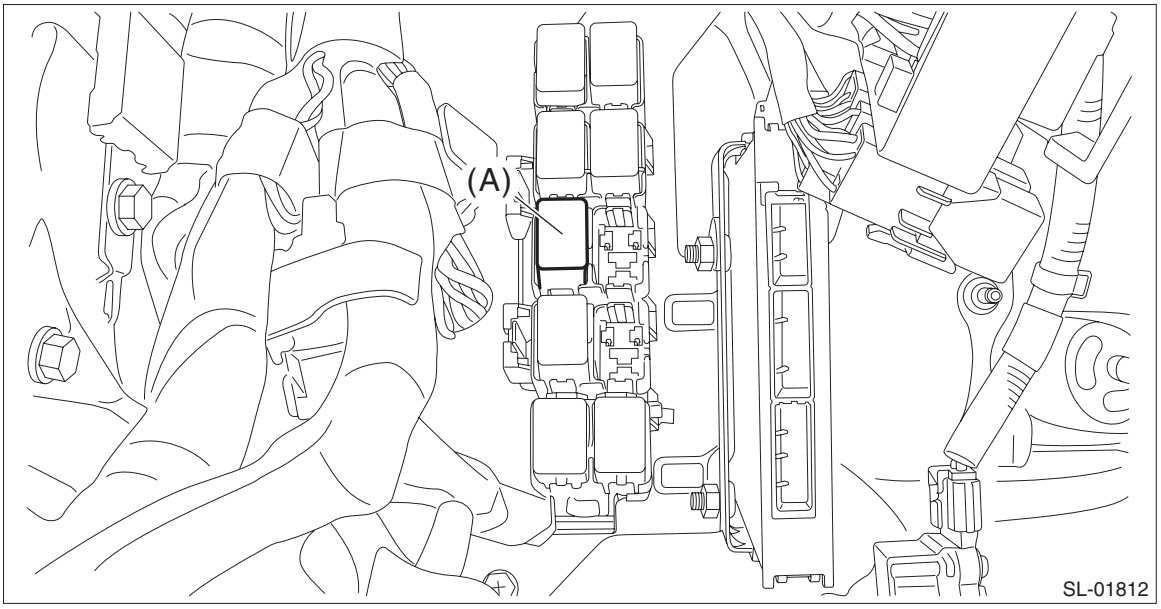
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the relay & fuse box.
   (1) Disconnect connectors.
   (2) Remove the bolts and remove the relay & fuse box.



4) Remove the connector holder.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the connector holder.



5) Remove IG relay 1 (push button start) (A) from the relay holder.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Relay & fuse box: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

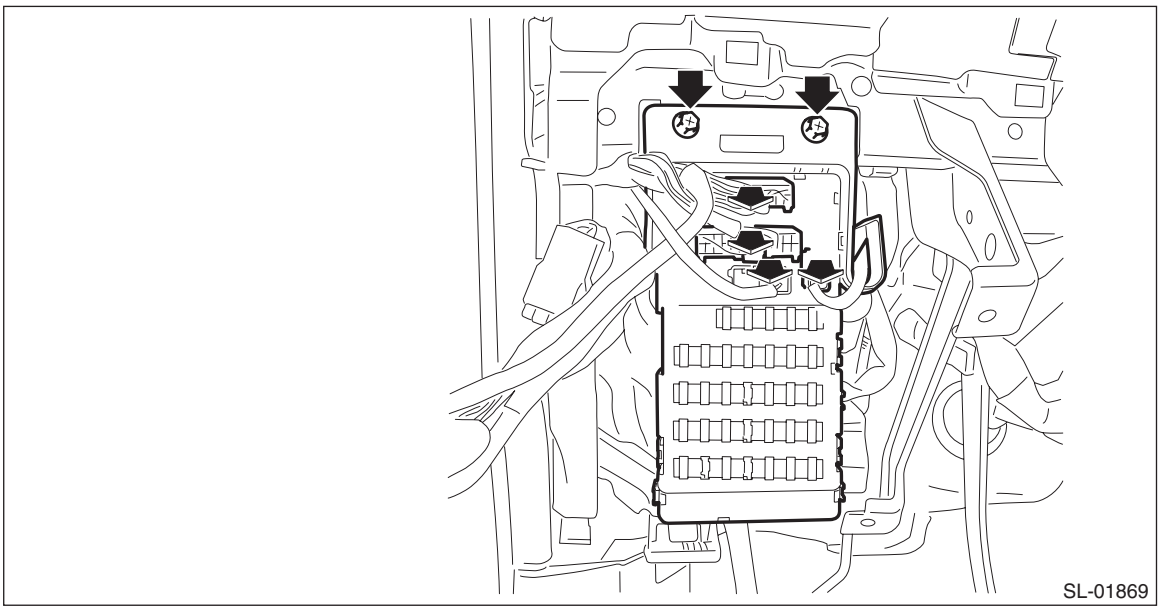
C: INSPECTION

Refer to “CHECK RELAY” in “Relay and Fuse”. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>

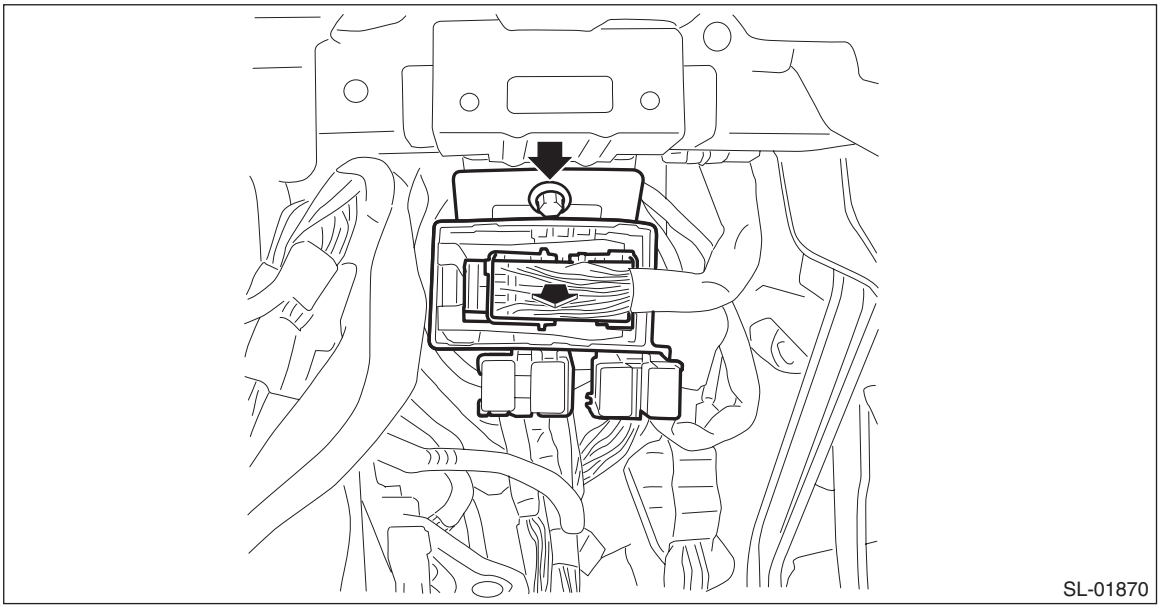
42.IG Relay2 (Push Button Start)

A: REMOVAL

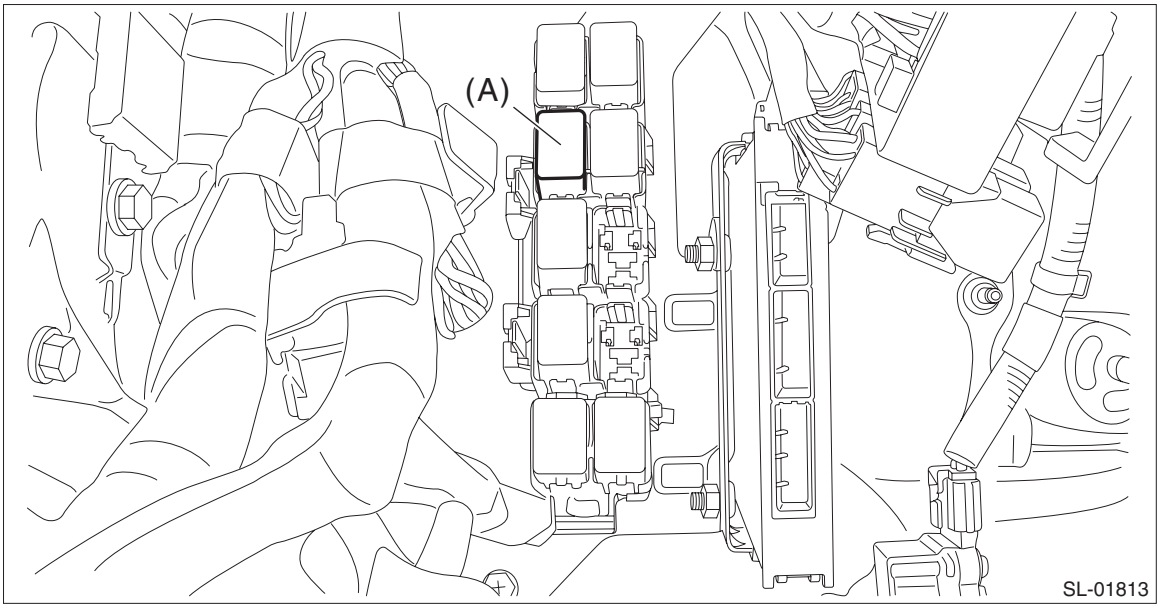
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the relay & fuse box.
   (1) Disconnect connectors.
   (2) Remove the bolts and remove the relay & fuse box.



4) Remove the connector holder.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the connector holder.



5) Remove IG relay 2 (push button start) (A) from the relay holder.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Relay & fuse box: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

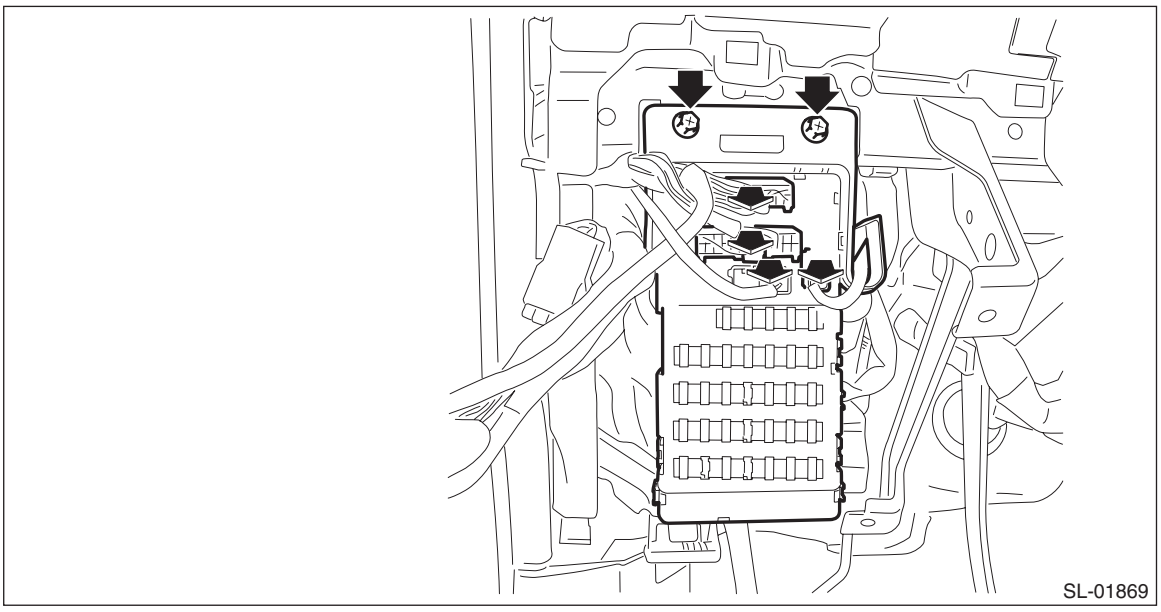
C: INSPECTION

Refer to “CHECK RELAY” in “Relay and Fuse”. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>

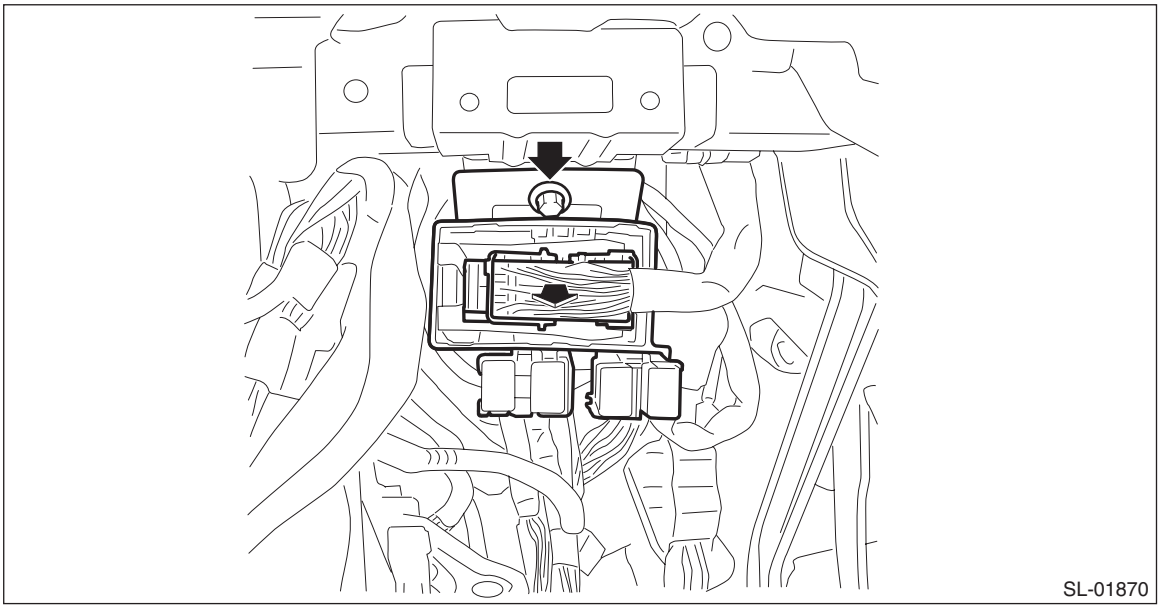
43.Accessory Relay (Push Button Start)

A: REMOVAL

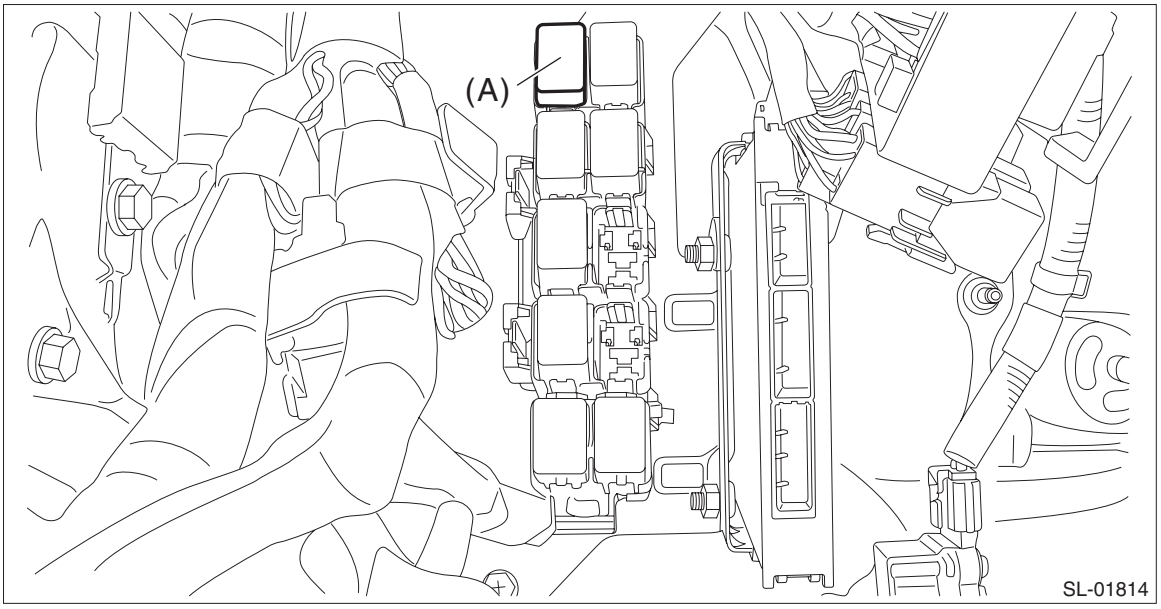
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the relay & fuse box.
   (1) Disconnect connectors.
   (2) Remove the bolts and remove the relay & fuse box.



4) Remove the connector holder.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the connector holder.



5) Remove the accessory relay (push button start) (A) from the relay holder.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Relay & fuse box: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

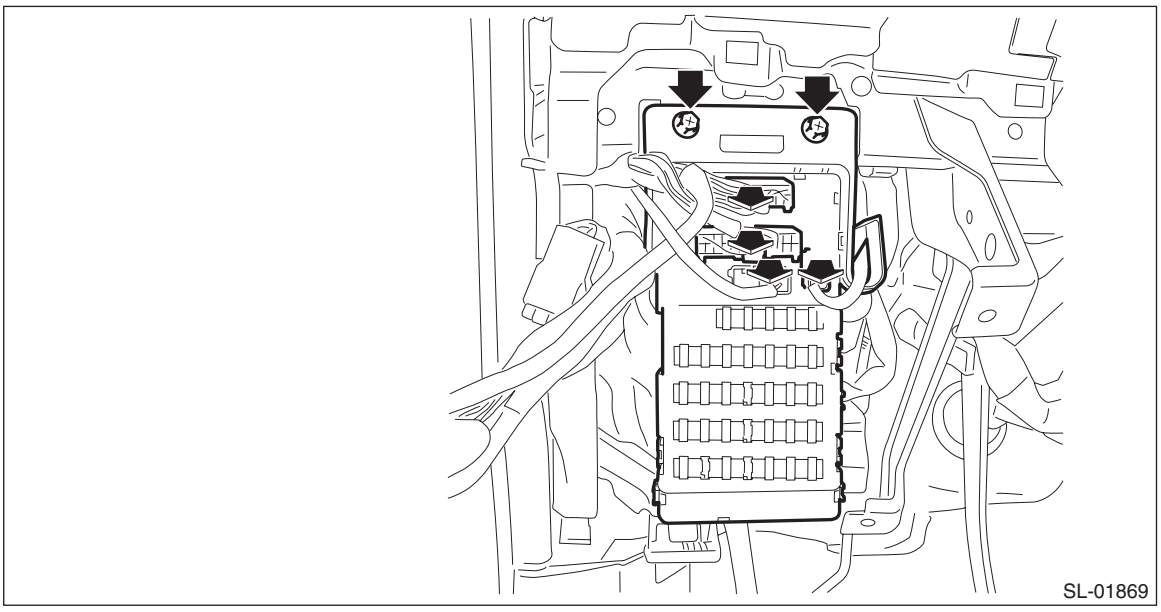
C: INSPECTION

Refer to “CHECK RELAY” in “Relay and Fuse”. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>

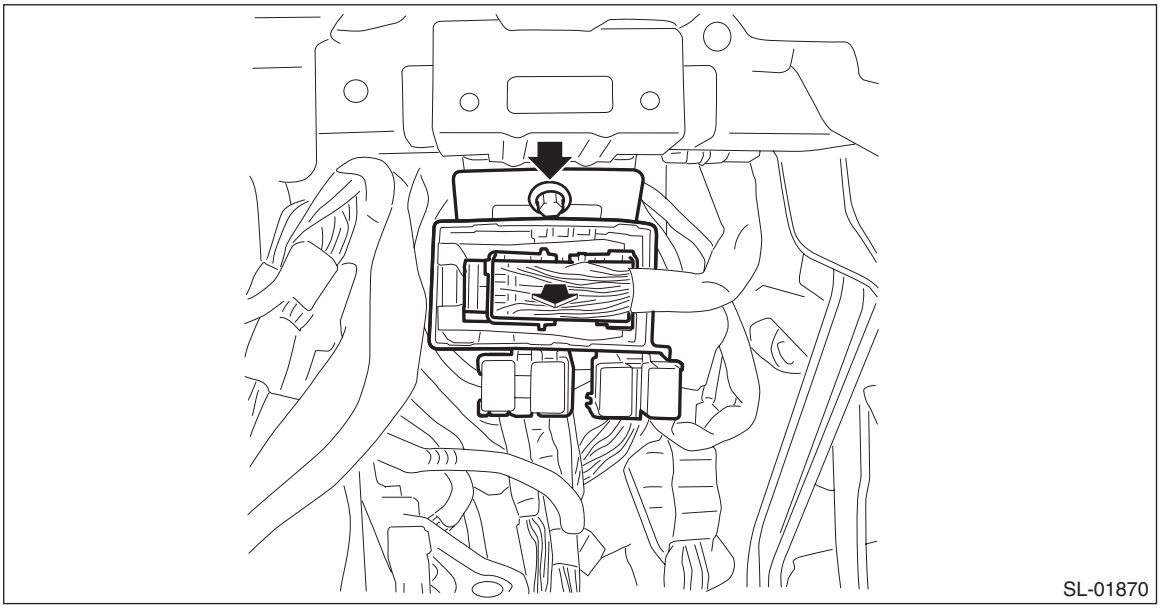
44.Starter Cut Relay

A: REMOVAL

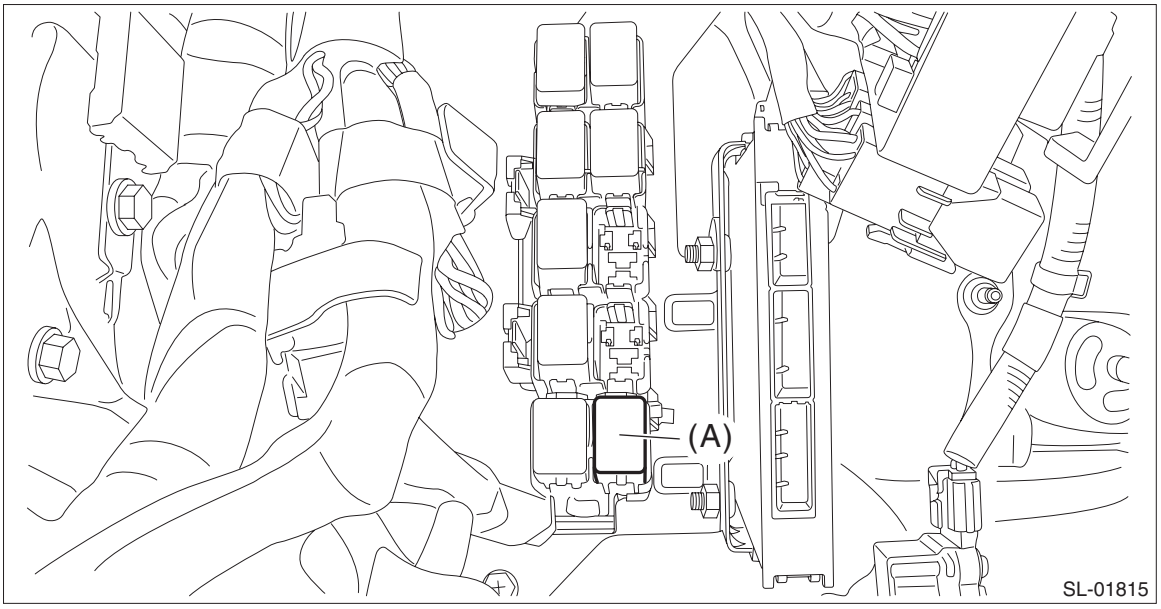
1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-63, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the relay & fuse box.
   (1) Disconnect connectors.
   (2) Remove the bolts and remove the relay & fuse box.



4) Remove the connector holder.
   (1) Disconnect the connector.
   (2) Remove the bolt and remove the connector holder.



5) Remove the starter cut relay (A) from the relay holder.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Relay & fuse box: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

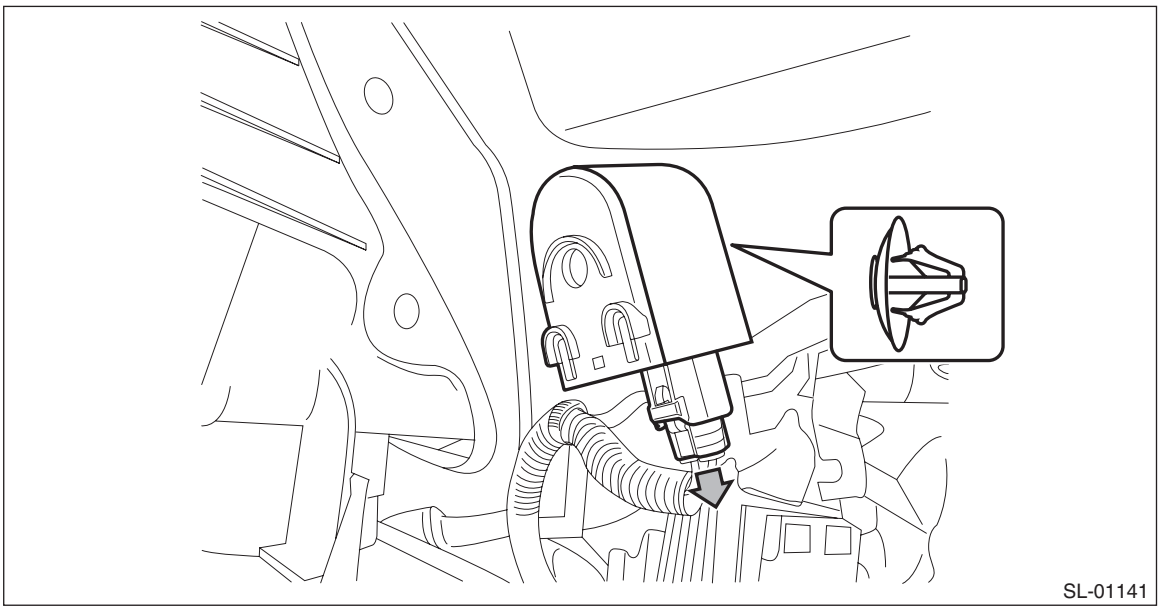
C: INSPECTION

Refer to “CHECK RELAY” in “Relay and Fuse”. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>

45.Access Buzzer

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front bumper face assembly. <Ref. to EI-37, REMOVAL, Front Bumper.>
3) Remove the access buzzer.
   (1) Disconnect the connector.
   (2) Remove the clip and detach the access buzzer.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Using the Subaru Select Monitor, perform forced operation of the access buzzer. <Ref. to BC(diag)-23, OPERATION, Function Check.>
2) If the buzzer does not sound, replace the access buzzer.

46.Function Setting (Customize)

A: OPERATION

Disabling/Activating the keyless access system

The following functions are disabled when the keyless access system functions are disabled:
- LOCK function performed by the operation of touch sensor on the door outer handle
- Rear gate LOCK function by rear lock button operation
- UNLOCK function by the door touch sensor
- Rear gate open function by rear gate opener button operation in the rear gate lock condition
- Lockout prevention feature
- Warning function
- Engine starting control using keyless access collation

B: PROCEDURE

1) Check that the vehicle status is as follows:
- Ignition switch OFF
- One window is completely open
- Keyless access system is activated (or disabled if re-activating)

2) Sit in the driver's seat with the door closed and press the door lock switch to UNLOCK once.
3) Open the driver's door within five seconds.
4) Within 5 seconds, with the driver's door opened, slowly press the door lock switch to UNLOCK twice.
5) Within 30 seconds, perform the closing → opening operation of the driver's door twice.
6) Within 30 seconds, with the driver's door opened, slowly press the door lock switch to UNLOCK twice.
7) Within 30 seconds, perform the closing → opening operation of the driver's door once.
8) Within five seconds, close the driver's door.

- The access buzzer sounds once (long sound) to indicate that the keyless access system is disabled (when the system is already disabled, the buzzer sounds once shortly to indicate that it is activated).

NOTE:
- Perform the same procedures to re-activate the keyless access system from the disabled condition.
- If the driver's door is opened or closed in step 4) or step 6), the cancel operation is disabled.

47.Keyless Access With Push Button Start System

A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

Refer to “Diagnostics with Phenomenon” of “KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)” section. <Ref. to KPS(diag)-88, Diagnostics with Phenomenon.>

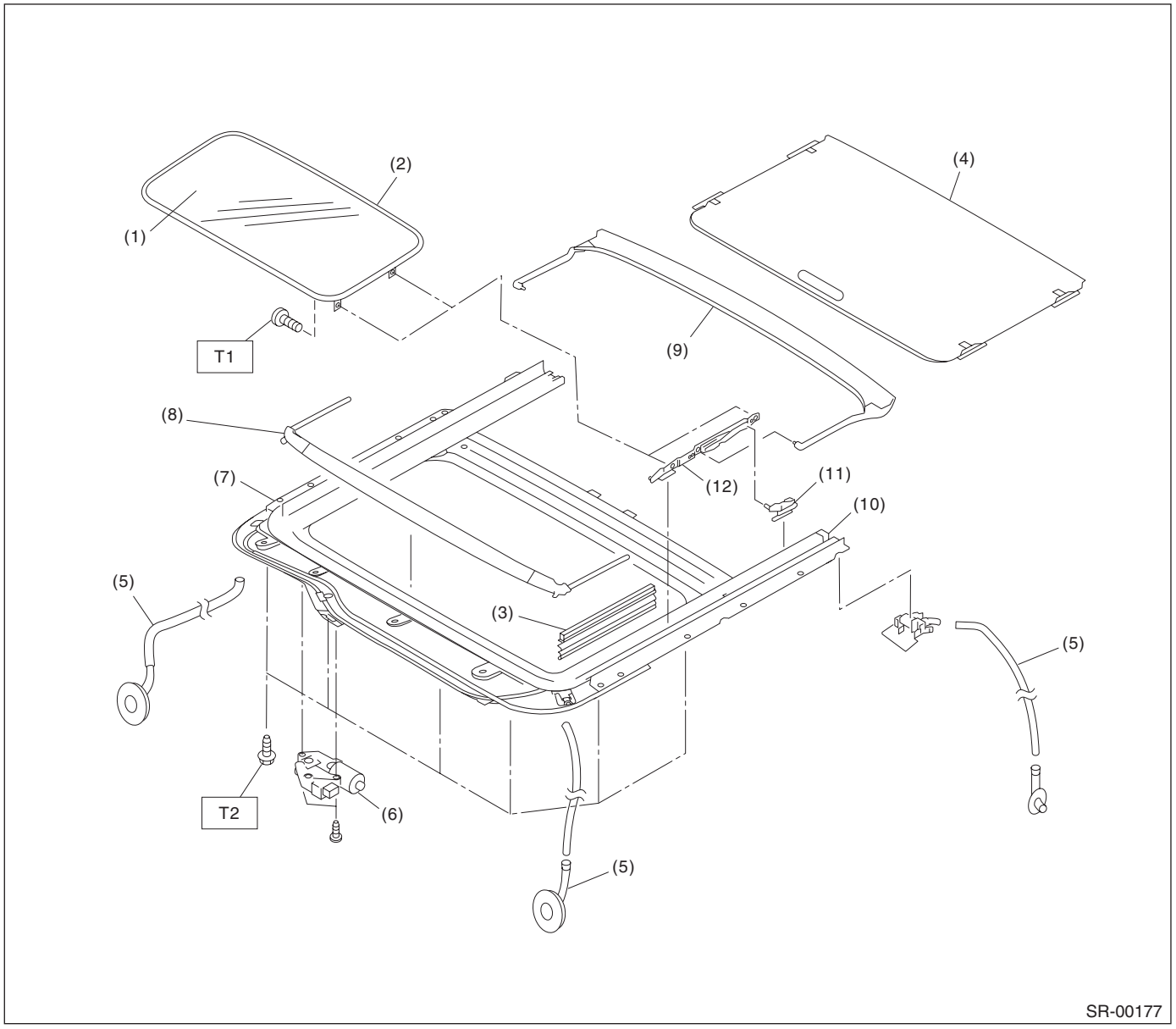
SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

SR

		Page
1.	General Description	2
2.	Relay and Fuse	4
3.	Sunroof Control System	5
4.	Glass Lid	6
5.	Sunroof Assembly	9
6.	Sunroof Motor	15
7.	Sunroof Switch	17
8.	Sunshade	19

1. General Description

A: COMPONENT



(1)	Glass lid	(7)	Frame ASSY
(2)	Weather strip	(8)	Deflector
(3)	Lid cover	(9)	Drain plate
(4)	Sunshade	(10)	Stopper rubber
(5)	Drain tube	(11)	Link ASSY
(6)	Motor ASSY	(12)	Lid bracket

Tightening torque: N·m (kgf-m, ft-lb)
T1: 4.5 (0.46, 3.3)
T2: 6.0 (0.61, 4.4)

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly unless otherwise indicated.
• Adjust parts to the given specifications.
• Connect the connectors securely during reassembly.
• After reassembly, make sure that the functional parts operate normally.

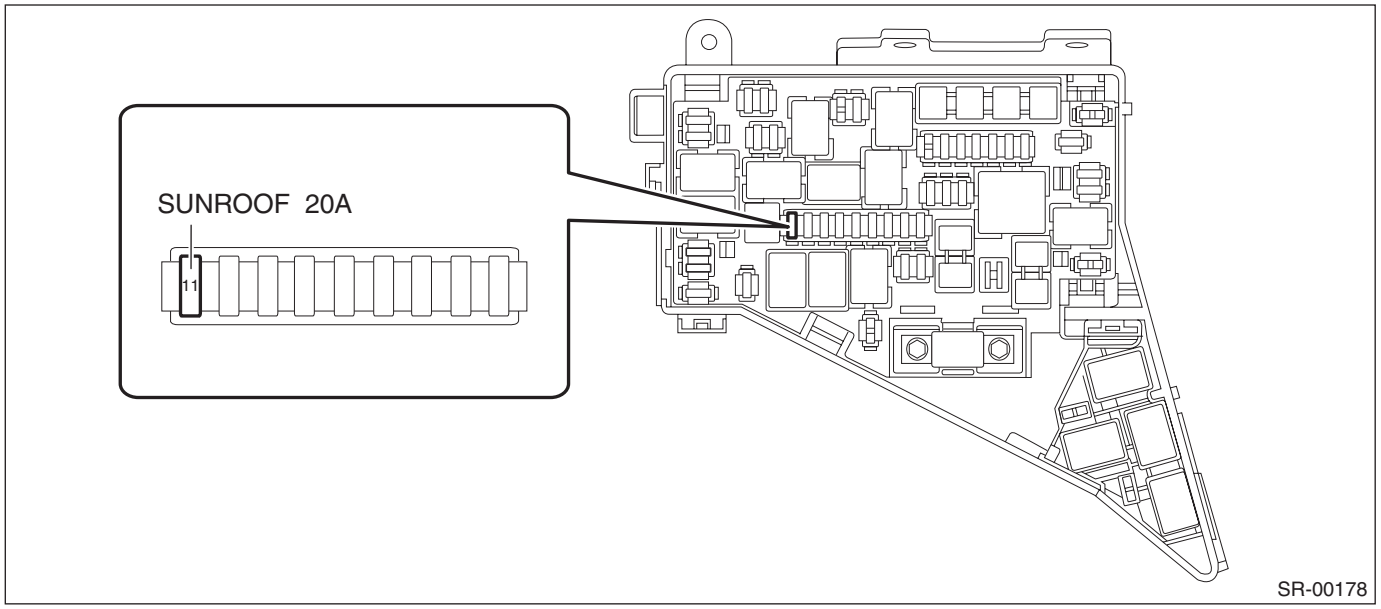
C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Hexagon wrench	Used for forcedly driving the sunroof motor.

2. Relay and Fuse

A: LOCATION



NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI-15, Power Supply Circuit.>

B: INSPECTION

1. CHECK FUSE

1) Remove the fuse and check visually.
2) If the fuse is blown out, replace the fuse.

3. Sunroof Control System

A: WIRING DIAGRAM

Refer to “Sunroof Control System” in the wiring diagram. <Ref. to WI-294, WIRING DIAGRAM, Sunroof Control System.>

B: INSPECTION

Symptoms	Inspection steps
Water leakage	1. Check roof panel and glass lid for improper or poor sealing. 2. Check drain tube for clogging. 3. Check sunroof frame seal and body for improper fit.
Booming noise, wind noise and other noise	1. Check glass lid and roof panel for improper clearance. 2. Check sunshade and roof trim for improper clearance.
Abnormal motor noise	1. Check installing part of motor for looseness. 2. Check gears and bearings for wear. 3. Check cable for wear. 4. Check cable pipe for deformities.
Failure of sunroof (Motor operates properly.)	1. Check guide rail for foreign particles. 2. Check guide rail for improper installation. 3. Check parts for mutual interference. 4. Check cable slider for improper clinching. 5. Check cable for improper installation.
Motor does not rotate or rotate improperly.	1. Check fuse for blown out. 2. Check switch for improper function. 3. Check motor for incorrect terminal voltage. 4. Check the relay for improper operation. 5. Check harness for open or short and terminals for poor connections.
Failure turn of glass lid	Check guide rail for foreign particles.

- Failure turn of glass lid while driving rough road.

Glass lid has auto-reverse function. When specified or more force is applied to the glass lid, the lid turns back and stops. When operating the glass lid (open or close) while driving the rough road, the lid judges vibration as a force and may causes failure turns. When the failure turn is occurred, need to perform the initialize operation with following procedure.

C: OPERATION

1. INITIALIZE OPERATION

NOTE:
When initialize operation is performed, it is necessary to press the switch repeatedly as it operates for only at the moment when the switch is pressed, even when the switch is held down.
1) Press the slide switch to close the glass lid completely.
2) Press the slide switch again and tilt up the glass lid to lock.
3) Press the slide switch for more than 0.3 seconds.
4) Initialize operation is completed.

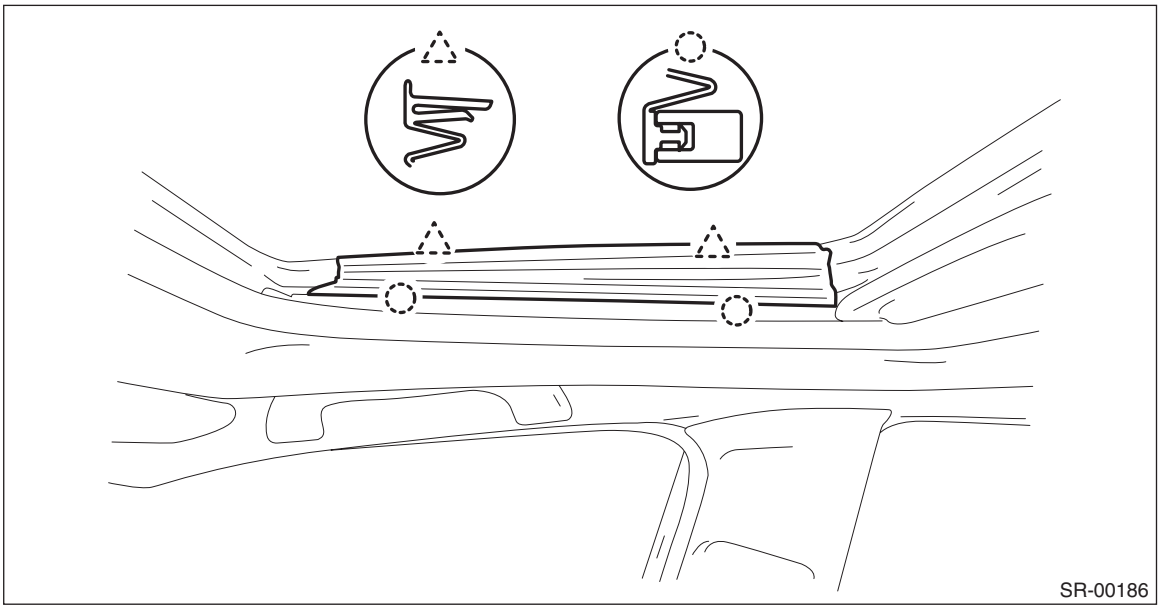
D: NOTE

For operation procedures of each component of the sunroof control system, refer to the respective section.
- Glass lid: <Ref. to SR-6, Glass Lid.>
- Sunroof assembly: <Ref. to SR-9, Sunroof Assembly.>
- Sunroof motor: <Ref. to SR-15, Sunroof Motor.>
- Sunroof switch: <Ref. to SR-17, Sunroof Switch.>
- Sunshade: <Ref. to SR-19, Sunshade.>

4. Glass Lid

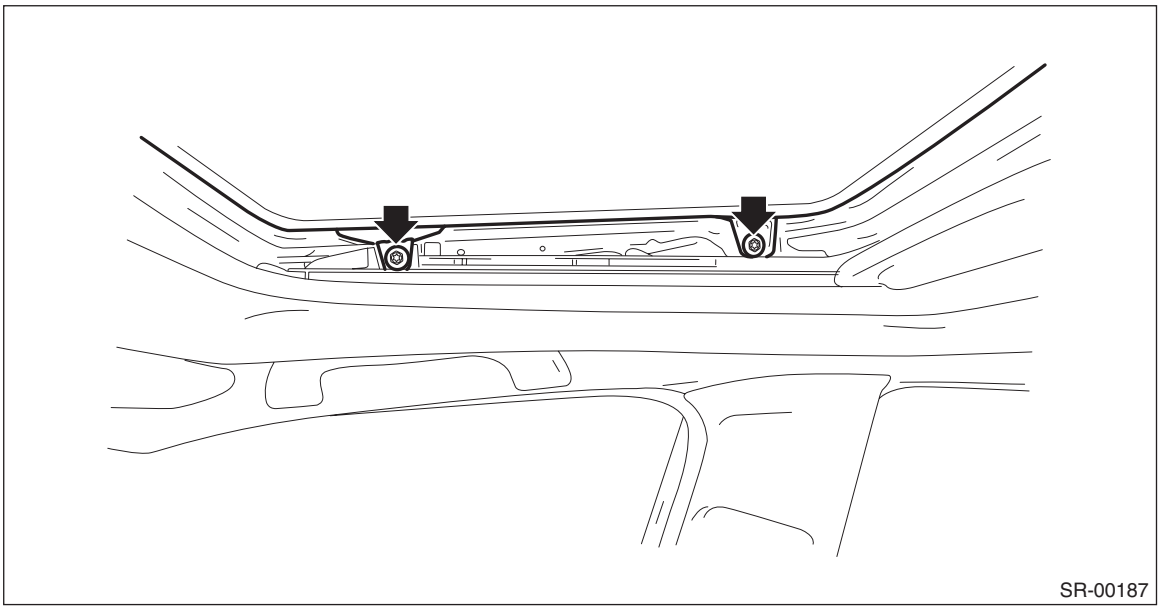
A: REMOVAL

1) Completely close the glass lid, and then open the sunshade.
2) Disconnect the claws and then remove the lid cover.



3) Remove the bolts, then remove the glass lid.

CAUTION:
Be careful not to damage the glass lid.



B: INSTALLATION

Install each part in the reverse order of removal.

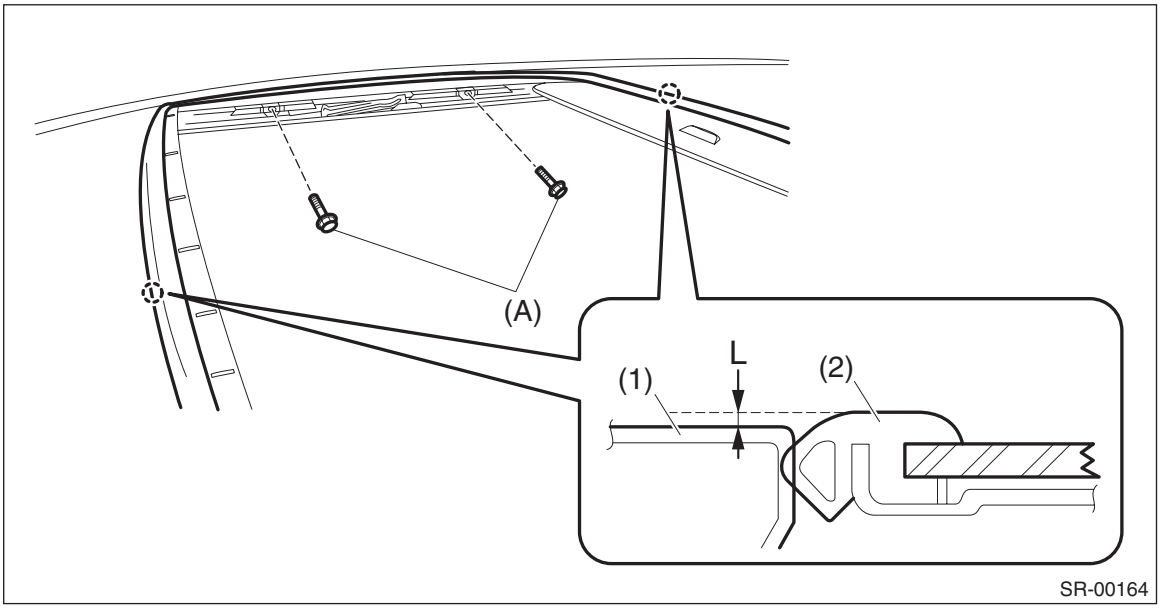
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SR-2, COMPONENT, General Description.>

C: ADJUSTMENT

Adjust the height of the glass lid and roof panel.

- Loosen the glass lid mounting bolts (A), and then adjust the height with moving the lid side.

Difference in height between weather strip and roof panel L:
0±1.0 mm (0±0.04 in)



(1) Roof panel (2) Weather strip

D: FORCED DRIVE

If the glass lid does not operate or the sunroof motor is not supplied with power, move the glass lid using the hexagon wrench.

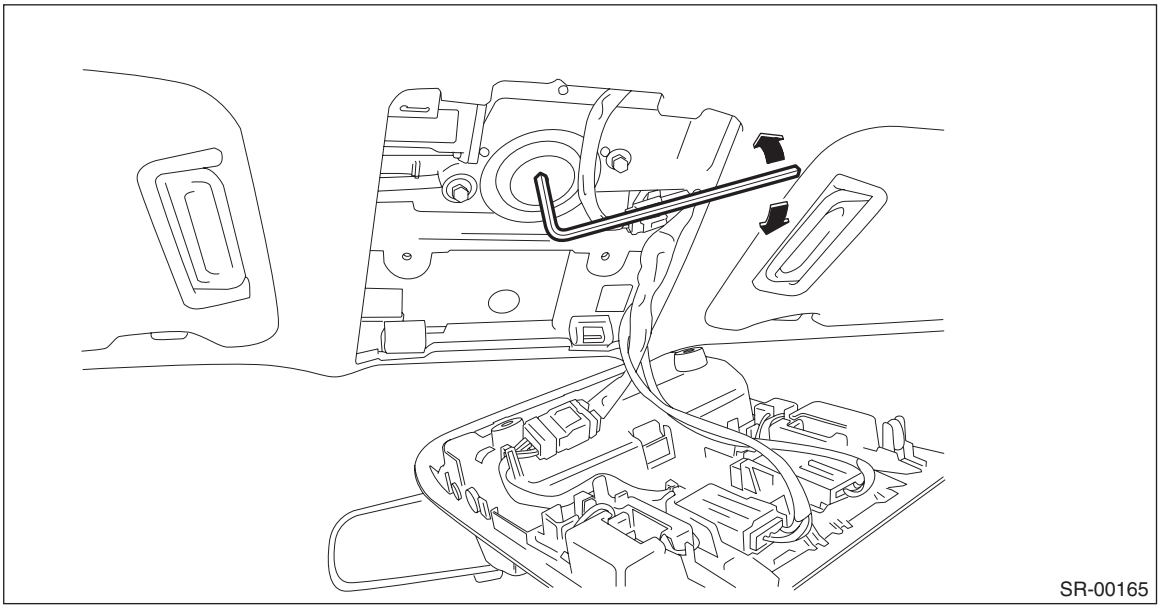
Width across flat 5 mm (0.20 in)

CAUTION:
After a forced operation, make sure to perform an initialize operation. <Ref. to SR-5, INITIALIZE OPERATION, OPERATION, Sunroof Control System.>

1) Remove the spot map light. (Models without EyeSight) <Ref. to LI-65, REMOVAL, Spot Map Light.>
2) Remove the stereo camera cover. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>
3) Insert the hexagon wrench securely until it touches the motor shaft end.
4) Turn the hexagon wrench, and move the glass lid.

- Turning right, the glass lid open.
- Turning left, the glass lid close.

CAUTION:
Be careful not to damage the adjacent parts with the rod end when moving the glass lid with the hexagon wrench.

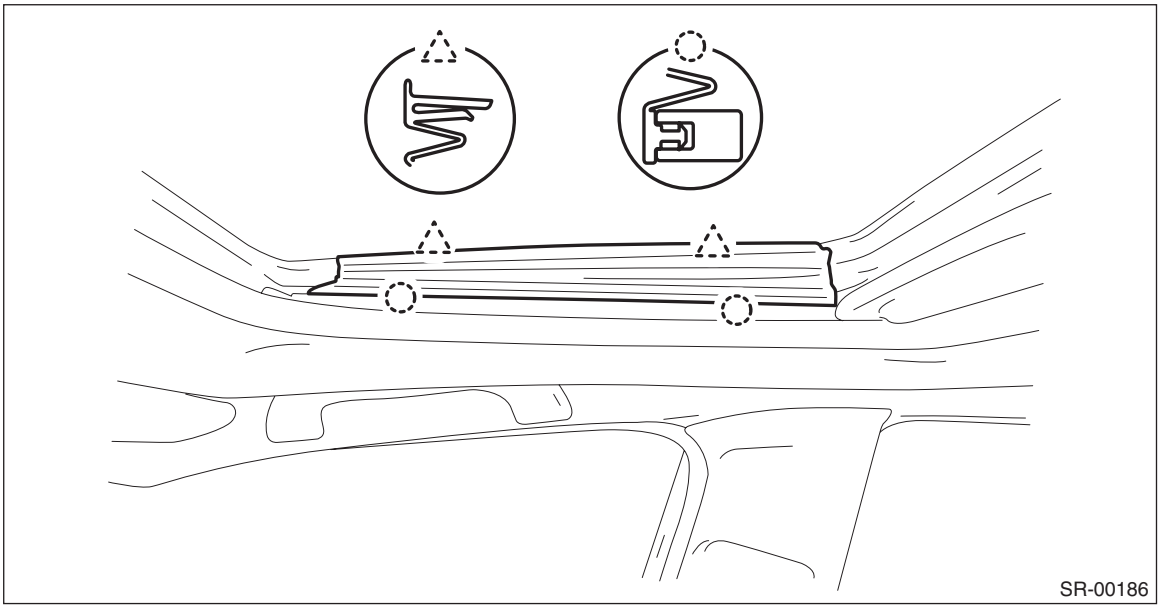

SR-00165

5. Sunroof Assembly

A: REMOVAL

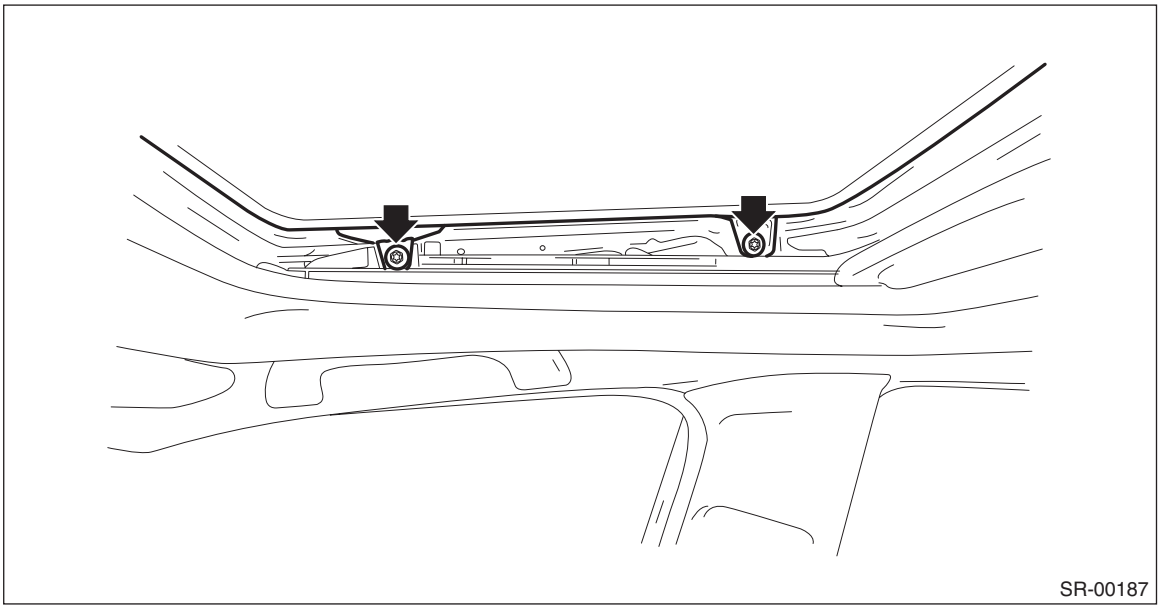
CAUTION:
When removing the clip, use great care not to damage the roof trim.

1) Remove the glass lid.
   (1) Completely close the glass lid, and then open the sunshade.
   (2) Disconnect the claws and then remove the lid cover.



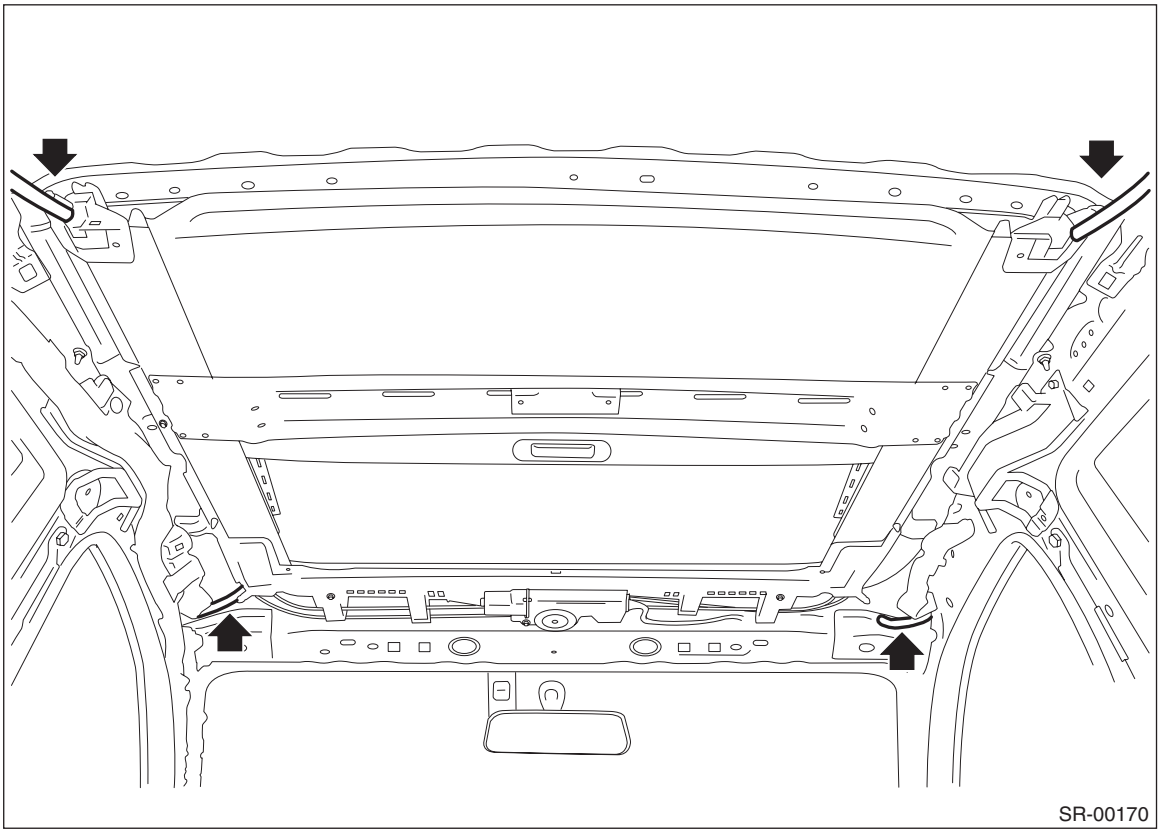
   (3) Remove the bolts, then remove the glass lid.

CAUTION:
Be careful not to damage the glass lid.

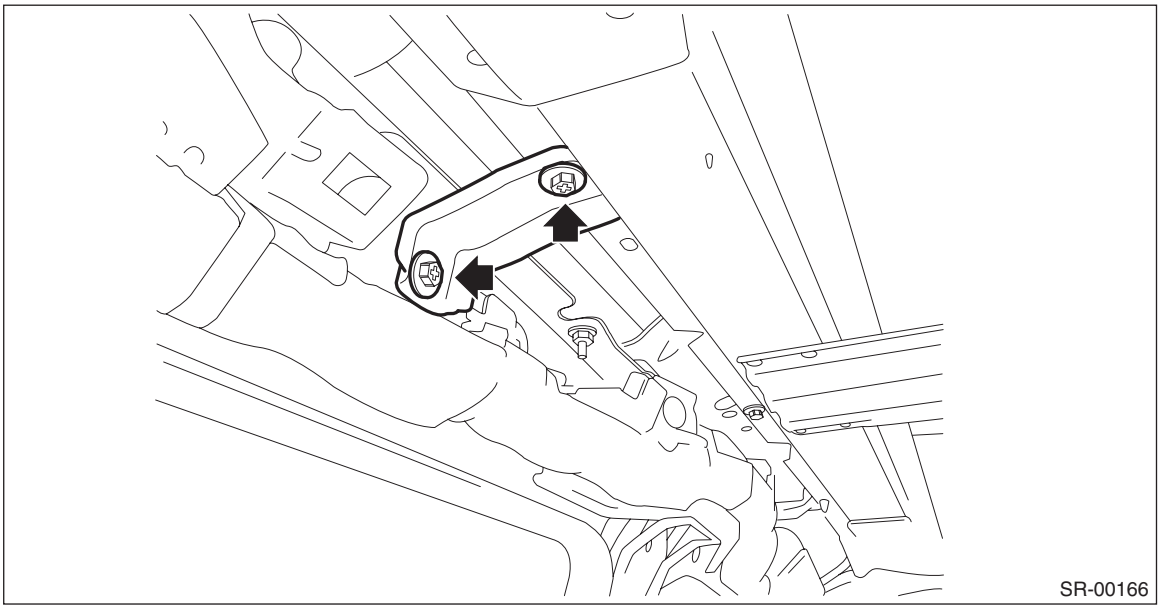


2) Remove the roof trim. <Ref. to EI-134, REMOVAL, Roof Trim.>
3) Disconnect the sunroof motor connector.

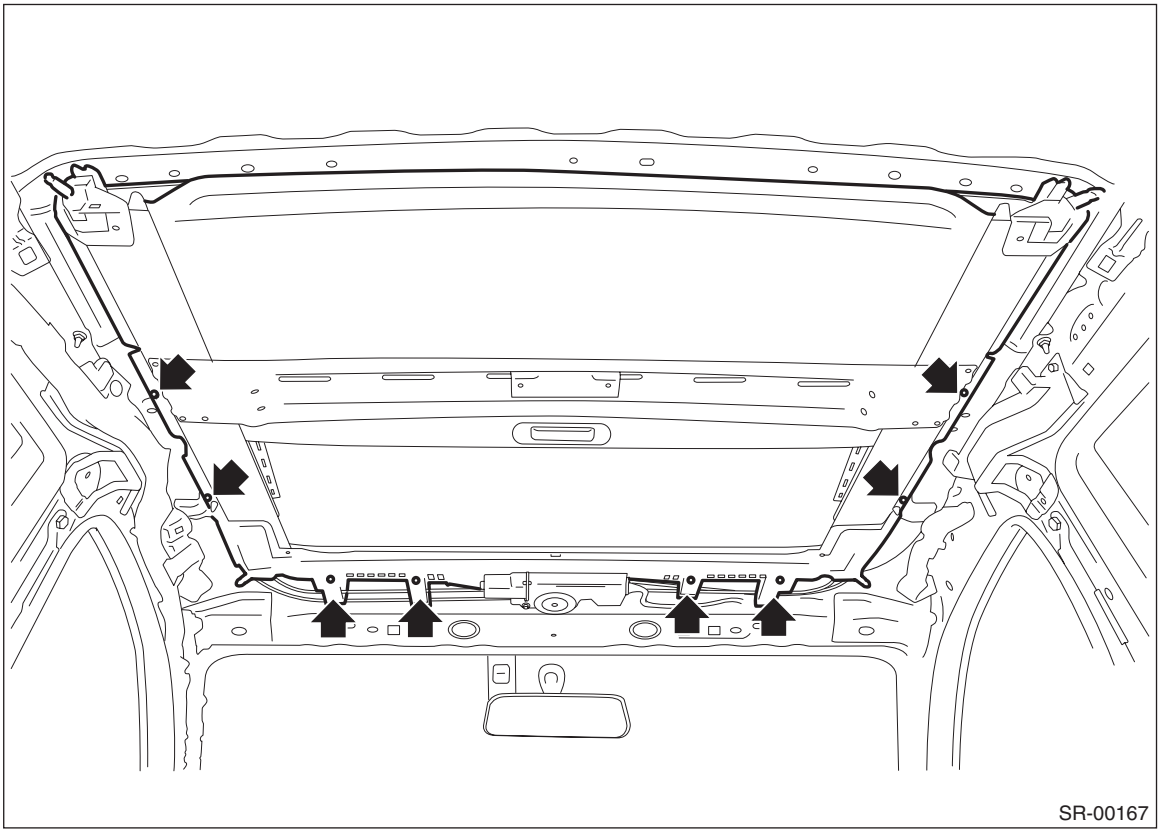
4) Remove the frame assembly.
(1) Remove the drain tube.



(2) Remove the bolts and then remove the sunroof bracket.



(3) Remove the bolts, then remove the frame assembly.



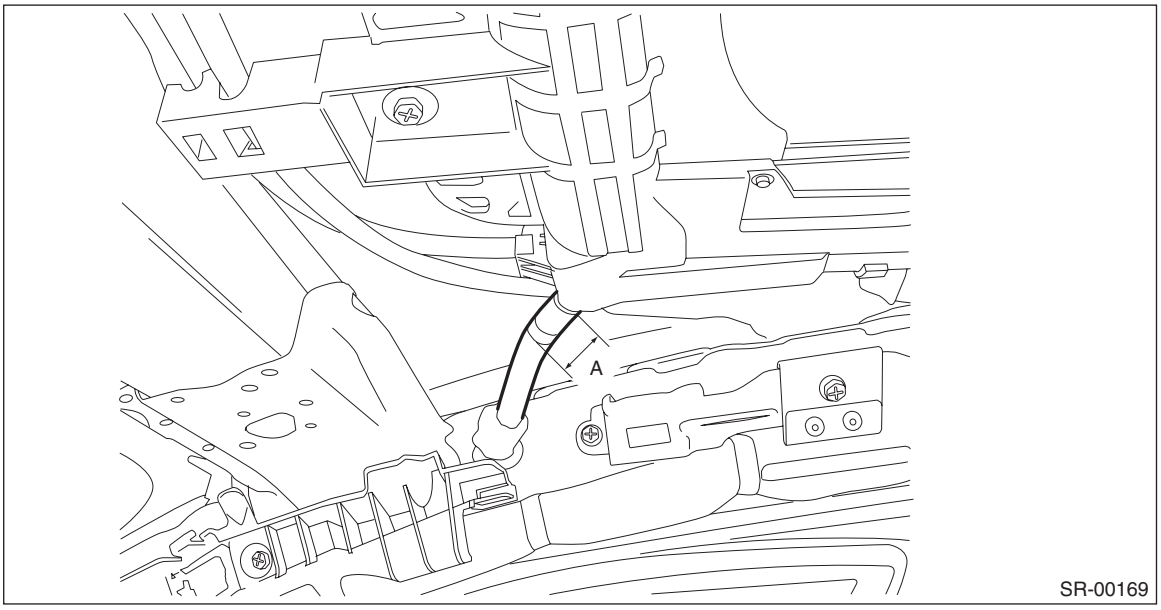
B: INSTALLATION

CAUTION:
Be careful not to snag the harness.
Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SR-2, COMPONENT, General Description.>

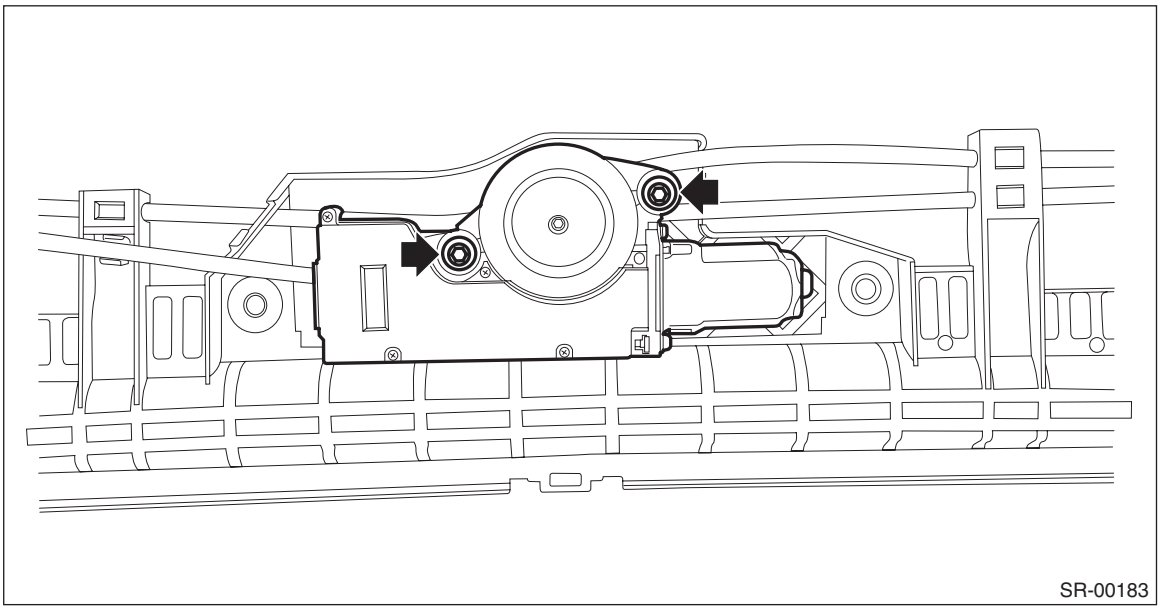
NOTE:
- Be sure to connect the harness connector.
- When installing the drain tube, insert it securely into drain pipe.

Length A:
15 mm (0.59 in) or more

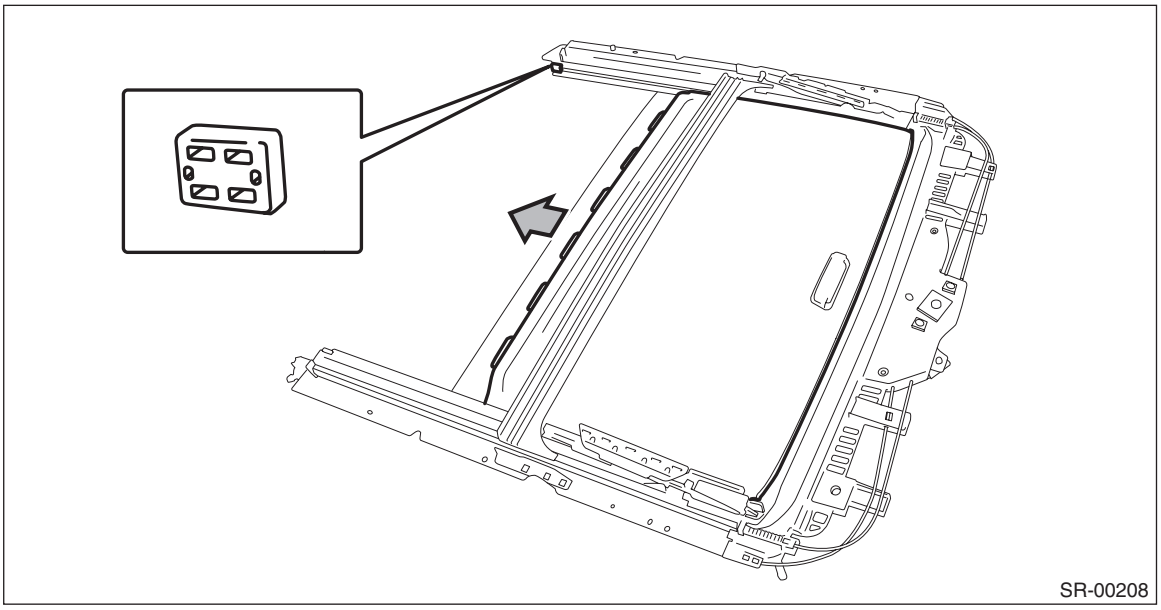


C: DISASSEMBLY

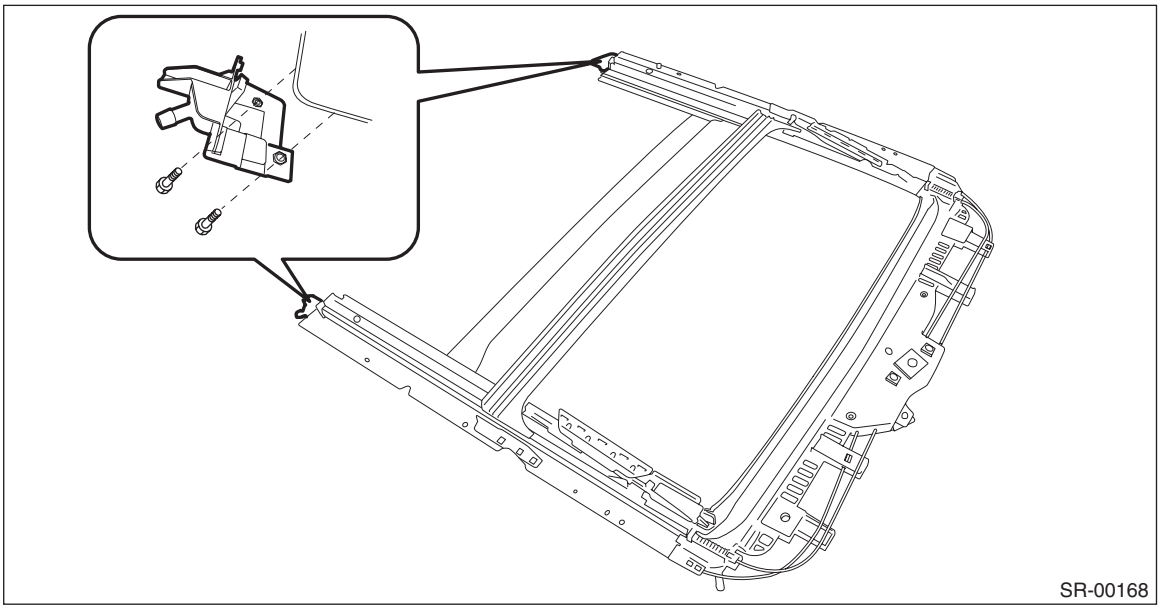
1) Remove the bolts and then remove the sunroof motor.



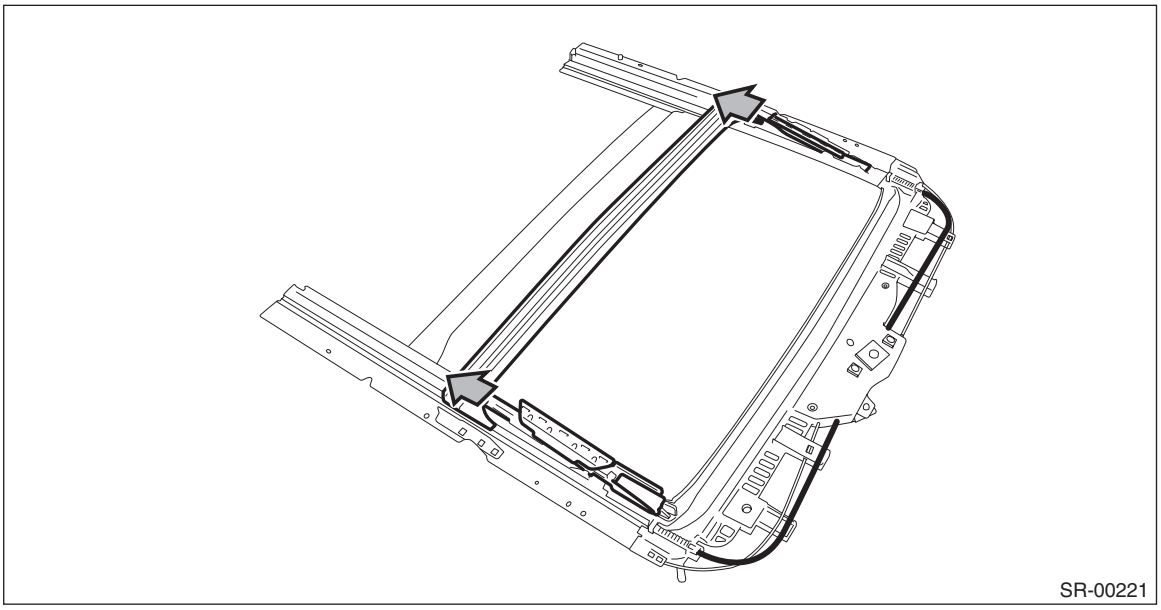
2) Remove the stopper rubber and pull out the sunshade from sunroof frame.



3) Remove the sunroof cable assembly.
   (1) Remove the screw and remove the drain holder.



(2) Pull out the sunroof cable assembly from the frame roof assembly.



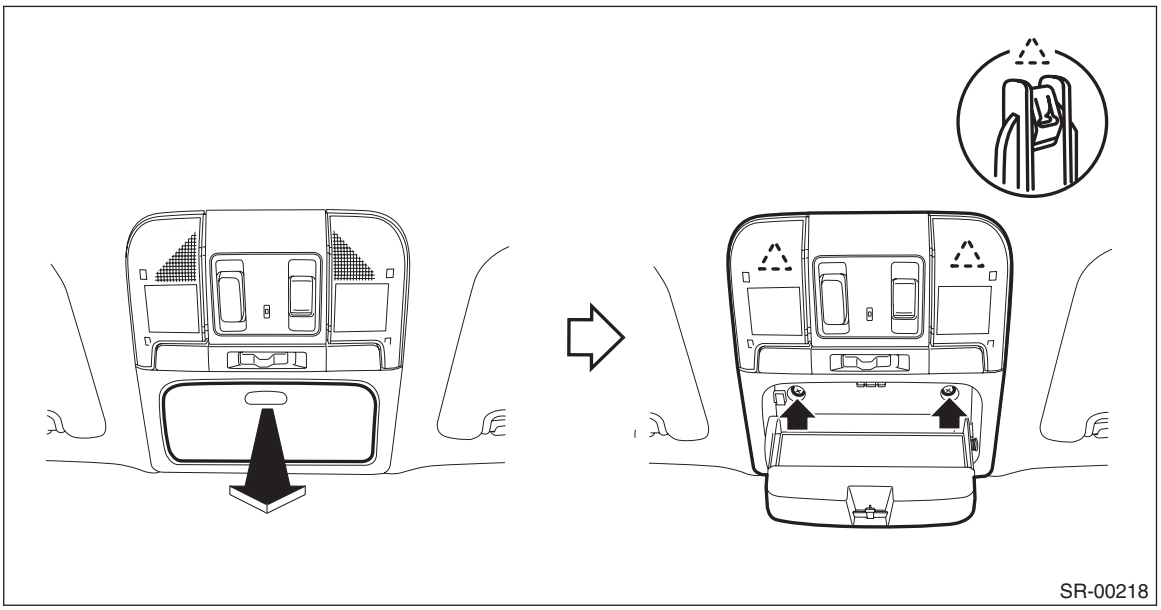
D: ASSEMBLY

Install each part in the reverse order of removal.

6. Sunroof Motor

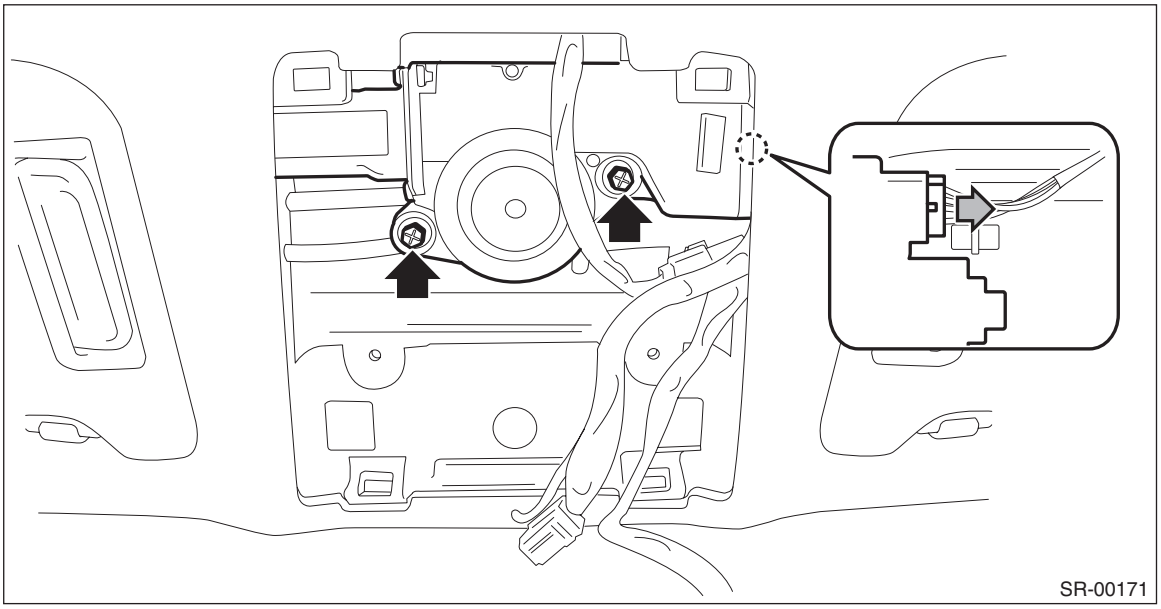
A: REMOVAL

1) Completely close the glass lid.
2) Disconnect the ground cable from battery.
3) Remove the overhead console. (Models without EyeSight)
   (1) Push and open the rear end of the overhead console lid, and remove the screws.
   (2) Remove the clips and pull out the overhead console to disconnect the connectors.



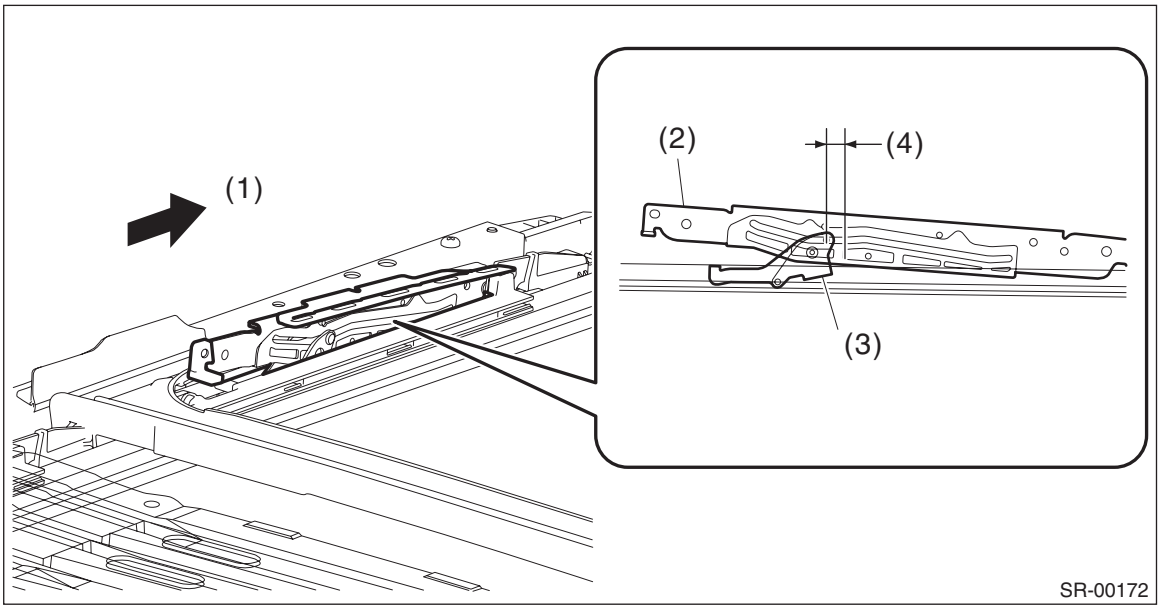
4) Remove the stereo camera cover. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>
5) Remove the sunroof motor assembly.
   (1) Disconnect the connector.
   (2) Remove the bolts and remove the sunroof motor assembly.

CAUTION:
When removing the motor assembly, secure the cable wires so that it does not move.



B: INSTALLATION

CAUTION:
When installing the motor assembly, be careful not to move the sunroof cable.
1) Align the lid bracket and link assembly in the same position.



(1) Front
(2) Lid bracket
(3) Link ASSY
(4) 8.9 mm (0.35 in)

2) Install the sunroof motor assembly.
3) Install the spot map light, and connect the ground cable to the battery.
4) Perform the initialize operation. <Ref. to SR-5, INITIALIZE OPERATION, OPERATION, Sunroof Control System.>
5) Check the operation of sunroof with following table below.

Operation	Switch position
(1) Glass lid closes completely.	Close
(2) Glass lid tilt up to the top position.	Tilt up
(3) Glass lid closes completely.	Tilt down
(4) Glass lid opens 291 mm (11.46 in) away from completely closed position. (OUTBACK model)	Open
(5) Glass lid opens completely.	Open
(6) Glass lid closes completely.	Close

C: INSPECTION

Check the auto-reverse mechanism.

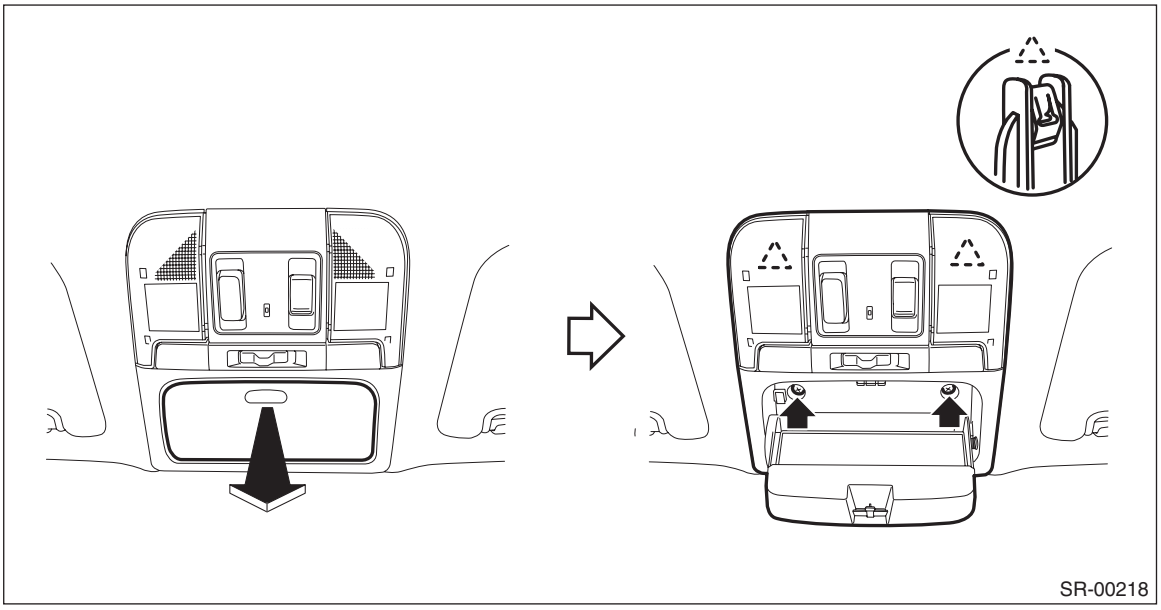
CAUTION:
Do not place objects in the way to check the auto-reverse mechanism.
1) Open the glass lid.
2) Forcefully push the glass lid in the opening direction while auto-closing, to check whether the window auto-reverse mechanism functions.

NOTE:
• The auto-function is cancelled when the window auto-reverse mechanism is activated more than five times.
• If the auto function is cancelled, reset it. <Ref. to SR-5, OPERATION, Sunroof Control System.>

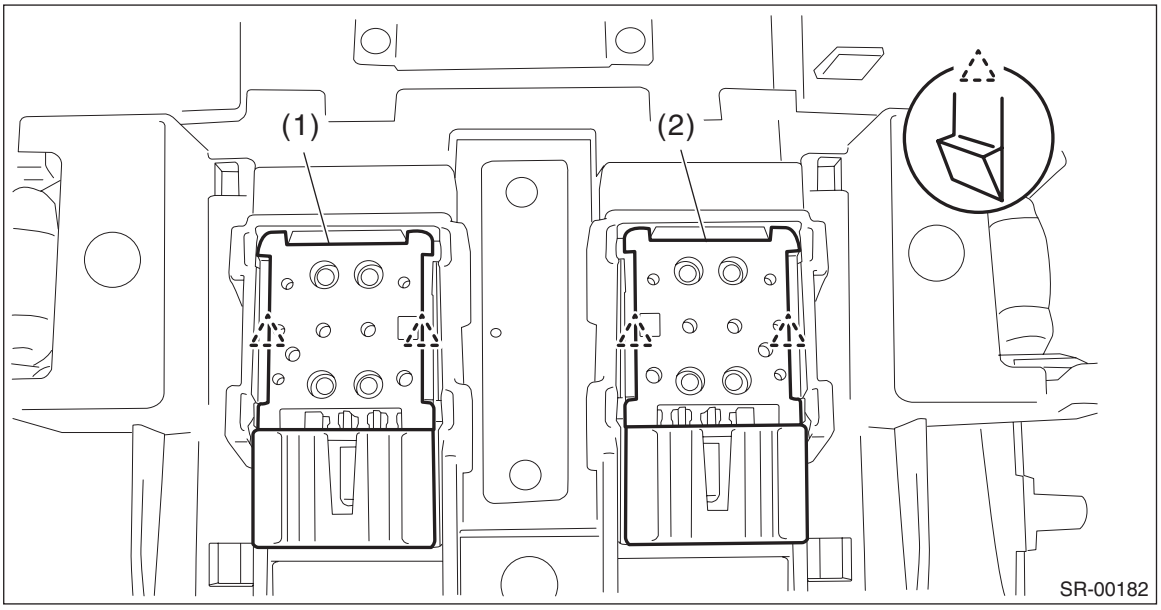
7. Sunroof Switch

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the overhead console. (Models without EyeSight)
   (1) Push and open the rear end of the overhead console lid, and remove the screws.
   (2) Remove the clips and pull out the overhead console to disconnect the connectors.



3) Remove the stereo camera cover. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>
4) Release the claws and remove the sunroof switch from the overhead console.



(1) Sunroof switch (tilt)
(2) Sunroof switch (slide)

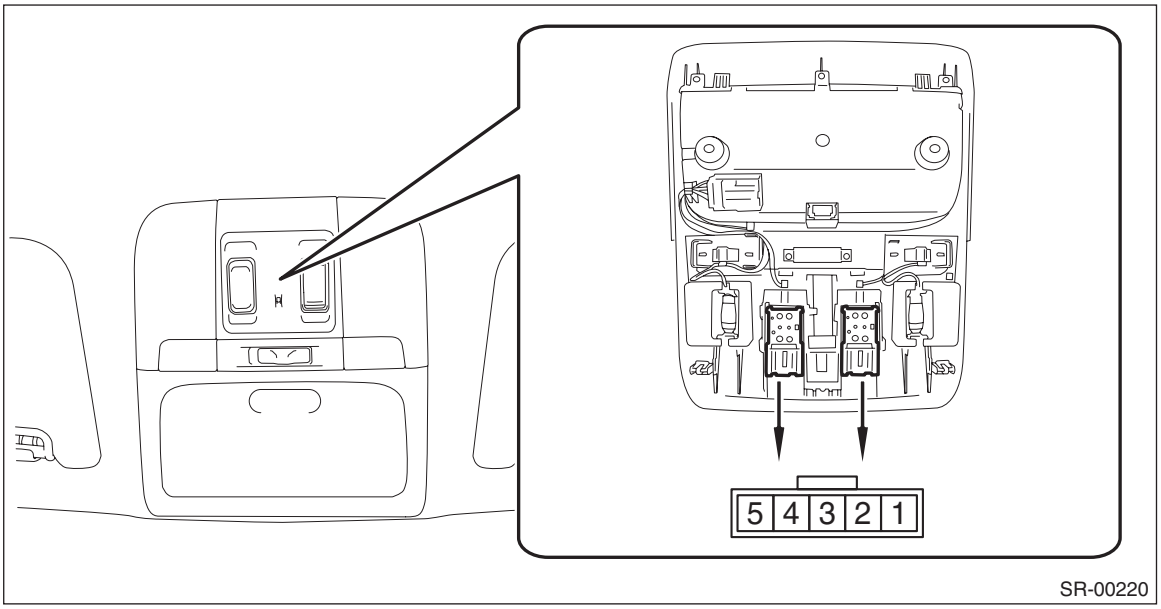
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Remove the overhead console. (Models without EyeSight)
2) Remove the stereo camera cover. (Models with EyeSight) <Ref. to ES-8, REMOVAL, Stereo Camera.>
3) Check the resistance between sunroof switch terminals.

Preparation tool: Circuit tester



Terminal No.	Inspection conditions	Standard	Connector No.
1 — 3	Open	Less than 1 Ω	R128
4 — 3	Close	Less than 1 Ω	
1 — 3	Tilt down	Less than 1 Ω	R187
4 — 3	Tilt up	Less than 1 Ω	

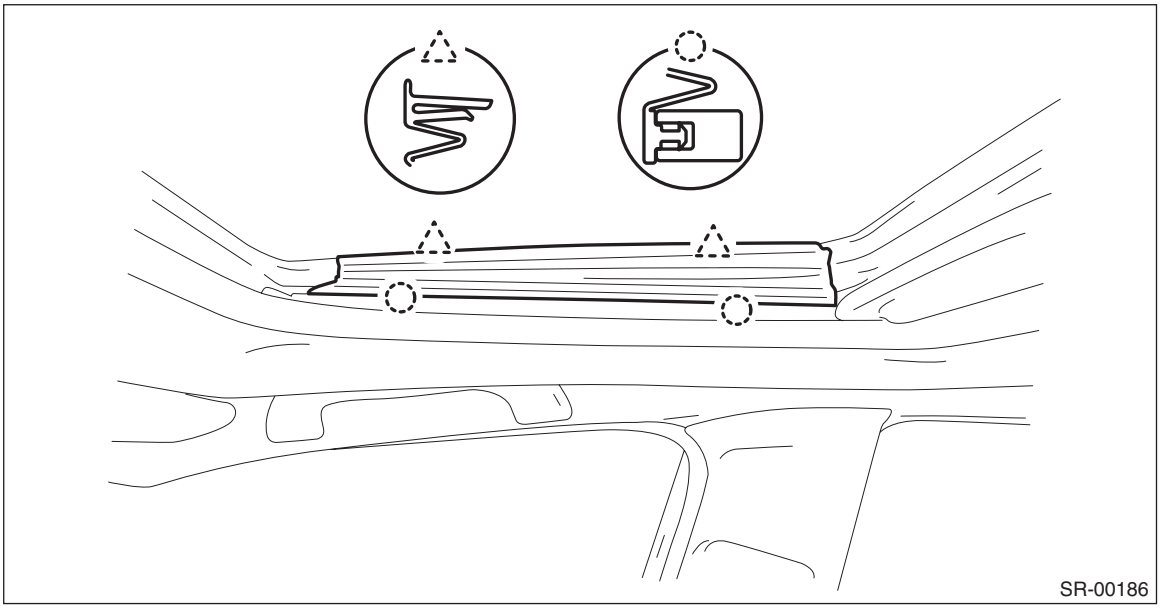
4) Replace the sunroof switch if the inspection result is not within the standard value.

8. Sunshade

A: REMOVAL

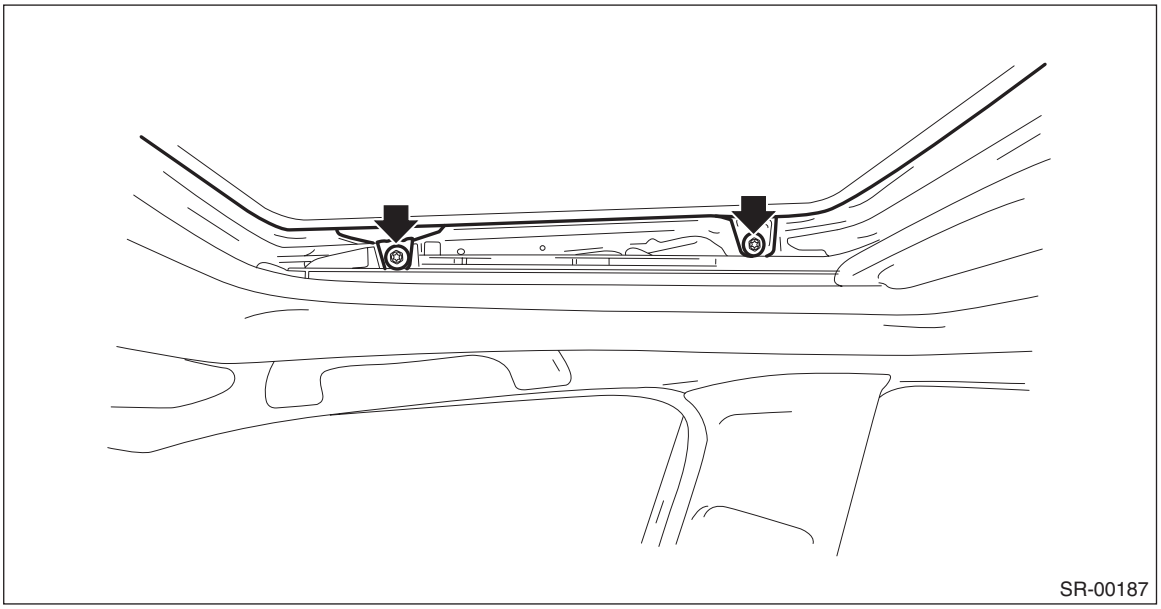
CAUTION:
When removing the clip, use great care not to damage the roof trim.

1) Remove the glass lid.
   (1) Completely close the glass lid, and then open the sunshade.
   (2) Disconnect the claws and then remove the lid cover.



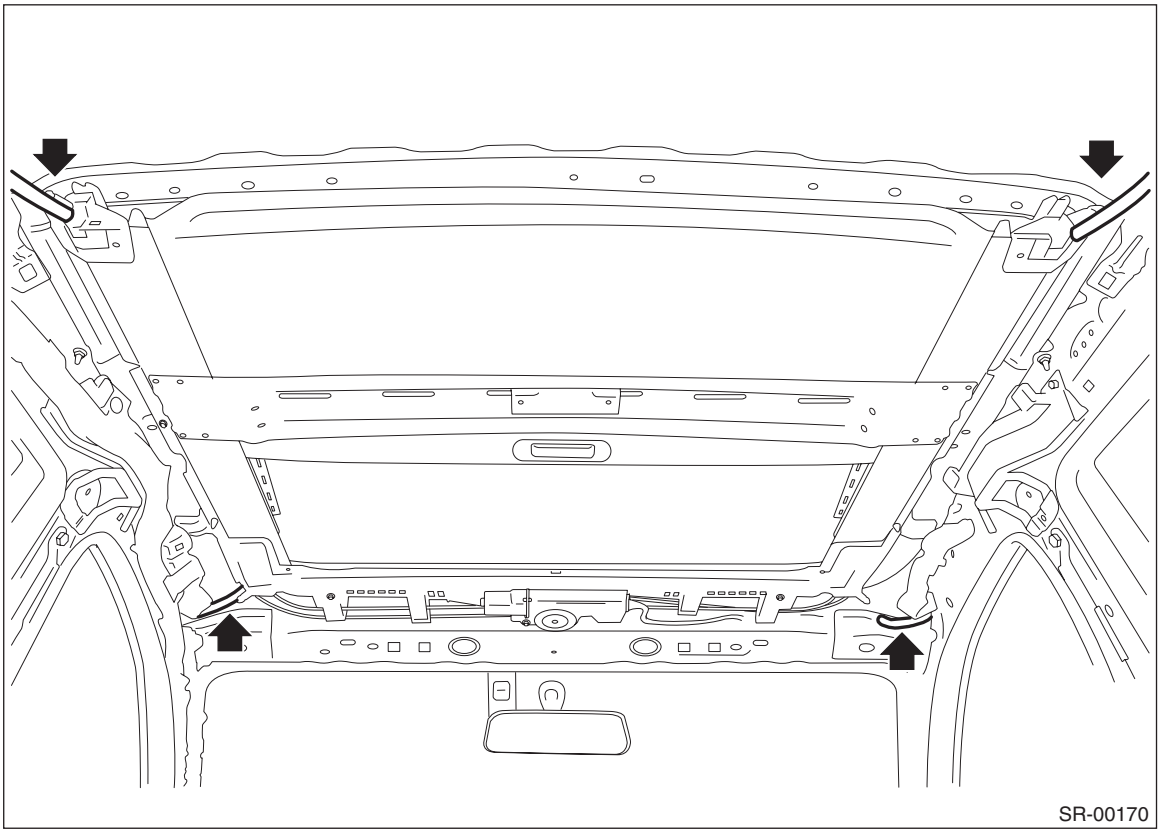
   (3) Remove the bolts, then remove the glass lid.

CAUTION:
Be careful not to damage the glass lid.

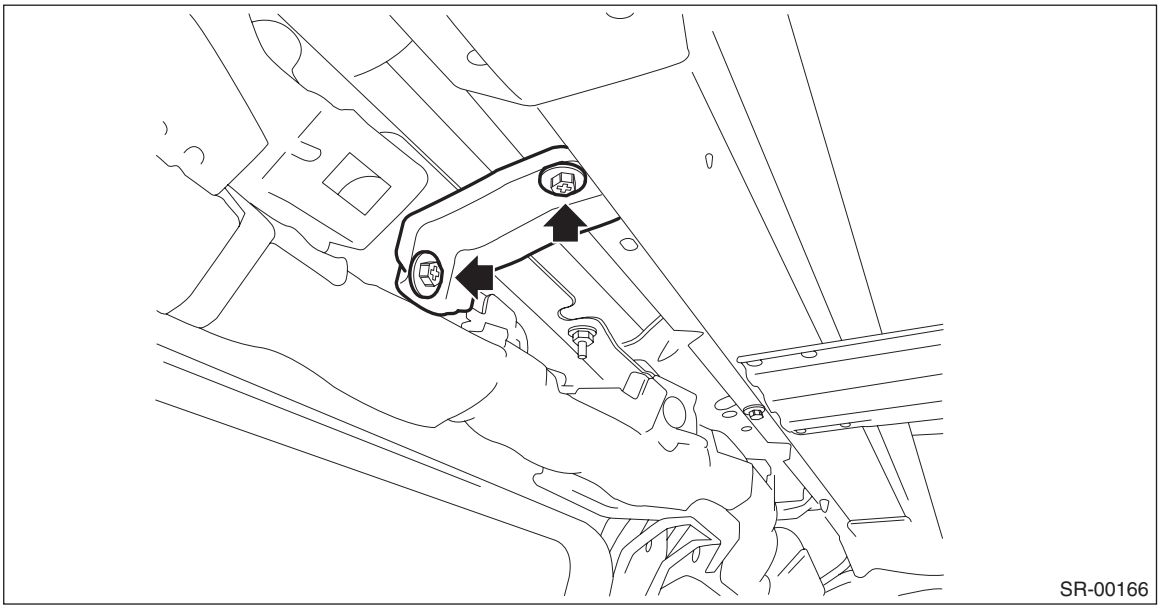


2) Remove the roof trim. <Ref. to EI-134, REMOVAL, Roof Trim.>
3) Disconnect the sunroof motor connector.

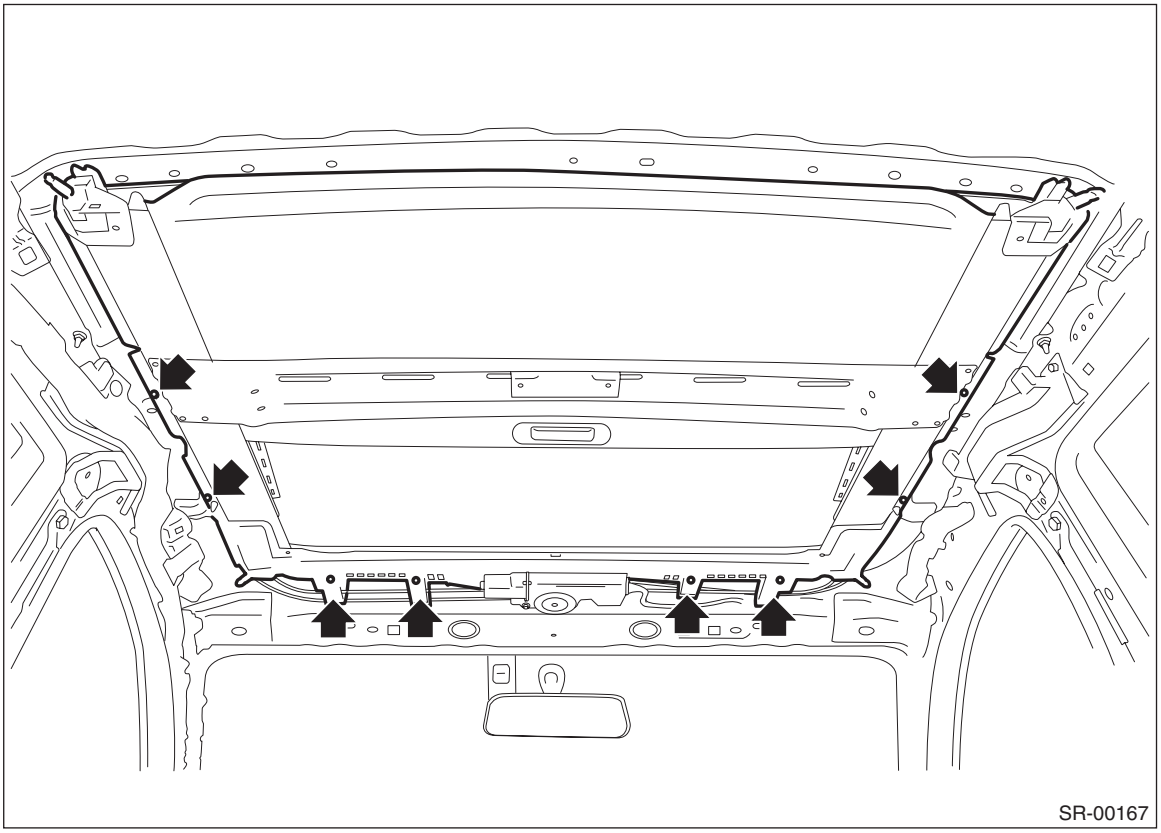
4) Remove the frame assembly.
(1) Remove the drain tube.



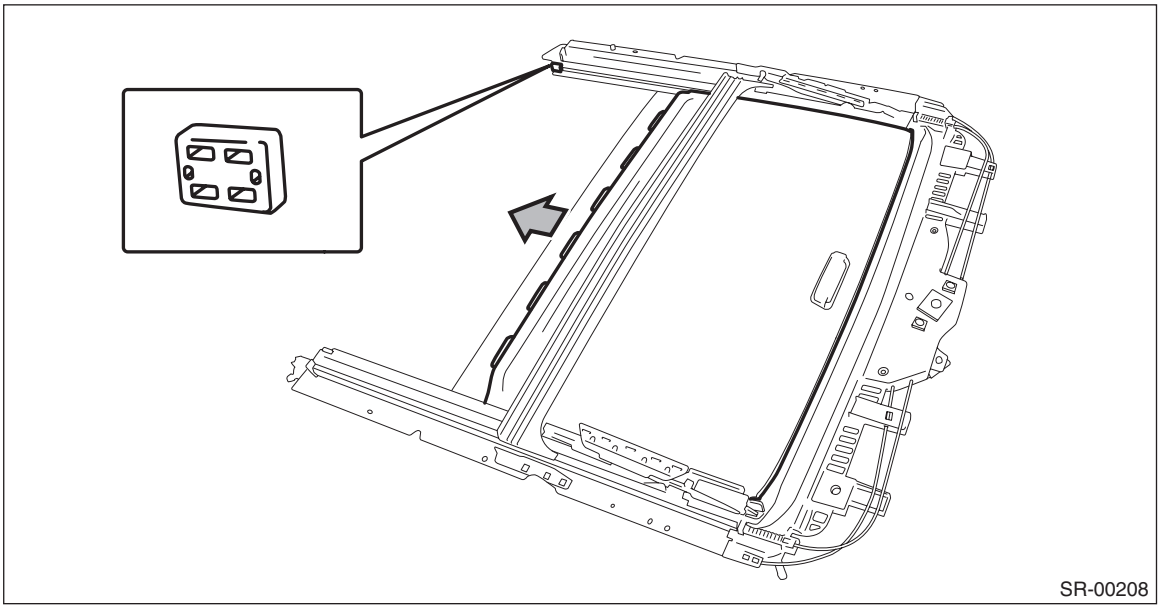
(2) Remove the bolts and then remove the sunroof bracket.



(3) Remove the bolts, then remove the frame assembly.


SR-00167

5) Remove the stopper rubber and pull out the sunshade from sunroof frame.


SR-00208

B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:

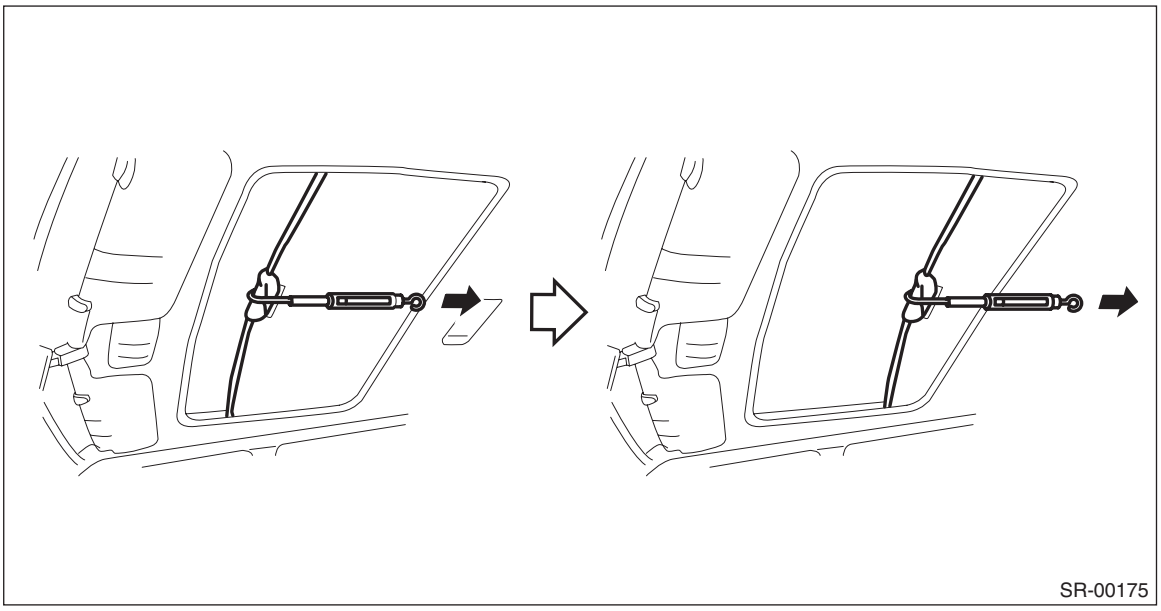
Refer to "COMPONENT" of "General Description". <Ref. to SR-2, COMPONENT, General Description.>

C: INSPECTION

1. CHECK FOR MOVING LOAD OF SUNSHADE

1) Attach a spring scale to sunshade edge using a cloth.
2) Pull the spring scale to check the moving load of the sunshade.

Moving load of sunshade:
14±6 N (1.43 kgf, 3.1 lbf±0.61 kgf, 1.3 lbf)



NOTE:
Moving load is larger at the beginning of pulling a spring scale, so take a spring scale reading while sunshade sliding smoothly.
3) If the inspection result exceeds the standard value, check if the installation to sunshade or frame assembly is sufficient, and replace if necessary.

EXTERIOR/INTERIOR TRIM

EI

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28.	Floor Mat	168
29.	Trunk Lid Garnish	170
30.	Rear Gate Garnish	171
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32.	Ornament	175

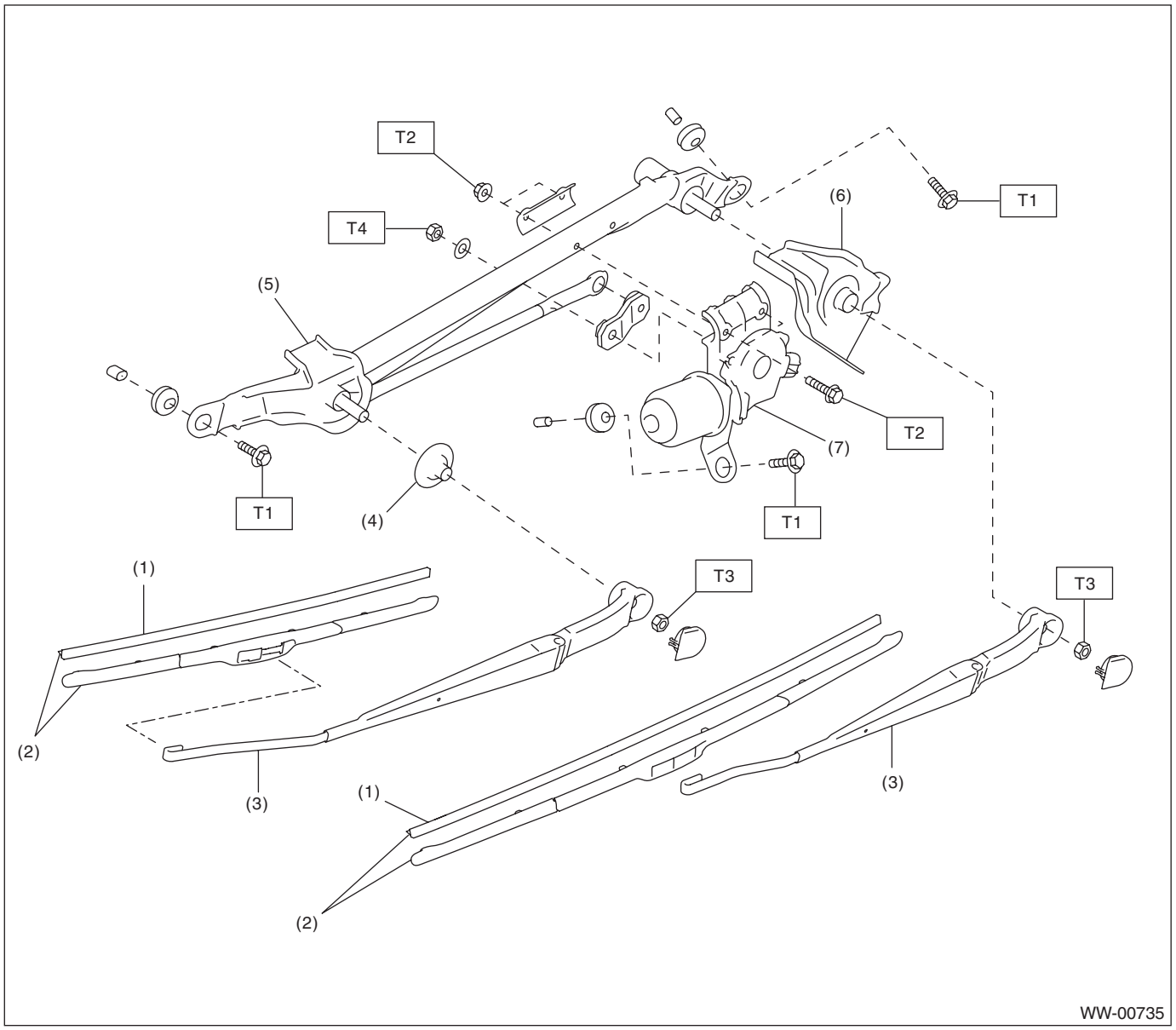
1. General Description

A: SPECIFICATION

Front wiper motor	Input	12 V — 72 W or less
Rear wiper motor	Input	12 V — 42 W or less
Front washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less
Rear washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less

B: COMPONENT

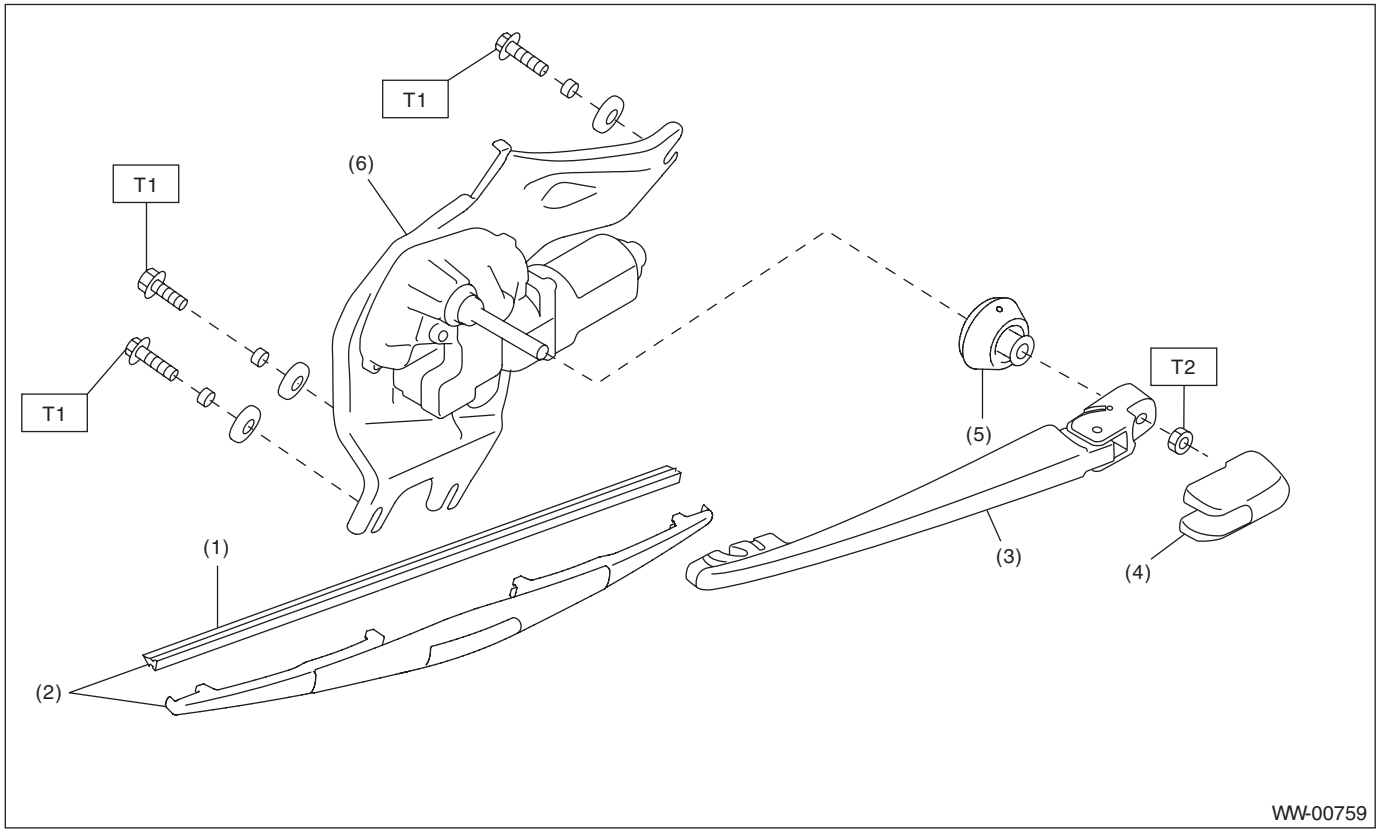
1. FRONT WIPER



(1) Wiper rubber
(2) Wiper blade ASSY
(3) Wiper arm ASSY
(4) Pivot cover B
(5) Wiper link ASSY
(6) Pivot cover C
(7) Wiper motor assembly

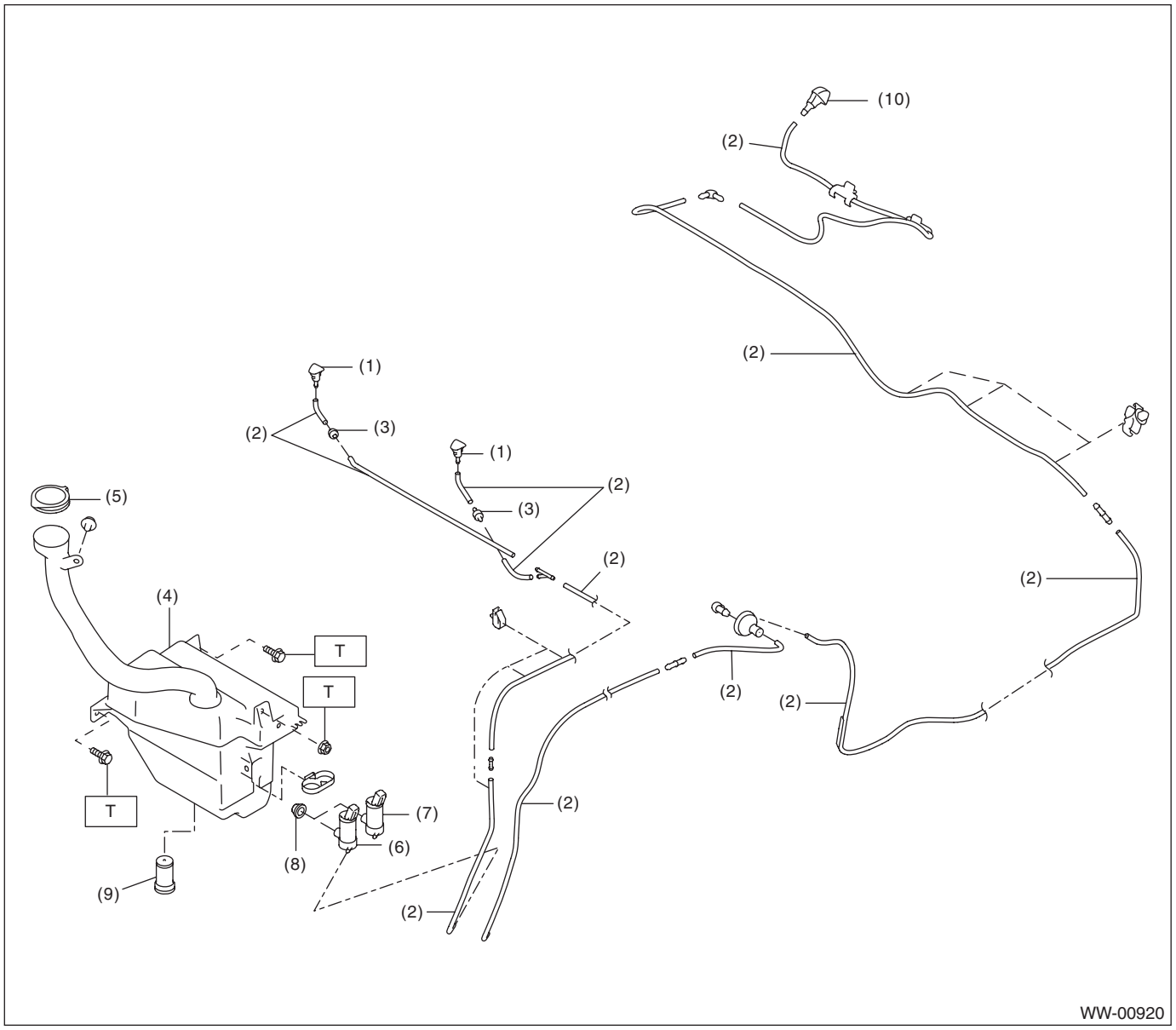
Tightening torque: N·m (kgf-m, ft-lb)
T1: 6 (0.61, 4.4)
T2: 7.5 (0.76, 5.5)
T3: 22 (2.24, 16.2)
T4: 32.1 (3.27, 23.7)

2. REAR WIPER



(1)	Wiper rubber	(4)	Wiper arm cover	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Wiper blade ASSY	(5)	Pivot cap	***T1: 7 (0.71, 5.2)***
(3)	Wiper arm	(6)	Wiper motor ASSY	***T2: 8 (0.82, 5.9)***

3. WASHER TANK



(1) Front washer nozzle
(2) Washer hose
(3) Check valve
(4) Washer tank
(5) Washer tank cap
(6) Front washer motor
(7) Rear washer motor (OUTBACK model only)
(8) Grommet
(9) Washer fluid level sensor
(10) Rear washer nozzle (OUTBACK model only)

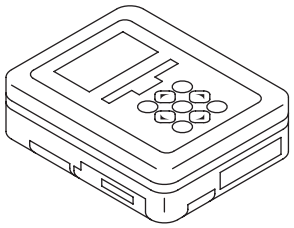
Tightening torque: N·m (kgf-m, ft-lb)
T: 6 (0.61, 4.4)

C: CAUTION

- Connect the connectors and hoses securely during reassembly.
- After reassembly, make sure functional parts operates smoothly.
- Be careful with the airbag system wiring harness which passes near electrical parts and switches.
- Yellow connectors and harnesses with yellow tapes around them are the connectors and harnesses for the airbag system. Using a tester above such circuits may cause malfunction of airbag system. Follow the cautions for the airbag system in this case. <Ref. to AB-10, CAUTION, General Description.>
- When connecting the pipe hoses, be careful not to cause bend or blockage.
- If even a small amount of silicon oil or grease enters tank and washer fluid passages, an oil film will be formed on the glass and will cause the wiper to chatter and judder. Make sure that no oil comes into contact with the system.

D: PREPARATION TOOL

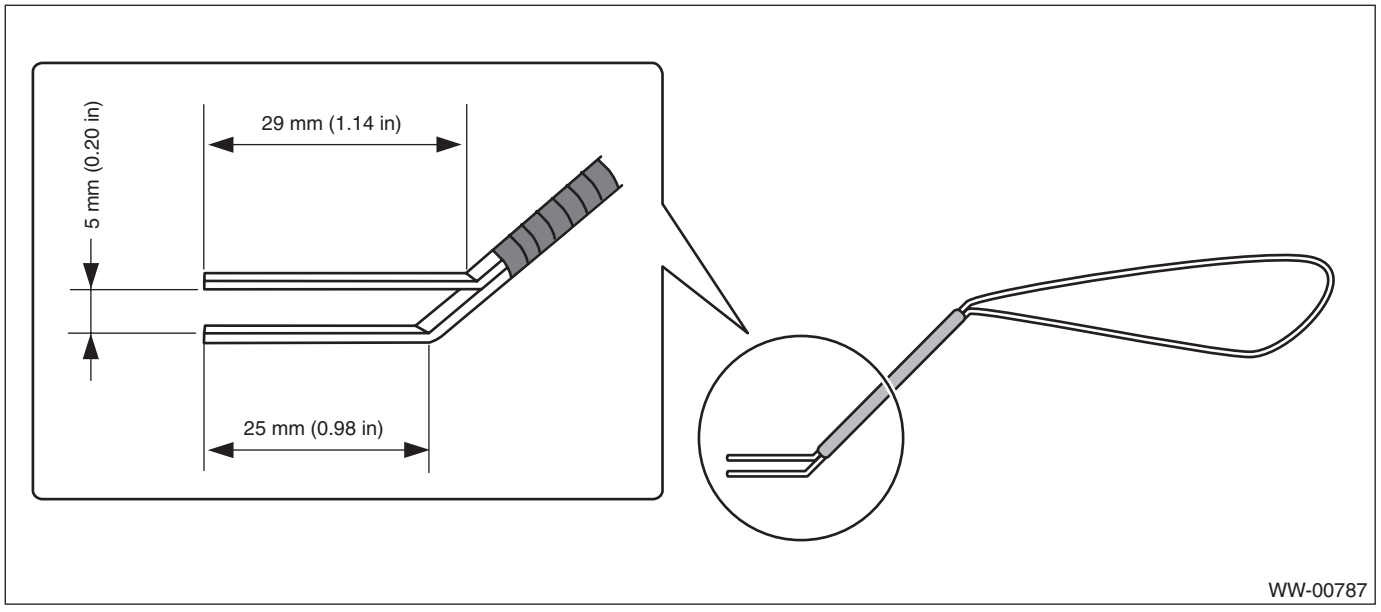
1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

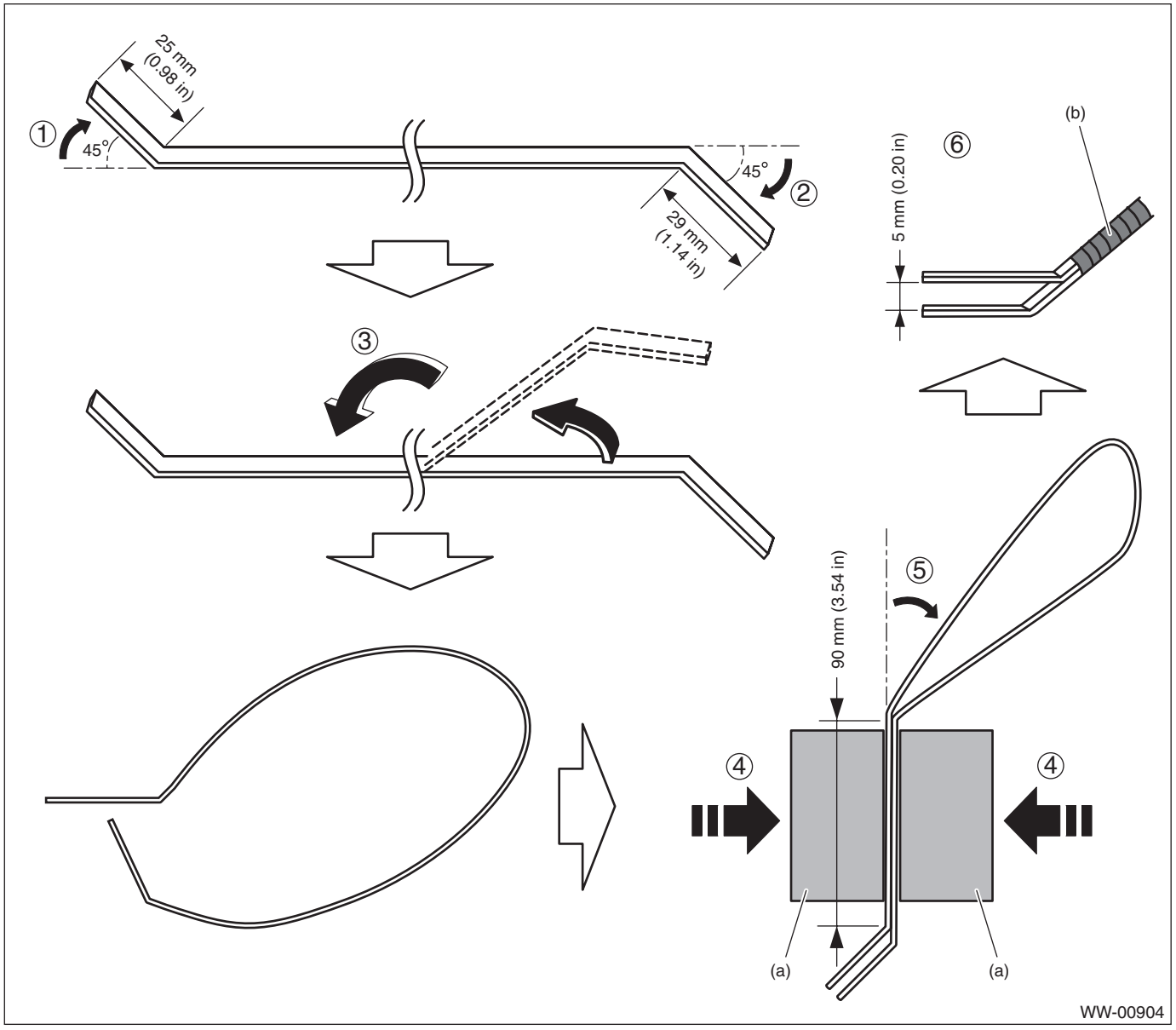
TOOL NAME	REMARKS
Circuit tester	Used for checking voltage and continuity.

NOTE:
Refer to the data described below, prepare the materials to make a front washer nozzle adjustment tool.



Materials
- Vertebra of wiper blade which is to be discarded
- Vinyl tape

Steps of making a front washer nozzle adjustment tool



1. Bend the vertebra at the position 25 mm (0.98 in) away from its end by 45°.
2. Bend the vertebra at the position 29 mm (1.14 in) away from the other end by 45°.
3. Double up the vertebra so that the longer end (29 mm (1.14 in)) comes upward.
4. Secure the vertebra with a vise (a) so that the tip clearance becomes 5 mm (0.20 in).
5. Bend the vertebra at the position approximately 90 mm (3.54 in) away from the bending point for the longer end.
6. Check that the tip clearance is 5 mm (0.20 in), and secure the vertebra with vinyl tape (b).

2. Wiper and Washer System

A: WIRING DIAGRAM

1. WIPER AND WASHER (FRONT)

Refer to “Front Wiper and Washer System” in the wiring diagram. <Ref. to WI-193, WIRING DIAGRAM, Front Wiper and Washer System.>

2. WIPER AND WASHER (REAR)

Refer to “Rear Wiper and Washer System” in the wiring diagram. <Ref. to WI-259, WIRING DIAGRAM, Rear Wiper and Washer System.>

B: INSPECTION

Symptoms	Repair order
Wiper and washers do not operate.	1. Wiper fuse (F/B No. 14, 15) 2. Combination switch 3. Wiper motor assembly 4. Wiring harness
Wipers do not operate in LO or HI.	1. Combination switch 2. Wiper motor assembly 3. Wiring harness
Wipers do not operate in INT.	1. Combination switch 2. Wiper motor assembly 3. Wiring harness
Washer motor does not operate.	1. Washer switch 2. Washer motor 3. Wiring harness
Wipers do not operate when washer switch is ON.	1. Wiper motor assembly 2. Wiring harness
Washer fluid spray does not operate properly.	1. Washer motor 2. Washer hose and nozzle

C: NOTE

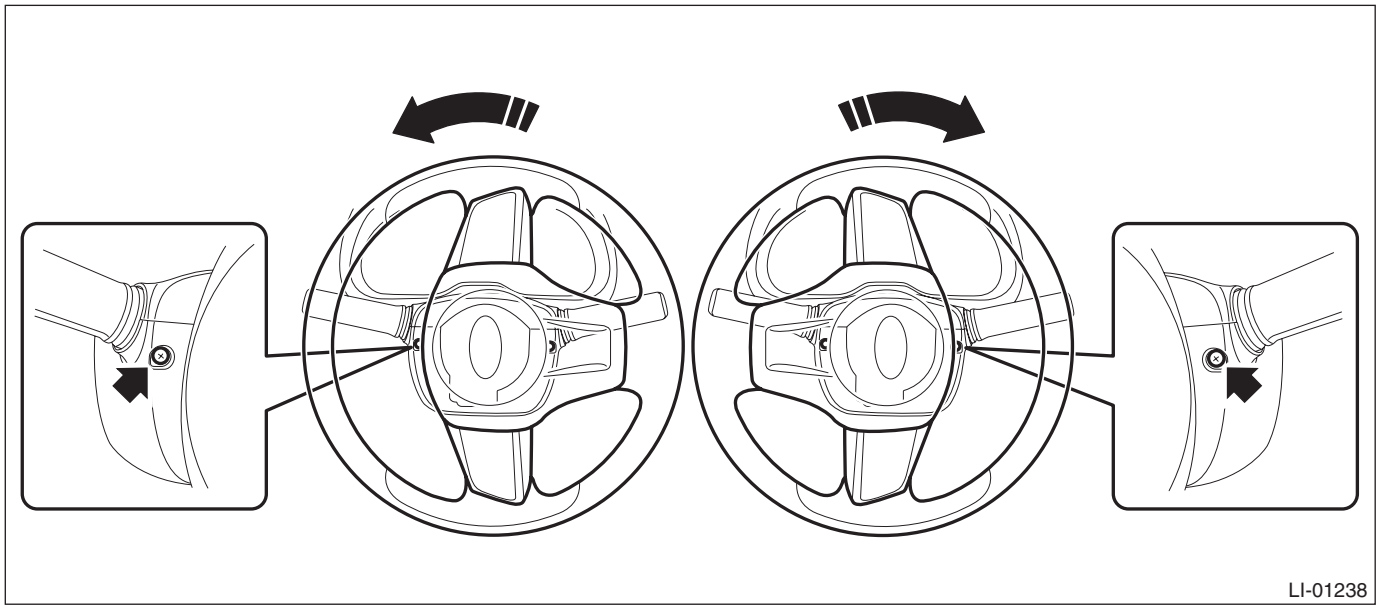
For procedure of each component of the wiper and washer system, refer to the respective sections.

- Combination switch (wiper): <Ref. to WW-9, Combination Switch (Wiper).>
- Wiper blade: <Ref. to WW-16, Wiper Blade.>
- Washer tank and motor: <Ref. to WW-19, Washer Tank and Motor.>
- Front wiper arm: <Ref. to WW-25, Front Wiper Arm.>
- Front wiper motor and link: <Ref. to WW-27, Front Wiper Motor and Link.>
- Front washer nozzle: <Ref. to WW-33, Front Washer Nozzle.>
- Rear wiper arm: <Ref. to WW-38, Rear Wiper Arm.>
- Rear wiper motor: <Ref. to WW-40, Rear Wiper Motor.>
- Rear washer nozzle: <Ref. to WW-45, Rear Washer.>

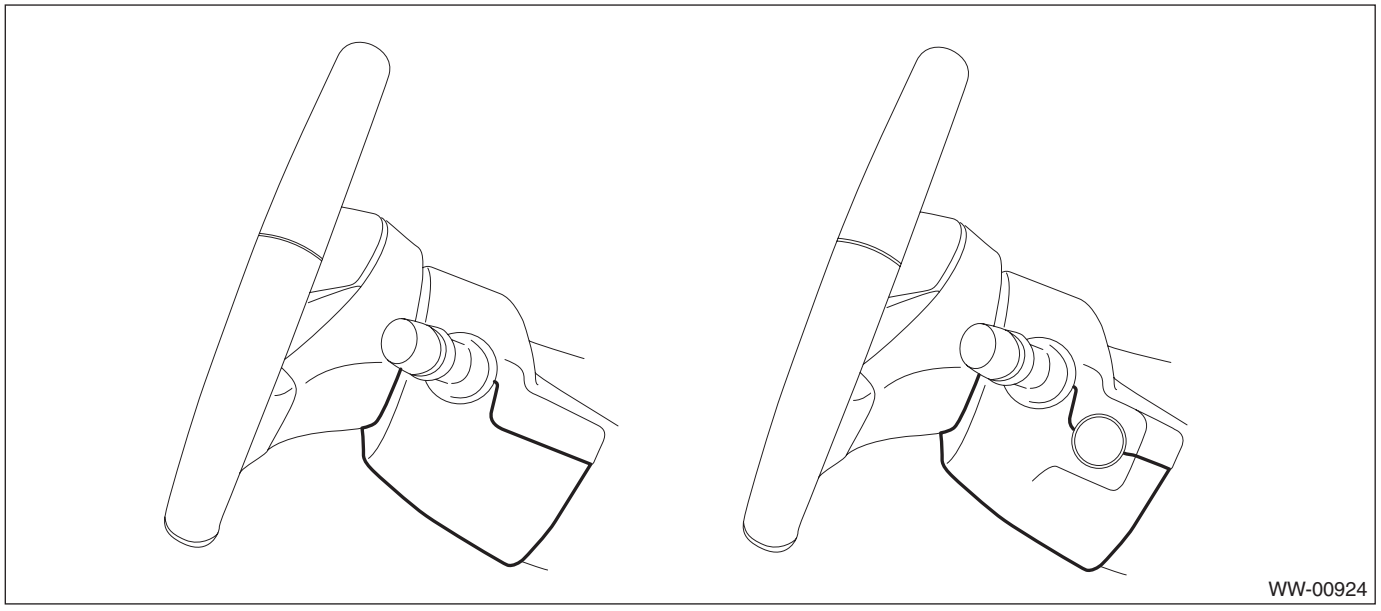
3. Combination Switch (Wiper)

A: REMOVAL

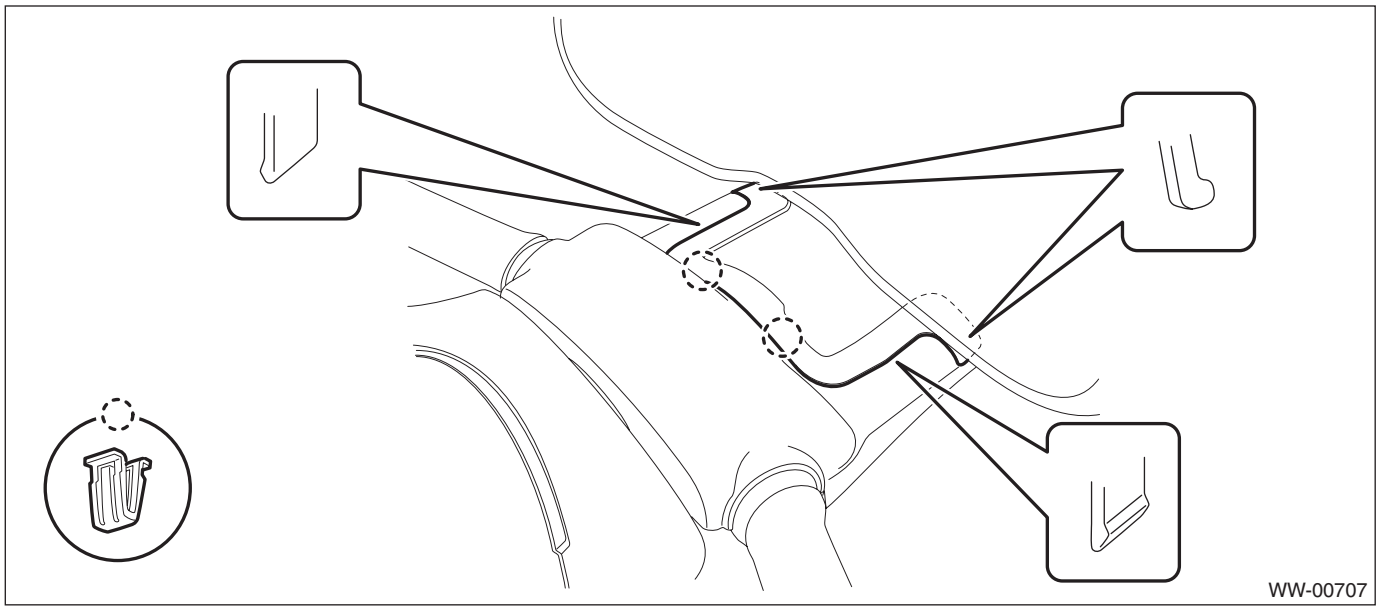
1) Disconnect the ground cable from battery.
2) Remove the steering column cover.
   (1) Remove the screws by turning the steering wheel to right and left.



   (2) Release the claws and remove the steering column lower cover.

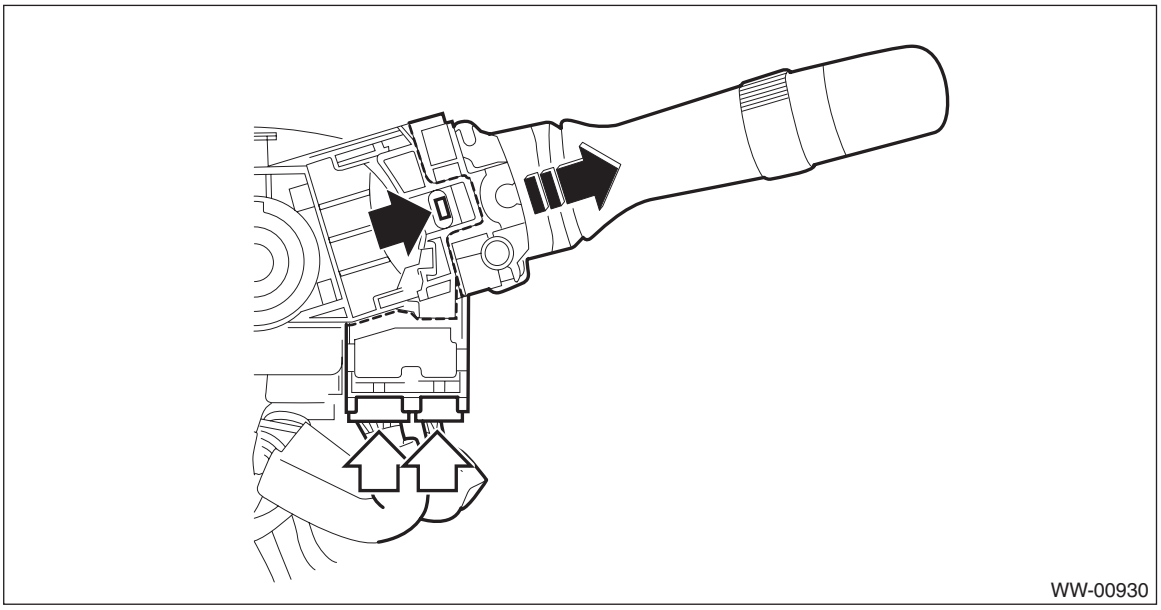


(3) Separate the steering column upper cover and steering upper cover, and remove the steering column upper cover.



3) Remove the wiper switch assembly.
(1) Disconnect the connector from wiper switch.
(2) Release the claws, and pull out the wiper switch assembly.

CAUTION:
Do not press the claws with excessive force. They may be damaged.



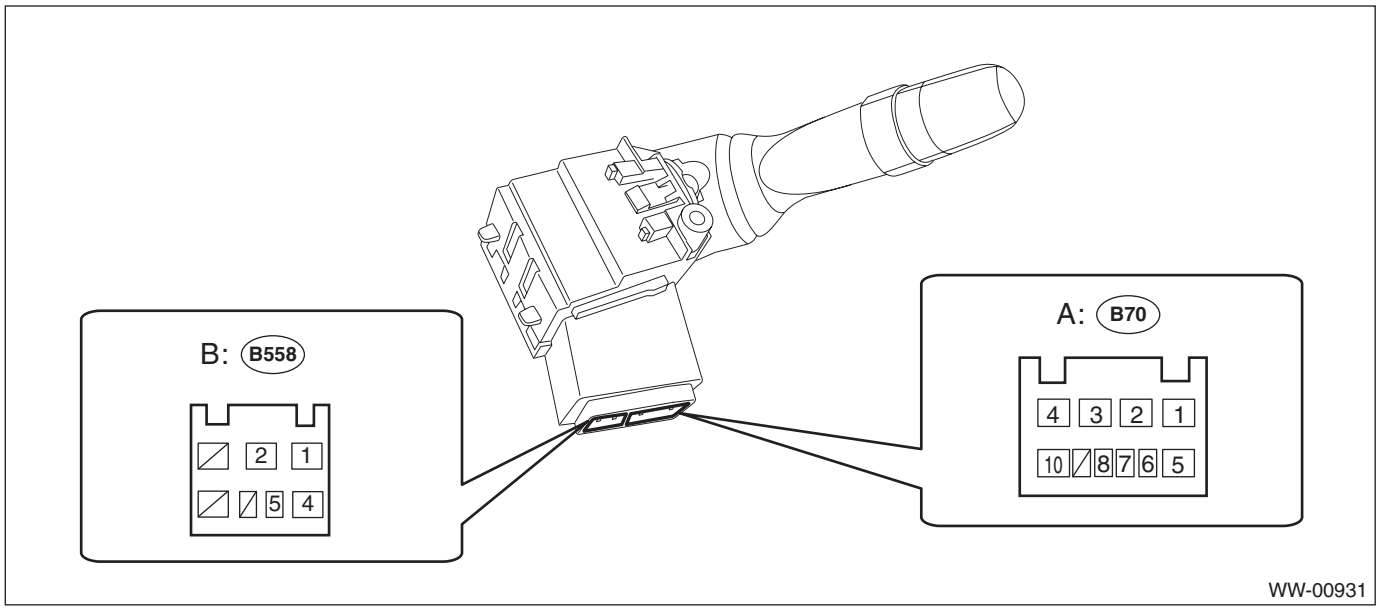
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1. INSPECTION OF SWITCH UNIT

1) Operate the switches to check the continuity between terminals.



	Switch position	Terminal No.	Standard
Front	Washer ON	B1 and B2	Less than 1 Ω
	OFF	A2 and A4	Less than 1 Ω
	INT	A2 and A4	Less than 1 Ω
	LO	A2 and A3	Less than 1 Ω
	HI	A3 and A1	Less than 1 Ω
Rear	Washer ON (wiper interlock operation)	A10 and B2 B4 and B2	Less than 1 Ω
	ON	B4 and B2	Less than 1 Ω
	INT	B5 and B2	Less than 1 Ω
	OFF	A10 and B2 B5 and B2 B4 and B2	1 MΩ or more
	Washer ON	A10 and B2	Less than 1 Ω

2) Replace the switch if the inspection result is not within the standard value.

2. FRONT WIPER

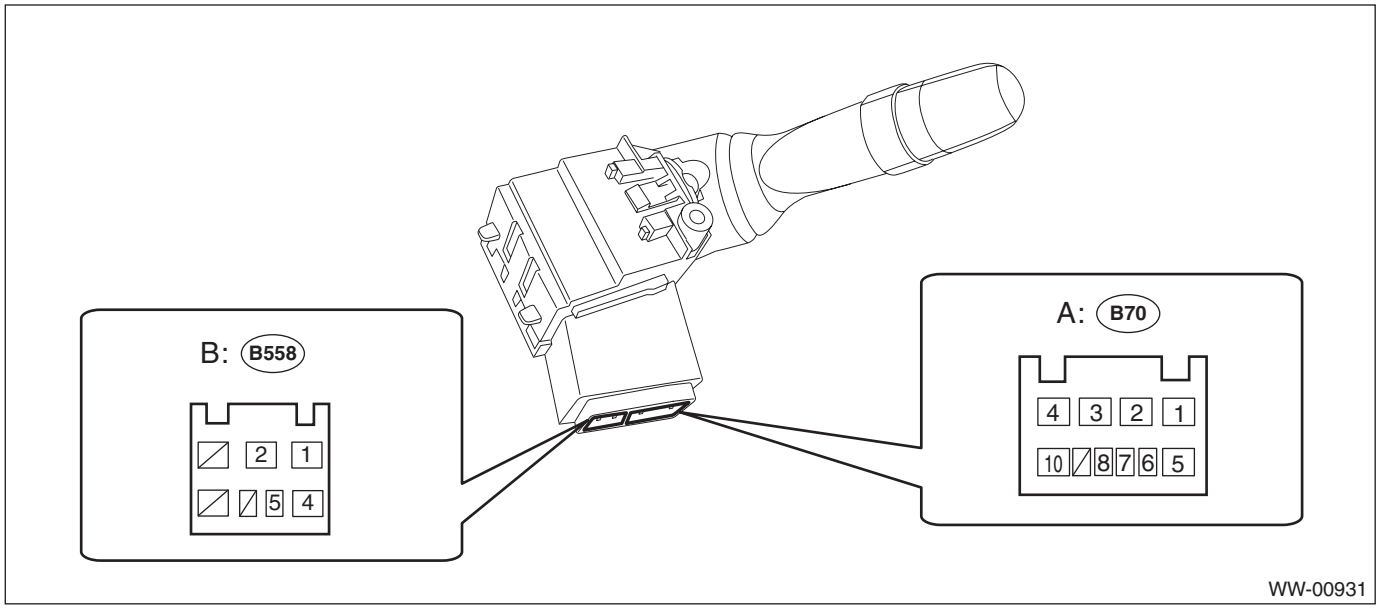
1) Check with Subaru Select Monitor
   (1) Check the input signal when the front wiper switch is turned to LO or HI, using the current data display of body integrated unit.
   (2) Does the input signal change corresponding to the switch operation?
   - **Yes** → Finish the diagnosis.
   - **No** →
     1. Check the harness.
     2. Check the input voltage of body integrated unit.

Connector & terminal

(B280) No. 2 (+) — Chassis ground (–):

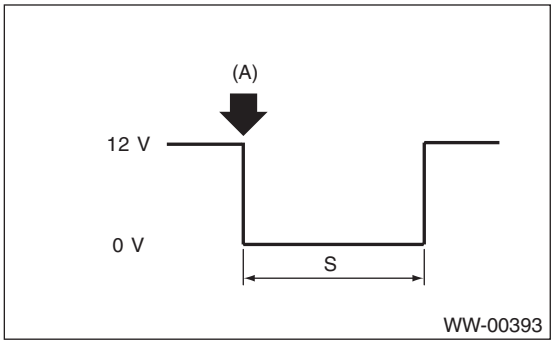
3. Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>

2) Check the intermittent operation (inspection of the wiper switch alone).



(1) Set the voltmeter between terminals No. A3 (+) and No. B2 (–).
(2) Connect the battery to connector. (Terminal No. A3 (+), terminal No. A2 & B2 (–))
(3) Turn the front wiper switch to INT.
(4) Connect the battery (+) to the terminal No. A3 for 5 seconds.
(5) Connect the battery (–) to the terminal No. B2, and check the voltage between terminals No. A3 and No. A2 during intermittent operation.
(6) Perform step (1) to (5) above when intermittent control switch is in MIN or MAX, and replace the switch if the operation is not as specified.

Intermittent stationary time
MIN: Approx. 2 seconds
MAX: Approx. 16 seconds

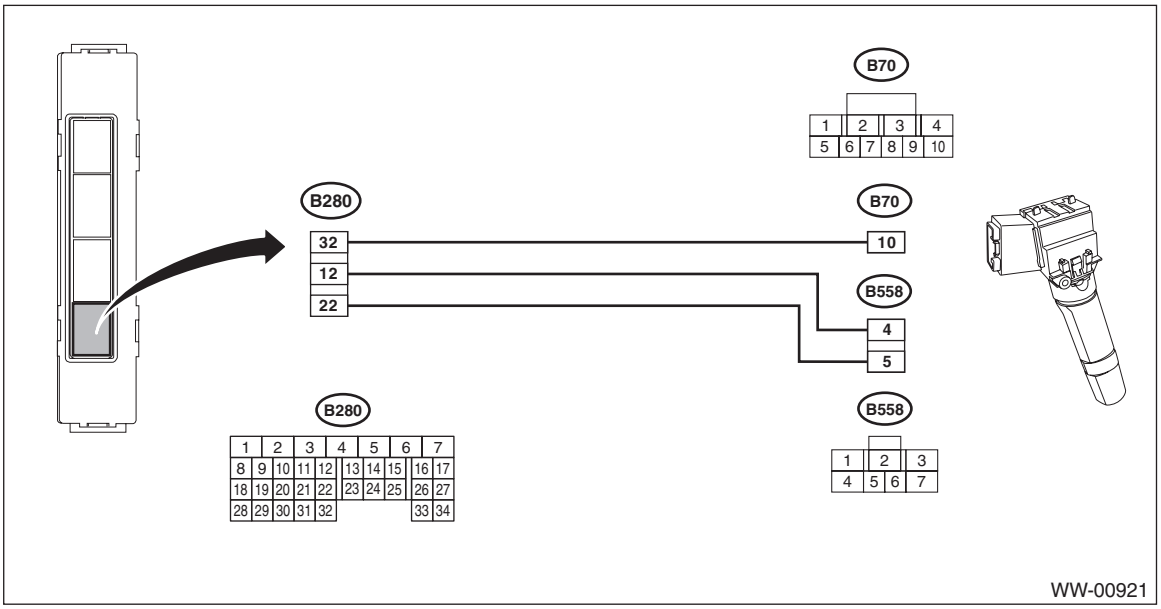


(A): Connect the battery (–) to the terminal No. B2.
S: Intermittent downtime (sec.)

3. REAR WIPER

1) Check input of body integrated unit
Check the input signal when the rear wiper switch is operated using Subaru Select Monitor.
(1) Turn the ignition switch to ON.
(2) Operate the rear wiper switch to each position of ON, INT and Washer ON.
(3) Does the input signal change corresponding to the switch operation?
- **Yes** → Go to step 4.
- **No** → Go to step 2.

2) Check harness
(1) Turn the ignition switch to OFF, disconnect the ground cable from battery.
(2) Disconnect the connector of body integrated unit and wiper switch.
(3) Measure the resistance between body integrated unit and wiper switch.



Connector & terminal
(B280) No. 32 — (B70) No. 10:
(B280) No. 12 — (B558) No. 4:
(B280) No. 22 — (B558) No. 5:
(4) Is the resistance less than 10 Ω?
- **Yes** → Go to step 3.
- **No** → Repair the harness between the body integrated unit and wiper switch.

3) Check input voltage of body integrated unit
(1) Connect the ground cable to battery.
(2) Turn the ignition switch to ON and check the input voltage of body integrated unit.

Connector & terminal
(B280) No. 5 (+) — Chassis ground (–):
(i171) No. 17 (+) — Chassis ground (–):
(3) Is the voltage 10 V or more?
- **Yes** → Go to step 4.
- **No** → Check the harness and fuse.

4) Check output of body integrated unit
Check the output signal when the rear wiper switch is operated using Subaru Select Monitor.
(1) Turn the ignition switch to ON.
(2) Operate the rear wiper switch to ON and Washer ON.
(3) When the operation in step (2) is performed, check the output signal of body integrated unit to rear wiper motor.
(4) When the rear wiper switch is set to ON, is ON output continuous? Also, when the washer is set to ON, is ON output?
- **Yes** → Go to step 5.
- **No** → Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>

5) Check output of body integrated unit
Check the output signal when the rear wiper switch is operated using Subaru Select Monitor.
(1) Turn the ignition switch to ON.
(2) Set the rear wiper switch to INT.
(3) When the operation in step (2) is performed, check the output signal of body integrated unit.
(4) When the rear wiper switch is set to INT, is ON/OFF output repeated? (INT OFF time (when vehicle parked): 12 seconds)
- **Yes** → Go to step 8.
- **No** → Go to step 6.

6) Check harness between body integrated unit and rear wiper motor.
(1) Turn the ignition switch to OFF, disconnect the ground cable from battery.
(2) Disconnect the connector of body integrated unit and wiper switch.
(3) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor.

Connector & terminal
(B280) No. 6 — (D43) No. 2:
(4) Is the resistance less than 10 Ω?
- **Yes** → Go to step 7.
- **No** → Repair the open circuit of the harness between body integrated unit and rear wiper motor.

7) Check stop position circuit of the rear wiper motor.
(1) Disconnect the harness connector of the rear wiper motor.
(2) Check the continuity of the circuit of rear wiper motor stop position.

Connector & terminal
(D43) No. 1 (+) — (D43) No. 4 (–):
(3) Is there continuity between terminals?
- **Yes** → Go to step 8.
- **No** → Replace the rear wiper motor assembly.

8) Check power supply circuit of the rear wiper motor.
(1) Disconnect the harness connector of the rear wiper motor.
(2) Turn the ignition switch to ON.
(3) Measure the voltage between the rear wiper motor harness connector terminal and chassis ground.

Connector & terminal
(D43) No. 3 (+) — Chassis ground (–):
(4) Is the voltage 10 V or more?
- **Yes** → Go to step 9.
- **No** → Check the fuse (No. 27 in main fuse box).

9) Check ground circuit of rear wiper motor.
(1) Turn the ignition switch to OFF.
(2) Measure the resistance between the rear wiper motor harness connector terminal and chassis ground.

Connector & terminal
(D43) No. 4 — Chassis ground:
(3) Is the resistance less than 10 Ω?
- **Yes** → Go to step 10.
- **No** → Repair the open circuit of the rear wiper motor ground circuit.

10) Check harness between body integrated unit and rear wiper motor.
(1) Turn the ignition switch to OFF.
(2) Disconnect the harness connector of body integrated unit.
(3) Disconnect the harness connector of the rear wiper motor.
(4) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor.

Connector & terminal
(B280) No. 7 — (D43) No. 1:
(5) Is the resistance less than 10 Ω?
- **Yes** → Go to step 11.
- **No** → Repair the open circuit of the harness between body integrated unit and rear wiper motor.

11) Check output of body integrated unit
(1) Connect the harness connector of body integrated unit.
(2) Disconnect the connector of the rear wiper motor.
(3) Turn the ignition switch to ON.
(4) Measure the voltage between rear wiper motor connector and chassis ground.

Connector & terminal
(D43) No. 2 (+) — Chassis ground (–):
(5) Is the voltage less than 1.5 V when the rear wiper switch is OFF, and is the voltage 10 V or more when the rear wiper switch is ON?
- **Yes** → Go to step 12.
- **No** → Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>

12) Check operation of rear wiper motor.
(1) Remove the rear wiper motor.
(2) Check the rear wiper motor. <Ref. to WW-44, INSPECTION, Rear Wiper Motor.>
(3) Does the rear wiper motor rotate normally?
- **Yes** → Finished.
- **No** → Replace the rear wiper motor assembly.

NOTE:
Rear wiper intermittent time

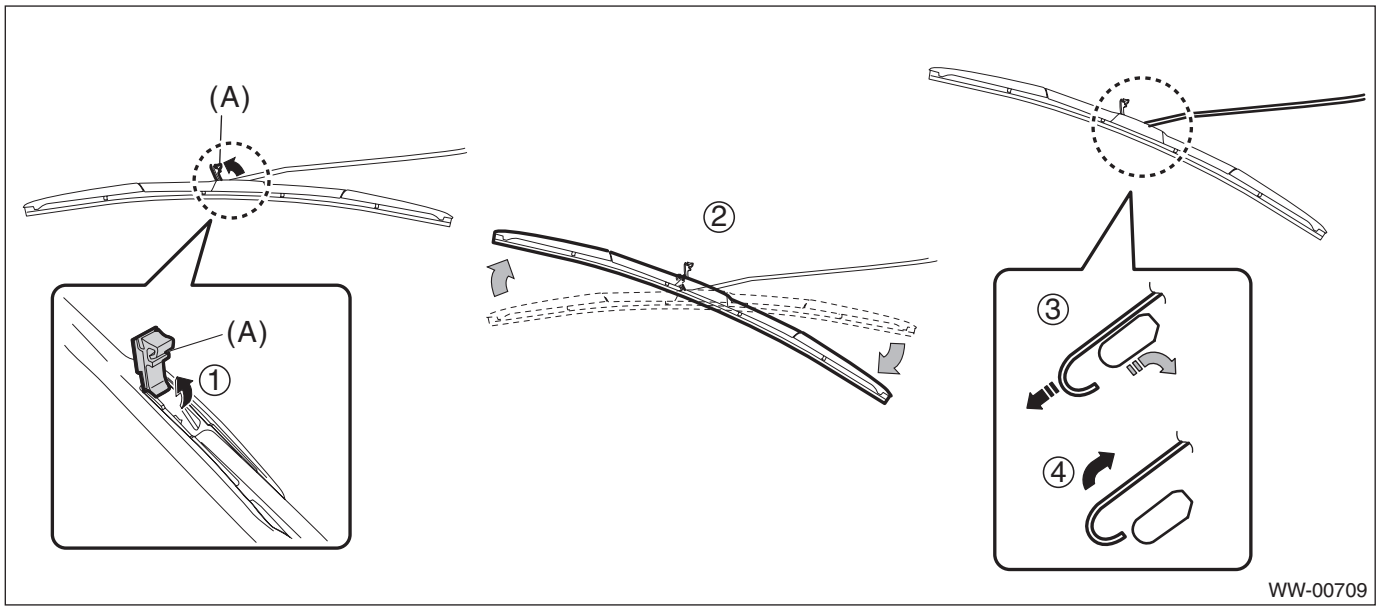
Select lever position	Vehicle speed (km/h (MPH))	Intermittent stopping time (sec.)
Rev.	—	Continuous operation
Except for reverse mode	80 — (50 —)	3
	50 — 80 (31 — 50)	6
	20 — 50 (12 — 31)	9
	0 — 20 (0 — 12)	12

4. Wiper Blade

A: REMOVAL

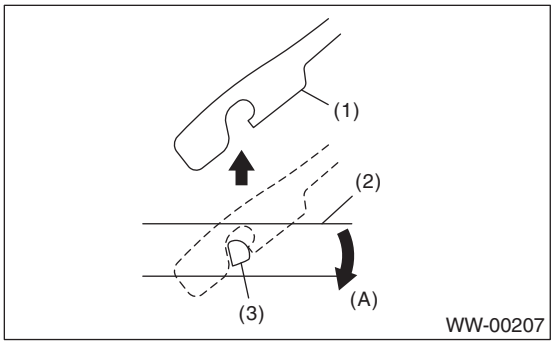
1. FRONT

Remove the blade assembly.
1) Lift up the locking clip (A).
2) Turn the blade assembly in the arrow direction.
3) Press the arm in.
4) Pull out the arm while lifting it, and remove the blade assembly from the arm.



2. REAR

Turn the blade in the direction of arrow (A) and remove it from arm.



(A) Turn the wiper blade.

(1) Wiper arm
(2) Wiper blade
(3) Wiper blade attachment section

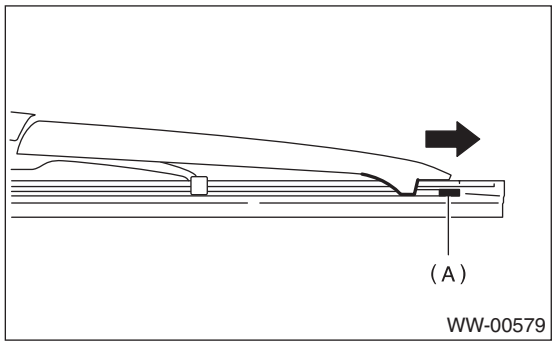
B: INSTALLATION

1) Install each part in the reverse order of removal.
2) Confirm that the clip is locked securely.

C: DISASSEMBLY

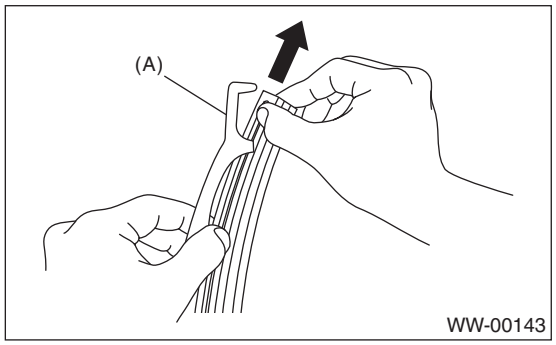
1. FRONT

Pull side (A) of the wiper rubber stopper and remove the rubber from the blade assembly.



2. REAR

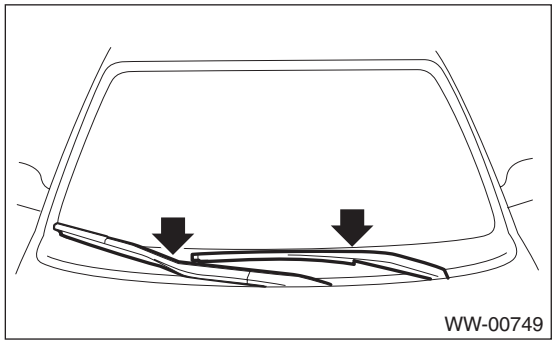
Pull the wiper rubber top slightly from stopper (A) and pull out completely.



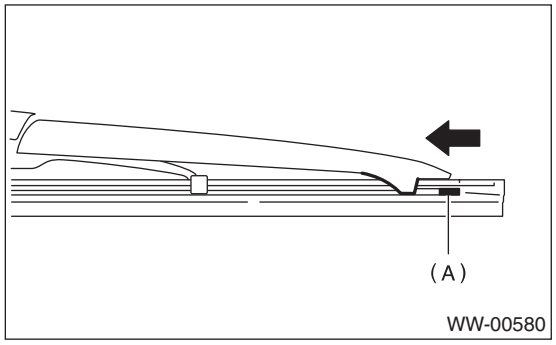
D: ASSEMBLY

1. FRONT

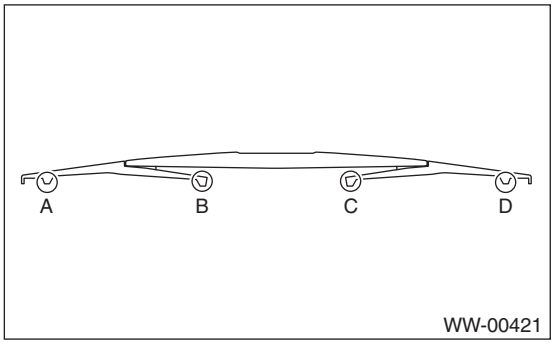
1) Insert the wiper rubber onto the blade so that the stopper is in the position shown in the figure.



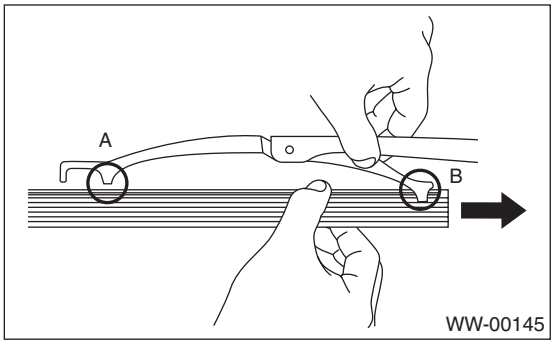
2) Make sure the wiper rubber is securely fastened to the pull stopper (A).



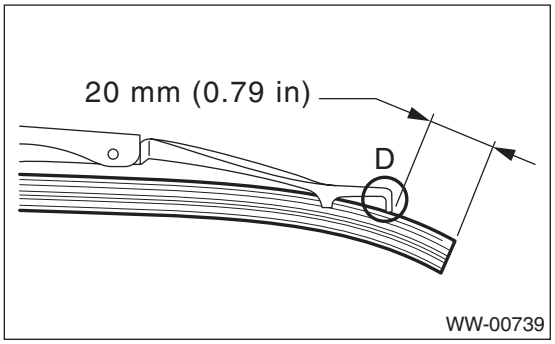
2. REAR



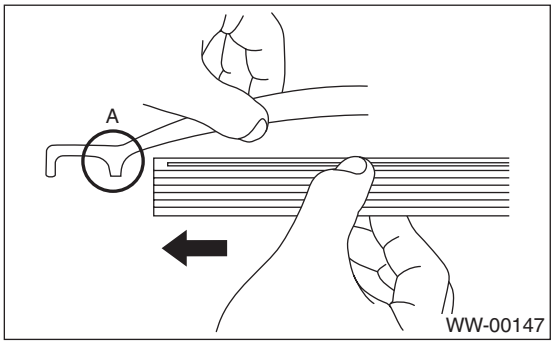
1) Insert the wiper rubber into claw (B).



2) Insert the wiper rubber until its top end protrudes approx. 20 mm (0.79 in) from stopper (D).



3) Insert the wiper rubber into claw (A).



E: INSPECTION

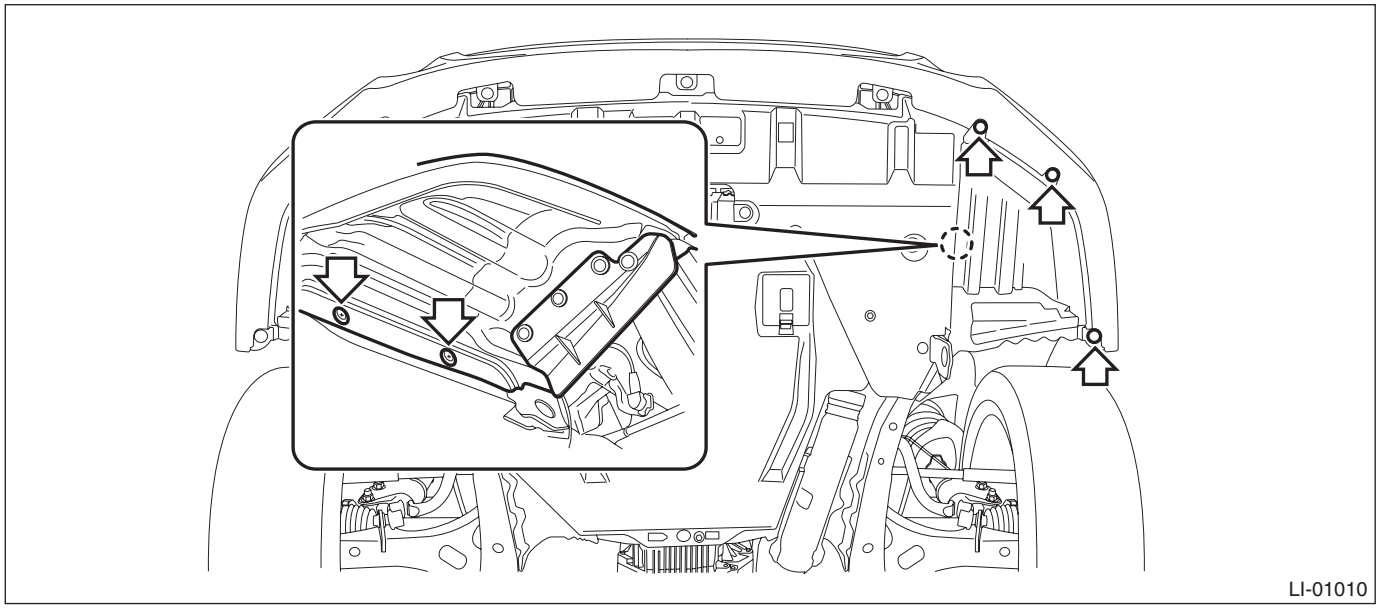
1) When the wiper does not operate properly, inspect the following item.
- Make sure that the movable part of blade assembly moves smoothly.
- Make sure the wiper rubber is not deformed or damaged.

2) If damaged, replace with a new part.

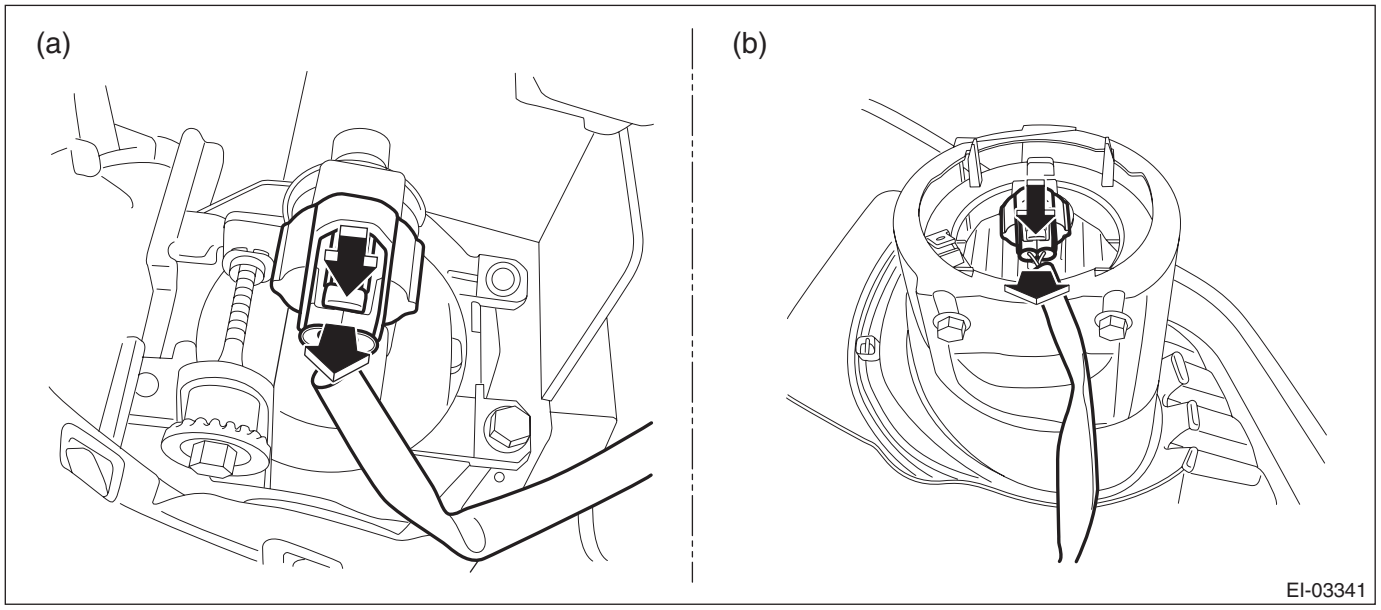
5. Washer Tank and Motor

A: REMOVAL

1) Open the front hood.
2) Disconnect the ground cable from battery.
3) Remove the front bumper face assembly.
   (1) Remove the clips and turn over the front end of front mud guard. (Model with fog light)



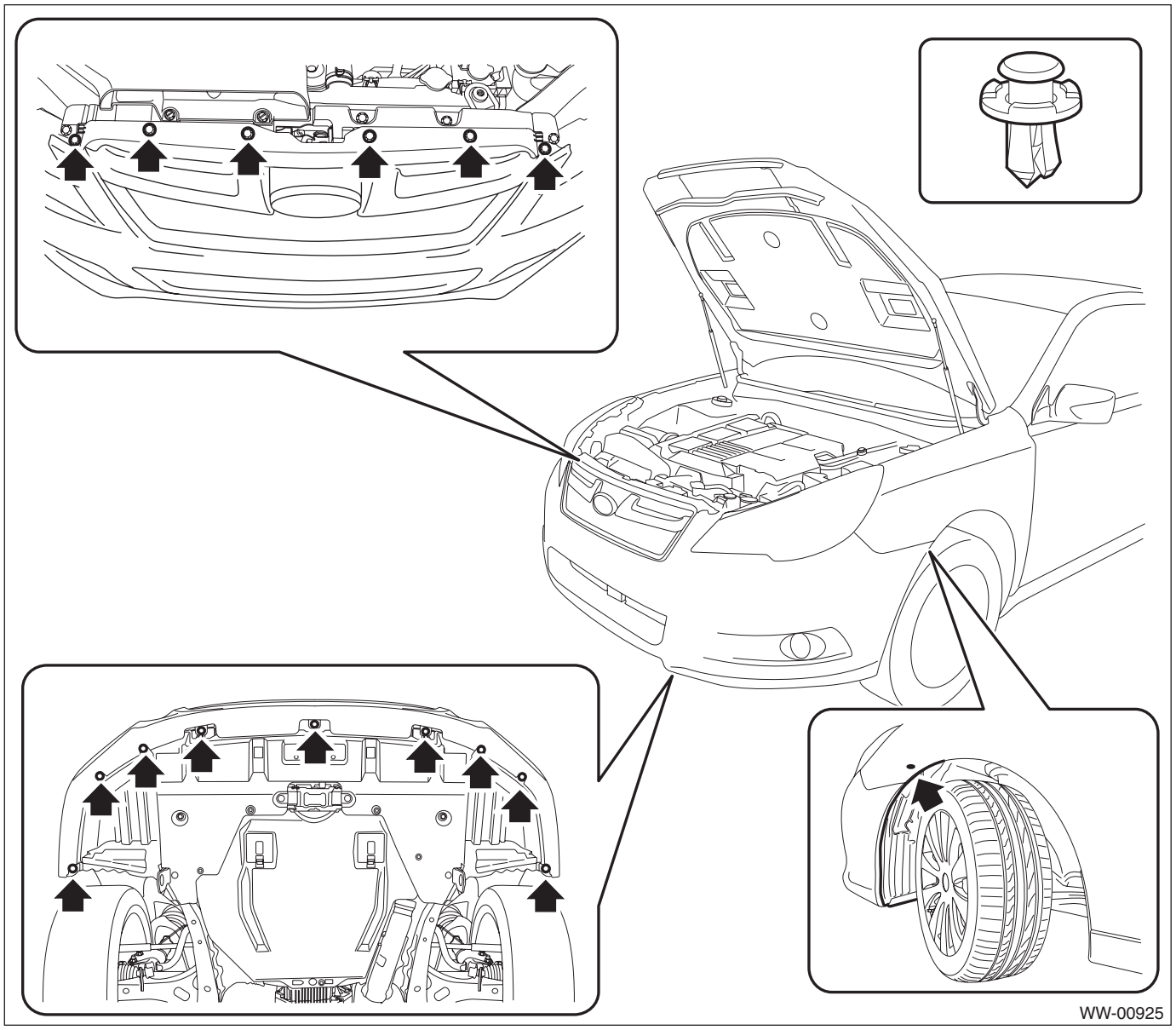
   (2) Disconnect the front fog light connector. (Model with fog light)



(a) Except for OUTBACK model (b) OUTBACK model

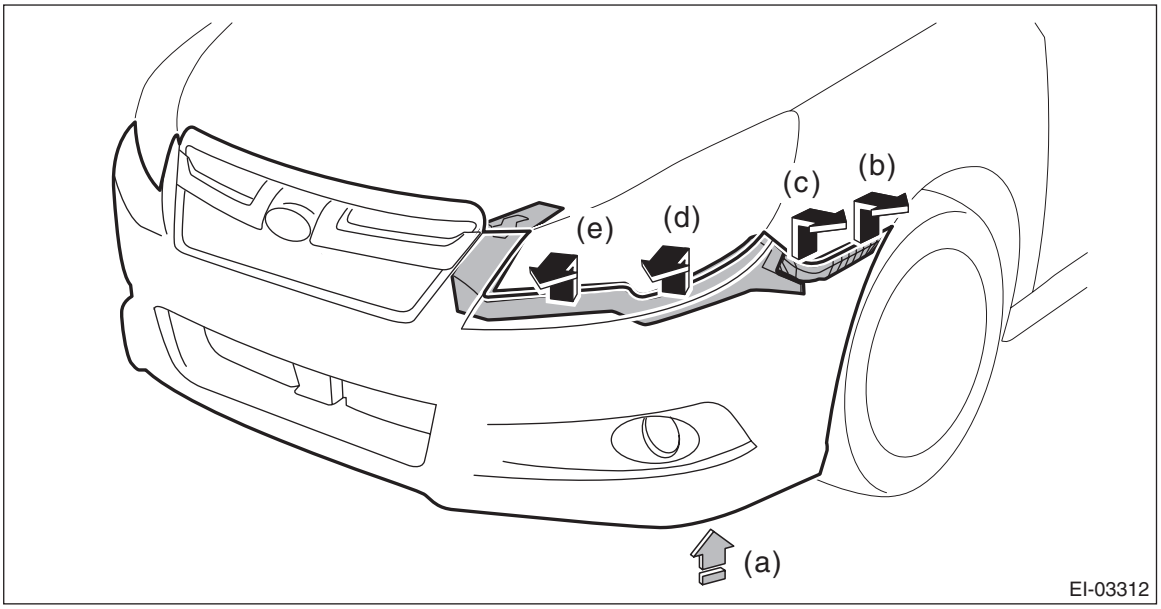
   (3) Remove the clips at the upper side of the bumper.
   (4) Remove the clips from the fender.

(5) Remove the clips at the lower side of bumper.



(6) Detach the flange section on the bumper face side from the bracket side front UPR.

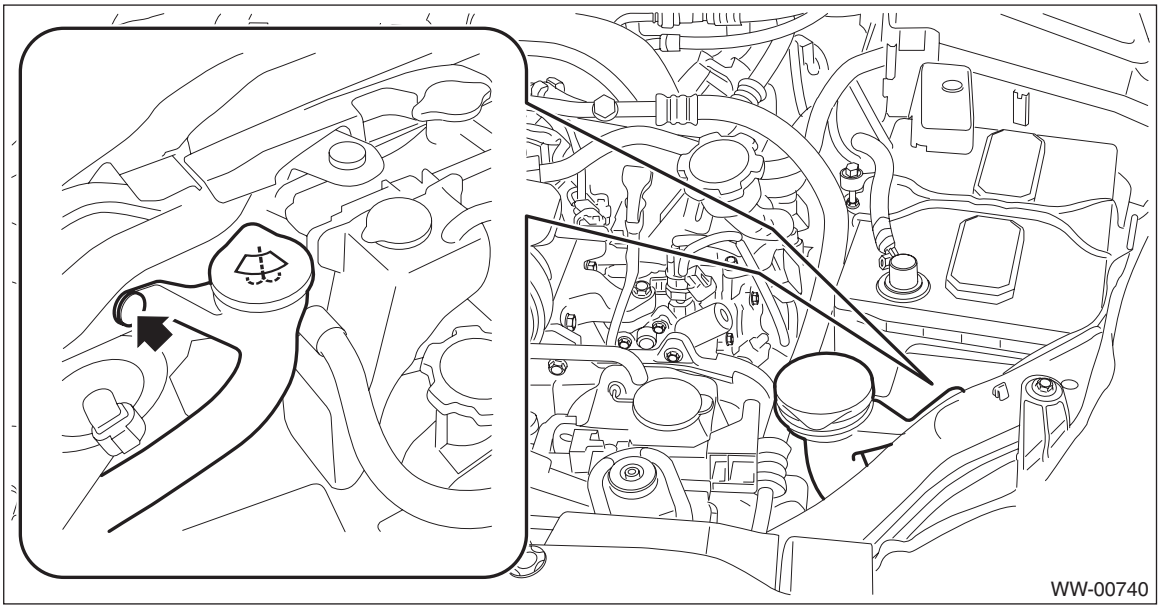
CAUTION:
Do not pull forcibly. It may damage the flange section on the bumper face - front side when it comes off from the claws of bracket side front UPR.



NOTE:
Pushing up the lower side (a) of the fog light, remove from (b) to (e).
Detach the opposite side in the same manner.

4) Remove the washer tank assembly.

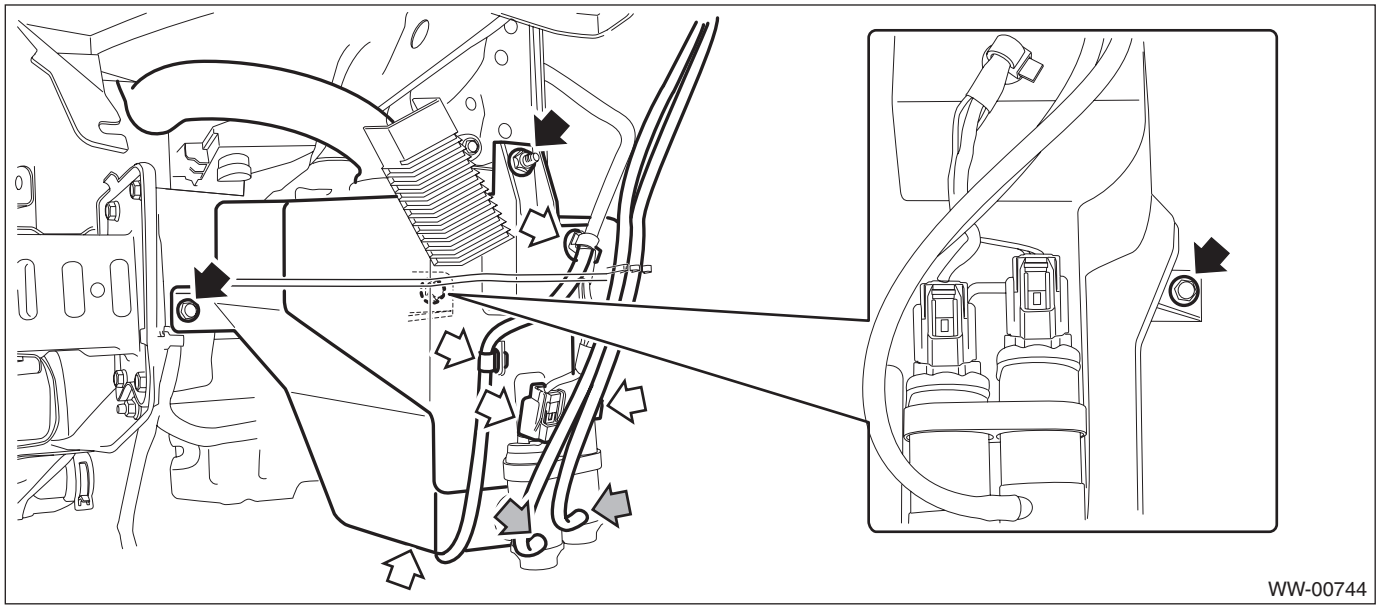
(1) Remove the clip of the washer tank duct.



(2) Prepare a container before disconnecting the washer hose and drain all washer fluid in the tank.

(3) Disconnect the connector from the washer motor and washer tank level sensor, and then remove the harness clip.

(4) Remove the bolt and nuts and remove the washer tank assembly.



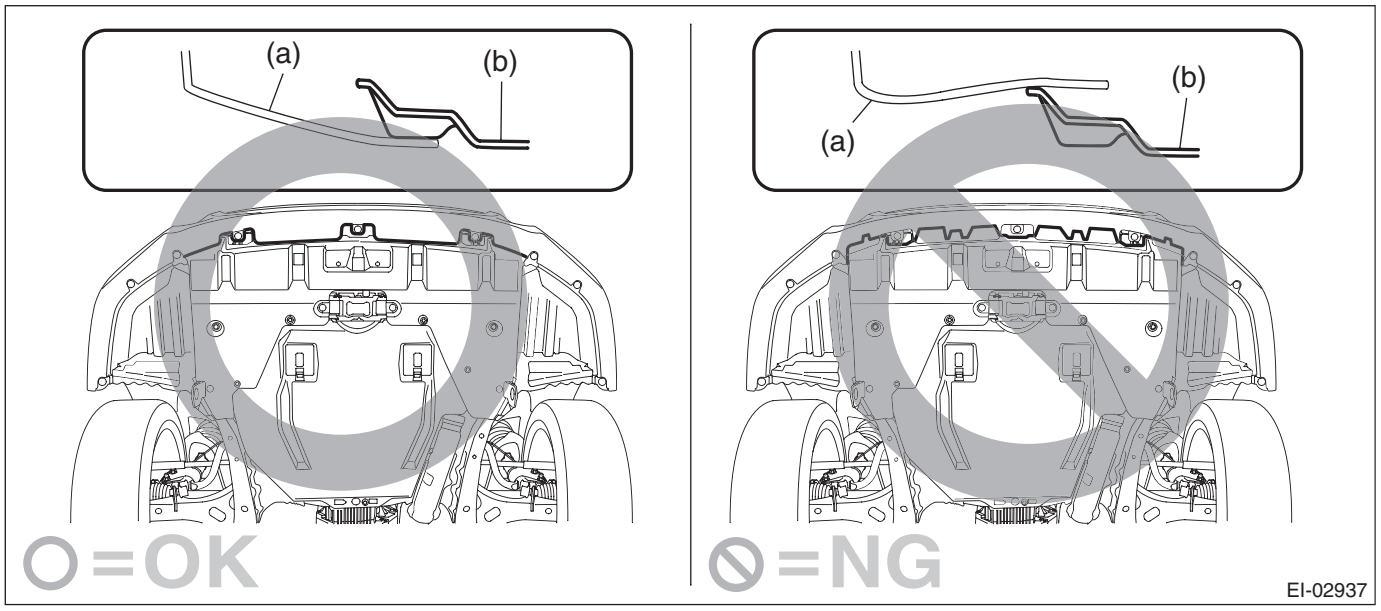
5) Remove the washer motor from the tank.

B: INSTALLATION

1) Install each part in the reverse order of removal.

CAUTION:

- **Install the bumper face so that the under cover front end (b) comes inside the front bumper face (a).**



- **Before installing the bumper face, match the claws on the bracket - front bumper with the engaging position of flange section on the bumper face side. If the engaging position is not correct, the flange section may be broken or the clearance between fender panel and bumper face may not be uniform.**

2) Add new washer fluid.

Tightening torque:

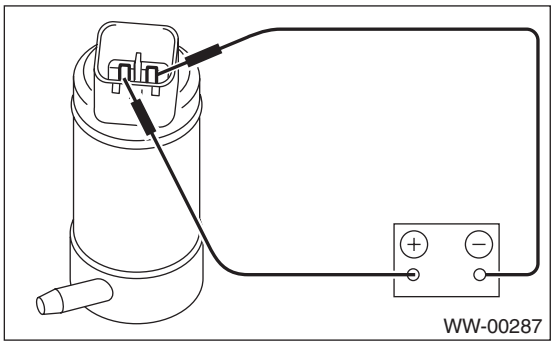
6 N·m (0.61 kgf-m, 4.4 ft-lb)

3) Adjust the fog light beam. (Model with fog light)<Ref. to LI-42, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: INSPECTION

1. WASHER MOTOR

Apply battery voltage to the connector terminal of the washer motor and make sure that the motor operates.



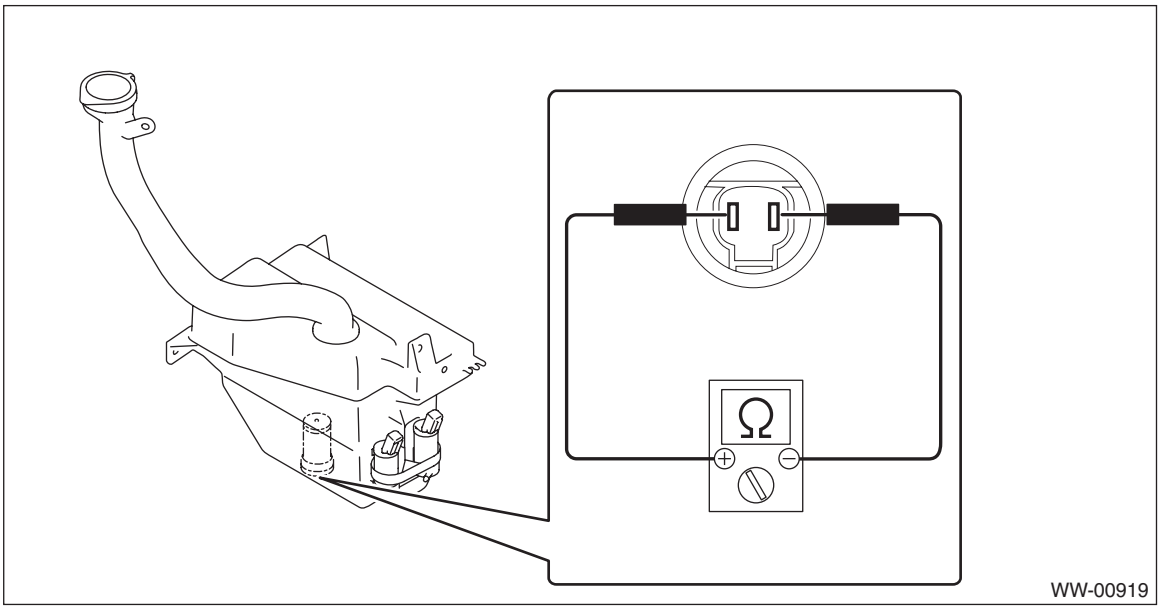
2. WASHER FLUID LEVEL SENSOR

1) Check the connection status of washer fluid level sensor connector.
2) Does the low washer fluid warning light illuminate after draining the washer fluid? And does the low washer fluid warning light go off after refilling the washer fluid?
- **Yes** → Normal
- **No** → Go to step 3.

3) Using a tester, measure the voltage of the washer fluid level sensor connector.
   (1) Is the voltage approx. 8.5 V or more?
   - **Yes** → Go to step 4.
   - **No** → Check harness, meter and body integrated unit, and replace if necessary.

4) Does the meter indicator illuminate if you short the washer fluid level sensor connector?
- **Yes** → Go to step 5.
- **No** → Check meter and body integrated unit, and replace if necessary.

5) Using a tester, measure the resistance of the washer fluid level sensor.
   (1) Turn over the mud guard.
   (2) Measure the resistance of the washer fluid level sensor.



Amount of washer fluid in the tank	Standard
No remaining quantity (ON)	Less than 10 Ω
There is remaining quantity (OFF)	1 MΩ or more

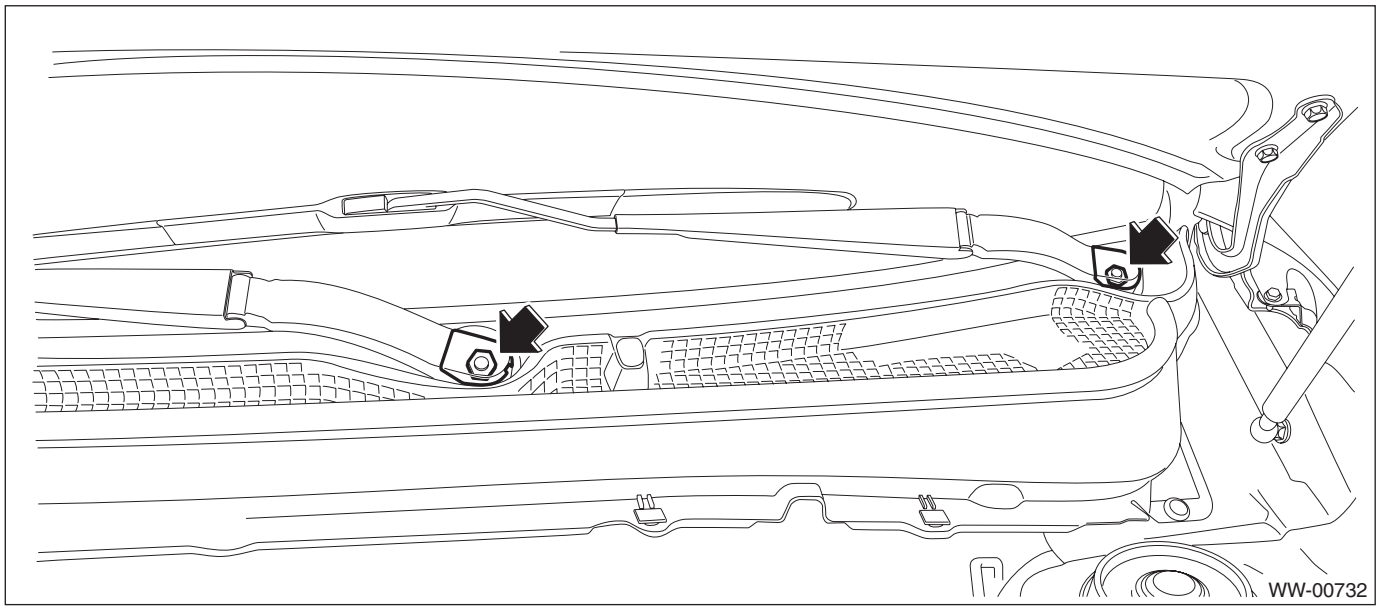
(3) Is the resistance within the standard?

- **Yes** → Normal
- **No** → Replace the washer fluid level sensor along with the washer tank.

6. Front Wiper Arm

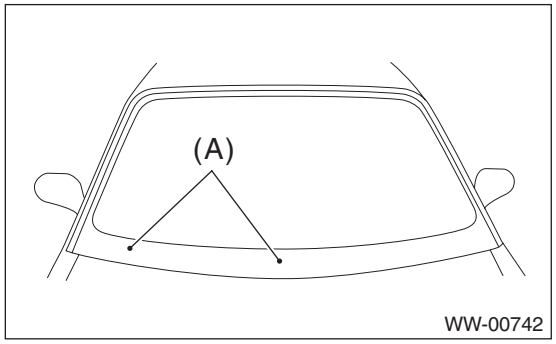
A: REMOVAL

CAUTION:
Follow the steps below when standing up the wiper arm. Not following the steps may cause contacting of wiper arms and damages of wiper arms.
1. Stand up the driver's side wiper arm.
2. Stand up the passenger's side wiper arm.
Fold the wiper arms in the reverse order.
1) Open the front hood.
2) Remove the front wiper arm assembly.
   (1) Remove the cap.
   (2) Remove the nuts, and remove the front wiper arm assembly.



B: INSTALLATION

CAUTION:
Follow the steps below when tilting the wiper arm. Not following the steps may cause contacting of wiper arms and damages of wiper arms.
1. Tilt the passenger's side wiper arm.
2. Tilt the driver's side wiper arm.
1) Install the wiper arm assembly.



Tightening torque:
22 N·m (2.24 kgf-m, 16.2 ft-lb)
(1) Install the wiper arm assembly so that the wiper blade aligns with the ceramic print point mark (A) on windshield glass.
(2) Tighten the wiper arm assembly to specified torque and install the cap.
2) Operate the wiper to check whether the wiper blade aligns with the point mark. If not, perform installation over again.

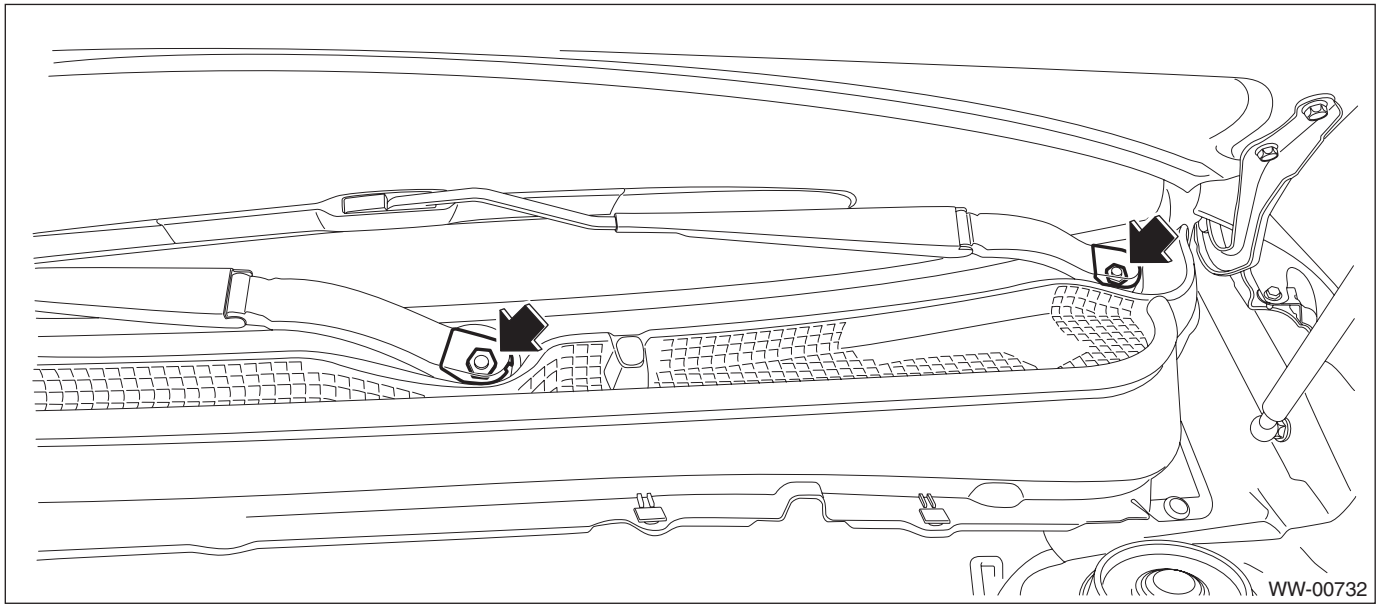
7. Front Wiper Motor and Link

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front wiper arm assembly.

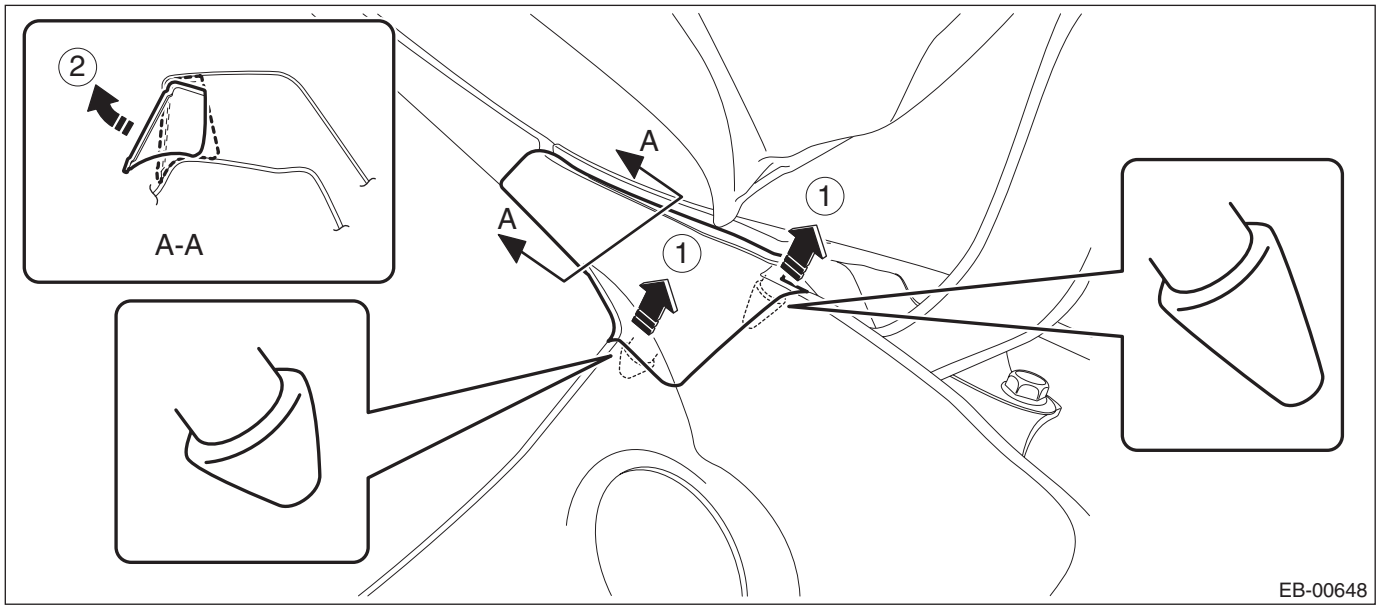
CAUTION:
Follow the steps below when standing up the wiper arm. Not following the steps may cause contacting of wiper arms and damages of wiper arms.
1. Stand up the driver's side wiper arm.
2. Stand up the passenger's side wiper arm.
Fold the wiper arms in the reverse order.

(1) Remove the cap.
(2) Remove the nuts, and remove the front wiper arm assembly.



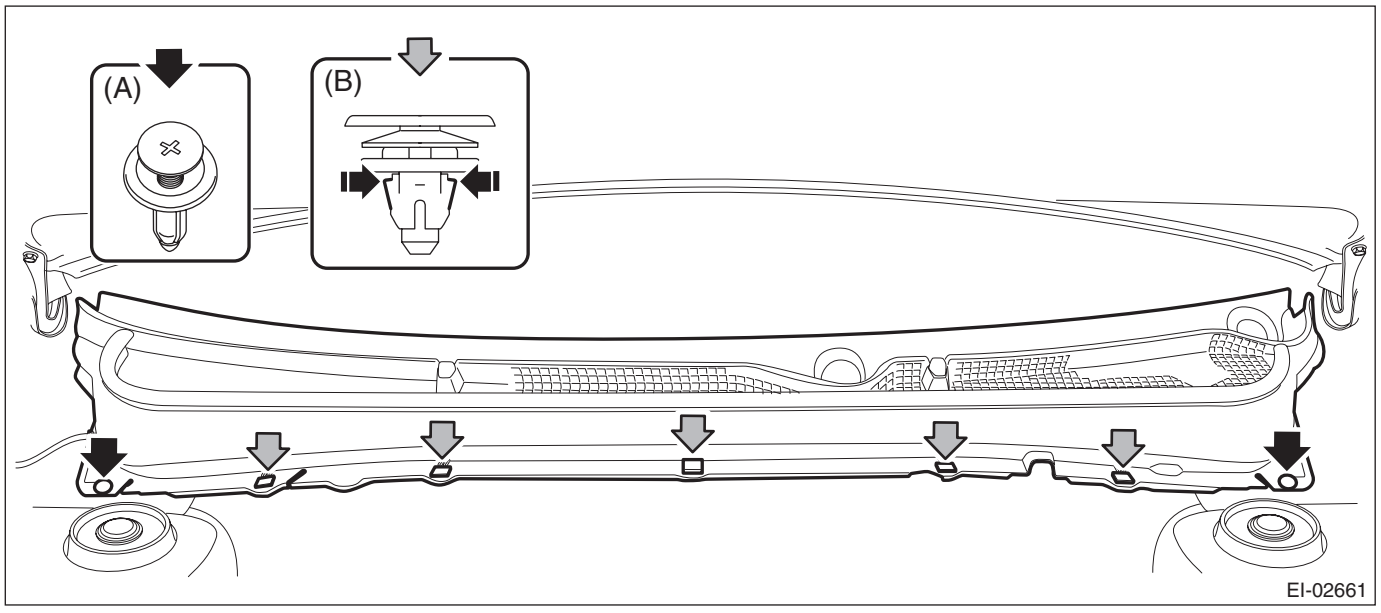
3) Remove the cowl panel side.
(1) Detach the pins of the cowl panel side.
(2) Remove the cowl panel side from inside the fender panel by pulling it.

CAUTION:
Applying excessive pulling force may damage the cowl panel side. If it is difficult to remove, use a plastic remover or equivalent tool.

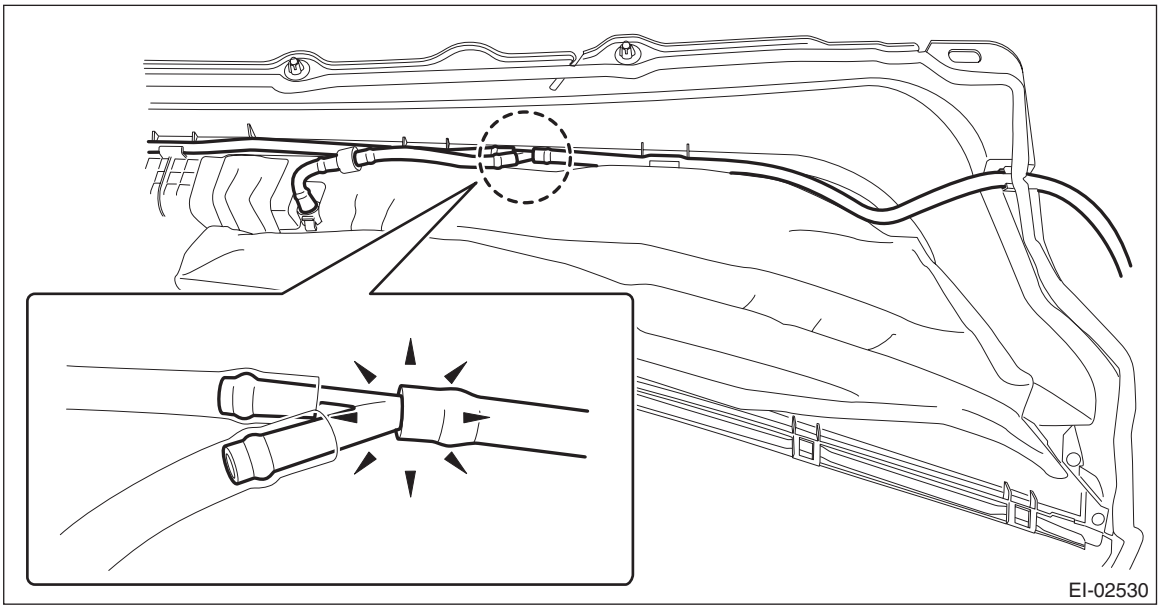


4) Remove the cowl panel.
(1) Remove clips (A).
(2) Push the claw of the clip (B) from both sides to remove it.

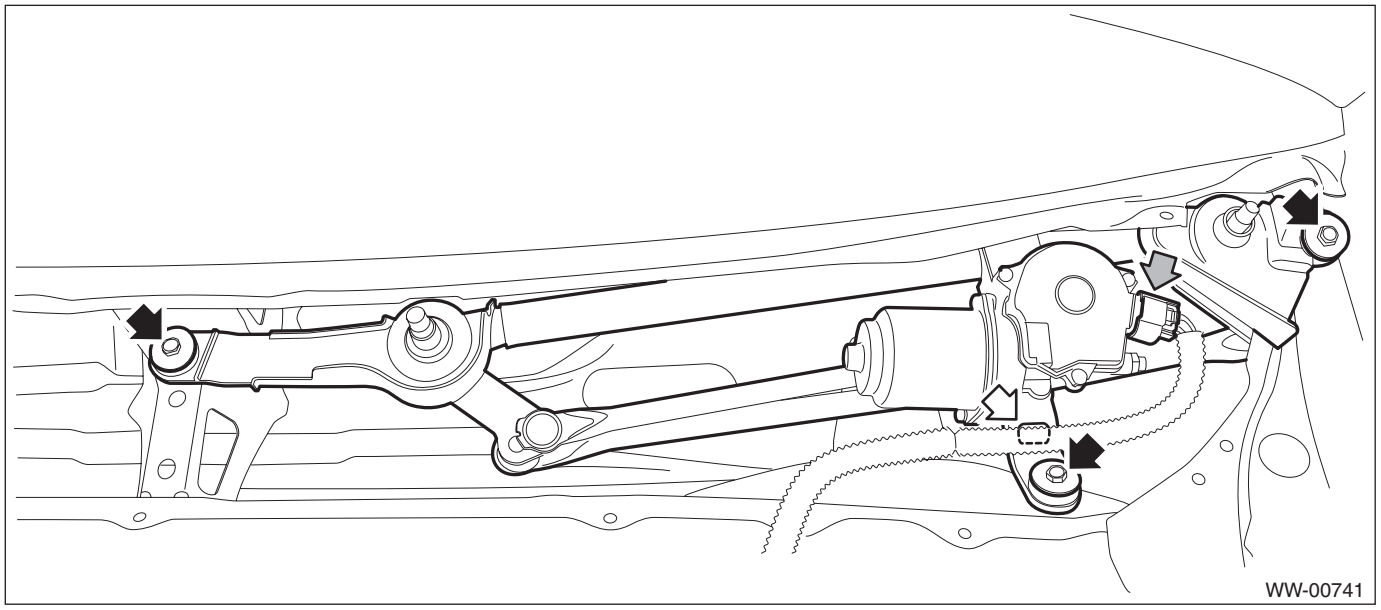
CAUTION:
• Before removing the cowl panel, use a air blower and nylon brush to sweep gravel from the lower area of the front side of the glass.
• When removing the clip (B), push the claw of the clip from both sides.
Be careful because the clip can be damaged if you pull unnecessarily hard on them.



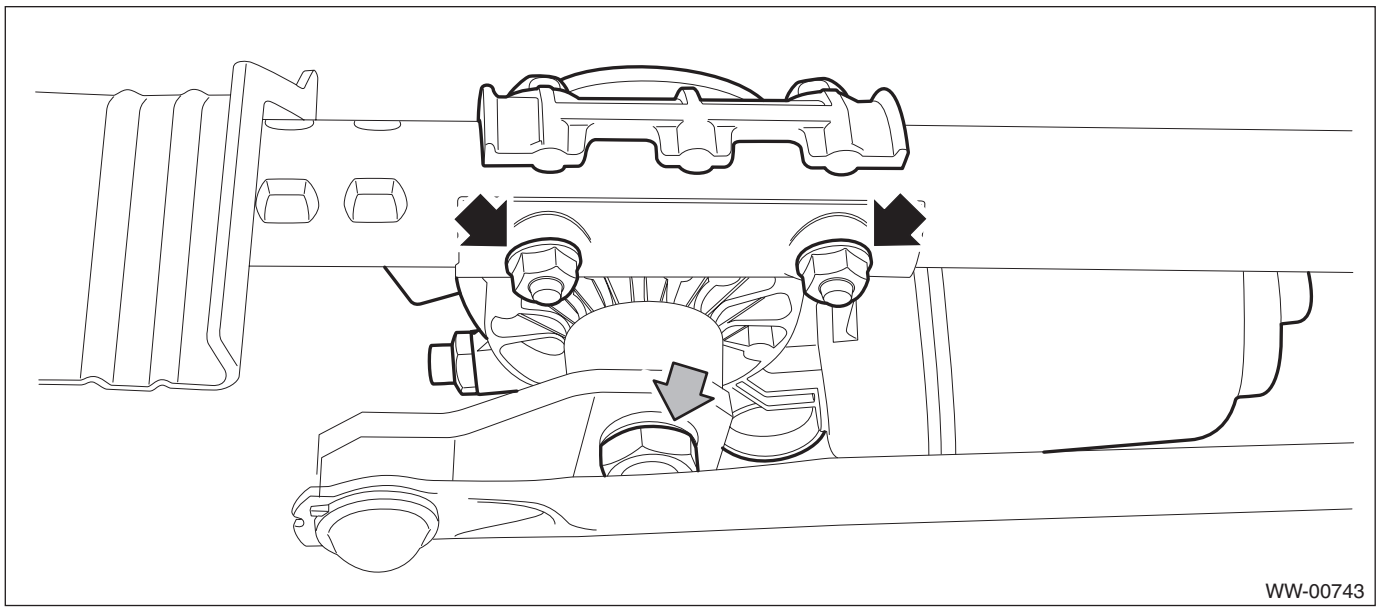
(3) Disconnect the washer hose.



5) Remove the wiper link assembly.
(1) Disconnect the connector of motor.
(2) Remove the bolts and harness clips and remove the wiper link assembly.



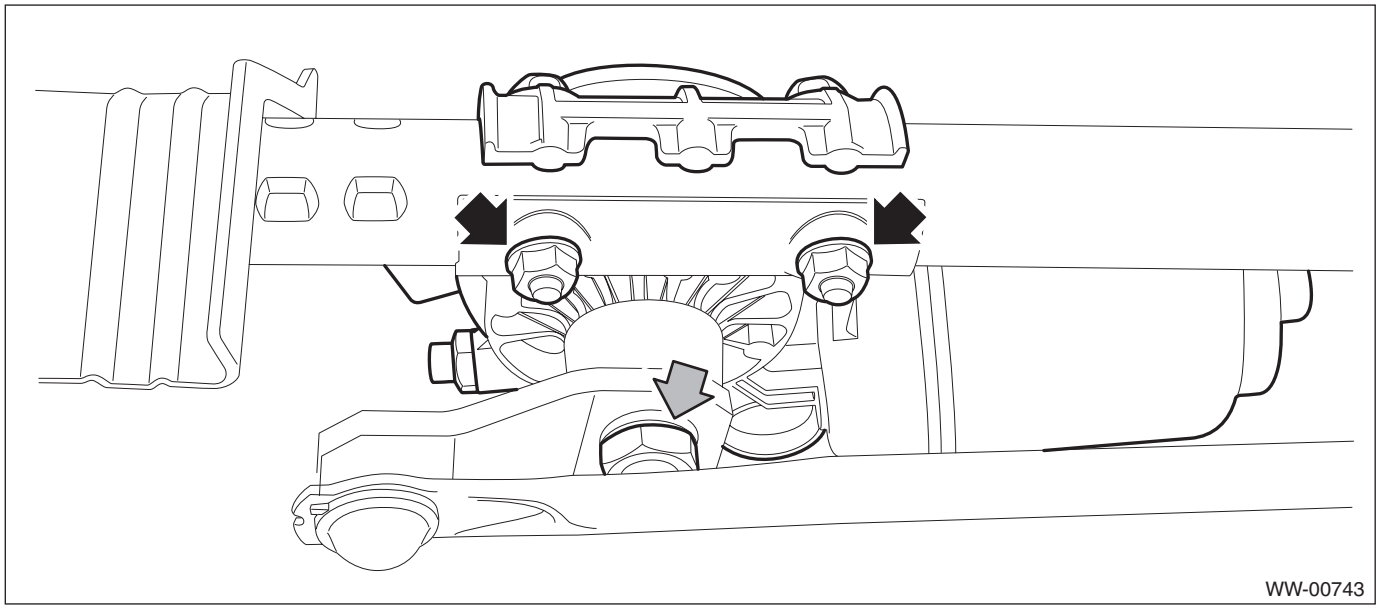
6) Remove the wiper motor assembly.
(1) Remove the nuts on the link plate and motor assembly to be disconnected from the link assembly.
(2) Remove the nuts and remove the wiper motor assembly.

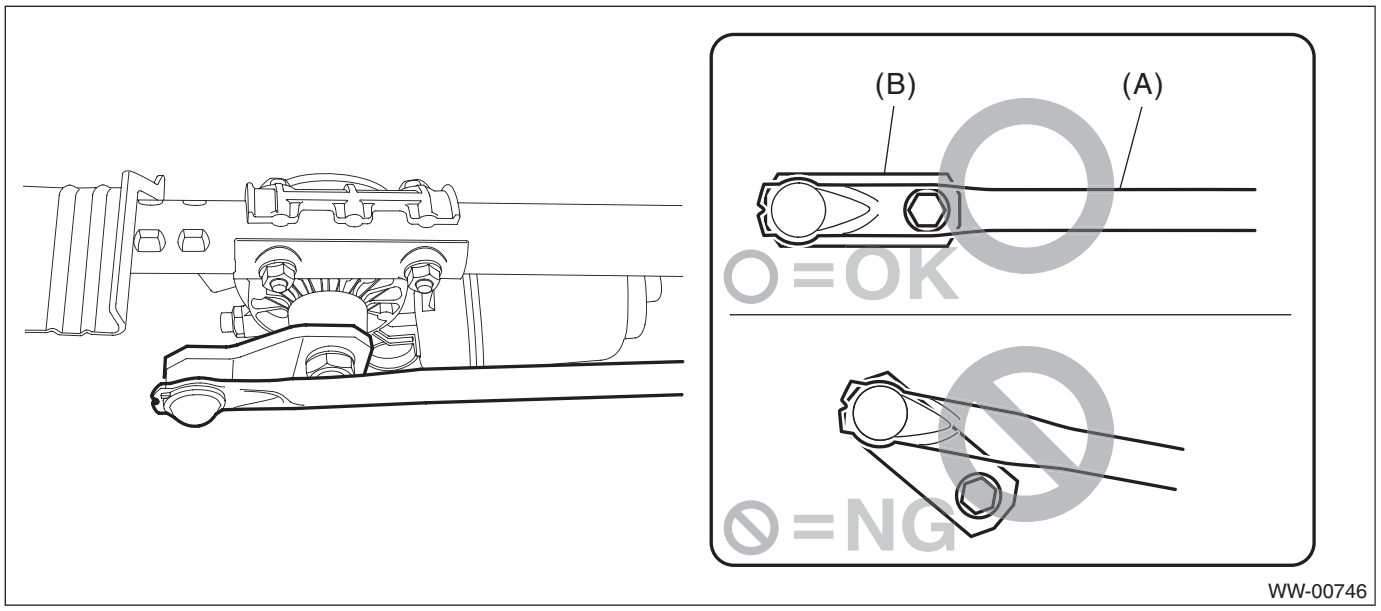


B: INSTALLATION

1) Connect the battery ground terminal.
2) To confirm that the motor is at the auto stop position, connect the harness to the motor and turn the wiper switch to ON/OFF once.
3) Disconnect the ground cable from battery.
4) Install the wiper motor assembly.

CAUTION:
Tighten the nut where rod (A) and link plate (B) is aligned in a straight line.





Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-3, FRONT WIPER, COMPONENT, General Description.>

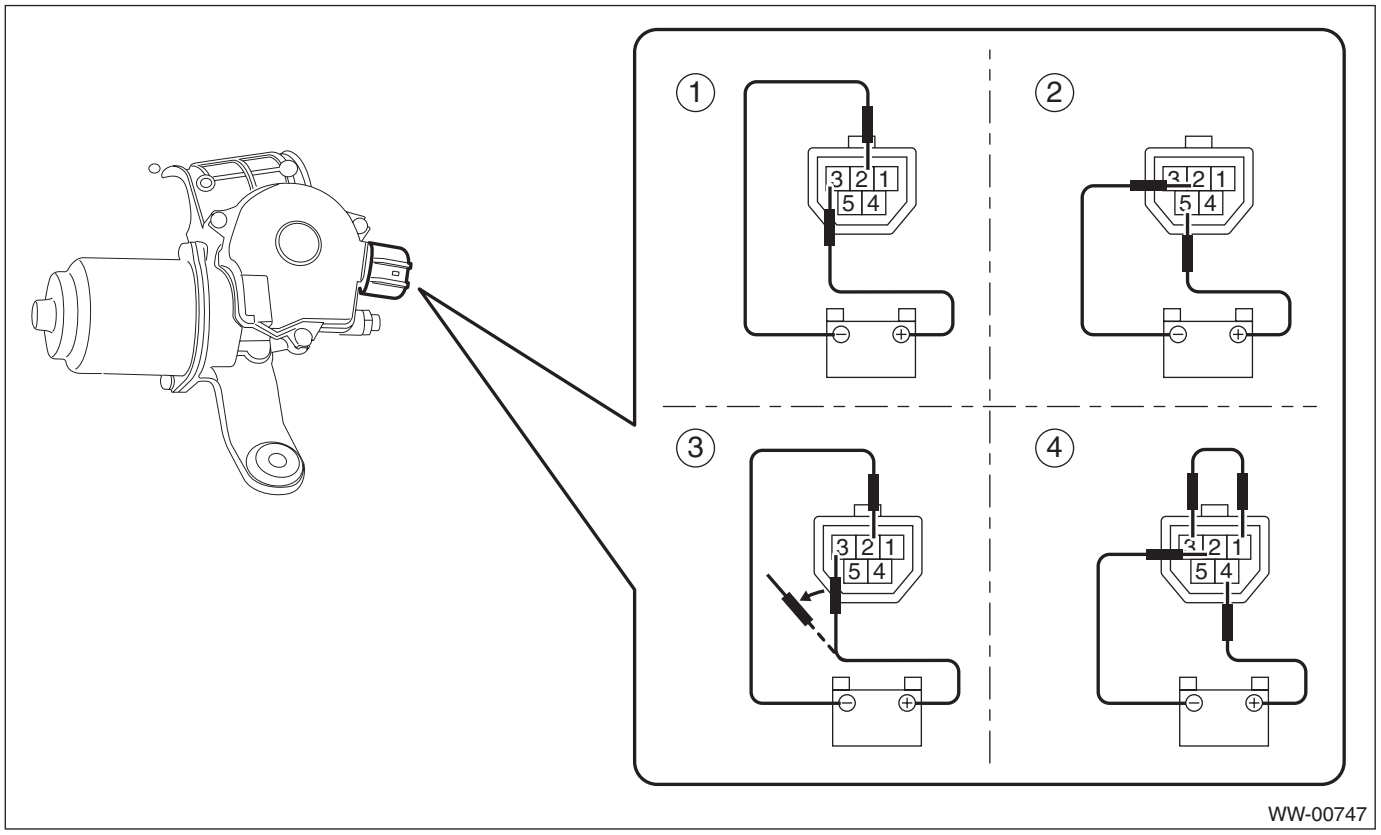
5) Install the wiper link assembly and cowl panel in the reverse order of removal.

CAUTION:
Before installing the windshield glass and cowl panel, make sure there are no gravel in the installing area.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-3, FRONT WIPER, COMPONENT, General Description.>

C: INSPECTION

1) When the battery is connected to the terminal of connectors, confirm that the motor operates at low speed.
2) When the battery is connected to the terminal of connectors, confirm that the motor operates at high speed.
3) Connect the battery to the terminals of connector, then run the motor at low speed and disconnect the terminal in mid motion.
4) Connect the battery and confirm that the motor stops at the automatic stop position after the motor operates at low speed again.



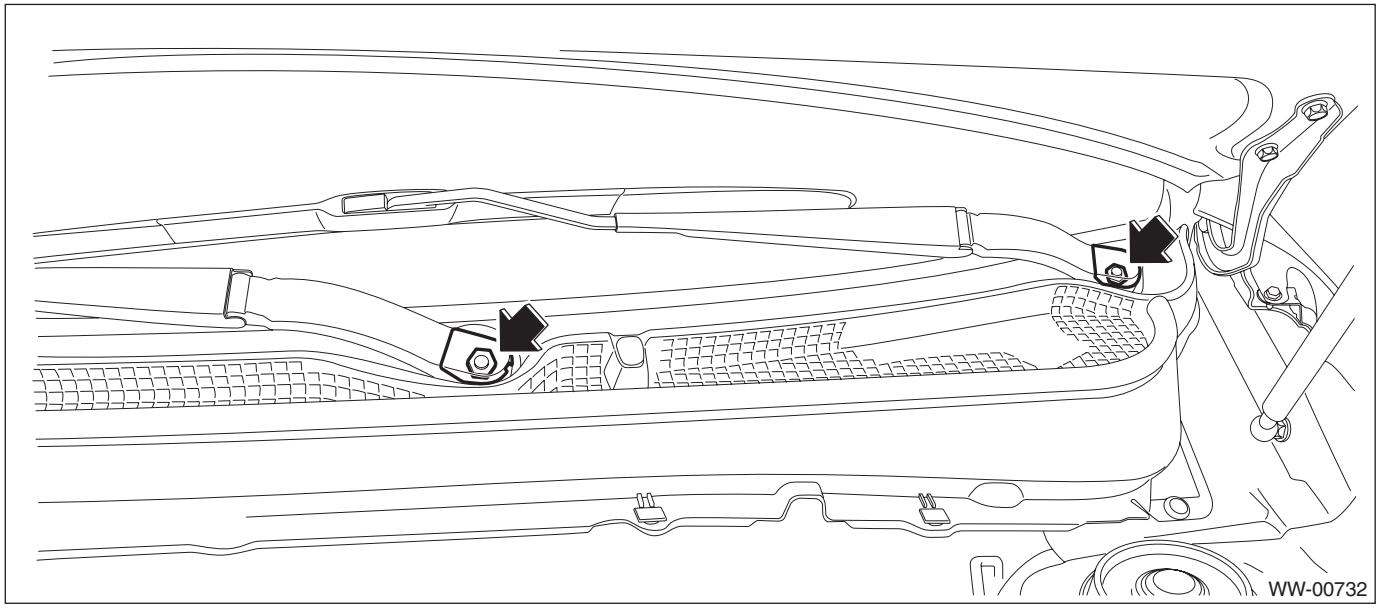
8. Front Washer Nozzle

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the front wiper arm assembly.

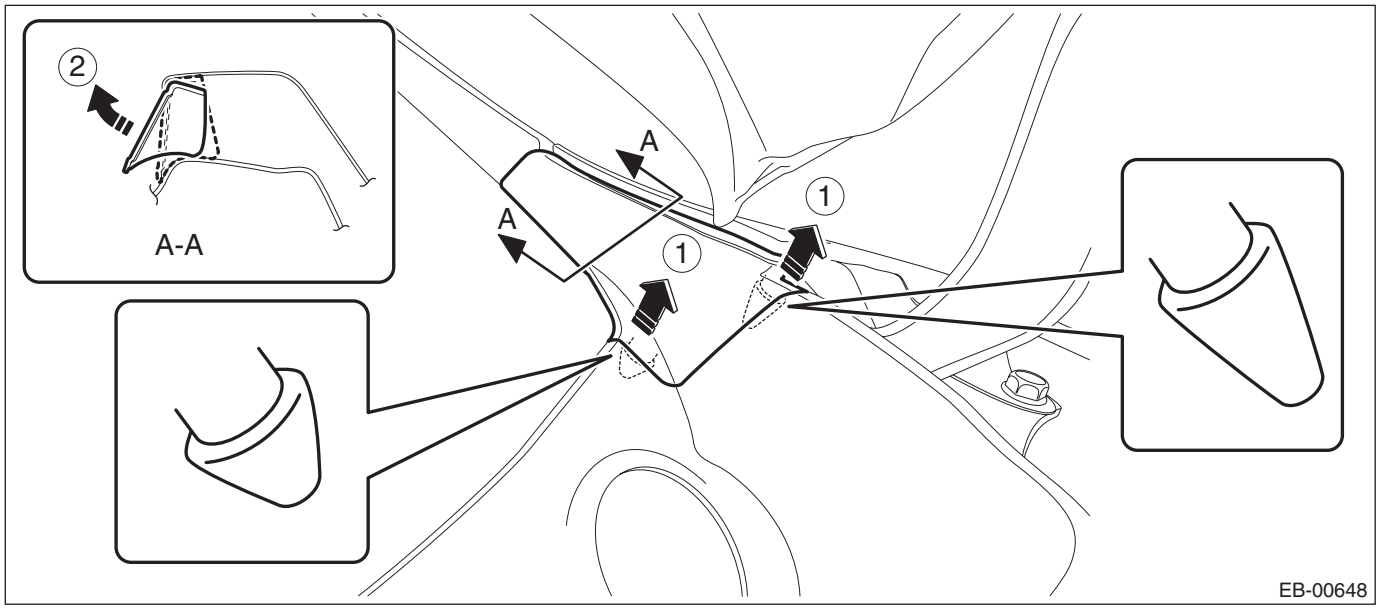
CAUTION:
Follow the steps below when standing up the wiper arm. Not following the steps may cause contacting of wiper arms and damages of wiper arms.
1. Stand up the driver's side wiper arm.
2. Stand up the passenger's side wiper arm.
Fold the wiper arms in the reverse order.

(1) Remove the cap.
(2) Remove the nuts, and remove the front wiper arm assembly.



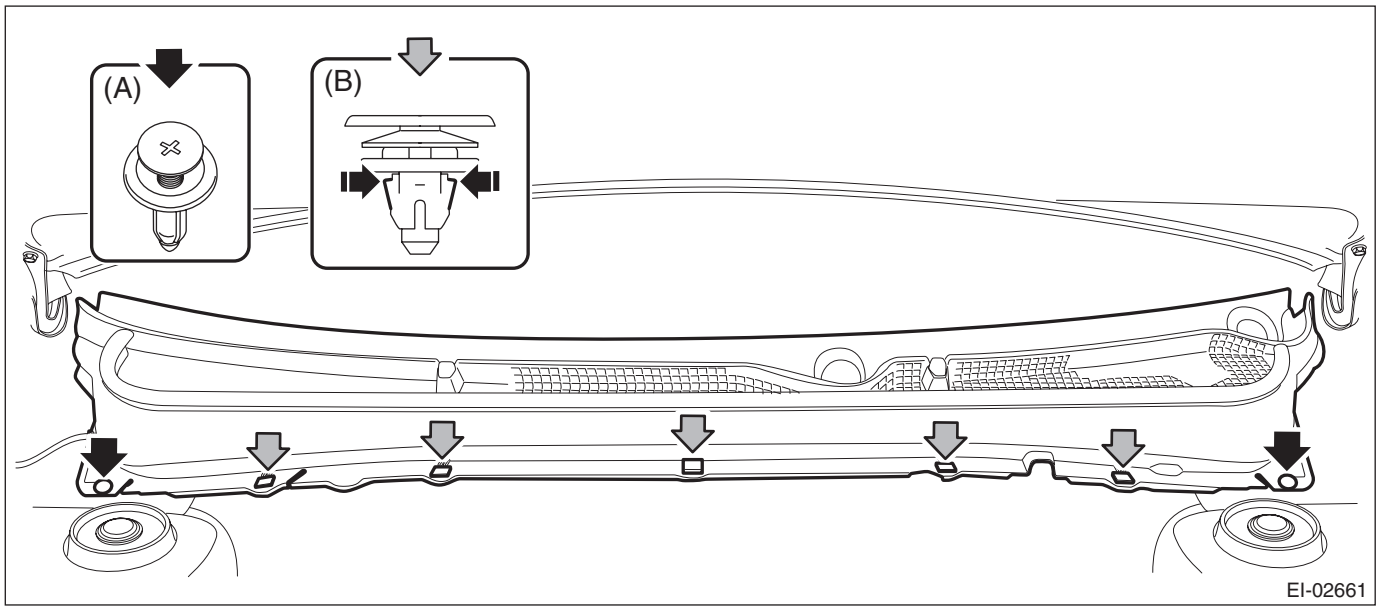
3) Remove the cowl panel side.
   (1) Detach the pins of the cowl panel side.
   (2) Remove the cowl panel side from inside the fender panel by pulling it.

CAUTION:
Applying excessive pulling force may damage the cowl panel side. If it is difficult to remove, use a plastic remover or equivalent tool.

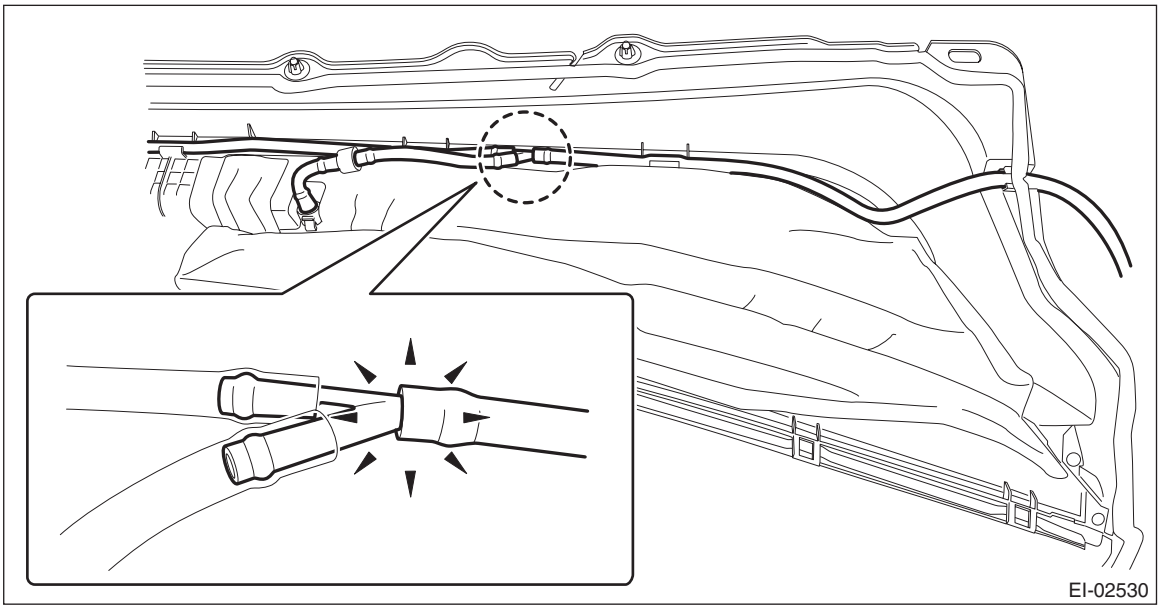


4) Remove the cowl panel.
   (1) Remove clips (A).
   (2) Push the claw of the clip (B) from both sides to remove it.

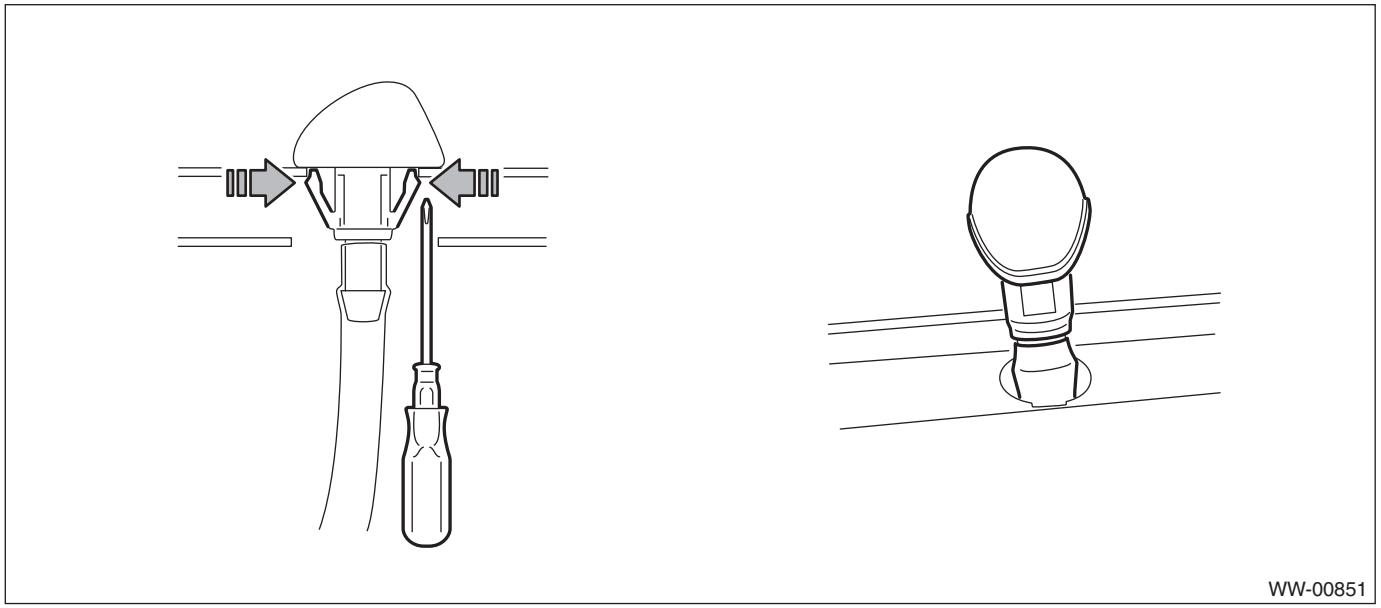
CAUTION:
• Before removing the cowl panel, use a air blower and nylon brush to sweep gravel from the lower area of the front side of the glass.
• When removing the clip (B), push the claw of the clip from both sides.
Be careful because the clip can be damaged if you pull unnecessarily hard on them.



(3) Disconnect the washer hose.



5) Remove the front washer nozzle.
(1) Push the claw using a flat tip screwdriver, etc.
(2) When the washer nozzle lifts up, pull out the nozzle using a clip remover, etc.
(3) Disconnect the washer hose and remove the washer nozzle.



B: INSTALLATION

1) Install each part in the reverse order of removal.

CAUTION:
Before installing the windshield glass and cowl panel, make sure there are no gravel in the installing area.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-3, FRONT WIPER, COMPONENT, General Description.>

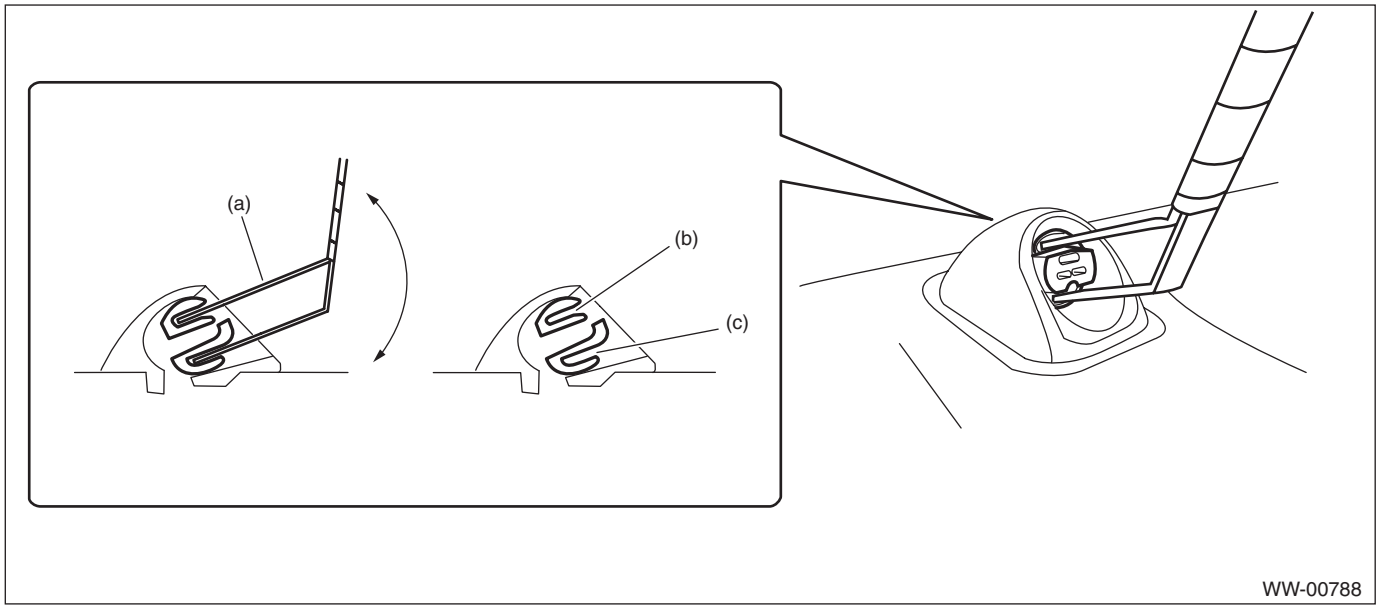
2) Adjust the washer nozzle position. <Ref. to WW-36, ADJUSTMENT, Front Washer Nozzle.>

C: INSPECTION

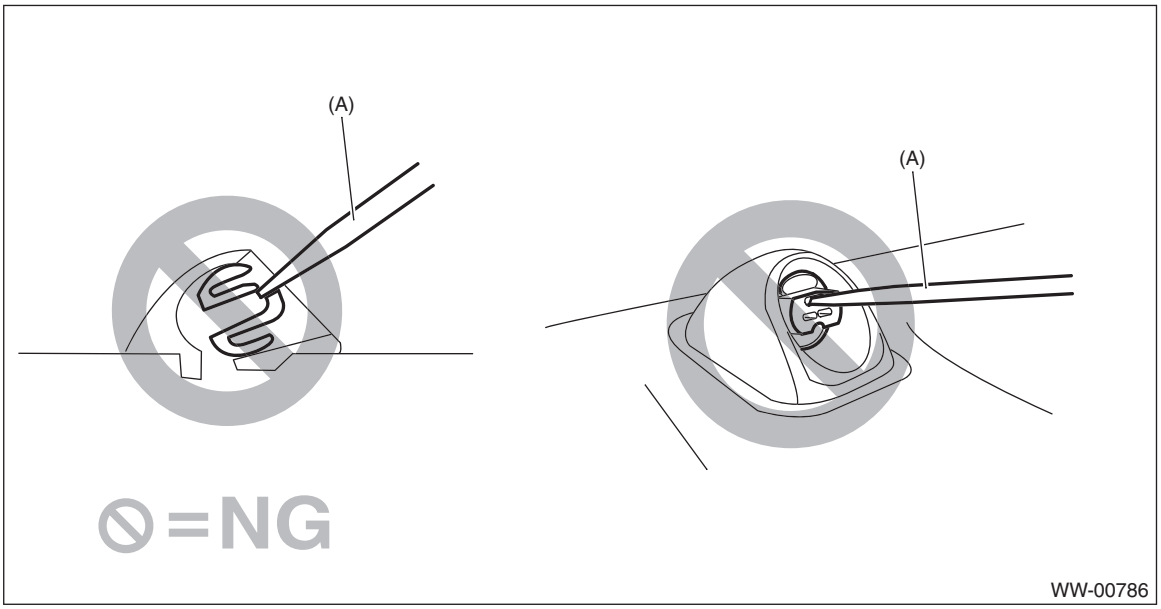
- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.

D: ADJUSTMENT

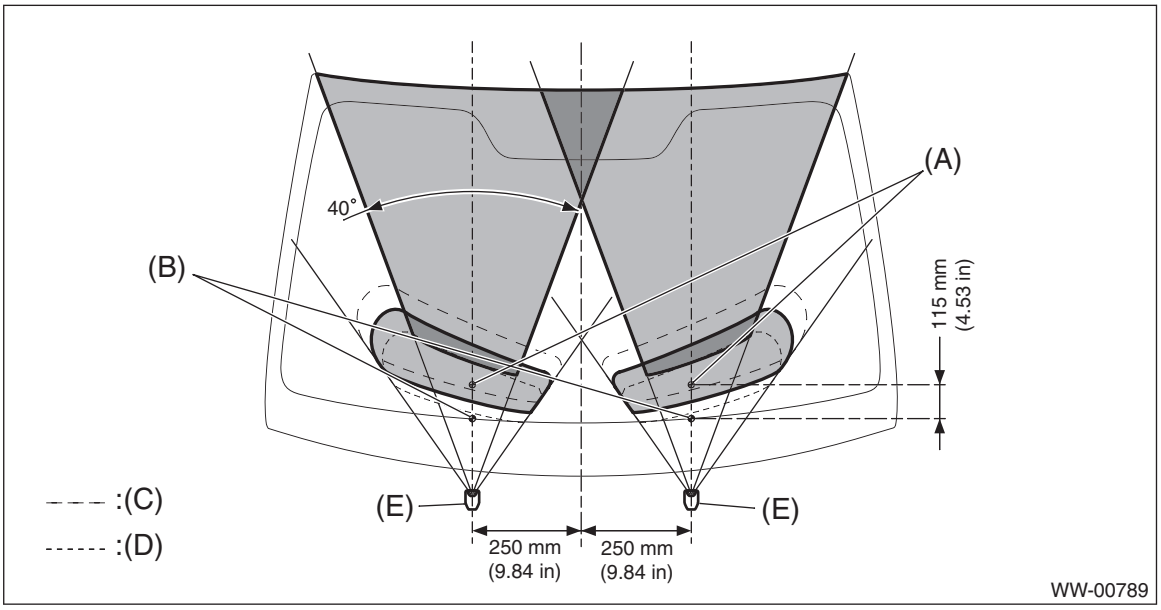
1) Turn the wiper switch to OFF position.
2) While the vehicle is at a standstill, insert the washer nozzle adjustment tool (a) into upper side (b) and lower side (c) of the washer nozzle to perform necessary adjustment.



CAUTION:
Washer nozzle is made of resin. If precision screwdriver (A) or equivalent is inserted into discharge port for adjustment, the discharge port can be deformed, and washer fluid cannot be sprayed.



3) Adjust the injection position of the washer fluid as shown in the figure.



(A) Lower-side spray position center

(B) Ceramic line position on the nozzle center

(C) Washer fluid elevation angle, upper limit of spray area

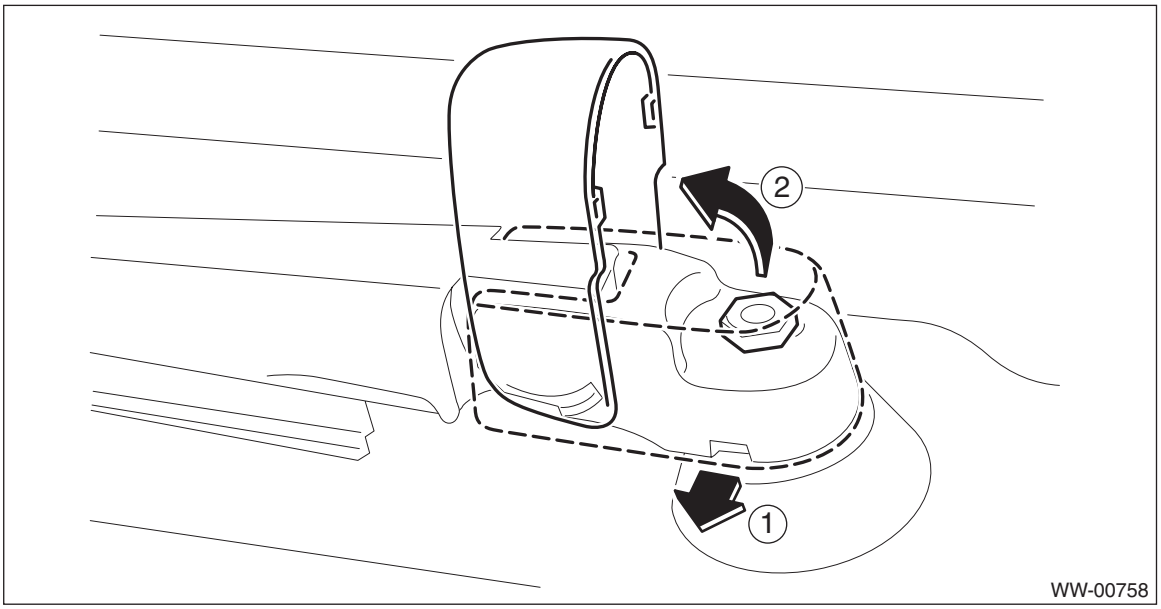
(D) Washer fluid elevation angle, lower limit of spray area

(E) Washer nozzle

9. Rear Wiper Arm

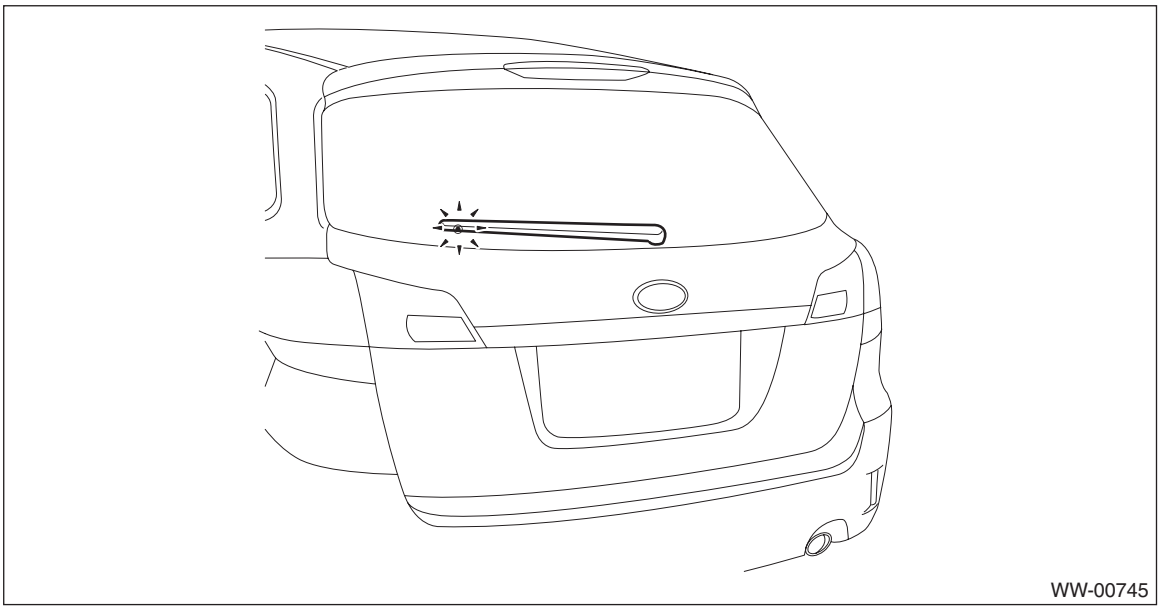
A: REMOVAL

1) Pull up the wiper arm cover.
2) Remove the nut and remove the wiper arm.



B: INSTALLATION

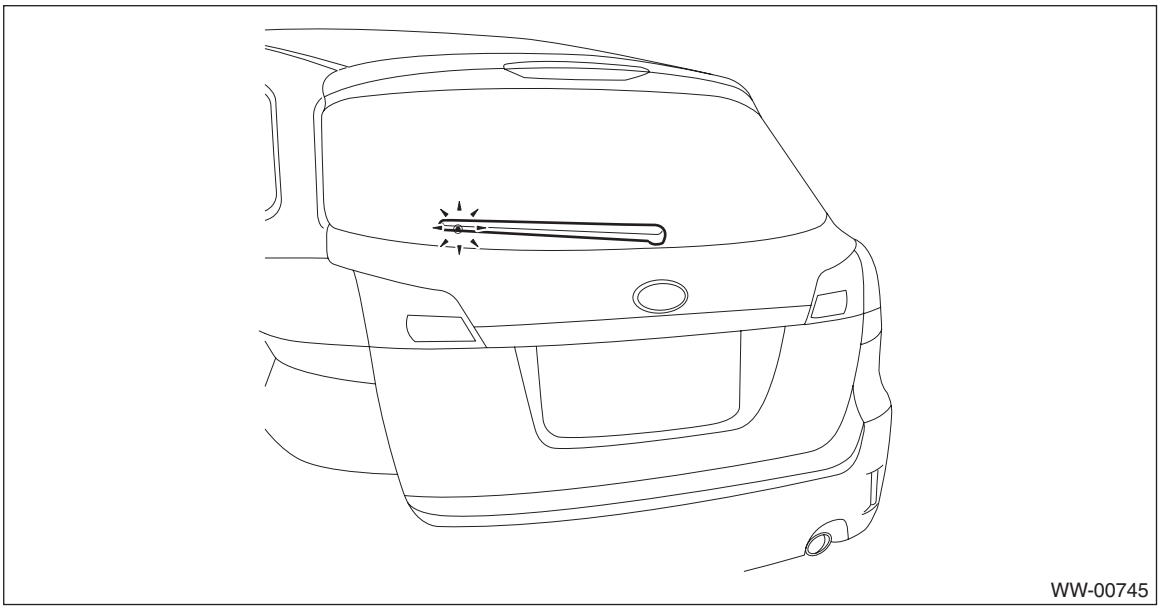
1) Install in the reverse order of removal.
2) Operate the rear wiper once.
3) Align the blade with the marking on the glass.



Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-4, REAR WIPER, COMPONENT, General Description.>

C: ADJUSTMENT

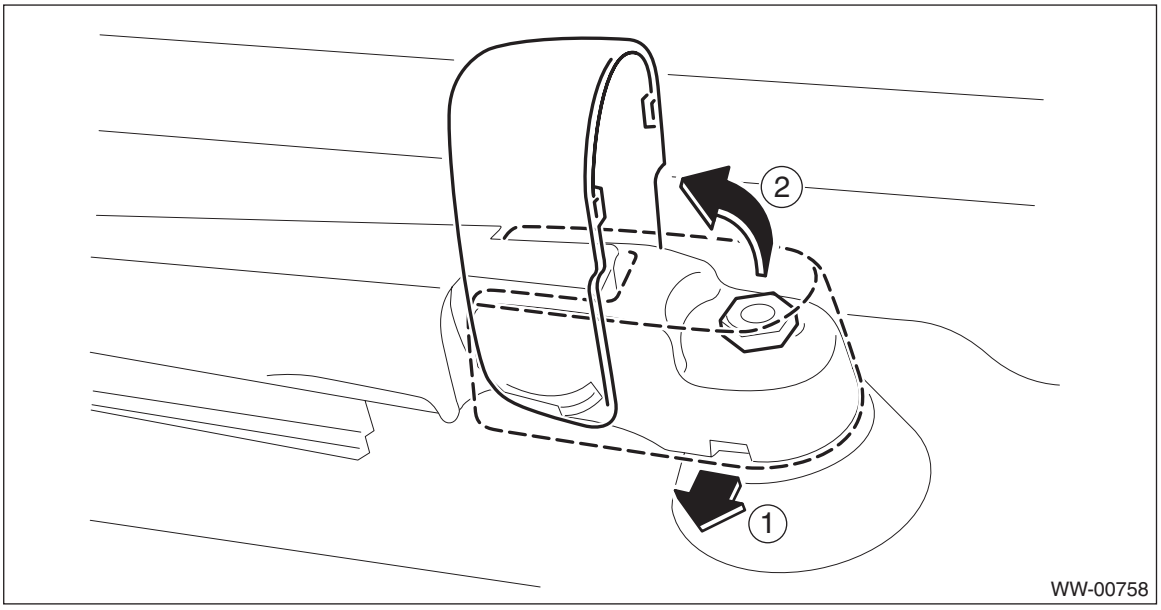
1) Operate the rear wiper once.
2) Align the blade with the marking on the glass.



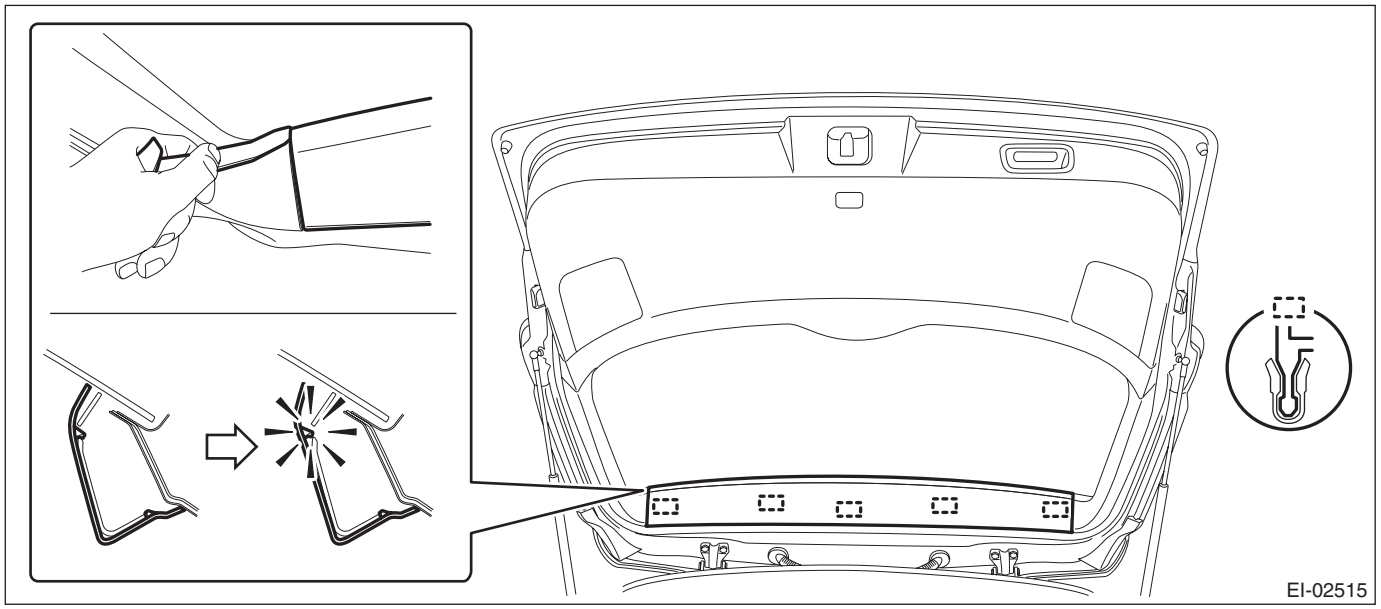
10.Rear Wiper Motor

A: REMOVAL

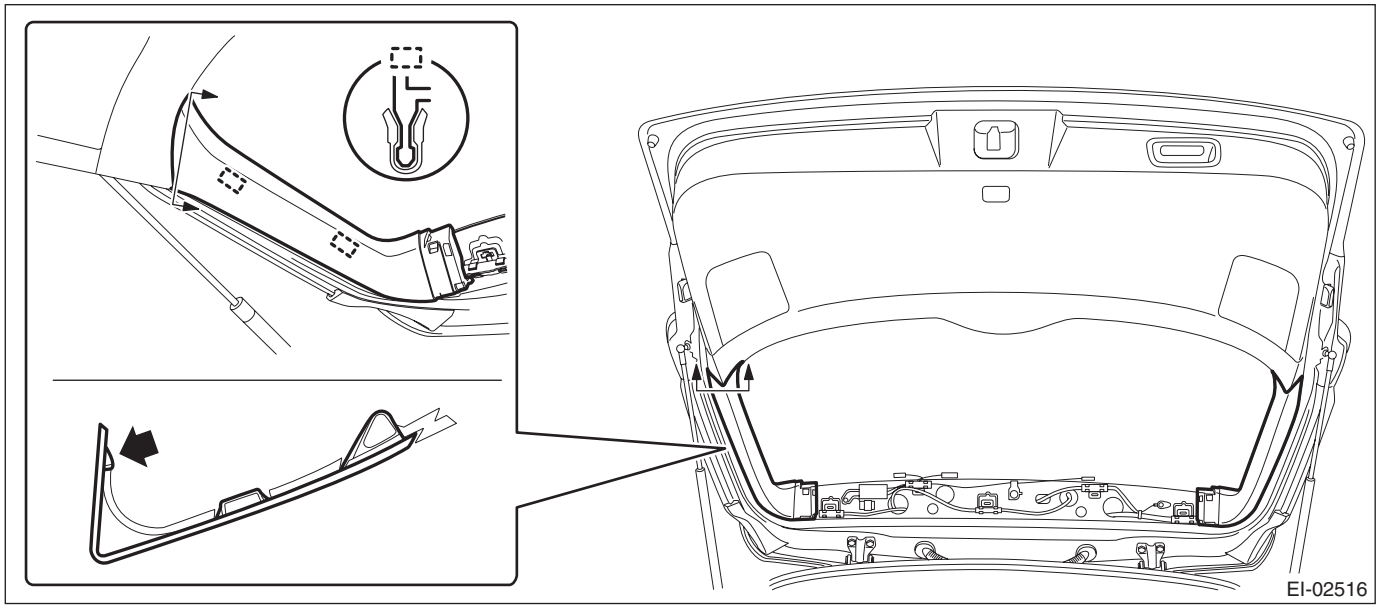
1) Disconnect the ground cable from battery.
2) Remove the rear wiper arm assembly.
   (1) Remove the wiper arm cover.
   (2) Remove the nut and remove the wiper arm.



3) Remove the rear gate trim.
   (1) Remove the rear gate upper trim.
      a) Remove the claws on the trim edge.
      b) Disconnect the claws in the center of trim, and remove the rear gate upper trim.



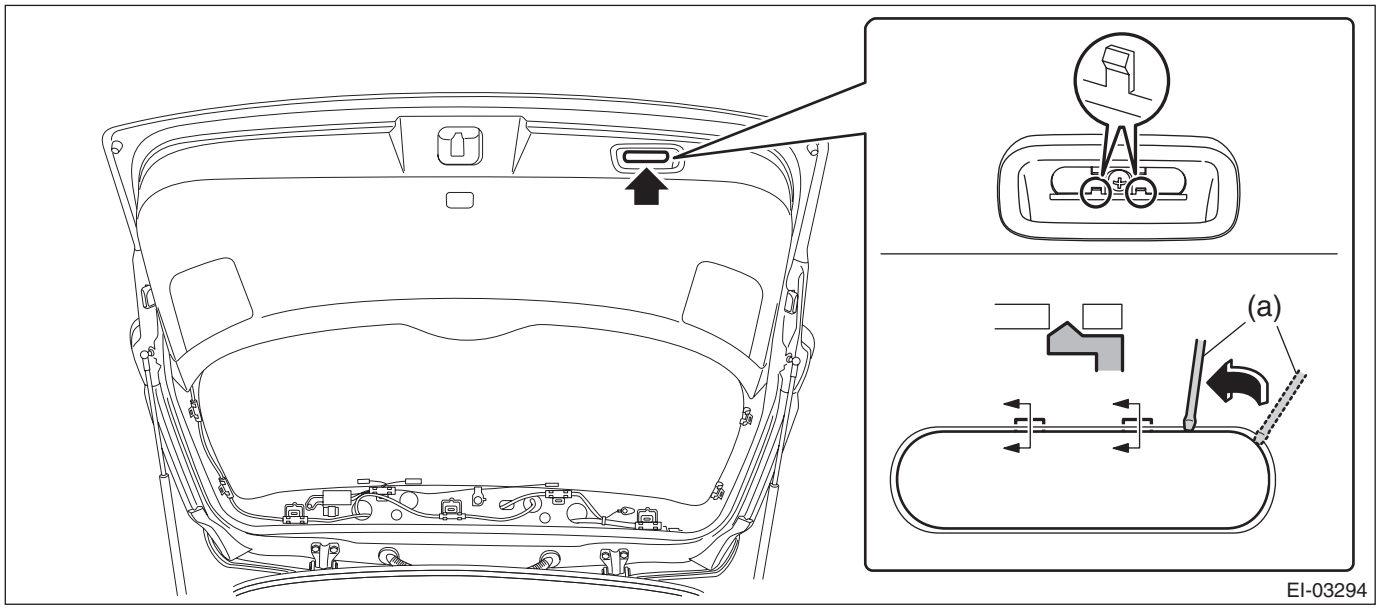
(2) Remove the rear gate pillar trim.
a) Release the claws.
b) Remove the claws on the bottom of trim, and remove the rear gate pillar trim.


EI-02516

(3) Remove the hand grip of rear gate.

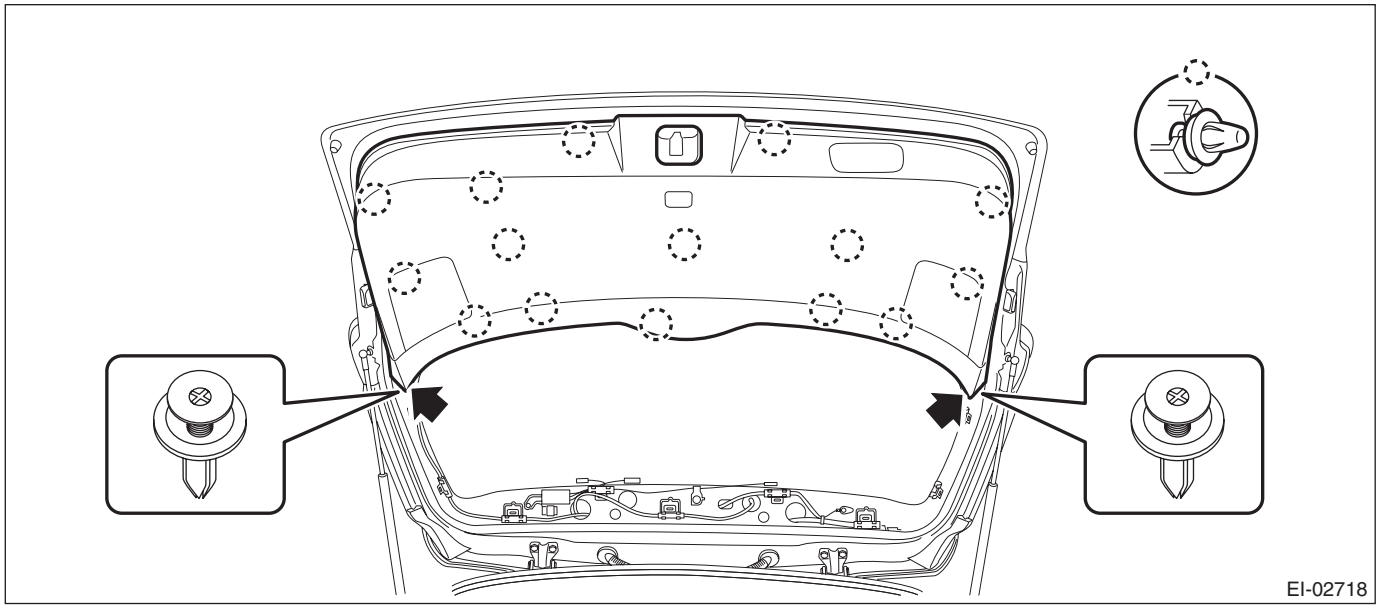
CAUTION:
- **Be careful not to scratch the trim.**
- **To protect the trim from damage, attach a protective tape to the tool in use.**

a) Insert a precision screwdriver (a).
b) With the screwdriver inserted, move the precision screwdriver toward the claw and open the cap.
c) Remove the screws and detach the hand grip.

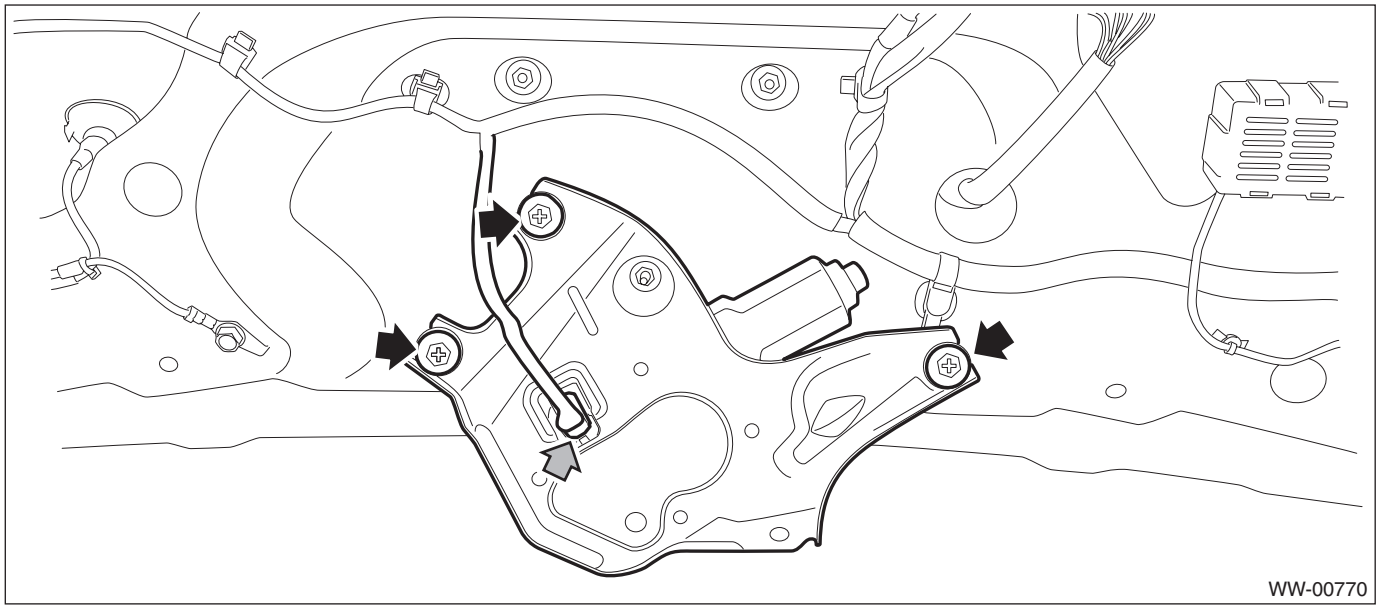


EI-03294

(4) Remove the rear gate lower trim.
a) Remove the clips on both ends.
b) Release the clips and remove the rear gate lower trim.

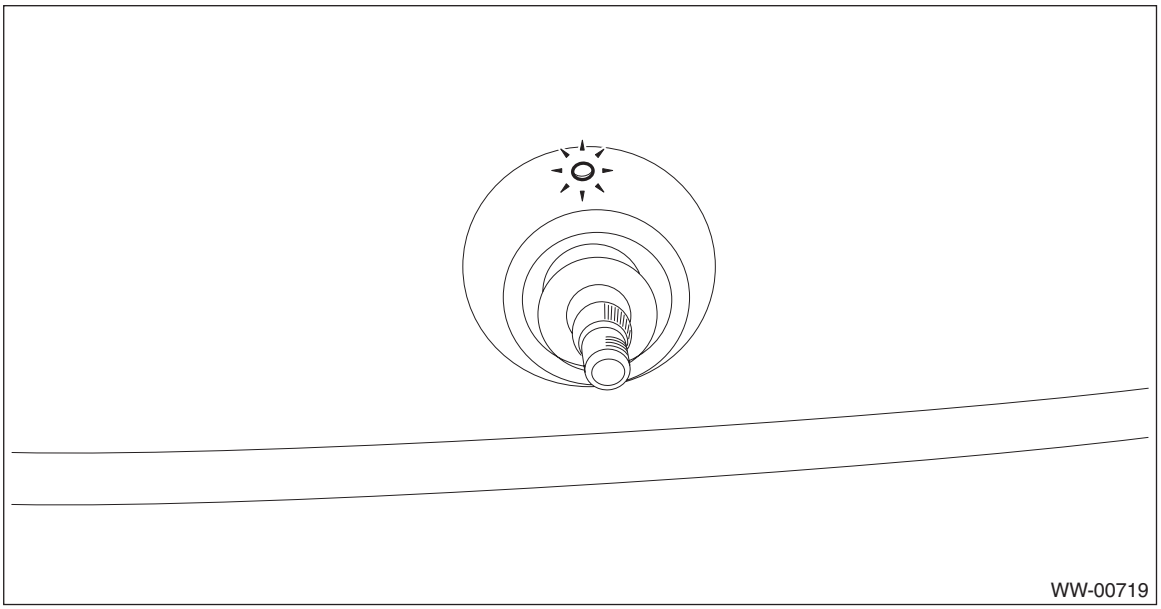


4) Remove the rear wiper motor assembly.
(1) Remove the harness clamp, and disconnect the harness connector of the wiper motor assembly.
(2) Remove the bolts, and then remove the wiper motor assembly.



B: INSTALLATION

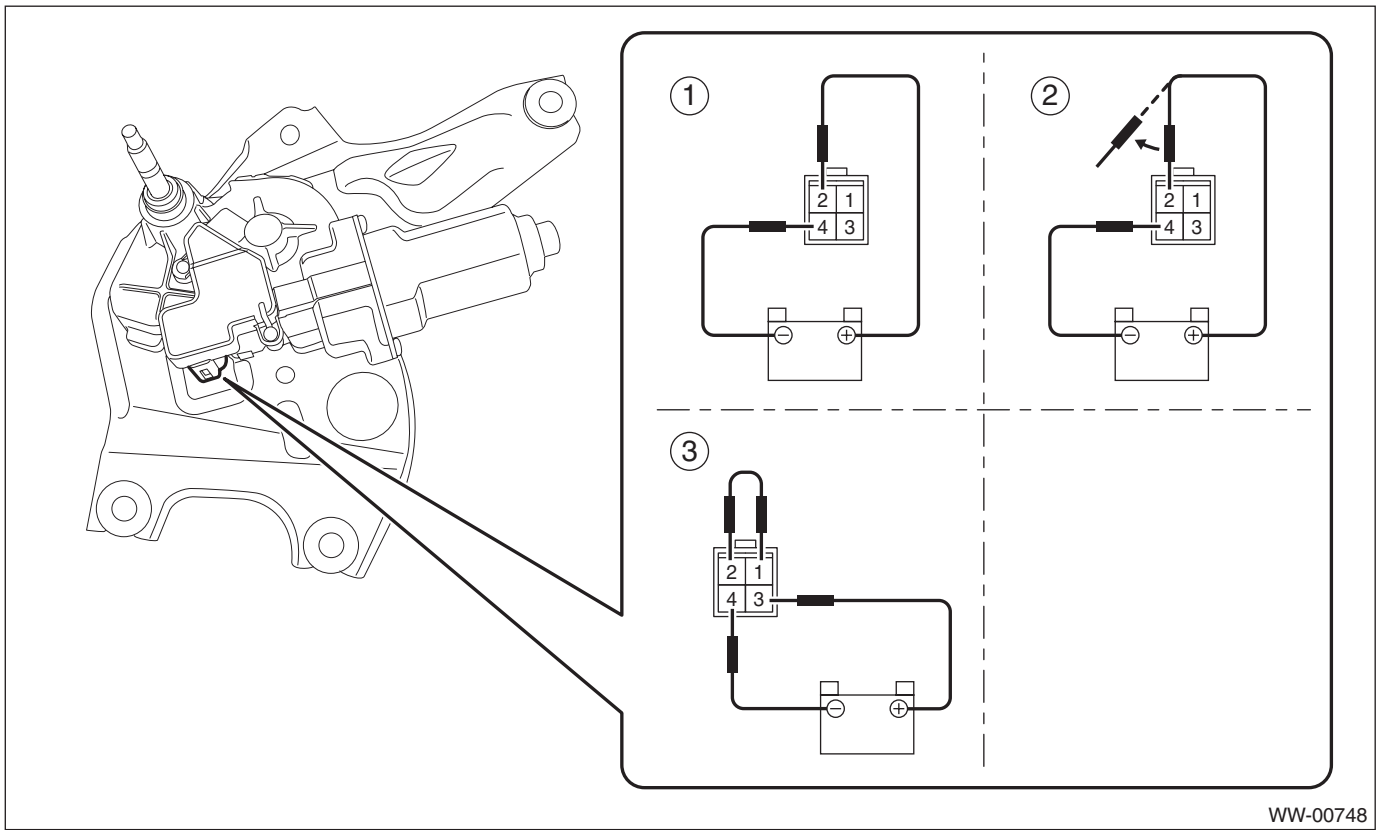
1) Install each part in the reverse order of removal.
2) Make sure that the ❍ mark on the pivot cap faces up, as shown in the figure.



Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-4, REAR WIPER, COMPONENT, General Description.>

C: INSPECTION

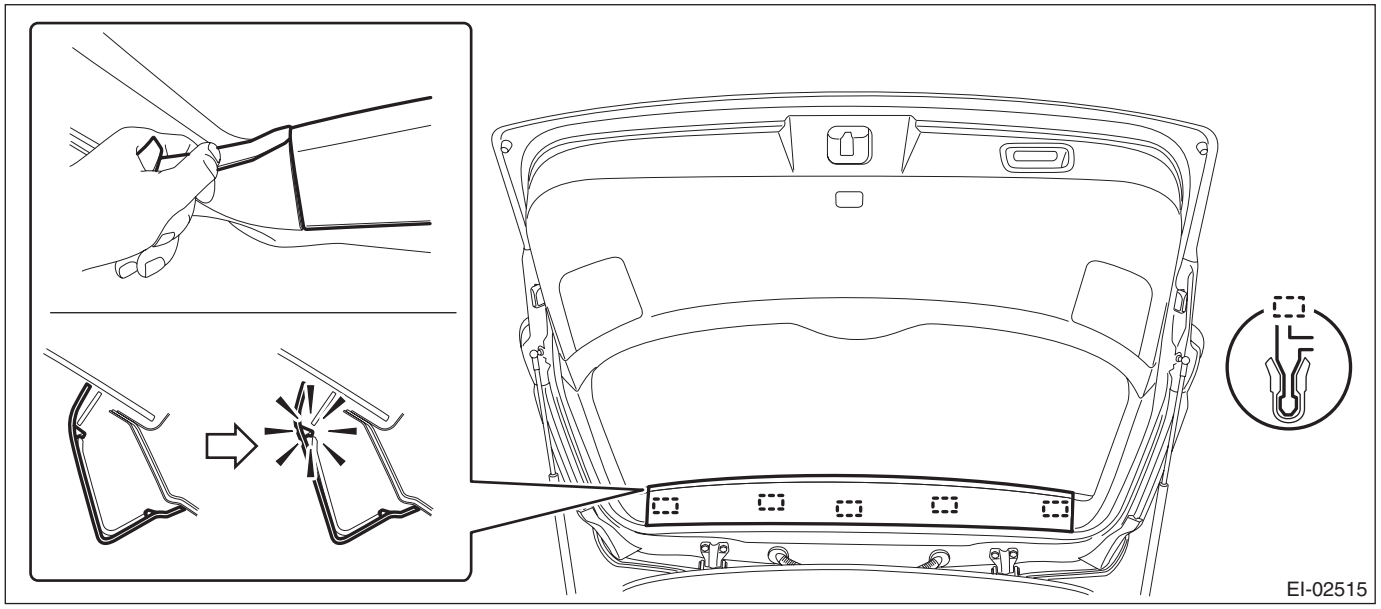
1) Connect the battery to the wiper motor connector and confirm that wiper motor operates.
2) Connect the battery to the terminals of connector, then run the motor and disconnect the terminal in mid motion.
3) Connect the battery and confirm that the motor stops at the automatic stop position after the motor operates at low speed again.



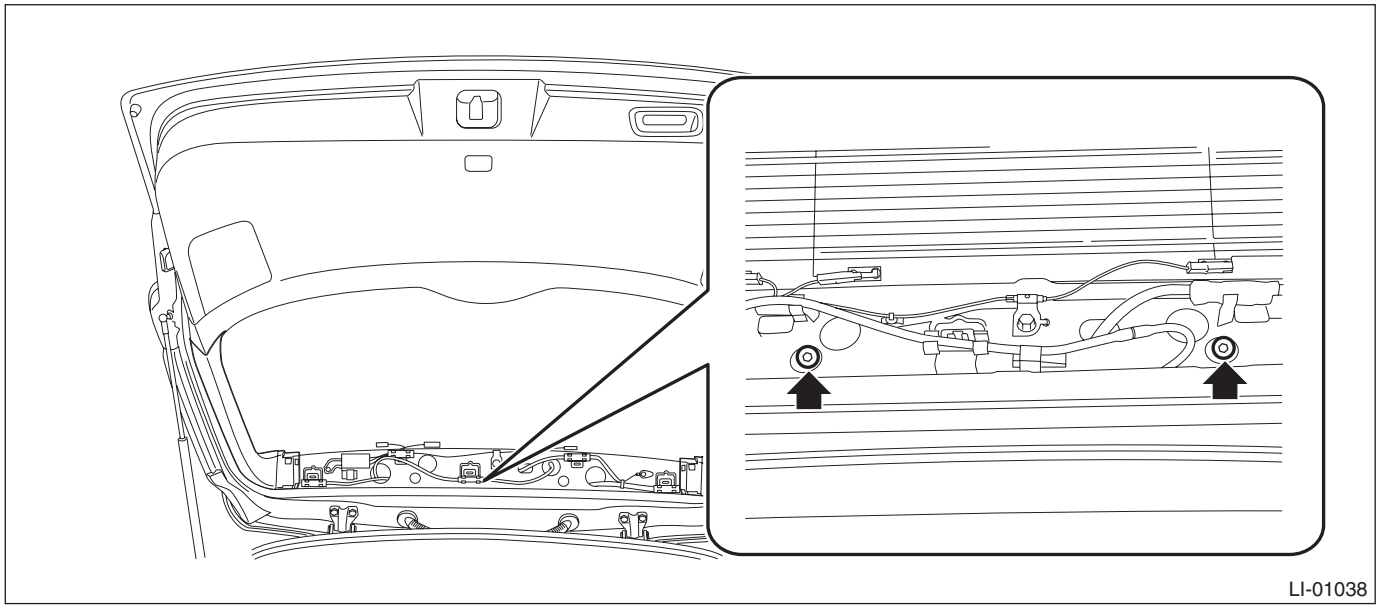
11.Rear Washer

A: REMOVAL

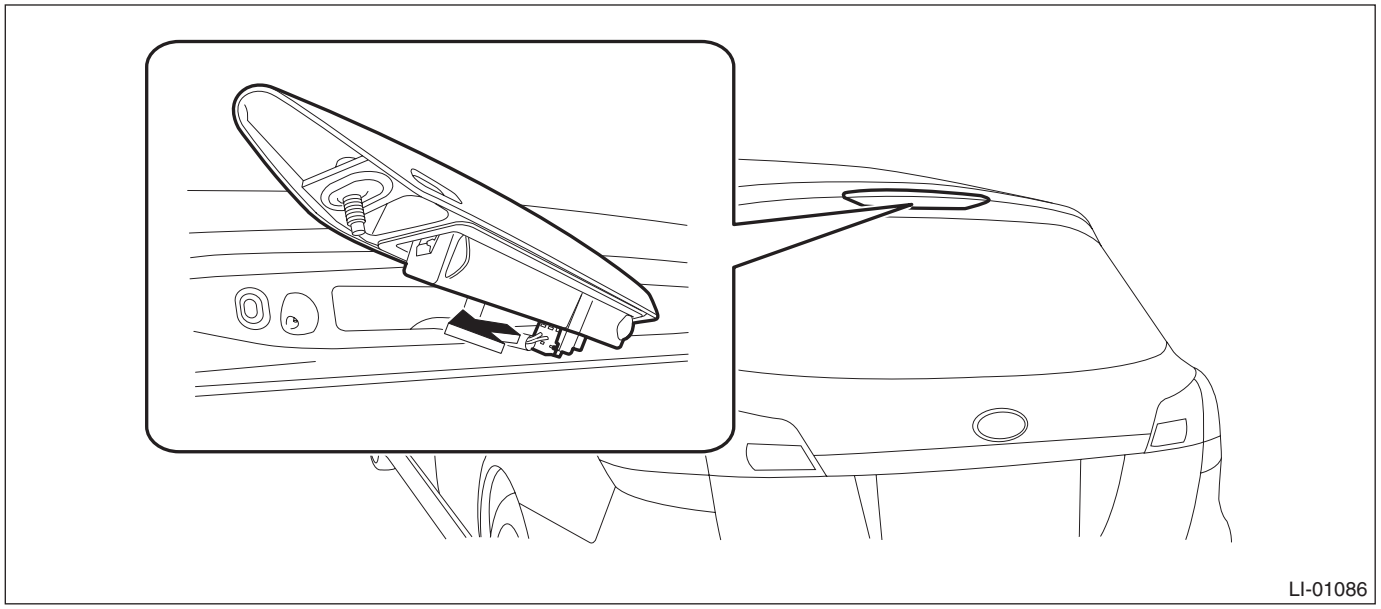
1) Disconnect the ground cable from battery.
2) Remove the rear gate upper trim.
   (1) Remove the claws on the trim edge.
   (2) Disconnect the claws in the center of trim, and remove the rear gate upper trim.



3) Remove the high-mounted stop light.
   (1) Remove the nut.



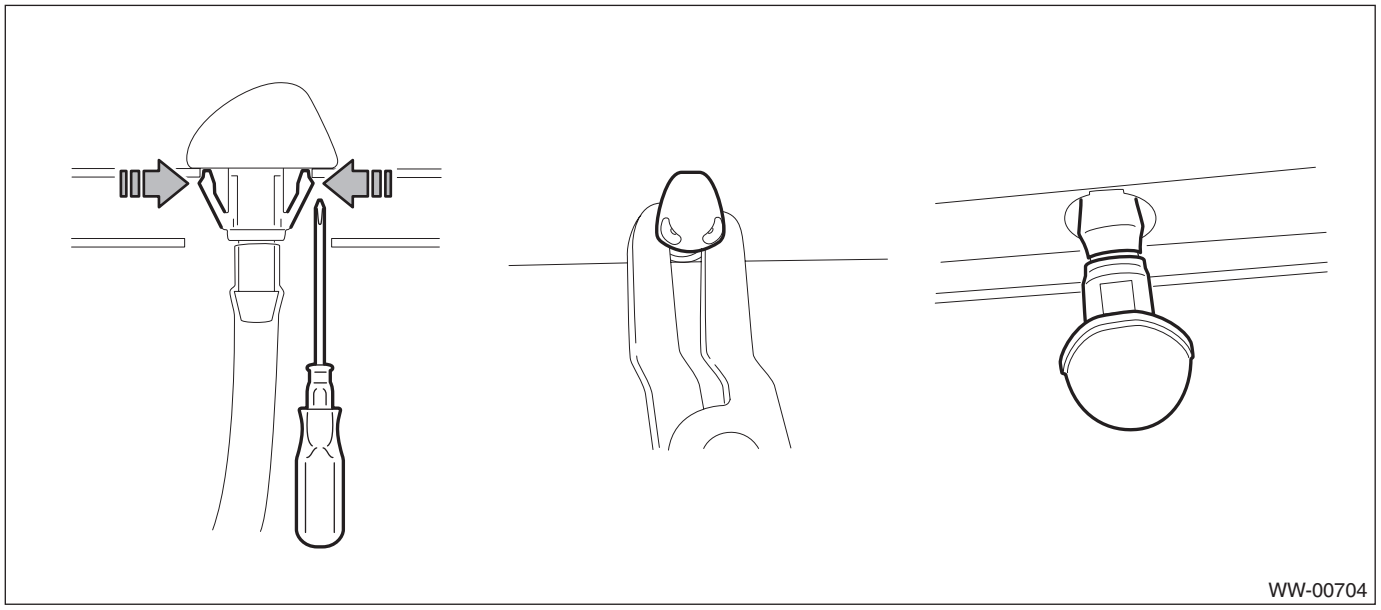
(2) Disconnect the connector and remove the high-mounted stop light.



4) Remove the rear washer nozzle.

CAUTION:
Before removing, apply protective tape to the body panel and used tools not to damage the rear gate panel.

(1) Push the claw using a flat tip screwdriver, etc.
(2) When the washer nozzle lifts up, pull out the nozzle using a clip remover, etc.
(3) Disconnect the washer hose and remove the washer nozzle.



B: INSTALLATION

1) Install each part in the reverse order of removal.

Tightening torque:
High-mounted stop light assembly: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

2) Check the washer nozzle position. <Ref. to WW-47, VISUAL INSPECTION, INSPECTION, Rear Washer.>

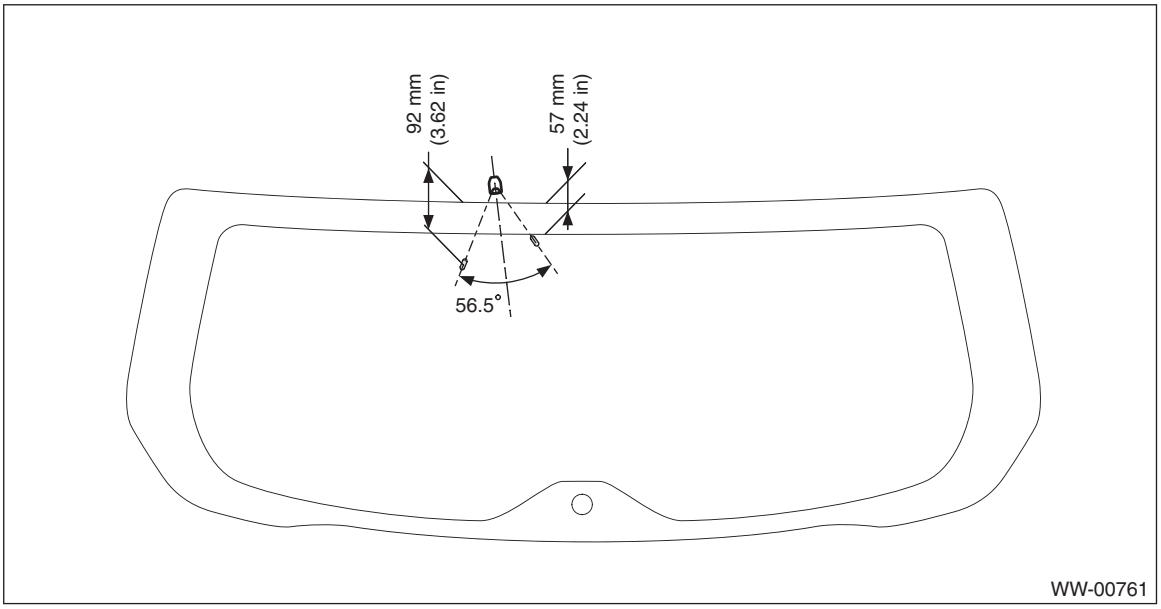
C: INSPECTION

1. VISUAL INSPECTION

Check for the following items, and if any malfunction is found, replace the corresponding part.
- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.

2. INSPECTING THE SPRAY POSITION

1) Turn the wiper switch to OFF position.
2) While the vehicle is stopped, check that the washer spray position is as shown in the figure.
3) After inspection, if the spray position is out of the specified range, adjust the position or replace with the new washer nozzle.



ENTERTAINMENT

ET

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