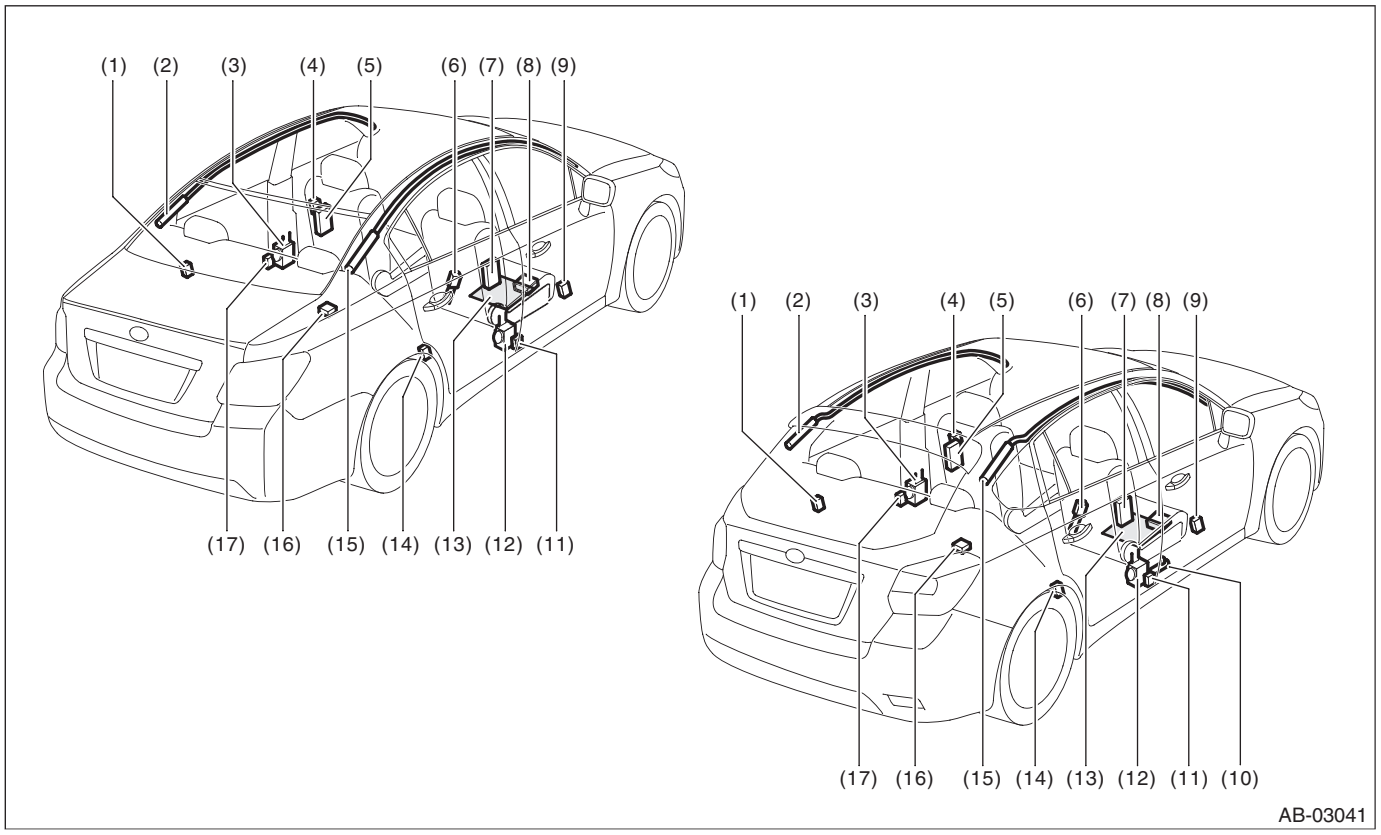
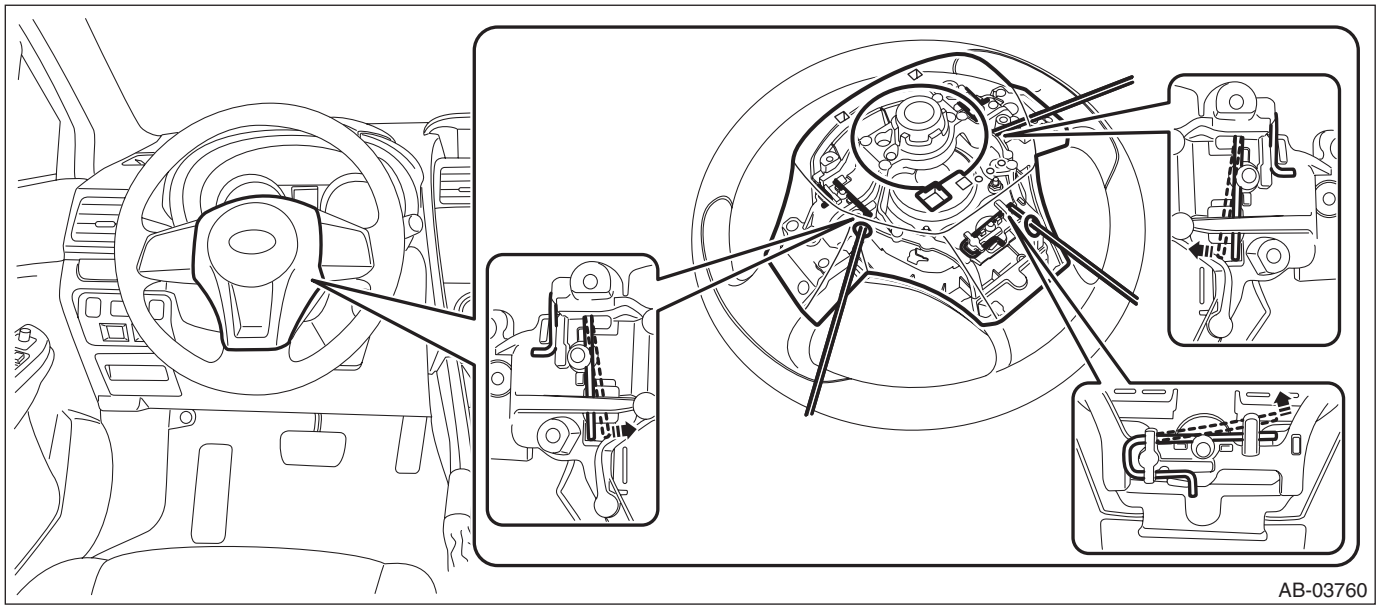
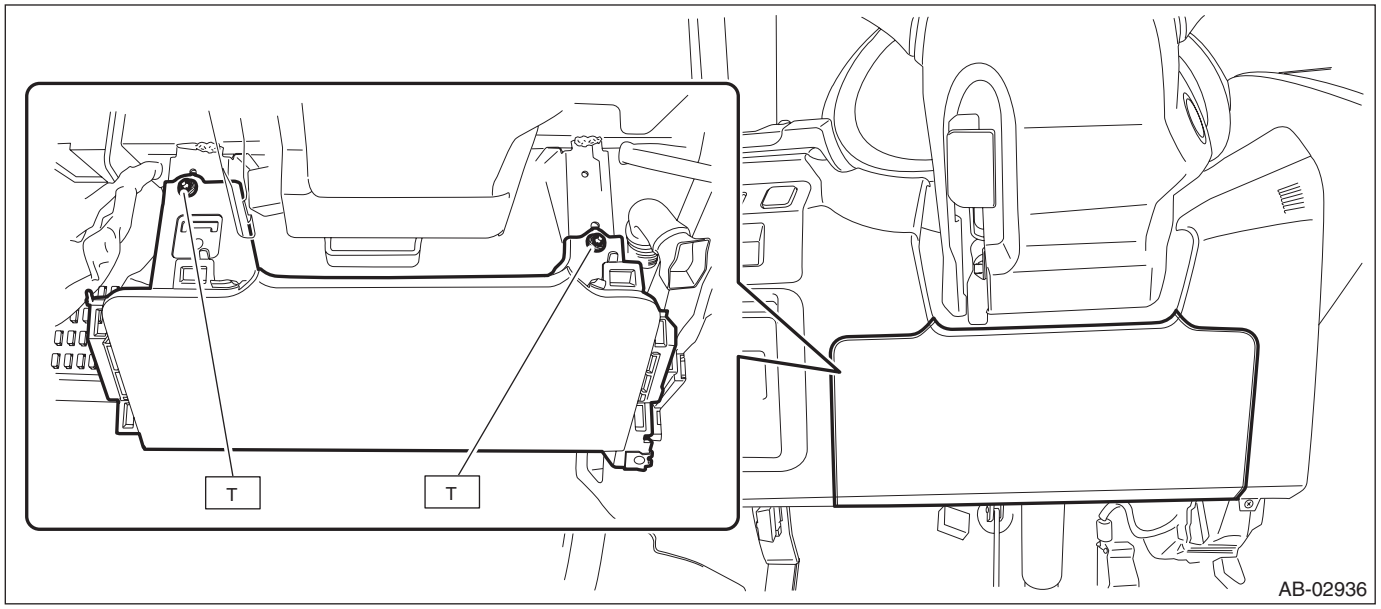


(1)	Curtain airbag sensor LH	(7)	Side airbag module RH	(13)	Occupant detection sensor
(2)	Curtain airbag module LH	(8)	Occupant detection control module	(14)	Curtain airbag sensor RH
(3)	Seat belt pretensioner LH	(9)	Front door impact sensor RH	(15)	Curtain airbag module RH
(4)	Front door impact sensor LH	(10)	Lap seat belt pretensioner RH (XV model)	(16)	Satellite safing sensor
(5)	Side airbag module LH	(11)	Side airbag sensor RH	(17)	Side airbag sensor LH
(6)	Buckle switch RH	(12)	Seat belt pretensioner RH		

1. DRIVER'S AIRBAG MODULE

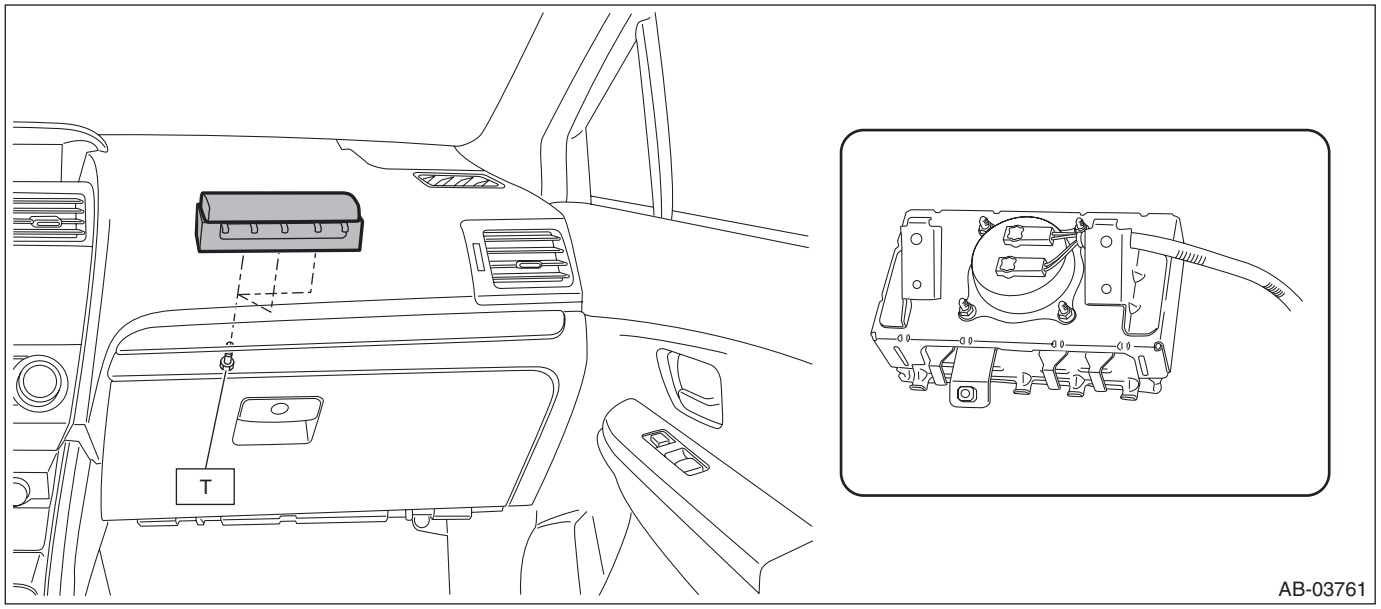


2. KNEE AIRBAG MODULE



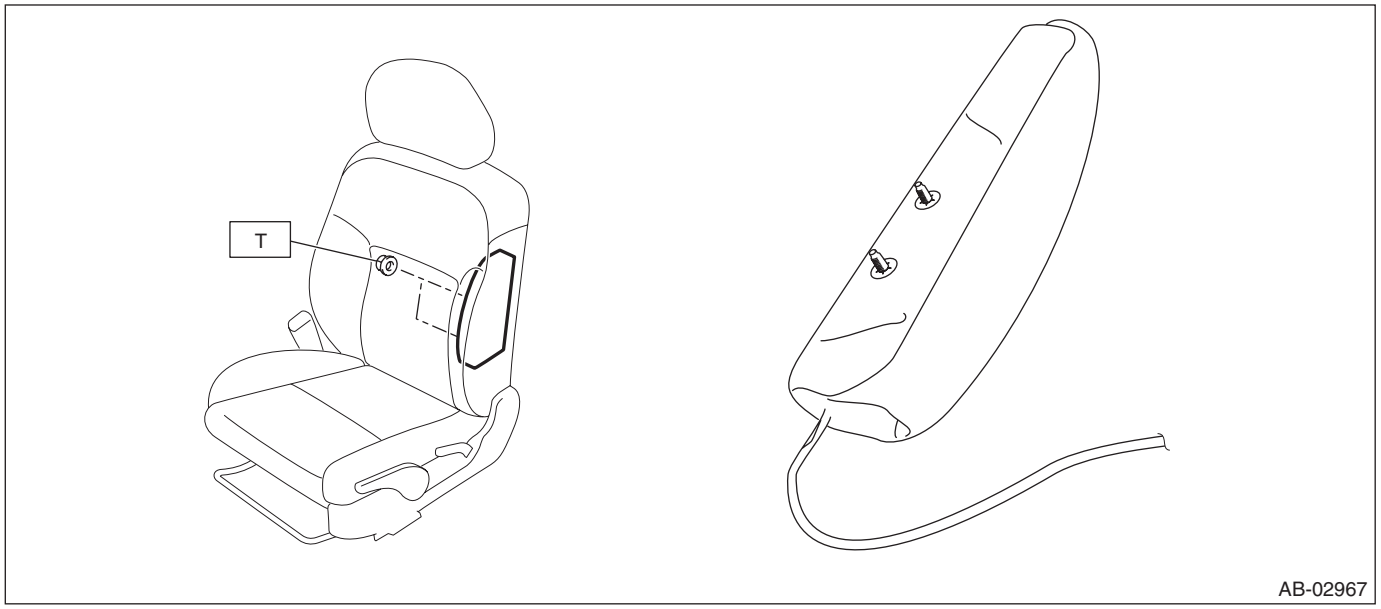
Tightening torque:
7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

3. PASSENGER'S AIRBAG MODULE



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

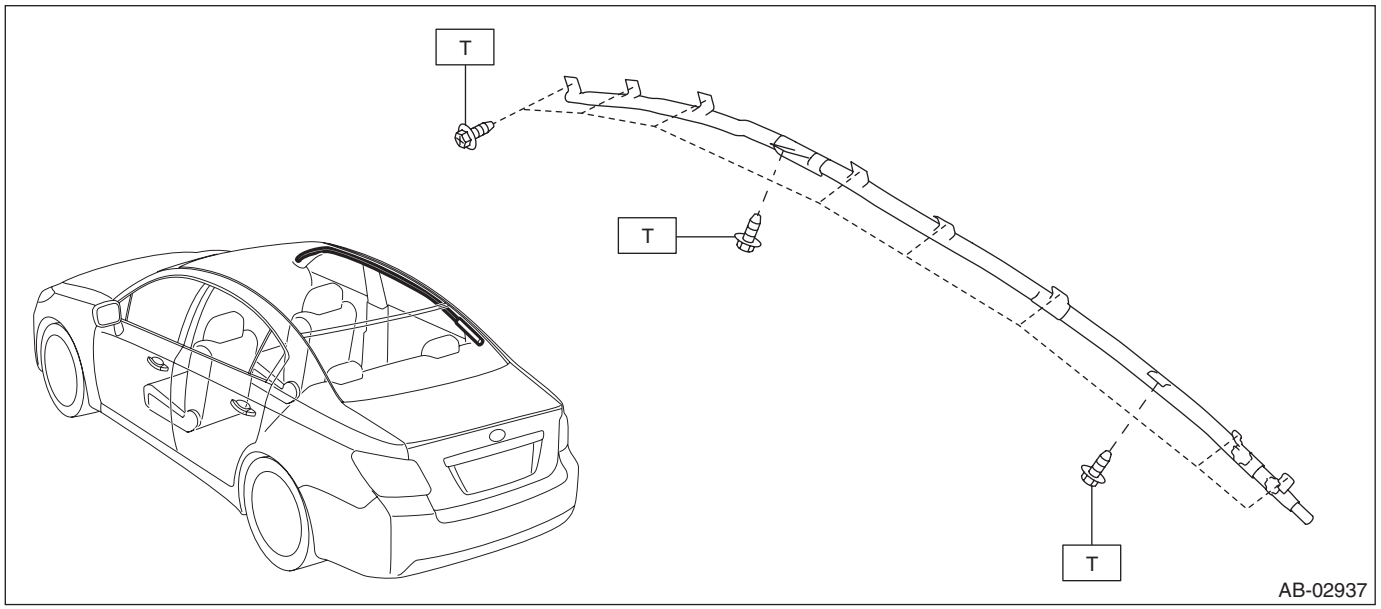
4. SIDE AIRBAG MODULE



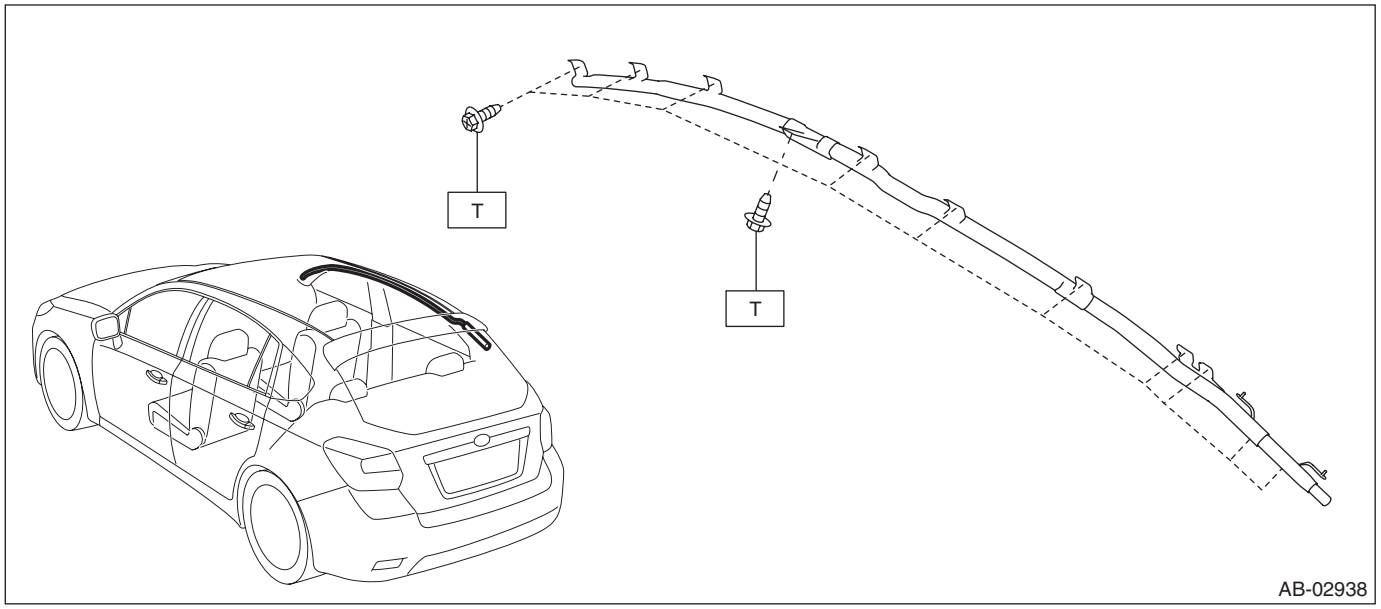
Tightening torque:
6 N·m (0.61 kgf-m, 4.4 ft-lb)

5. CURTAIN AIRBAG MODULE

- 4 door model



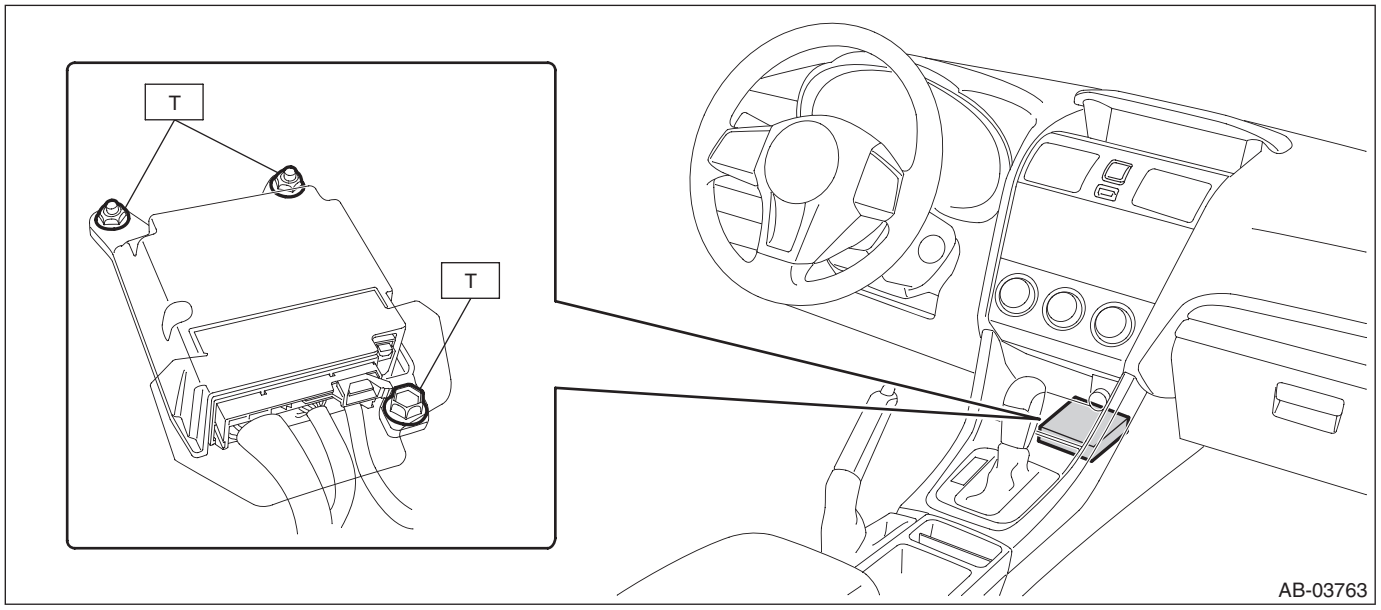
- 5 door model/XV model



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

6. AIRBAG CONTROL MODULE

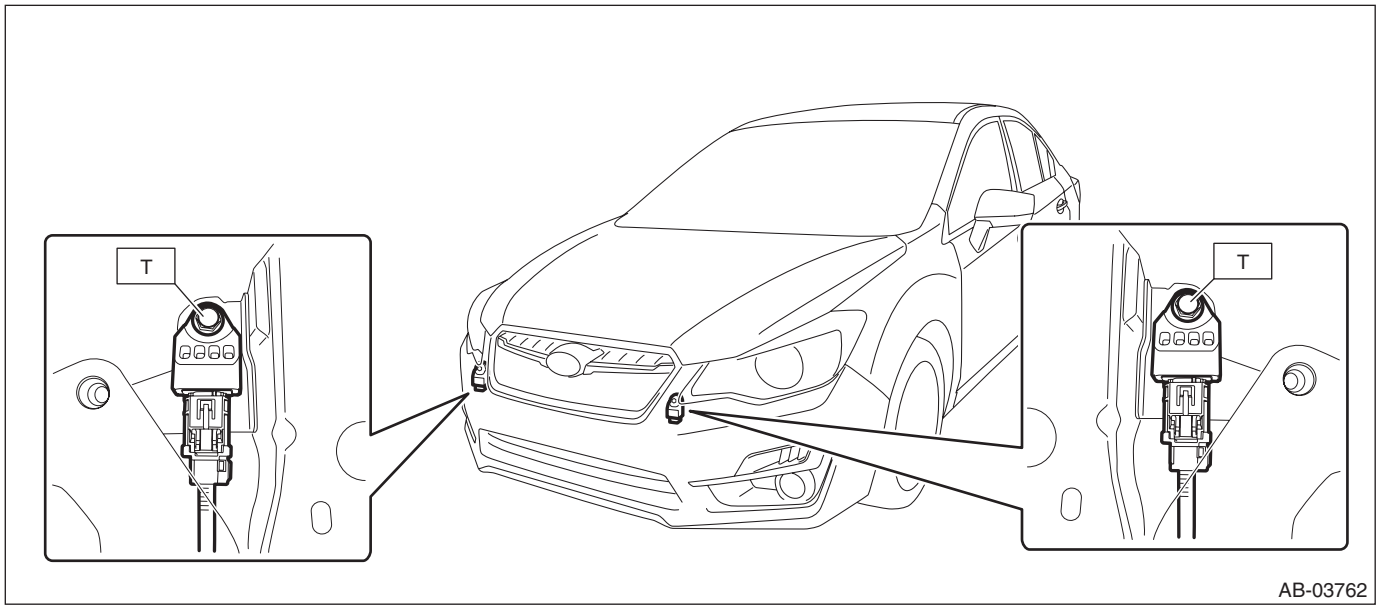
CAUTION:
Do not reuse mounting bolts and nuts.



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

7. FRONT SUB SENSOR

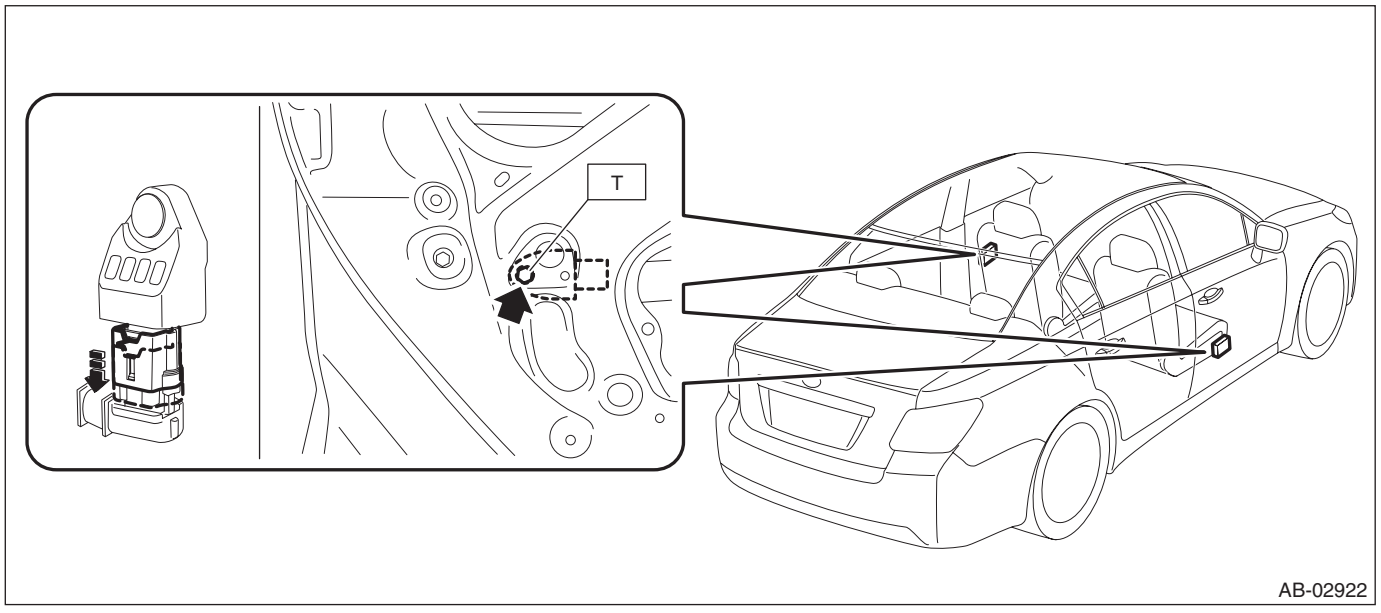
CAUTION:
Do not reuse mounting bolts and nuts.



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

8. FRONT DOOR IMPACT SENSOR

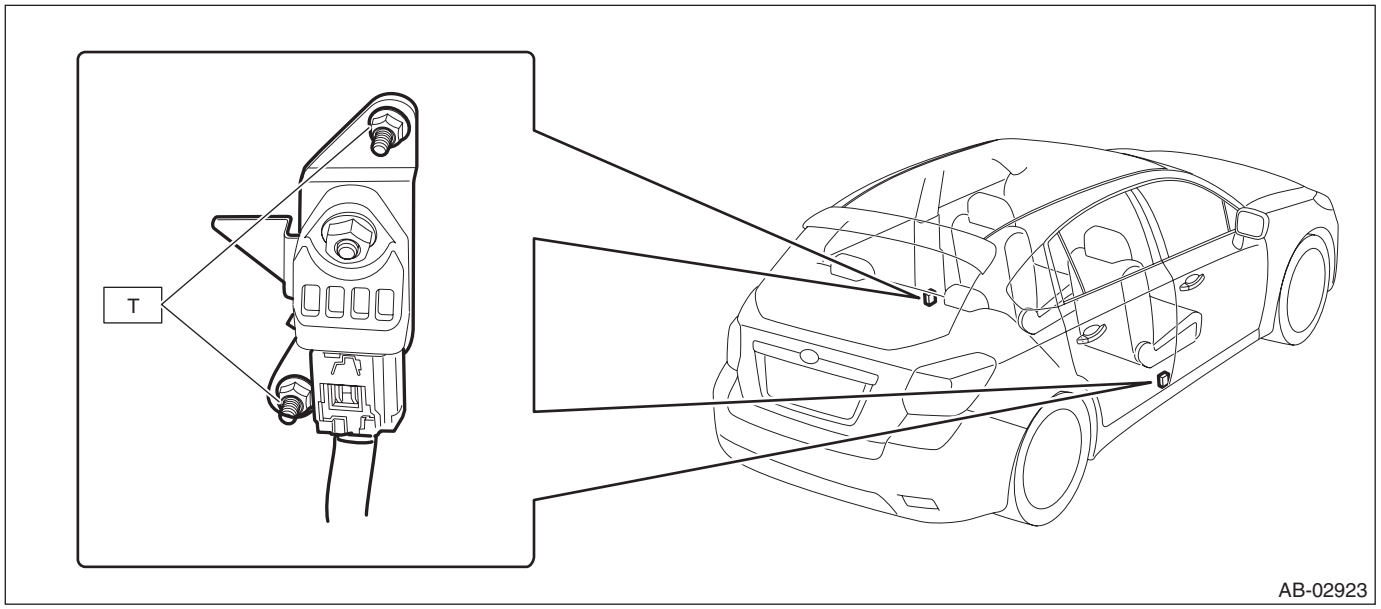
CAUTION:
Do not reuse mounting bolts and nuts.



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

9. SIDE AIRBAG SENSOR

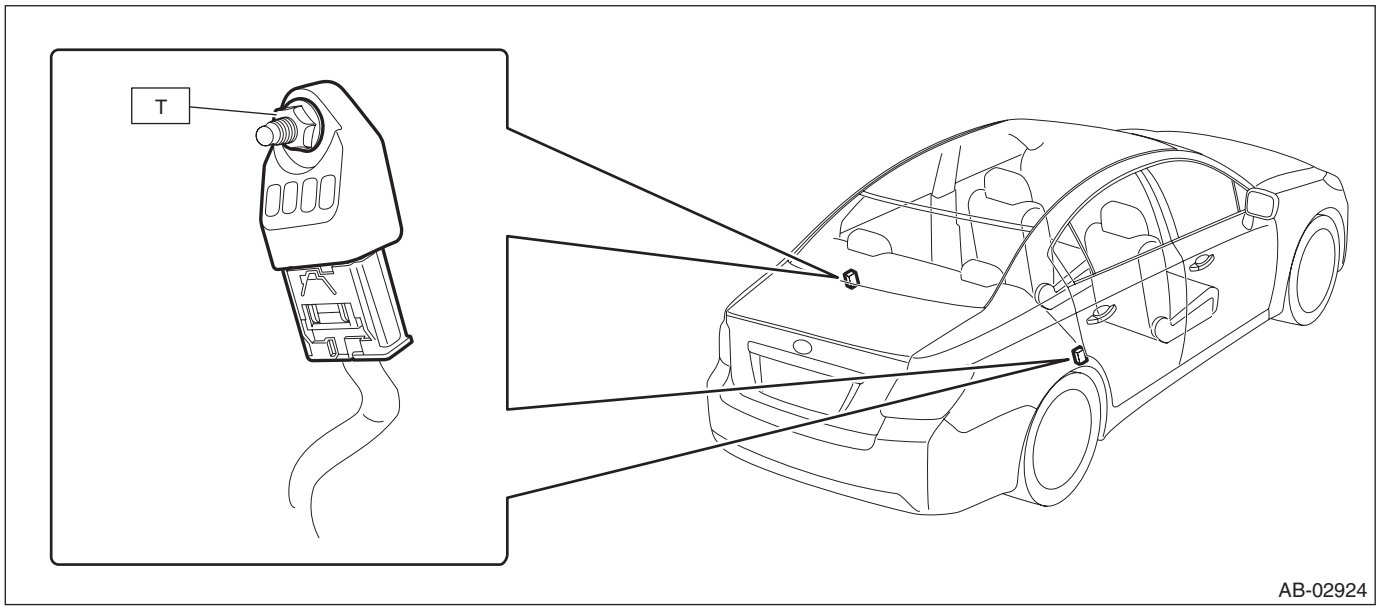
CAUTION:
Do not reuse mounting bolts and nuts.



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

10.CURTAIN AIRBAG SENSOR

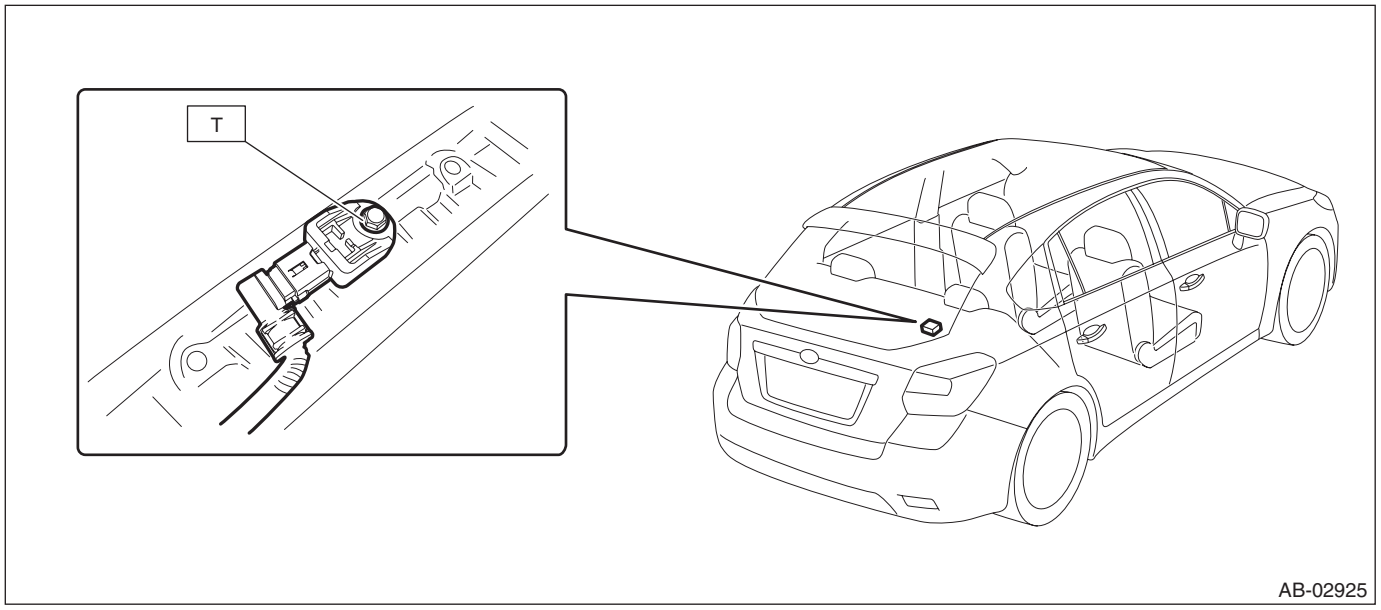
CAUTION:
Do not reuse mounting bolts and nuts.



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

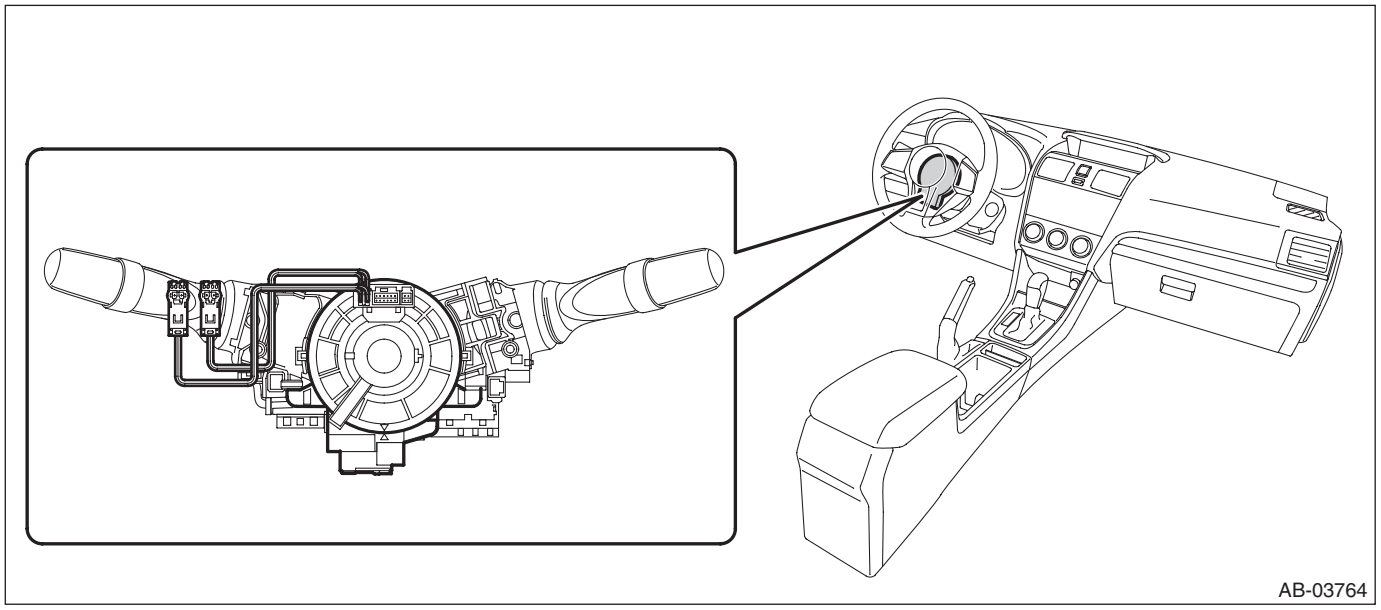
11.SATELLITE SAFING SENSOR

CAUTION:
Do not reuse mounting bolts and nuts.



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

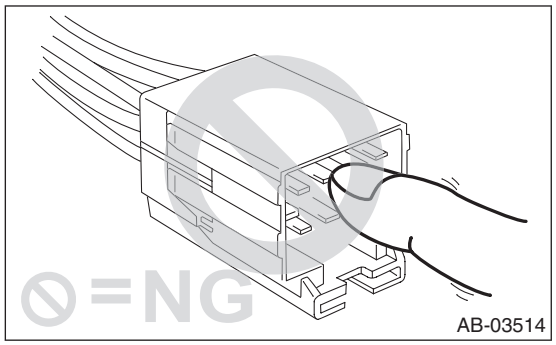
12.STEERING ROLL CONNECTOR



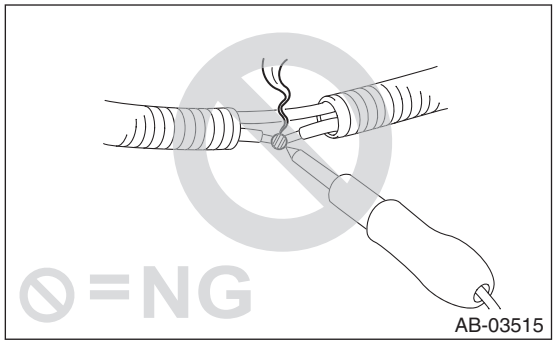
B: CAUTION

1. BEFORE STARTING ALL WORKS

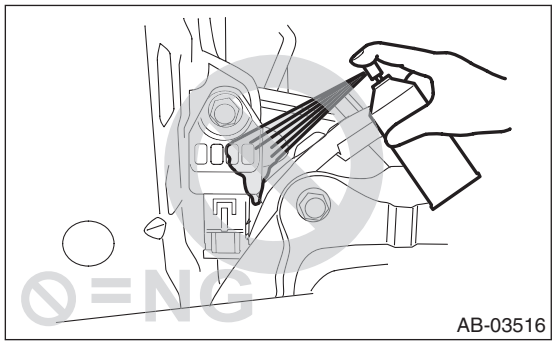
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds or more before starting the service of airbag system.
• For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
• If the airbag warning light illuminates, check or repair the vehicle immediately to prevent it from airbag system 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.



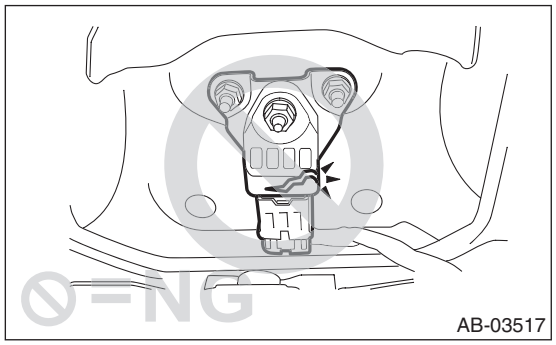
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and radiator panel side, remove the front sub sensors and wiring harness of airbag system.
• When painting or performing sheet metal work on the side of the vehicle, including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



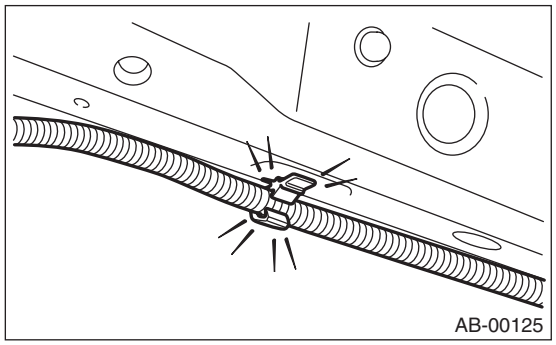
• When attaching the steering wheel and steering roll connector, be sure to adjust the steering roll connector.

2. BEFORE STARTING PARTS REPLACEMENT

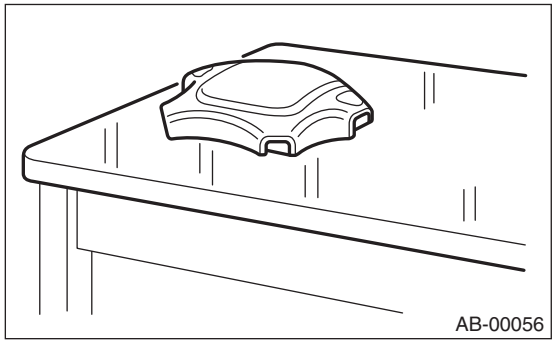
• If airbag sensors, airbag module, airbag control module, pretensioners, harnesses, or the cover - satellite safing are deformed or damaged, replace with new parts.



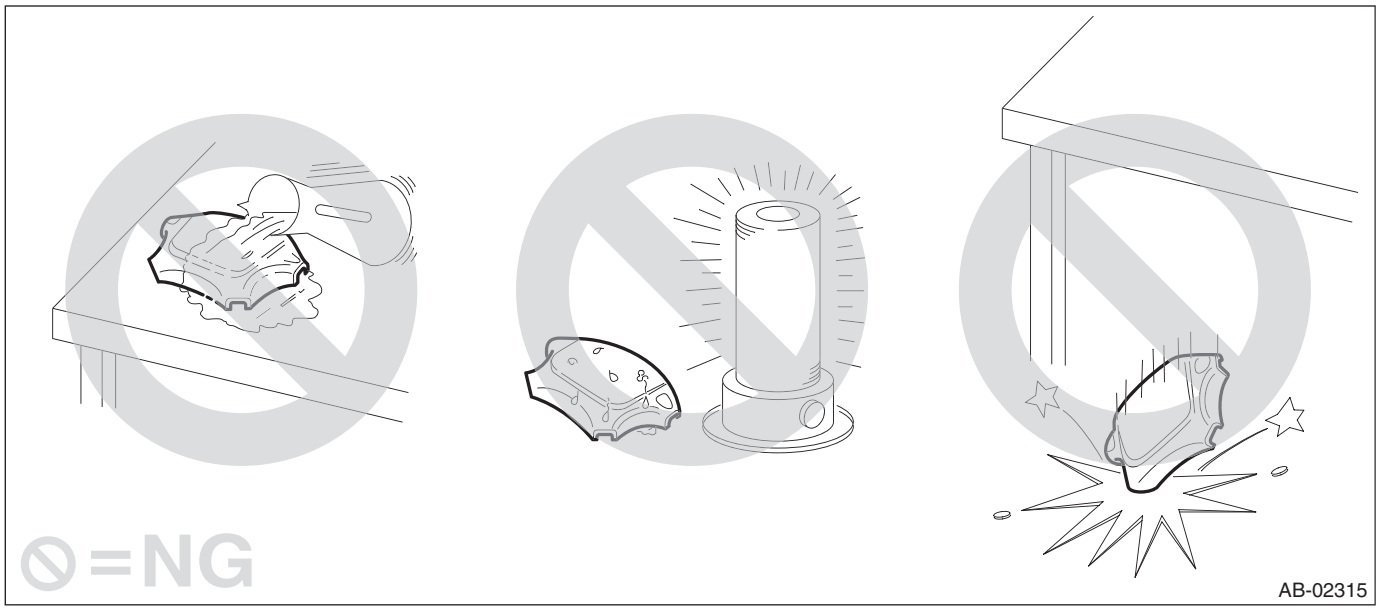
• Install the wiring harness securely with the specified clips to avoid interference or tangled with other parts.



• 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, front door impact sensor, side airbag sensor, curtain airbag sensor and satellite safing sensor are removed, do not reuse the bolts and nuts of them. Always replace with the specified new bolts and nuts.
• When attaching the steering wheel and steering roll connector, be sure to adjust the steering roll connector.
• After removing each parts of the airbag system, keep them with the pad side facing upward on a dry, clean and flat surface away from heat, light sources, moisture and dust.

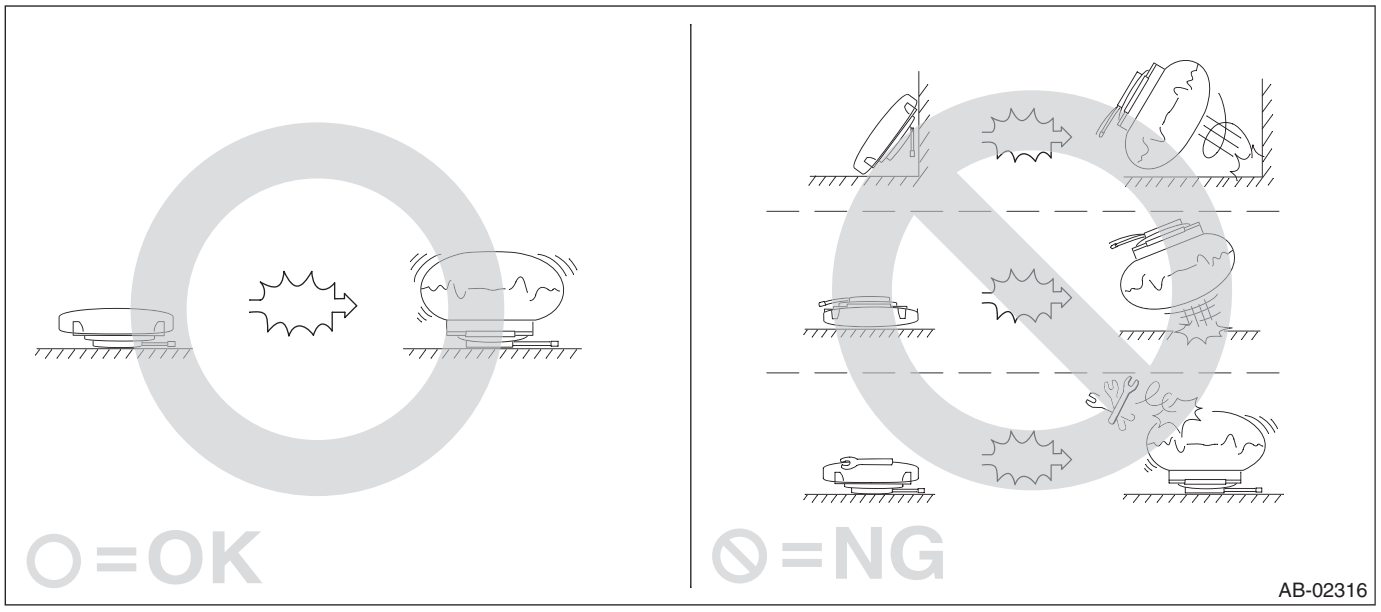


• Do not drop any airbag component, store them under high temperature of 85°C (185°F) or more, or let water, oil or grease get on them; the internal parts may be damaged or the reliability may be greatly lowered.

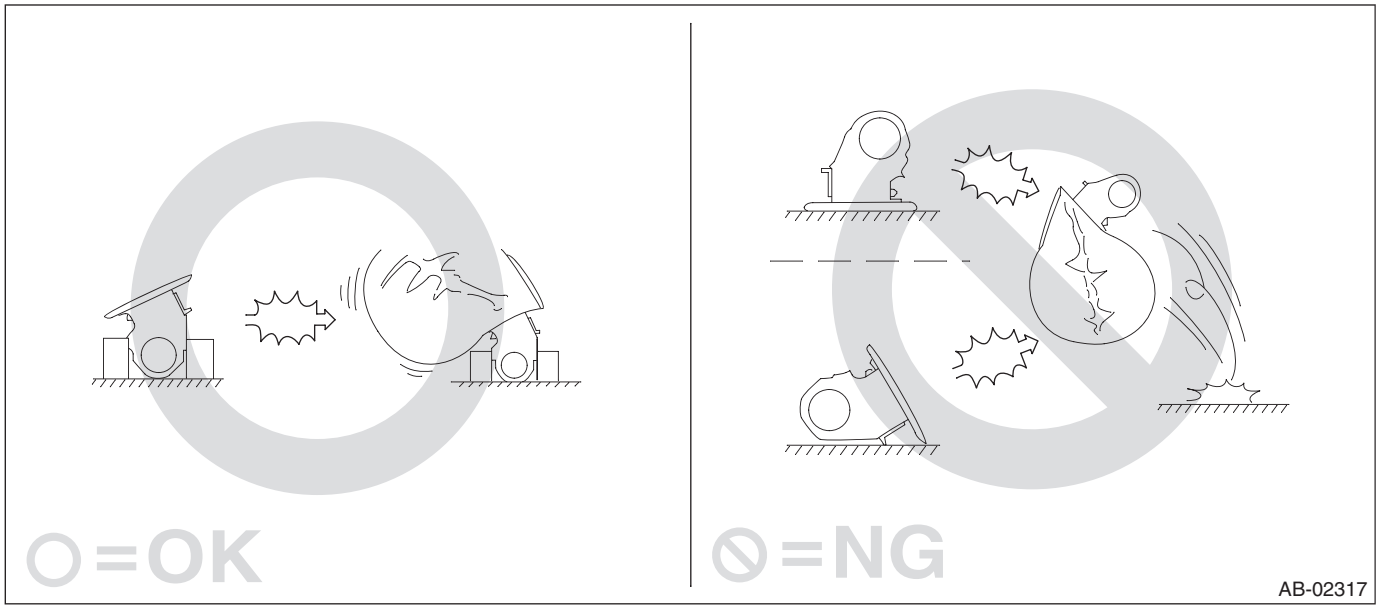


• When storing a removed airbag module, do not place it with the pad side facing downward. Do not place any objects on the airbag module. Do not pile up the airbag module. If the pad of the airbag module is in contact with other objects, it may cause a serious accident if the airbag accidentally operates.

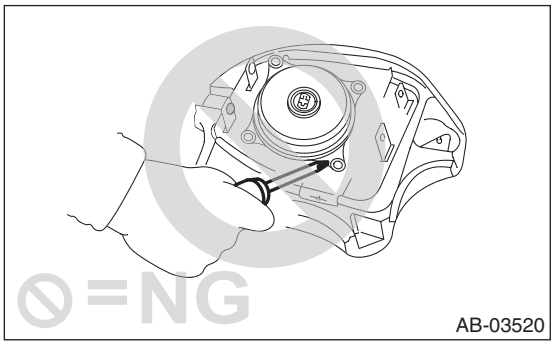
• Driver's airbag module



- Passenger's airbag module and side airbag module



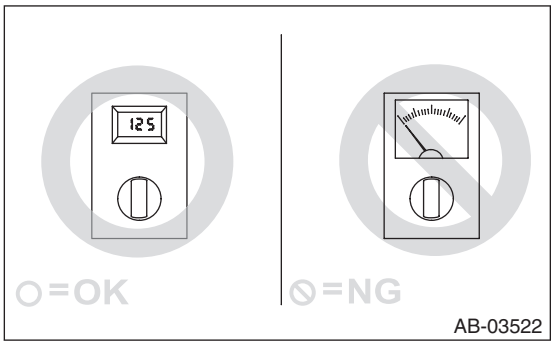
- Do not disassemble driver's airbag module, knee airbag module, passenger's airbag module, side airbag module, curtain airbag module or pretensioner.



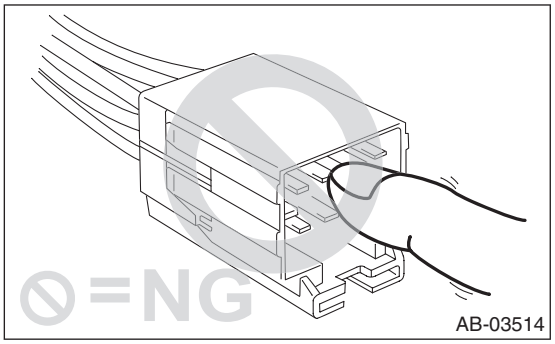
- The removed front seat with airbag module must be kept at least 200 mm (8 in) away from walls and other objects.

3. BEFORE STARTING TROUBLESHOOTING

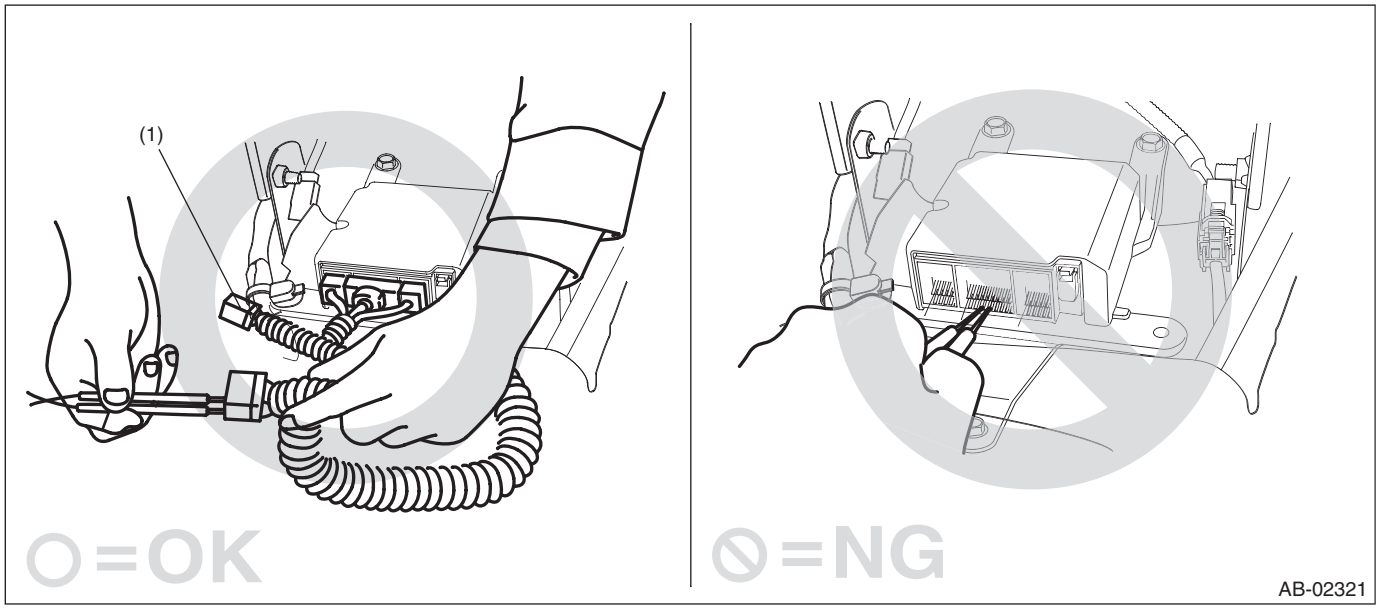
• Even if any part must be replaced as the result of troubleshooting, do not use an airbag part or pretensioner part from other vehicles. Always replace the defective parts with new parts.
• When checking the airbag system, be sure to use a digital circuit tester. Use of an analog circuit tester may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



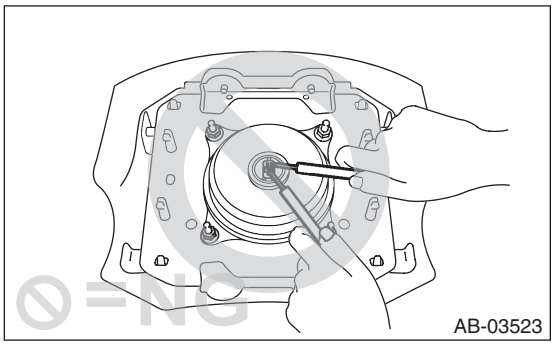
• Do not allow water or oil to come in contact with the connector terminals. Also, do not touch the connector terminals directly.



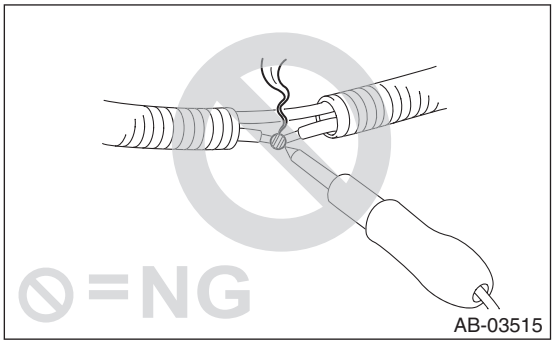
• When checking, use a test harness (1). Damage to connector terminal causes malfunction. Do not directly put the tester probe on airbag connector terminal.



• Do not check continuity of the driver's airbag module, knee airbag module, passenger's airbag module, side airbag module, curtain airbag module or pretensioner.



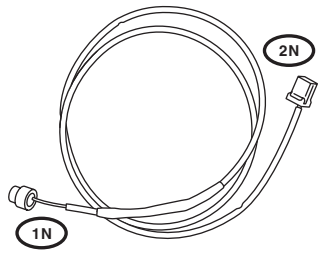
• If damage, open circuit or rust is found on airbag system wiring harness, do not repair the harness. Always replace the faulty harness with a new genuine part.



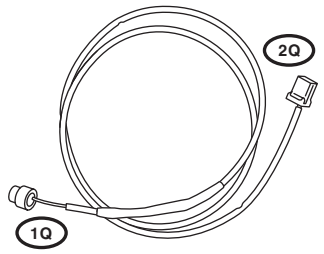
C: PREPARATION TOOL

1. SPECIAL TOOL

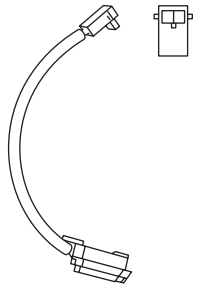
• TEST HARNESS N

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

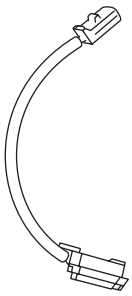
• TEST HARNESS Q

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

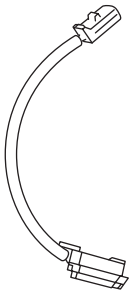
• TEST HARNESS ADAPTER D

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA010	98299SA010	TEST HARNESS ADAPTER D	• Used for operation process of knee airbag module. • Used for operation process of curtain airbag module. • Used together with AIRBAG DEPLOYMENT TOOL. (98299PA030)

• TEST HARNESS ADAPTER AM

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FJ000	98299FJ000	TEST HARNESS ADAPTER AM	• Used for operation process of passenger's airbag module. • Used together with AIRBAG DEPLOYMENT TOOL. (98299PA030)

• TEST HARNESS ADAPTER K

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FG010	98299FG010	TEST HARNESS ADAPTER K	• Used for operation process of side airbag module. • Used together with AIRBAG DEPLOYMENT TOOL. (98299PA030)

• AIRBAG DEPLOYMENT TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
ST98299PA030	98299PA030	AIRBAG DEPLOYMENT TOOL	• Used for operation process of airbag module. • Used together with each test harness adapter.

2. GENERAL TOOL

TOOL NAME	REMARKS
Steering wheel puller	Used for removing the steering wheel.
TORX® T40	Used for removing and installing the beam COMPL - steering.
Circuit tester	Used for measuring resistance and voltage.

2. Airbag Connector

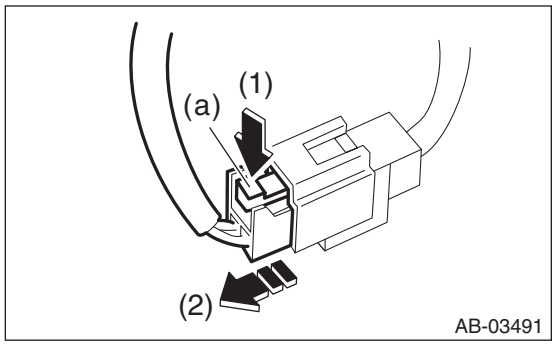
A: PROCEDURE

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.

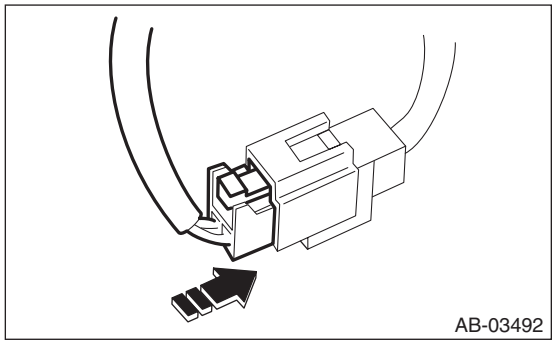
(1) Push the lock (a).
(2) While holding down the lock (a), disconnect the connector.



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.

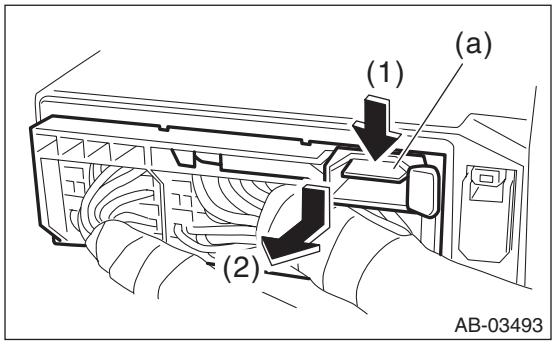
Holding the connector, push it in securely until a clicking sound is heard.



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.

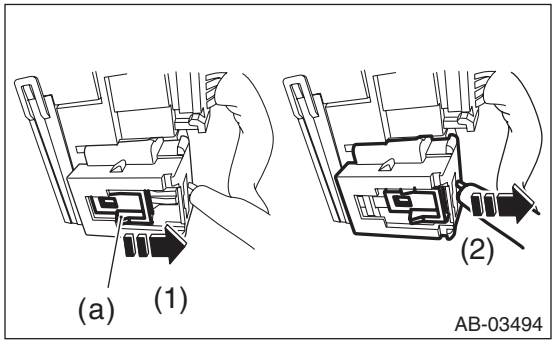
Insert the connector and push the lock lever in securely.

3. DRIVER'S AIRBAG MODULE (ROLL CONNECTOR)

1) How to disconnect:

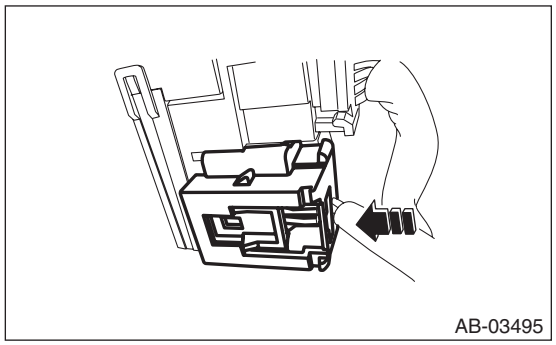
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Pull the slide lock (a) in the direction of arrow.
(2) With the slide lock pulled, 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.

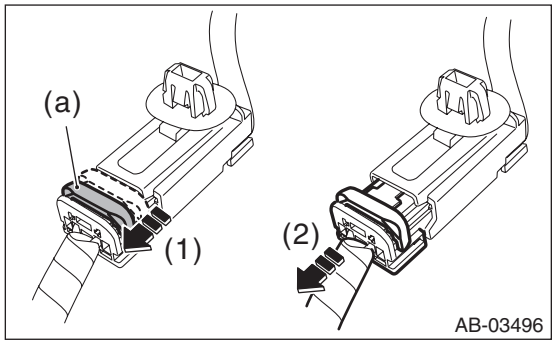


4. PASSENGER'S AIRBAG MODULE

1) How to disconnect:

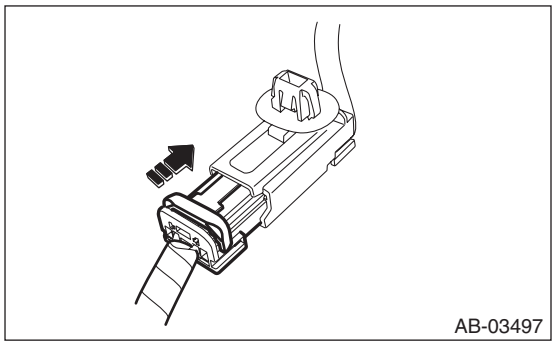
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Pull the slide lock (a) in the direction of arrow.
(2) With the slide lock pulled, disconnect the connector.



2) How to connect:

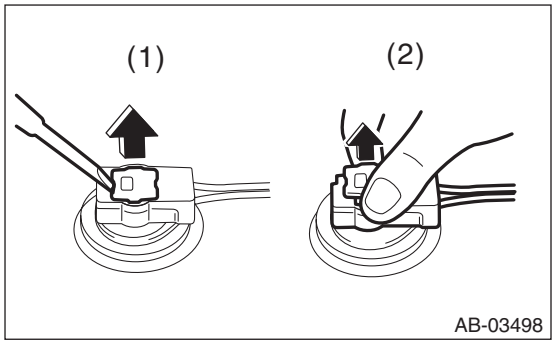
CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.
Holding the connector, push it in securely until a clicking sound is heard.



5. DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & PRETENSIONER

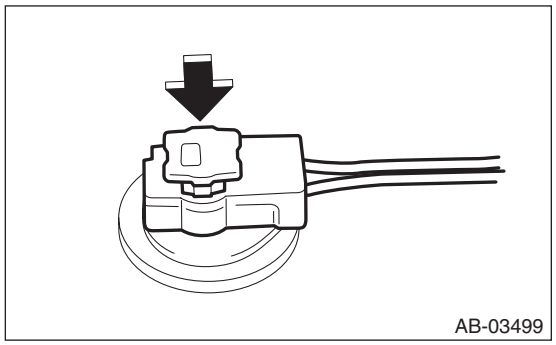
1) How to disconnect:

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



2) How to connect:

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



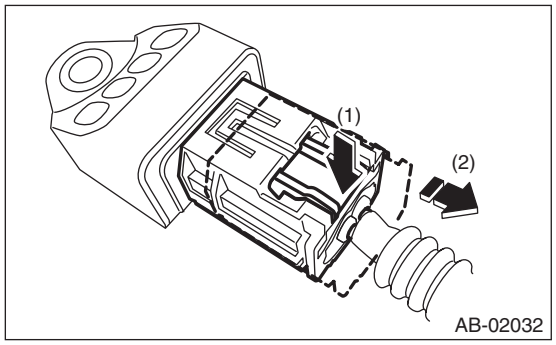
Connect the connector in the reverse order of disconnecting. At this time, be sure to insert until a clicking sound is heard.

6. FRONT SUB SENSOR

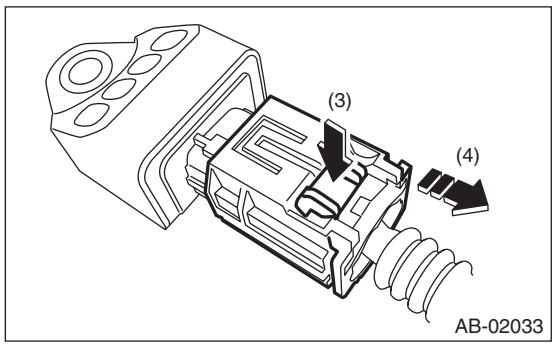
1) How to disconnect:

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.



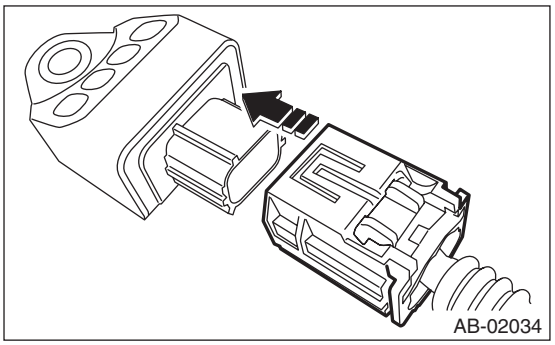
(3) Push the lock arm again.
(4) Holding outer part, pull it in the direction of arrow to disconnect the connector.



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.

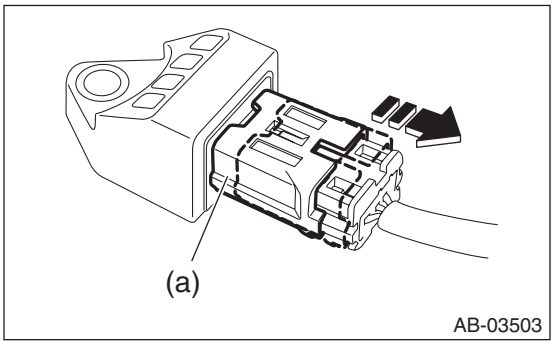


7. FRONT DOOR IMPACT SENSOR AND SATELLITE SAFING SENSOR

1) How to disconnect:

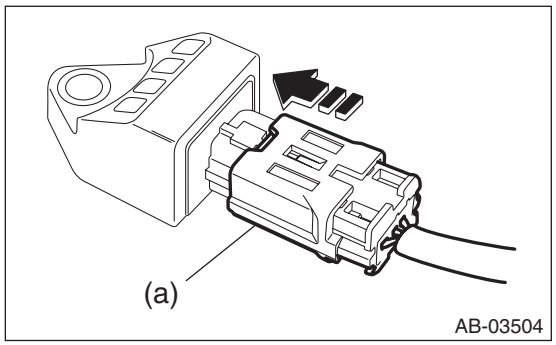
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

Holding outer part (a), pull it in the direction of arrow.



2) How to connect:

CAUTION:
• The outer part (a) returns to the original position. Therefore do not touch the outer part.
• 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.

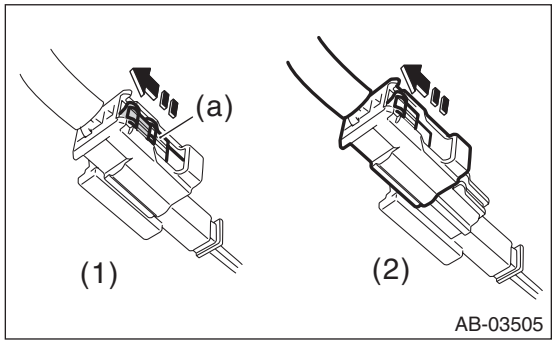


8. FRONT DOOR IMPACT SENSOR (BETWEEN AIRBAG REAR HARNESS AND DOOR HARNESS)

1) How to disconnect:

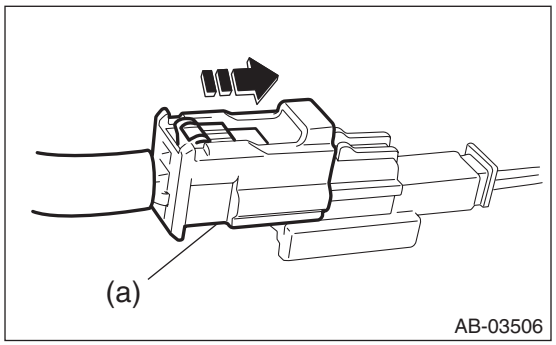
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Pull the slide lock (a) in the direction of arrow.
(2) With the slide lock pulled, disconnect the connector.



2) How to connect:

CAUTION:
• The outer part (a) returns to the original position. Therefore do not touch the outer part.
• 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.

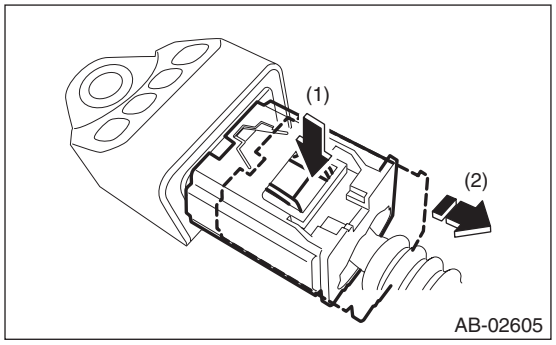


9. SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR

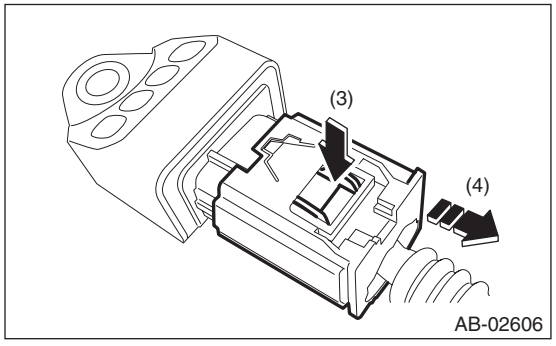
1) How to disconnect:

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.

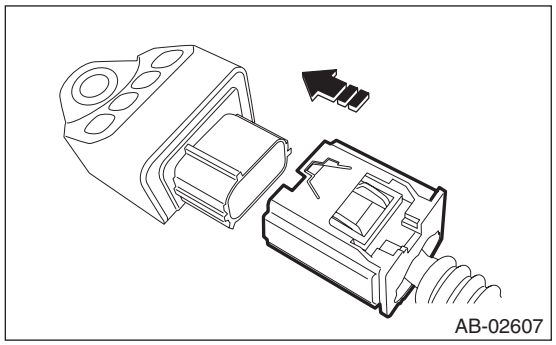


(3) Push the lock arm again.
(4) Holding outer part, pull it in the direction of arrow to disconnect the connector.



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.

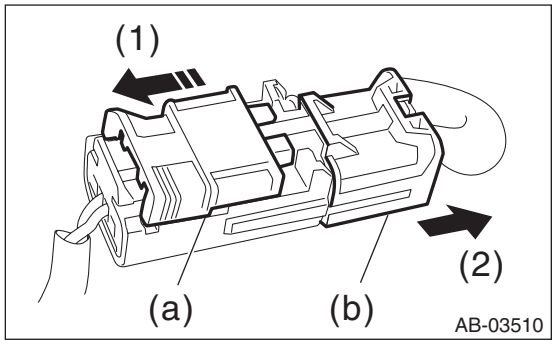


10.SIDE AIRBAG MODULE

1) How to disconnect:

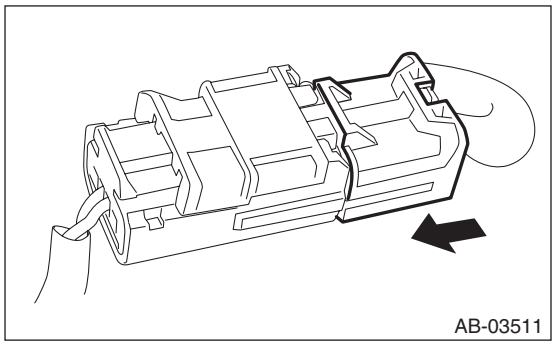
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(1) Move the slide lock (a) in the direction of arrow and hold it.
(2) While holding the slide lock (a), 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.

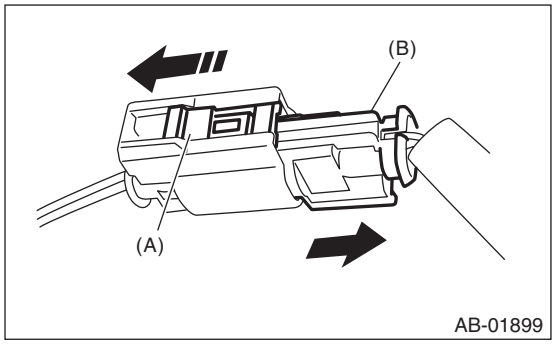


11.BUCKLE SWITCH RH

1) How to disconnect:

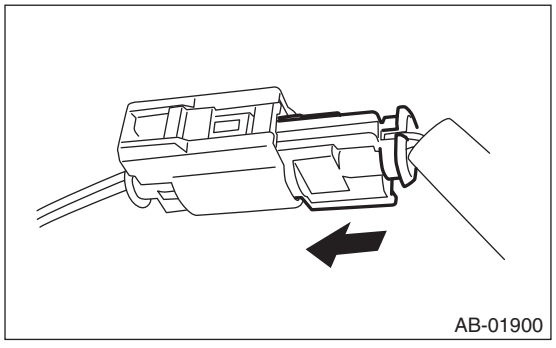
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.

(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.

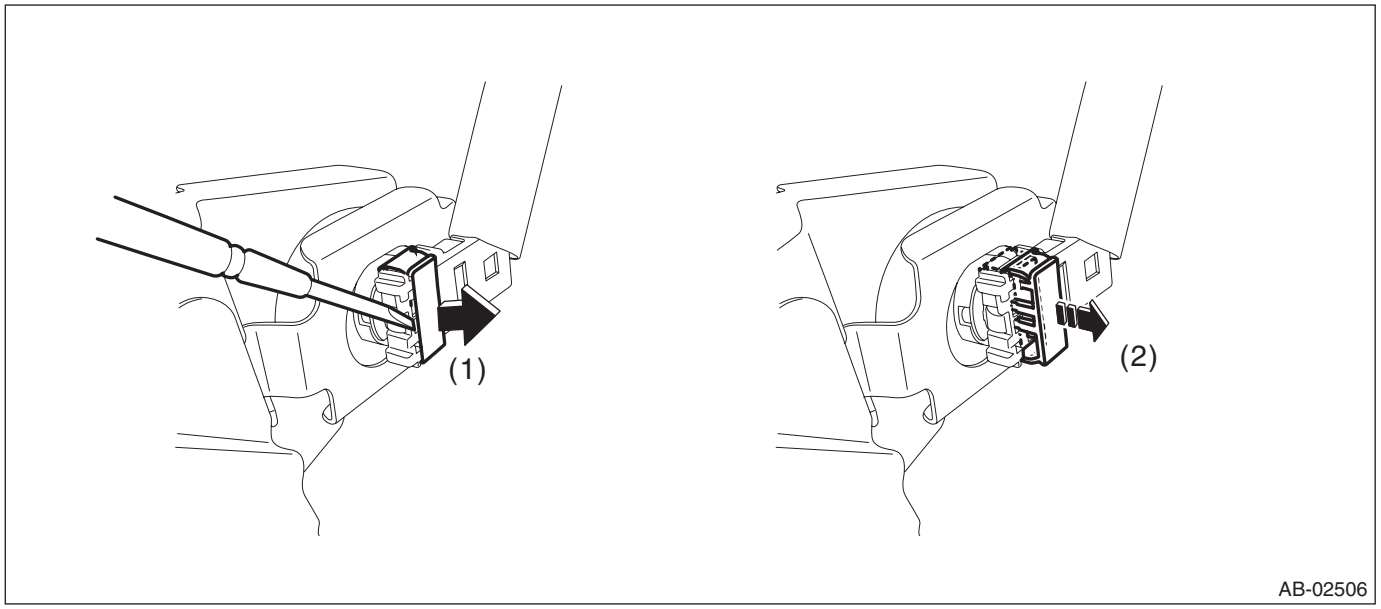


12.OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS)

Refer to “OCCUPANT DETECTION SYSTEM” section. <Ref. to OD(diag)-9, OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS), PROCEDURE, Airbag Connector.>

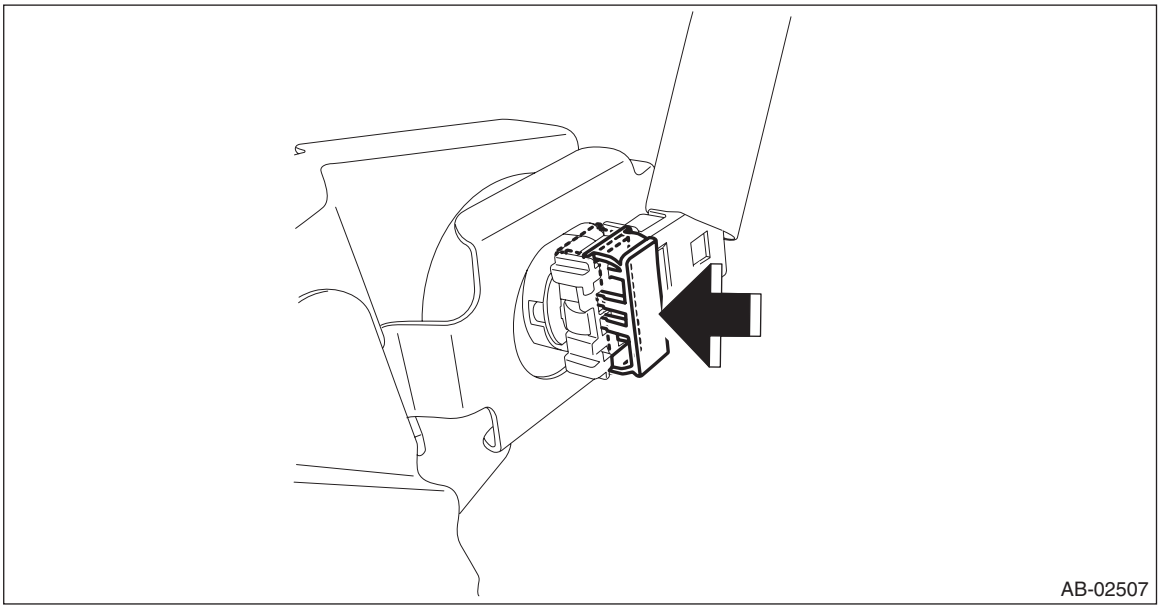
13.KNEE AIRBAG MODULE

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 airbag module assembly.



2) How to connect:

CAUTION:
- **Be sure to insert the connector in until it is locked.**
- **Press in the push lock 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 until a clicking sound is heard.

3. Inspection Locations after a Collision

A: 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 ASSEMBLY

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

1. Replace the following parts with new ones.
   - Airbag control module
   - Driver's airbag module
   - Knee airbag module
   - Passenger's airbag module (if deployed)
   - Curtain airbag module (both sides / if deployed)
   - Seat belt pretensioner (right and left)
   - Lap seat belt pretensioner (XV model - passenger's side only)
   - Front sub sensor (right and left)
   - Instrument panel assembly (because it is integrated with passenger's airbag module) (if passenger's airbag module is deployed)
   - Column ASSY - steering
   - Roll connector
   - Trim panel - roof assembly (if the curtain airbag is deployed)
   - Trim panel of each pillar (if the curtain airbag is deployed)
2. Visually inspect the following items and replace any damaged part with a new one.
   - Steering wheel
   - Beam COMPL - steering
   - 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
- Knee airbag module
- Passenger's airbag module
- Seat belt pretensioner (right and left)
- Lap seat belt pretensioner (XV model - passenger's side only)
- Front sub sensor (right and left)
- 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. KNEE AIRBAG MODULE

1) Frontal collision (knee airbag module activated)

1. Replace the following parts with new ones.
   - Airbag control module
   - Driver's airbag module
   - Knee airbag module
   - Passenger's airbag module (if deployed)
   - Curtain airbag module (both sides / if deployed)
   - Seat belt pretensioner (right and left)
   - Lap seat belt pretensioner (XV model - passenger's side only)
   - Front sub sensor (right and left)
   - Instrument panel assembly (because it is integrated with passenger's airbag module) (if passenger's airbag module is deployed)
   - Column ASSY - steering
   - Roll connector
   - Trim panel - roof assembly (if the curtain airbag is deployed)
   - Trim panel of each pillar (if the curtain airbag is deployed)
2. Visually inspect the following items and replace any damaged part with a new one.
   - Steering wheel
   - Beam COMPL - steering
   - Instrument panel harness and connector on body side

2) Frontal collision (knee 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
- Knee airbag module
- Passenger's airbag module
- Seat belt pretensioner (right and left)
- Lap seat belt pretensioner (XV model - passenger's side only)
- Front sub sensor (right and left)
- 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. 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
   - Knee airbag module
   - Passenger's airbag module
   - Curtain airbag module (both sides / if deployed)
   - Seat belt pretensioner (right and left)
   - Lap seat belt pretensioner (XV model - passenger's side only)
   - Front sub sensor (right and left)
   - Instrument panel assembly (because it is integrated with passenger's airbag module)
   - Trim panel - roof assembly (if the curtain airbag is deployed)
   - Trim panel of each pillar (if the curtain airbag is deployed)
2. Visually inspect the following items and replace any damaged part with a new one.
   - Beam COMPL - steering
   - 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
- Knee airbag module
- Passenger's airbag module
- Seat belt pretensioner (right and left)
- Lap seat belt pretensioner (XV model - passenger's side only)
- Front sub sensor (right and left)
- 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.

4. SIDE AIRBAG MODULE

1) Side impact (side airbag module activated)
1. Replace the following parts with new ones.
   - Airbag control module
   - Satellite safing sensor
   - Cover - satellite safing
   - Front door impact sensor
   - Seat belt pretensioner (collision side / if deployed)
   - Side airbag module (collision side)
   - Side airbag sensor (collision side)
   - Curtain airbag module (collision side)
   - Curtain airbag sensor (collision side)
   - Pad assembly - front seat backrest (collision side)
   - Frame assembly - front backrest (collision side)
   - Cover COMPL - front backrest (collision side)
   - Trim panel - roof assembly (collision side)
   - Trim panel for each pillar (collision side)
2. Visually inspect the following items and replace any damaged part with a new one.
   - Headrest assembly
   - Bushing - lock headrest
   - Slide rail ASSY - OUT
   - Slide rail ASSY - INN
   - Cover - hinge front seat
   - Knob - lifter
   - Lever - reclining
   - Side airbag harness and connector on body side

2) Side impact (side airbag module not activated)
Visually inspect the following items and replace any damaged or cracked part (collision side) with a new one.
Specially inspect the damage of airbag module body, mounting bracket and harness connector.
- Pad assembly - front seat backrest
- Frame assembly - front backrest
- Cover COMPL - front backrest
- Sensor assembly - satellite safing
- Cover - satellite safing
- Front door impact sensor
- Side airbag module
- Side airbag sensor
- Curtain airbag module
- Curtain airbag sensor

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

5. CURTAIN AIRBAG MODULE

1) Side impact or roll over (curtain airbag module activated)

1. Replace the following parts with new ones.
   - Airbag control module
   - Satellite safing sensor
   - Cover - satellite safing
   - Curtain airbag module (operating side)
   - Seat belt pretensioner (if deployed)
   - Front door impact sensor (operating side)
   - Side airbag sensor (operating side)
   - Curtain airbag sensor (operating side)
   - Pad assembly - front seat backrest (collision side)
   - Frame assembly - front backrest (collision side)
   - Cover COMPL - front backrest (collision side)
   - Trim panel - roof assembly
   - Trim panel for each pillar (operating side)
   - Airbag bracket (model with sunroof) (operating side)
2. Visually inspect the following items and replace any damaged part with a new one.
   - Assist rail - front and rear
   - Bracket - assist rail front and rear
   - Curtain airbag harness and connector on body side.

2) Side impact (curtain 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.

- Trim panel - roof assembly
- Trim panel for each pillar
- Curtain airbag module
- Satellite safing sensor
- Cover - satellite safing
- Front door impact sensor
- Side airbag sensor
- Curtain airbag sensor

3) No side impact or roll over

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

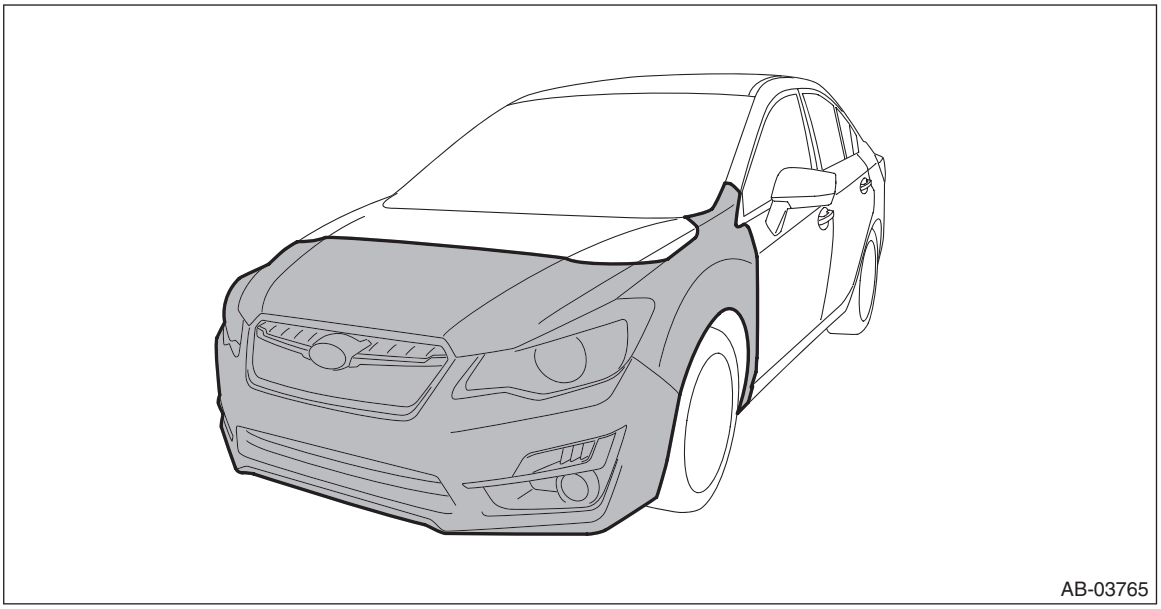
6. AIRBAG CONTROL MODULE

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 module has been activated.
- Knee airbag module has been activated.
- Passenger’s airbag module has been activated.
- Side airbag module has been activated.
- Curtain airbag module has been activated.
- Seat belt pretensioner has been activated.
- Lap seat belt pretensioner has been activated.

7. FRONT SUB SENSOR

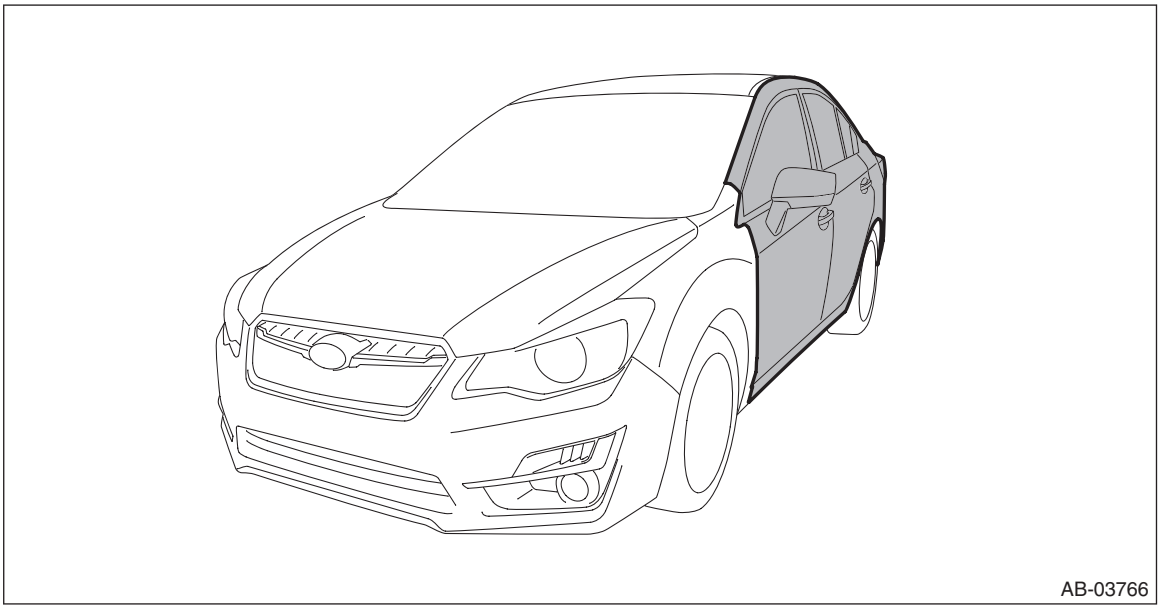
If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.



- Front sub sensor is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Driver's airbag module, knee airbag module or passenger's airbag module has been activated.

8. FRONT DOOR IMPACT SENSOR, SATELLITE SAFING 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, satellite safing sensor, side airbag sensor and curtain airbag sensor are cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Side airbag module or curtain airbag module has been activated. (Operating side)

9. ROLL CONNECTOR

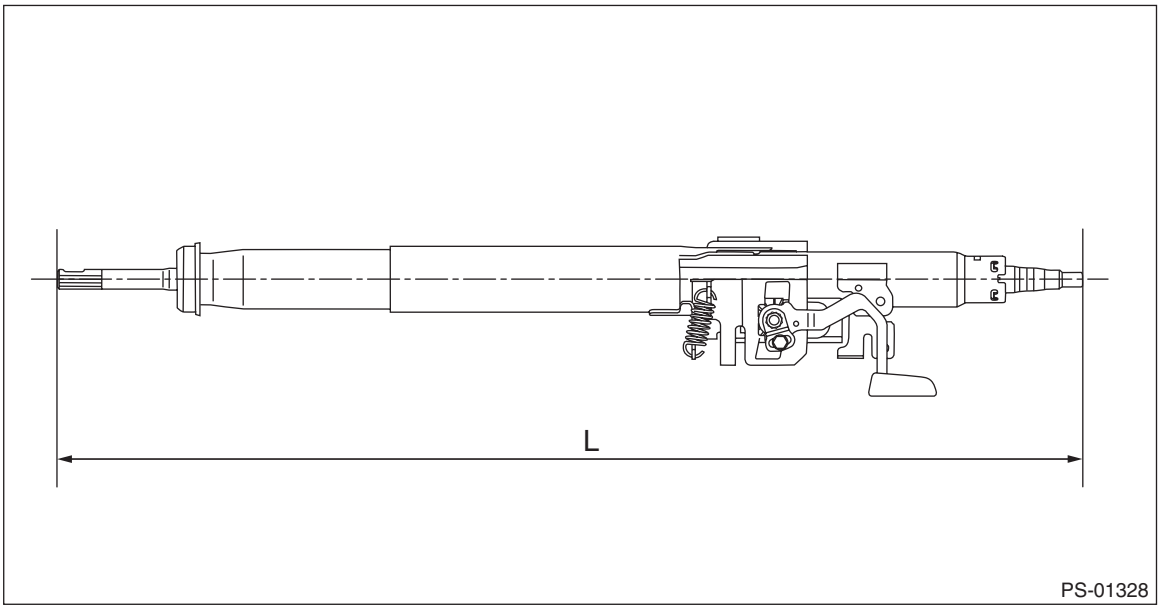
Check the following items and replace any damaged, cracked, or deformed parts with new parts.
- Combination switch
- Steering roll connector

10.COLUMN ASSEMBLY - STEERING & STEERING WHEEL

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

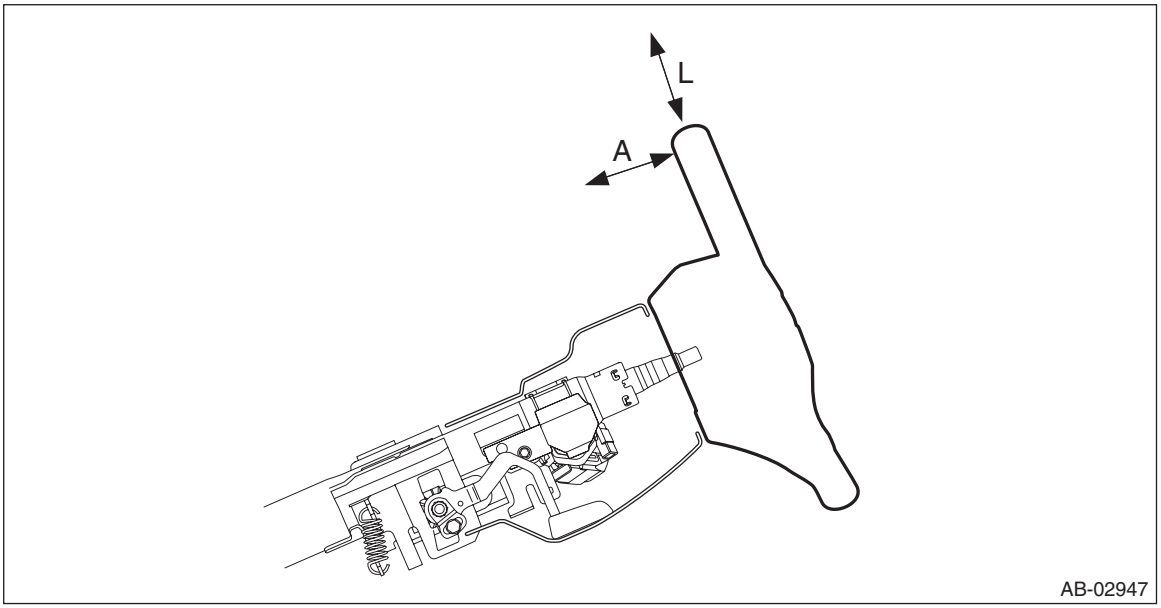
Standard: Overall length L

Tilt and telescopic column (measure while minimized)
$819.7^{+1.5}_{-1.5}$ mm ($32.27^{+0.059}_{-0.059}$ 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)



11.PASSENGER'S SEAT

Check for the following, and replace the damaged parts with new parts.
- Body or bracket of the seat belt inner - front is scratched, cracked or deformed.
- Frame assembly - front backrest is cracked or deformed.
- Headrest assembly for deformation or play
- If the cover - front cushion and the cover COMPL - front backrest is damaged or frayed, replace the cover with a new part.

CAUTION:
If any of the following applies, replace the pad assembly - front seat cushion & frame assembly - front cushion as a unit. Do not disassemble.
- **The frame assembly - front cushion or the pad assembly - front seat cushion is cracked or deformed.**
- **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.**

12.INSPECTION OF OTHER PARTS

Check for the following parts, and replace the damaged parts with new parts.
1) Steering wheel and column assembly - steering
Check the column assembly - steering 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 the column assembly - steering may have been operated.)
2) Check the direct type connector of driver's airbag module, knee 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, slide rail and headrest for installation condition and looseness.
4) If any break or fray is found in the cover COMPL - front backrest of the driver's seat or passenger's seat, the side airbag system may not operate normally. In this case, replace the cover COMPL - front backrest with a new part.
5) For the passenger's seat, replace the frame assembly - front cushion with a new part if the frame assembly - front cushion is deformed or cracked.
6) If there are tears or loosening in the seat cover - front cushion on the passenger's side, it may interfere with the proper operation of the occupant detection system. Replace the cover - front cushion with a new part.
7) When the passenger seat cushion cover has been removed or replaced, make sure that the occupant detection system operates normally.
8) Use the Subaru Select Monitor to check whether the passenger's seat belt buckle switch is operating normally.

4. Driver's Airbag Module

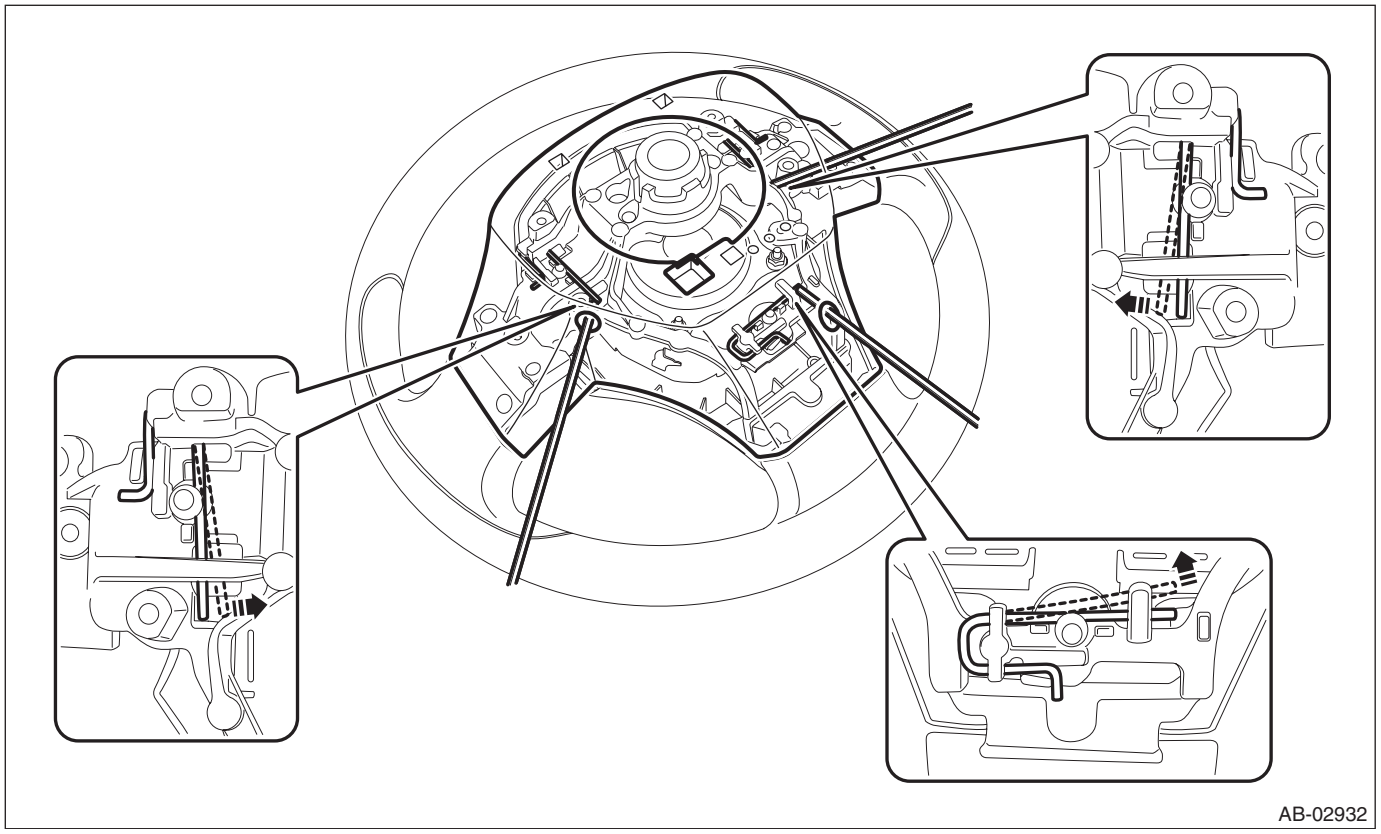
A: REMOVAL

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

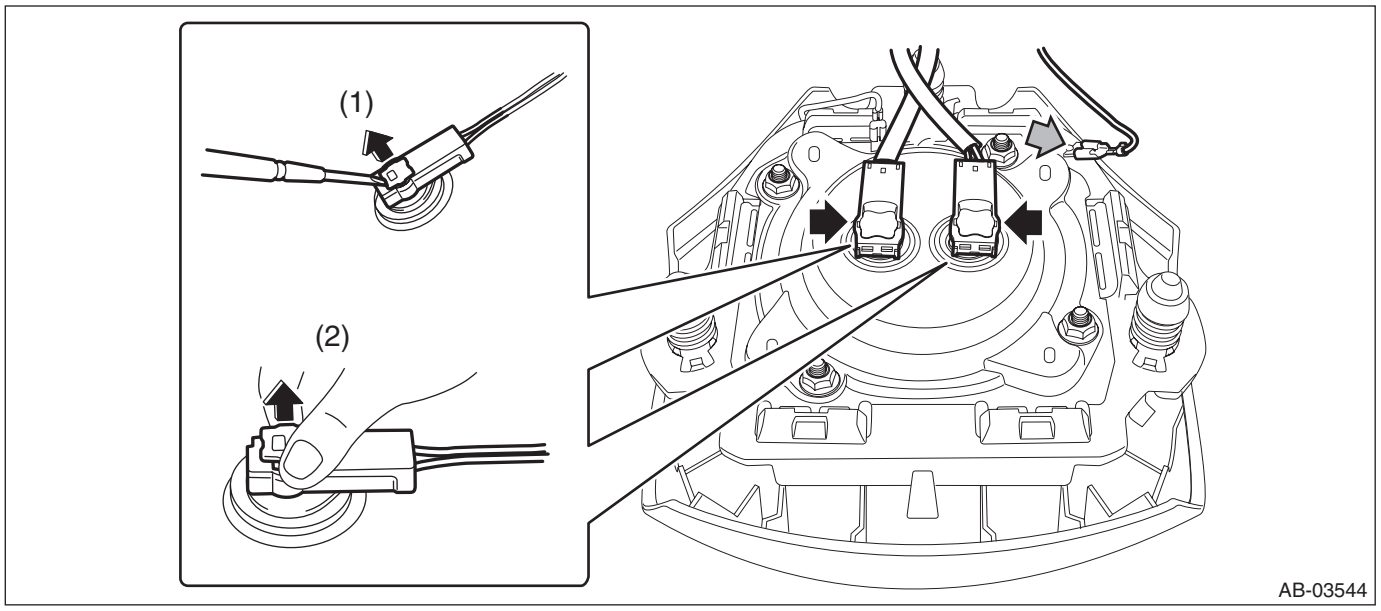
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

4) Remove the driver's airbag module.
   (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 driver's airbag module. <Ref. to AB-19, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & 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 clearance between the driver's airbag module and steering wheel is not constant.

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

CAUTION:
Make sure that the snap pin is set inside the guide.

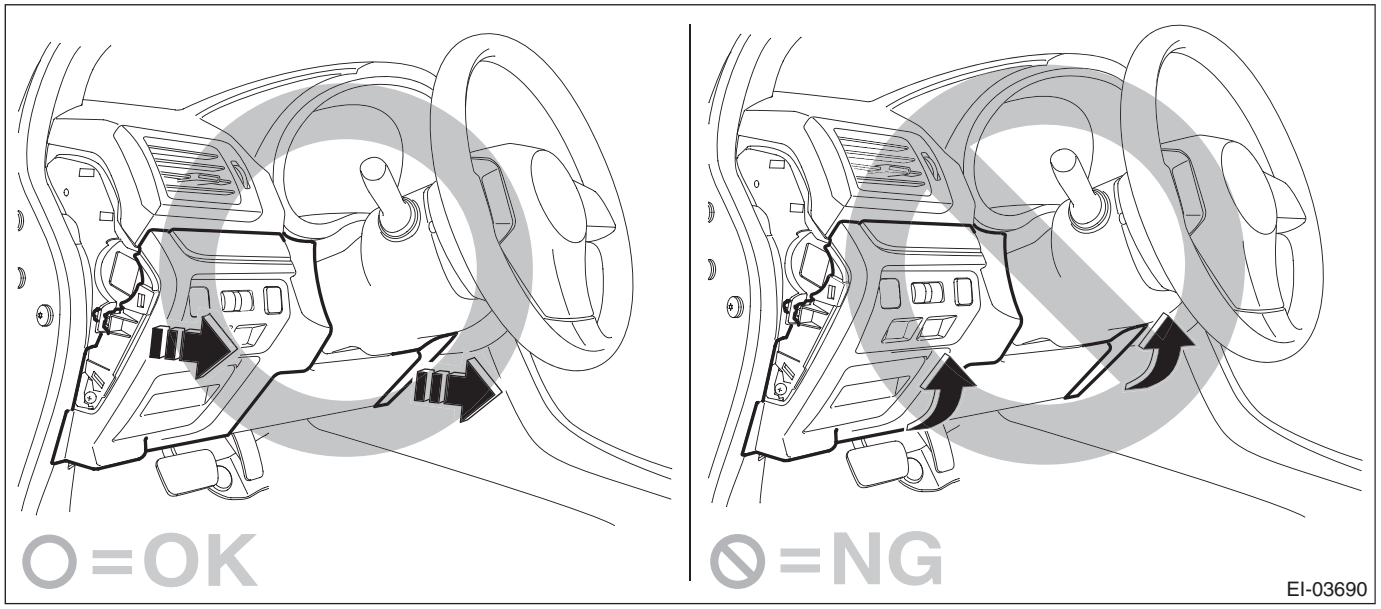
5. Knee Airbag Module

A: REMOVAL

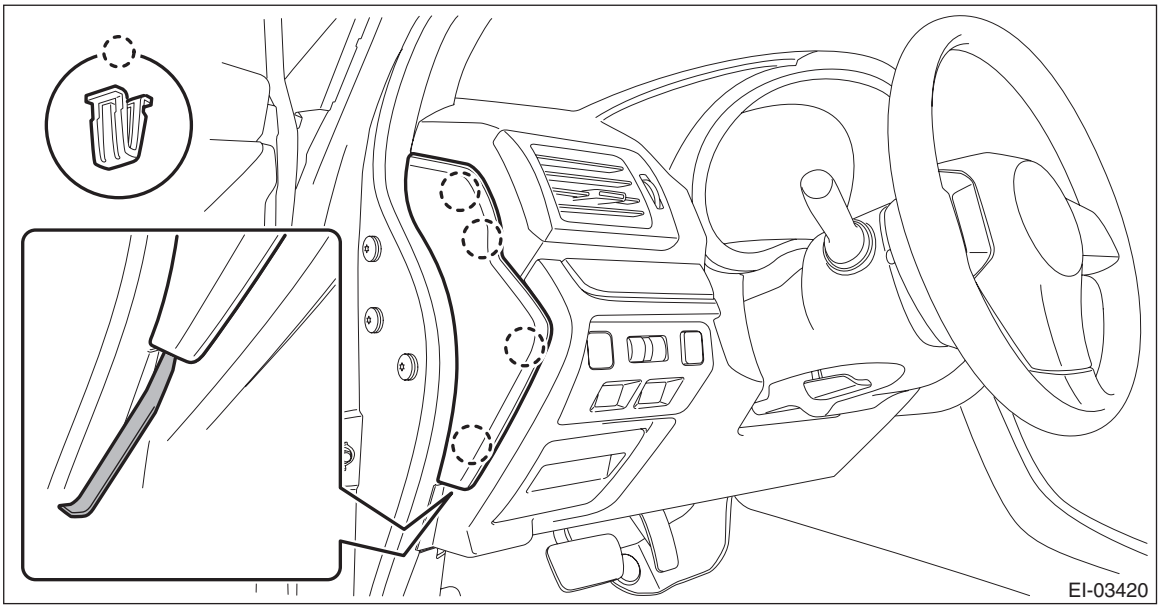
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the cover assembly - instrument panel LWR driver.

CAUTION:
When removing the cover assembly - instrument panel LWR driver, be sure to pull it toward you. If attempting to remove by turning it upward, the claws may be damaged.



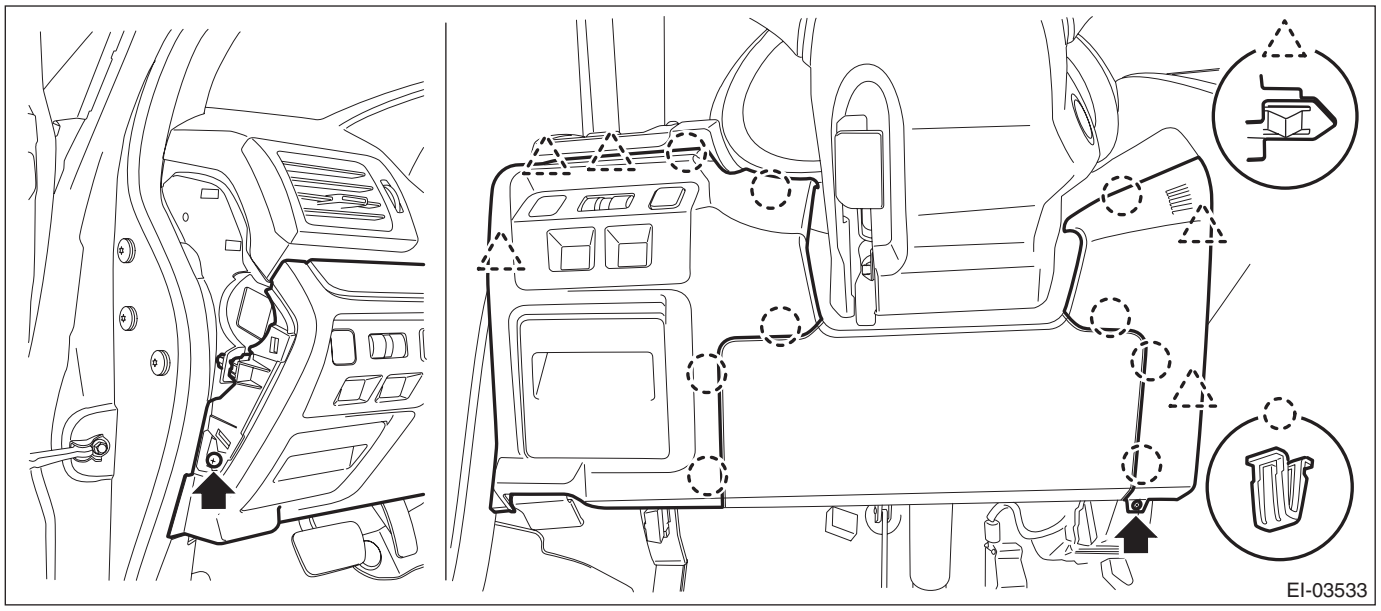
(1) Remove the clips, and remove the cover - instrument panel side LH.



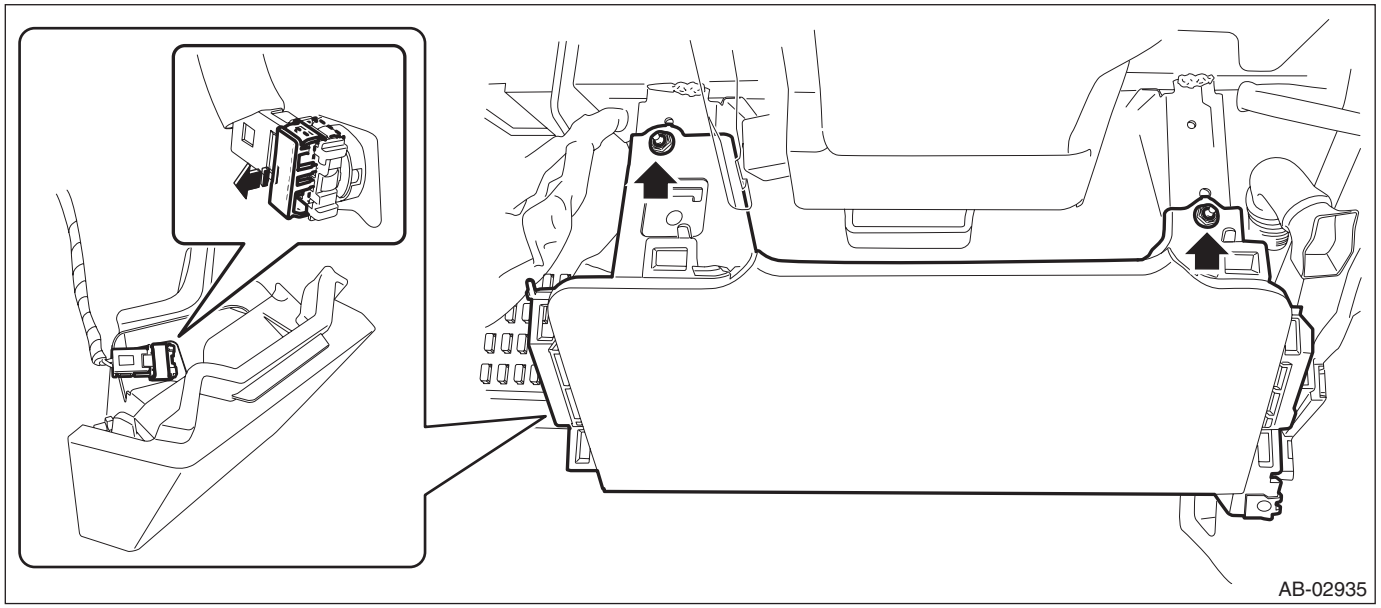
NOTE:
Using a plastic remover, open the cover - instrument panel side LH.

(2) Remove the screws and release the clips and claws.

(3) Disconnect the harness connectors, and remove the cover assembly - instrument panel LWR driver INN and the cover assembly - instrument panel LWR driver OUT.



4) Remove the nuts to remove the knee airbag module and disconnect the harness connector. <Ref. to AB-23, KNEE AIRBAG MODULE, 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.
• Knee airbag module bracket is cracked or deformed.
• Harness and/or connector is cracked, deformed or open.
• Harness wire is exposed.
• Depending on the condition of the beam COMPL - steering, installation of the knee airbag module is difficult.
2) Install each part in the reverse order of removal.

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

6. Passenger's Airbag Module

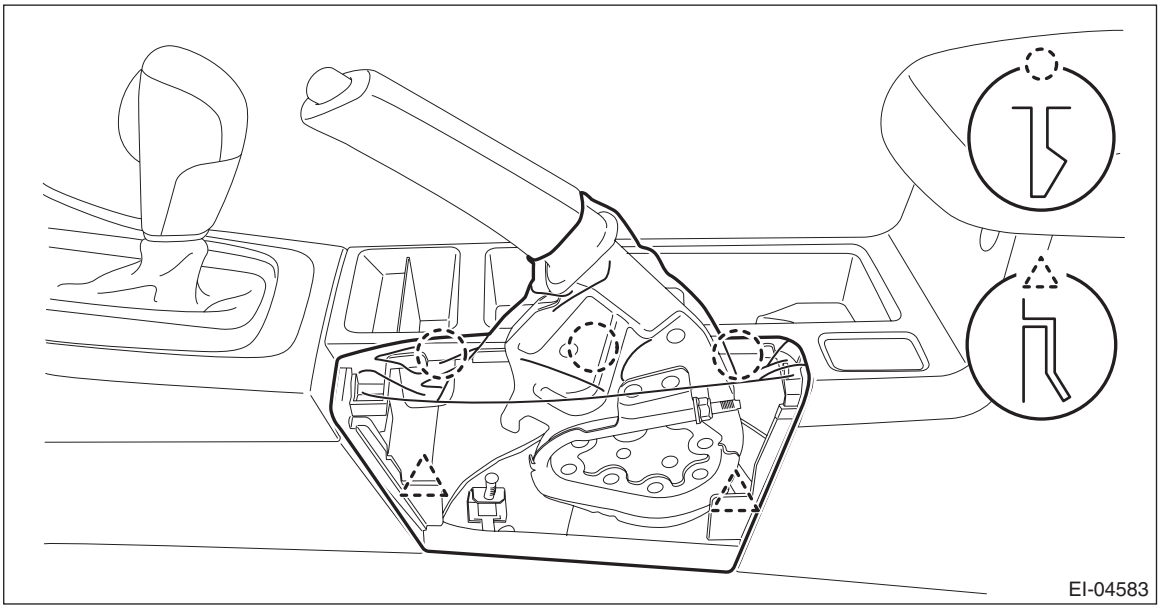
A: REMOVAL

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

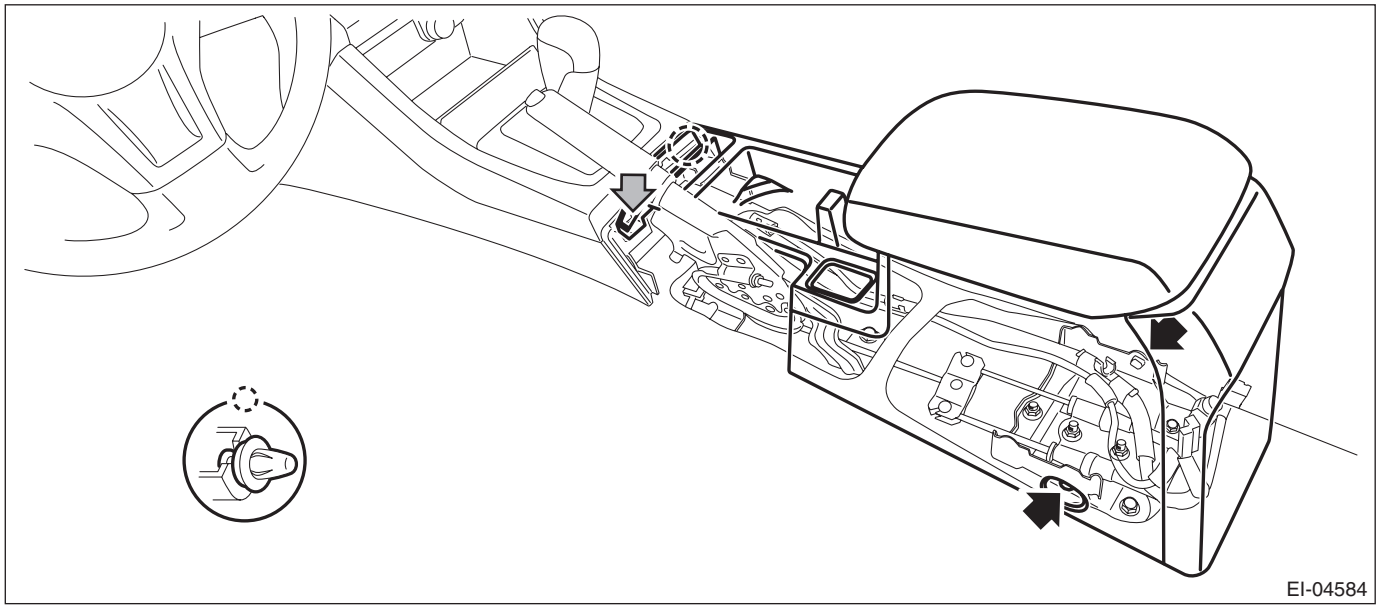
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
• For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
• On CVT models, shift the select lever into "D" before disconnecting the battery ground cable.

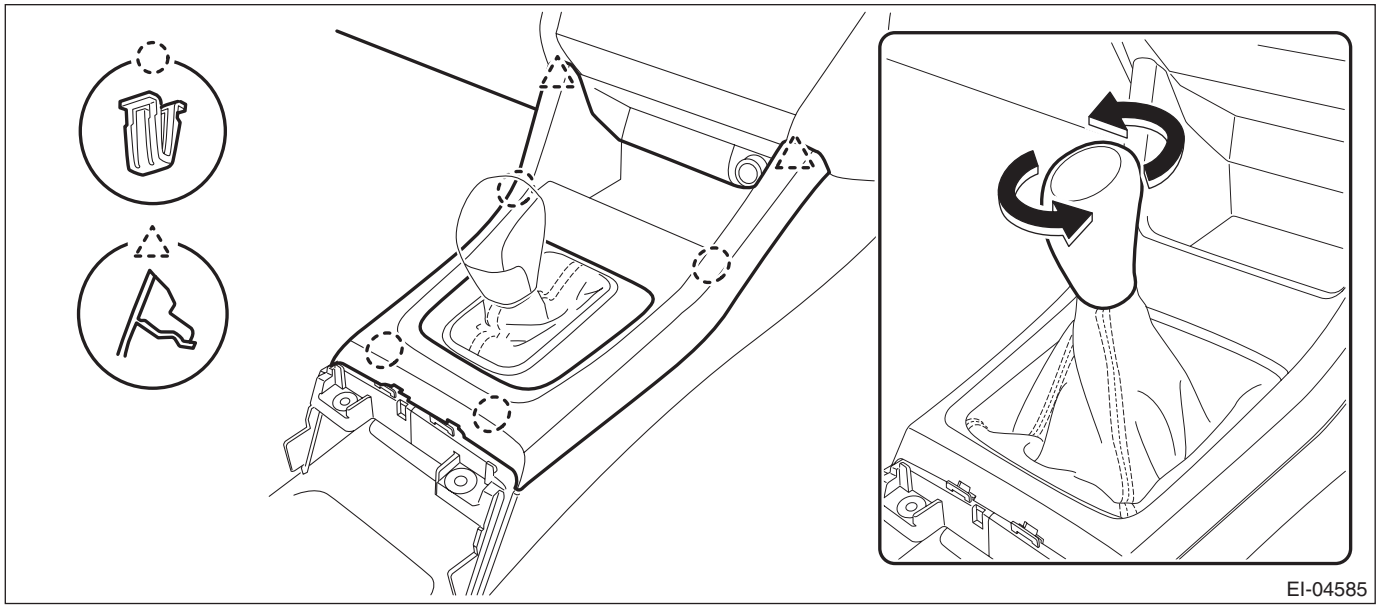
3) Remove the console box assembly.
(1) Release the claws, and then remove the boot - hand brake.



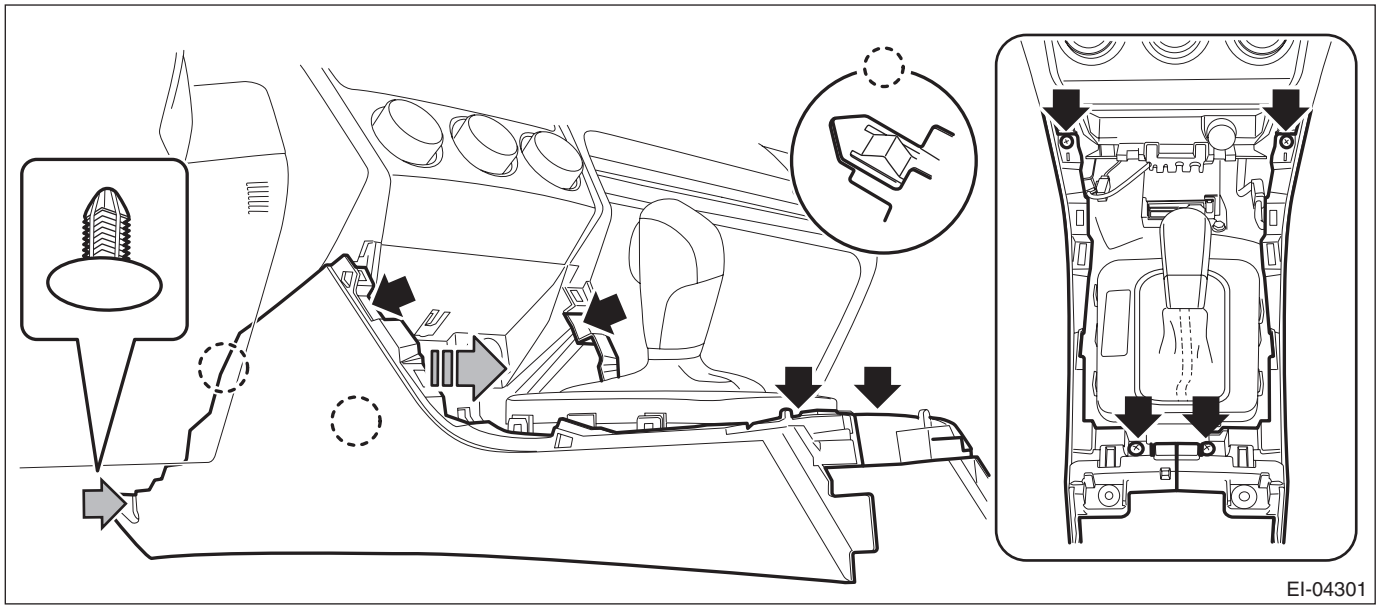
(2) Move the seat forward, and remove the bolts after detaching the left and right caps.
(3) Remove the screws, disconnect the harness connector and remove the console box assembly.



4) Remove the cover - shift lever.
   (1) Remove the shift knob. (MT model)
   (2) Release the clips and claws, then pull up the cover - shift lever.

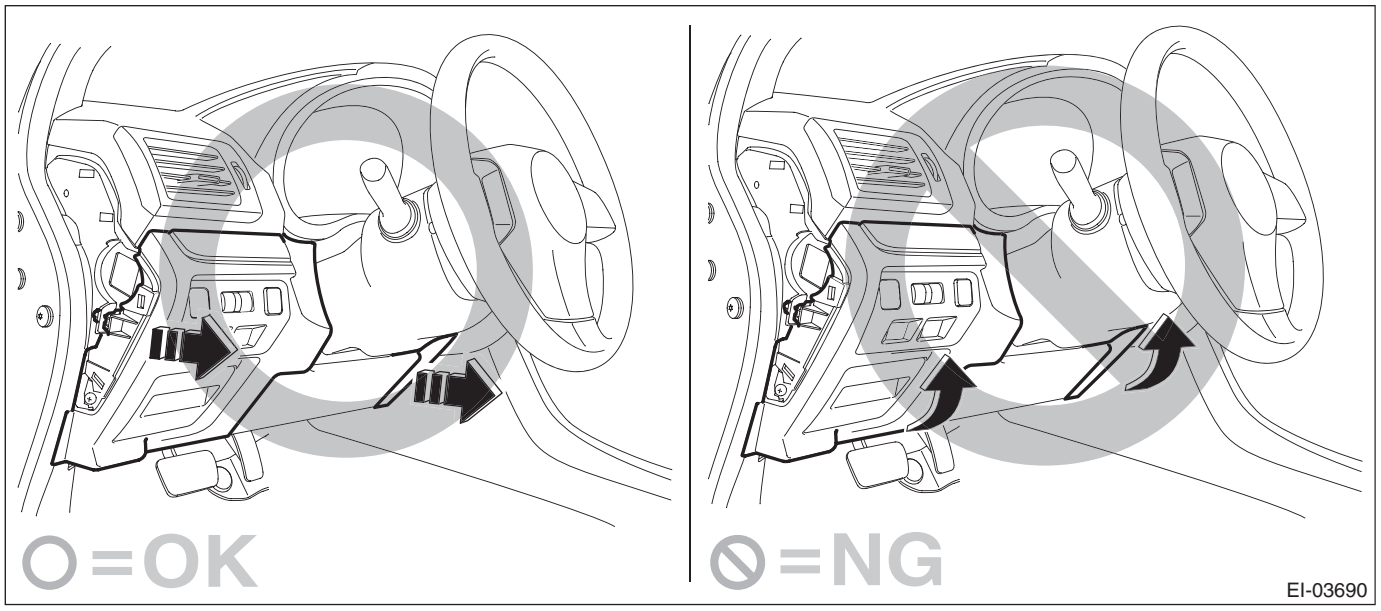


5) Remove the left and right panel center LWR.
   (1) Remove the screws and clips.
   (2) Release the claws, and then pull the panel center LWR to remove.

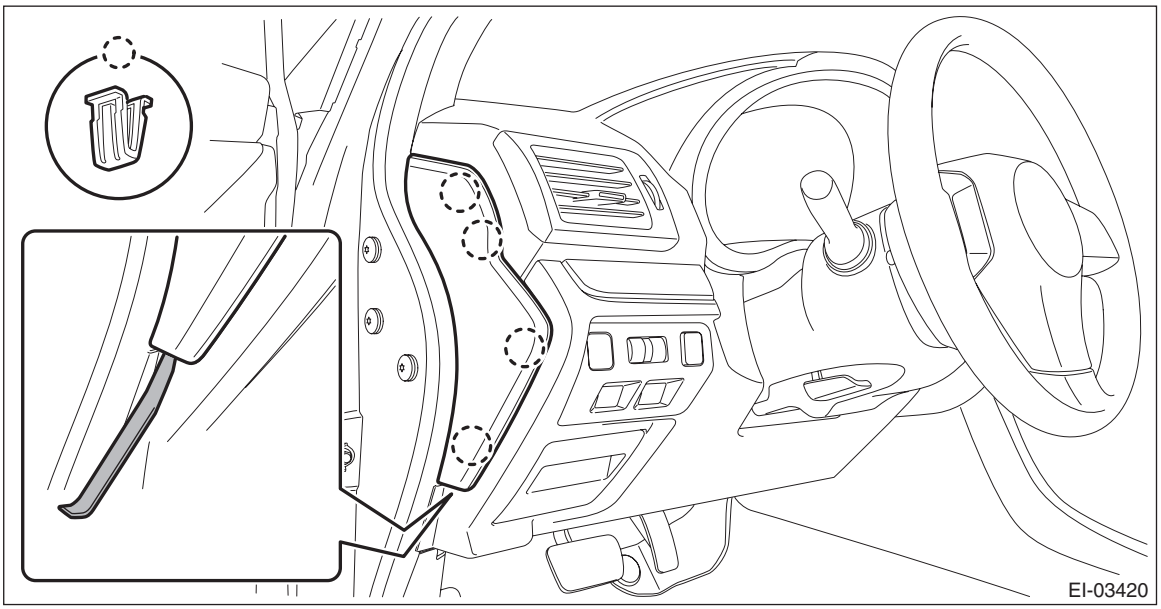


6) Remove the cover assembly - instrument panel LWR driver.

CAUTION:
When removing the cover assembly - instrument panel LWR driver, be sure to pull it toward you. If attempting to remove by turning it upward, the claws may be damaged.



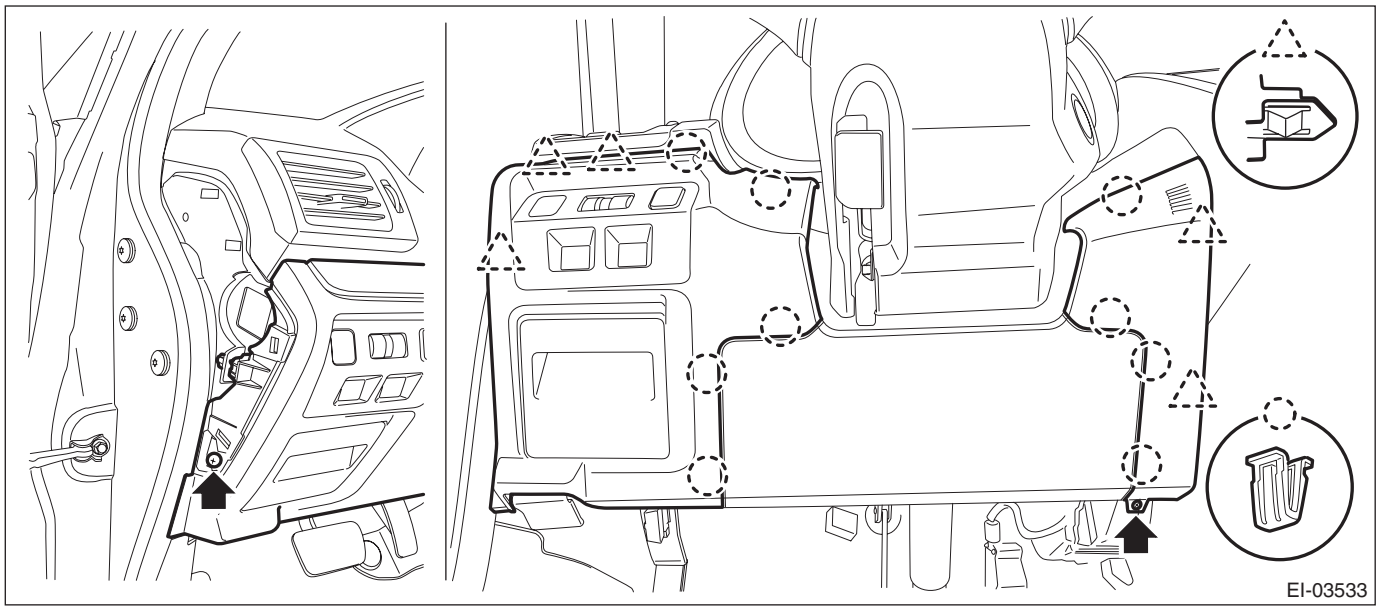
(1) Remove the clips, and remove the cover - instrument panel side LH.



NOTE:
Using a plastic remover, open the cover - instrument panel side LH.

(2) Remove the screws and release the clips and claws.

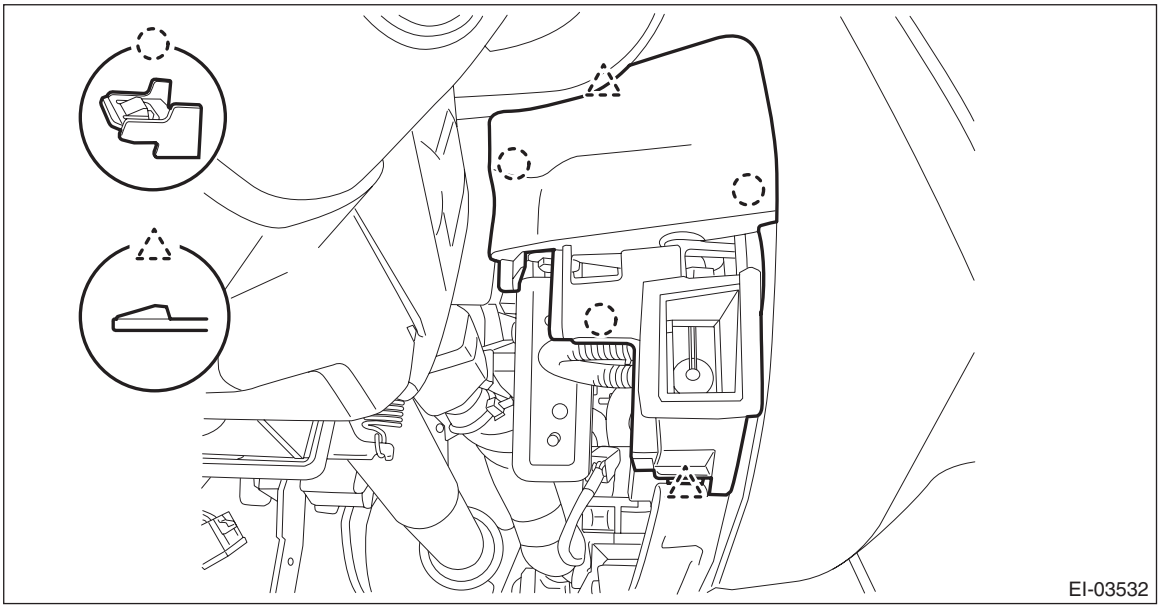
(3) Disconnect the harness connectors, and remove the cover assembly - instrument panel LWR driver INN and OUT.



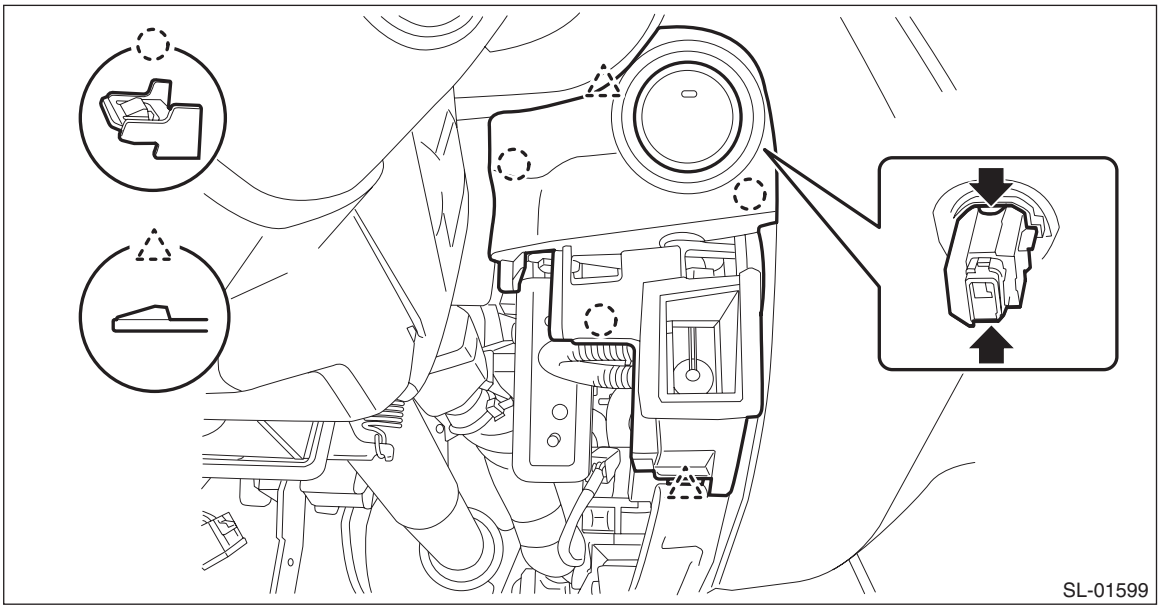
7) Remove the cover switch - starter. (Model without keyless access)

(1) Release the claws and remove the cover switch - starter.

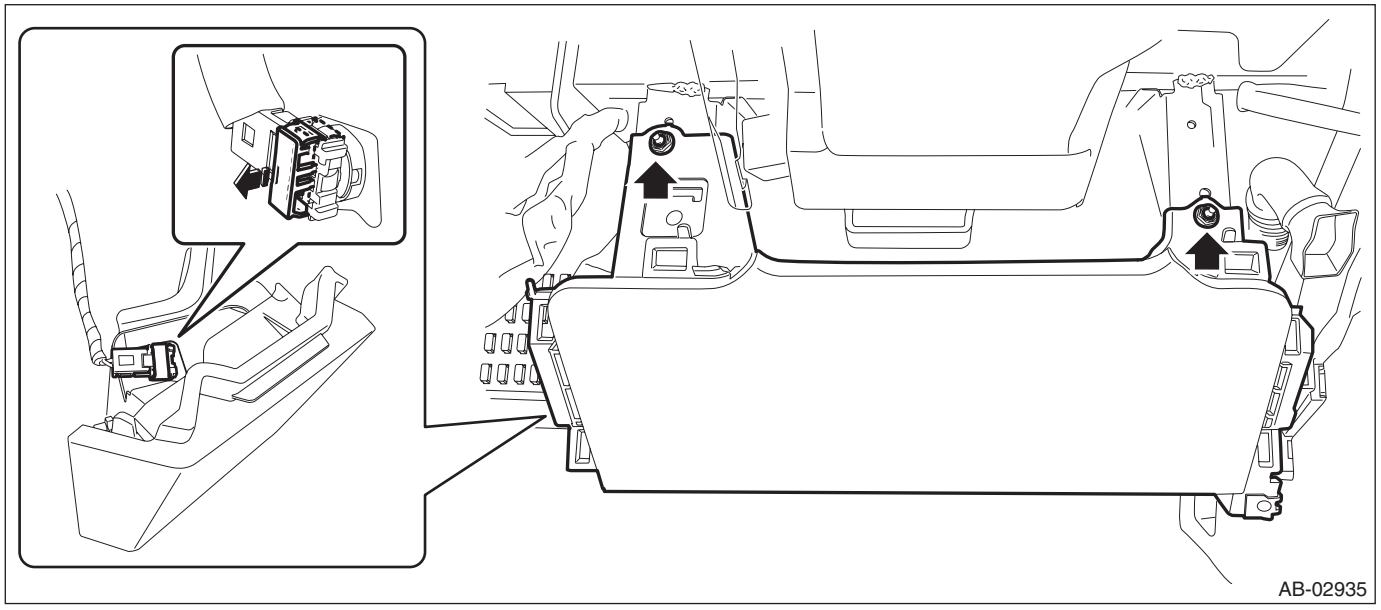
(2) Disconnect the connector and aspirator hose.



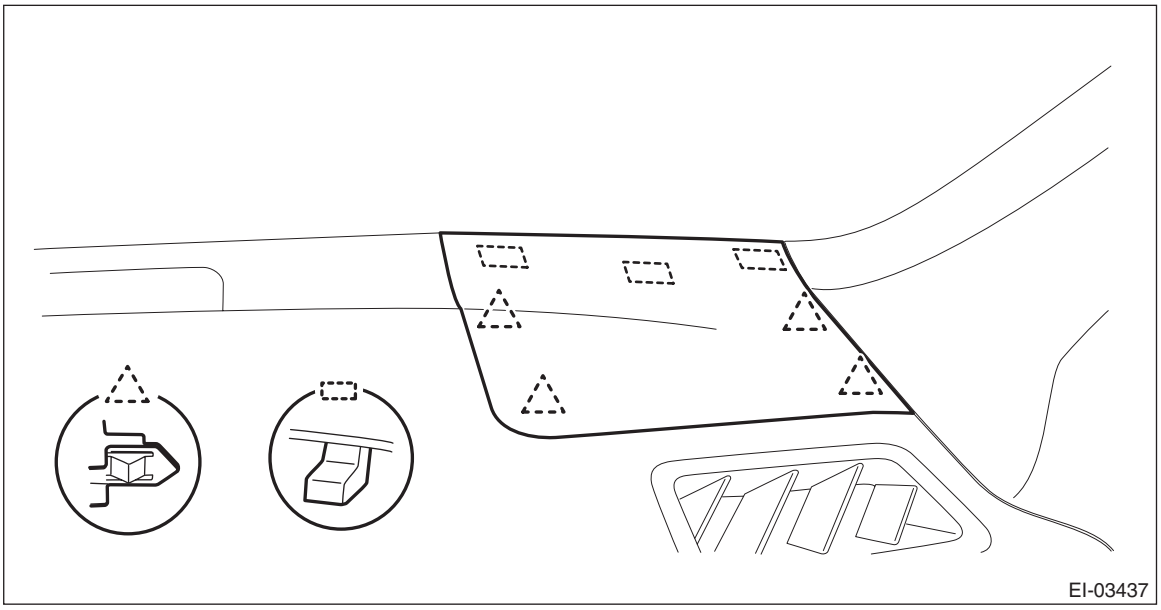
8) Remove the panel - switch. (Model with keyless access)
(1) Release the claw of the switch - push button start, and disconnect the connector.
(2) Release the claws, and then remove the panel - switch.
(3) Disconnect the connector and aspirator hose.



9) Remove the nuts to remove the knee airbag module and disconnect the harness connector. <Ref. to AB-23, KNEE AIRBAG MODULE, PROCEDURE, Airbag Connector.>



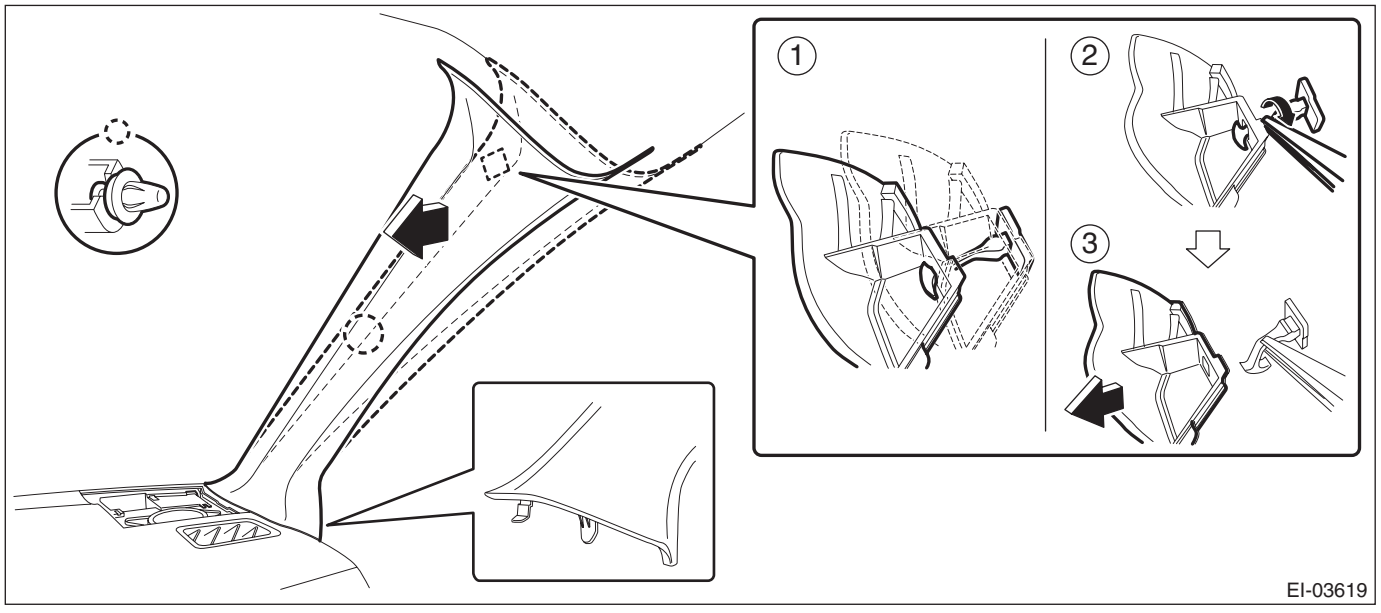
10) Release the clips and claws, then detach the left and right grille speaker side.



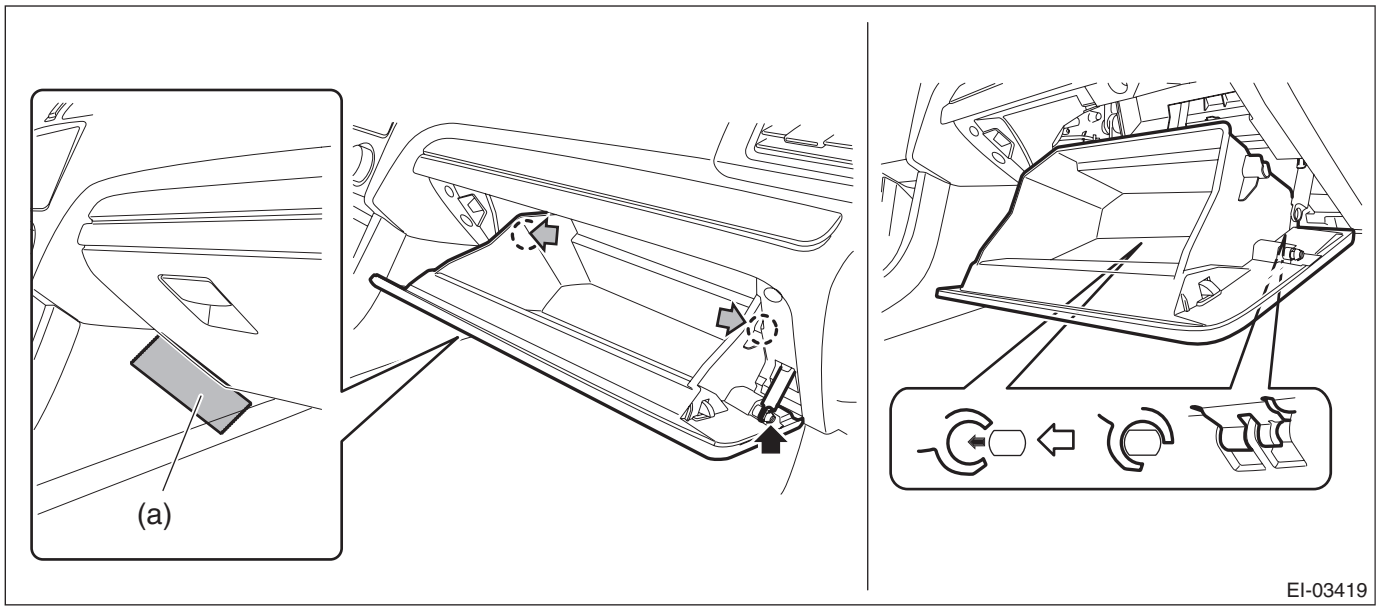
NOTE:
Remove the grille speaker side by using a plastic remover.

11) Remove the trim panel - front pillar UPR on the left and right sides.
(1) Pull the upper part of the trim panel - front pillar UPR 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.

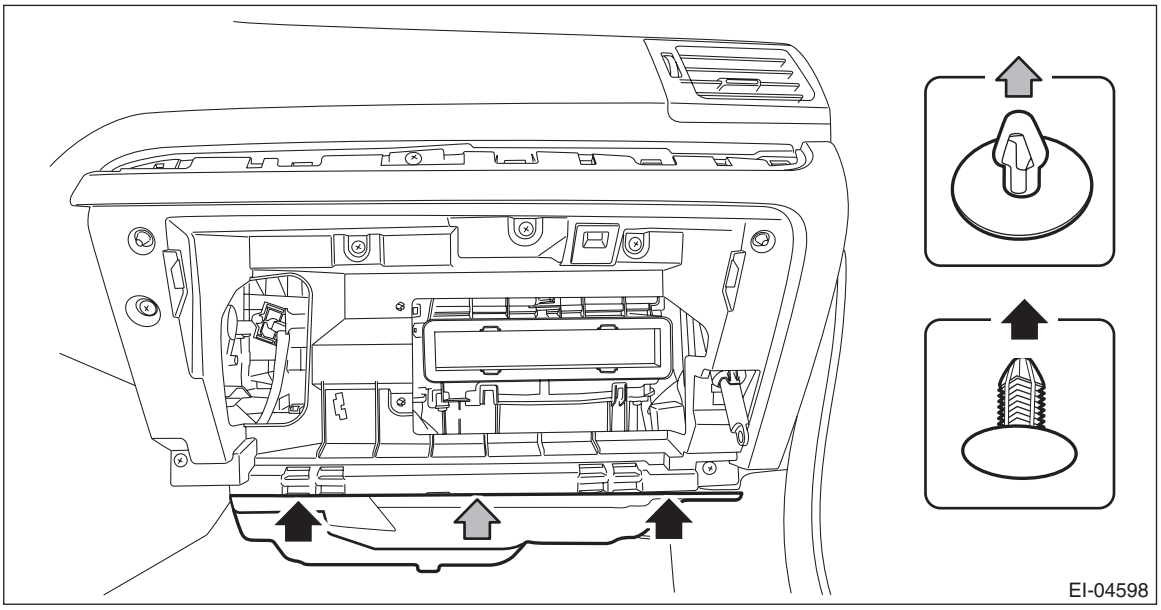
CAUTION:
Be careful not to damage the pillar trim surface and curtain airbag module when inserting the pliers.
(3) Holding the tether clip twisted as in the previous step, remove the trim panel - front pillar UPR from the tether clip.
(4) Remove the clips, and remove the trim panel - front pillar UPR.



12) Remove the pocket assembly.
(1) Attach the protective tape (a) to the panel center LWR.
(2) Remove the damper COMPL - pocket.
(3) Release the stoppers and remove the pocket assembly by pulling it toward you.



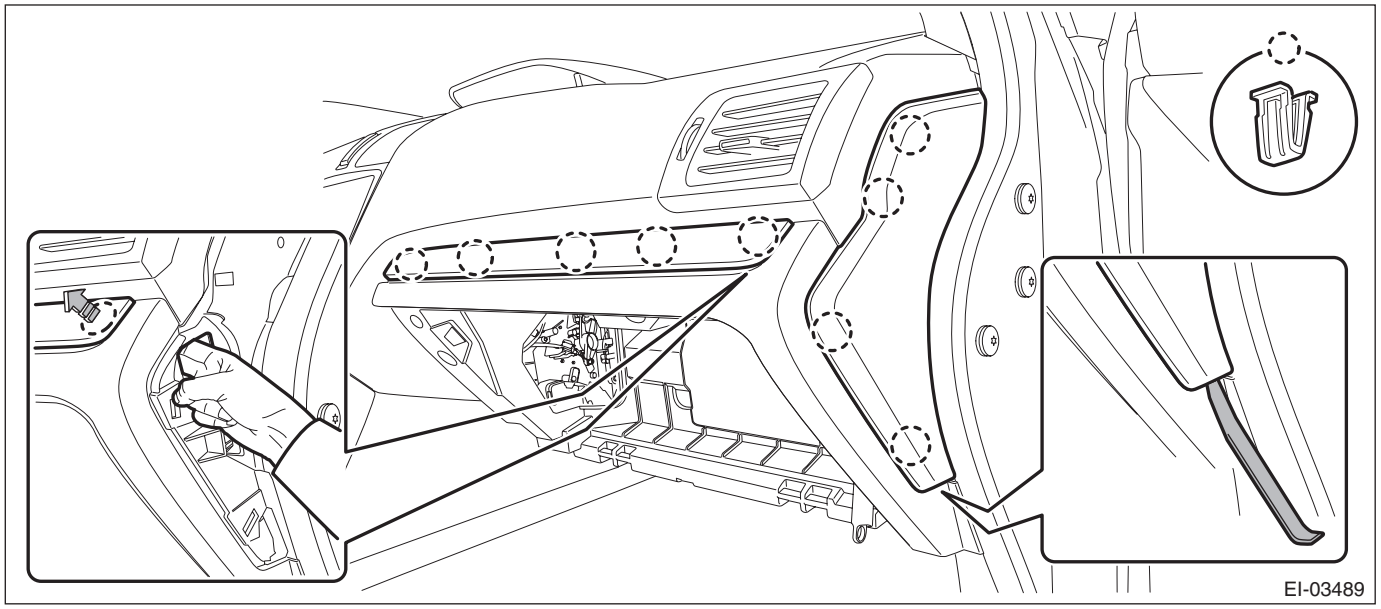
13) Remove the back panel - pocket.
(1) Release the clips, and remove the under cover assembly - passenger.



(2) Remove the clips, and remove the cover - instrument panel side RH.

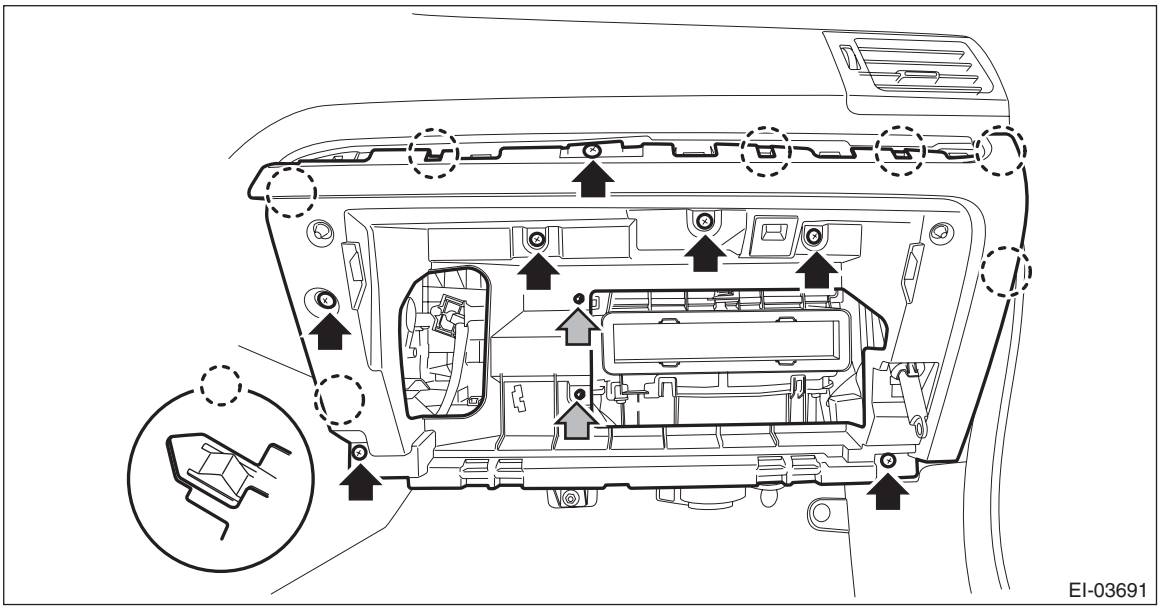
NOTE:
Remove the cover - instrument panel side RH by using a plastic remover.

(3) Release the clips, and remove the ornament - panel assembly passenger.



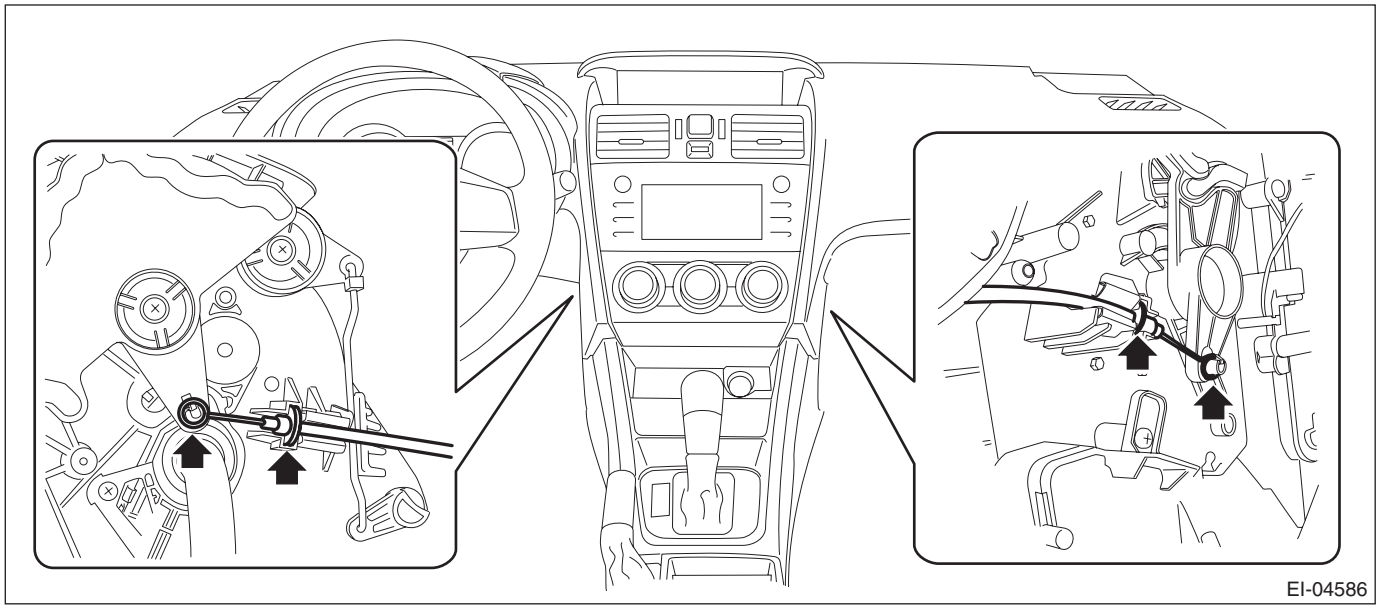
NOTE:
To facilitate the removal, push the clip of the ornament - panel assembly passenger from the backside.

(4) Release the claws and remove the screws, then remove the back panel - pocket.

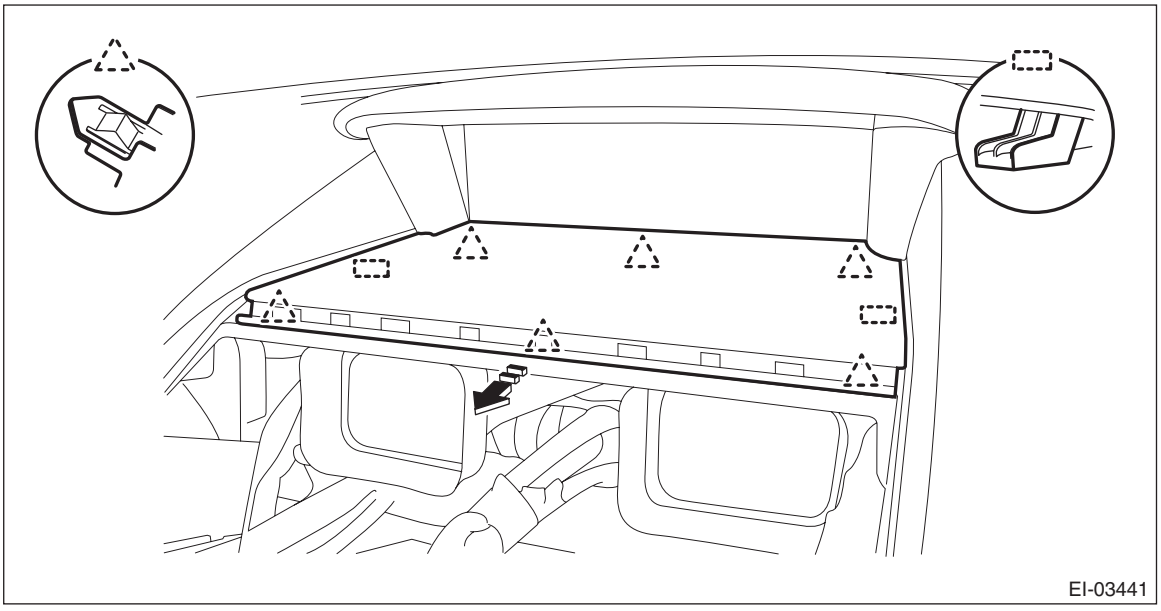


(5) Disconnect the glove box light LED connector.

14) On manual A/C models, disconnect the control cables from both sides of the heater & cooling unit.



15) Remove the center grille assembly. <Ref. to AC-104, REMOVAL, Air Vent Grille.>
16) Remove the audio assembly or navigation assembly. <Ref. to ET-12, REMOVAL, Audio.>
17) Remove the multi-function display assembly.
(1) Disconnect the claws and then remove the cover center UPR.

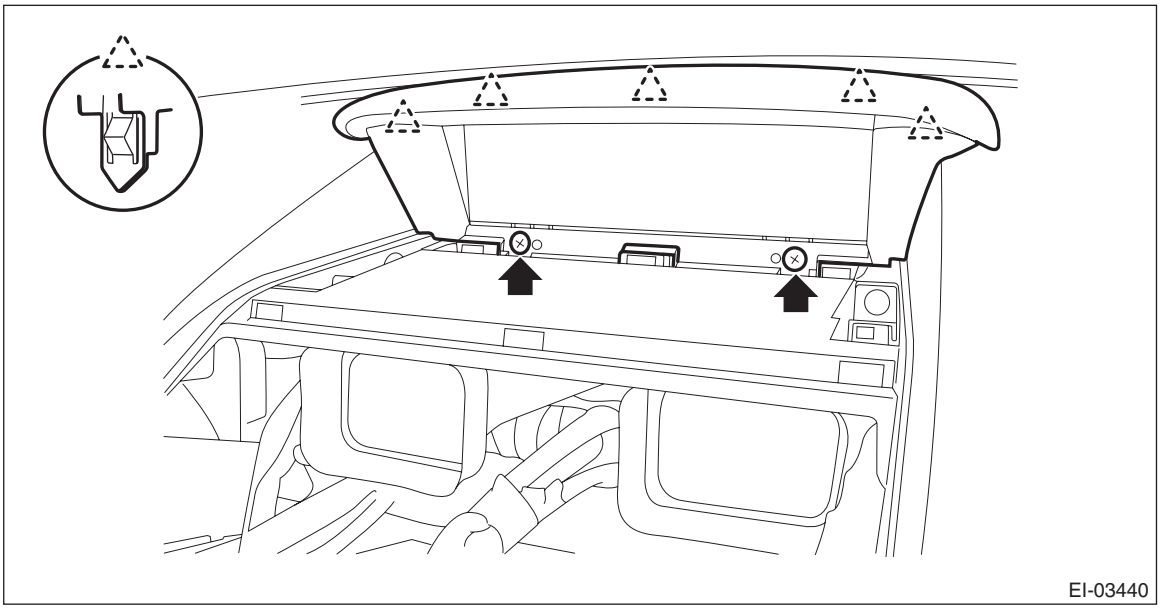


NOTE:
Lightly push up the back of the cover center UPR, hook the finger to the end portion and pull it toward you to remove it.

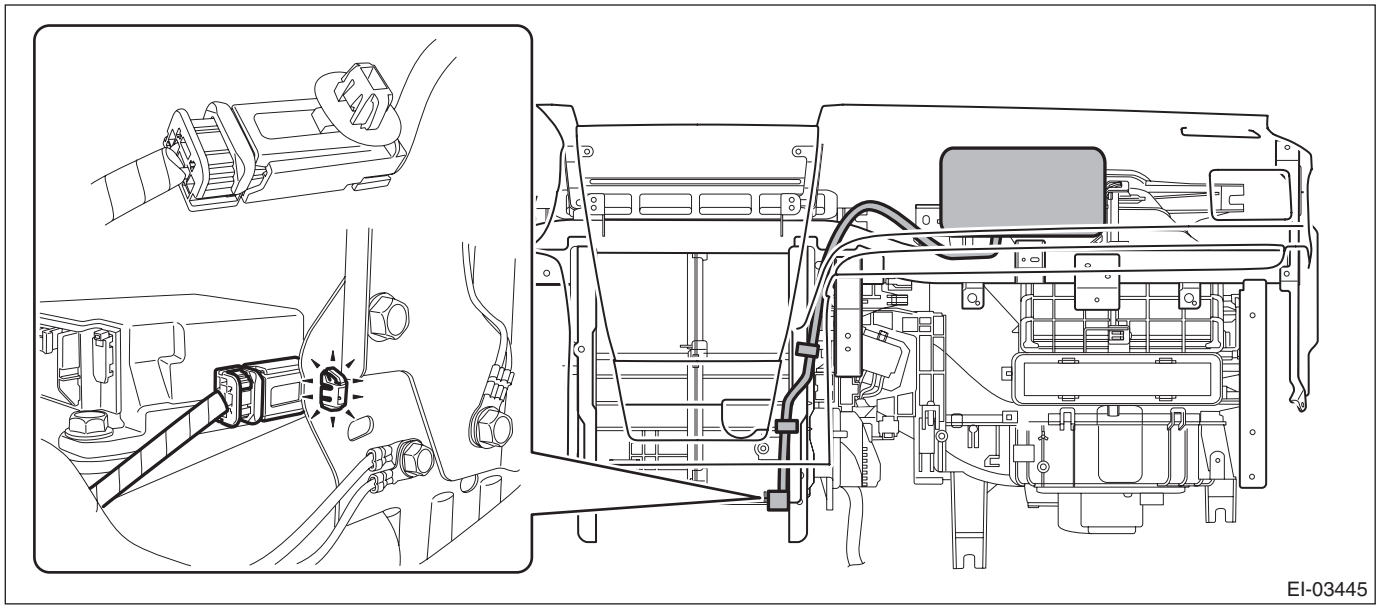
(2) Release the screws and claws, and then remove the panel - display UPR and the panel - display LWR.

NOTE:
Remove the panel - display UPR & panel - display LWR and the multi-function display assembly as a unit.

(3) Disconnect the connector and remove the multi-function display assembly.



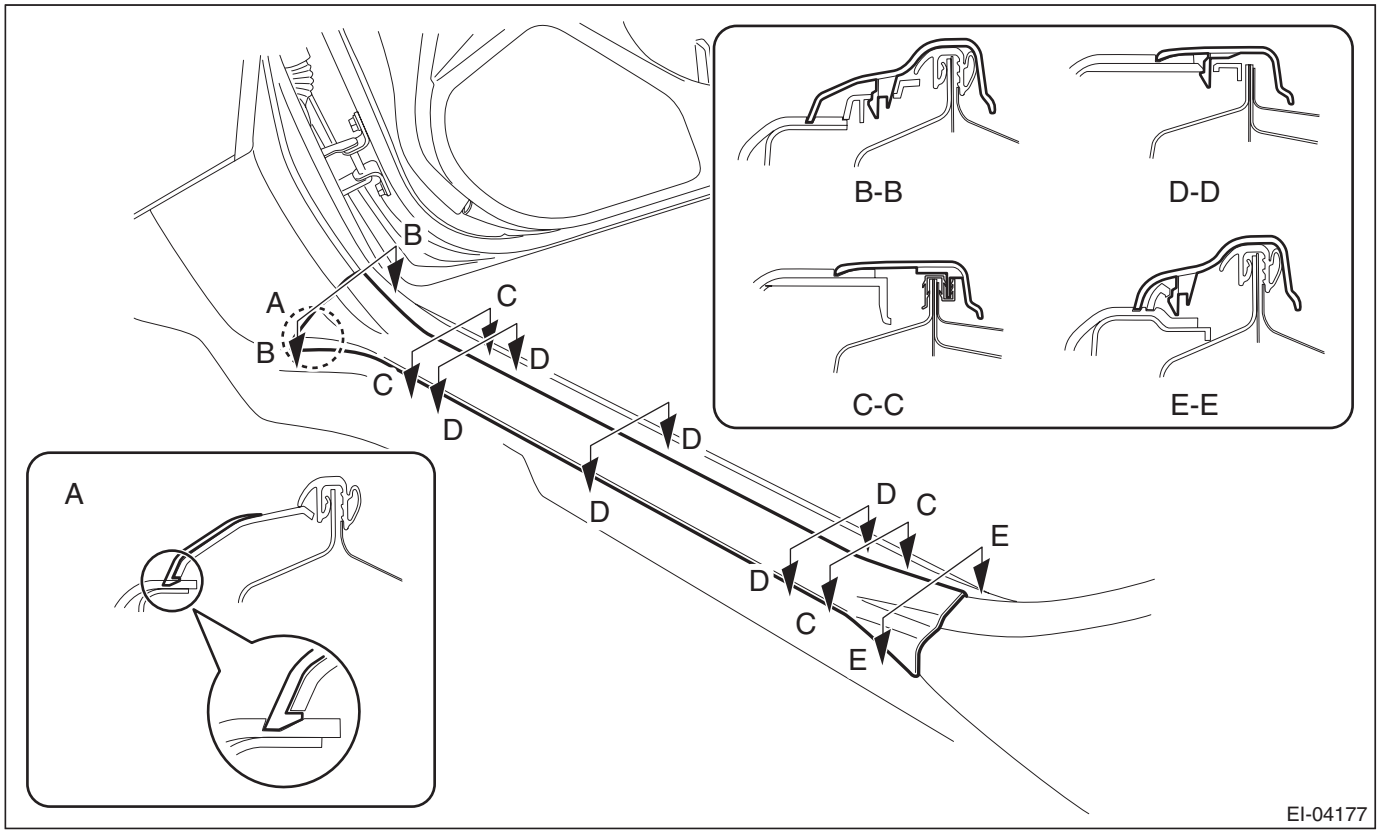
18) Remove the combination meter assembly. <Ref. to IDI-20, REMOVAL, Combination Meter.>
19) Disconnect the passenger's airbag module connector. <Ref. to AB-19, PASSENGER'S AIRBAG MODULE, PROCEDURE, Airbag Connector.>



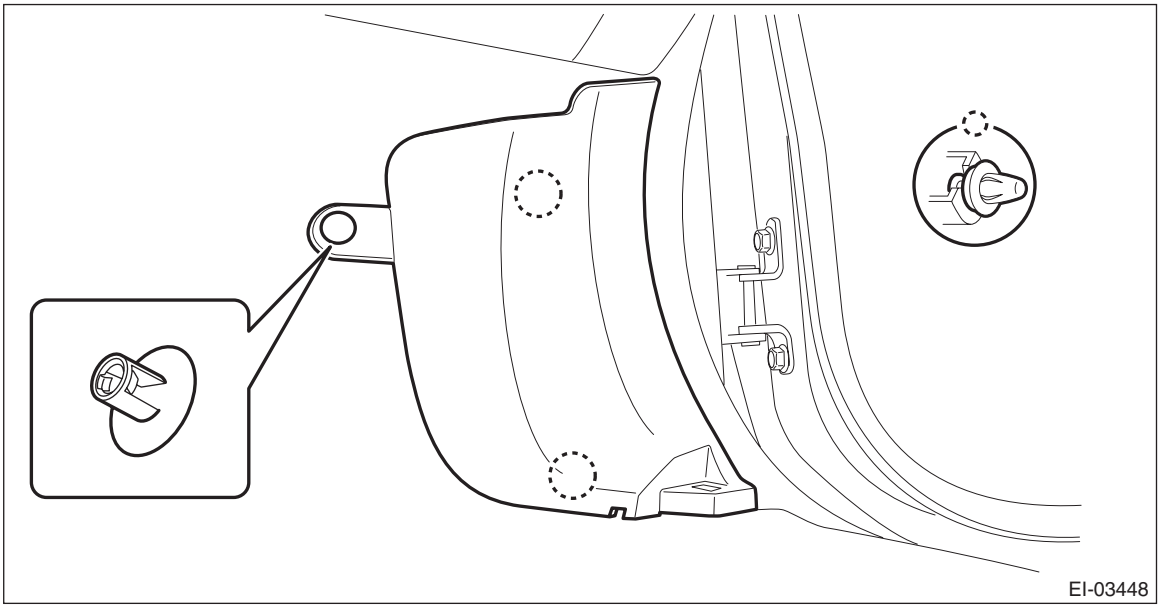
20) Remove the column assembly - steering. <Ref. to PS-19, REMOVAL, Steering Column.>

21) Release the claws, and then remove the cover side sill - front INN on LH and RH sides.

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



22) Remove the clip, and remove the cover side sill - front on LH and RH sides.



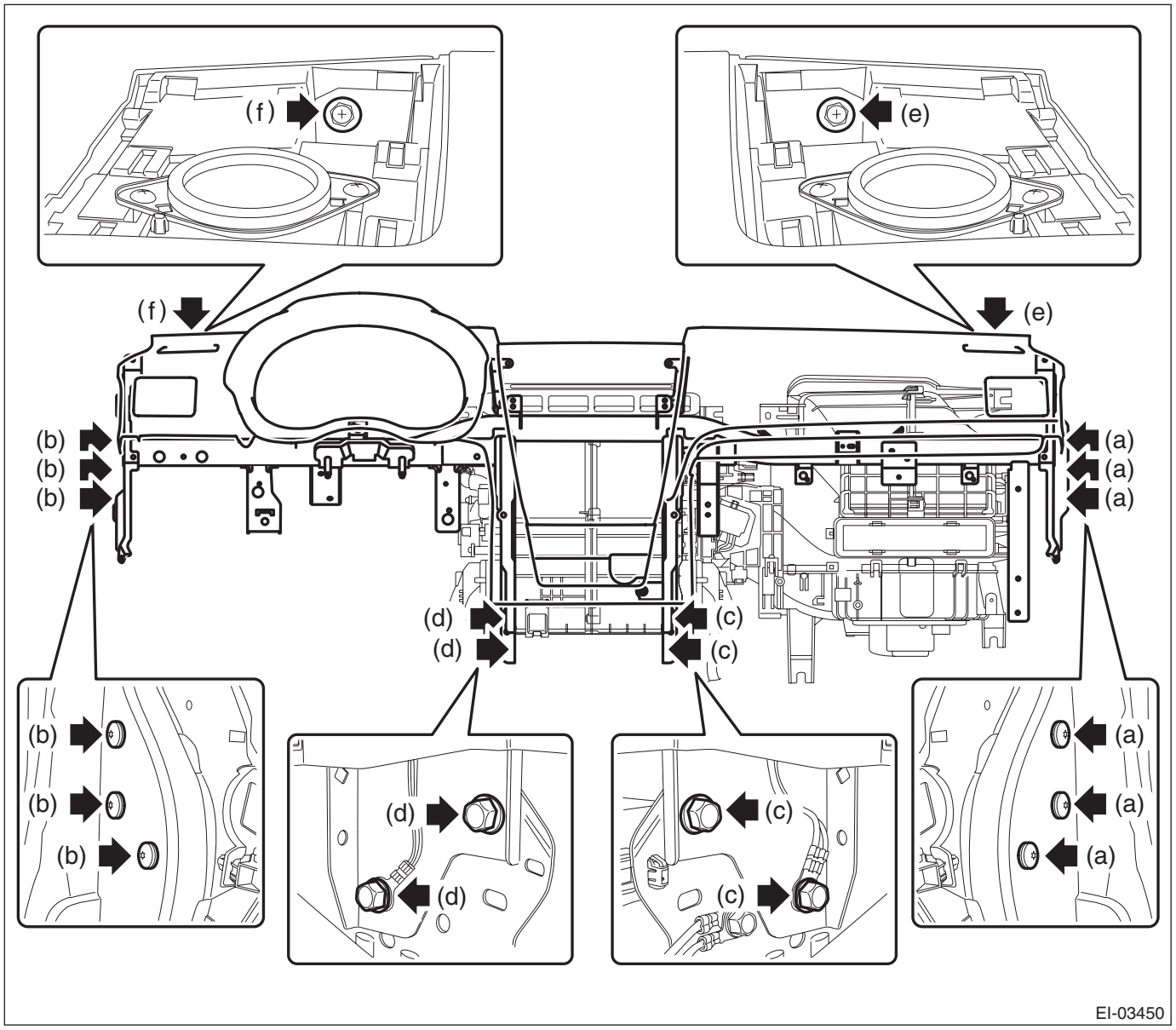
23) Remove the instrument panel assembly and the beam COMPL - steering as a unit.

CAUTION:
The instrument panel assembly and the beam COMPL - steering are heavy. Always work in a team of two persons when removing them from the vehicle, so as not to damage the vehicle interior.

(1) Remove the fuse box and relay box.
(2) Disconnect all harness clamps and connectors of the instrument panel harness.
(3) Remove the TORX® bolt. (a), (b)

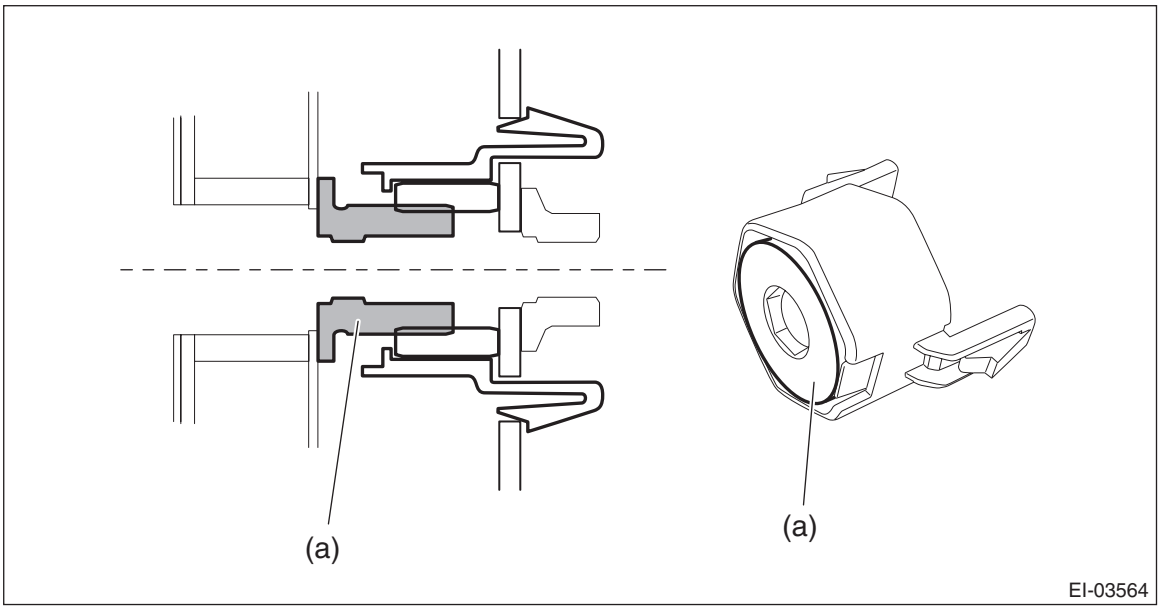
Preparation tool:
TORX® T40

(4) Remove the bolts at the floor center. (c), (d)
(5) Remove the bolt. (e), (f)



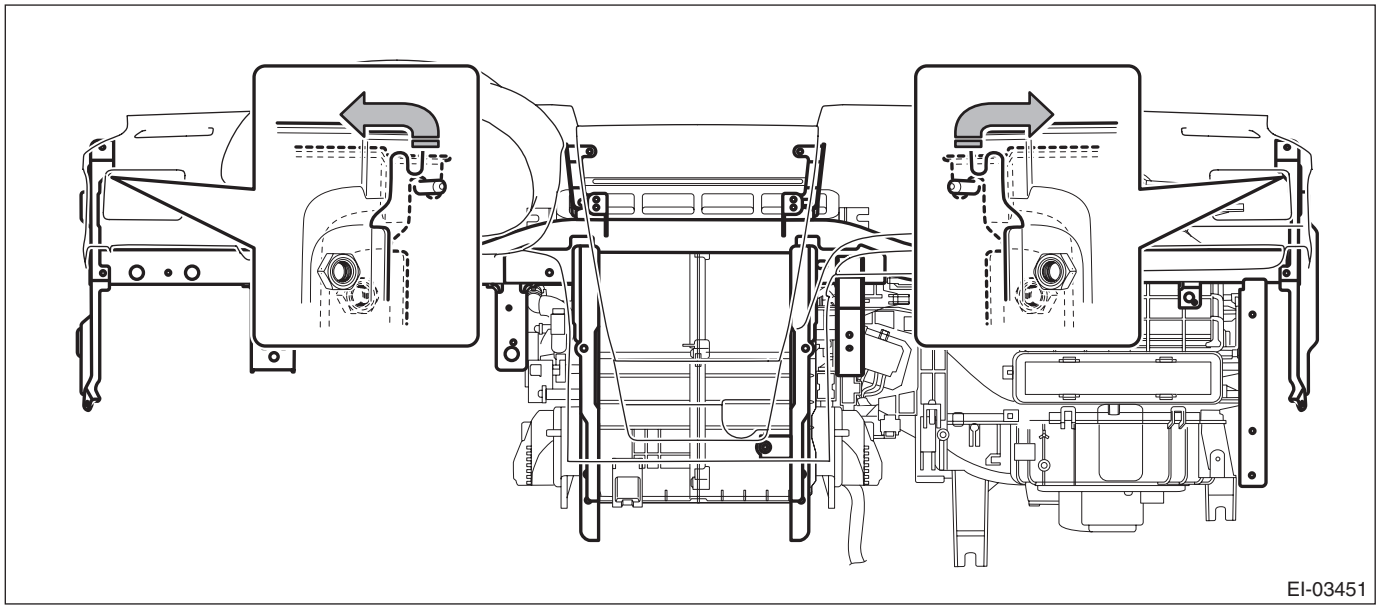
(6) Loosen the adjuster portion (a) of the adjuster - clip space. (only passenger's side of beam COMPL - steering)

Preparation tool:
Hexagon wrench: 8 mm (0.31 in)

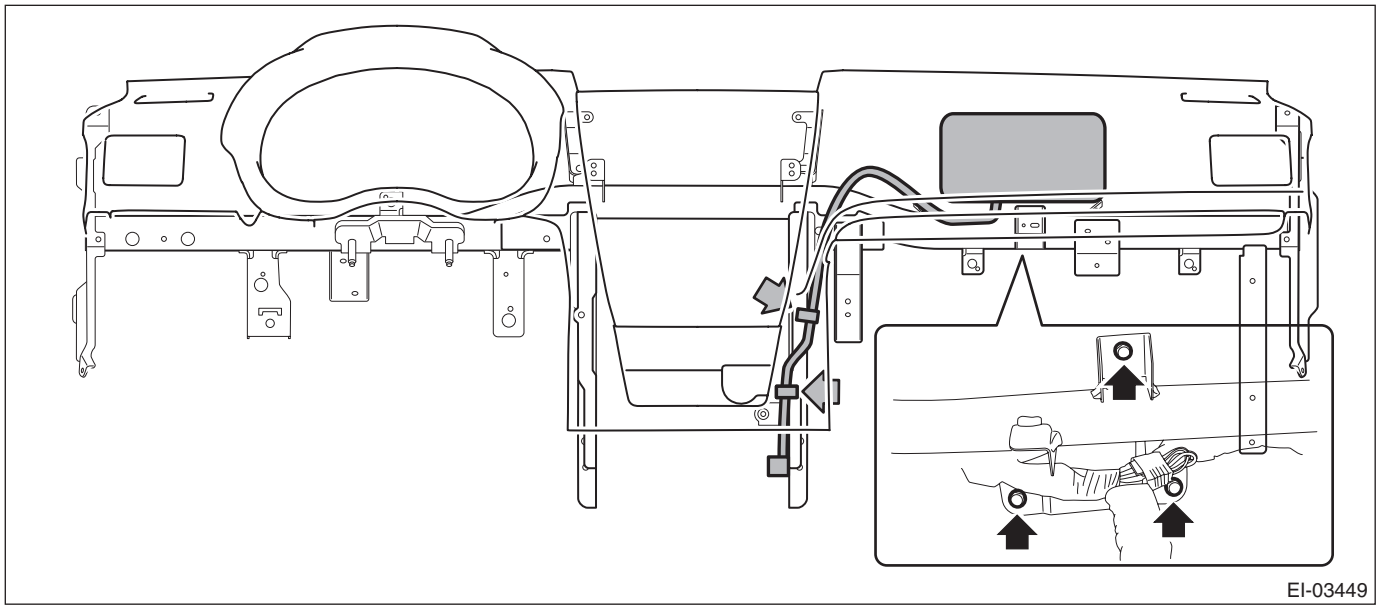


(7) Slightly lift the instrument panel assembly together with the beam COMPL - steering to detach the left and right pins. Then pull it toward you to remove the assembly.

CAUTION:
• Check that all harness clamps and connectors are detached.
• The instrument panel assembly and the beam COMPL - steering are heavy. Always work in a team of two persons when removing them from the vehicle, so as not to damage the vehicle interior.



24) Separate the panel COMPL - instrument and the beam COMPL - steering.
(1) Remove the clamps and bolts of the passenger's airbag module harness.

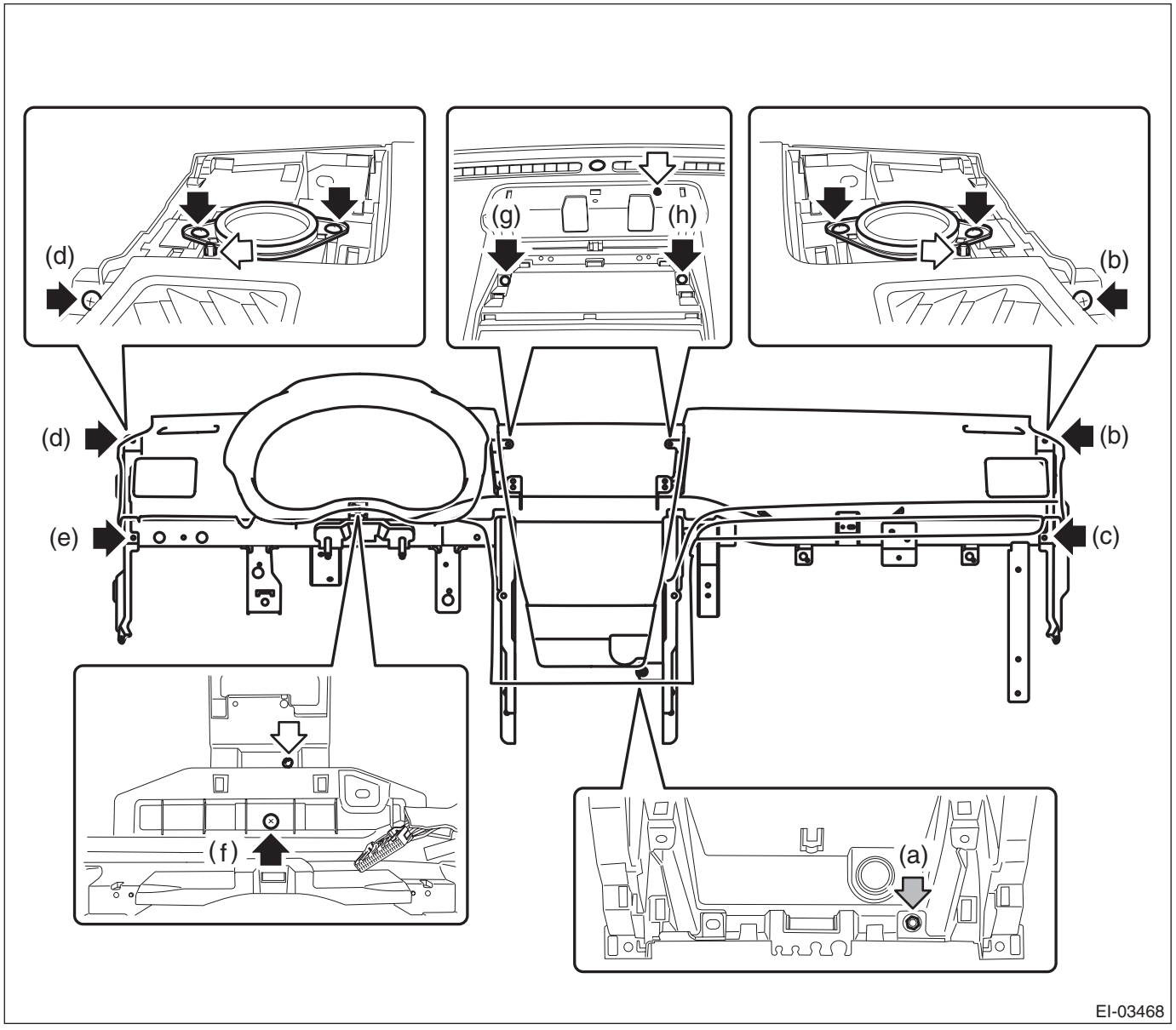


(2) Remove the left and right speakers and the sensor - sunload.

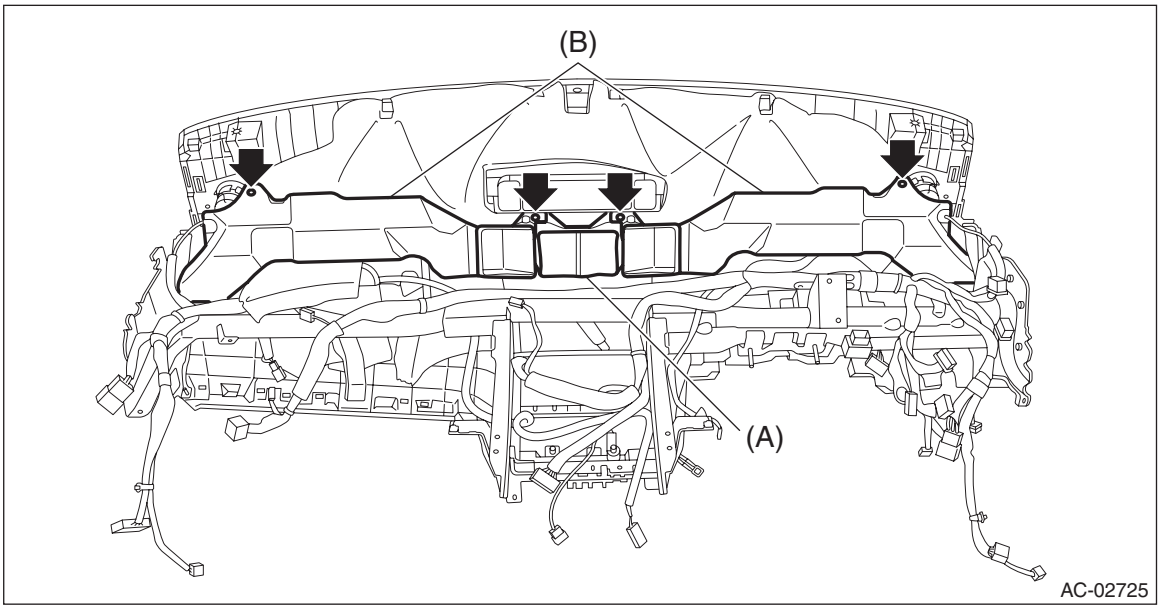
NOTE:
Detach the harness clamp together.

(3) Disconnect the front accessory socket connector.
(4) Remove the nut (a) and screws (b), (c), (d), (e), (f), (g) and (h).

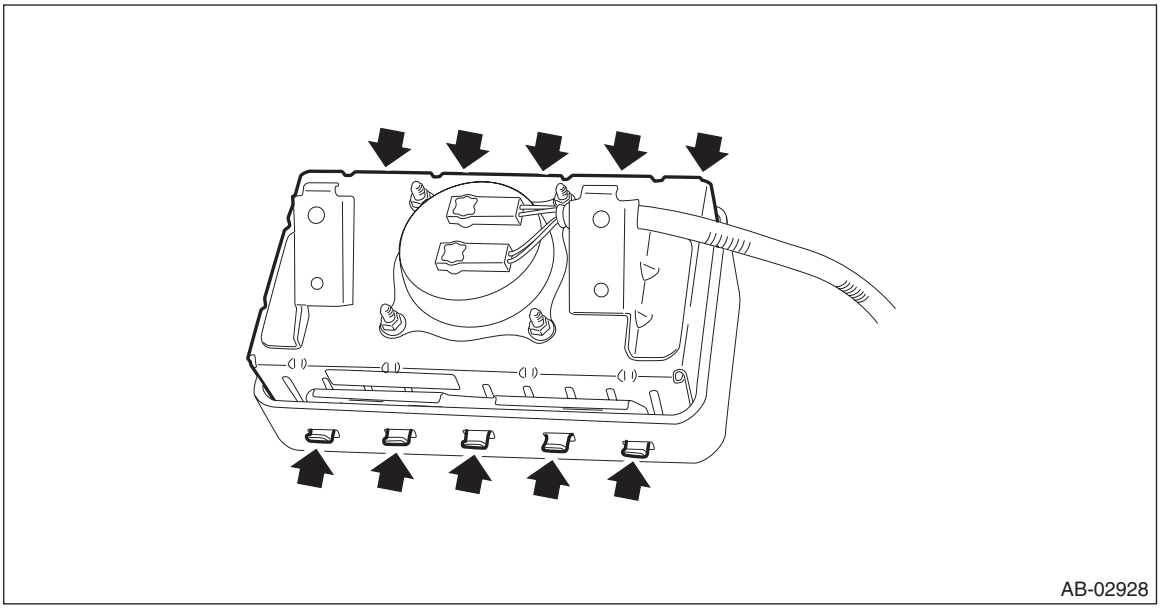
(5) While being careful with the harness, separate the panel COMPL - instrument and the beam COMPL - steering.



25) Remove the screws and remove the front (A) and side vent duct LH/RH (B).



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



27) 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.
• When reusing the tether clip on the upper part of the trim panel - front pillar UPR, check that there is no damage to the tether clip. If the tether clip is damaged, its holding force is reduced and the trim panel - front pillar UPR may come off. Be sure to replace it with a new tether clip.

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.

NOTE:
Refer to the installation procedure of the "Instrument Panel Assembly". <Ref. to EI-99, INSTALLATION, Instrument Panel Assembly.>

7. Side Airbag Module

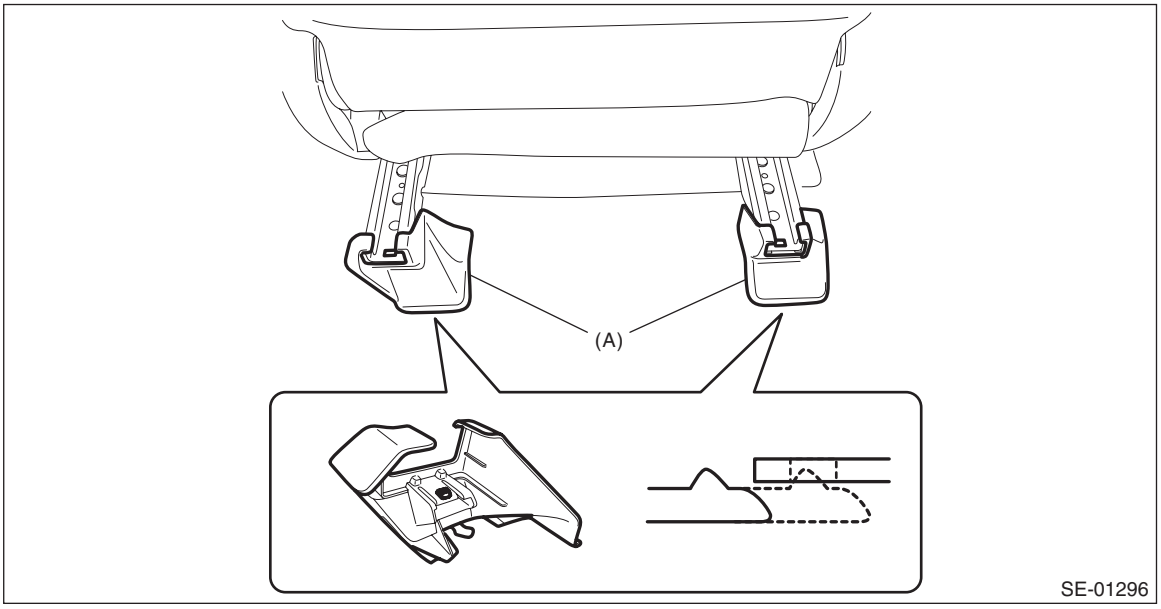
A: REMOVAL

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 assembly.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the front seats.

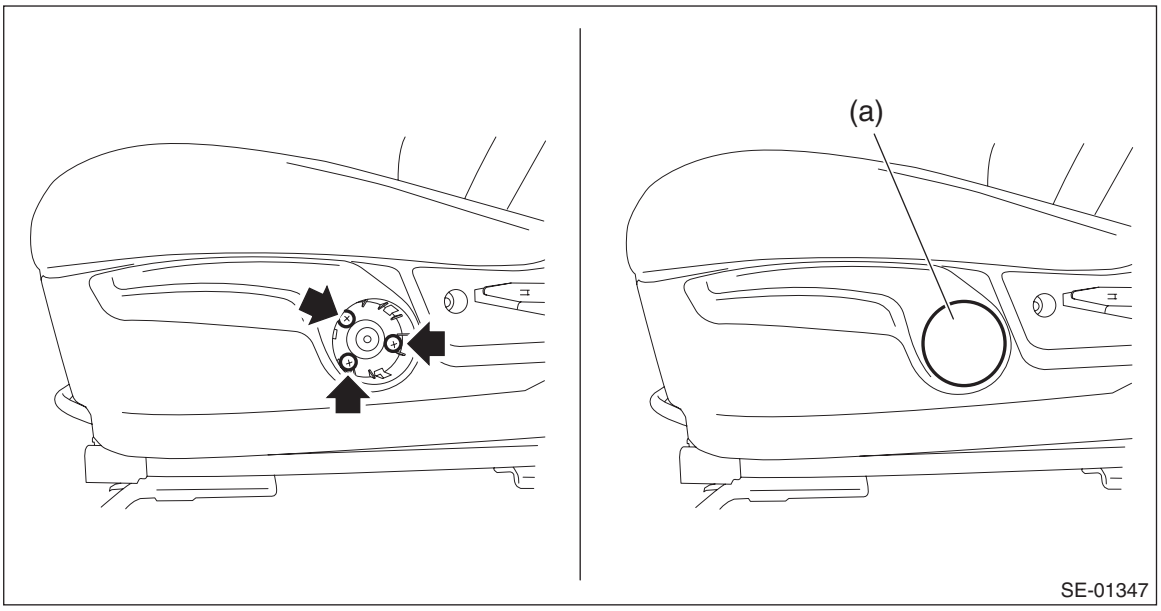
CAUTION:
Be careful not to damage the body when taking out the seat from the vehicle.
(1) Tilt the backrest assembly forward and move the front seat to the front most position.
(2) Remove the cover - bolt rear (A) and remove the bolts.



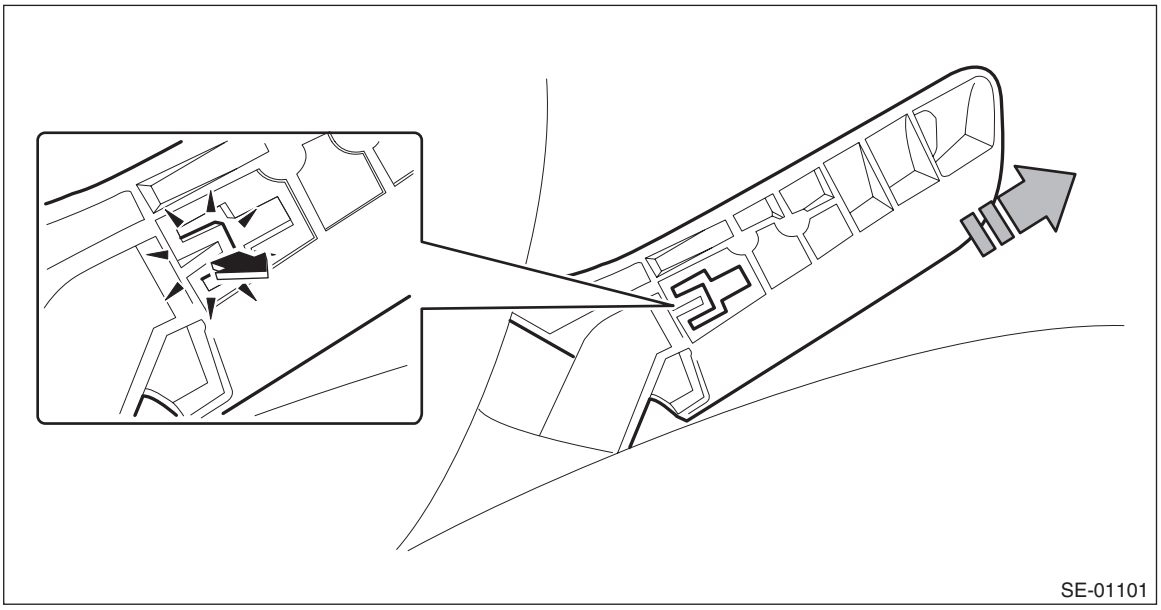
(3) Move the front seat to the rearmost position, and remove the bolts.
(4) Disconnect the connector under the front seat.
- Seat belt warning light connector (driver's seat)
- Occupant detection system harness connector (passenger's seat) <Ref. to OD(diag)-9, OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS), PROCEDURE, Airbag Connector.>
- Side airbag module connector <Ref. to AB-22, SIDE AIRBAG MODULE, PROCEDURE, Airbag Connector.>
- Seat heater connector (model with seat heater)
- Buckle switch RH connector (passenger's seat) <Ref. to AB-22, BUCKLE SWITCH RH, PROCEDURE, Airbag Connector.>

(5) Take out the front seat assembly from the vehicle.

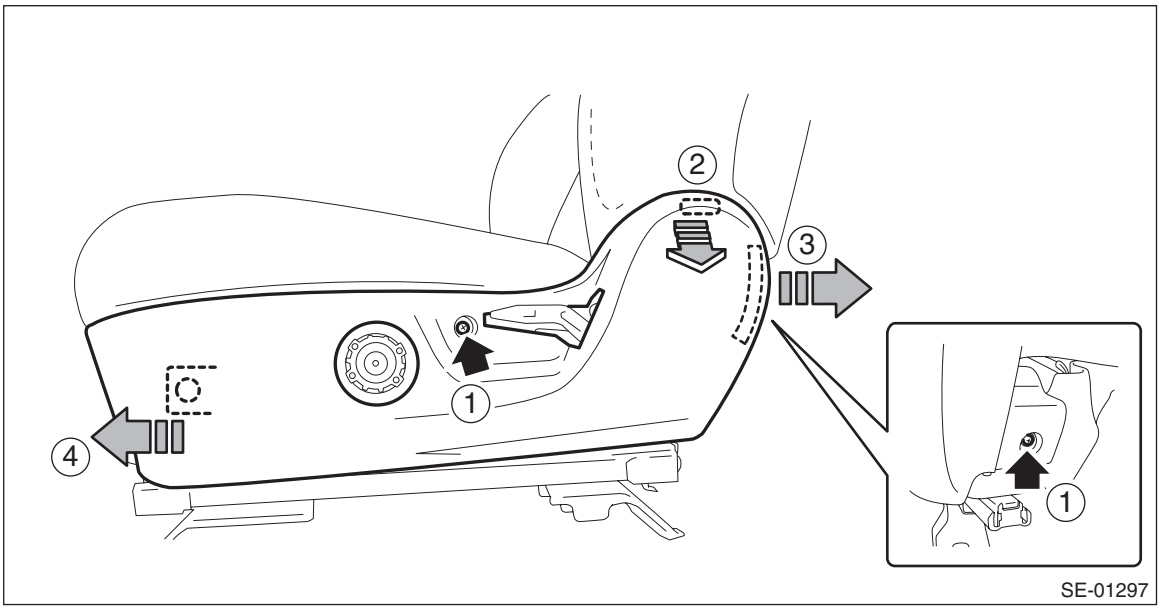
4) Remove the knob - lifter.
   (1) Using a flat tip screwdriver, remove the cap - lifter lever (a).
   (2) Remove the screws and remove the knob - lifter.



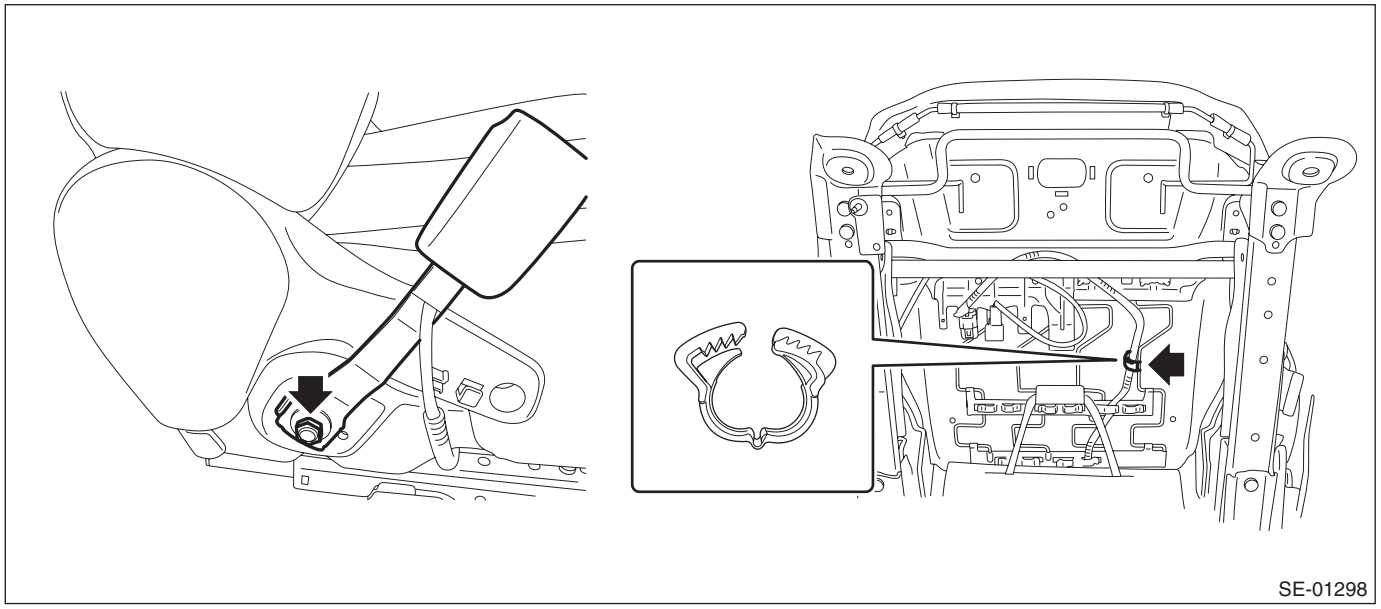
5) Remove the lever - reclining.
   (1) Pull up the lever - reclining and release the claws on the back.
   (2) Pull out the lever - reclining.



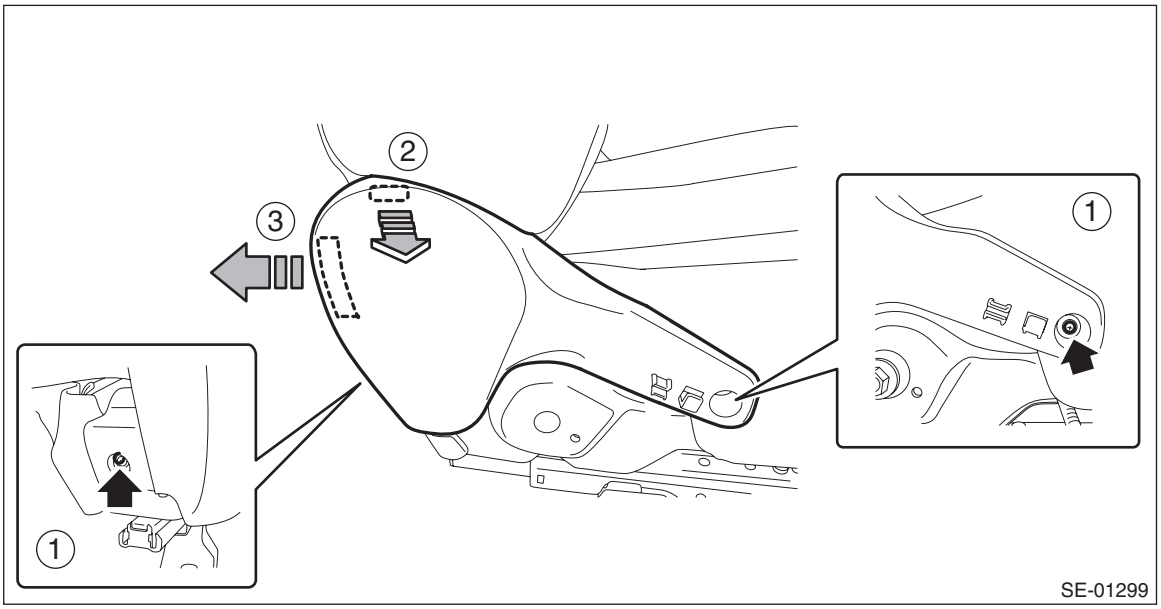
6) Remove the cover - hinge front seat outer.
(1) Remove the screws.
(2) Release the claw in the upper section of the cover - hinge front seat outer.
(3) Release the claw in the rear section of the cover - hinge front seat outer.
(4) Release the claw in the front section of the cover - hinge front seat outer, then remove the cover - hinge front seat outer.



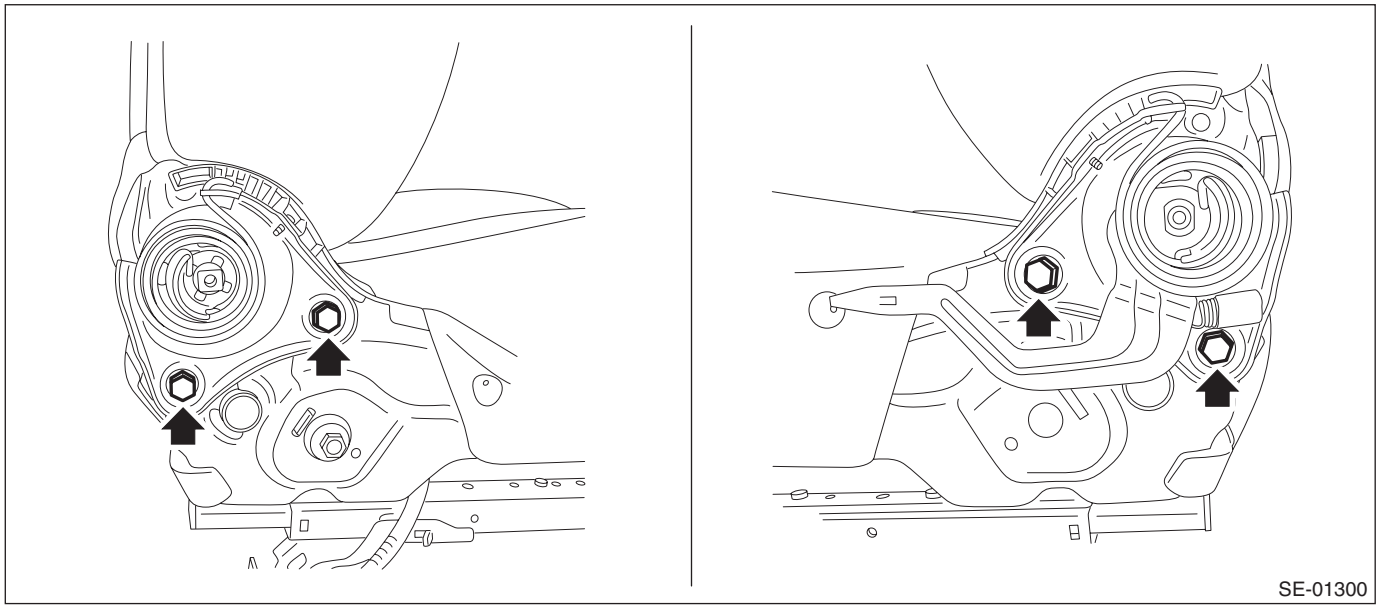
7) Remove the seat belt inner - front.
(1) Remove the nut, and remove the seat belt inner - front.
(2) Remove the clip for the seat belt inner - front located under the seat cushion assembly.



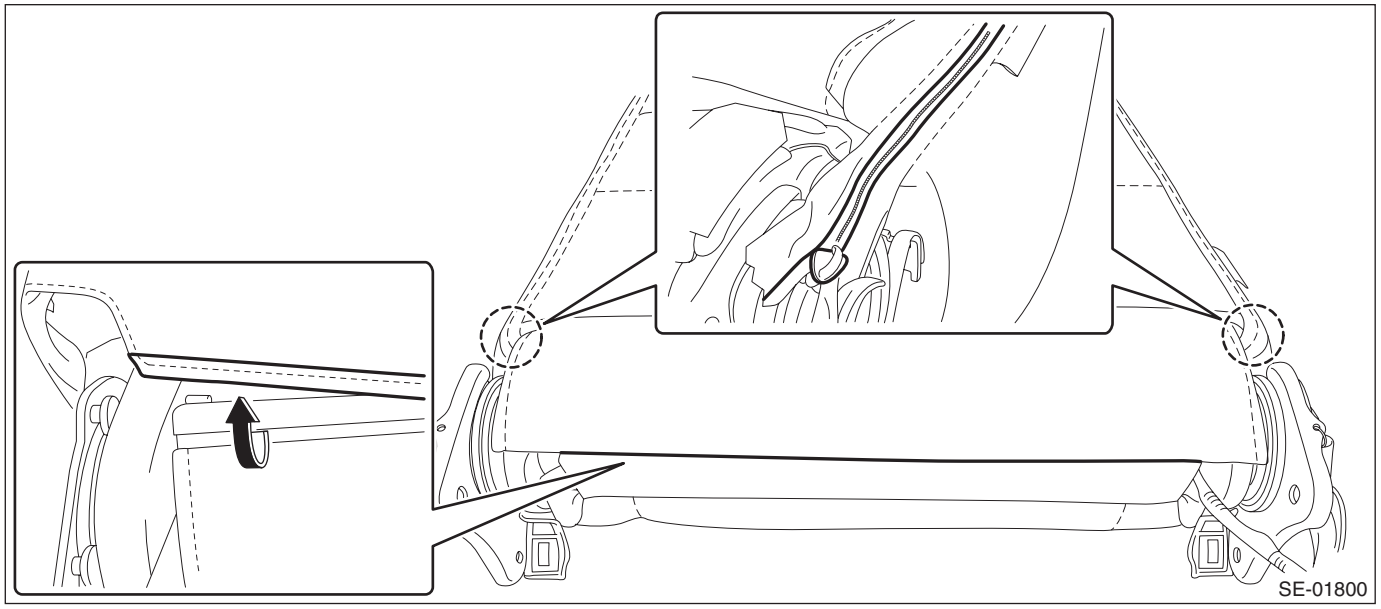
8) Remove the cover - hinge front seat inner.
(1) Remove the screws.
(2) Release the claw in the upper section of the cover - hinge front seat inner.
(3) Release the claw in the rear section of the cover - hinge front seat inner, then remove the cover - hinge front seat inner.



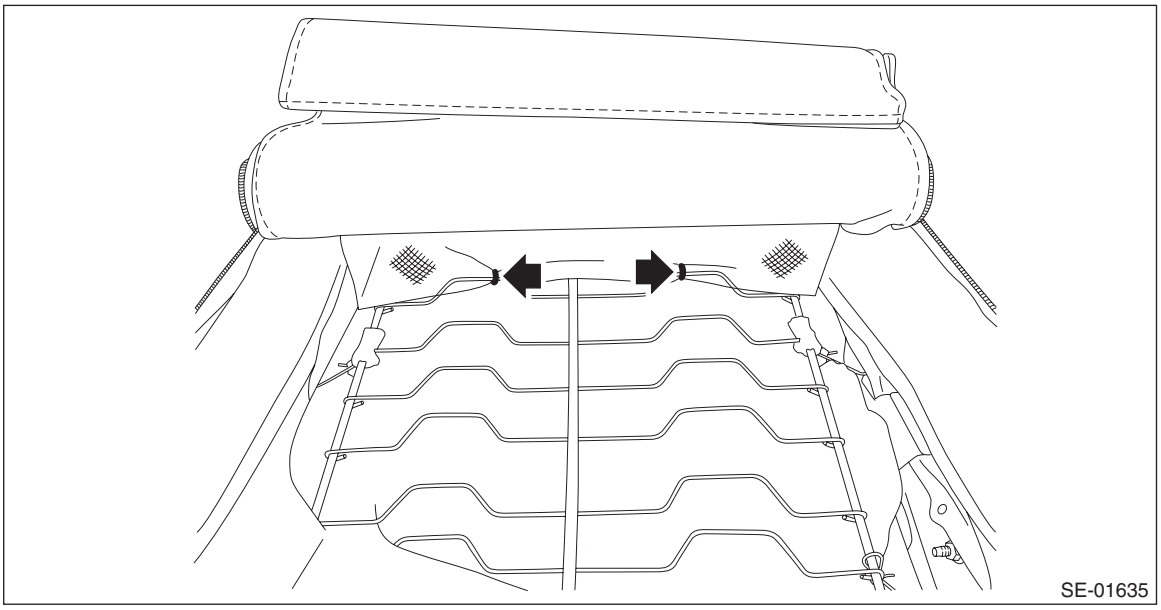
9) Separate the backrest assembly and the seat cushion assembly.
(1) Remove the clip for the side airbag harness located under the seat cushion assembly.
(2) Remove the bolts from reclining hinge of both sides.
(3) While taking care not to damage the airbag harness, separate the backrest assembly and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



10) Remove the pad assembly - front seat backrest and the cover COMPL - front backrest.
(1) Remove the plastic fastener at the back side (bottom) of backrest assembly.
(2) Open the fastener at the rear side of backrest assembly.



NOTE:
If it is hard to open, use a metal clip, etc.
(3) Remove the hog ring.

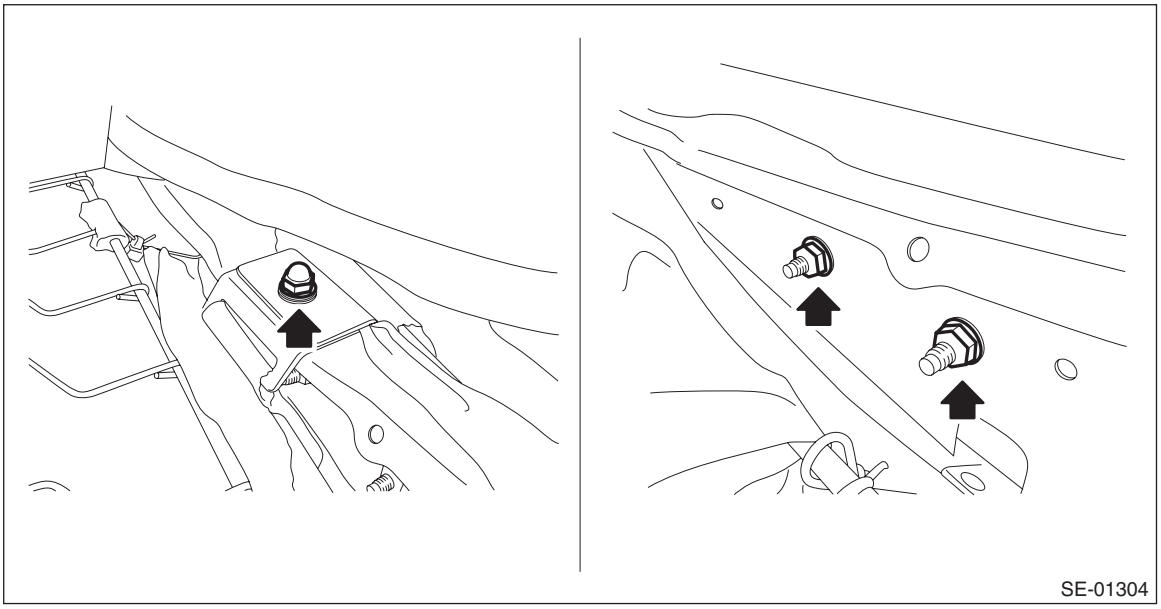


(4) Remove the pad assembly - front seat backrest and the cover COMPL - front backrest from the backrest assembly.

11) Remove the side airbag module.

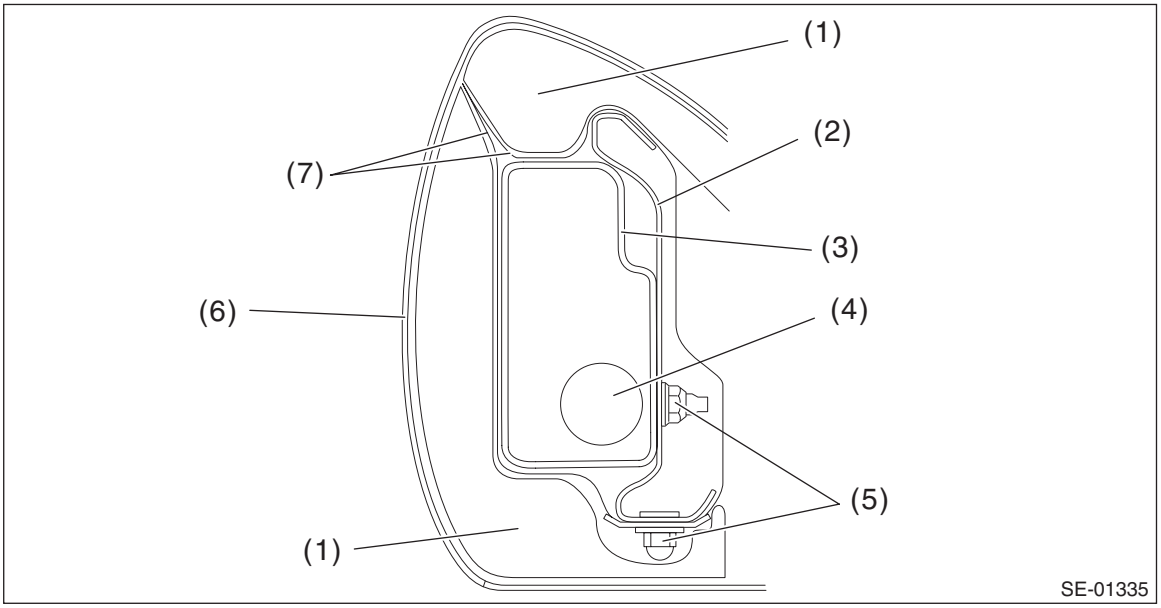
CAUTION:
Do not open the protective cover of the side airbag module. If any damage is present in the protective cover or the cloth of side airbag module comes out from the protective cover slit, replace the side airbag module with a new part.

(1) Remove the hexagon cap nut and nuts.
(2) While taking care not to damage the airbag protective cover, remove the side airbag module.



B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-10, CAUTION, General Description.>
• Make sure that the side airbag module is installed as shown in the figure.



(1) Pad ASSY - front seat backrest
(2) Frame ASSY - front backrest
(3) Side airbag module protective cover
(4) Side airbag module inflator
(5) Nut
(6) Cover COMPL - front backrest
(7) Side airbag guide cloth

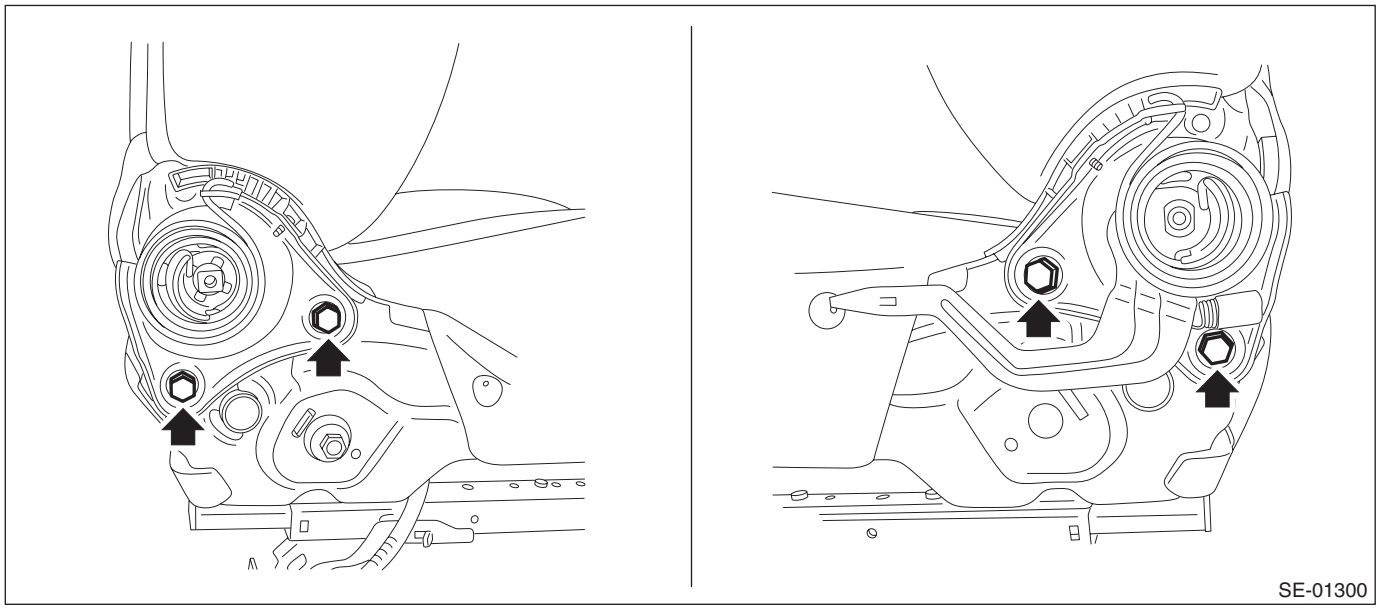
- **Be careful not to stain or damage the cover COMPL - front backrest during assembly.**
- **Do not reuse hog rings.**
- **Secure the hog ring using hog ring pliers.**
- **Install the hog rings to the specified points securely and make sure that there is no wrinkle or twisting on the cover COMPL - front backrest.**

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 the frame assembly - front backrest.

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

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



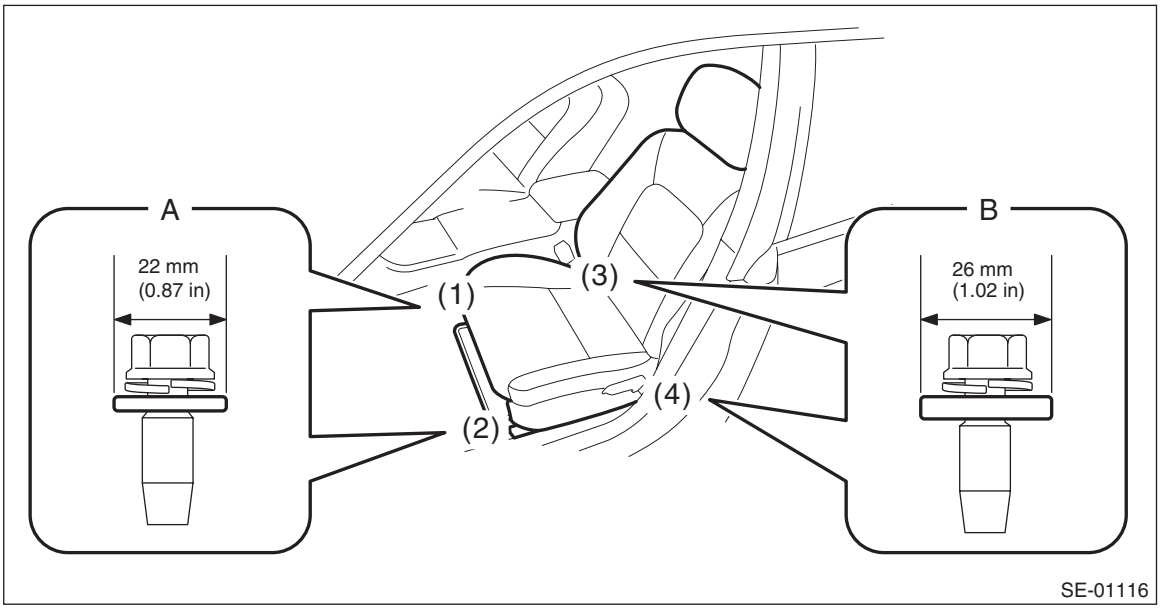
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, FRONT SEAT, COMPONENT, General Description.>

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 assembly to the body.

CAUTION:
• The front seat mounting bolts differ between the front mounting points and the rear mounting points. When installing the front seat, make sure that you are using correct bolts at correct positions.
• Tighten the slide rail assembly 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)

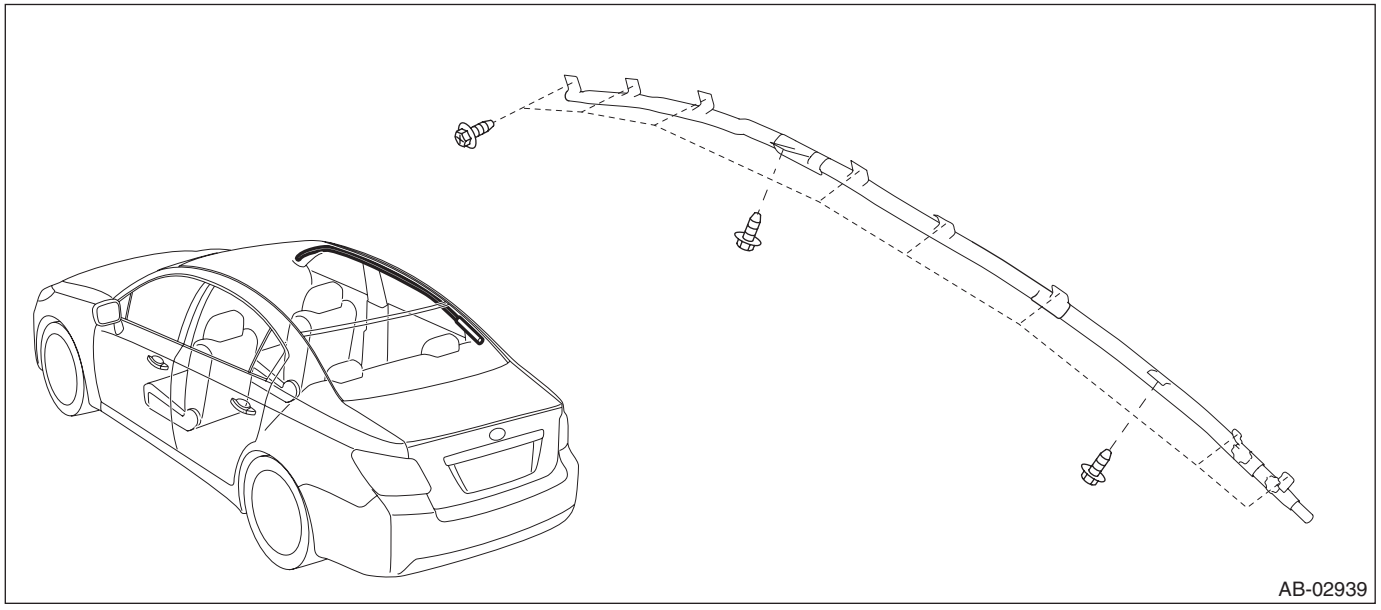
8. Curtain Airbag Module

A: REMOVAL

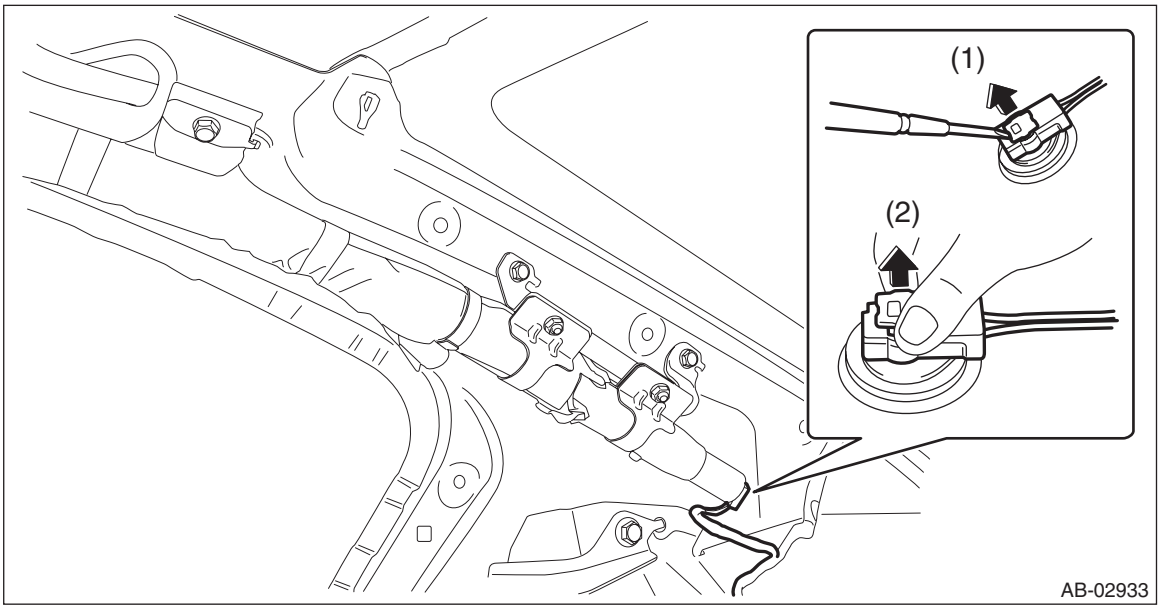
1. 4 DOOR MODEL

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 trim panel - roof assembly. <Ref. to EI-129, 4 DOOR MODEL, REMOVAL, Roof Trim.>
4) Remove the curtain airbag module.

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 the bolts and clips, and remove the curtain airbag module.



(2) Disconnect the curtain airbag module connector. <Ref. to AB-19, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & PRETENSIONER, PROCEDURE, Airbag Connector.>



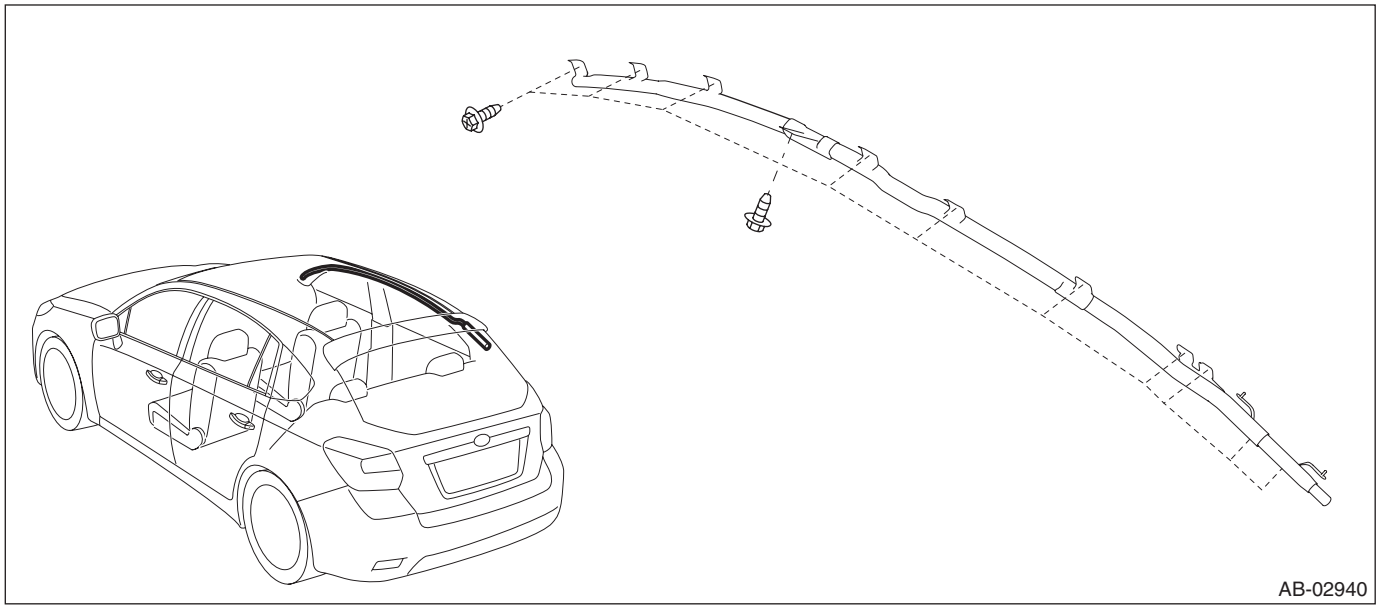
2. 5 DOOR MODEL/XV MODEL

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. <Ref. to NT-5, BATTERY, NOTE, Note.>

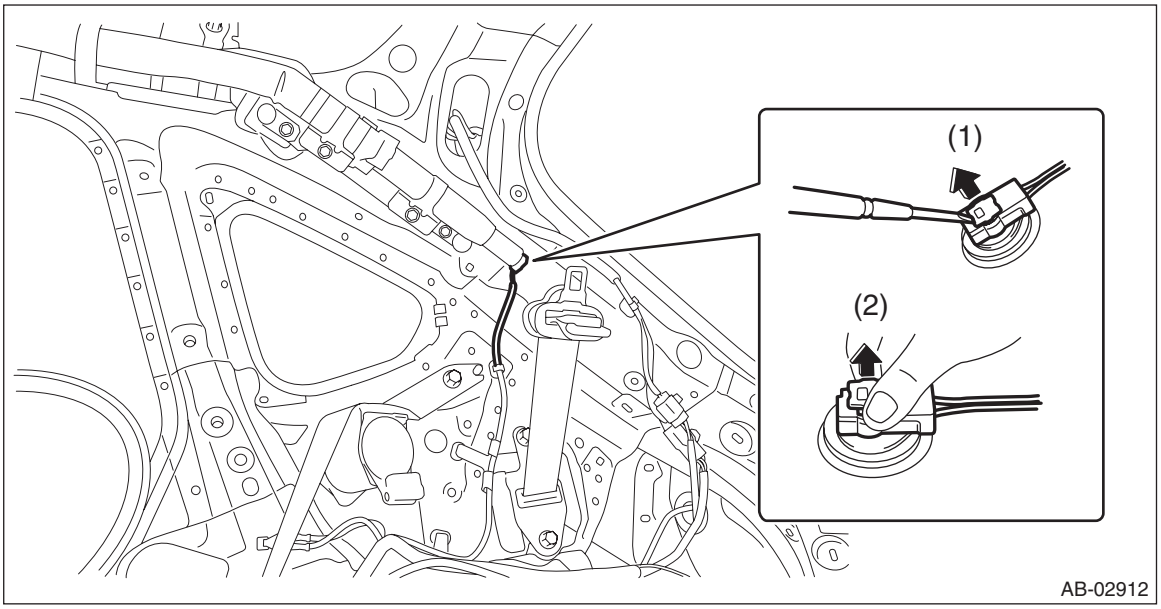
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the trim panel - roof assembly. <Ref. to EI-139, 5 DOOR MODEL/XV MODEL, REMOVAL, Roof Trim.>
4) Remove the curtain airbag module.

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 the bolts and clips, and remove the curtain airbag module.



(2) Disconnect the curtain airbag module connector. <Ref. to AB-19, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & 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.>
• 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:
• 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 trim panel - center pillar 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:
Curtain airbag module: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

9. Airbag Control Module

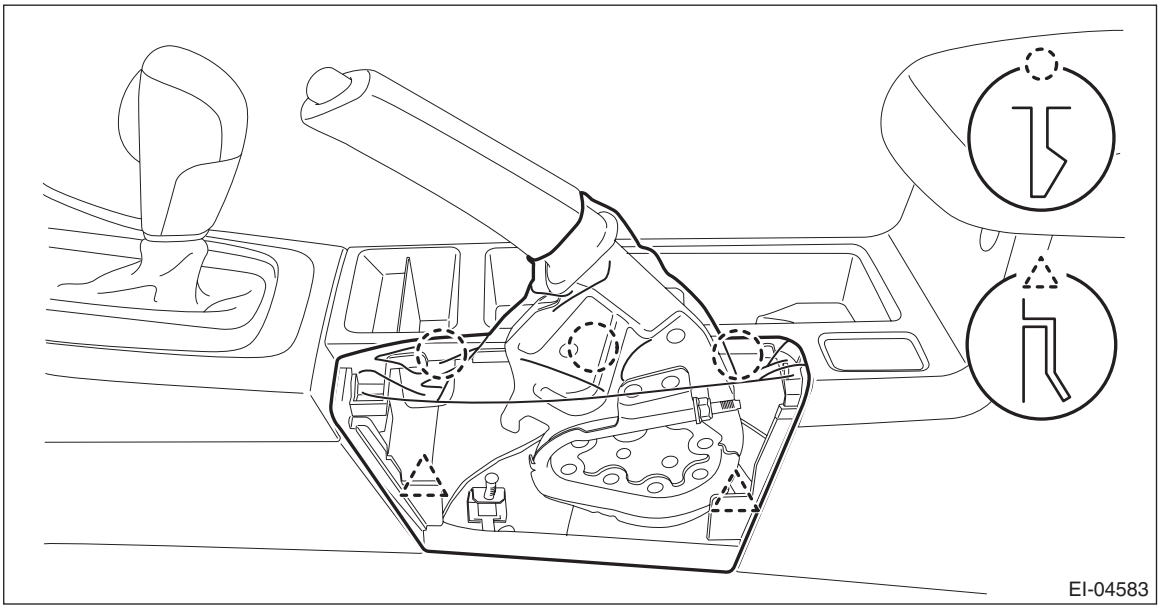
A: REMOVAL

CAUTION:
• Do not disassemble the airbag control module.
• If the airbag control module is deformed or if there is any trace of water on the module, replace the airbag control module with a new one.
• 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.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

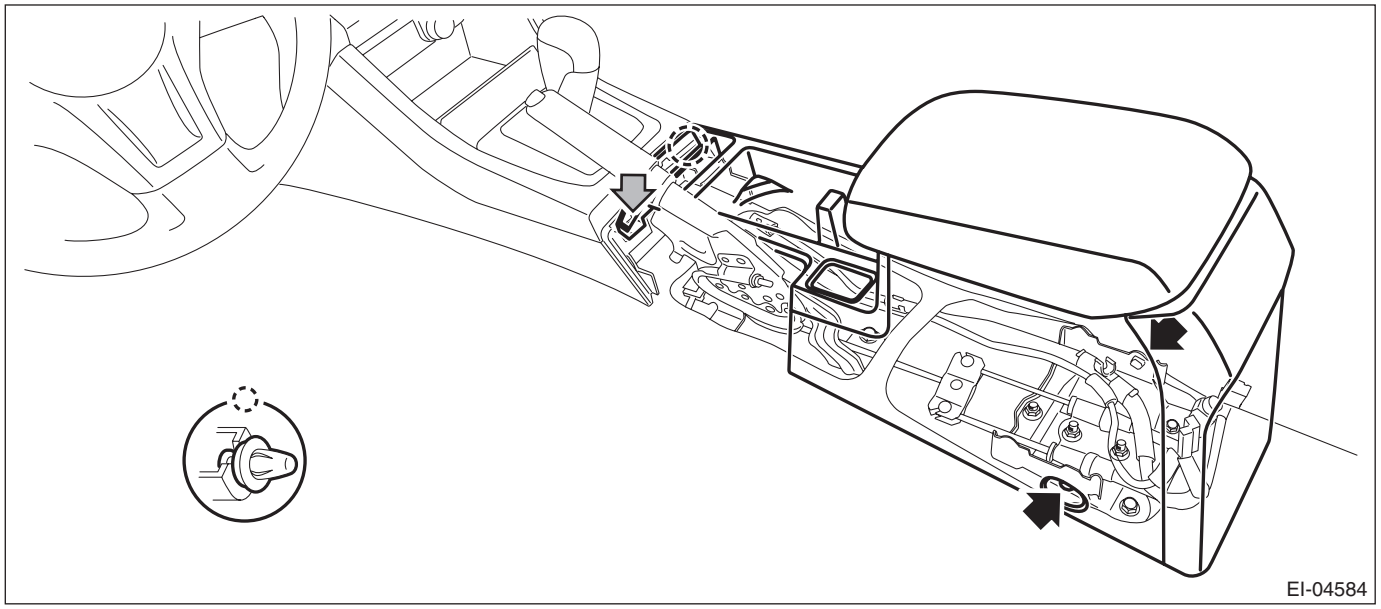
NOTE:
• For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine re-start battery sensor.
• On CVT models, shift the select lever into “D” before disconnecting the battery ground cable.

3) Remove the console box assembly.
(1) Release the claws, and then remove the boot - hand brake.

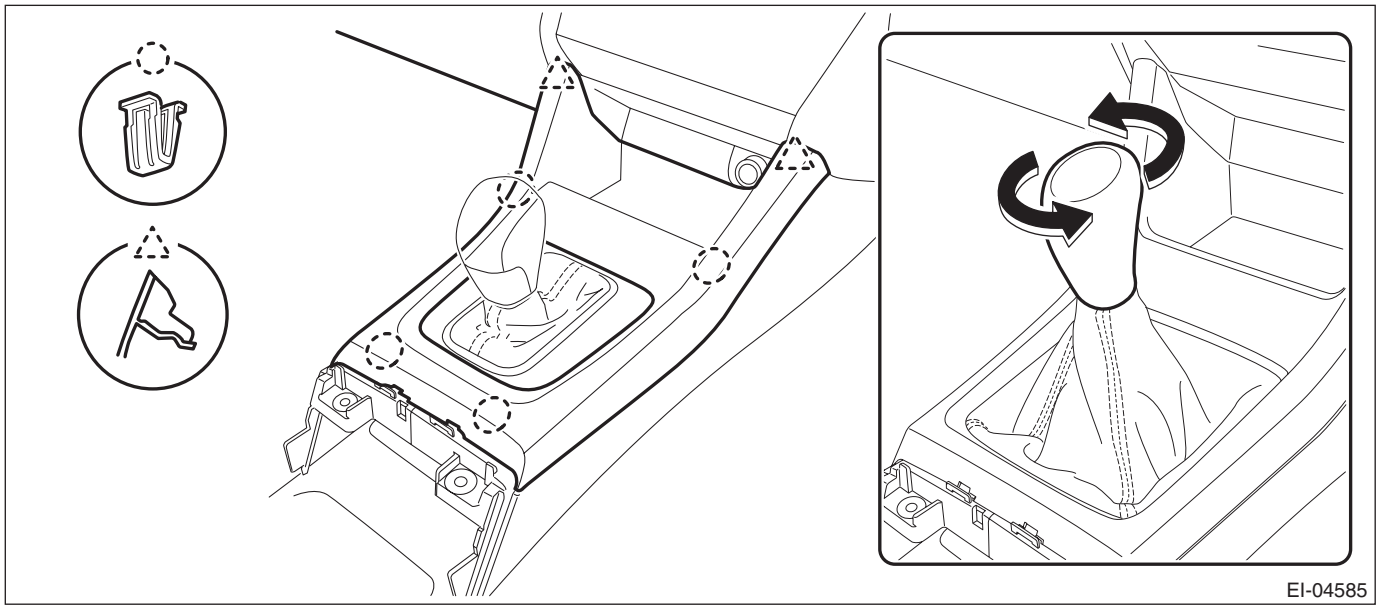


(2) Move the seat forward, and remove the bolts after detaching the left and right caps.

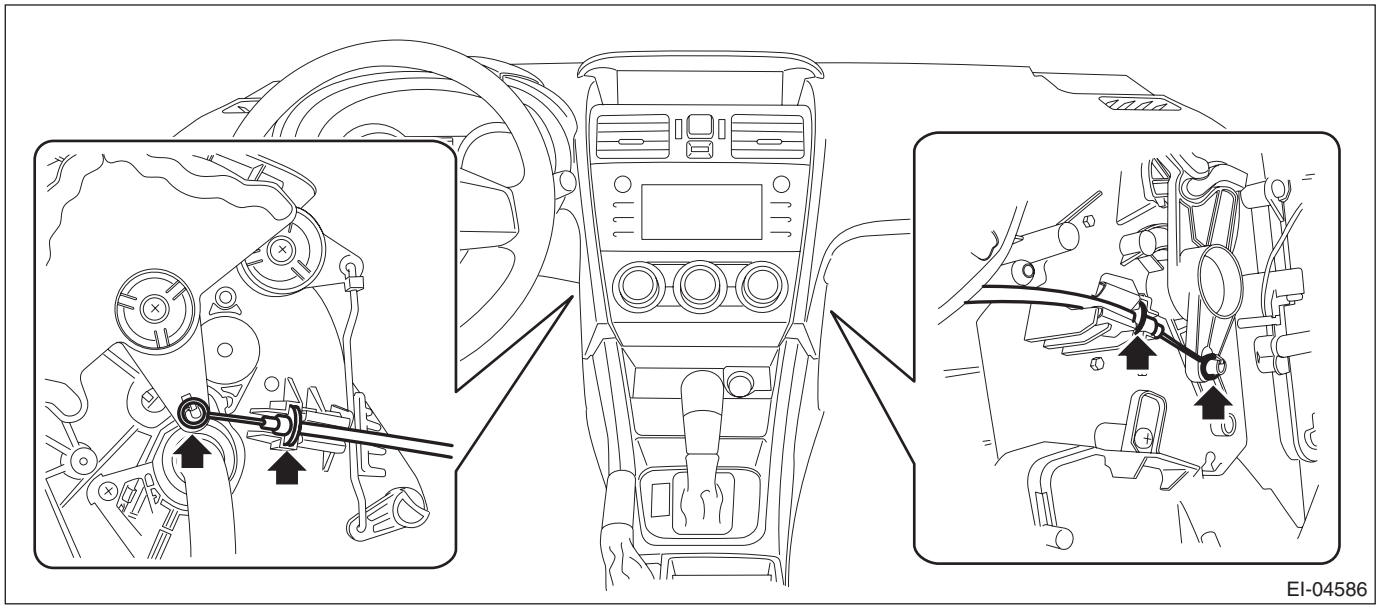
(3) Remove the screws, disconnect the harness connector and remove the console box assembly.



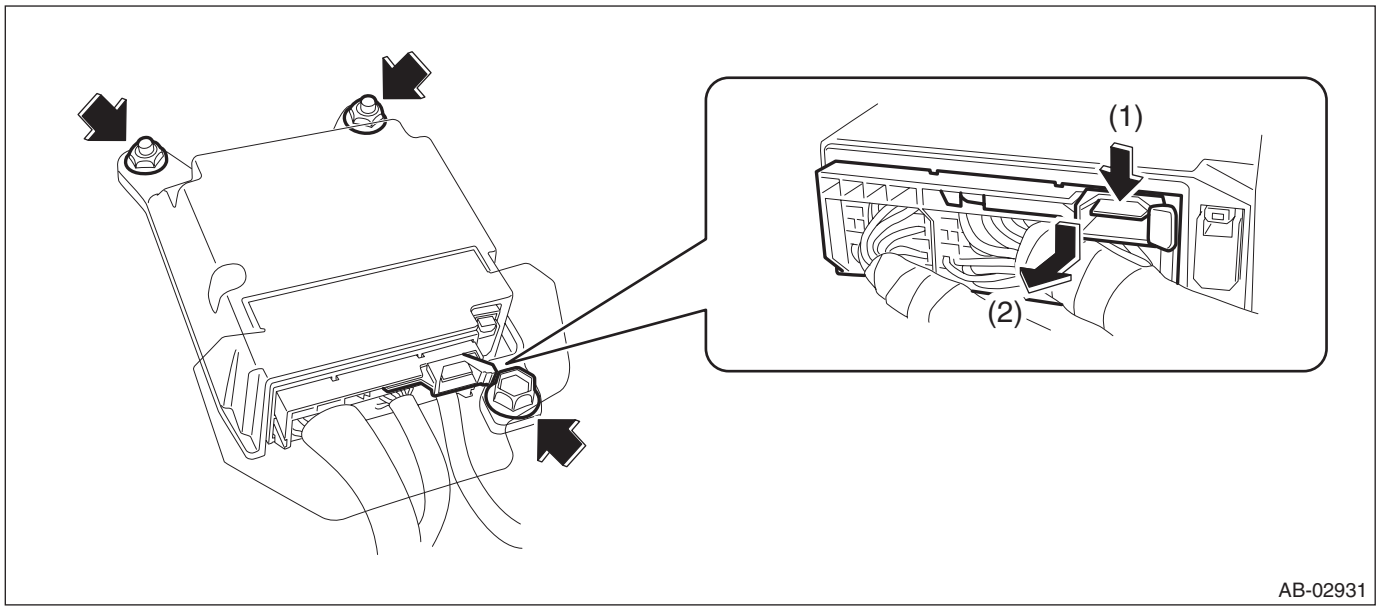
4) Remove the cover - shift lever.
(1) Remove the shift knob. (MT model)
(2) Release the clips and claws, then pull up the cover - shift lever.



5) On manual A/C models, disconnect the control cables from both sides of the heater & cooling unit.



6) Remove the center grille assembly. <Ref. to AC-104, REMOVAL, Air Vent Grille.>
7) Remove the audio assembly or navigation assembly. <Ref. to ET-12, REMOVAL, Audio.>
8) Remove the airbag control module.
   (1) Disconnect the connector from airbag control module. <Ref. to AB-18, AIRBAG CONTROL MODULE, PROCEDURE, Airbag Connector.>
   (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)

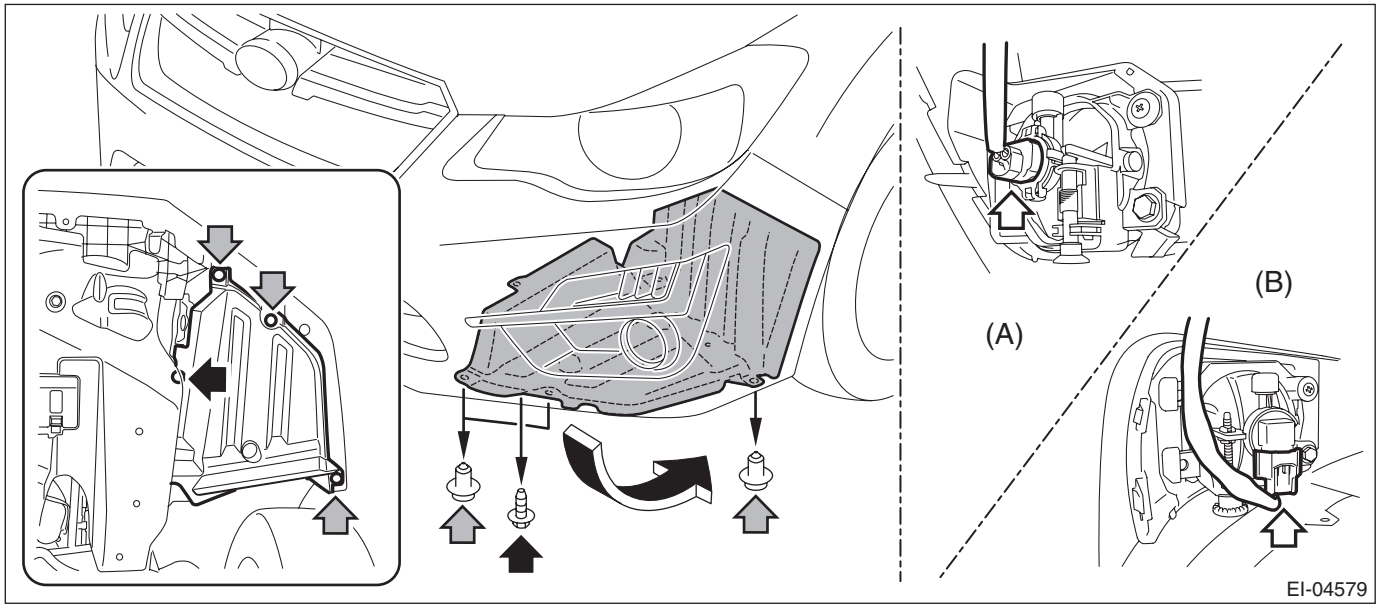
10.Front Sub Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

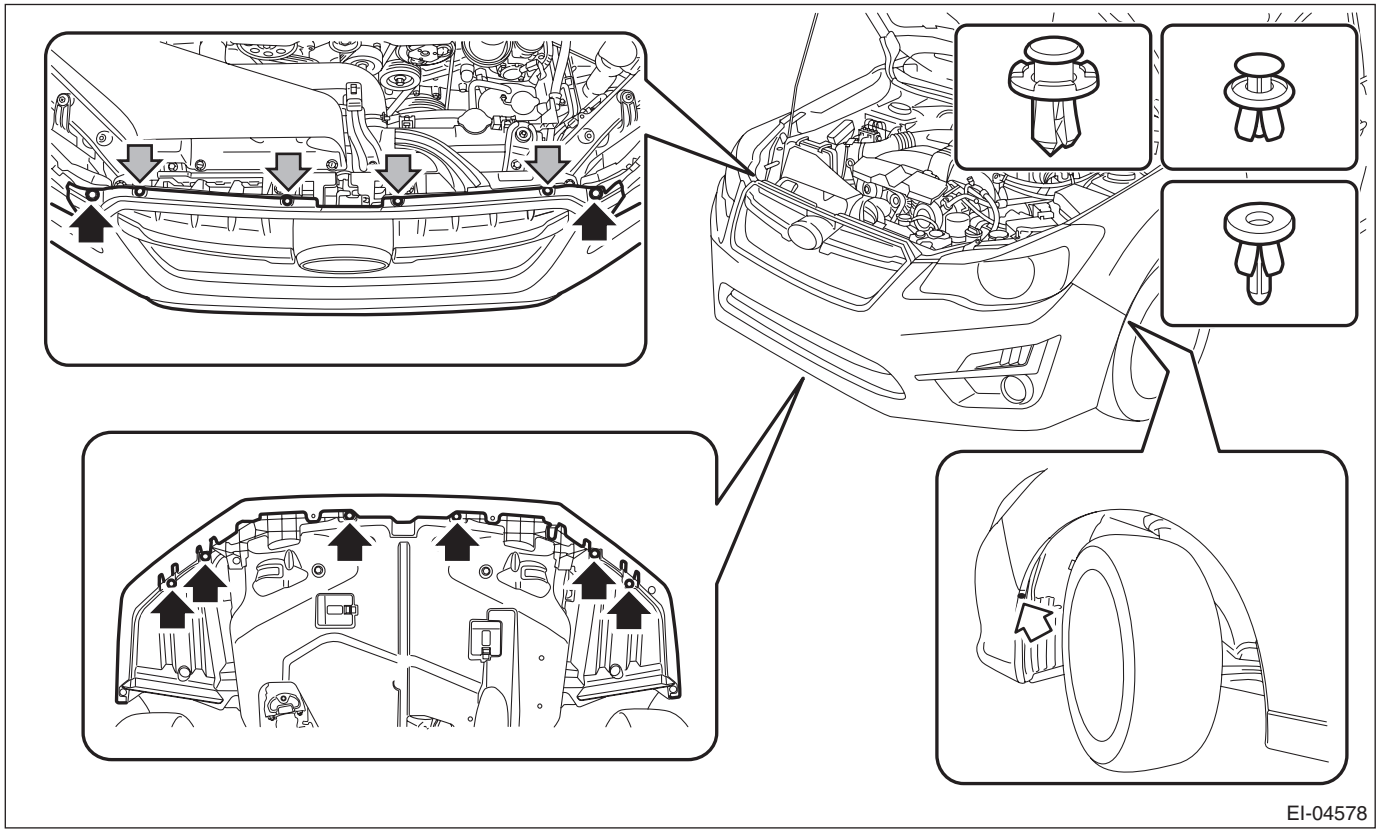
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

3) Remove the bumper face - front.
   (1) Remove the screws and clips, and turn over the mud guard - front, and then disconnect the connectors of the fog light assembly - front on the LH and RH sides. (Model with fog light)



   (2) Remove the clips at the upper side of the bumper face - front.
   (3) Remove the clips from the fender.

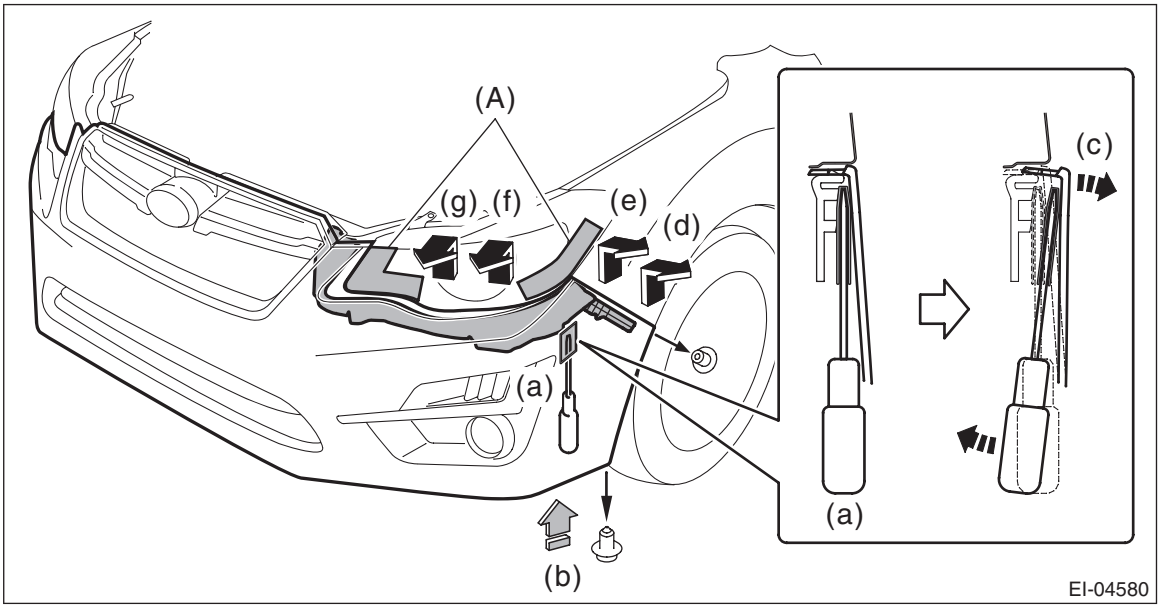
(4) Remove the clips at the lower side of the bumper face - front.



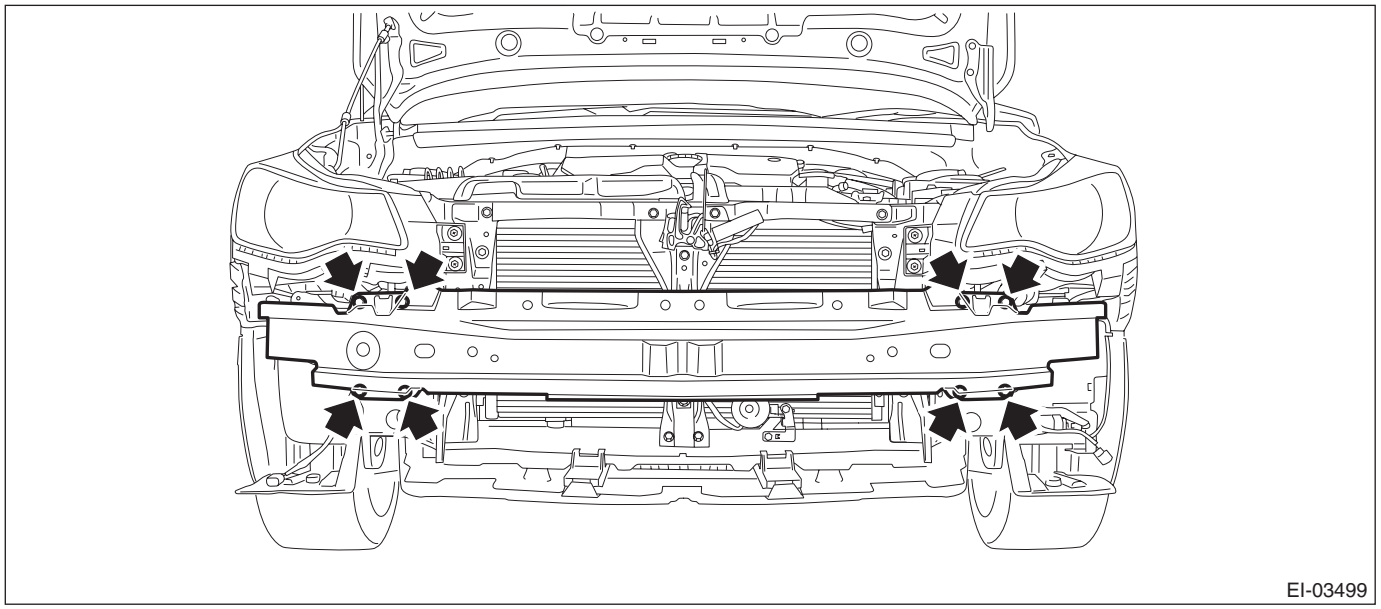
(5) Apply protective tape (A) to the light assembly - head.
(6) Detach the flange section on the bumper face side from the bracket - front bumper side.

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 the bracket - front bumper.

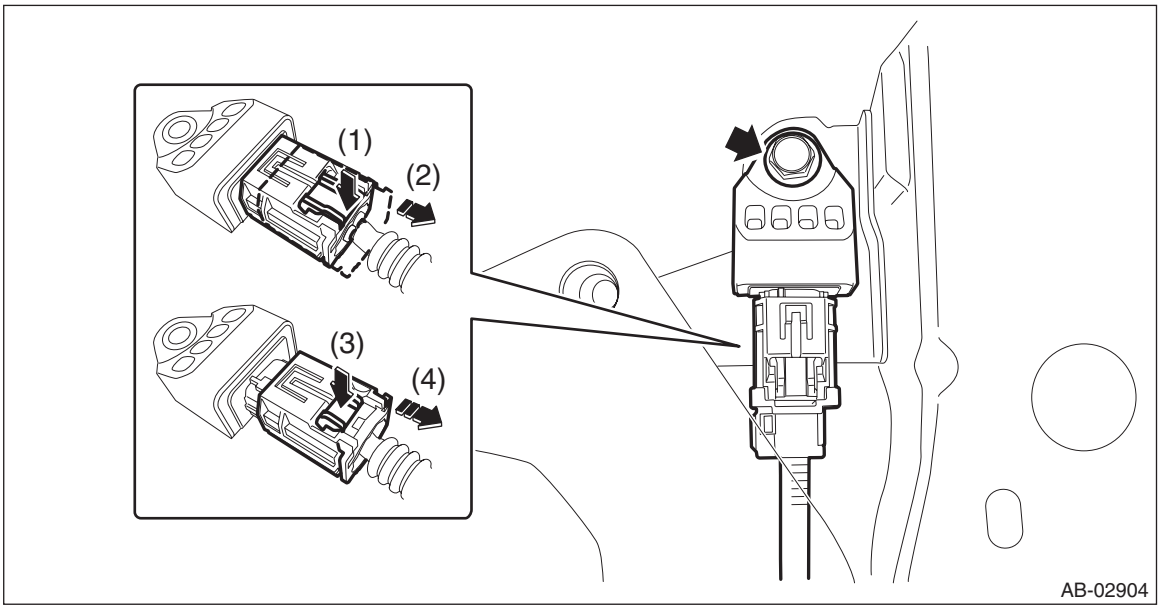
NOTE:
Remove the bumper face - front according to the following procedures.



1. Remove the clips, turn over the mud guard, and insert a flat tip screwdriver with protection for damage prevention into the clearance between bumper and bracket. (a)
2. Push out the bumper with the flat tip screwdriver while pushing up the bumper from below. (b), (c)
3. Release the engagement of clips in the order of (d) to (g) while pushing up the bumper from below.
4. Perform the same procedures to remove the opposite side.
4) Remove the bolts, and remove the bumper beam COMPL - front.



5) Remove the bolt, and then detach the front sub sensor. <Ref. to AB-20, FRONT SUB SENSOR, PROCEDURE, Airbag Connector.>



B: INSTALLATION

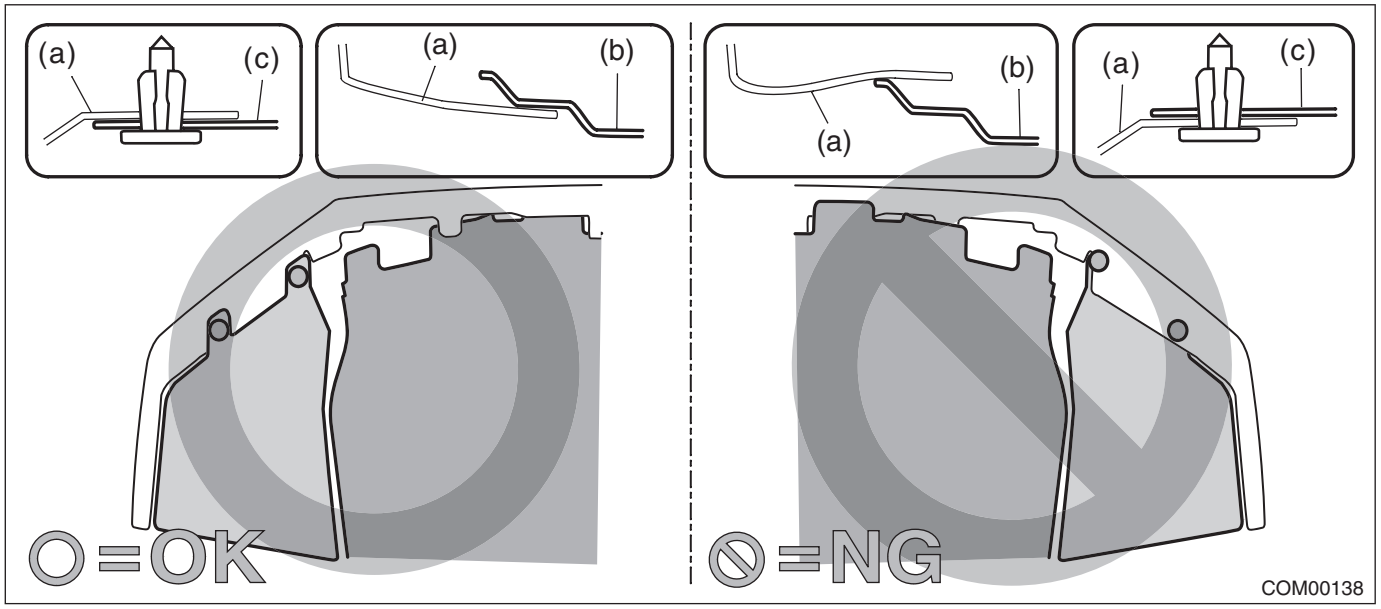
CAUTION:
- **If the airbag has been activated, replace the front sub sensor with a new part.**
- **Do not reuse the bolt and nut.**

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.**

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

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

CAUTION:
- **Install so that the front end of the under cover (b) comes inside the bumper face - front (a), and the front end of the mud guard (c) comes outside the bumper face - front (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)
Bumper beam COMPL - front: 32 N·m (3.36 kgf-m, 24.3 ft-lb)

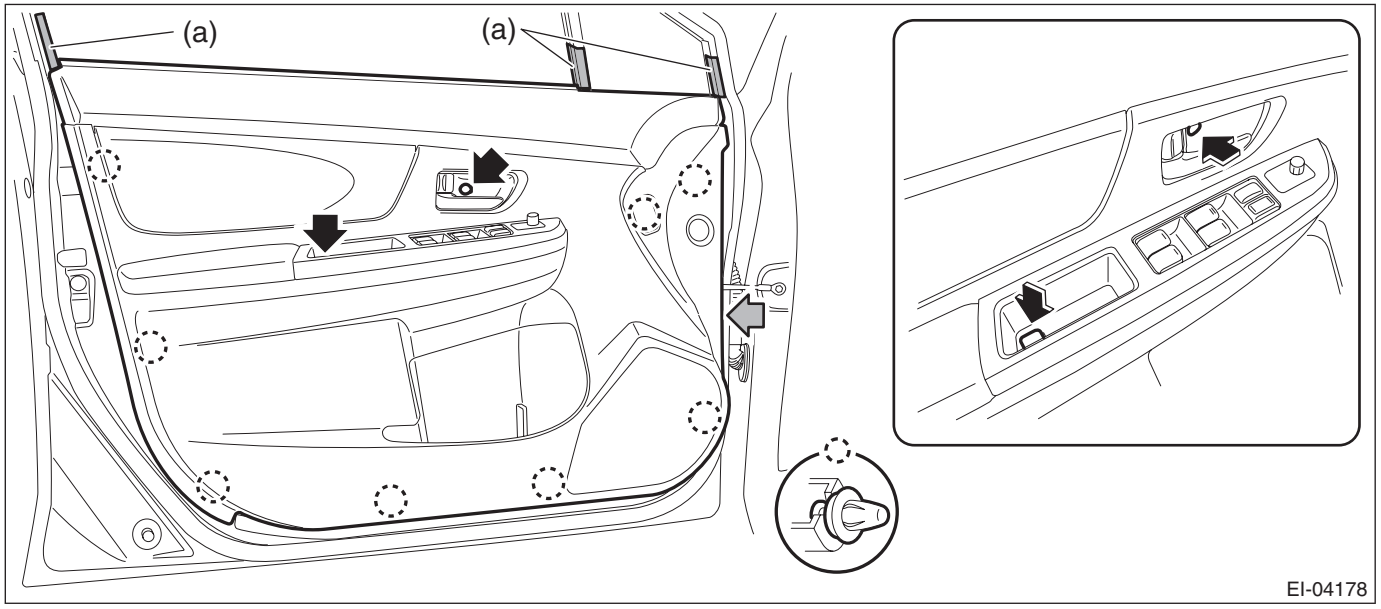
11.Front Door Impact Sensor

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. <Ref. to NT-5, BATTERY, NOTE, Note.>

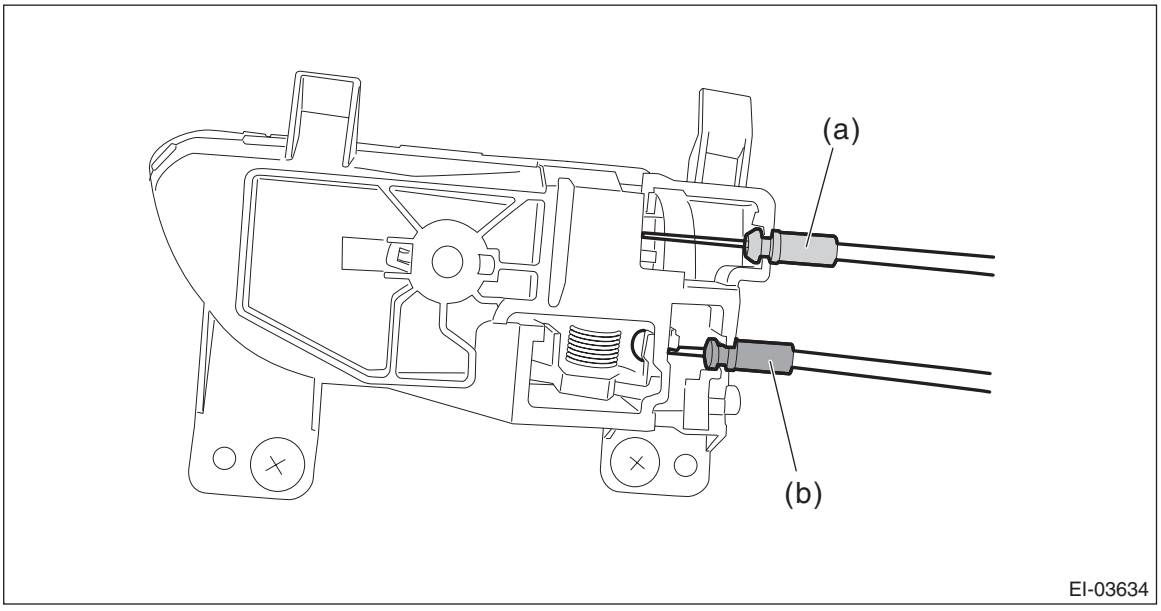
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

4) Remove the trim panel - front door.
   (1) Attach the protective tape (a).
   (2) Open the cover and remove the screw.
   (3) Remove the clips, and remove the trim panel - front door from the door panel.



NOTE:
It is easier to remove the door trim if the removal is performed from the gray arrow section.

   (4) Detach the door lock cable (a) and door open cable (b) from the remote assembly - door.



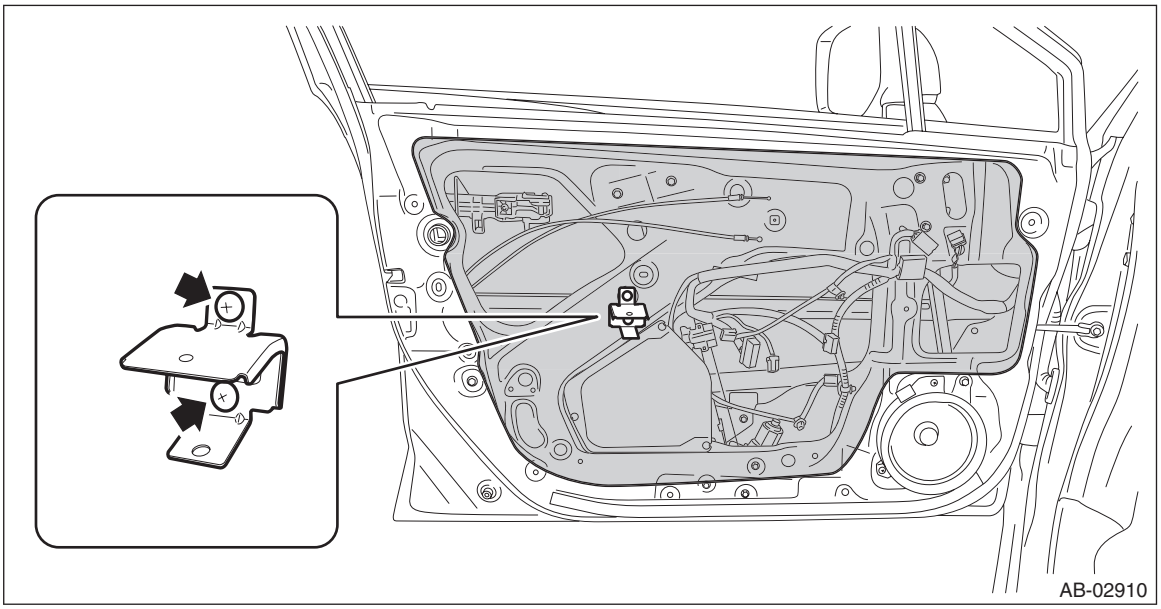
(5) Disconnect the harness connector and remove the trim panel - front door.

5) 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 bracket - door trim.

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



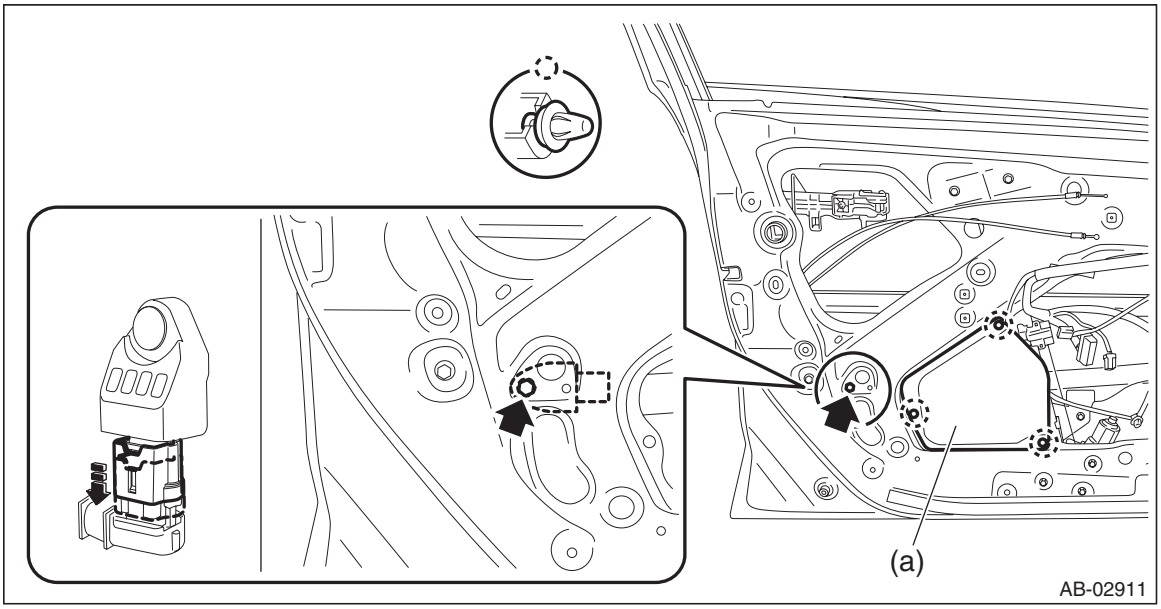
6) Remove the front door impact sensor.

(1) Remove the front door inner pad (a).

CAUTION:
If the clip is damaged, replace it with a new part because the panel assembly - front door may be deformed.

(2) Remove the nuts and then remove the front door impact sensor.

(3) Disconnect the airbag connector and remove the front door impact sensor. <Ref. to AB-20, FRONT DOOR IMPACT SENSOR AND SATELLITE SAFING SENSOR, PROCEDURE, Airbag 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 front door impact sensor or connector is damaged.
- Inner panel area of the panel assembly - front door is deformed.
- Side airbag module 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.

12.Side Airbag Sensor

A: REMOVAL

CAUTION:
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>
• 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) Move the seat all the way forward, from which the side airbag sensor is to be removed.

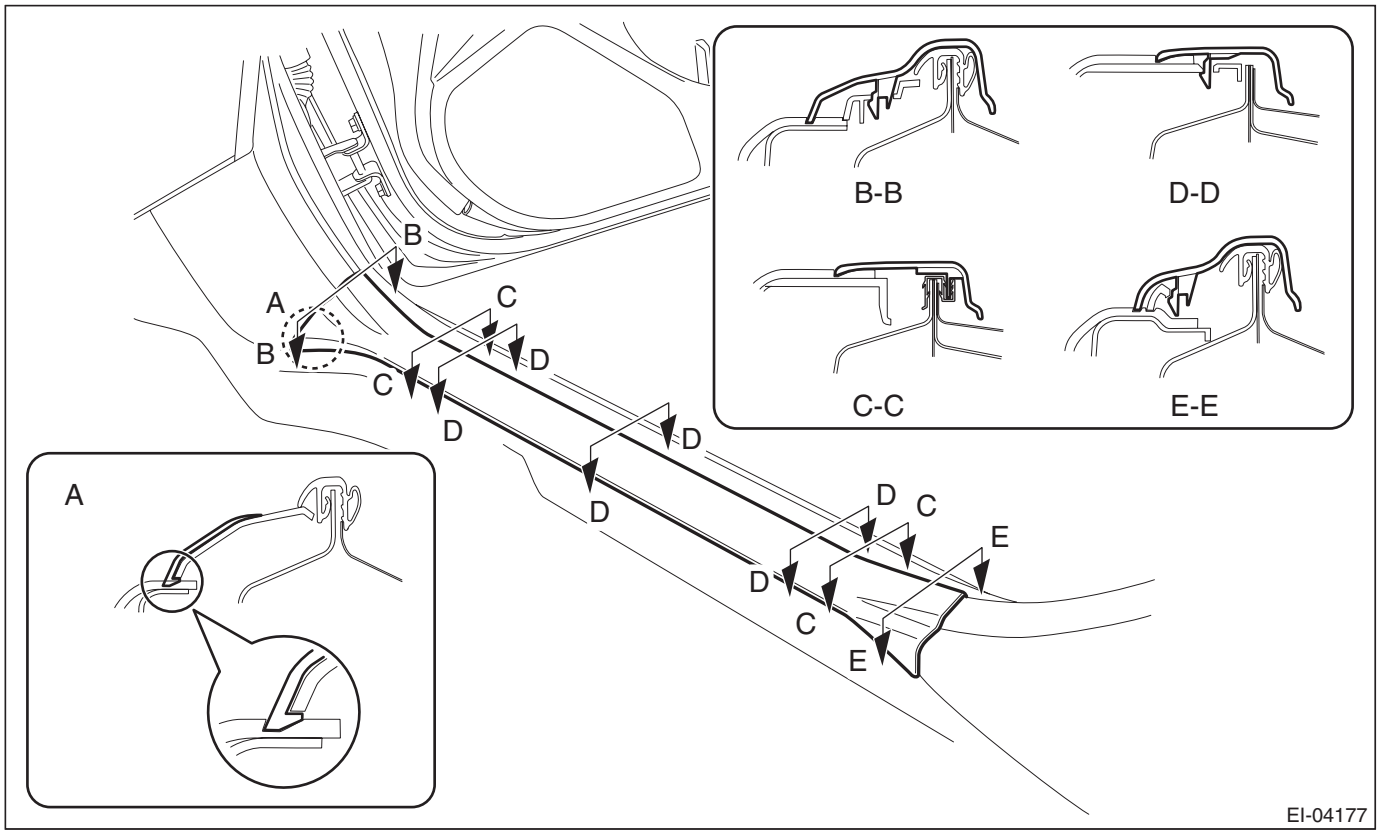
NOTE:
This is to remove the seat belt retractor assembly.

2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

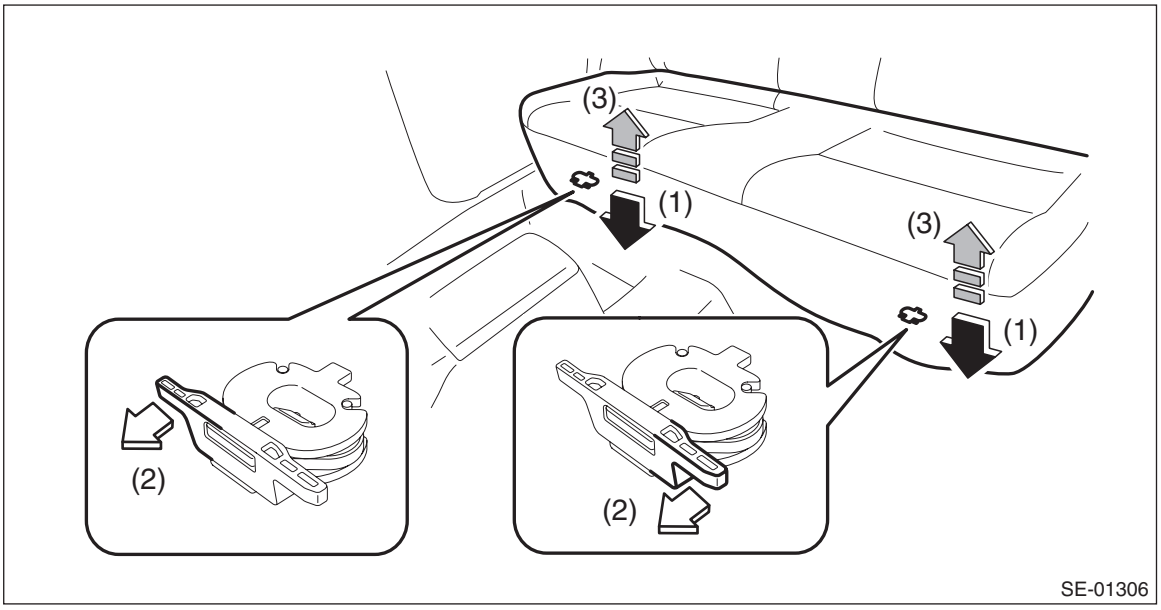
4) Release the claws, and then remove the cover side sill - front INN. (On the side where the side airbag sensor is removed)

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

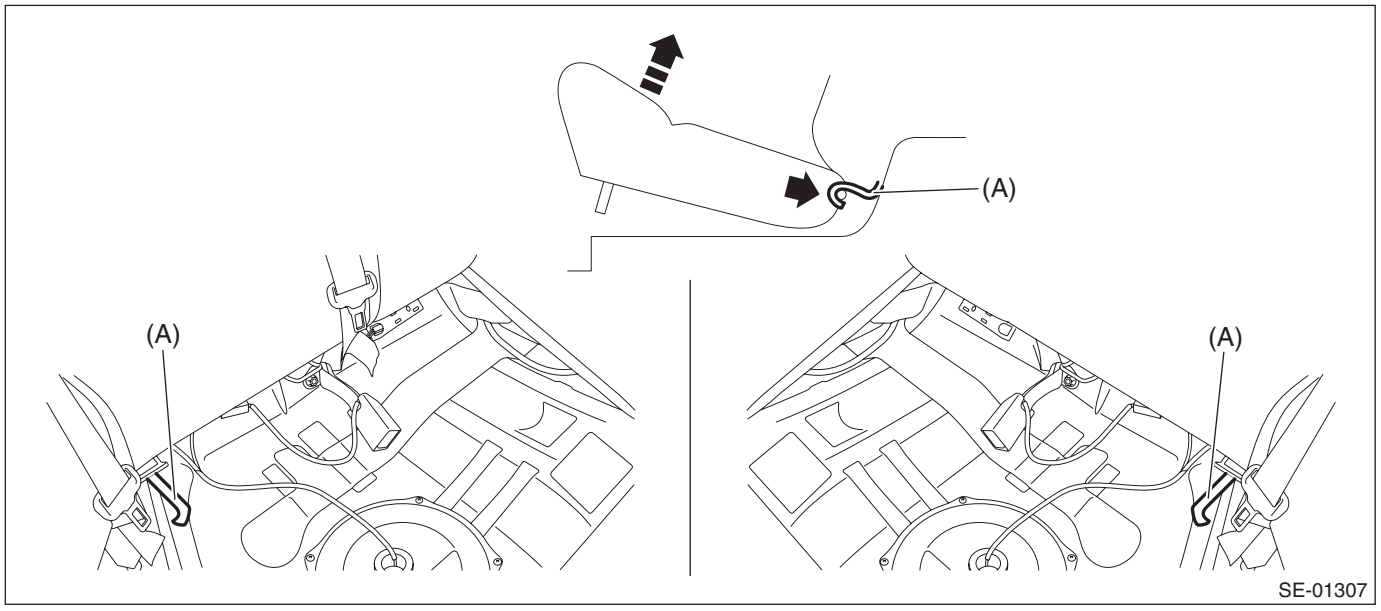


5) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

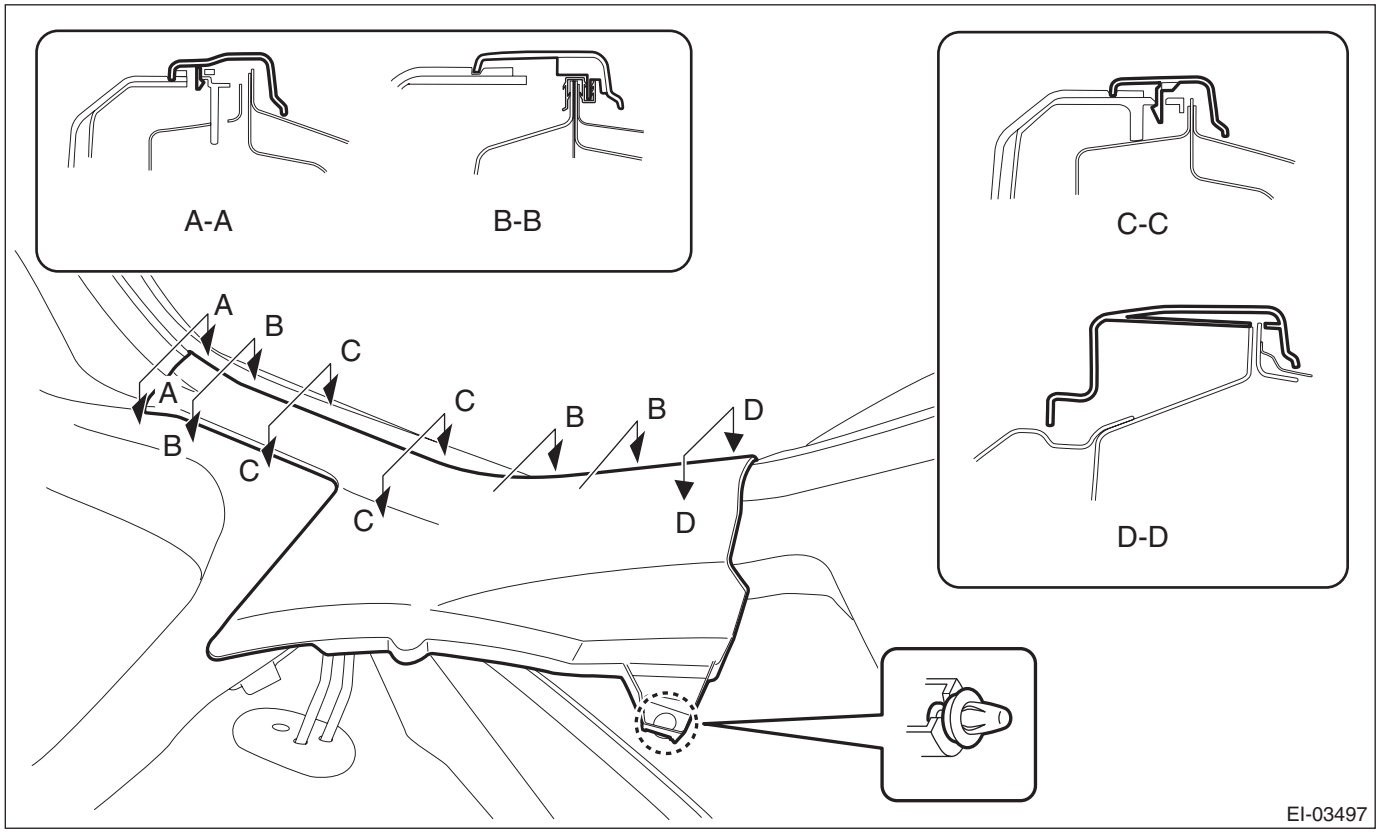


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.



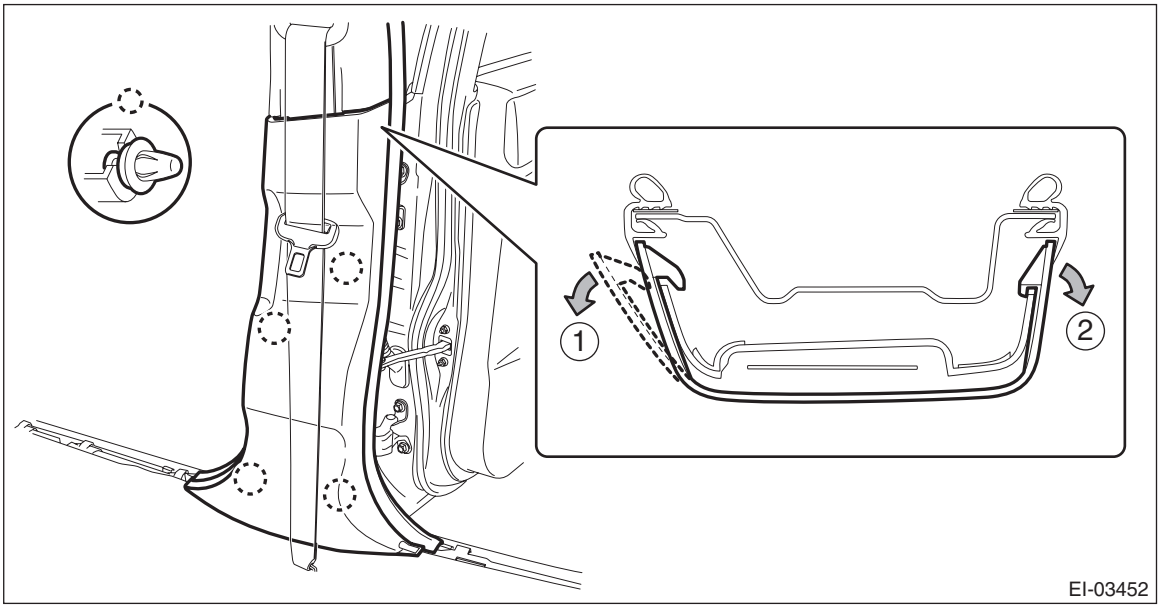
6) Release the clips and claws, and then remove the cover side sill - rear INN. (On the side where the side airbag sensor is removed)

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



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

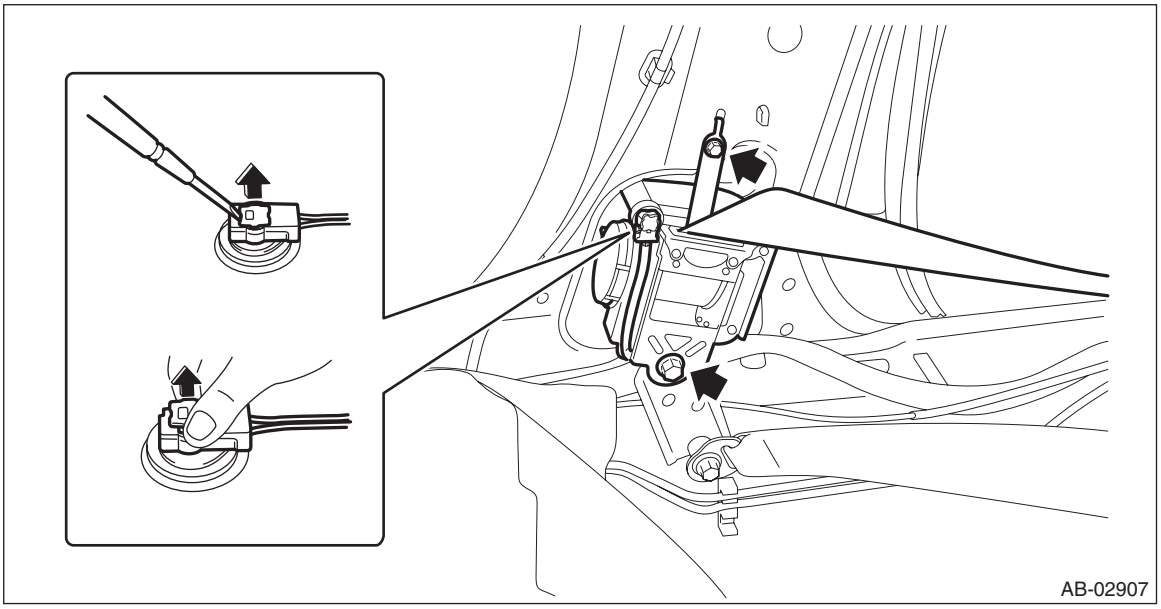
CAUTION:
Do not expand the trim panel - center pillar LWR excessively. Doing so may damage the trim.



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

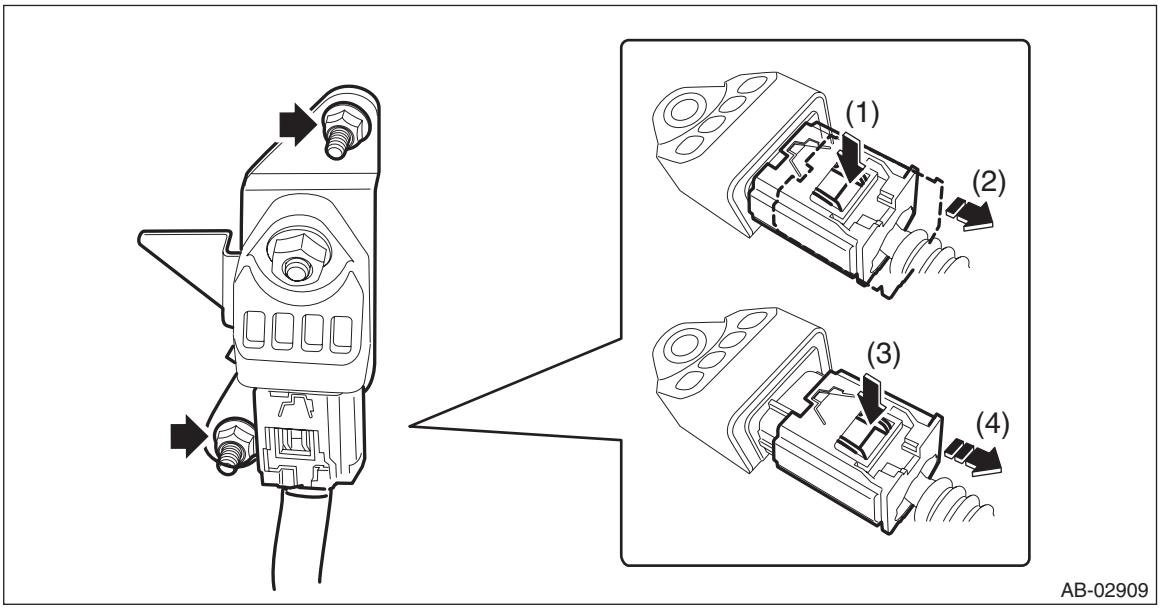
8) Remove the seat belt retractor. (On the side where the side airbag sensor is removed)
(1) Turn over the floor mat to disconnect the belt tension sensor connector. <Ref. to AB-19, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & PRETENSIONER, PROCEDURE, Airbag Connector.>

NOTE:
For XV model, disconnect the connector of the passenger's lap seat belt pretensioner.
(2) Remove the bolt to remove the seat belt retractor.


AB-02907

9) Remove the nuts and then remove the side airbag sensor. <Ref. to AB-21, SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR, PROCEDURE, Airbag Connector.>

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.**



AB-02909

B: INSTALLATION

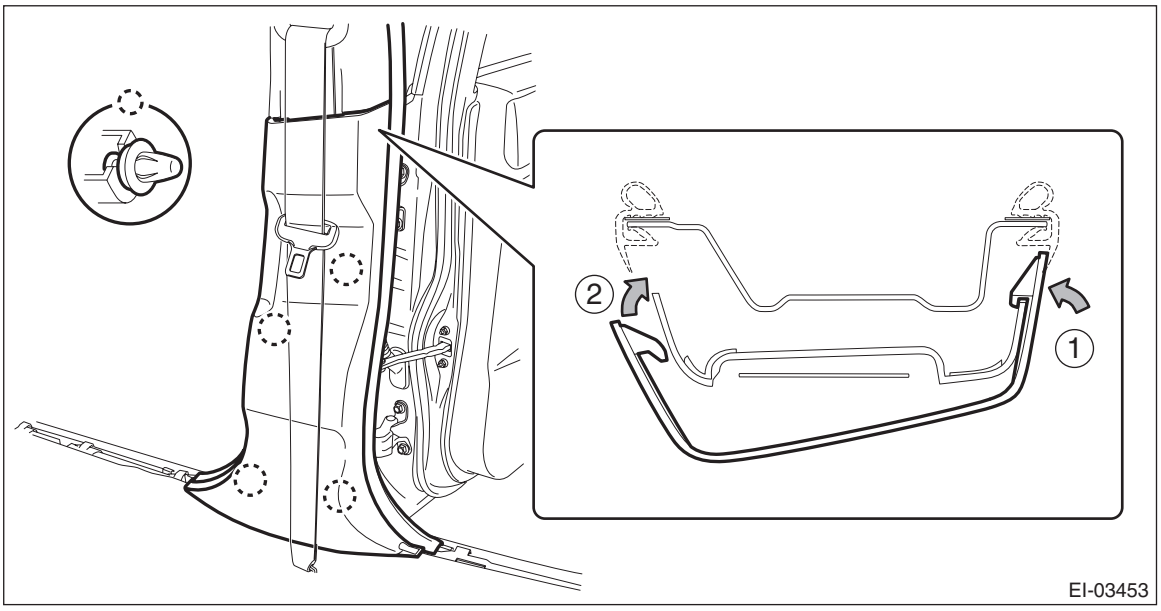
CAUTION:
Do not reuse the bolt and nut.
Always replace with the specified new bolts and nuts.

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 module 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.

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



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

13.Curtain Airbag Sensor

A: REMOVAL

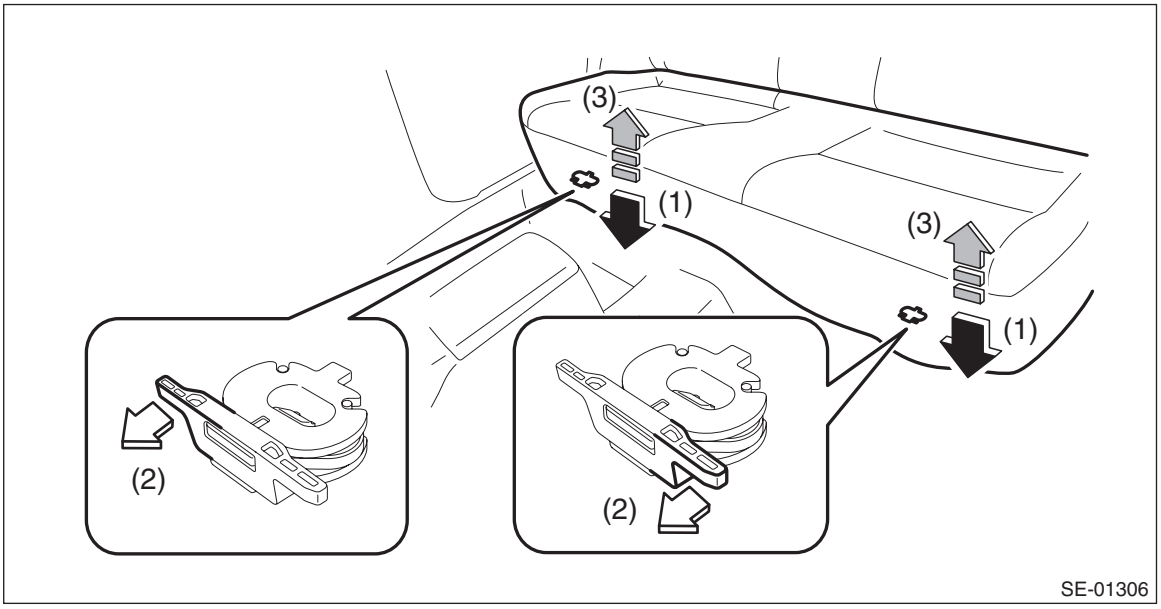
1. 4 DOOR MODEL

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

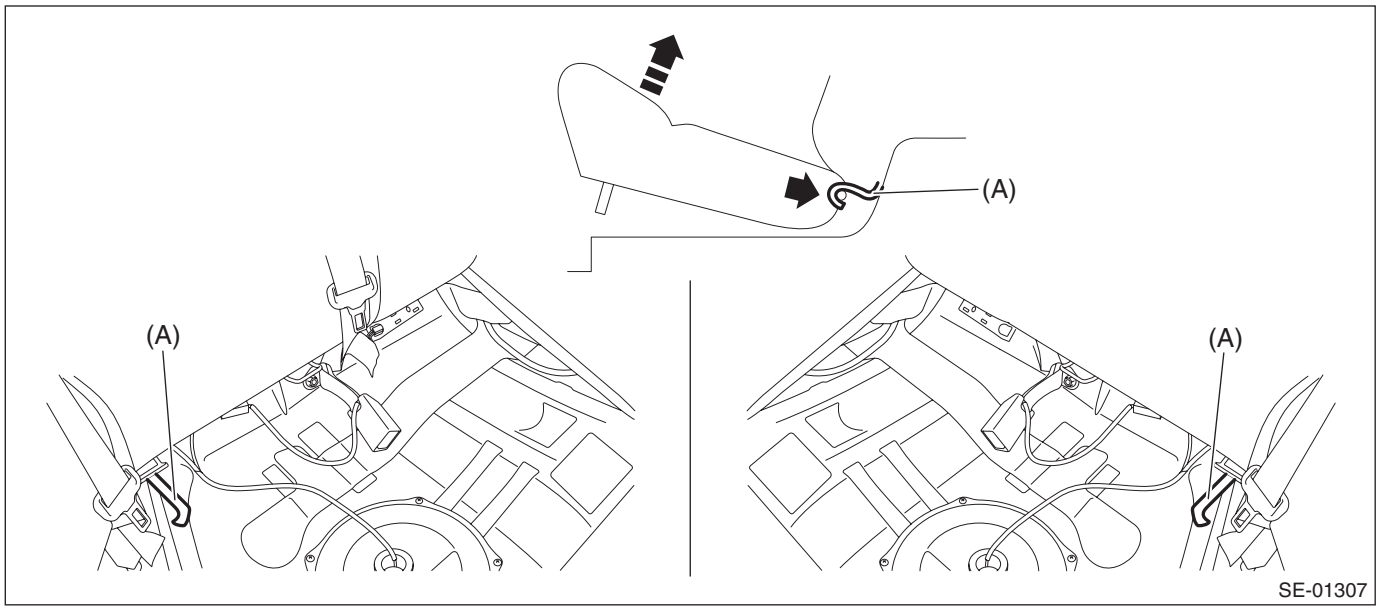
CAUTION:
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>
• The airbag system is fitted with a backup power 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.

3) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

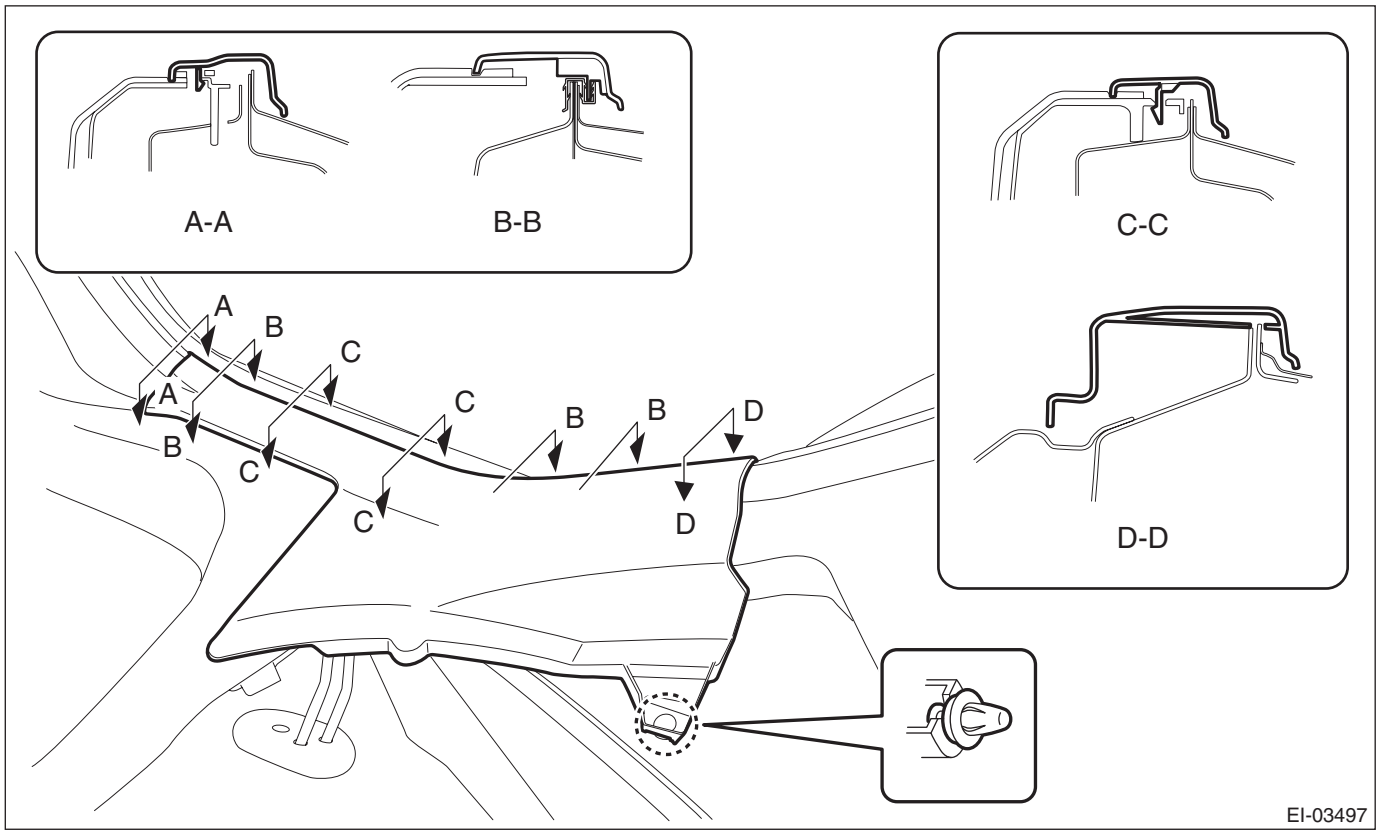


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.

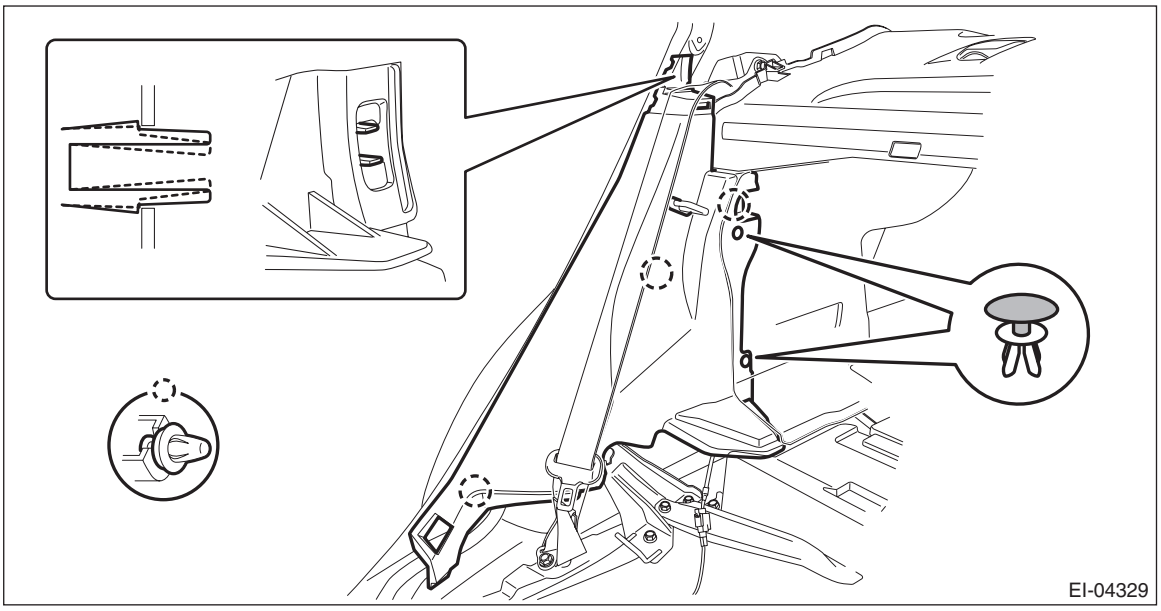


4) Release the clips and claws, and then remove the cover side sill - rear INN.

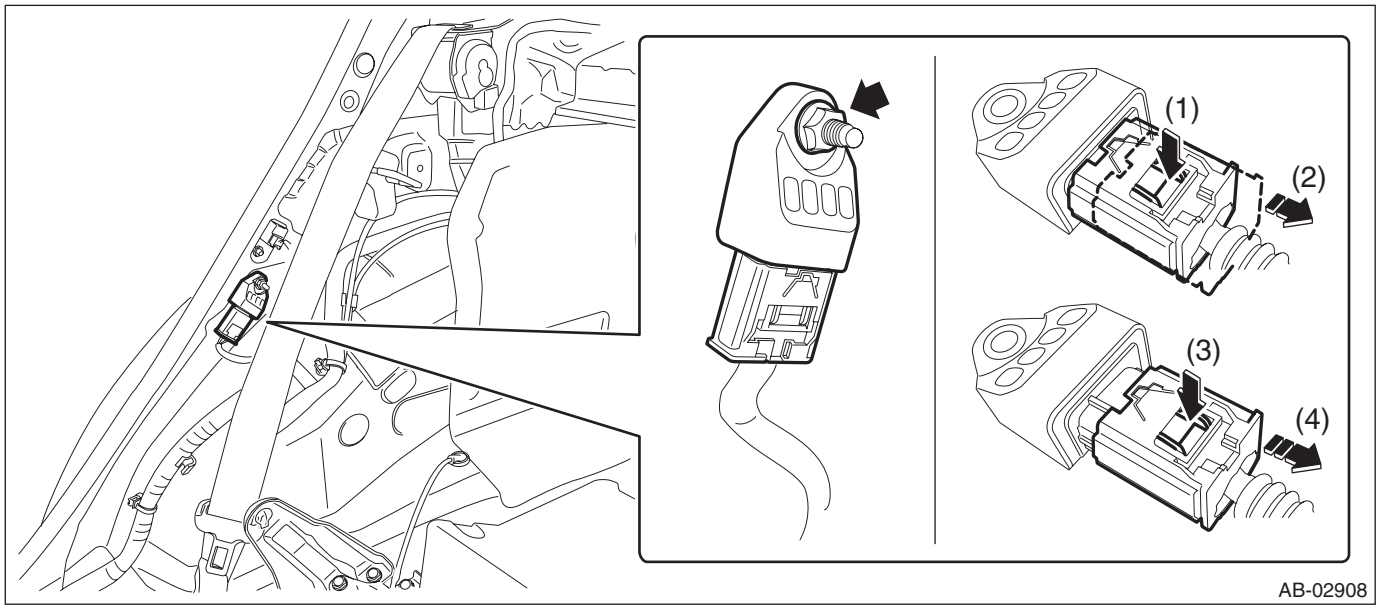
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the cover side sill - rear INN.



5) Remove the trim panel - rear pillar LWR. (On the side where the curtain airbag sensor is removed)
(1) Remove the clips, and turn over the trim panel - trunk side.
(2) Remove the clips, and remove the trim panel - rear pillar LWR.



6) Remove the nuts and then remove the curtain airbag sensor. <Ref. to AB-21, SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR, PROCEDURE, Airbag Connector.>



2. 5 DOOR MODEL/XV MODEL

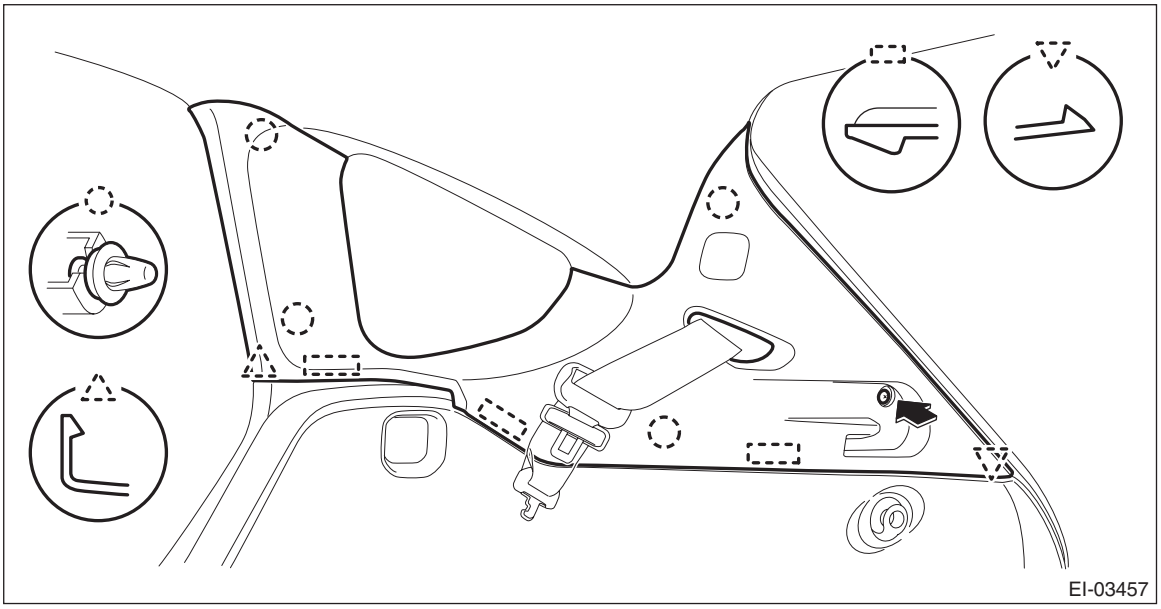
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

CAUTION:
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>

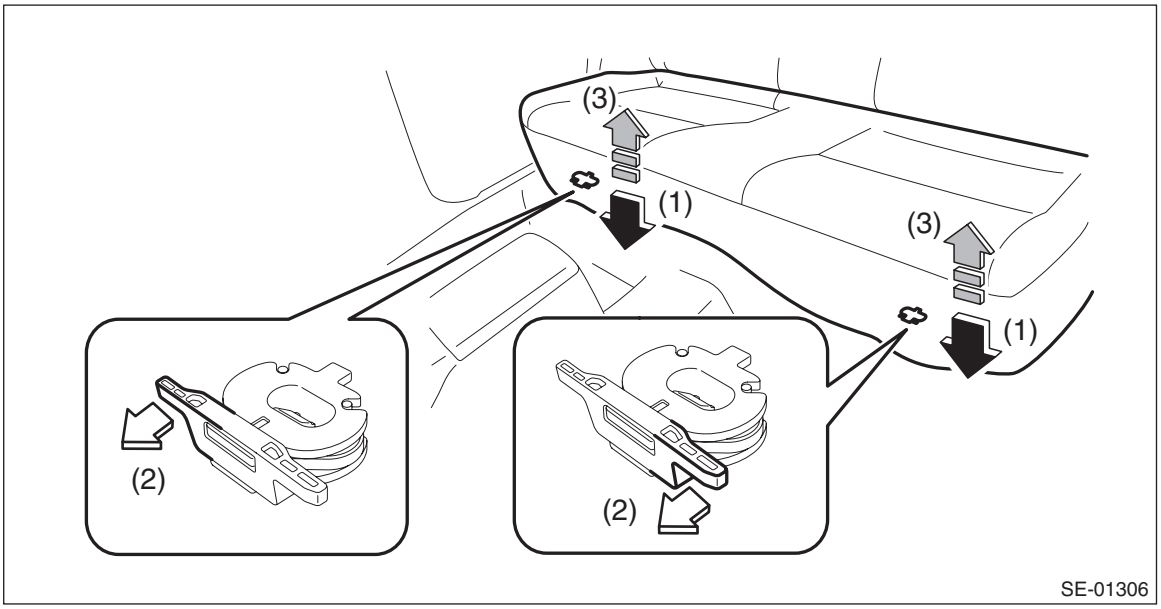
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

3) Remove the screws and clips, and remove the trim panel - rear quarter pillar UPR. (On the side where the curtain airbag sensor is removed)

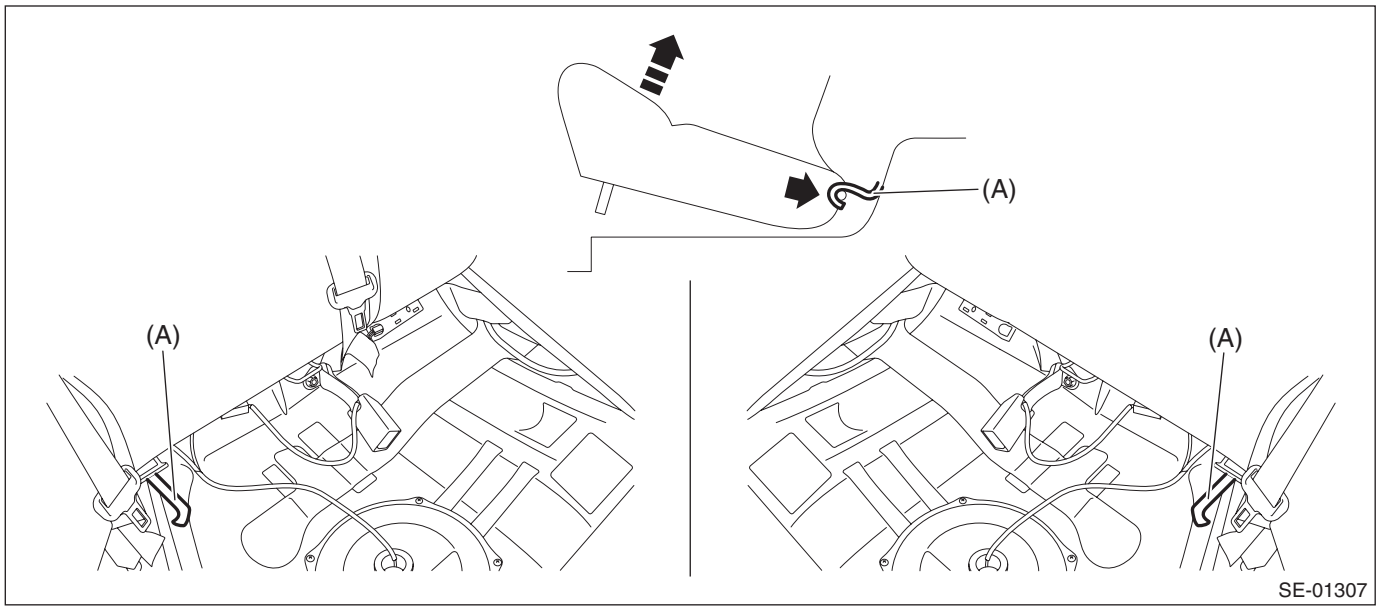


4) Remove the rear seat cushion assembly.
   (1) Push the corners of the rear seat cushion from above.
   (2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
   (3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

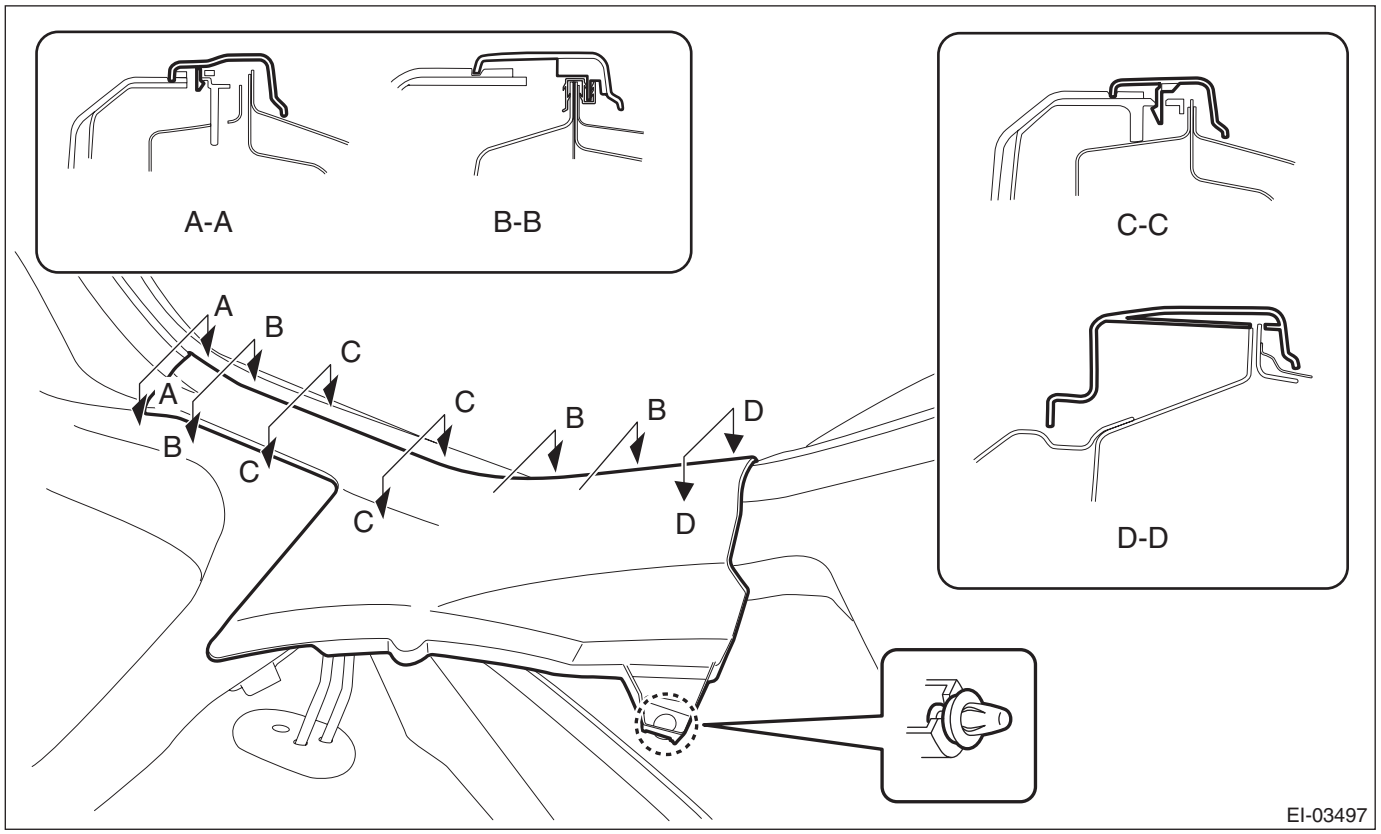


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.

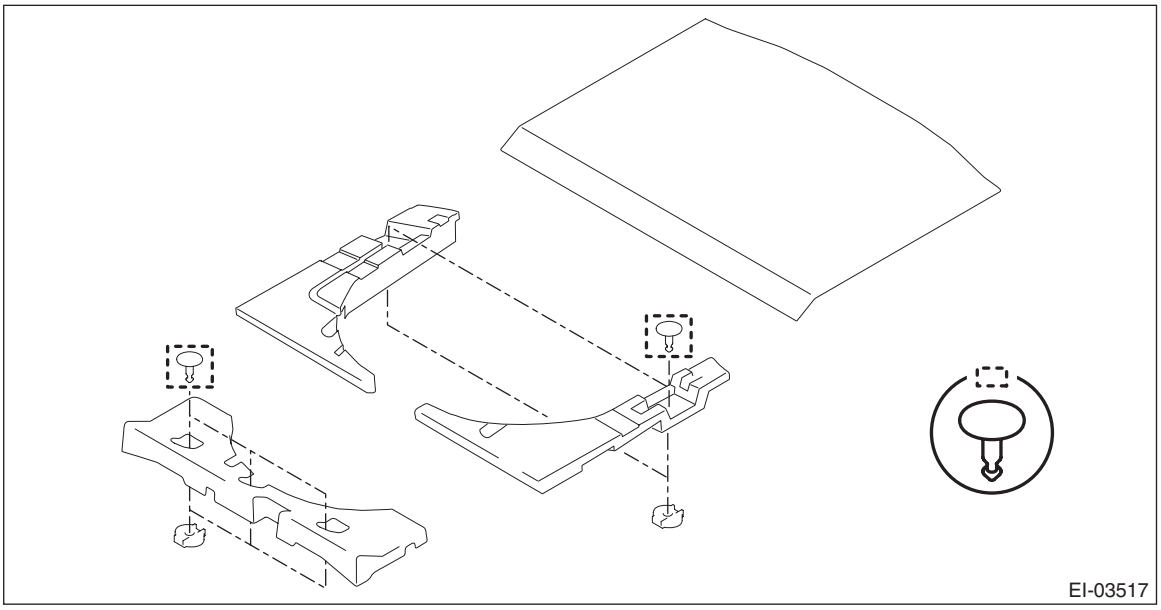


5) Release the clips and claws, and remove the side sill covers - rear INN on the left and right sides. (On the side where the curtain airbag sensor is removed)

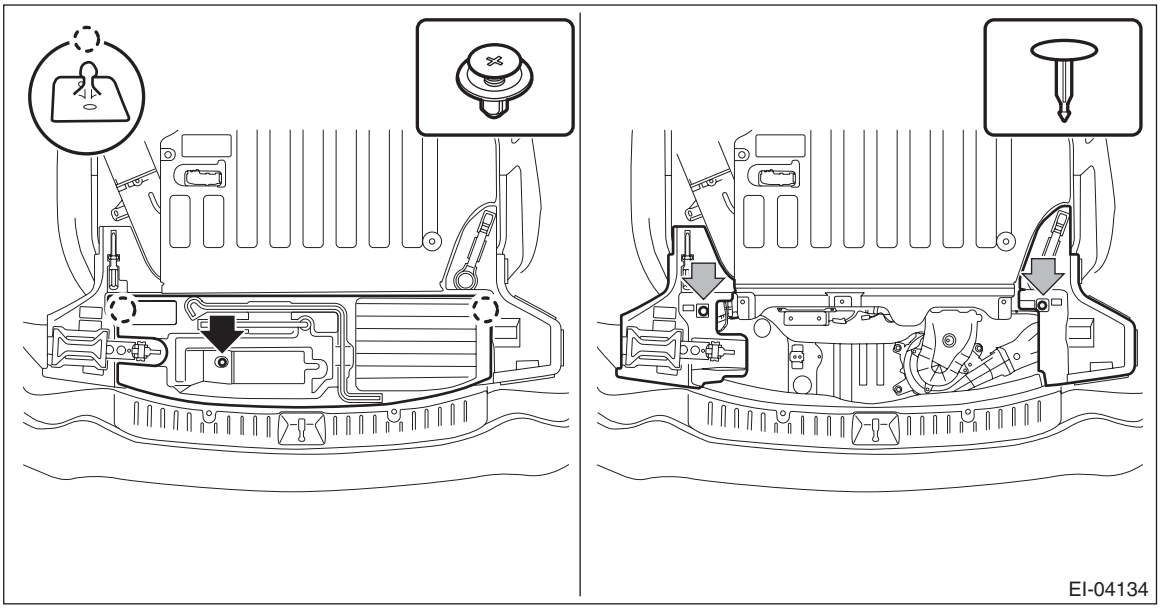
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover - rear INN.



6) Remove the mat - rear floor CTR and the spacer - rear floor side.

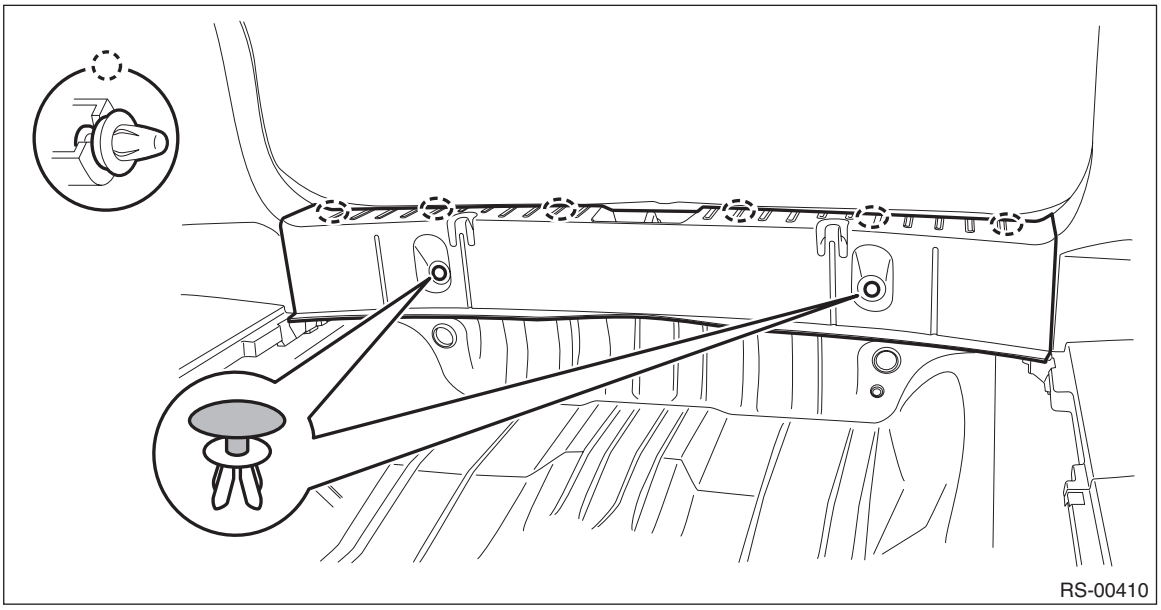


7) Remove the sub-trunk box and side spacers. (HEV model)



(1) Release the clips and side spacers, then detach the sub-trunk box.
(2) Remove the clips and detach the side spacers.

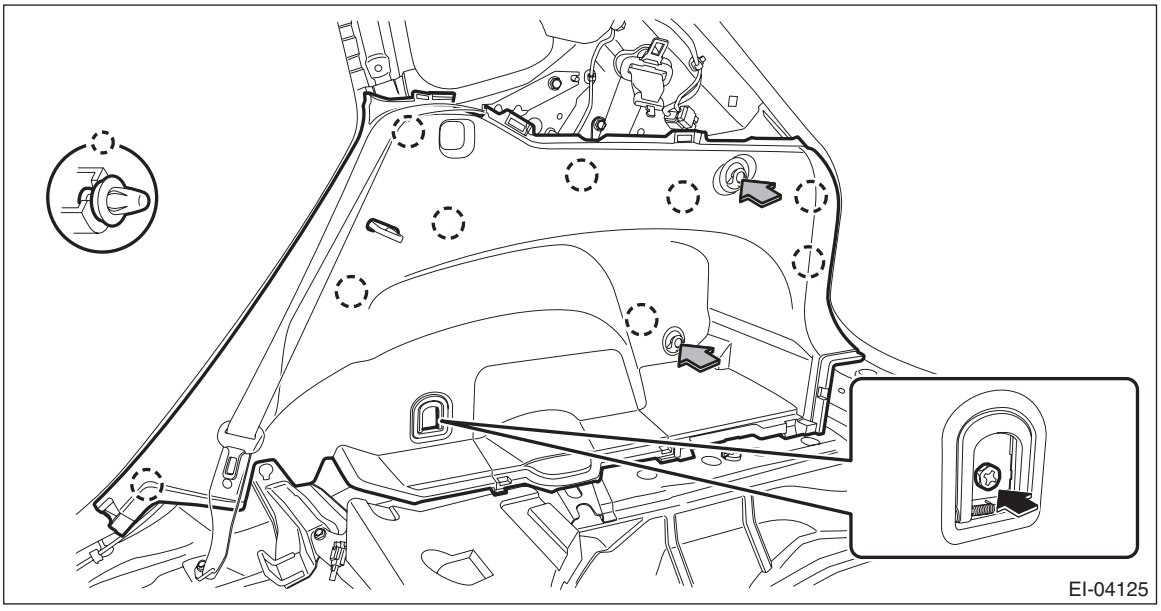
8) Remove the clips, and remove the trim panel - rear skirt.



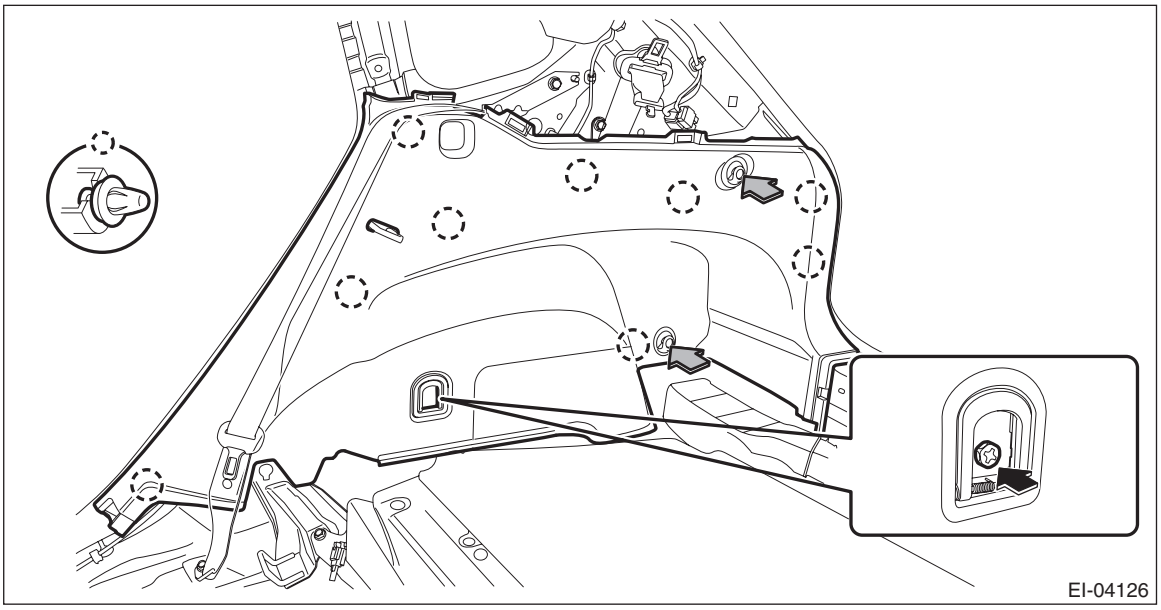
9) Remove the trim panel - rear apron. (On the side where the curtain airbag sensor is removed)
   (1) Remove the caps, and remove the bolts.
   (2) Remove the screws.
   (3) Disengage the clips, and remove the trim panel - rear apron.

NOTE:
For LH side, disconnect the connector of the luggage room light.

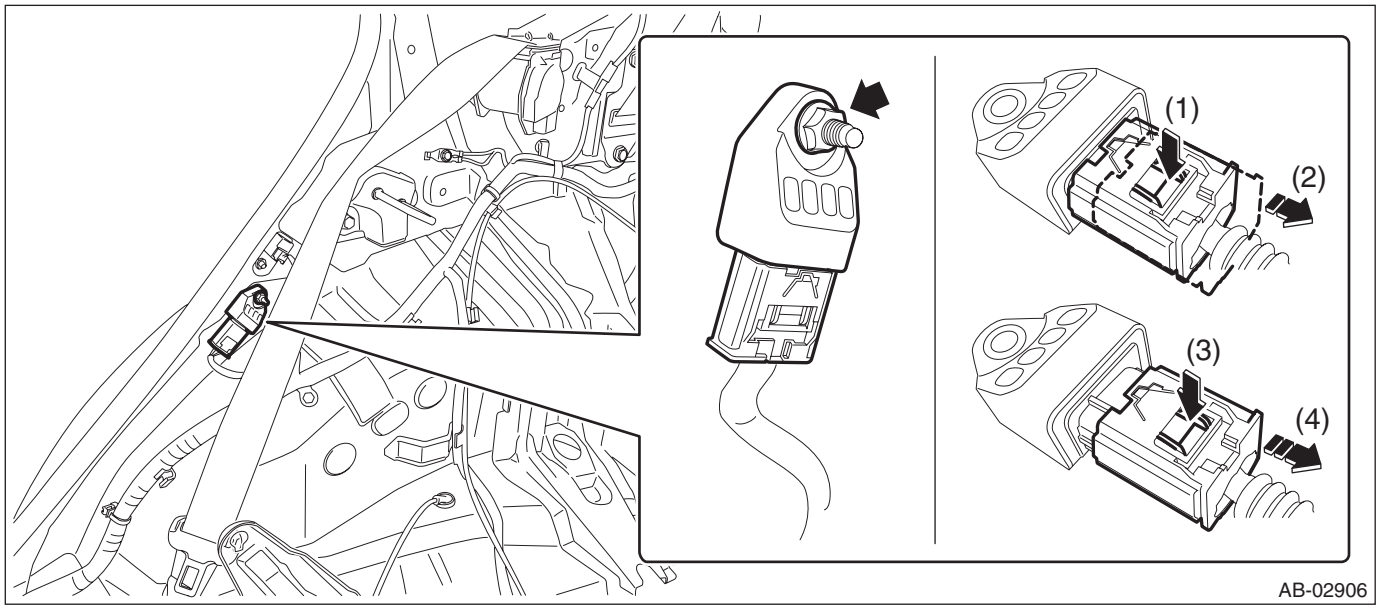
- Gasoline engine model



- HEV model



10) Remove the nuts and then remove the curtain airbag sensor. <Ref. to AB-21, SIDE AIRBAG SENSOR AND CURTAIN AIRBAG SENSOR, PROCEDURE, Airbag 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 module has been activated.

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

Tightening torque:
Curtain airbag sensor: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Rear seat backrest assembly: <Ref. to SE-5, REAR SEAT, COMPONENT, General Description.>

14.Satellite Safing Sensor

A: REMOVAL

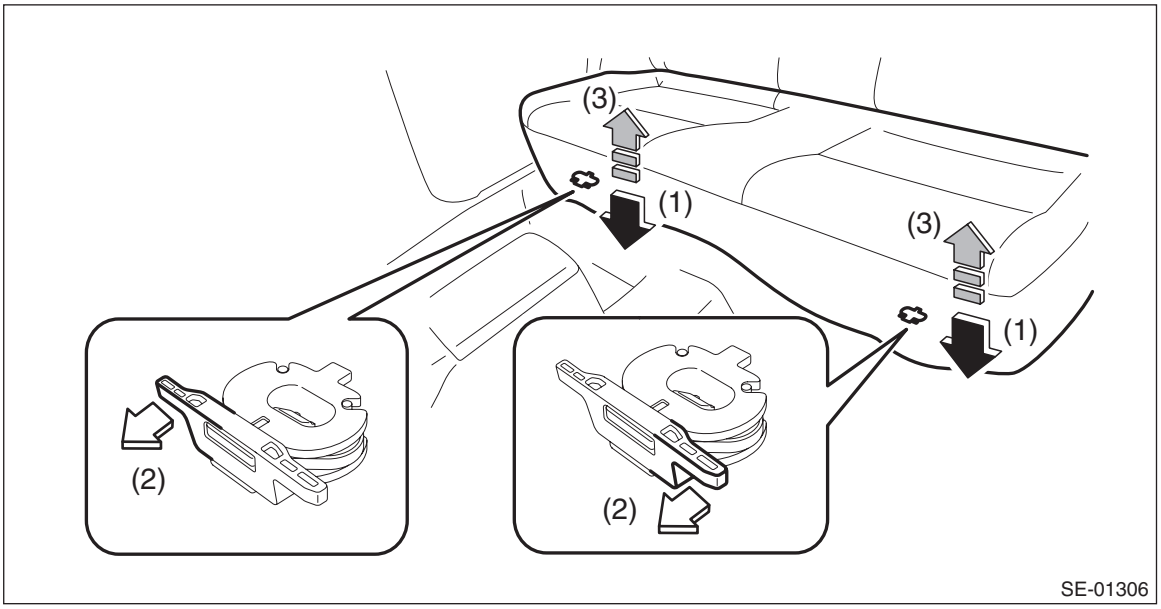
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

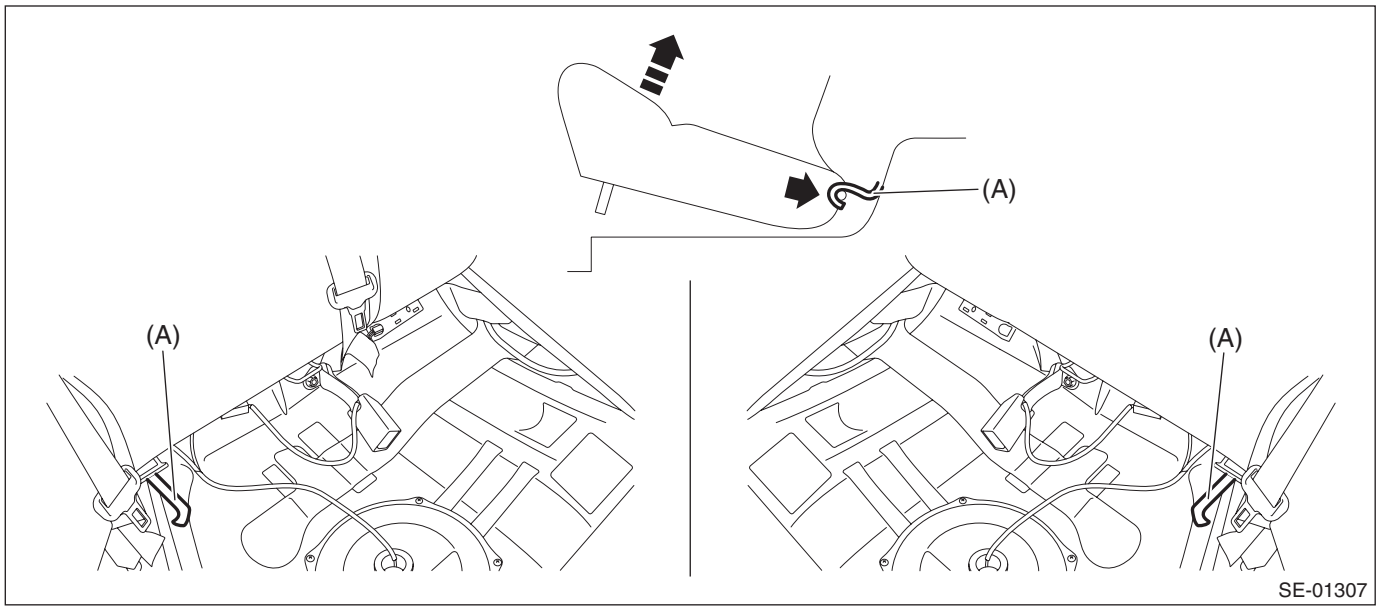
CAUTION:
The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

3) Remove the rear seat cushion assembly.
   (1) Push the corners of the rear seat cushion from above.
   (2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
   (3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

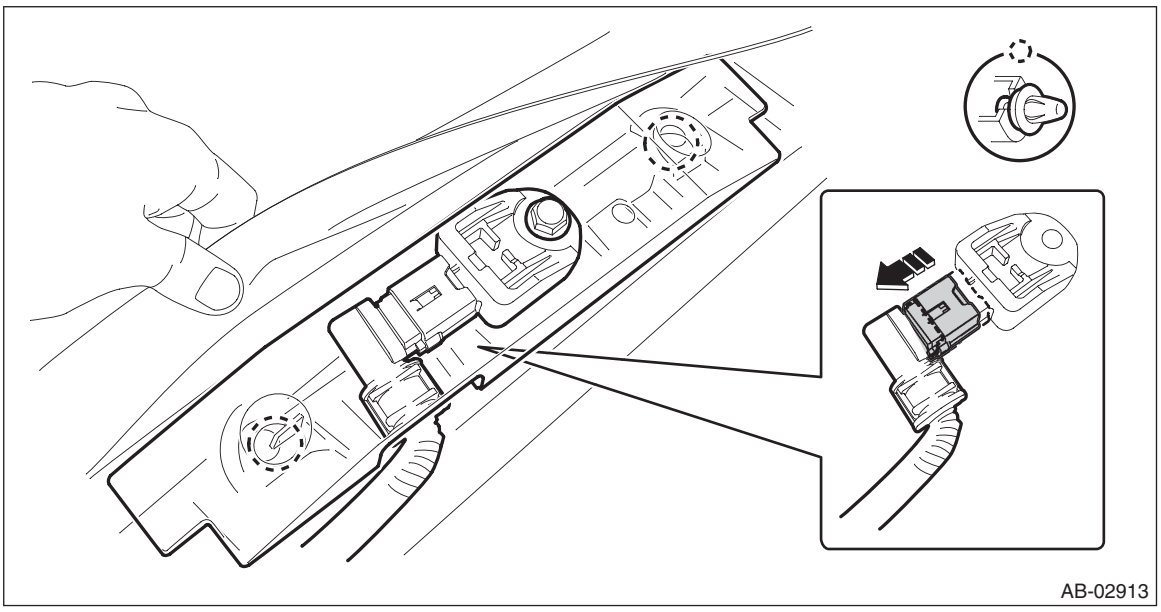
NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.



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



4) Remove the satellite safing sensor.
(1) Remove the clip, and remove the cover - satellite safing.
(2) Remove the bolts and then remove the satellite safing sensor. <Ref. to AB-20, FRONT DOOR IMPACT SENSOR AND SATELLITE SAFING SENSOR, PROCEDURE, Airbag Connector.>



B: INSTALLATION

CAUTION:
• Do not reuse the bolt and nut.
Always replace with the specified new bolts and nuts.
• When installing the cover - satellite safing, push the cover securely until it contacts the floor panel.
• If the cover - satellite safing is too loose at its mounting portion to remove easily, replace with a new cover - satellite safing.
• After installing the cover - satellite safing, make sure that the sensor harness does not get caught.
Install each part in the reverse order of removal.

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

C: INSPECTION

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

- The satellite safing sensor connector is damaged.
- The cover - satellite safing is damaged
- Side airbag or curtain airbag has been activated.

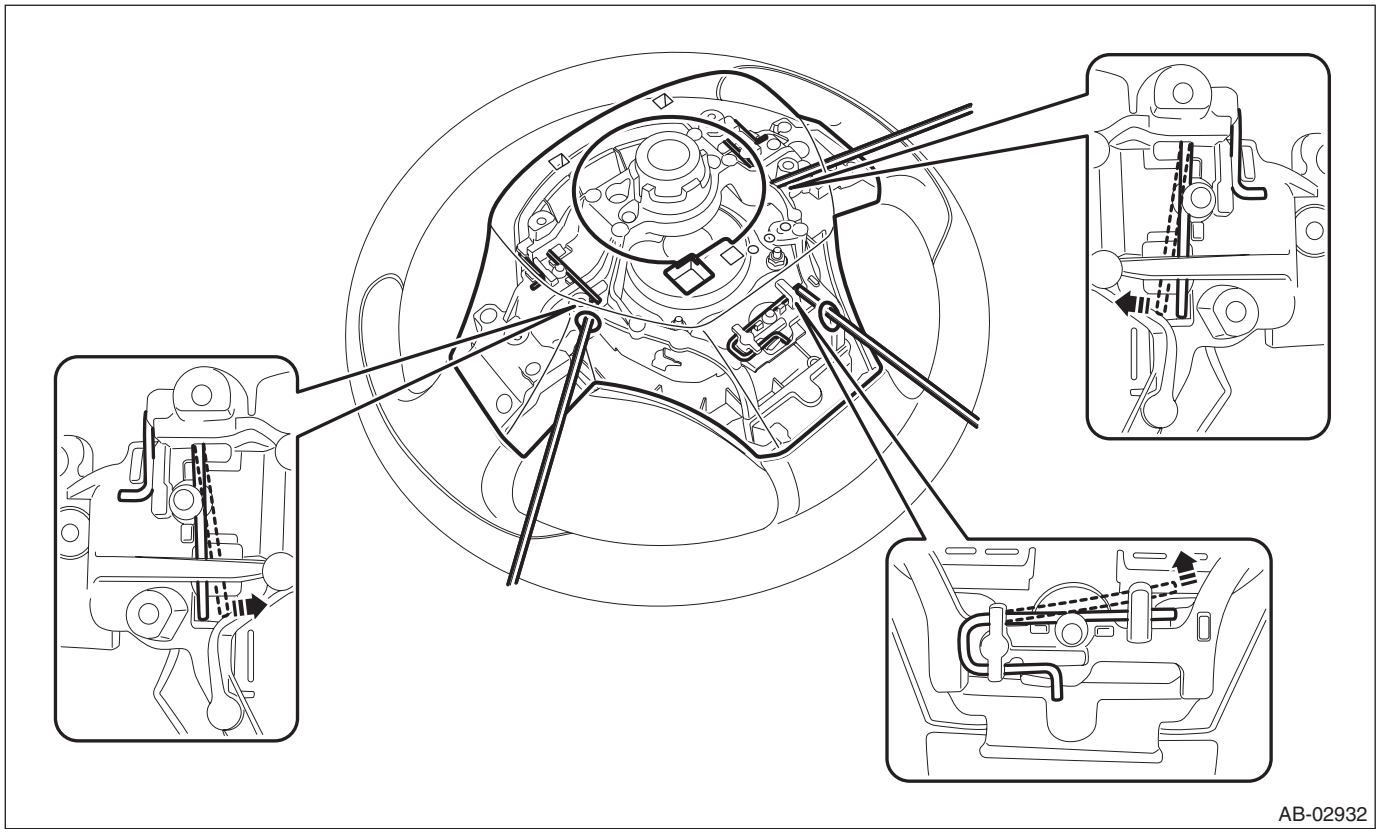
15.Roll Connector

A: REMOVAL

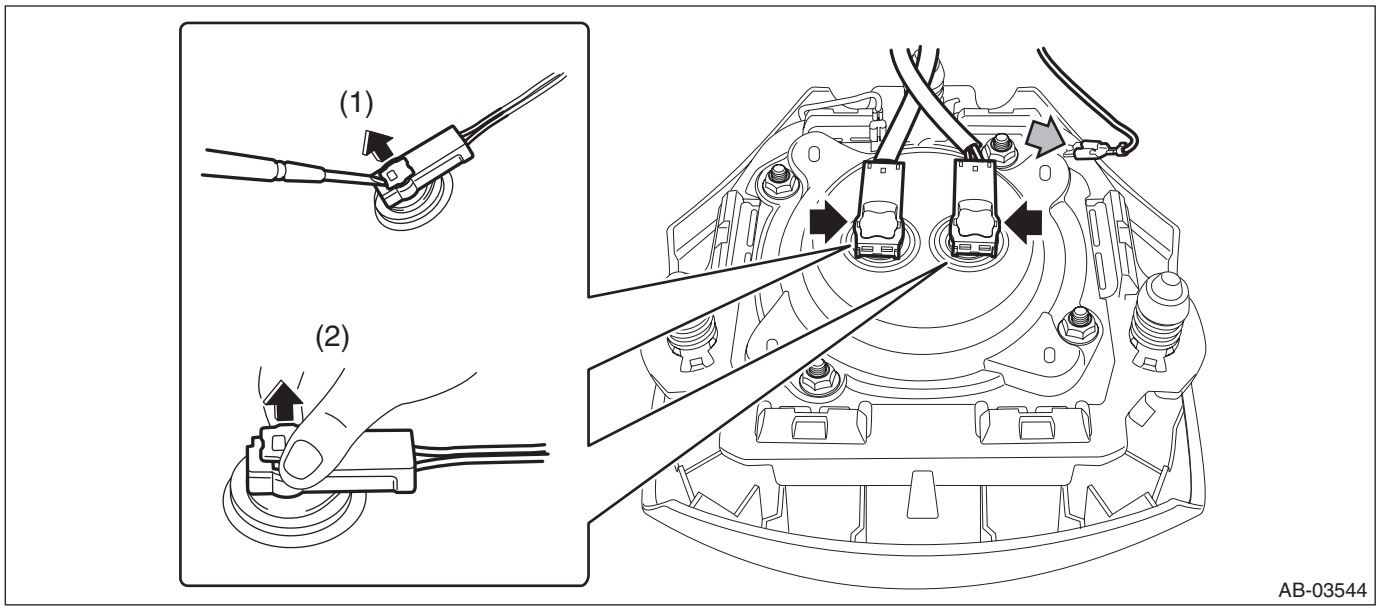
1) Position the front wheels straight ahead. (After moving a vehicle 5 m (16 ft) or more with front wheels positioned straight ahead, make sure that the vehicle moves straight ahead.)
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

4) Remove the driver's airbag module.
   (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 driver's airbag module. <Ref. to AB-19, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & PRETENSIONER, PROCEDURE, Airbag Connector.>



5) Remove the steering wheel.

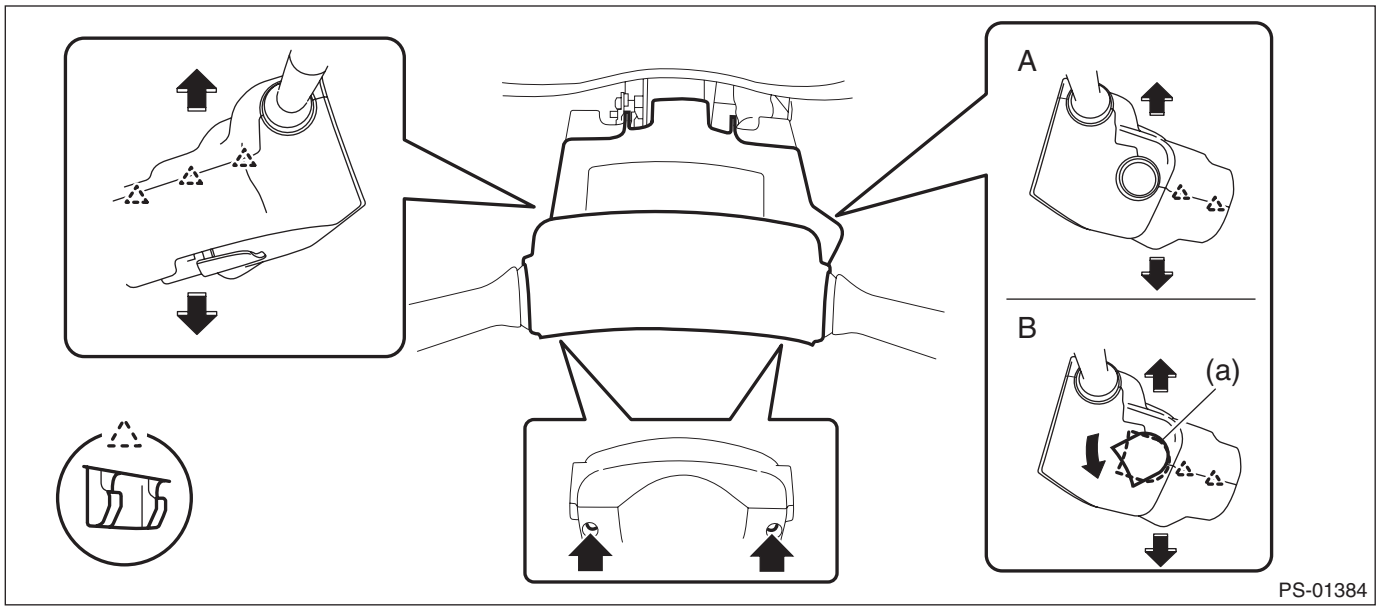
CAUTION:
- **Always use the steering wheel puller for removal to avoid deforming the steering wheel.**
- **If the steering wheel has been removed, make sure that the roll connector is not turned from the original position.**

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

Preparation tool:
Steering wheel puller

6) Remove the cover assembly - column.
(1) Release the screws and claws.
(2) Remove the cap - key cylinder (a). (Model with keyless access)

(3) Release the claw, and remove the cover assembly - column UPR and the cover assembly - column LWR.

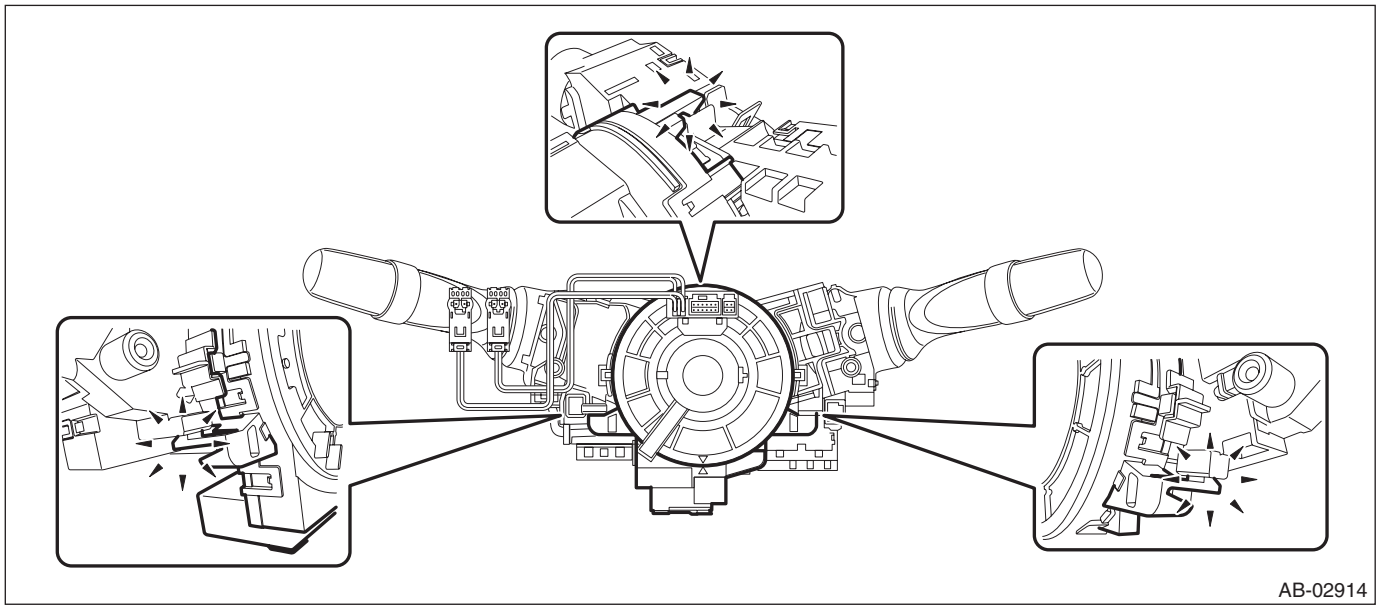


A Model without keyless access B Model with keyless access

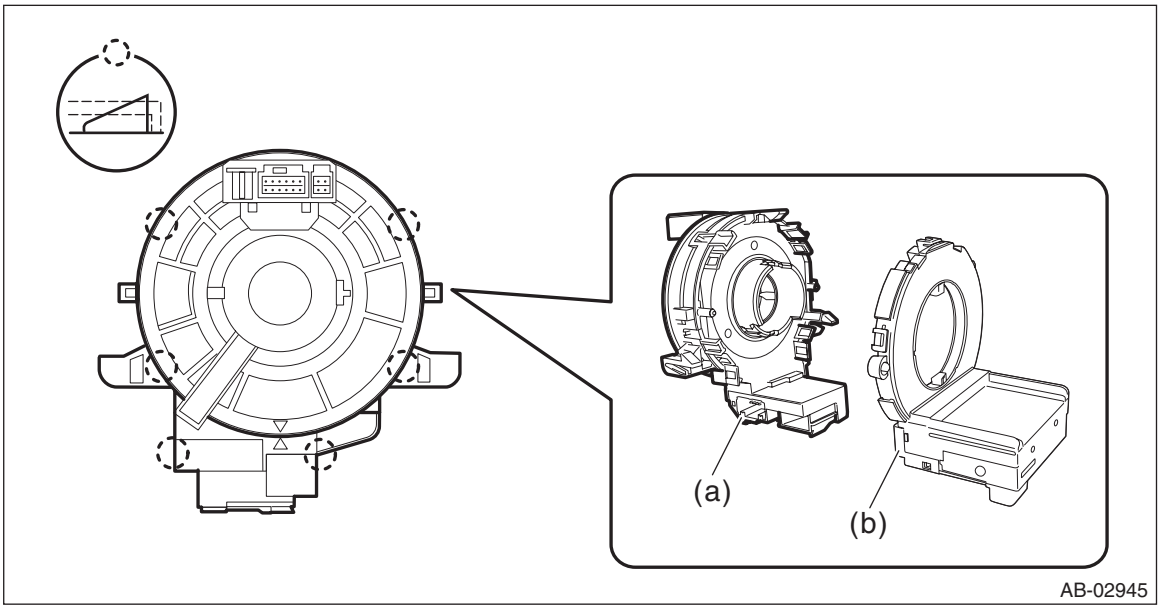
7) Remove the roll connector.

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.



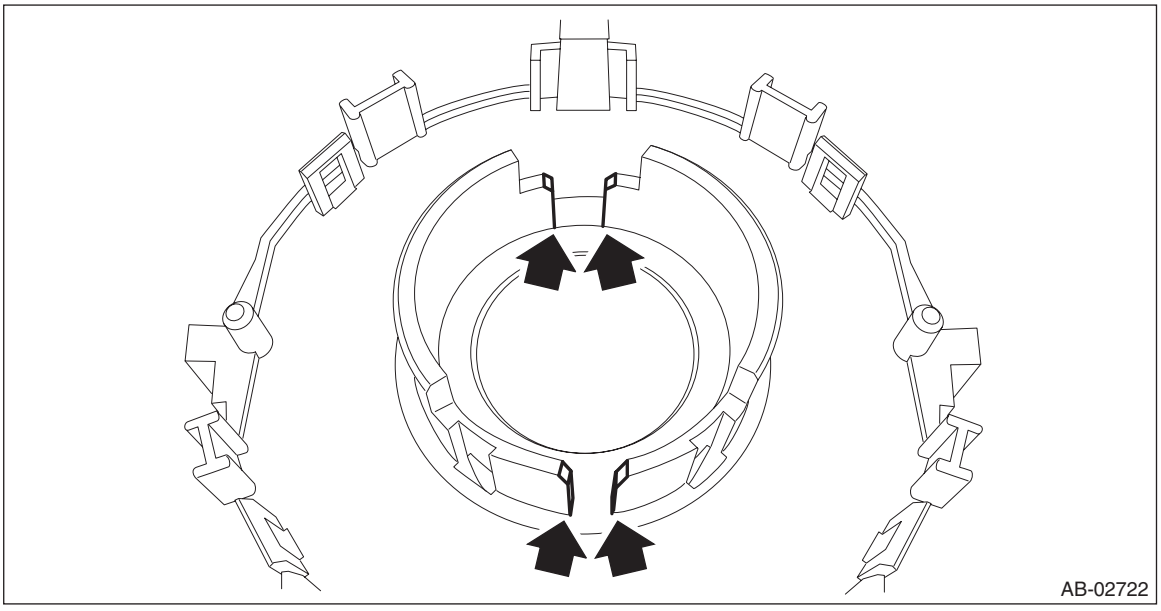
(3) Release the claws and separate the roll connector (a) and steering angle sensor (b).



B: INSTALLATION

CAUTION:
If the steering wheel and steering angle sensor are removed, perform "VDC sensor midpoint setting mode" of the VDC. <Ref. to VDC-26, VDC SENSOR MIDPOINT SETTING MODE (MODELS WITHOUT EyeSight), ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>

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-98, ADJUSTMENT, Roll Connector.>

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

Clearance:
Cover assembly - column to 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

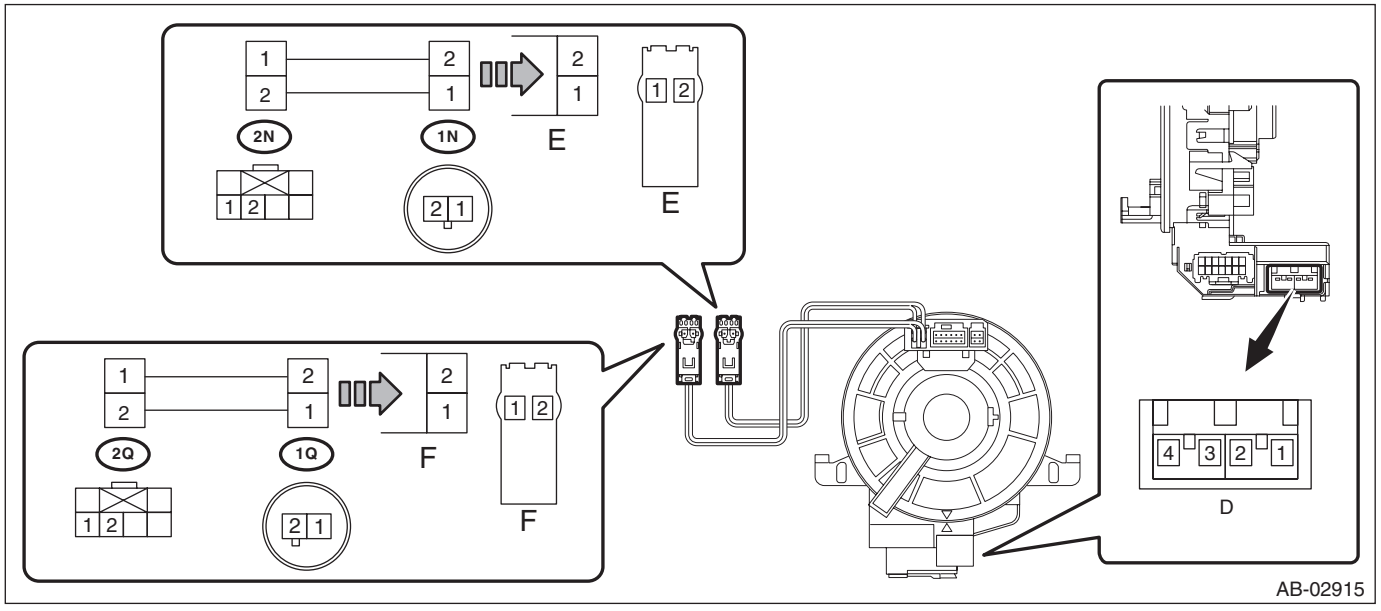
CAUTION:
• Do not rotate the roll connector to more than the specified number of turns. Otherwise, the roll connector internal wire may be broken.
• When determining the end stop, rotate the connector slowly without applying excessive force. Applying excessive force at the end stop may break the internal wire.

1) Adjust the roll connector. <Ref. to AB-98, 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

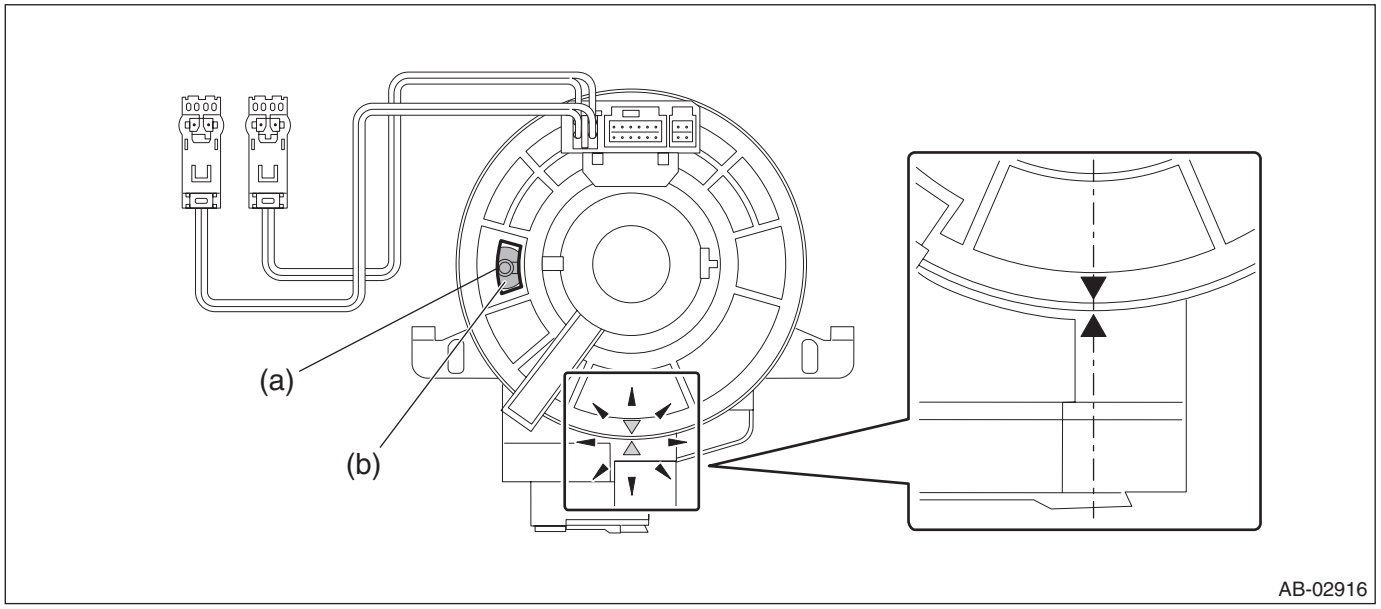
NOTE:
The connector D is designed to short the terminals D1/D2 and D3/D4 when disconnected.

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).



16.Airbag Module Disposal (Deployment Processing on Vehicle)

A: PROCEDURE

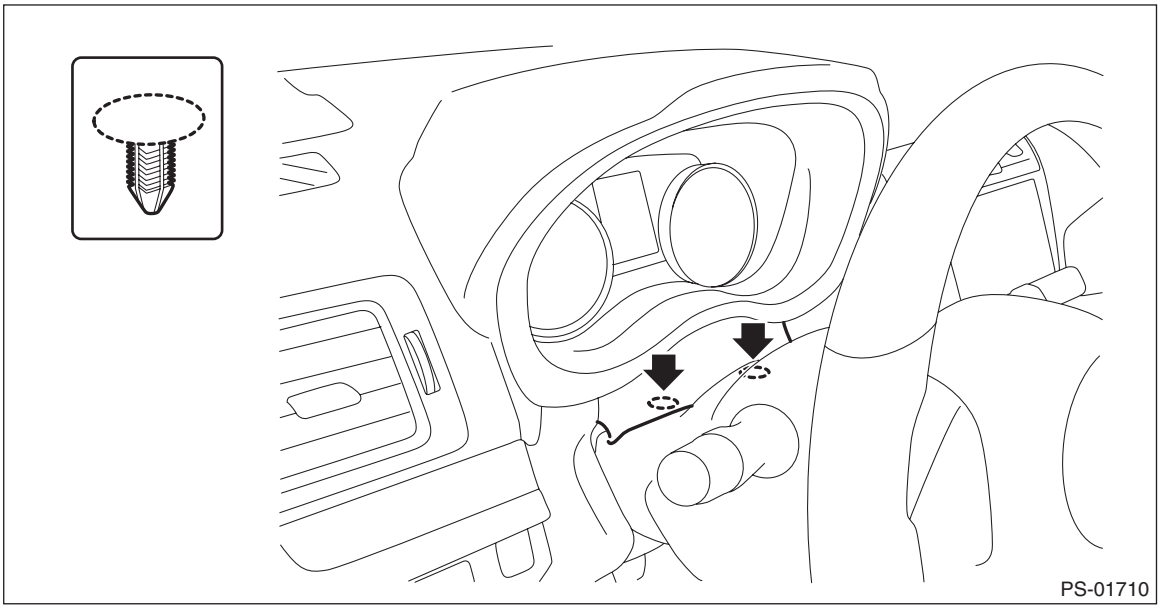
WARNING:
Make sure to follow the instructions below. Otherwise, personal injuries may occur.
• Before discarding an airbag module, always perform an operation process to prevent any false activation.
• Wear protective gloves, safety goggles and earplugs during this operation. Wash your hands afterwards.
• Do not touch the airbag module just after activation because it is very hot. Before handling it for disposal, wait for 40 minutes.

CAUTION:
• Airbag module operation process should be performed on a flat place in safety area. Do not perform the process outdoors when there is rain or strong wind.
• Activating an airbag module causes a high explosive noise, be sure to warn people in the area, and do not allow anyone within 5 m (16 ft) radius of the disposal site.
• After activating the airbag module, smoke may arise. Therefore, it must be activated in a well-ventilated place with no smoke detector nearby.
• Do not expose the activated airbag module to water.
• Wrap the activated airbag module in a sealed vinyl bag when discarding.
• If it is impossible to perform an airbag module operation process due to some situational reasons, consult SUBARU dealership or one of the authorized workshops.

1. DRIVER'S AIRBAG MODULE

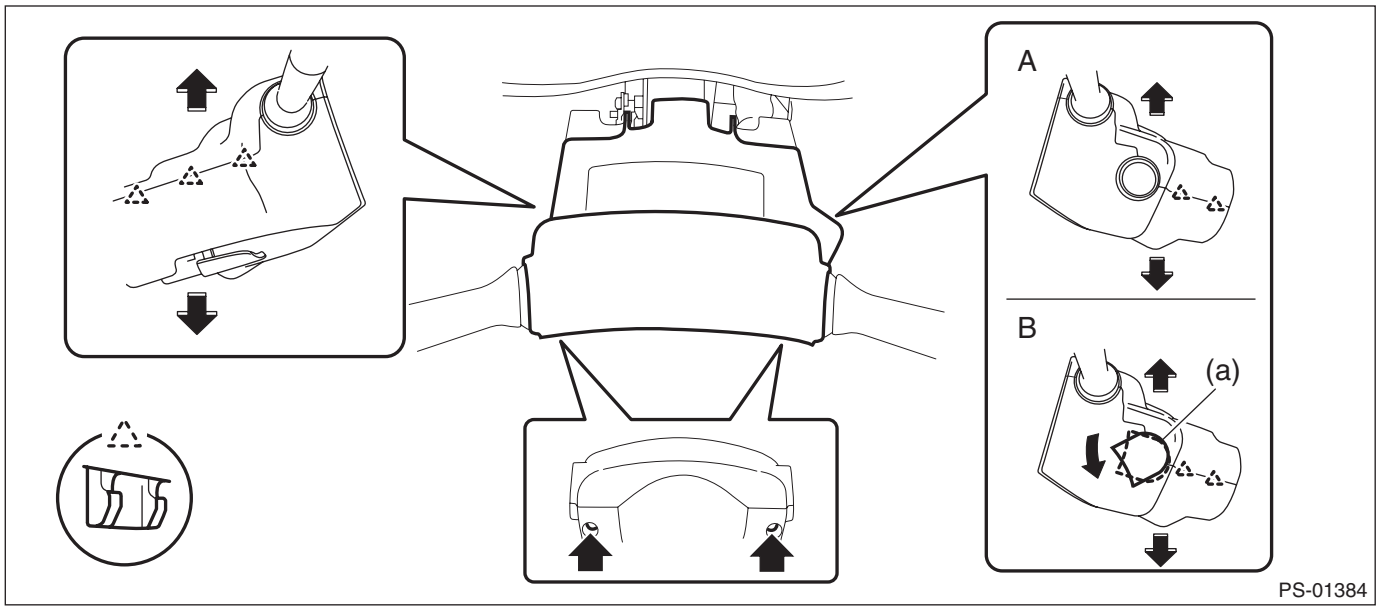
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the cover assembly - column.
(1) Remove the clips, and remove the cover - column.



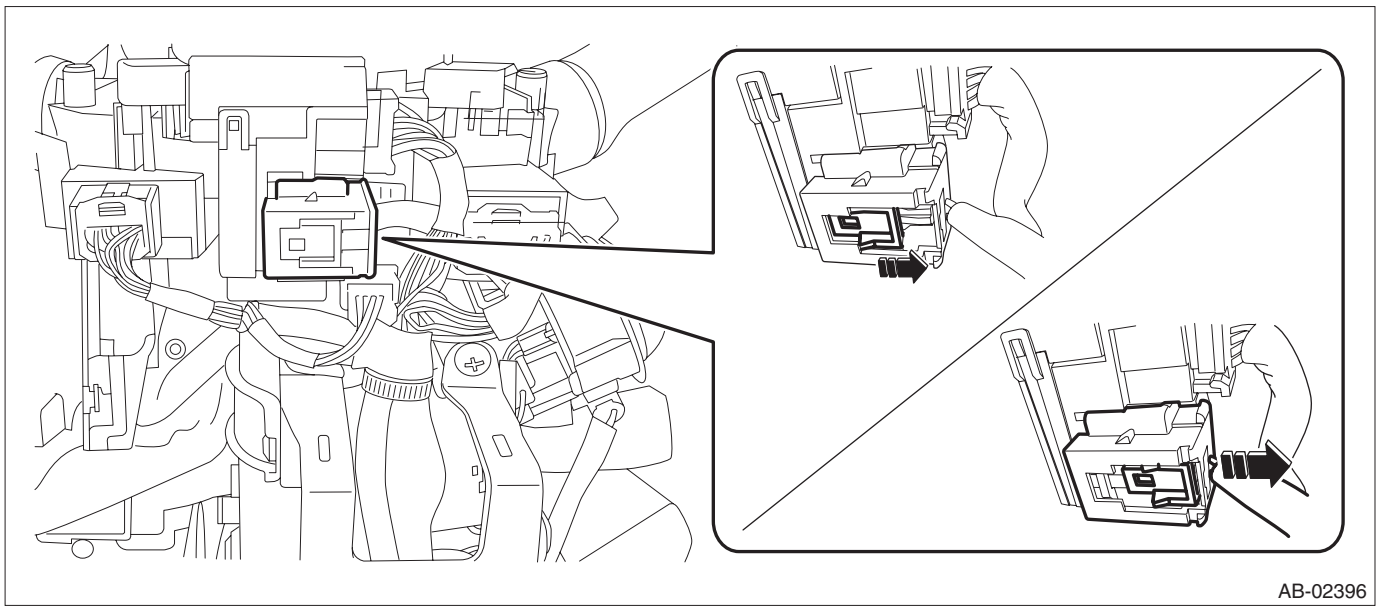
(2) Remove the screws.
(3) Remove the cap - key cylinder (a). (Model with keyless access)

(4) Release the claw, and remove the cover assembly - column UPR and the cover assembly - column LWR.



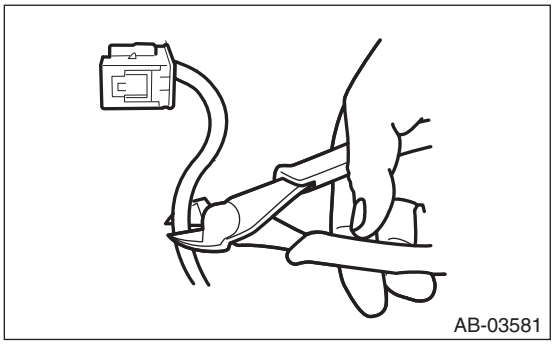
A Model without keyless access B Model with keyless access

4) Disconnect the driver's airbag module connector.



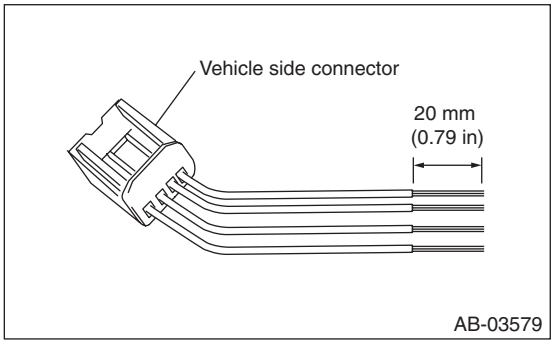
5) Cut off the harness on the body side of the removed connector approx. 70 mm (2.76 in) from the edge of the connector.

Preparation tool:
Nippers

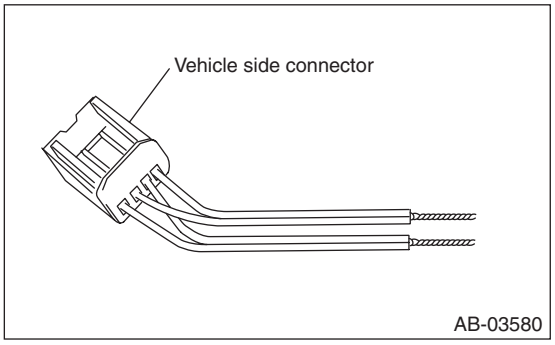


6) Peel off the shield approx. 20 mm (0.79 in) from the two harnesses of the removed body side connector.

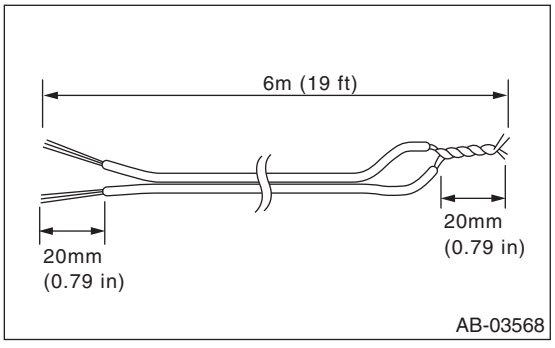
Preparation tool:
Wire stripper



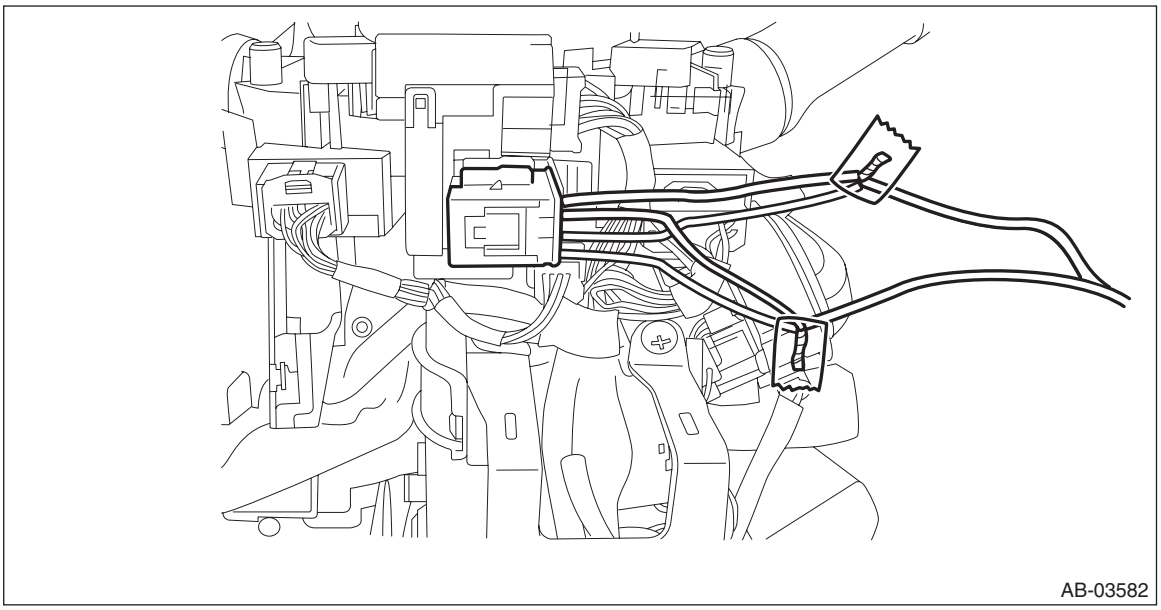
7) Twist the end of harness as shown in the figure.



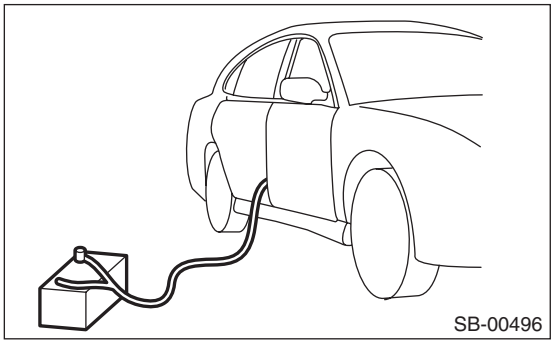
8) Prepare a six-meter (19 ft) long vinyl-shielded parallel wire. Peel off the shield of both ends approx. 20 mm (0.79 in) and twist one end together into shorted condition.
9) The other end, not shorted, will be connected to harnesses of repaired body connector as shown in the figure, and insulated with vinyl tape.



NOTE:
No concern about polarity.
10) After completing the connecting work, connect the body side connector to the connector of the airbag connector lower side again.

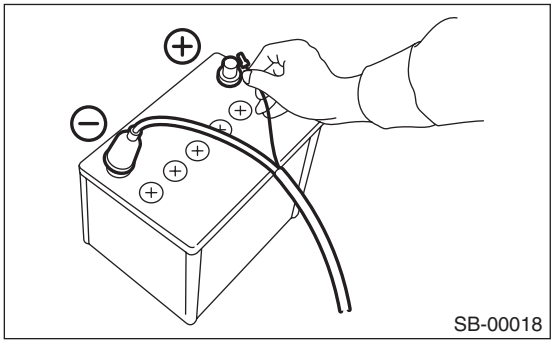


11) Bring the vinyl wire for operation out of the vehicle and make sure there is no person in the vehicle.
12) Extend the wiring of airbag deployment tool to the limit, and close all the windows and sunroof completely.

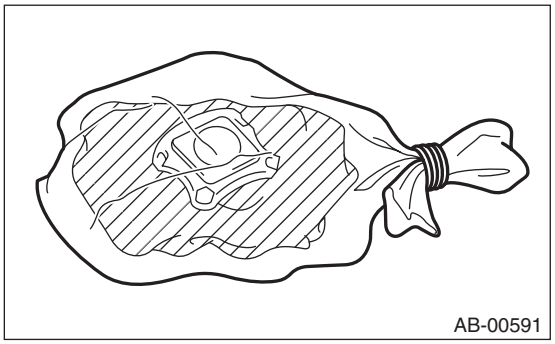


13) Move the battery at least 5 m (16 ft) from the vehicle, and confirm safety in the area.
14) Connect the airbag deployment tool alligator clip to the battery negative (–) terminal.
15) Connect the other cable of airbag deployment tool to the battery positive (+) terminal, and activate the airbag module.

CAUTION:
• After activation, the airbag module will be extremely hot. Let it cool down for at least 40 minutes in an area with no one around.
• Do not expose the activated airbag module to water.



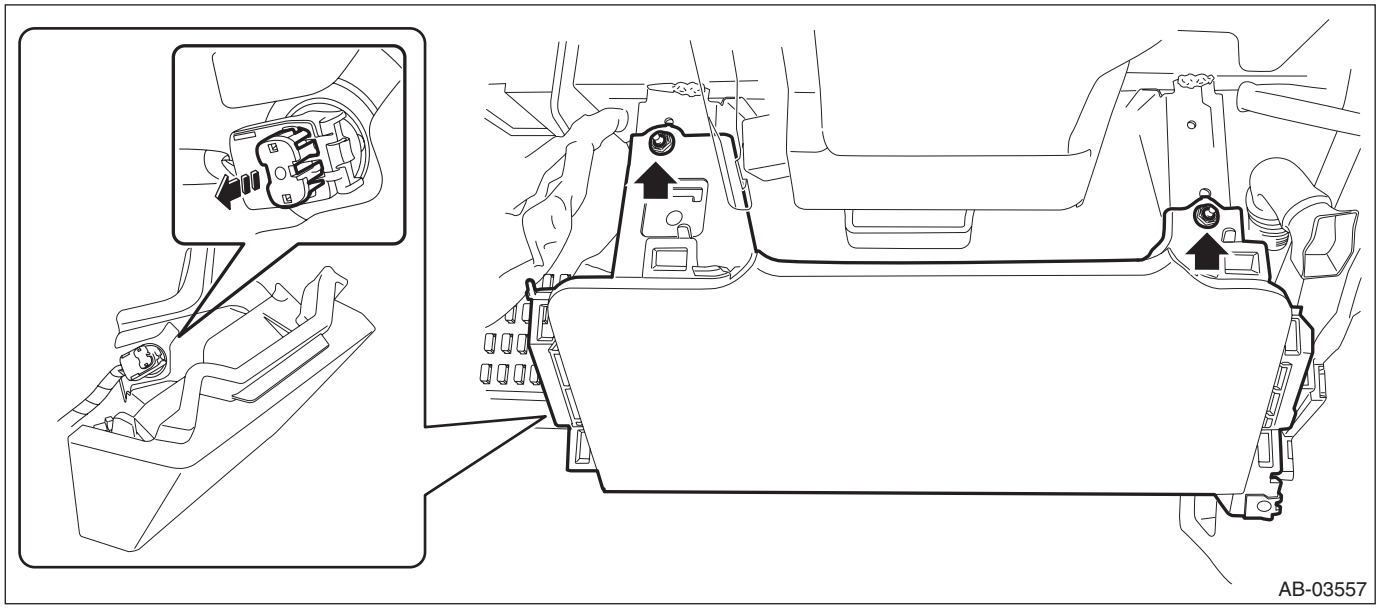
16) Remove the driver's airbag module. <Ref. to AB-32, REMOVAL, Driver's Airbag Module.>
17) Place the activated airbag module in a sealed vinyl bag, then discard.



2. KNEE AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the cover assembly - instrument panel LWR driver. <Ref. to EI-76, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the nuts to remove the knee airbag module and disconnect the harness connector. <Ref. to AB-19, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & PRETENSIONER, PROCEDURE, Airbag Connector.>



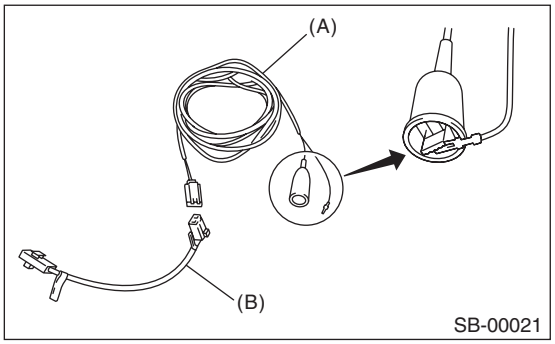
5) Short the terminal to the alligator clip furnished as airbag deployment tool.

CAUTION:
The airbag deployment tool should be kept shorted on the terminals until just before activation of airbag module.

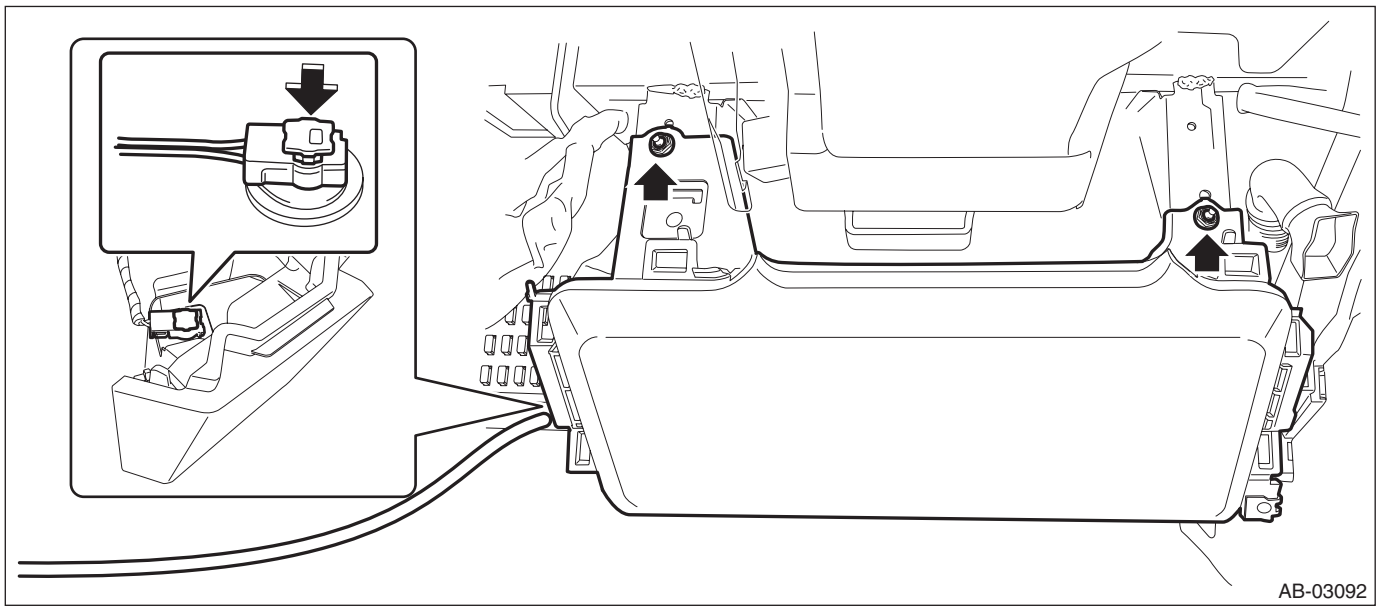
Preparation tool:
ST: AIRBAG DEPLOYMENT TOOL (98299PA030)

6) Connect the airbag deployment tool (A) and test harness adapter D (B).

Preparation tool:
ST: TEST HARNESS ADAPTER D (98299SA010)

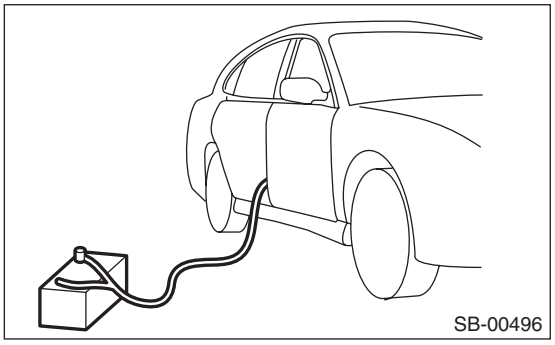


7) Connect the test harness adapter D to the knee airbag module and install the knee airbag module to the vehicle again.



Tightening torque:
7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

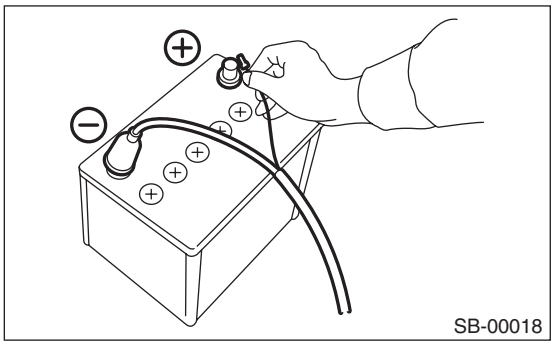
8) Make sure there is no one inside the vehicle.
9) Extend the wiring of airbag deployment tool to the limit, and close all the windows and sunroof completely.



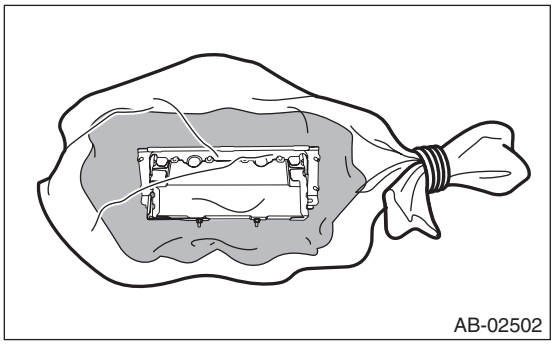
10) Move the battery at least 5 m (16 ft) from the vehicle, and confirm safety in the area.
11) Connect the airbag deployment tool alligator clip to the battery negative (–) terminal.

12) Connect the other cable of airbag deployment tool to the battery positive (+) terminal, and activate the airbag module.

CAUTION:
• After activation, the airbag module will be extremely hot. Let it cool down for at least 40 minutes in an area with no one around.
• Do not expose the activated airbag module to water.


SB-00018

13) Remove the bolts and remove knee airbag module.
14) Place the activated airbag module in a sealed vinyl bag, then discard.


AB-02502

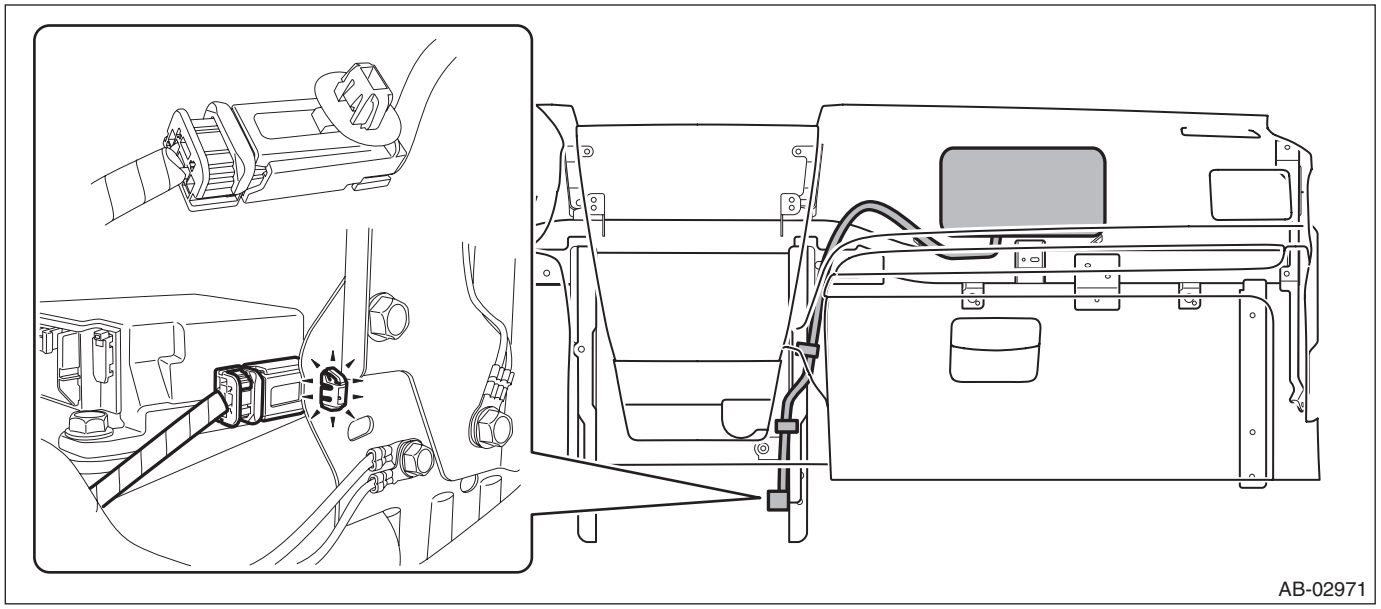
NOTE:
When necessary, fold the fabric part of airbag into three or four sections, rope and seal in a vinyl bag.

3. PASSENGER'S AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the cover - shift lever, the panel center LWR RH, and the console box assembly. <Ref. to EI-81, REMOVAL, Console Box.>

4) Disconnect the passenger's airbag module connector.



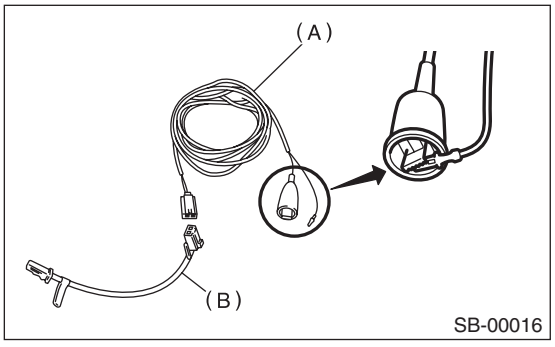
5) Short the terminal to the alligator clip furnished as airbag deployment tool.

CAUTION:
The airbag deployment tool should be kept shorted on the terminals until just before activation of airbag module.

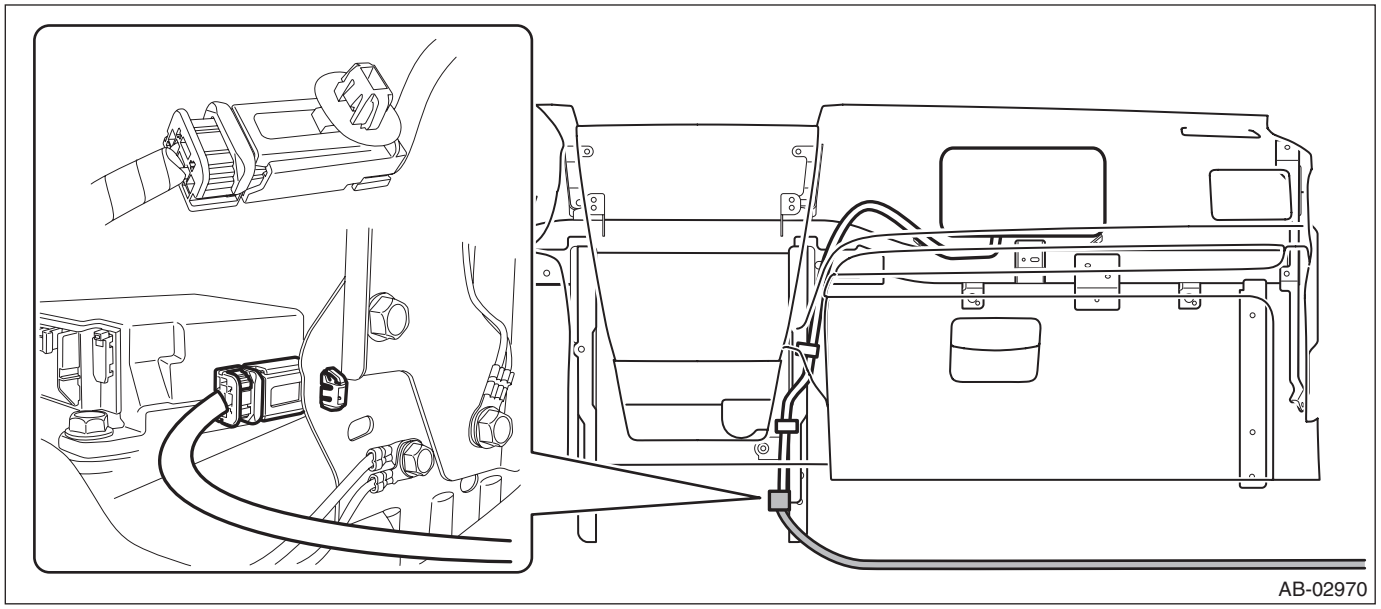
Preparation tool:
ST: AIRBAG DEPLOYMENT TOOL (98299PA030)

6) Connect airbag deployment tool (A) and test harness adapter AM (B).

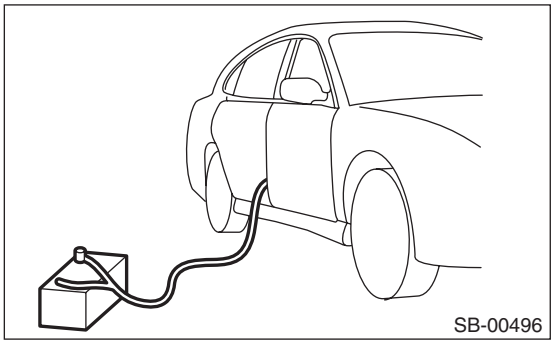
Preparation tool:
ST: TEST HARNESS ADAPTER AM (98299FJ000)



7) Connect test harness adapter AM to airbag connector.

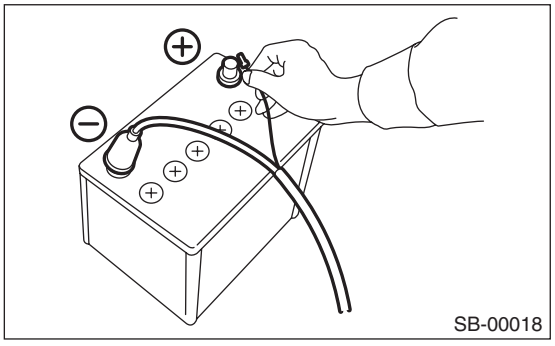


8) Make sure there is no one inside the vehicle.
9) Extend the wiring of airbag deployment tool to the limit, and close all the windows and sunroof completely.



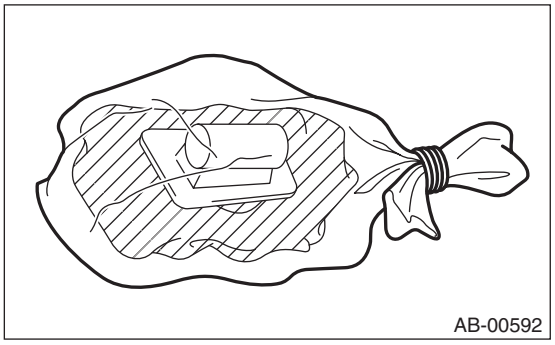
10) Move the battery at least 5 m (16 ft) from the vehicle, and confirm safety in the area.
11) Connect the airbag deployment tool alligator clip to the battery negative (–) terminal.
12) Connect the other cable of airbag deployment tool to the battery positive (+) terminal, and activate the airbag module.

CAUTION:
• After activation, the airbag module will be extremely hot. Let it cool down for at least 40 minutes in an area with no one around.
• Do not expose the activated airbag module to water.



13) Remove the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag Module.>

14) Place the activated airbag module in a sealed vinyl bag, then discard.



4. SIDE AIRBAG MODULE

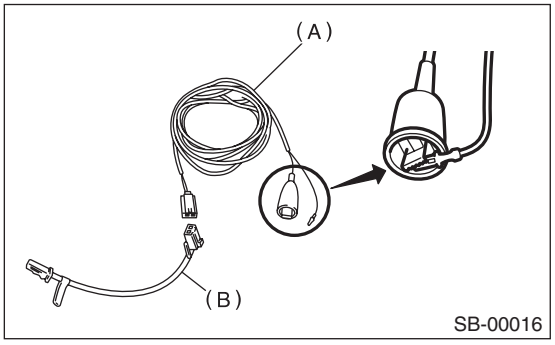
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Disconnect the side airbag module connector under the front seat cushion. <Ref. to AB-22, SIDE AIRBAG MODULE, PROCEDURE, Airbag Connector.>
4) Adjust both the front seat and front seat backrest to the center positions.
5) Short the terminal to the alligator clip furnished as airbag deployment tool.

CAUTION:
The airbag deployment tool should be kept shorted on the terminals until just before activation of airbag module.

Preparation tool:
ST: AIRBAG DEPLOYMENT TOOL (98299PA030)
6) Connect the airbag deployment tool (A) and test harness adapter K (B).

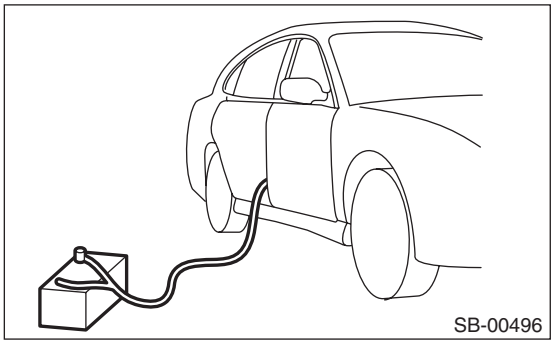
Preparation tool:
ST: TEST HARNESS ADAPTER K (98299FG010)



7) Connect the test harness adapter K to side airbag module connector (yellow).

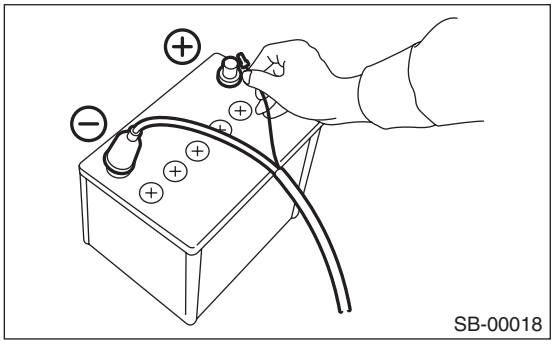
CAUTION:
Do not place any object on front seat.
8) Make sure there is no one inside the vehicle.

9) Extend the wiring of airbag deployment tool to the limit, and close all the windows and sunroof completely.

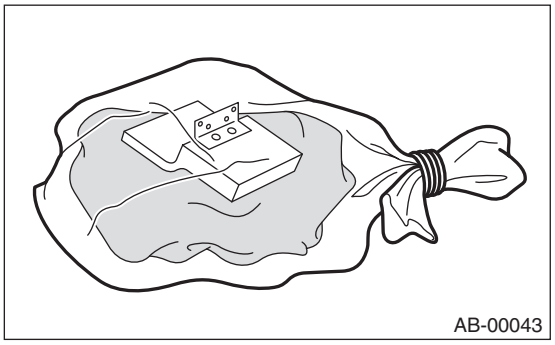


10) Move the battery at least 5 m (16 ft) from the vehicle, and confirm safety in the area.
11) Connect the airbag deployment tool alligator clip to the battery negative (–) terminal.
12) Connect the other cable of airbag deployment tool to the battery positive (+) terminal, and activate the airbag module.

CAUTION:
• After activation, the airbag module will be extremely hot. Let it cool down for at least 40 minutes in an area with no one around.
• Do not expose the activated airbag module to water.



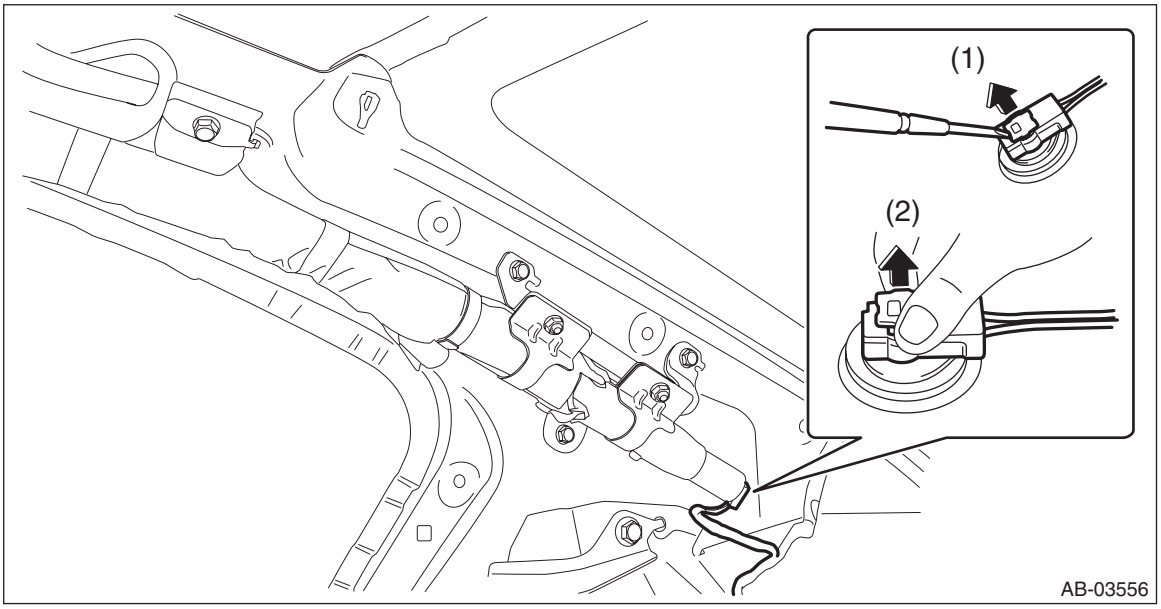
13) Remove the side airbag module. <Ref. to AB-54, REMOVAL, Side Airbag Module.>
14) Place the activated airbag module in a sealed vinyl bag, then discard.



5. CURTAIN AIRBAG MODULE

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the roof trim. <Ref. to EI-129, REMOVAL, Roof Trim.>
4) Disconnect the curtain airbag harness. <Ref. to AB-18, PROCEDURE, Airbag Connector.>

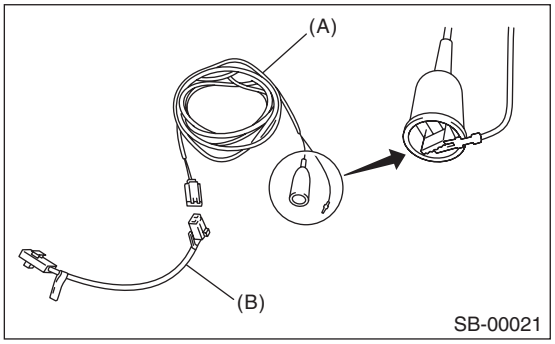


5) Short the terminal to the alligator clip furnished as airbag deployment tool.

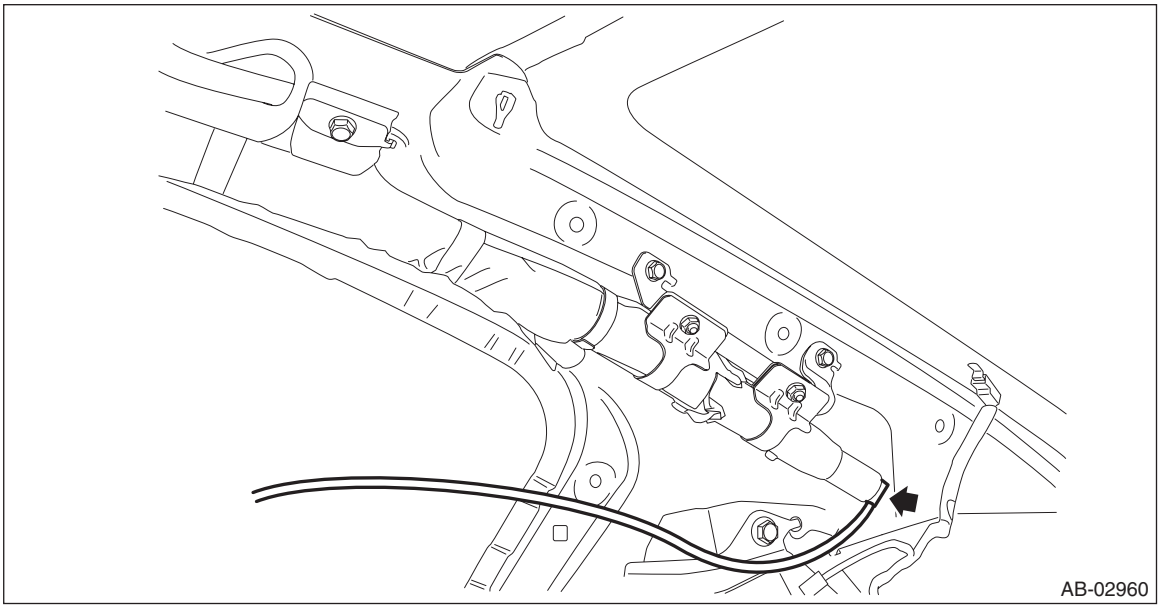
CAUTION:
The airbag deployment tool should be kept shorted on the terminals until just before activation of airbag module.

Preparation tool:
ST: AIRBAG DEPLOYMENT TOOL (98299PA030)
6) Connect the airbag deployment tool (A) and test harness adapter D (B).

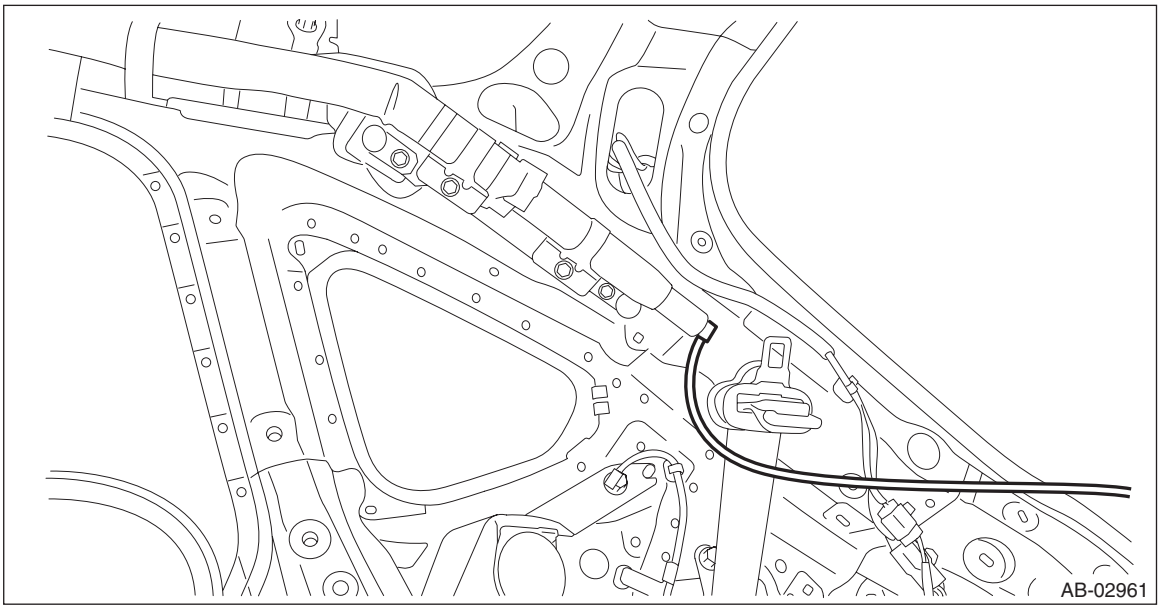
Preparation tool:
ST: TEST HARNESS ADAPTER D (98299SA010)



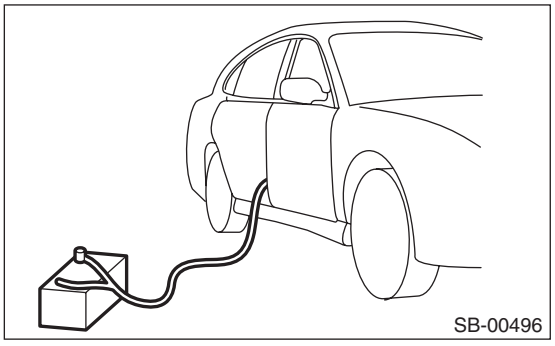
7) Connect the test harness adapter D to the curtain airbag module.
- 4 door model



- 5 door model



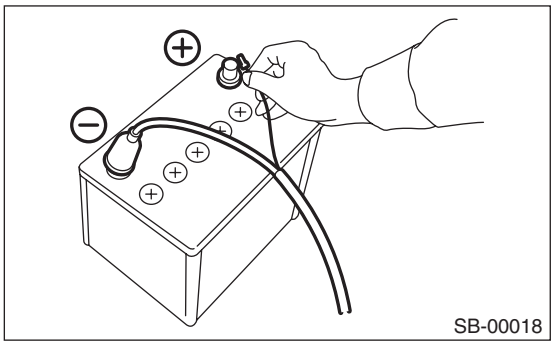
8) Make sure there is no one inside the vehicle.
9) Extend the wiring of airbag deployment tool to the limit, and close all the windows and sunroof completely.



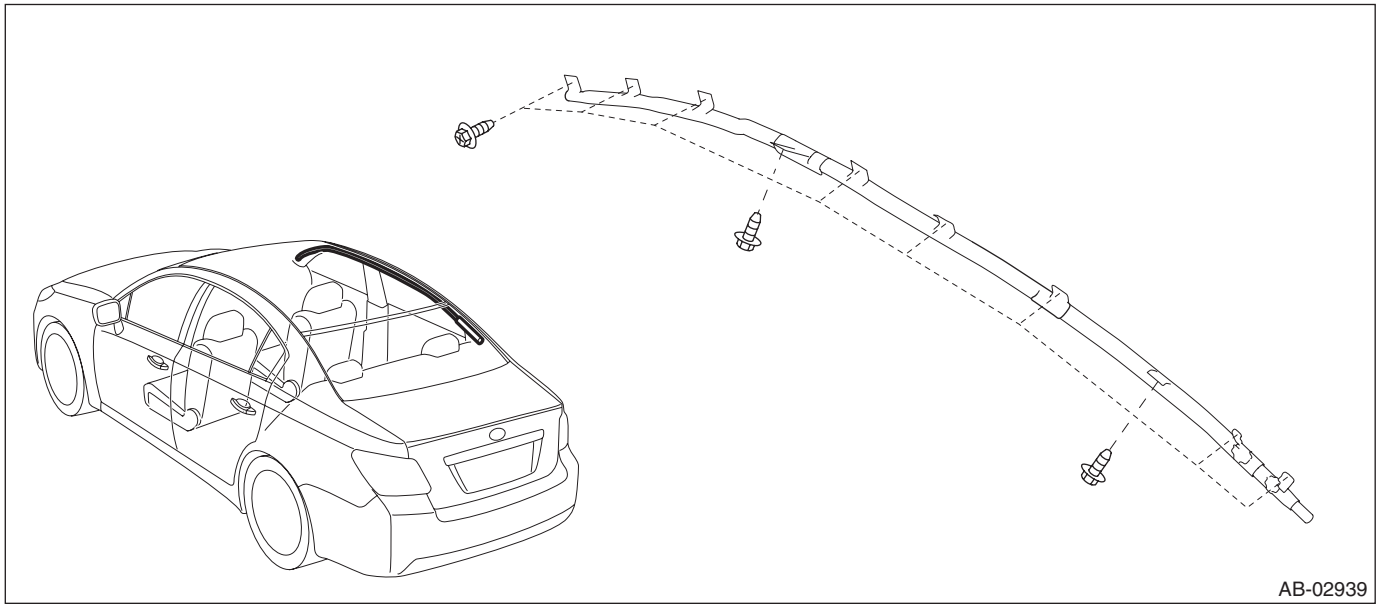
10) Move the battery at least 5 m (16 ft) from the vehicle, and confirm safety in the area.
11) Connect the airbag deployment tool alligator clip to the battery negative (–) terminal.

12) Connect the other cable of airbag deployment tool to the battery positive (+) terminal, and activate the airbag module.

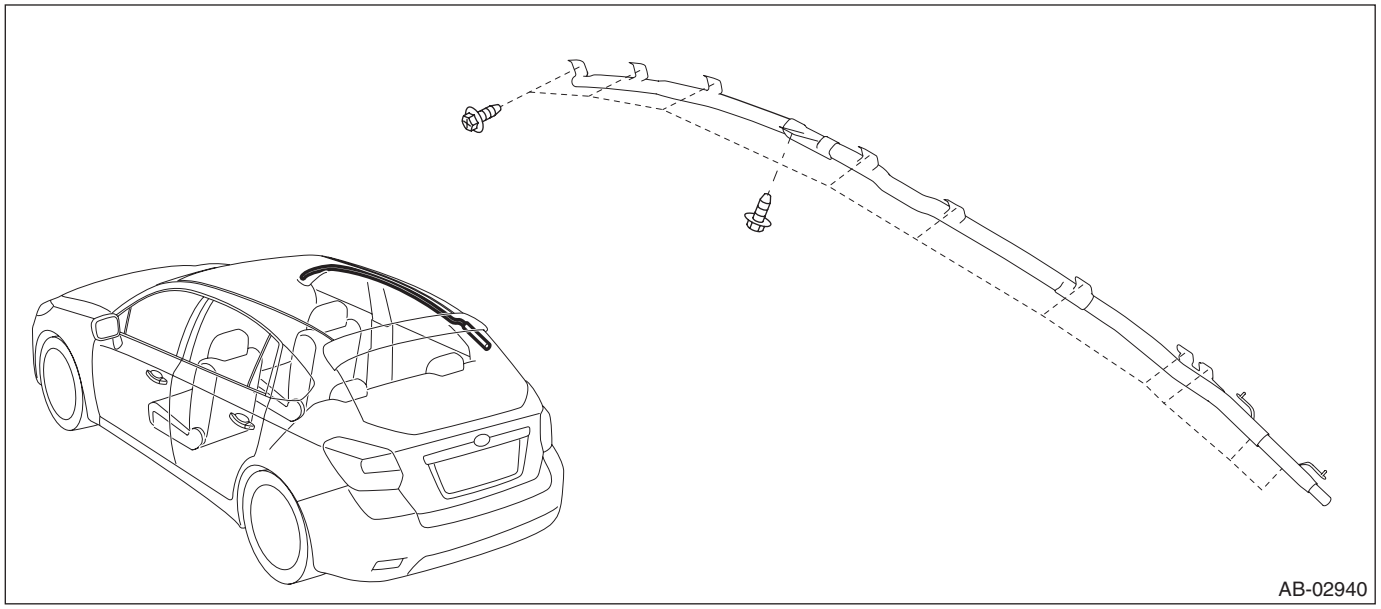
CAUTION:
- **After activation, the airbag module will be extremely hot. Let it cool down for at least 40 minutes in an area with no one around.**
- **Do not expose the activated airbag module to water.**



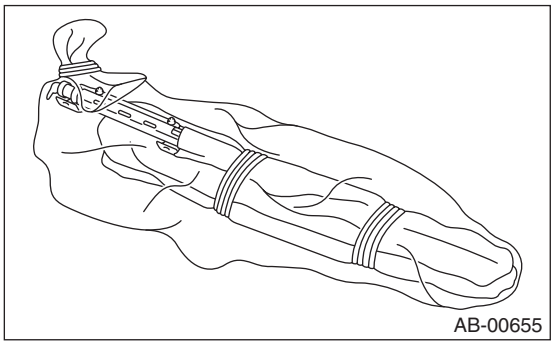
13) Remove the bolts and clips, and remove the curtain airbag module.
- 4 door model



- 5 door model



14) Place the activated airbag module in a sealed vinyl bag, then discard.



NOTE:
When necessary, fold the fabric part of airbag into three or four sections, rope and seal in a vinyl bag.

AIRBAG SYSTEM (DIAGNOSTICS)

AB(diag)

		Page
1.	Basic Diagnostic Procedure	2
2.	Check List for Interview	3
3.	General Description	4
4.	Electrical Component Location	17
5.	Airbag Connector	19
6.	Airbag Control Module I/O Signal	20
7.	Subaru Select Monitor	24
8.	Read Diagnostic Trouble Code (DTC)	27
9.	Inspection Mode	28
10.	Clear Memory Mode	29
11.	Display of Status Information	30
12.	Event Record Data	31
13.	Airbag Warning Light Illumination Pattern	32
14.	Airbag Warning Light Failure	33
15.	List of Diagnostic Trouble Code (DTC)	34
16.	Diagnostic Chart with Trouble Code	44

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, time stamp and freeze frame data. NOTE: For time stamp, refer to “LAN SYSTEM”. <Ref. to LAN(w/o HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.>	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

Check the battery. <Ref. to SC(H4DO(w/o HEV))-53, INSPECTION, Battery.>

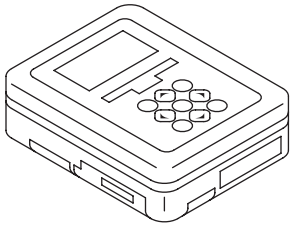
NOTE:
For HEV model, check the 12 volt auxiliary battery. <Ref. to SC(H4DO(HEV))-39, Battery.>

C: PREPARATION TOOL

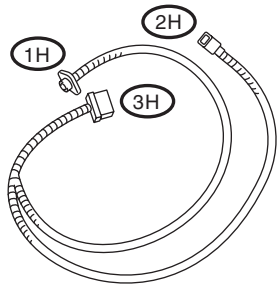
CAUTION:
To measure the voltage and resistance of airbag system component, be sure to use the specified test harness.

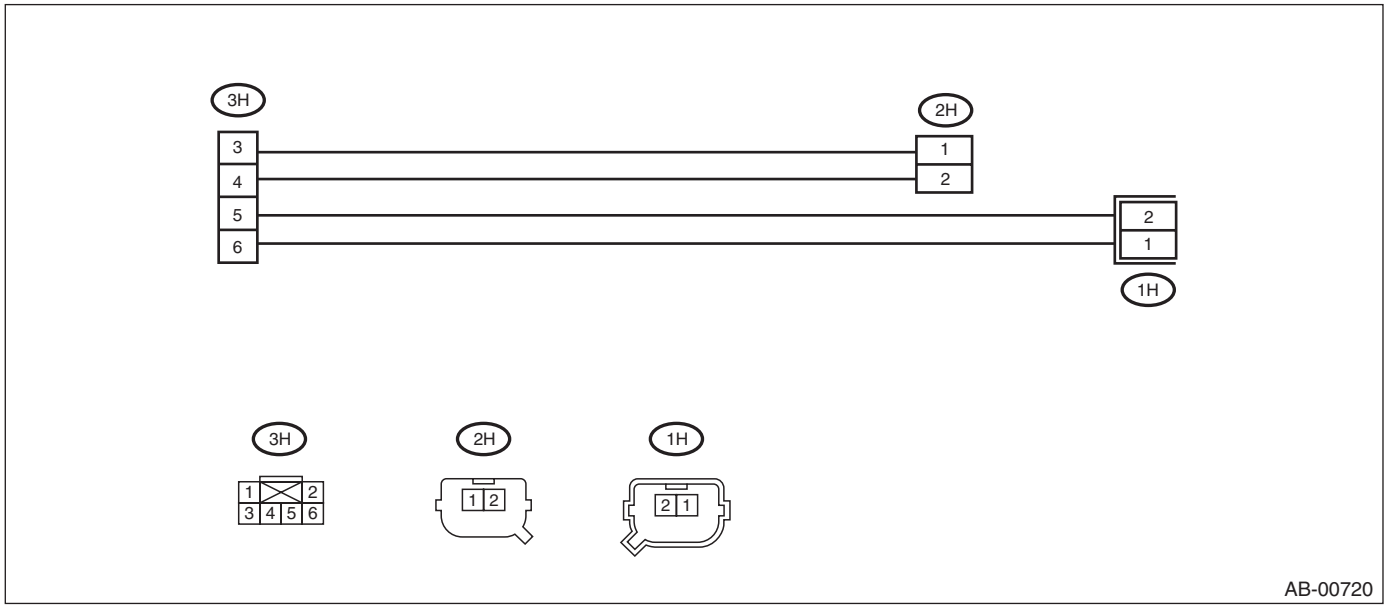
1. SPECIAL TOOL

- Subaru Select Monitor

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

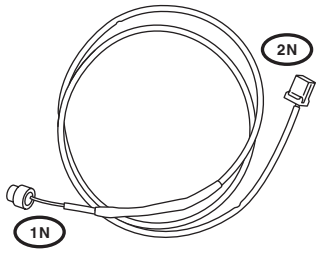
- TEST HARNESS H

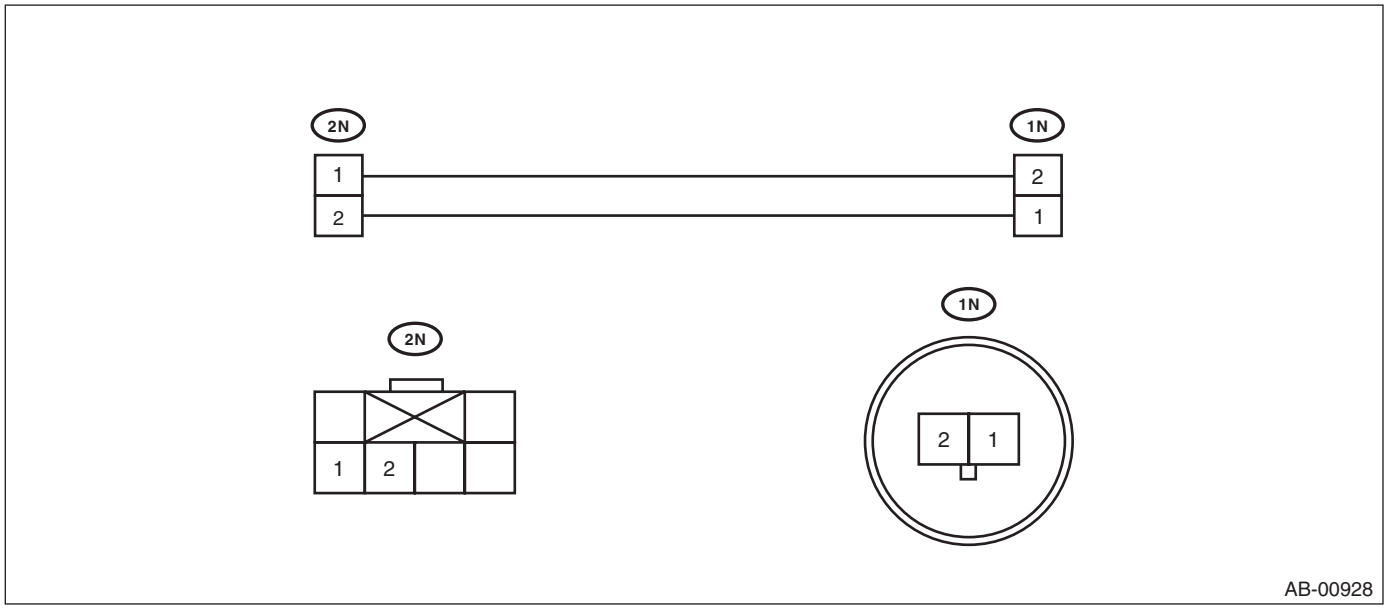
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FA030	98299FA030	TEST HARNESS H	Used when measuring voltage and resistance of front sub sensor and front door impact sensor.



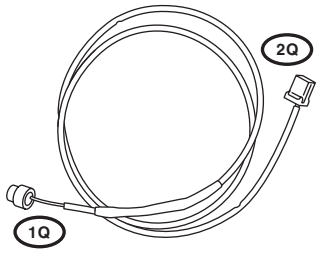
AB-00720

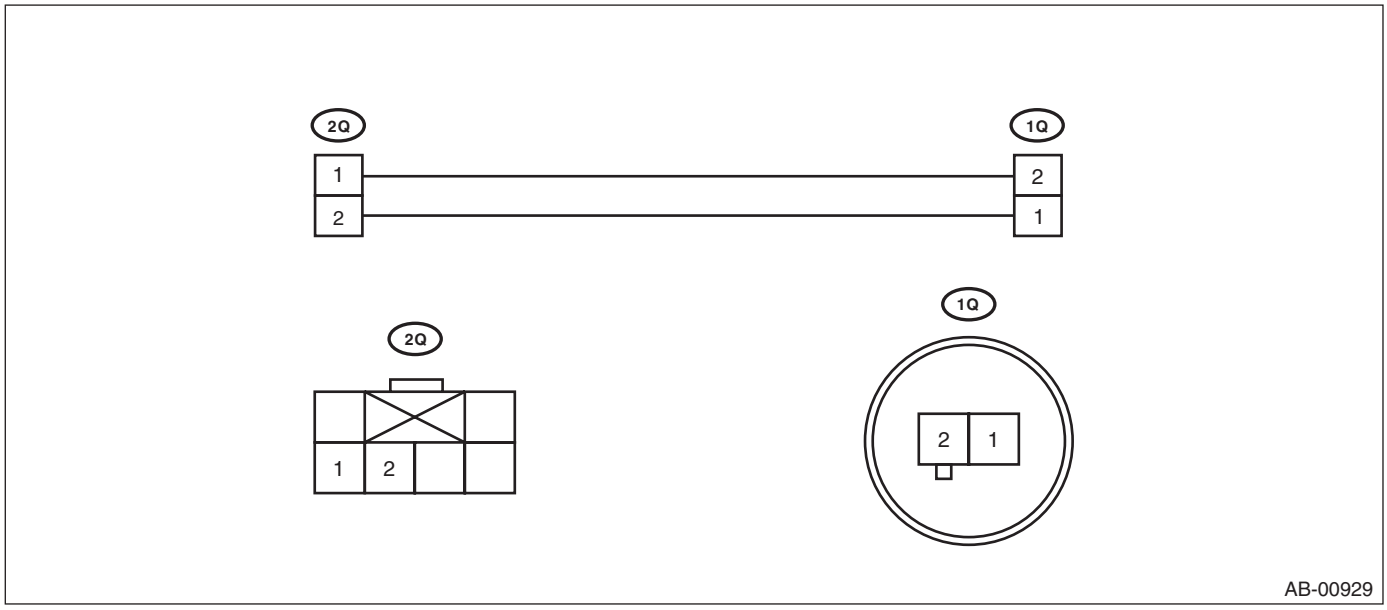
- TEST HARNESS N

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.



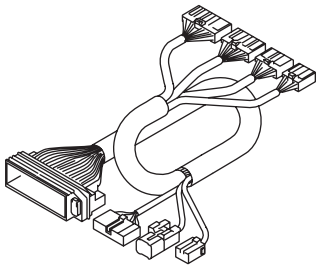
- TEST HARNESS Q

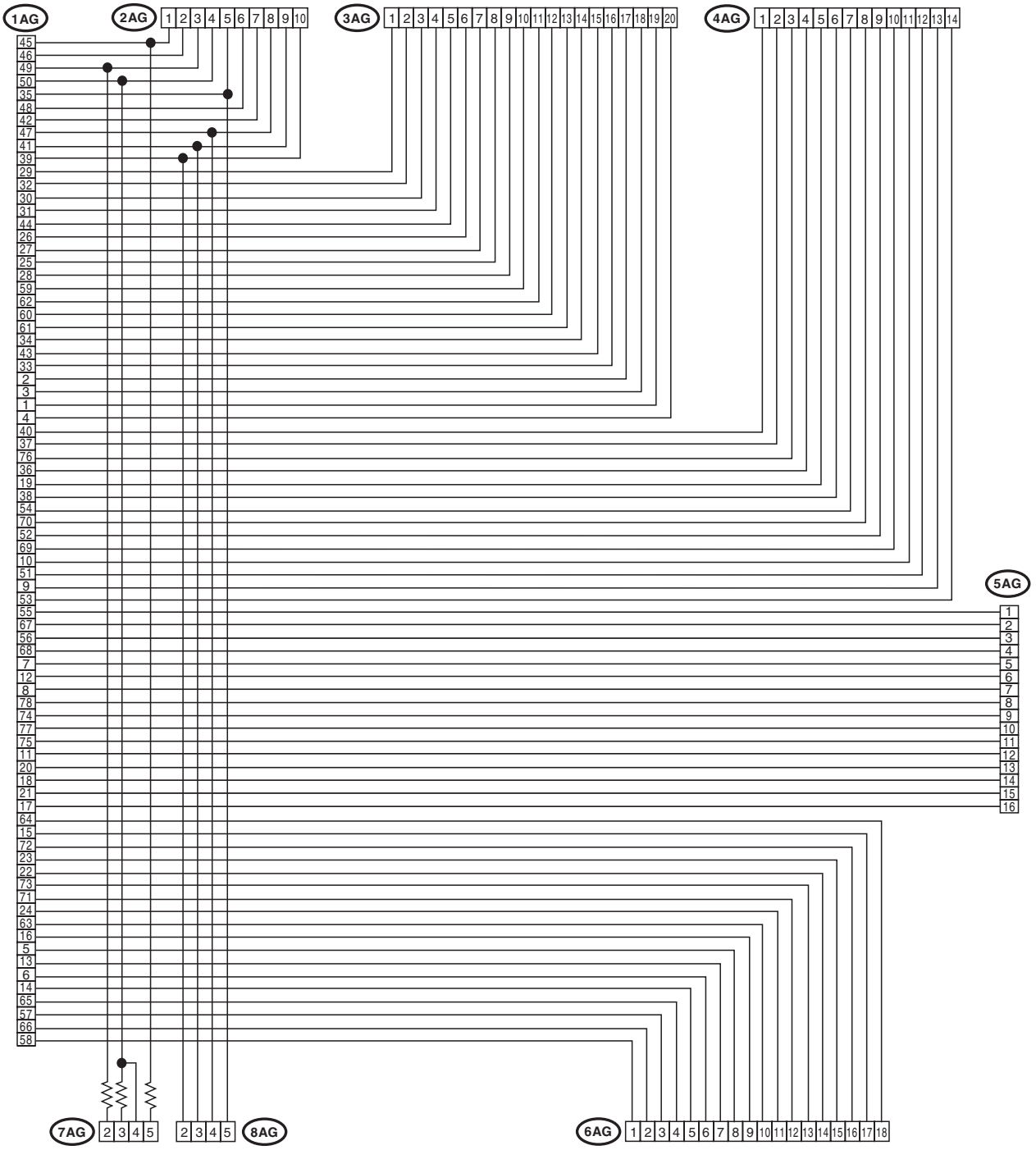
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA040	98299SA040	TEST HARNESS Q	Used when measuring voltage and resistance of driver's airbag module.



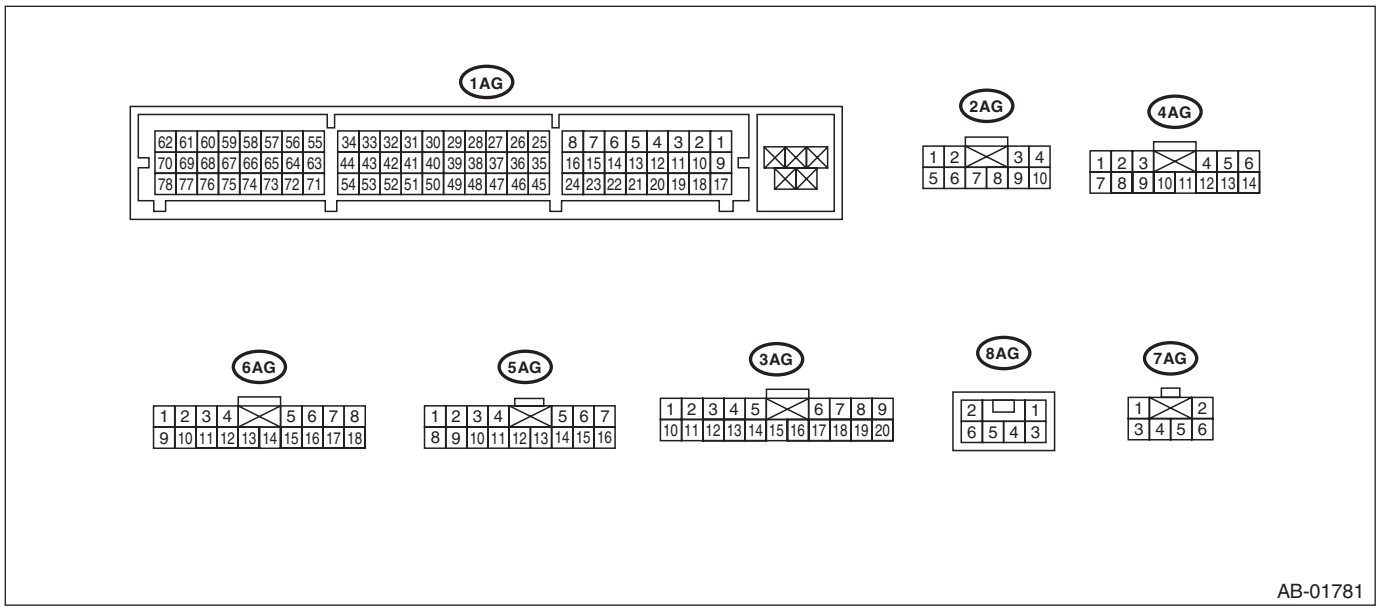
AB-00929

- TEST HARNESS AG

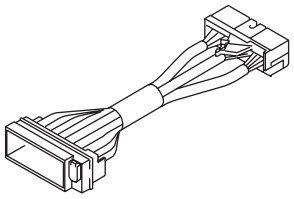
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG070	98299AG070	TEST HARNESS AG	Used when measuring voltage and resistance of airbag control module.

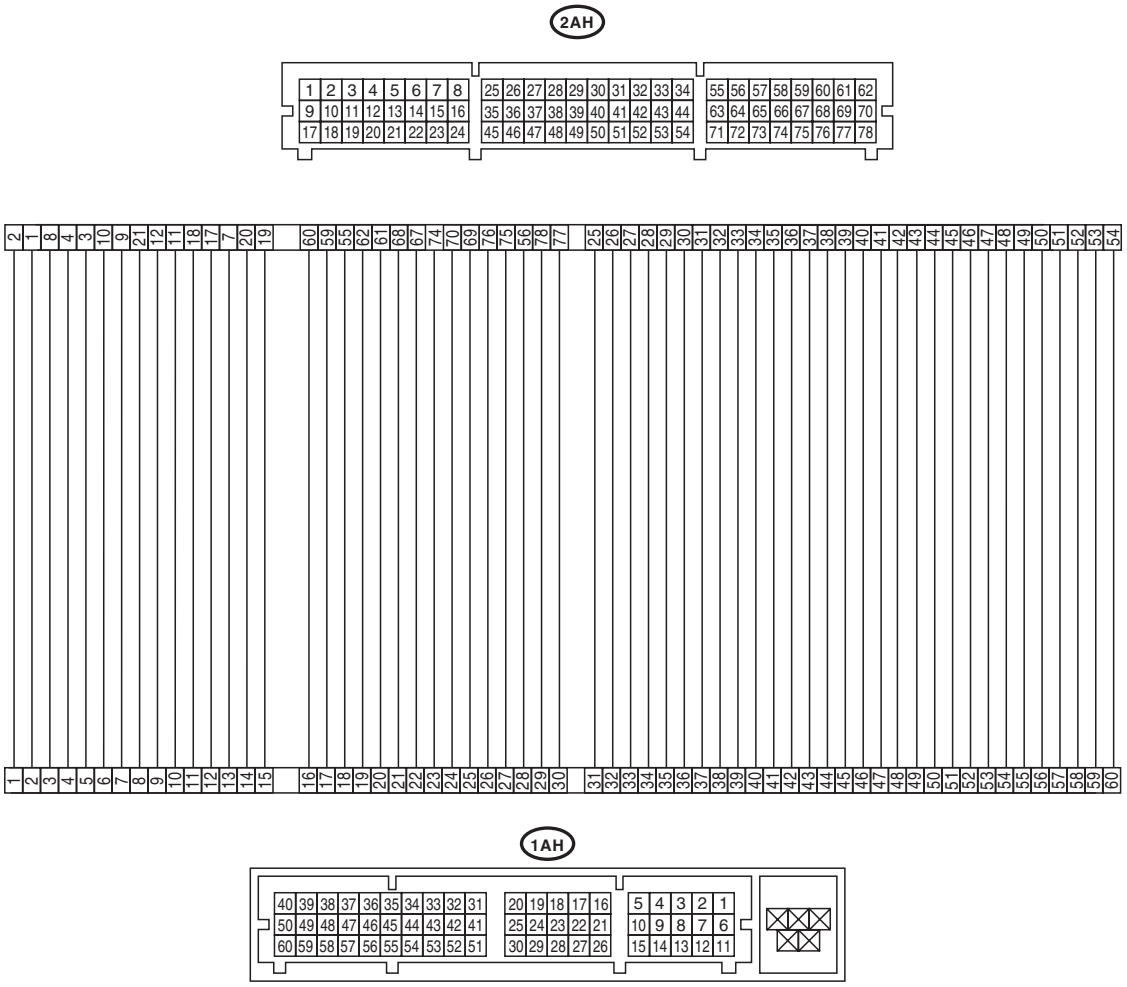

1AG
45 46 49 50 35 48 42 47 41 39 29 32 30 31 44 26 27 25 28 59 62 60 61 34 43 33 2 3 1 4 40 37 76 36 19 38 54 70 52 69 10 51 9 53 55 67 56 68 7 12 8 78 74 77 75 11 20 18 21 17 64 15 72 23 22 73 71 24 63 16 5 13 6 14 65 57 66 58
2AG
1 2 3 4 5 6 7 8 9 10
3AG
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18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

AB-01902

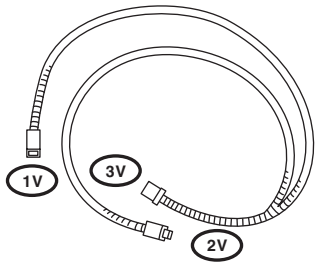

1AG
62 61 60 59 58 57 56 55
70 69 68 67 66 65 64 63
78 77 76 75 74 73 72 71
34 33 32 31 30 29 28 27 26 25
44 43 42 41 40 39 38 37 36 35
54 53 52 51 50 49 48 47 46 45
8 7 6 5 4 3 2 1
16 15 14 13 12 11 10 9
24 23 22 21 20 19 18 17
2AG
1 2 3 4
5 6 7 8 9 10
4AG
1 2 3 4 5 6
7 8 9 10 11 12 13 14
6AG
1 2 3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

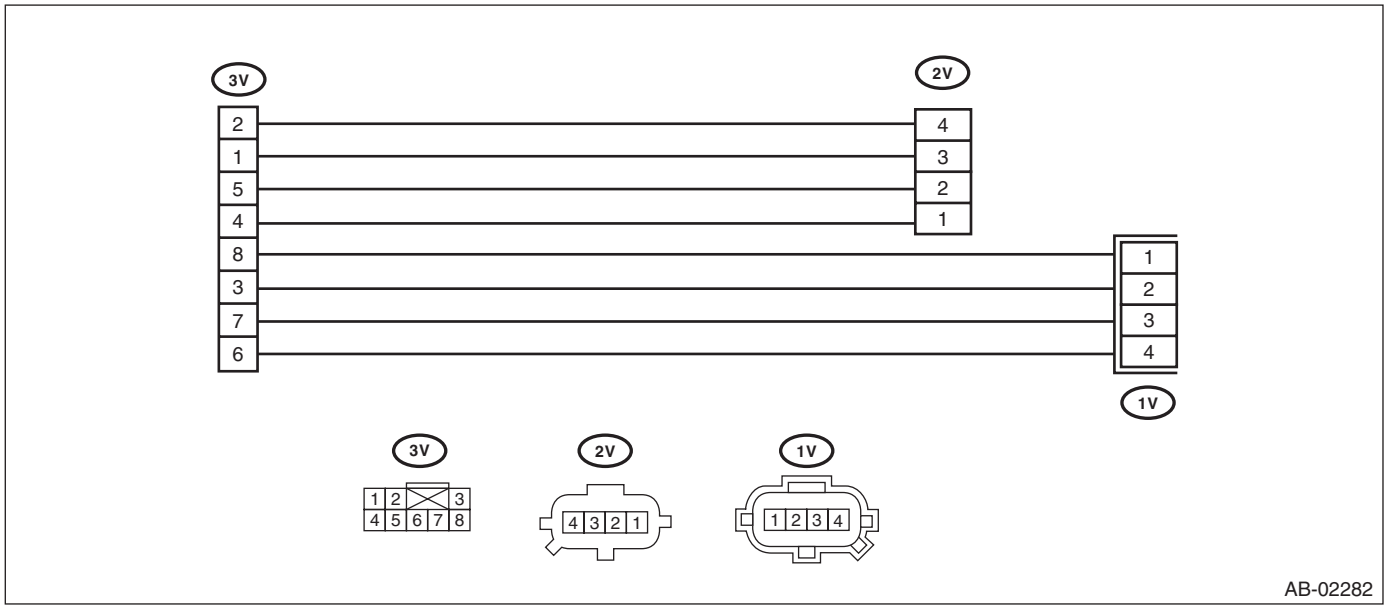
- TEST HARNESS AH

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.



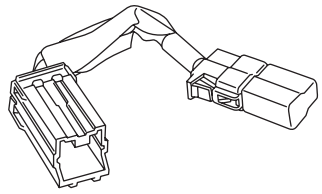
- TEST HARNESS V

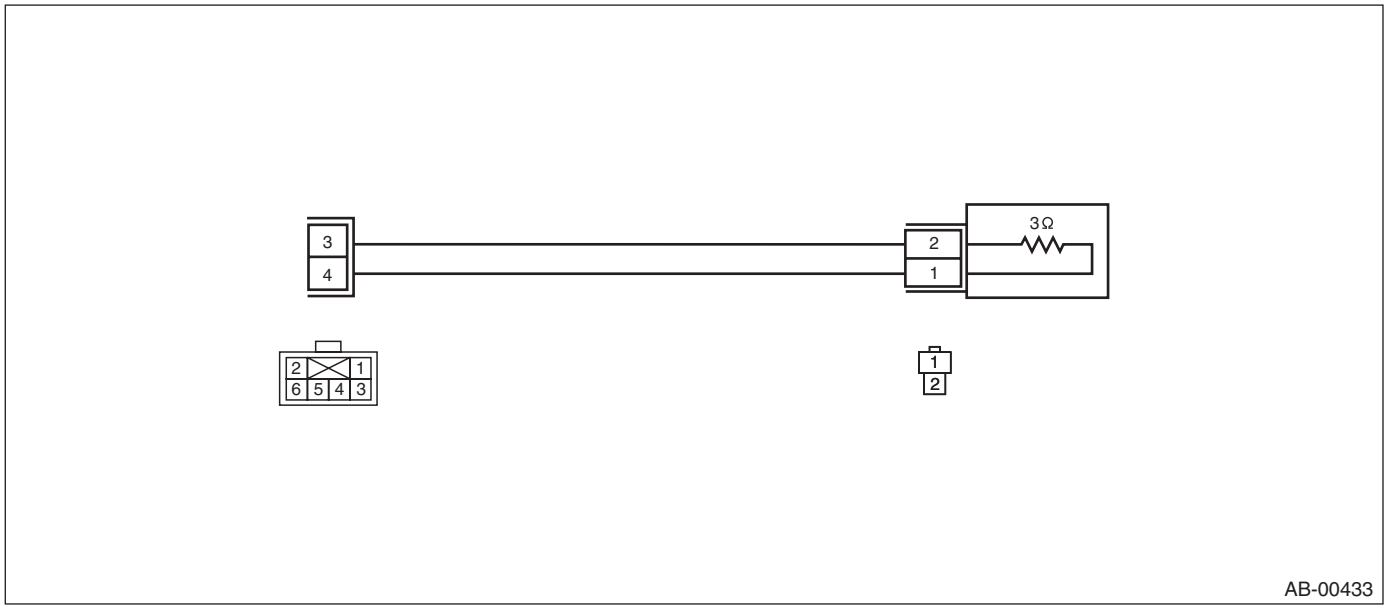
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG010	98299AG010	TEST HARNESS V	Used when measuring voltage and resistance of side airbag sensor and curtain airbag sensor.



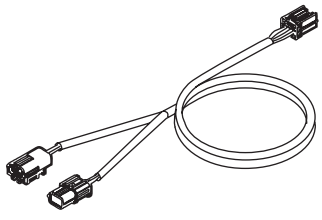
AB-02282

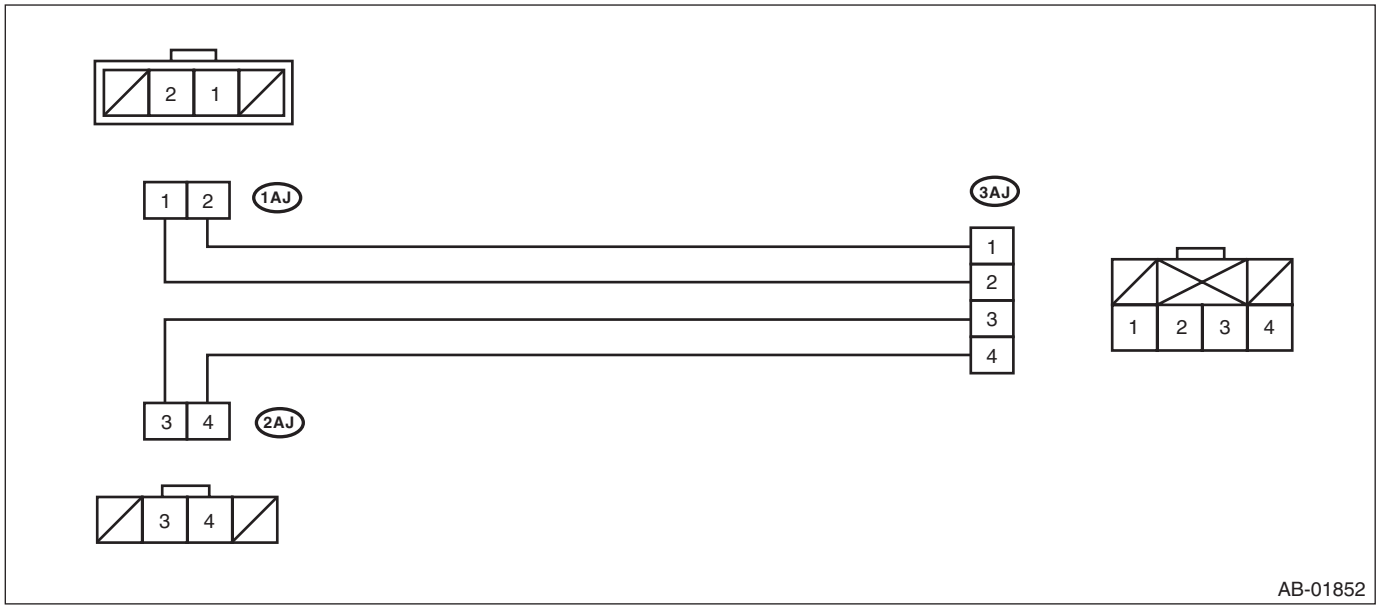
- AIRBAG RESISTOR

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.

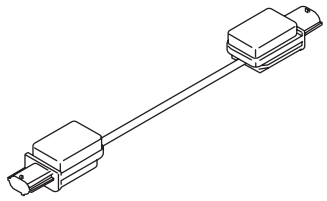


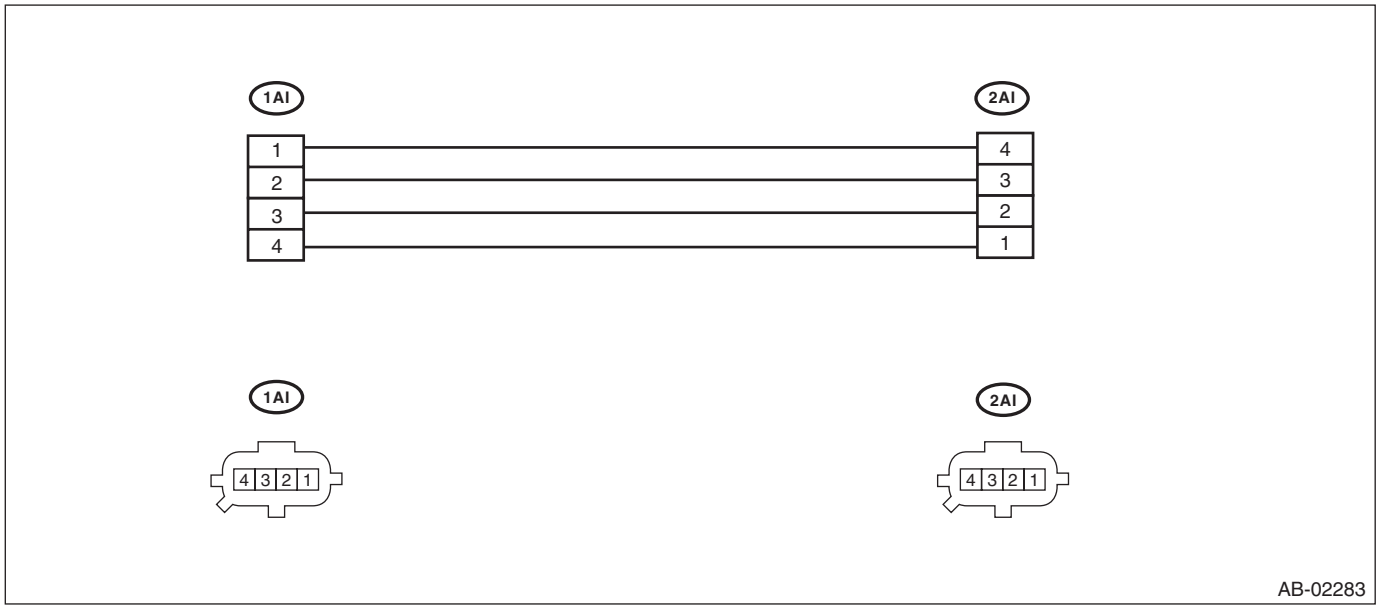
- TEST HARNESS AJ

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.

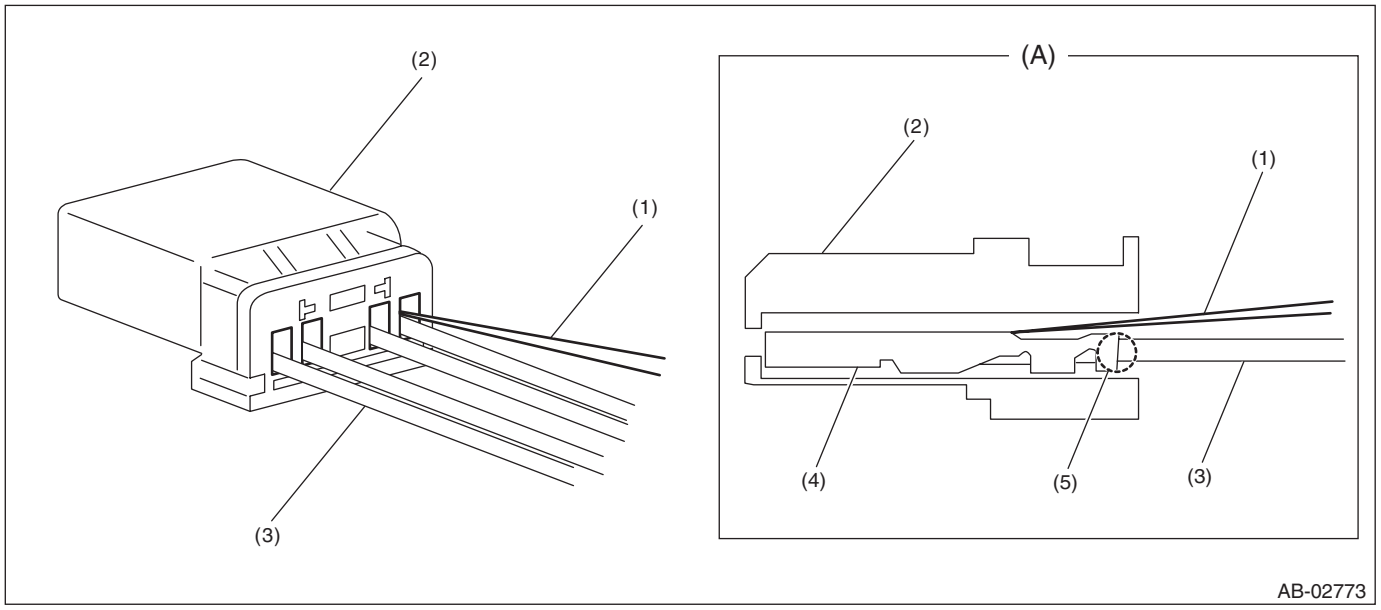


2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Oscilloscope	Used for measuring the sensor.
Probe	Used when measuring voltage and resistance of passenger's airbag module.

3. HOW TO USE PROBE

Insert the probe into the harness hole, and contact it with the terminal.



(A) Cross section

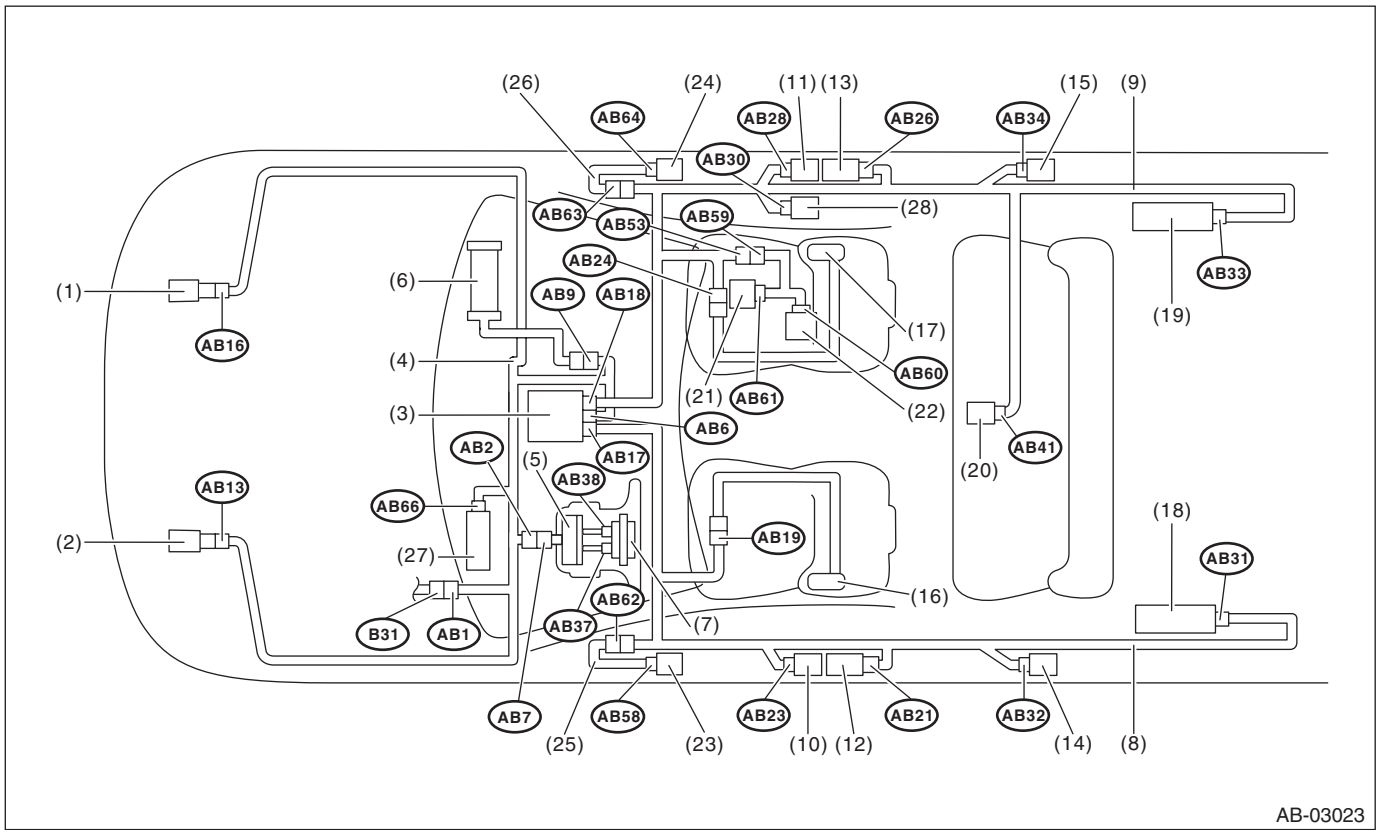
(1) Probe
(2) Connector (housing)
(3) Harness
(4) Terminal
(5) Connection

CAUTION:
- **Do not insert the probe forcibly.**
- **Be careful not to contact it to the connection (5) between the terminal and harness. (Harness will come off easily from connector if doing so.)**

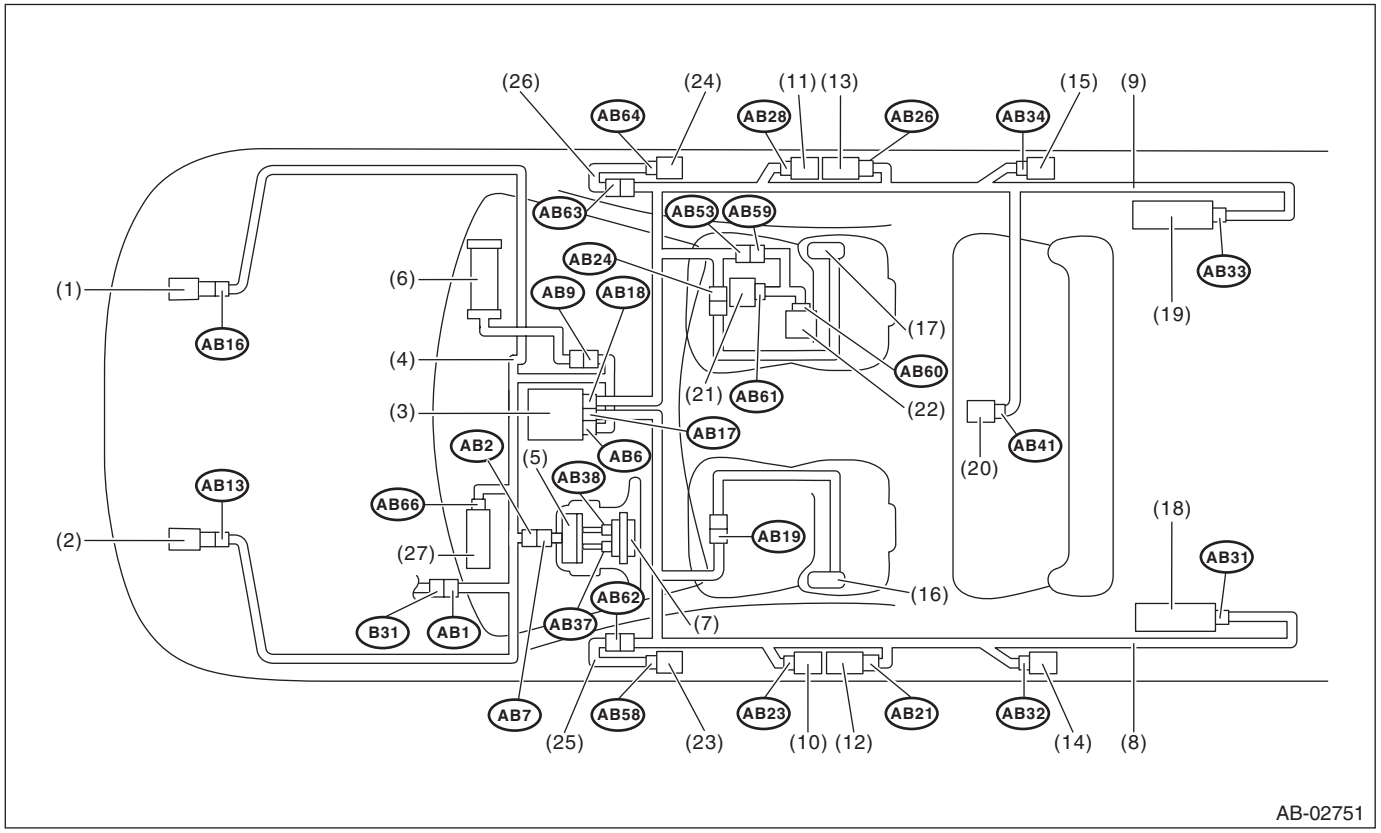
4. Electrical Component Location

A: LOCATION

- XV model



- Except for XV 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 (LH)
(9) Airbag rear harness (RH)
(10) Side airbag sensor (LH)
(11) Side airbag sensor (RH)
(12) Seat belt pretensioner (LH)
(13) Seat belt pretensioner (RH)
(14) Curtain airbag sensor (LH)
(15) Curtain airbag sensor (RH)
(16) Side airbag inflator (LH)
(17) Side airbag inflator (RH)
(18) Curtain airbag inflator (LH)
(19) Curtain airbag inflator (RH)
(20) Satellite safing sensor
(21) Occupant detection control module
(22) Buckle switch (RH)
(23) Front door impact sensor (LH)
(24) Front door impact sensor (RH)
(25) Door harness (LH)
(26) Door harness (RH)
(27) Knee airbag inflator
(28) Lap seat belt pretensioner (RH)

Connector No.	(AB1)	(AB2)	(AB6)	(AB7)	(AB9)	(AB13)	(AB16)	(AB17)	(AB18)	(AB19)	(AB21)	(AB23)
Pin	10	4	30	4	4	2	2	15 or 24	15 or 24	4	2	4
Color	Gray	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Black	Yellow
Male/Female	Female	Female	Female	Male	Female	Female	Female	Female	Female	Female	Female	Female

Connector No.	(AB24)	(AB26)	(AB28)	(AB30)	(AB31)	(AB32)	(AB33)	(AB34)	(AB37)	(AB38)	(AB41)	(AB53)
Pin	4	2	4	2	2	4	2	4	2	2	2	3
Color	Yellow	Black	Yellow	Yellow	Black	Yellow	Black	Yellow	Orange	Black	Yellow	Brown
Male/Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female	Female

Connector No.	(AB58)	(AB59)	(AB60)	(AB61)	(AB62)	(AB63)	(AB64)	(AB66)				
Pin	2	3	2	10	2	2	2	2				
Color	Yellow	Brown	Yellow	Black	Yellow	Yellow	Yellow	Black				
Male/Female	Female	Male	Male	Female	Female	Female	Female	Female				

5. Airbag Connector

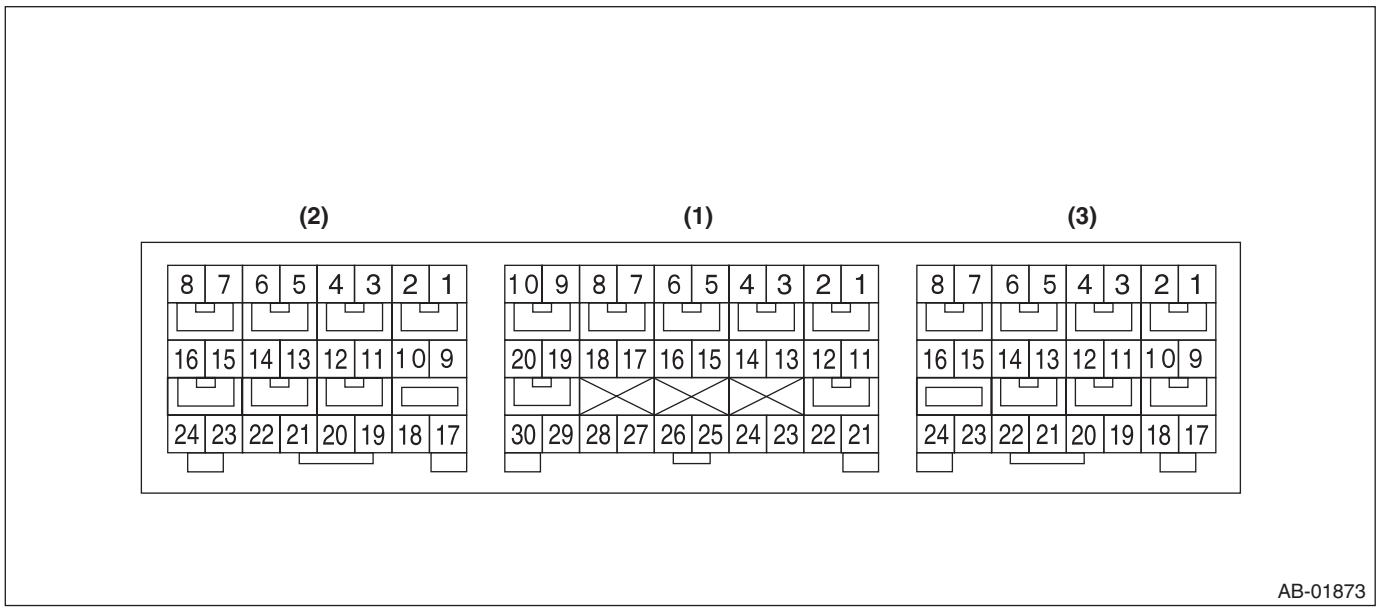
A: PROCEDURE

For operation procedures, refer to “Airbag Connector” of Airbag System. <Ref. to AB-18, Airbag Connector.>

6. Airbag Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

- XV model

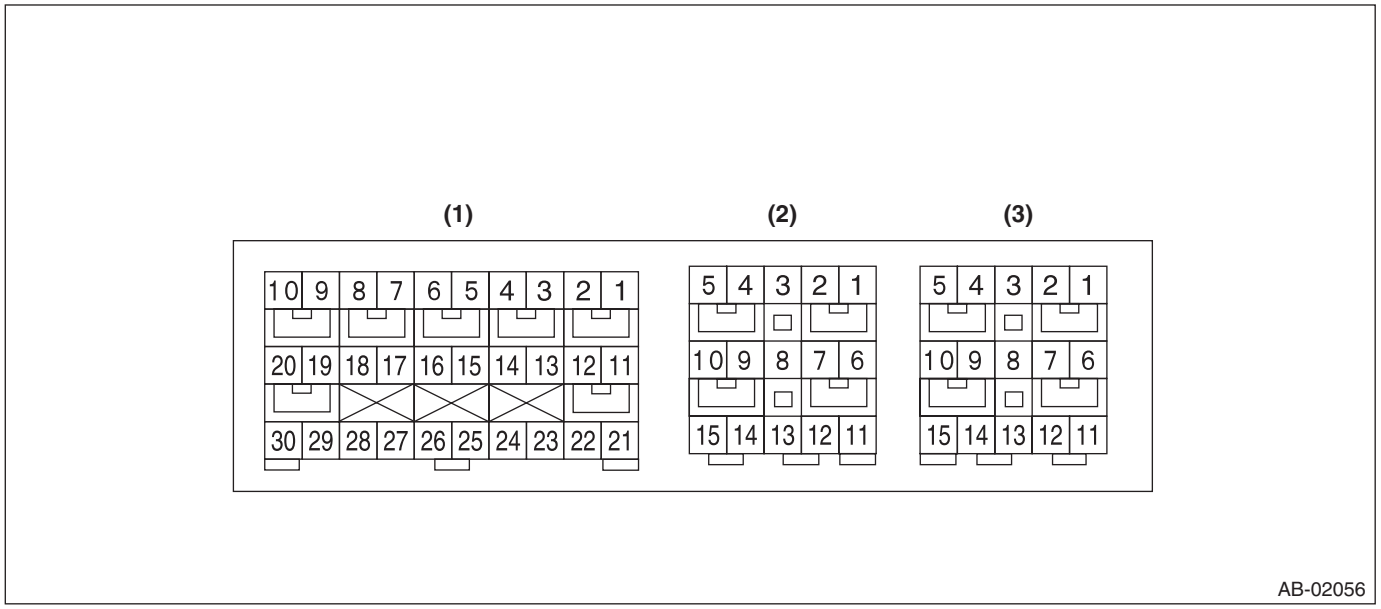


- Terminal numbers in airbag control module connector are shown in the figure.
- The airbag warning light illuminates when the connector is removed from the airbag control module.

Airbag Control Module I/O Signal

Item		Control module terminal No.
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
Driver's knee airbag module	+	(1) — 9
	–	(1) — 10
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 LH Curtain airbag sensor LH Front door impact sensor LH	+	(2) — 24
	–	(2) — 23
Seat belt pretensioner LH	+	(2) — 5
	–	(2) — 6
Side airbag module LH	+	(2) — 1
	–	(2) — 2
Curtain airbag module LH	+	(2) — 4
	–	(2) — 3
Occupant detection control module	+	(3) — 16
	–	(3) — 24
Side airbag sensor RH Curtain airbag sensor RH Front door impact sensor RH	+	(3) — 17
	–	(3) — 18
Side airbag module RH	+	(3) — 8
	–	(3) — 7
Curtain airbag module RH	+	(3) — 5
	–	(3) — 6
Seat belt pretensioner RH	+	(3) — 4
	–	(3) — 3
Lap seat belt pretensioner RH	+	(3) — 1
	–	(3) — 2
Satellite safing sensor	+	(3) — 21
	–	(3) — 22

- Except for XV 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.
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
Driver's knee airbag module	+	(1) — 9
	–	(1) — 10
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 OFF indicator		(1) — 17
Passenger's airbag ON indicator		(1) — 23
Passenger's seat belt warning		(1) — 15
Side airbag sensor LH Curtain airbag sensor LH Front door impact sensor LH	+	(2) — 8
	–	(2) — 15
Side airbag module LH	+	(2) — 9
	–	(2) — 10
Curtain airbag module LH	+	(2) — 7
	–	(2) — 6
Seat belt pretensioner LH	+	(2) — 2
	–	(2) — 1
Satellite safing sensor	+	(3) — 15
	–	(3) — 14
Seat belt pretensioner RH	+	(3) — 4
	–	(3) — 5
Side airbag sensor RH Curtain airbag sensor RH Front door impact sensor RH	+	(3) — 8
	–	(3) — 11
Side airbag module RH	+	(3) — 7
	–	(3) — 6
Curtain airbag module RH	+	(3) — 9
	–	(3) — 10
Occupant detection control module	+	(3) — 12
	–	(3) — 13

B: WIRING DIAGRAM

Refer to "Airbag System" in WI section. <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, WIRING DIAGRAM, Airbag System.>

7. Subaru Select Monitor

A: OPERATION

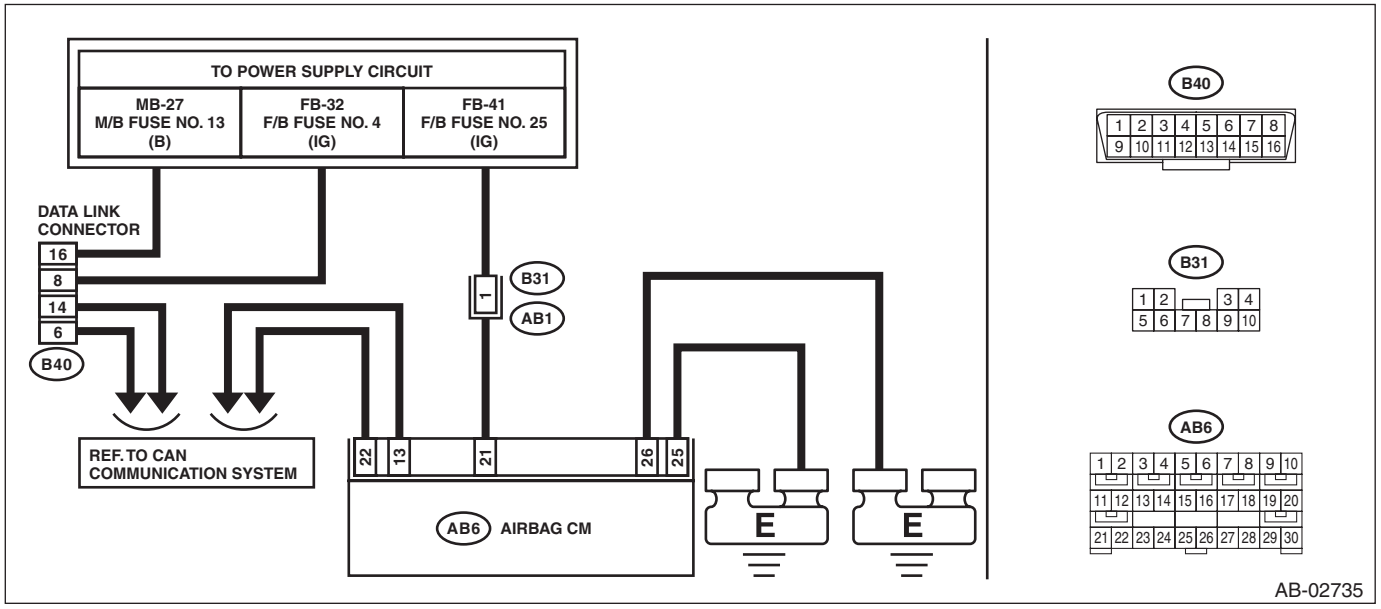
For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, check the 12 volt auxiliary battery. <Ref. to SC(H4DO(HEV))-39, Battery.>	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.** Check battery terminal. NOTE: For HEV model, check the 12 volt auxiliary battery. <Ref. to SC(H4DO(HEV))-39, Battery.>	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 **9**.	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 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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. NOTE: For HEV model, connect the negative terminal for 12 volt auxiliary battery, and connect the ground terminal to 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-66, 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.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(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 (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 3) Turn the ignition switch to ON. 4) 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.
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 without repairing the airbag system connector.)	Replace the airbag control module. <Ref. to AB-66, 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 Code (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.

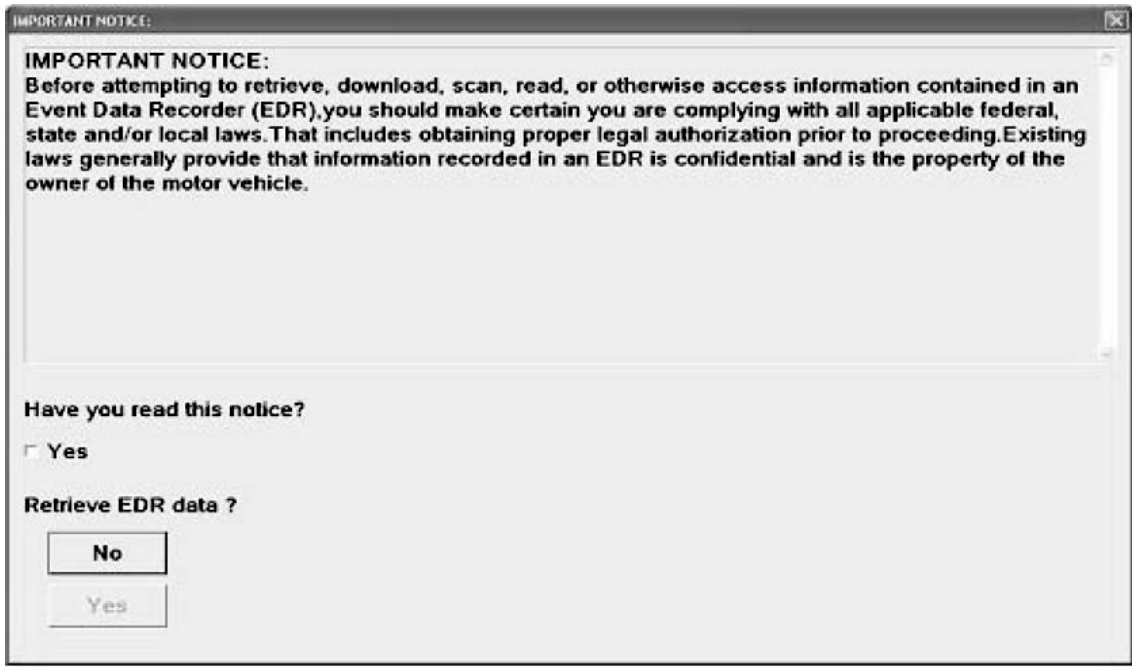
Item	Display	Note
Trip Count	—	—
Count	—	—
Time Count	—	—
Belt Buckle Switch RH	Unbelted/Belted	“Belted” when passenger’s seat belt is fastened “Unbelted” when passenger’s seat belt is not fastened
Passenger Occupant Status	Occupied/Empty or CRS	“Occupied” when the occupant is present “Empty or CRS” 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.



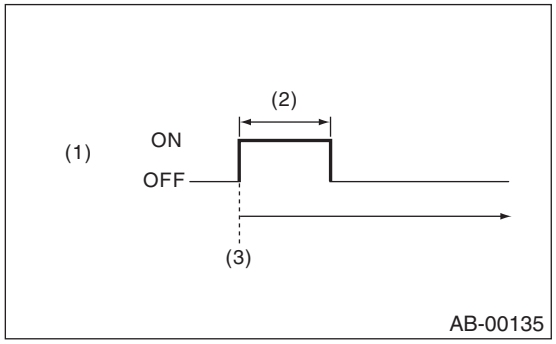
AB-02847

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 seconds
(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(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is there any fault?	Repair it according to INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS).	Replace the airbag CM. <Ref. to AB-66, 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 Off	CAN communication error occurred.	<Ref. to AB(diag)-44, DTC U0073 CONTROL MODULE COMMUNICATION BUS 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)-45, DTC B1120 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1121	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, 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.>
B1135	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1135 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1136	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-45, DTC B1136 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
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)-46, DTC B1195 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1196	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-46, DTC B1196 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>
B1199	Airbag ECU Malfunction	Airbag control module is faulty.	<Ref. to AB(diag)-46, 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)-47, 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)-47, 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)-47, DTC B11F9 SIDE IMPACT IGNITION, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
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)-54, 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)-54, DTC B16F3 FRONT SUB SENSOR LH RECOGNITION ERROR, Diagnostic Chart with Trouble Code.>
B1620	Side Airbag Sensor RH Failure	Side airbag sensor (RH) is faulty.	<Ref. to AB(diag)-54, 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)-54, DTC B1622 SIDE AIRBAG SENSOR RH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1623	Side Airbag Sensor RH Initialization Error		<Ref. to AB(diag)-55, DTC B1623 SIDE AIRBAG SENSOR RH INITIALIZATION ERROR, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1625	Side Airbag Sensor LH Failure	Side airbag sensor (LH) is faulty.	<Ref. to AB(diag)-57, 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)-57, DTC B1627 SIDE AIRBAG SENSOR LH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1628	Side Airbag Sensor LH Initialization Error		<Ref. to AB(diag)-58, 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)-60, 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)-60, DTC B1632 CURTAIN AIRBAG SENSOR RH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1633	Curtain Airbag Sensor RH Initialization Error		<Ref. to AB(diag)-61, 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)-63, 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)-63, DTC B1637 CURTAIN AIRBAG SENSOR LH LOST COMMUNICATION, Diagnostic Chart with Trouble Code.>
B1638	Curtain Airbag Sensor LH Initialization Error		<Ref. to AB(diag)-64, 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)-67, 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)-67, 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)-68, 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)-68, 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 front door impact 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)-69, 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 front door impact 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)-74, 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)-78, 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)-78, 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)-79, DTC B1660 PASSENGER'S AIRBAG ON INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>
B1675	Satellite Safing Sensor Failure	Satellite safing sensor is faulty.	<Ref. to AB(diag)-82, DTC B1675 SATELLITE SAFING SENSOR FAILURE, Diagnostic Chart with Trouble Code.>
B1676	Lost Communication With Satellite Safing Sensor	• Open or short circuit in harness between airbag control module and satellite safing sensor. • Satellite safing sensor is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-82, DTC B1676 LOST COMMUNICATION WITH SATELLITE SAFING SENSOR, Diagnostic Chart with Trouble Code.>
B1677	Satellite Safing Sensor Initialization Incomplete		<Ref. to AB(diag)-83, DTC B1677 SATELLITE SAFING SENSOR INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>
B16F8	Satellite Safing Sensor Recognition Error	• Satellite safing sensor is misinstalled. • Airbag control module is faulty.	<Ref. to AB(diag)-86, DTC B16F8 SATELLITE SAFING SENSOR RECOGNITION ERROR, 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)-86, 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)-86, 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. • Front door impact sensor (RH) is faulty. • Curtain airbag sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-86, DTC B1692 LOST COMMUNICATION WITH DOOR SENSOR RH, Diagnostic Chart with Trouble Code.>
B1693	Door Sensor RH Initialization Incomplete		<Ref. to AB(diag)-87, 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)-90, DTC B16FA LOST COMMUNICATION WITH DOOR SENSOR LH, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
B1695	Door Sensor LH Failure	Front door impact sensor (LH) is faulty.	<Ref. to AB(diag)-90, 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. • Front door impact sensor (LH) is faulty. • Curtain airbag sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-90, DTC B1697 LOST COMMUNICATION WITH DOOR SENSOR LH, Diagnostic Chart with Trouble Code.>
B1698	Door Sensor LH Initialization Incomplete		<Ref. to AB(diag)-91, 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)-94, DTC B161A LOST COMMUNICATION WITH FRONT SATELLITE SENSOR BUS, Diagnostic Chart with Trouble Code.>
B16F1	Passenger's Seat Belt Warning Failure	• Airbag control module is faulty. • Meter is faulty. • Harness circuits between meter and airbag control module are open, shorted or shorted to ground.	<Ref. to AB(diag)-97, DTC B16F1 PASSENGER'S SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>
B16F0	Passenger's Airbag Off Indicator Failure	• Passenger's airbag indicator is faulty. • Airbag control module is faulty. • Airbag main harness circuit is open or shorted. • Body harness circuit is open.	<Ref. to AB(diag)-99, DTC B16F0 PASSENGER'S AIRBAG OFF INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>
B1760	Sensor Mat Abnormal	• Occupant detection sensor is open, shorted between terminals, shorted to power supply or shorted to ground. • Seat heater is open. • Occupant detection control module is faulty.	<Ref. to AB(diag)-99, DTC B1760 SENSOR MAT ABNORMAL, Diagnostic Chart with Trouble Code.>
B1761	Sensor Mat Liquid Coating Abnormal	• Detected that the occupant detection sensor is spattered with fluid. • Occupant detection sensor is faulty. • Occupant detection control module is faulty.	<Ref. to AB(diag)-99, DTC B1761 SENSOR MAT LIQUID COATING ABNORMAL, Diagnostic Chart with Trouble Code.>
B1771	Buckle Switch Abnormal	• Passenger's buckle switch circuit is open, shorted or shorted to ground. • Occupant detection system is faulty. • Occupant detection harness is faulty.	<Ref. to AB(diag)-99, DTC B1771 BUCKLE SWITCH ABNORMAL, Diagnostic Chart with Trouble Code.>
B1795	ECU Internal Circuit Fault	Occupant detection control module is faulty.	<Ref. to AB(diag)-99, DTC B1795 ECU INTERNAL CIRCUIT FAULT, 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)-100, 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)-103, DTC B1801 OPEN IN DRIVER'S AIRBAG, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
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)-106, 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)-109, DTC B1803 SHORT IN DRIVER'S AIRBAG (TO +B), Diagnostic Chart with Trouble Code.>
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)-112, 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)-115, 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)-118, 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)-121, 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)-124, 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)-127, 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)-130, DTC B1812 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP (TO GROUND), Diagnostic Chart with Trouble Code.>
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)-133, DTC B1813 SHORT IN DRIVER'S AIRBAG DUAL STAGE - 2ND STEP CIRCUIT (TO +B), Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
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)-136, 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)-139, 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)-142, 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)-145, 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)-148, 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)-150, 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)-152, 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)-154, 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)-156, DTC B1825 SHORT IN SIDE AIRBAG LH, Diagnostic Chart with Trouble Code.>
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)-158, 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)-160, 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)-162, 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)-164, DTC B1830 SHORT IN CURTAIN AIRBAG RH SQUIB CIRCUIT, Diagnostic Chart with Trouble Code.>

DTC	Item	Content of diagnosis	Reference
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)-166, 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)-168, 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)-170, 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)-172, 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)-174, 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)-176, 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)-178, DTC B1838 SHORT IN CURTAIN SHIELD AIRBAG LH SQUIB CIRCUIT (TO +B), Diagnostic Chart with Trouble Code.>
B1860	Short in Driver's Knee Airbag	• Airbag main harness circuit is shorted. • Knee airbag module harness circuit is shorted. • Knee airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-180, DTC B1860 SHORT IN DRIVER'S KNEE AIRBAG, Diagnostic Chart with Trouble Code.>
B1861	Open in Driver's Knee Airbag	• Airbag main harness circuit is open. • Knee airbag module harness circuit is open. • Knee airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-182, DTC B1861 OPEN IN DRIVER'S KNEE AIRBAG, Diagnostic Chart with Trouble Code.>
B1862	Short in Driver's Knee Airbag (To Ground)	• Airbag main harness circuit is shorted to ground. • Knee airbag module harness circuit is shorted to ground. • Knee airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-184, DTC B1862 SHORT IN DRIVER'S KNEE AIRBAG (TO GROUND), Diagnostic Chart with Trouble Code.>
B1863	Short in Driver's Knee Airbag (To +B)	• Airbag main harness circuit is shorted to power supply. • Knee airbag module harness circuit is shorted to power supply. • Knee airbag module is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-186, DTC B1863 SHORT IN DRIVER'S KNEE AIRBAG (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)-188, 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)-190, 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)-192, 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)-194, 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)-196, 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)-198, 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)-200, 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)-202, 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)-204, 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)-206, DTC B19F1 OPEN IN FRONT P/T 2 RH, Diagnostic Chart with Trouble Code.>
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)-208, 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)-210, DTC B19F3 SHORT IN FRONT P/T 2 RH (TO +B), Diagnostic Chart with Trouble Code.>

16.Diagnostic Chart with Trouble Code

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS OFF

This is detected when a CAN line malfunction occurs.

NOTE:
Perform the diagnosis for LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(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 any of B1000, B1003, B1105, B1106, B1115, B1116, B1120, B1121, B1125, B1126, B1135, B1136, B1145, B1146, B1170, B1185, B1195, B1196 or B1199 displayed?	Replace the airbag control module. <Ref. to AB-66, Airbag Control Module.>	Perform the Clear Memory Mode. <Ref. to AB(diag)-29, Clear Memory Mode.>

C: DTC B1003 AIRBAG ECU MALFUNCTION

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

D: DTC B1105 AIRBAG ECU MALFUNCTION

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

E: DTC B1106 AIRBAG ECU MALFUNCTION

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

F: DTC B1115 AIRBAG ECU MALFUNCTION

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

G: DTC B1116 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1116 for details on DTC B1000. <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 B1000. <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 B1121 for details on DTC B1000. <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 B1000. <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 B1000. <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 B1000. <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 B1000. <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 B1000. <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 B1000. <Ref. to AB(diag)-44, DTC B1000 AIRBAG ECU MALFUNCTION, Diagnostic Chart with Trouble Code.>

P: DTC B1170 AIRBAG ECU MALFUNCTION

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

Q: DTC B1185 AIRBAG ECU MALFUNCTION

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

R: DTC B1195 AIRBAG ECU MALFUNCTION

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

S: DTC B1196 AIRBAG ECU MALFUNCTION

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

T: DTC B1199 AIRBAG ECU MALFUNCTION

NOTE:
Refer to DTC B1199 for details on DTC B1000. <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-66, Airbag Control Module.>
- Curtain airbag module <Ref. to AB-62, Curtain Airbag Module.>
- Front outer seat belt with pretensioner <Ref. to SB-16, 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-66, Airbag Control Module.>
- Driver's airbag module <Ref. to AB-32, Driver's Airbag Module.>
- Passenger's airbag module <Ref. to AB-37, Passenger's Airbag Module.>
- Front sub sensor of both sides <Ref. to AB-70, Front Sub Sensor.>
- Front outer seat belt with pretensioner of both sides <Ref. to SB-16, Front Seat Belt.>
- Steering roll connector <Ref. to AB-93, Roll Connector.>
- Occupant detection system (passenger's seat cushion & frame assembly) <Ref. to SE-7, Front Seat.>
- Curtain airbag module on both sides (when activated) <Ref. to AB-62, 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-66, Airbag Control Module.>
- Side airbag module (operating side) <Ref. to AB-54, Side Airbag Module.>
- Side airbag sensor (operating side) <Ref. to AB-77, Side Airbag Sensor.>
- Curtain airbag module (operating side) <Ref. to AB-62, Curtain Airbag Module.>
- Curtain airbag sensor (operating side) <Ref. to AB-82, Curtain Airbag Sensor.>
- Satellite safing sensor <Ref. to AB-90, Satellite Safing Sensor.>
- Front door impact sensor (operating side) <Ref. to AB-74, Front Door Impact Sensor.>
- Front outer seat belt with pretensioner on the collision side (when activated) <Ref. to SB-16, Front Seat Belt.>

AA:DTC B11F8 SIDE IMPACT IGNITION

NOTE:
For details on DTC B11F8. refer to DTC B11F7. <Ref. to AB(diag)-47, 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)-47, 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)-47, 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)-47, 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)-47, 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-70, 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:

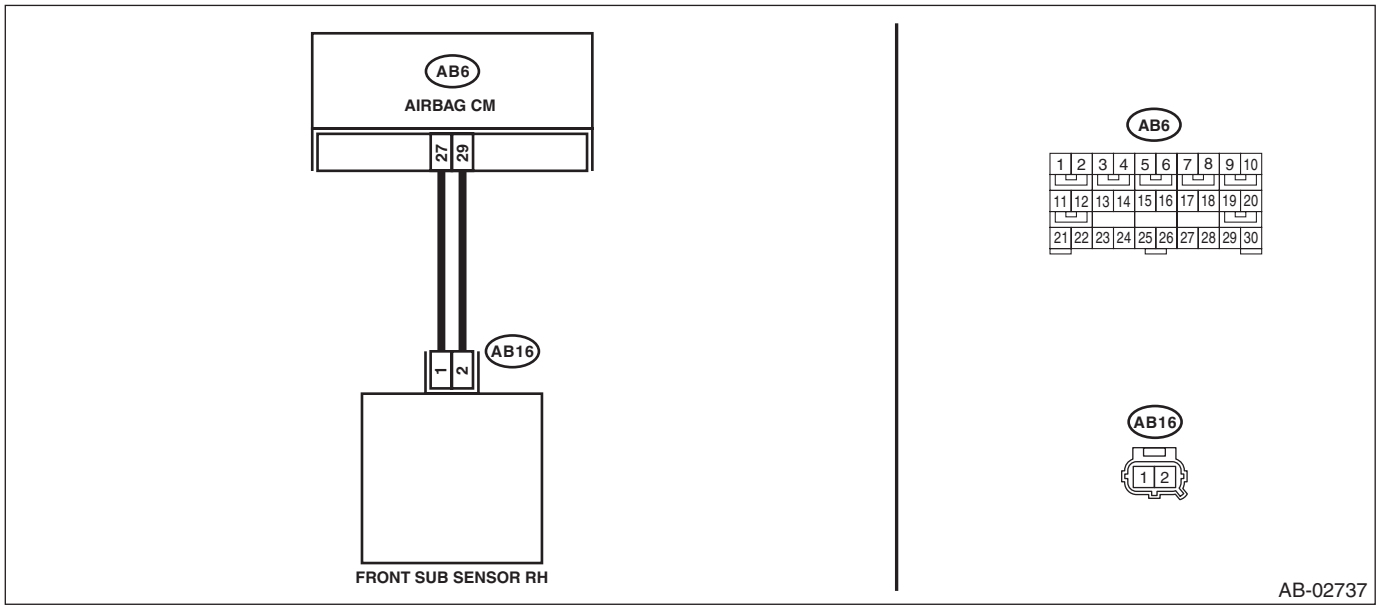
- Open or short circuit in harness of front sensor bus (RH)
- Front sub sensor (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-70, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **5**.

Step		Check	Yes	No
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-70, 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:

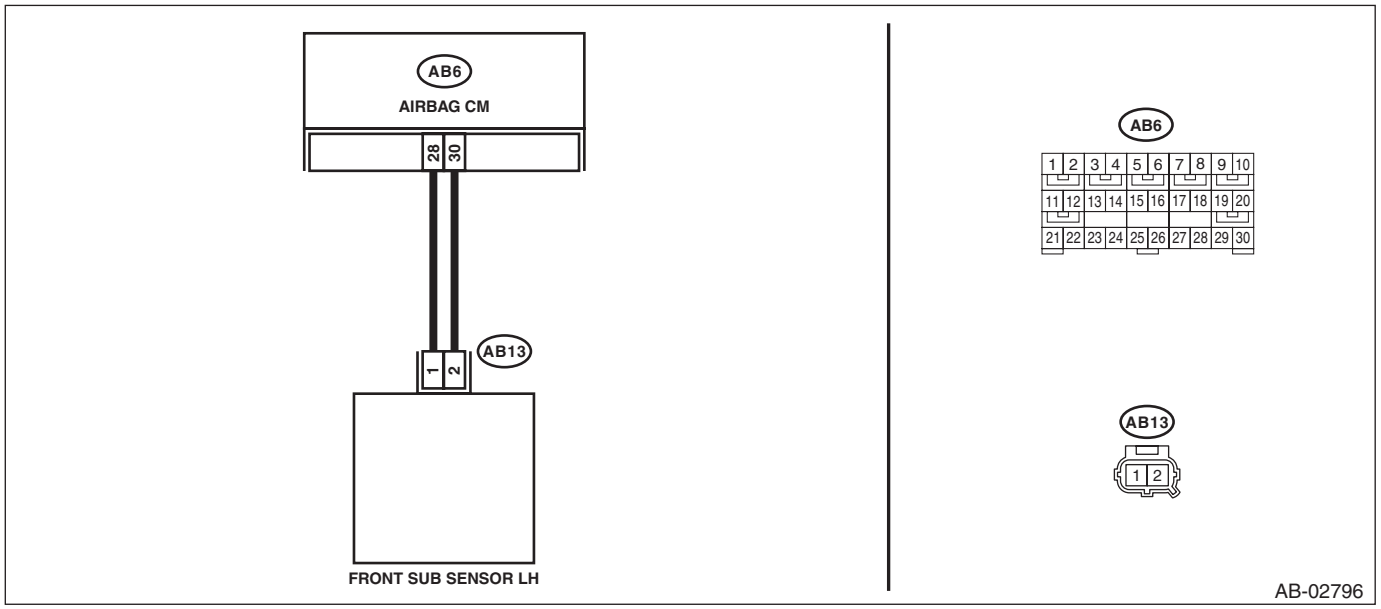
- Open or short circuit in harness of front sensor bus (LH)
- Front sub sensor (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-70, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **5**.

Step		Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front sub sensor (RH) with a genuine sensor. <Ref. to AB-70, REMOVAL, Front Sub Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front sub sensor (LH) with a genuine sensor. <Ref. to AB-70, REMOVAL, Front Sub Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, 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-77, 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)-55, 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:

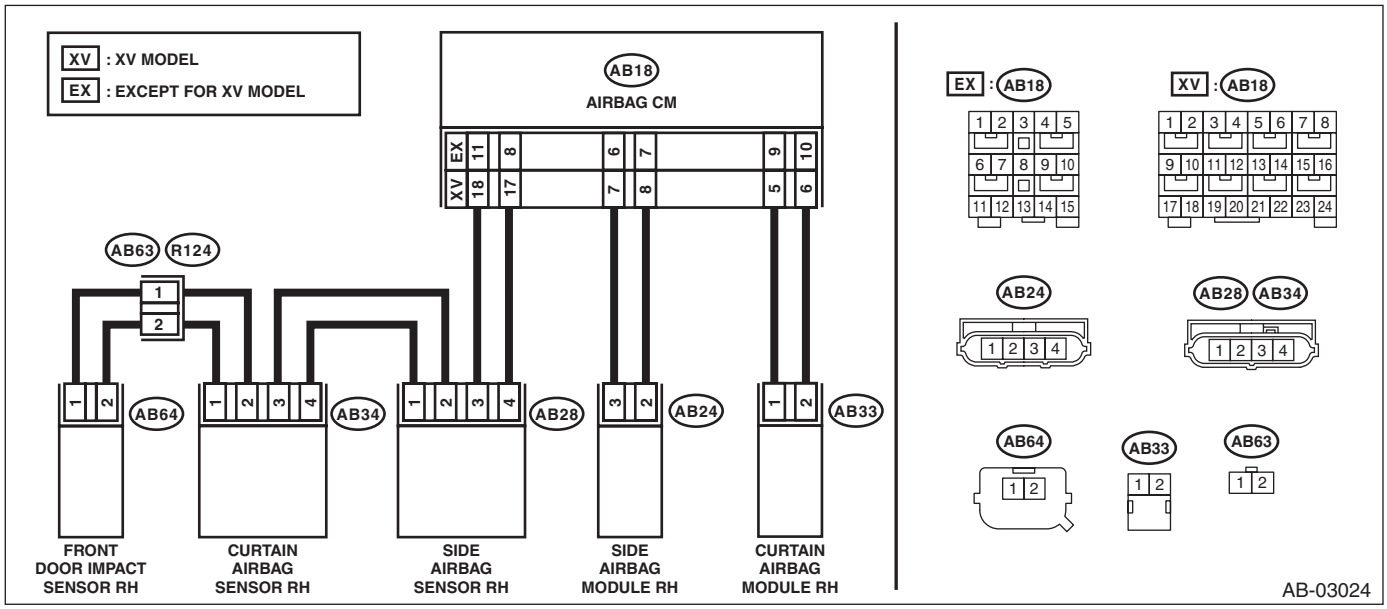
- Open or short circuit in harness of side sensor bus (RH)
- Side airbag sensor (RH) and curtain airbag sensor (RH) are faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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*** ***XV model*** ***(5AG) No. 14 — (3V) No. 1:*** ***(5AG) No. 16 — (3V) No. 2:*** ***Except for XV 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 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. 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side airbag sensor (RH). <Ref. to AB-77, 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-82, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-66, 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-77, Side Airbag Sensor.>

AR:DTC B1627 SIDE AIRBAG SENSOR LH LOST COMMUNICATION

NOTE:

For details on DTC B1627, refer to DTC B1628. <Ref. to AB(diag)-58, 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:

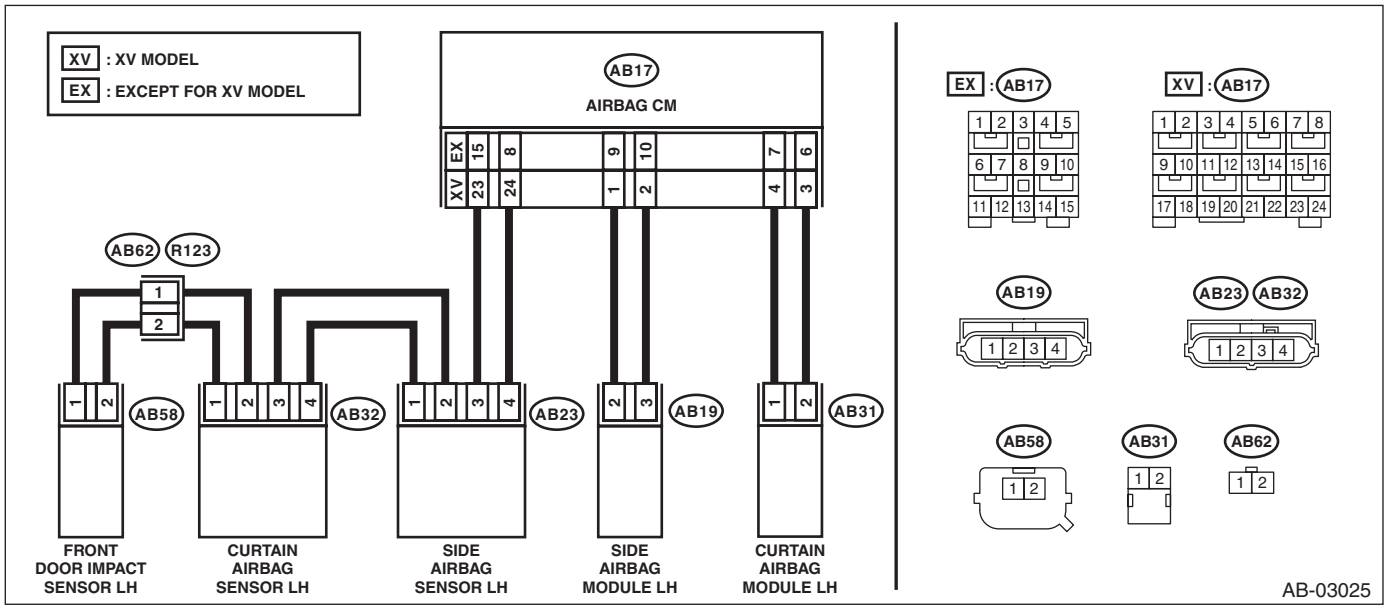
- Open or short circuit in harness of side sensor bus (LH)
- Side airbag sensor (LH) and curtain airbag sensor (LH) are faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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 (AB17, AB6, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: Except for XV 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*** ***XV model*** ***(5AG) No. 8 — (3V) No. 2:*** ***(5AG) No. 10 — (3V) No. 1:*** ***Except for XV 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 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. 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side airbag sensor (LH). <Ref. to AB-77, 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-82, REMOVAL, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-66, 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-82, 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)-61, 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:

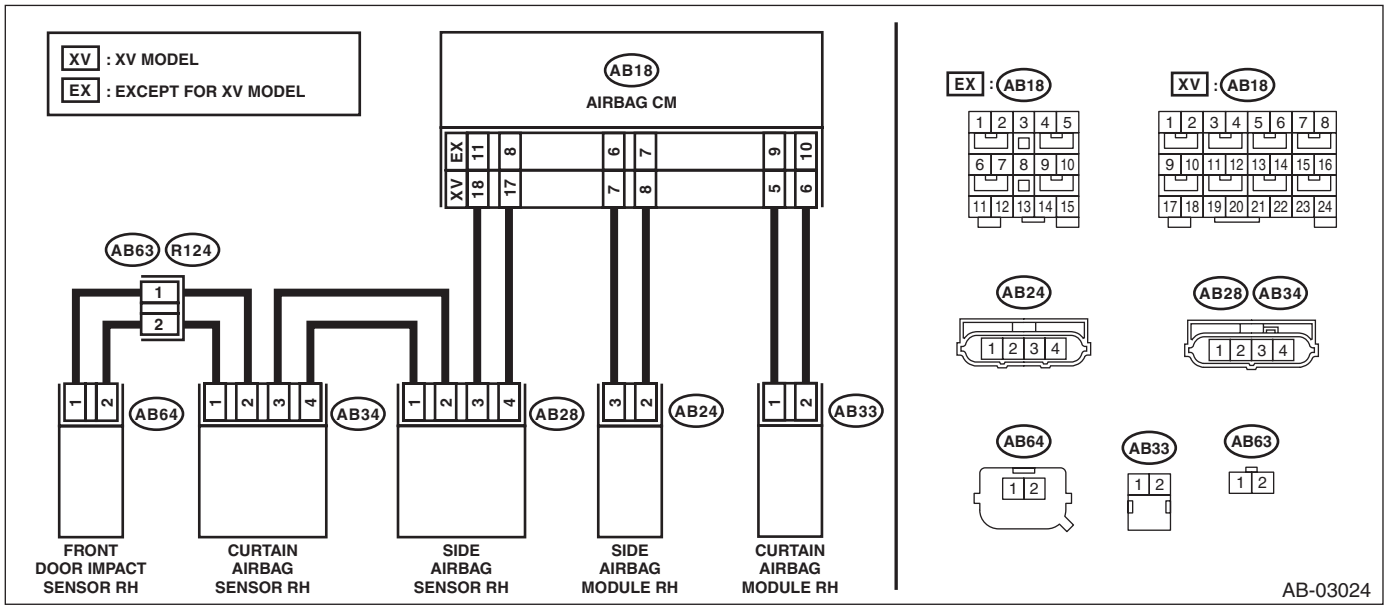
- Open or short circuit in harness of side sensor bus (RH)
- Side airbag sensor (RH) and curtain airbag sensor (RH) are faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain airbag sensor (RH). <Ref. to AB-82, 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**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side airbag sensor (RH). <Ref. to AB-77, 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-66, 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-82, 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)-64, 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:

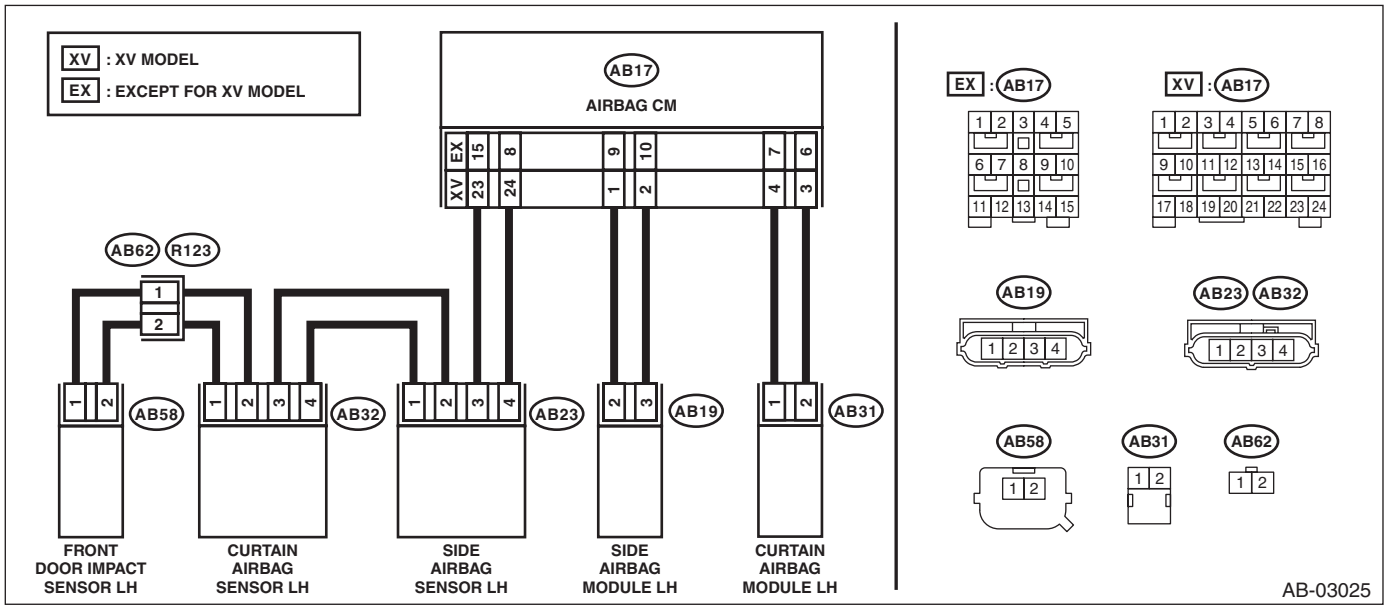
- Open or short circuit in harness of side sensor bus (LH)
- Side airbag sensor (LH) and curtain airbag sensor (LH) are faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain airbag sensor (LH). <Ref. to AB-82, 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**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side airbag sensor (LH). <Ref. to AB-77, 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-66, 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 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side A/B sensor (RH) with a genuine sensor. <Ref. to AB-77, REMOVAL, Side Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BA: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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side A/B sensor (LH) with a genuine sensor. <Ref. to AB-77, REMOVAL, Side Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BB: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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain A/B sensor (RH) with a genuine sensor. <Ref. to AB-82, REMOVAL, Curtain Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BC: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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain A/B sensor (LH) with a genuine sensor. <Ref. to AB-82, REMOVAL, Curtain Airbag Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BD:DTC B1642 SIDE SATELLITE SENSOR BUS RH LOST COMMUNICATION

DTC DETECTING CONDITION:

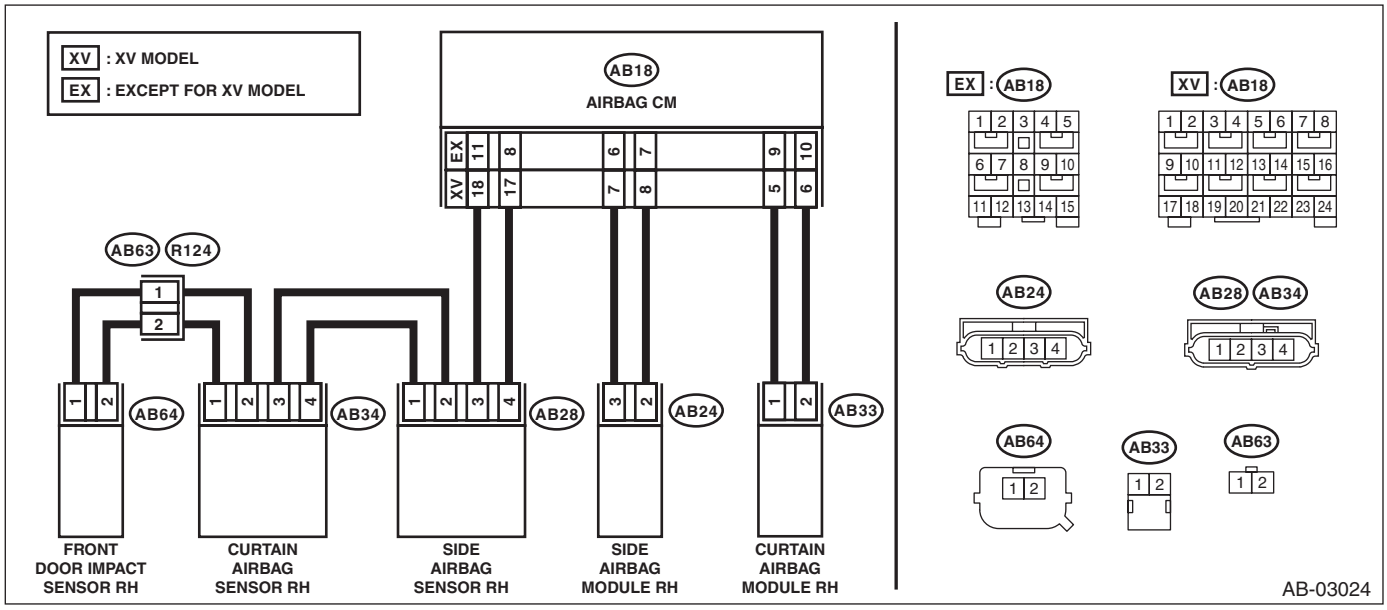
- Open or short circuit in harness of side sensor bus (RH)
- Side airbag sensor (RH) is faulty.
- Curtain airbag sensor (RH) is faulty.
- Front door impact sensor (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 DTC.** Read the DTC. (Current malfunction)	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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Disconnect connector (AB28) from side airbag sensor (RH). 8) Connect the connector (2V) in the test harness V to the connector (AB28). 9) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***XV model*** ***(5AG) No. 14 — (3V) No. 1:*** ***(5AG) No. 16 — (3V) No. 2:*** ***Except for XV model*** ***(5AG) No. 14 — (3V) No. 1:*** ***(5AG) No. 15 — (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 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. (Current malfunction)	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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side airbag sensor (RH). <Ref. to AB-77, 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?	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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain airbag sensor (RH). <Ref. to AB-82, 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 **14**.	Go to step **15**.

Step		Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front door impact sensor (RH). <Ref. to AB-74, 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?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **15**.
15	**CHECK FOR ANY OTHER DTC ON DISPLAY.** Read the DTC. (Current malfunction)	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Finish the diagnosis.

BE:DTC B1647 SIDE SATELLITE SENSOR BUS LH LOST COMMUNICATION

DTC DETECTING CONDITION:

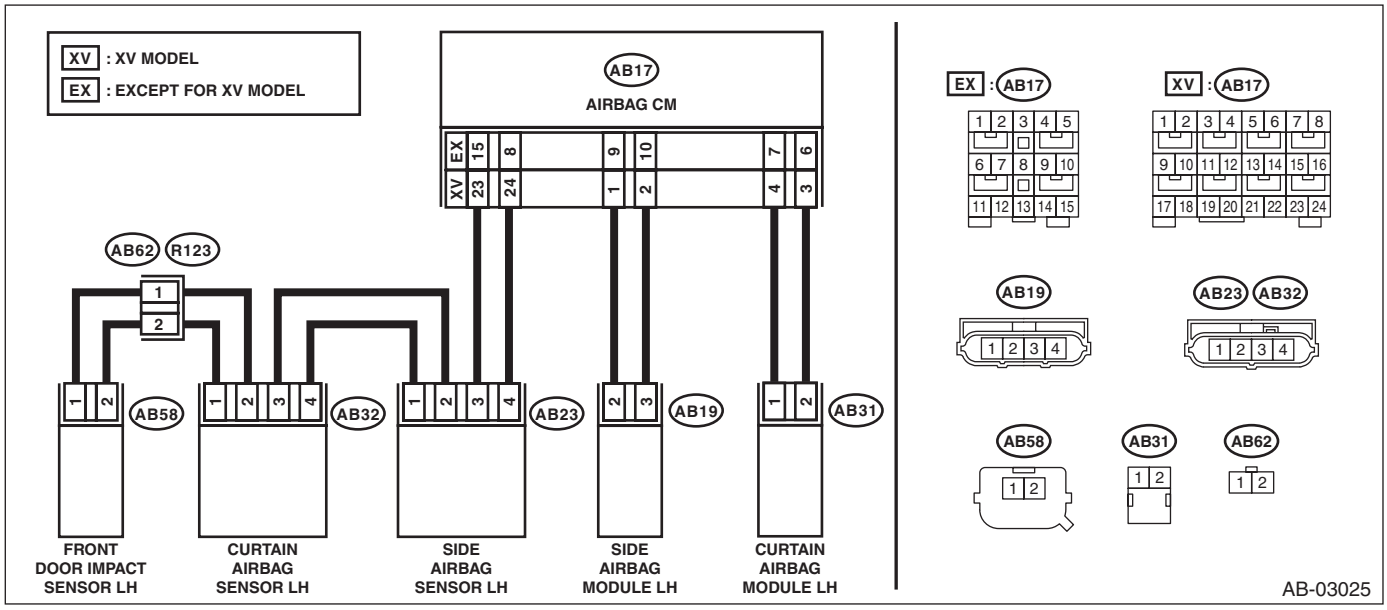
- Open or short circuit in harness of side sensor bus (LH)
- Side airbag sensor (LH) is faulty.
- Curtain airbag sensor (LH) is faulty.
- Front door impact sensor (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 DTC.** Read the DTC. (Current malfunction)	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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Disconnect the connector (AB23) from the side airbag sensor (LH). 8) Connect the connector (2V) in the test harness V to the connector (AB23). 9) Measure the resistance between connector (5AG) in the test harness AG and connector (3V) in the test harness V. ***Connector & terminal*** ***XV model*** ***(5AG) No. 10 — (3V) No. 1:*** ***(5AG) No. 8 — (3V) No. 2:*** ***Except for XV model*** ***(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. (Current malfunction)	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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the side airbag sensor (LH). <Ref. to AB-77, 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?	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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain airbag sensor (LH). <Ref. to AB-82, 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 **14**.	Go to step **15**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front door impact sensor (LH). <Ref. to AB-74, 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?	Replace the airbag control module. <Ref. to AB-66, 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.

BF:DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION

NOTE:
Refer to “Occupant Detection System” for details on DTC B1650. <Ref. to OD(diag)-19, 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)-22, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BH:DTC B1660 PASSENGER'S AIRBAG ON INDICATOR FAILURE

DTC DETECTING CONDITION:

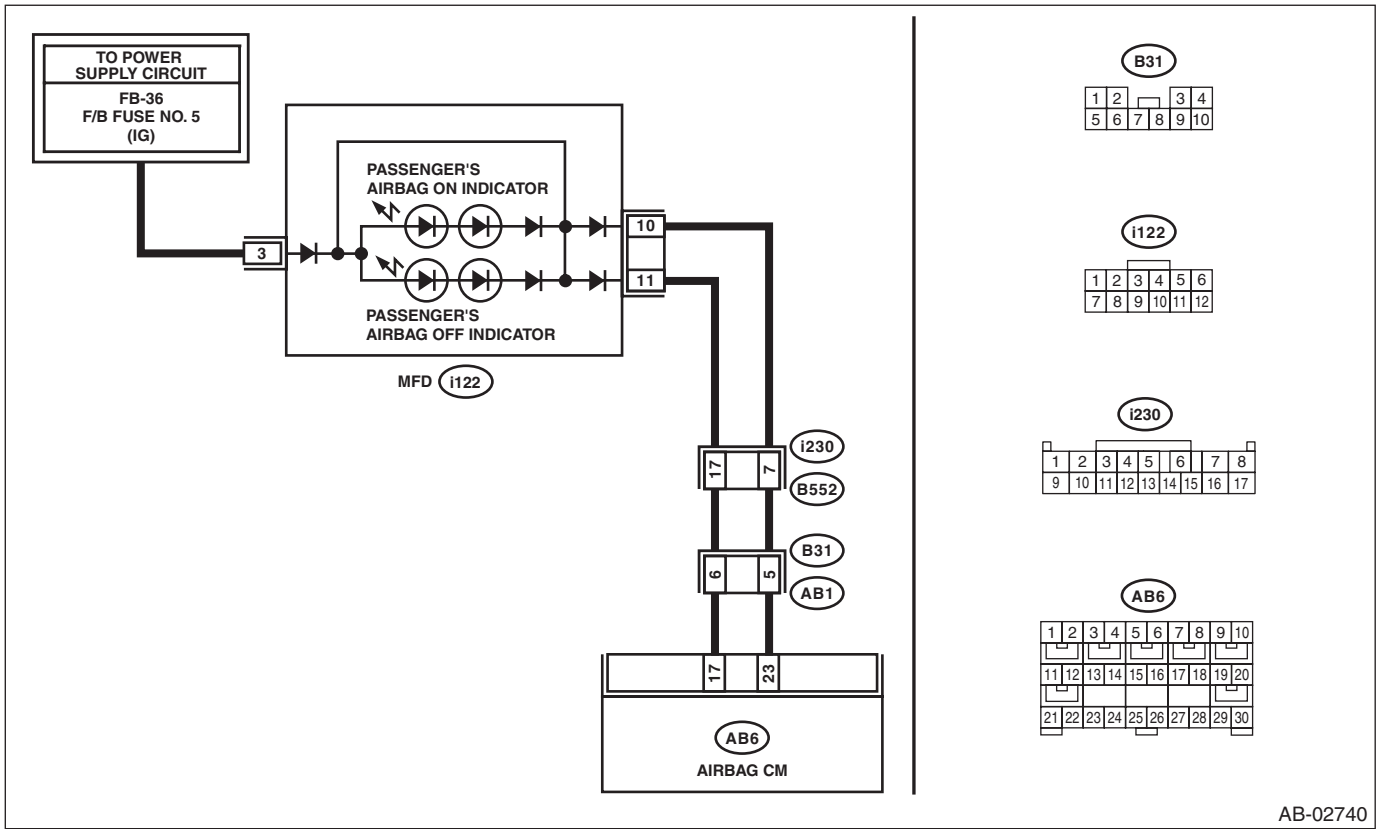
- Passenger's airbag indicator is faulty.
- Airbag control module is faulty.
- Airbag main harness circuit is open or shorted.
- Body harness circuit is open.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Check that the connector between the airbag control module and MFD 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**.

	Step	Check	Yes	No
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**.
3	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the MFD and disconnect the connector (i122). 3) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: Except for XV 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 MFD. <Ref. to IDI-27, REMOVAL, Multi-function Display (MFD).>	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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AH) in the test harness AH. 3) Connect the connector (2AH) in the test harness AH and the connector (1AG) in the test harness AG. 4) Connect the connectors (7AG) and (8AG) in the test harness AG. 5) 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-66, Airbag Control Module.>	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the MFD and disconnect the connector (i122). 3) Measure the resistance between connector (2AG) in the test harness AG and connector (i122). ***Connector & terminal*** ***(2AG) No. 9 — (i122) No. 11:*** ***(2AG) No. 8 — (i122) No. 10:***	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 (i122) and chassis ground. ***Connector & terminal*** ***(i122) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the MFD. <Ref. to IDI-27, REMOVAL, Multi-function Display (MFD).>	Check the power supply circuit of MFD.

BI: DTC B1675 SATELLITE SAFING SENSOR FAILURE

DTC DETECTING CONDITION:

- Satellite safing 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.>

	Step	Check	Yes	No
1	**REPLACE SATELLITE SAFING SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the satellite safing sensor with a genuine sensor. <Ref. to AB-90, REMOVAL, Satellite Safing Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BJ:DTC B1676 LOST COMMUNICATION WITH SATELLITE SAFING SENSOR

NOTE:
For details on DTC B1676, refer to DTC B1677. <Ref. to AB(diag)-83, DTC B1677 SATELLITE SAFING SENSOR INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>

BK:DTC B1677 SATELLITE SAFING SENSOR INITIALIZATION INCOMPLETE

DTC DETECTING CONDITION:

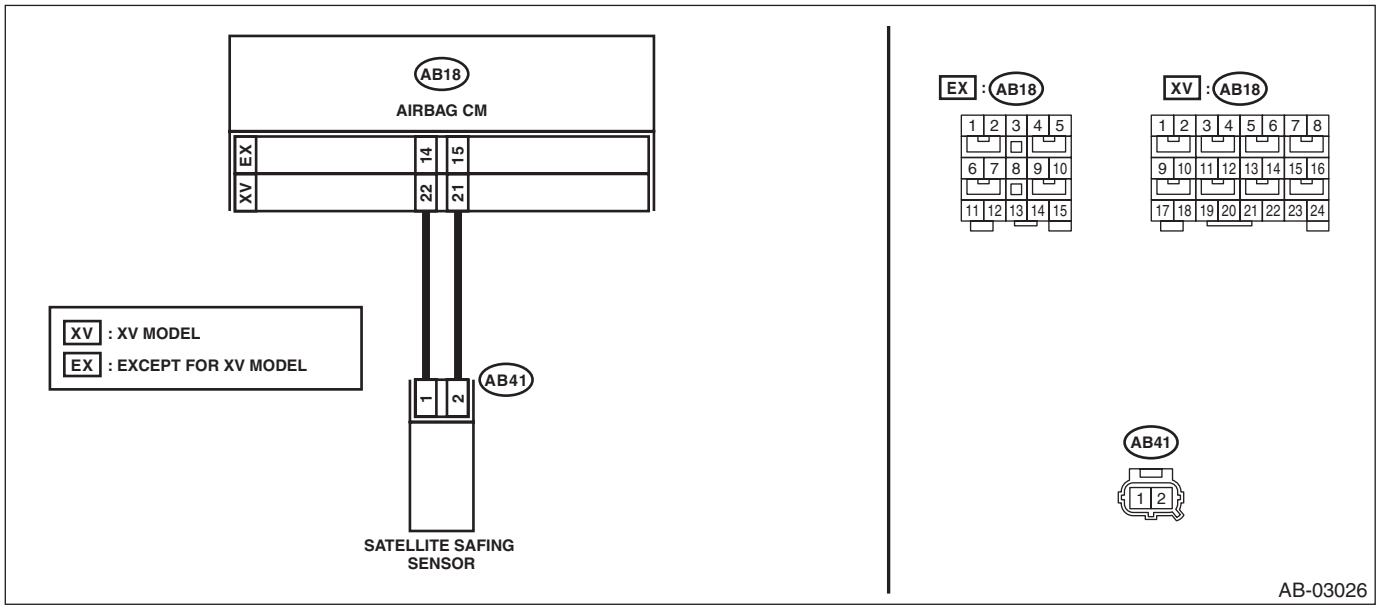
- Open or short circuit in harness of satellite safing sensor
- Satellite safing sensor is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, WIRING DIAGRAM, Airbag System.>



Step		Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors (AB18, AB41) between the airbag control module and the satellite safing sensor.	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 SATELLITE SAFING SENSOR).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB21, AB26) from seat belt pretensioner. 3) Disconnect the connectors (AB31, AB33) from curtain airbag module. 4) Disconnect connectors (AB19) and (AB24) from the side airbag module. 5) Disconnect the connectors (AB17, AB6, AB18) from airbag control module. 6) Connect the connector (1AG) in the test harness AG to the connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Connect the connector (2AH) in the test harness AH and the connector (1AG) in the test harness AG. 8) Disconnect the connector (AB41) from the satellite safing sensor and connect to the test harness H connector (1H). 9) Measure the resistance between connector in the test harness AG and connector in the test harness H. ***Connector & terminal*** ***XV model*** ***(5AG) No. 15 — (3H) No. 5:*** ***(6AG) No. 14 — (3H) No. 6:*** ***Except for XV model*** ***(4AG) No. 5 — (3H) No. 5:*** ***(5AG) No. 13 — (3H) No. 6:***	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 SATELLITE SAFING SENSOR).** Measure the resistance between connector in the test harness AG and chassis ground, and the resistance between connector terminals in the test harness AG. ***Connector & terminal*** ***XV model*** ***(5AG) No. 15 — Chassis ground:*** ***(6AG) No. 14 — Chassis ground:*** ***(5AG) No. 15 — (6AG) No. 14:*** ***Except for XV model*** ***(4AG) No. 5 — Chassis ground:*** ***(5AG) No. 13 — Chassis ground:*** ***(4AG) No. 5 — (5AG) No. 13:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness along with body harness.

	Step	Check	Yes	No
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 satellite safing sensor. <Ref. to AB-90, REMOVAL, Satellite Safing Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-66, 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 (DTC)". <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

BL:DTC B16F8 SATELLITE SAFING SENSOR RECOGNITION ERROR

DTC DETECTING CONDITION:

- Satellite safing sensor is misinstalled.
- Airbag control module is faulty.

	Step	Check	Yes	No
1	**REPLACE SATELLITE SAFING SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the satellite safing sensor with a genuine sensor. <Ref. to AB-90, REMOVAL, Satellite Safing Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BM: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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front door impact sensor (RH) with a genuine sensor. <Ref. to AB-74, REMOVAL, Front Door Impact Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BN: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-74, REMOVAL, Front Door Impact Sensor.>

BO:DTC B1692 LOST COMMUNICATION WITH DOOR SENSOR RH

NOTE:
For details on DTC B1692, refer to DTC B1693. <Ref. to AB(diag)-87, DTC B1693 DOOR SENSOR RH INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>

BP:DTC B1693 DOOR SENSOR RH INITIALIZATION INCOMPLETE

DTC DETECTING CONDITION:

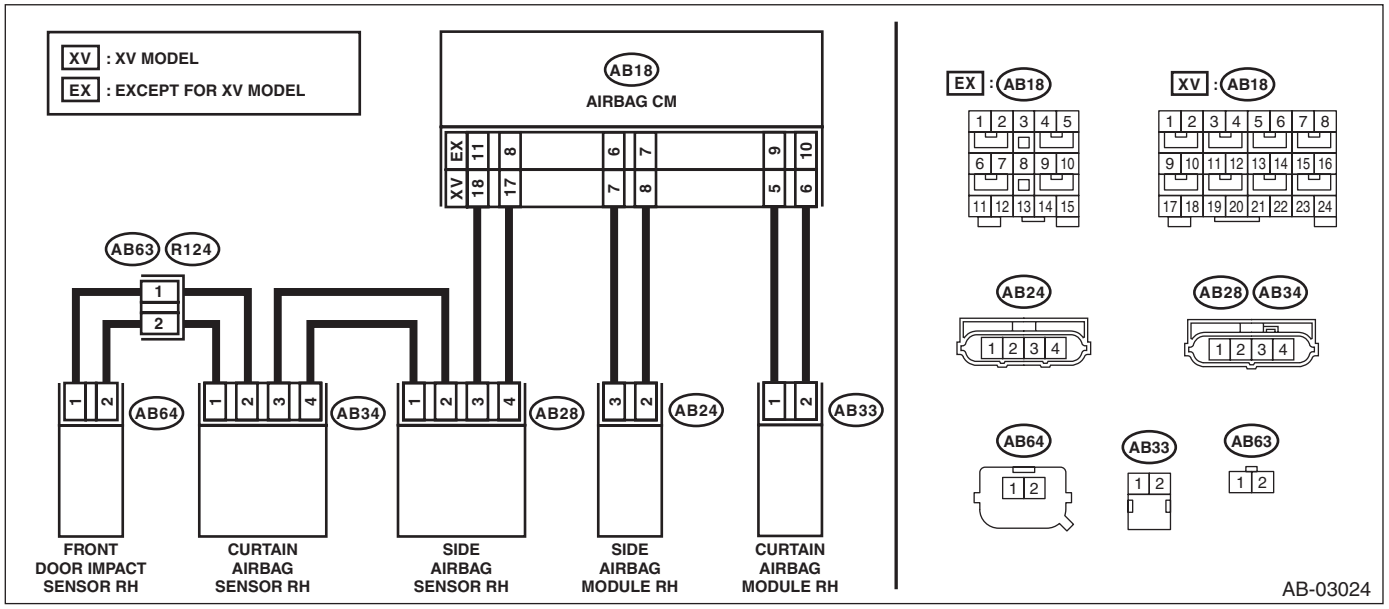
- Open or short circuit in harness of side sensor bus (RH)
- Front door impact sensor (RH) is faulty.
- Curtain airbag sensor (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front door impact sensor (RH). <Ref. to AB-74, 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**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain airbag sensor (RH). <Ref. to AB-82, 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-66, 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.

BQ: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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front door impact sensor (LH) with a genuine sensor. <Ref. to AB-74, REMOVAL, Front Door Impact Sensor.>	Does the warning light go off?	Finish the diagnosis.	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>

BR: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-74, REMOVAL, Front Door Impact Sensor.>

BS:DTC B1697 LOST COMMUNICATION WITH DOOR SENSOR LH

NOTE:
Refer to DTC B1697 for details on DTC B1698. <Ref. to AB(diag)-91, DTC B1698 DOOR SENSOR LH INITIALIZATION INCOMPLETE, Diagnostic Chart with Trouble Code.>

BT:DTC B1698 DOOR SENSOR LH INITIALIZATION INCOMPLETE

DTC DETECTING CONDITION:

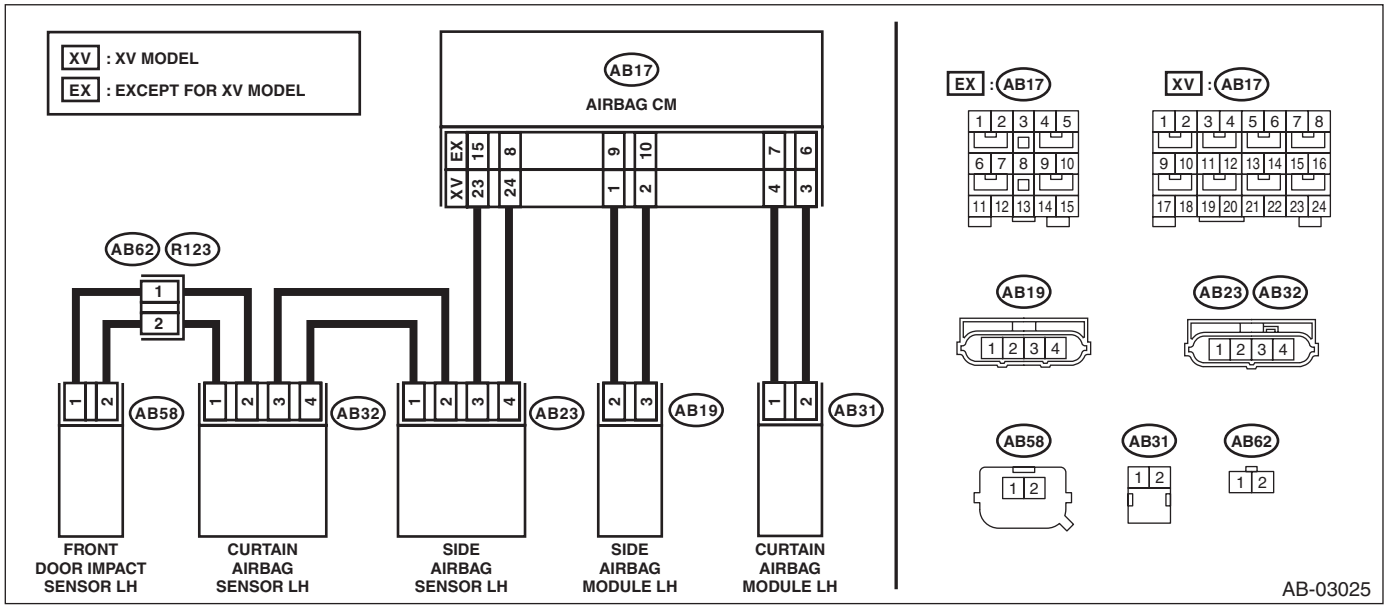
- Open or short circuit in harness of side sensor bus (LH)
- Front door impact sensor (LH) is faulty.
- Curtain airbag sensor (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the front door impact sensor (LH). <Ref. to AB-74, 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**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Replace the curtain airbag sensor (LH). <Ref. to AB-82, 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-66, 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.

BU:DTC B161A LOST COMMUNICATION WITH FRONT SATELLITE SENSOR BUS

DTC DETECTING CONDITION:

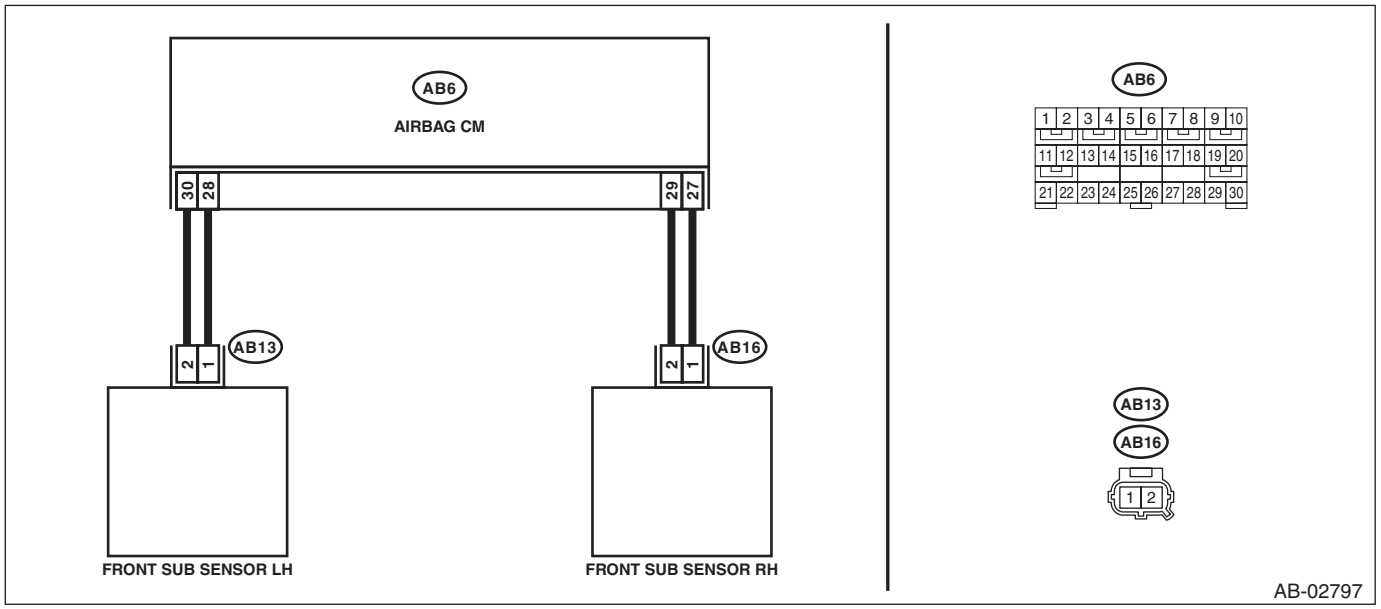
- Harness between airbag control module and front sub sensor is open or shorted.
- Front sub sensor is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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.

	Step	Check	Yes	No
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.
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-70, REMOVAL, Front Sub Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-66, 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.

BV:DTC B16F1 PASSENGER'S SEAT BELT WARNING FAILURE

DTC DETECTING CONDITION:

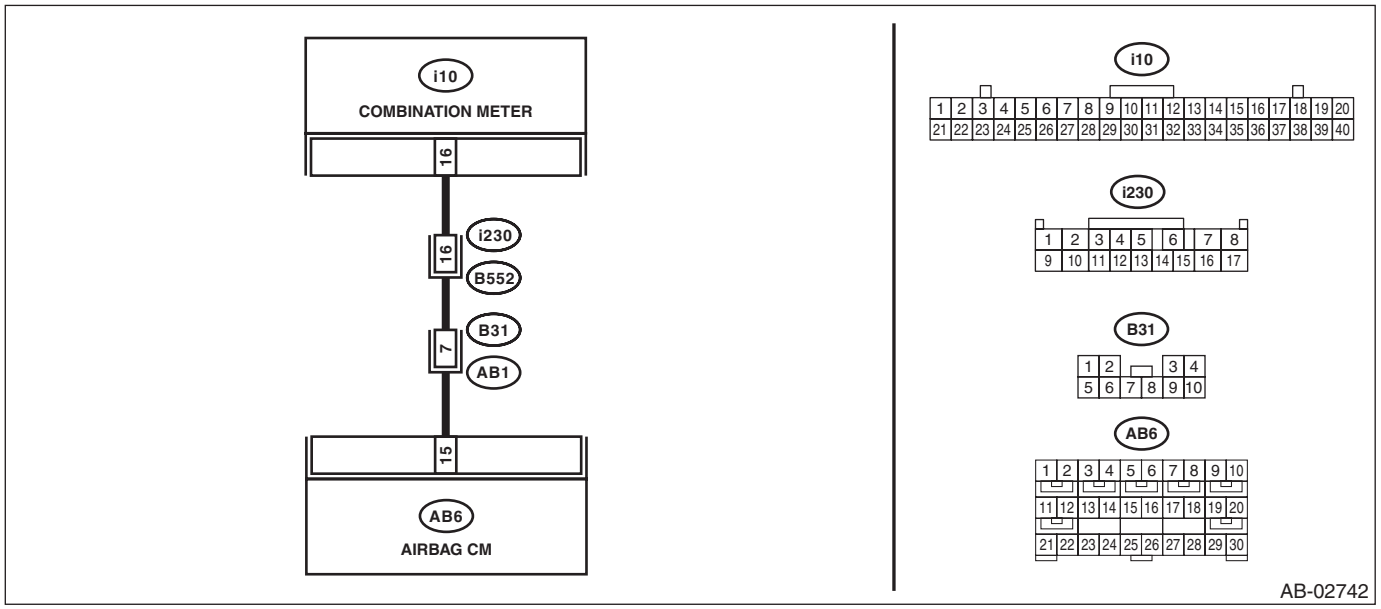
- Airbag control module is faulty.
- Meter is faulty.
- Harness circuits between meter and airbag control module are open, shorted or shorted to ground.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, WIRING DIAGRAM, Airbag 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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**.

	Step	Check	Yes	No
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: Except for XV 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 meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>	Repair the bulkhead harness and instrument panel harness. Or replace the airbag main harness along with body harness.
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: Except for XV 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-66, 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 — (i10) No. 16:***	Is the resistance less than 10 Ω?	Replace the meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>	Repair the bulkhead harness and instrument panel harness. Or replace the airbag main harness along with body harness.

BW:DTC B16F0 PASSENGER'S AIRBAG OFF INDICATOR FAILURE

NOTE:
For details on DTC B16F0, refer to DTC B1660. <Ref. to AB(diag)-79, DTC B1660 PASSENGER'S AIRBAG ON INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>

BX:DTC B1760 SENSOR MAT ABNORMAL

NOTE:
Refer to "Occupant Detection System" for details on DTC B1760. <Ref. to OD(diag)-24, DTC B1760 SENSOR MAT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BY:DTC B1761 SENSOR MAT LIQUID COATING ABNORMAL

NOTE:
Refer to "Occupant Detection System" for details on DTC B1761. <Ref. to OD(diag)-24, DTC B1761 SENSOR MAT LIQUID COATING ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BZ:DTC B1771 BUCKLE SWITCH ABNORMAL

NOTE:
Refer to "Occupant Detection System" for details on DTC B1771. <Ref. to OD(diag)-25, DTC B1771 BUCKLE SWITCH ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CA:DTC B1795 ECU INTERNAL CIRCUIT FAULT

NOTE:
Refer to "Occupant Detection System" for details on DTC B1795. <Ref. to OD(diag)-25, DTC B1795 ECU INTERNAL CIRCUIT FAULT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CB: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:

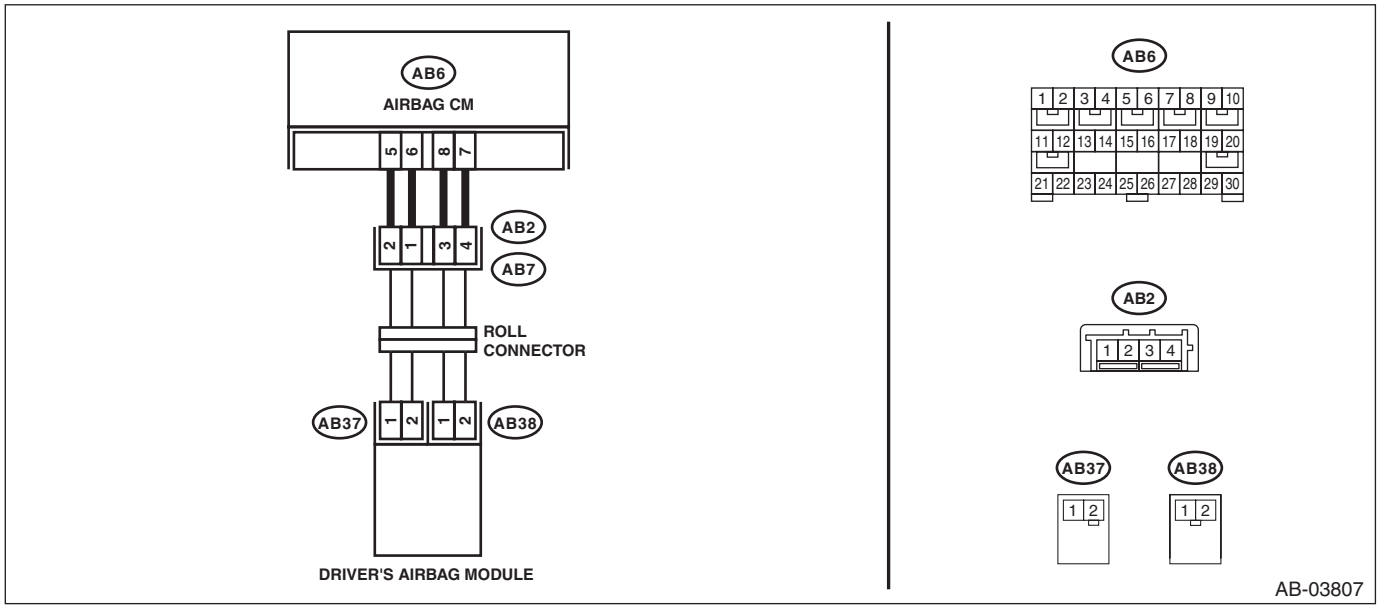
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the driver's knee airbag module connector (AB66). 4) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 5) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) 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**.

	Step	Check	Yes	No
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-93, 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-66, 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.

CC: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:

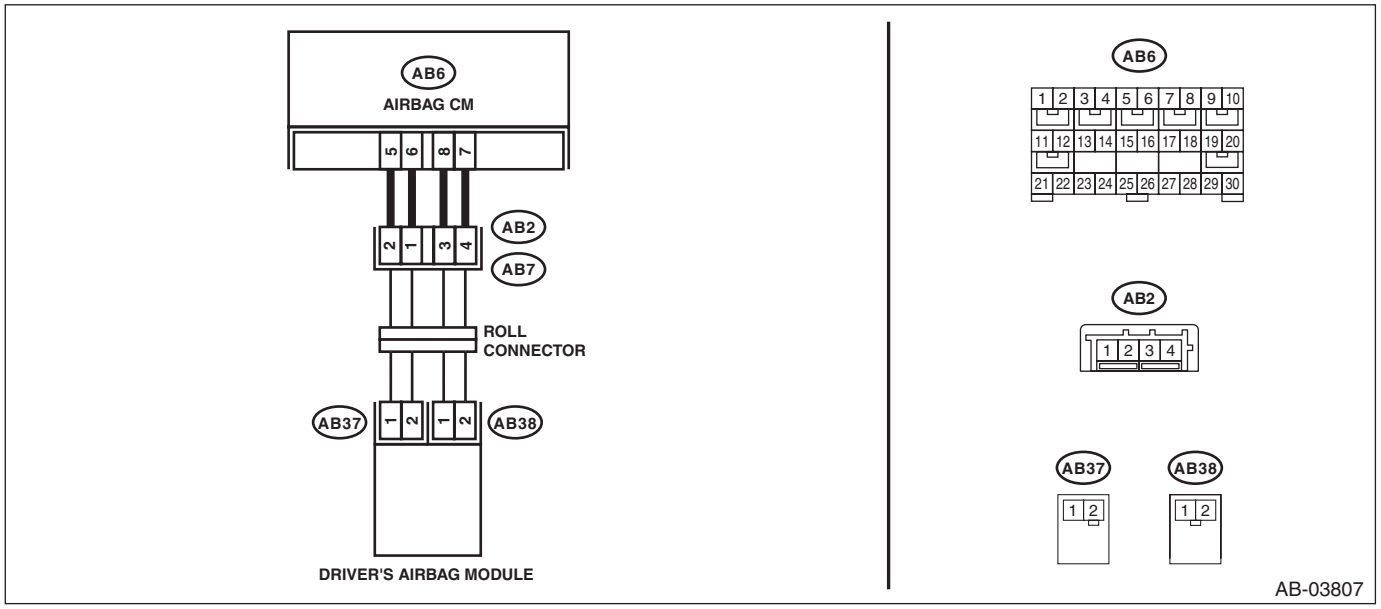
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the driver's knee airbag module connector (AB66). 4) Disconnect the airbag resistor from the connector (2N) in test harness N. 5) Disconnect the airbag resistor from the connector (2Q) of test harness Q. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) 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-93, Roll Connector.>

	Step	Check	Yes	No
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-66, 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.

CD: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:

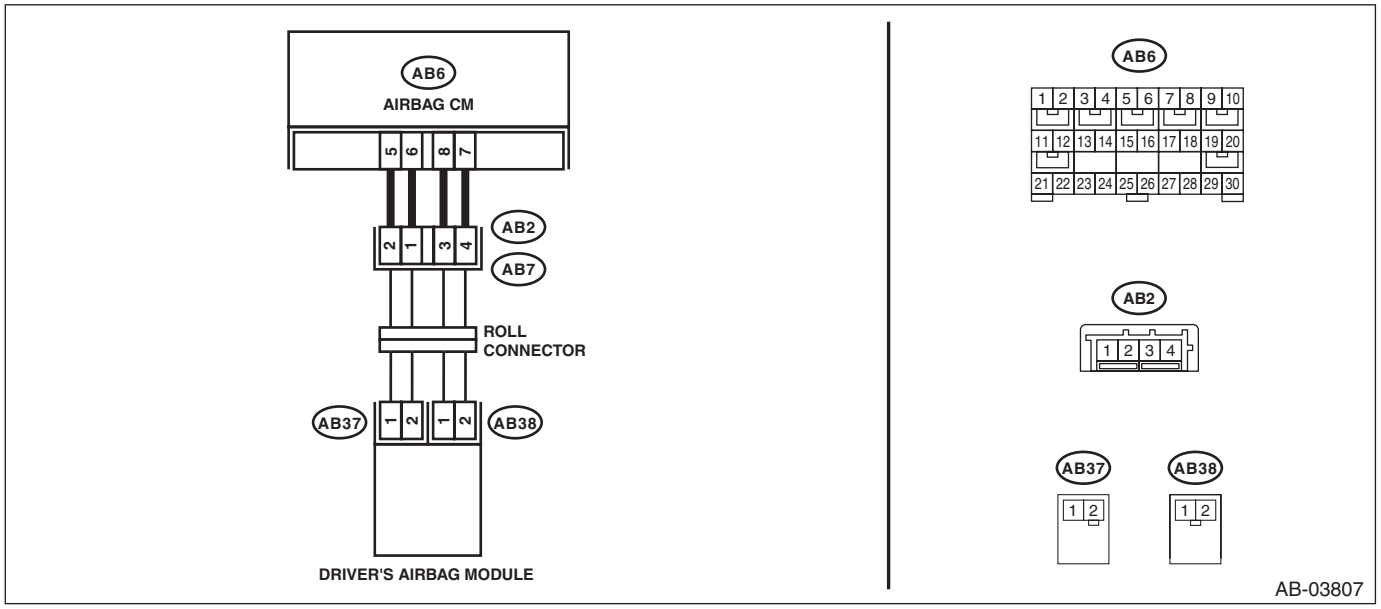
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the driver's knee airbag module connector (AB66). 4) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 5) 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-93, Roll Connector.>

	Step	Check	Yes	No
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: Except for XV 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-66, 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 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:

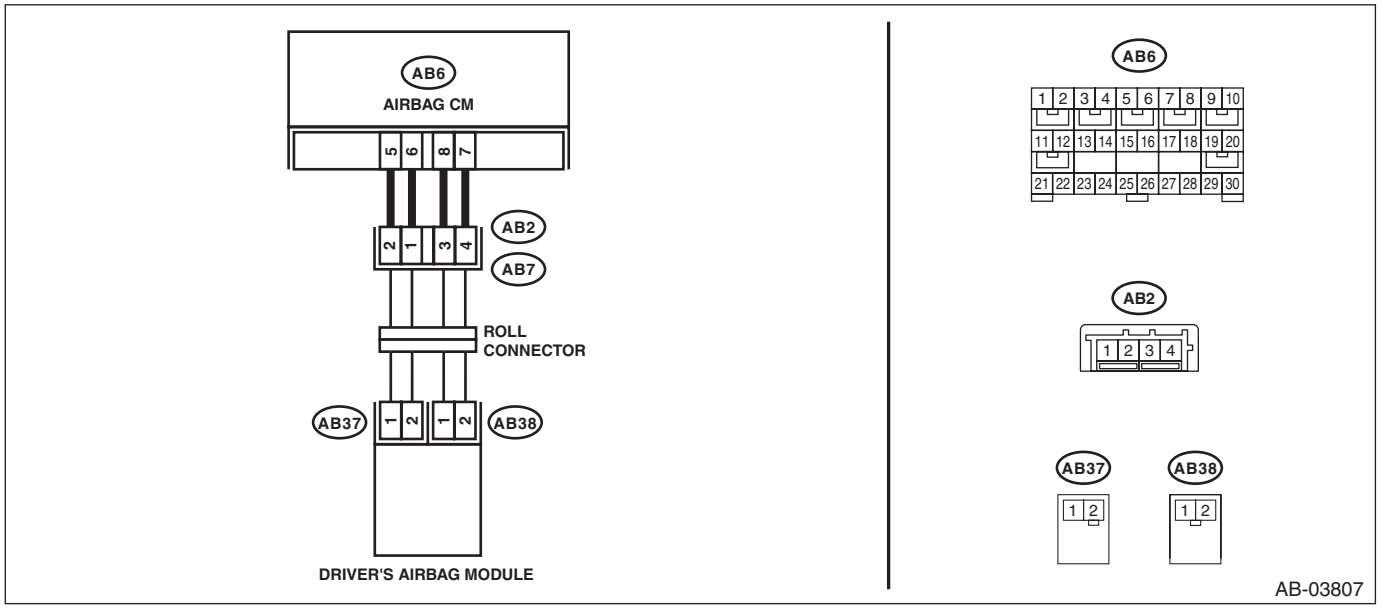
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the driver's knee airbag module connector (AB66). 4) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 5) 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-93, Roll Connector.>

	Step	Check	Yes	No
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: Except for XV 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-66, 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 B1805 SHORT IN PASSENGER'S AIRBAG

DTC DETECTING CONDITION:

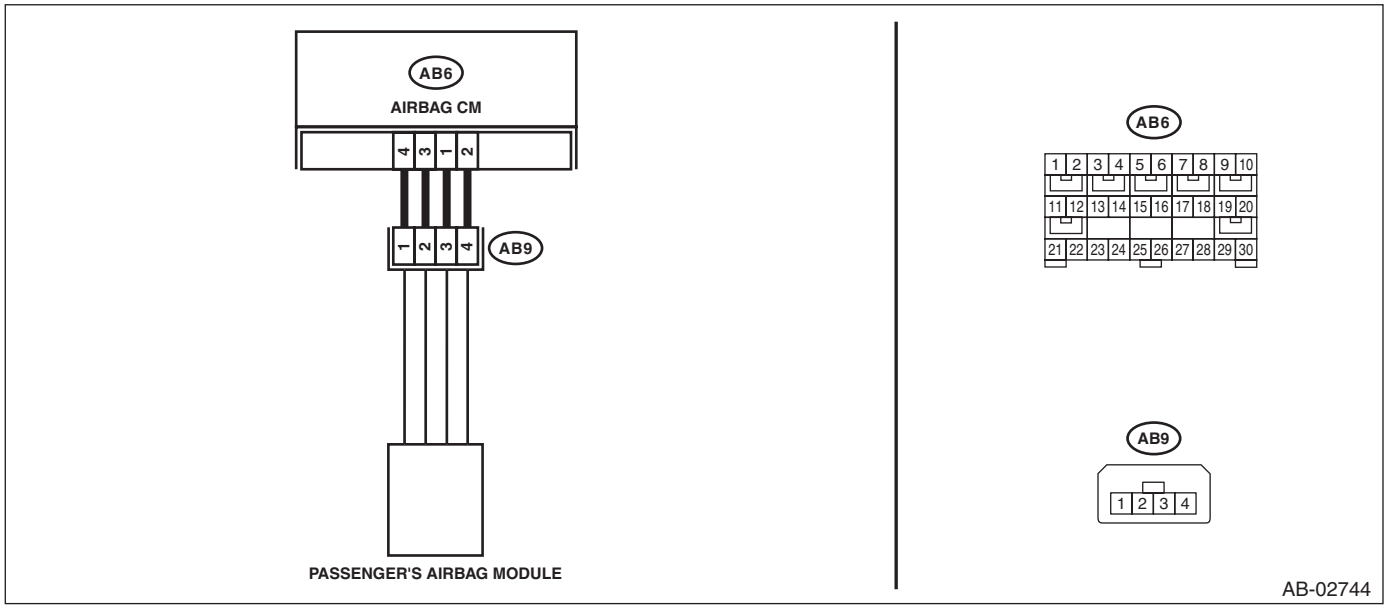
- Airbag main harness circuit is shorted.
- Airbag module harness circuit (passenger's side) is shorted.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, connect the connector (1AG) in the test harness AG, and release the short mechanism of the connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect the connectors (AB6, AB17, AB18) and the connector (1AH) in the test harness AH. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the resistance between the terminals of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the resistance, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 1 — (AB9) No. 2:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG CONTROL MODULE.** 1) Disconnect the test harness AG or test harness AH from the connectors (AB6, AB17, AB18). 2) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 3) Connect the connectors (AB7) and (AB2). 4) Connect the connector (AB66) to the driver's knee airbag module. 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Perform the Inspection Mode. 7) Read the DTC. (Current malfunction)	Is DTC B1805 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Connect the passenger's airbag module connector (AB9). 3) Connect the battery ground terminal and turn the ignition switch to ON. 4) Perform the Inspection Mode. 5) Read the DTC. (Current malfunction)	Is DTC B1805 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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.

CG:DTC B1806 OPEN IN PASSENGER'S AIRBAG

DTC DETECTING CONDITION:

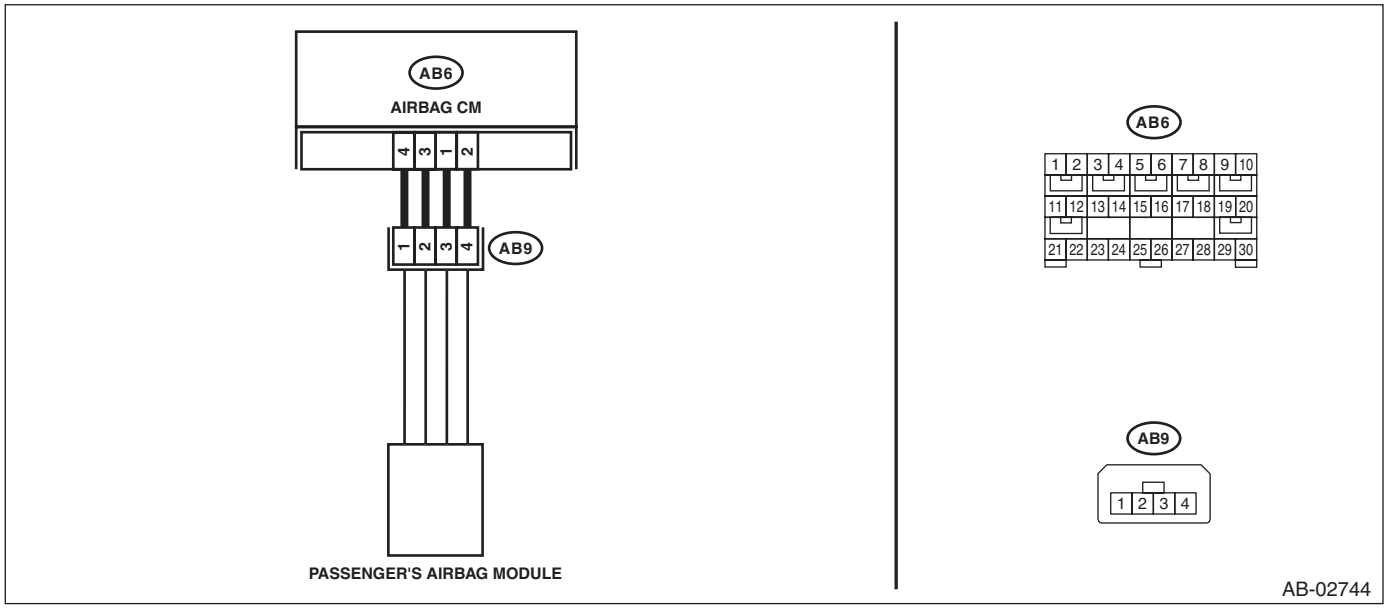
- Airbag main harness circuit is open.
- Airbag module harness (passenger's side) circuit is open.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the resistance between the terminals of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the resistance, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 1 — (AB9) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG CONTROL MODULE.** 1) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 2) Connect the connectors (AB7) and (AB2). 3) Connect the connector (AB66) to the driver's knee airbag module. 4) Using a probe, short the terminals No. 1 and No. 2 of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When shorting the terminals, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 1 — (AB9) No. 2:*** 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Perform the Inspection Mode. 7) Read the DTC. (Current malfunction)	Is DTC B1806 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Connect the passenger's airbag module connector (AB9). 3) Connect the battery negative terminal, and clear the memory. 4) Perform the Inspection Mode. 5) Read the DTC. (Current malfunction)	Is DTC B1806 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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.

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

DTC DETECTING CONDITION:

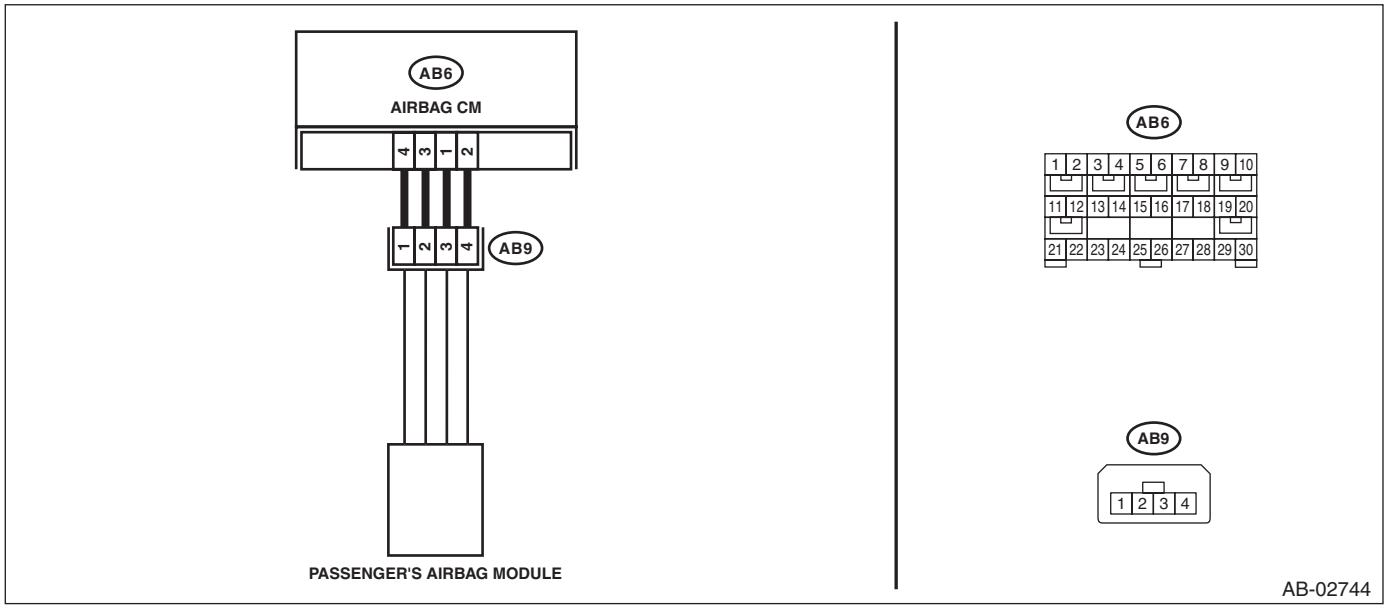
- Airbag main harness circuit is shorted to ground.
- Airbag module harness (passenger's side) circuit is shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the resistance between the connector (AB9) and chassis ground. <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the resistance, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 1 — Chassis ground:*** ***(AB9) No. 2 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG CONTROL MODULE.** 1) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 2) Using a probe, short the terminals No. 1 and No. 2 of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When shorting the terminals, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 1 — (AB9) No. 2:*** 3) Connect the battery ground terminal and turn the ignition switch to ON. 4) Perform the Inspection Mode. 5) Read the DTC. (Current malfunction)	Is DTC B1807 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Release the short circuit of connector (AB9). 3) Connect the passenger's airbag module connector (AB9). 4) Connect the connectors (AB7) and (AB2). 5) Connect the connector (AB66) to the driver's knee airbag module. 6) Connect the battery ground terminal and turn the ignition switch to ON. 7) Perform the Inspection Mode. 8) Read the DTC. (Current malfunction)	Is DTC B1807 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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 B1808 SHORT IN PASSENGER'S AIRBAG (TO +B)

DTC DETECTING CONDITION:

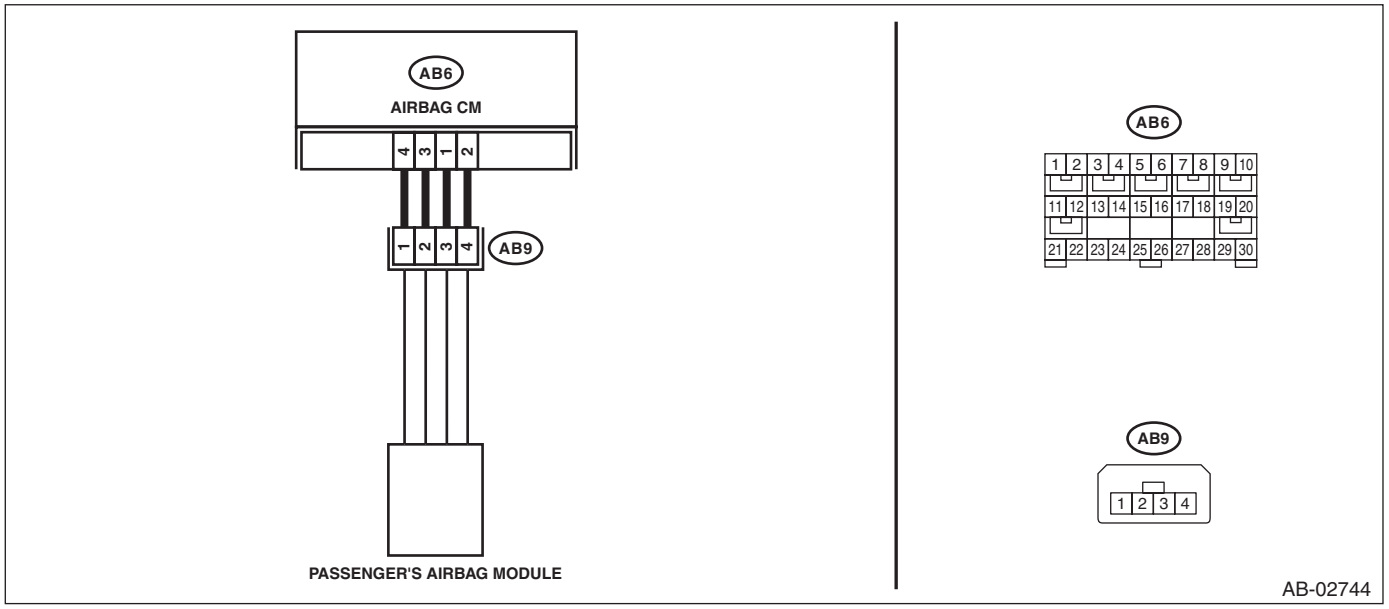
- Airbag main harness circuit is shorted to power supply.
- Airbag module harness (passenger's side) circuit is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the voltage between the connector (AB9) and chassis ground. <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the voltage, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 1 (+) — Chassis ground (–):*** ***(AB9) No. 2 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **3**.	Replace the airbag main harness along with body harness.

	Step	Check	Yes	No
3	**CHECK AIRBAG CONTROL MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 3) Using a probe, short the terminals No. 1 and No. 2 of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When shorting the terminals, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 1 — (AB9) No. 2:*** 4) Connect the battery ground terminal and turn the ignition switch to ON. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is DTC B1808 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Release the short circuit of connector (AB9). 3) Connect the passenger's airbag module connector (AB9). 4) Connect the connectors (AB7) and (AB2). 5) Connect the connector (AB66) to the driver's knee airbag module. 6) Connect the battery ground terminal and turn the ignition switch to ON. 7) Perform the Inspection Mode. 8) Read the DTC. (Current malfunction)	Is DTC B1808 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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 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:

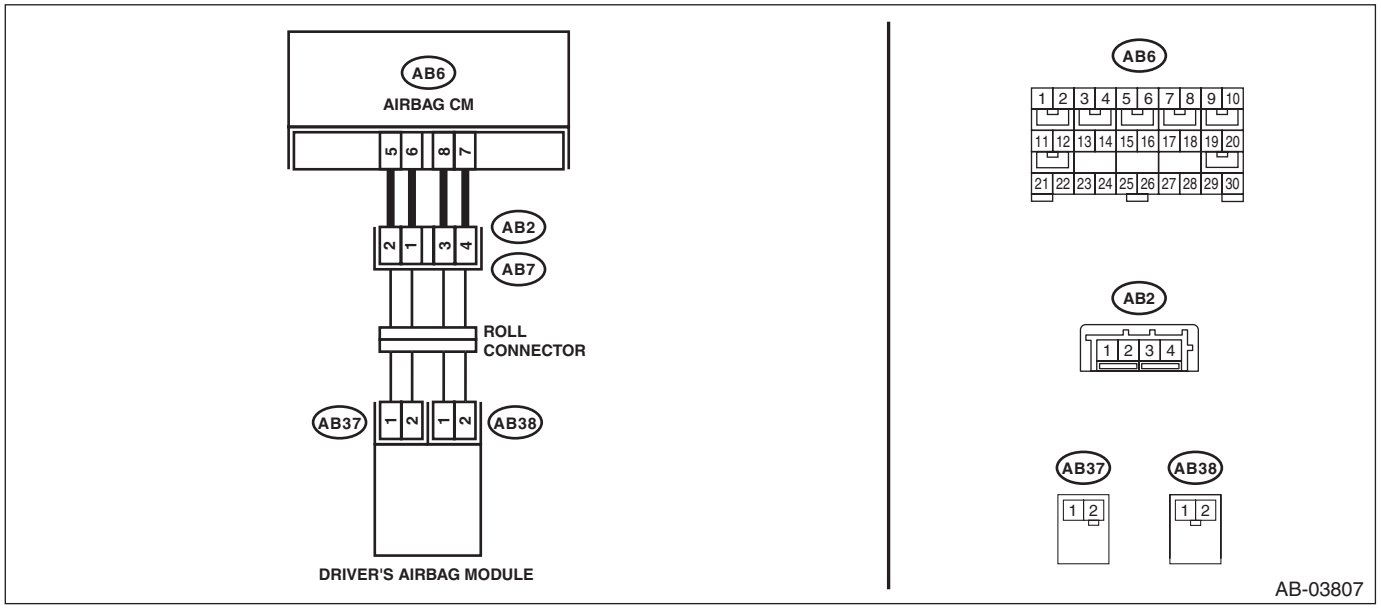
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 5) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) 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**.

	Step	Check	Yes	No
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-93, 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-66, 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.

CK: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:

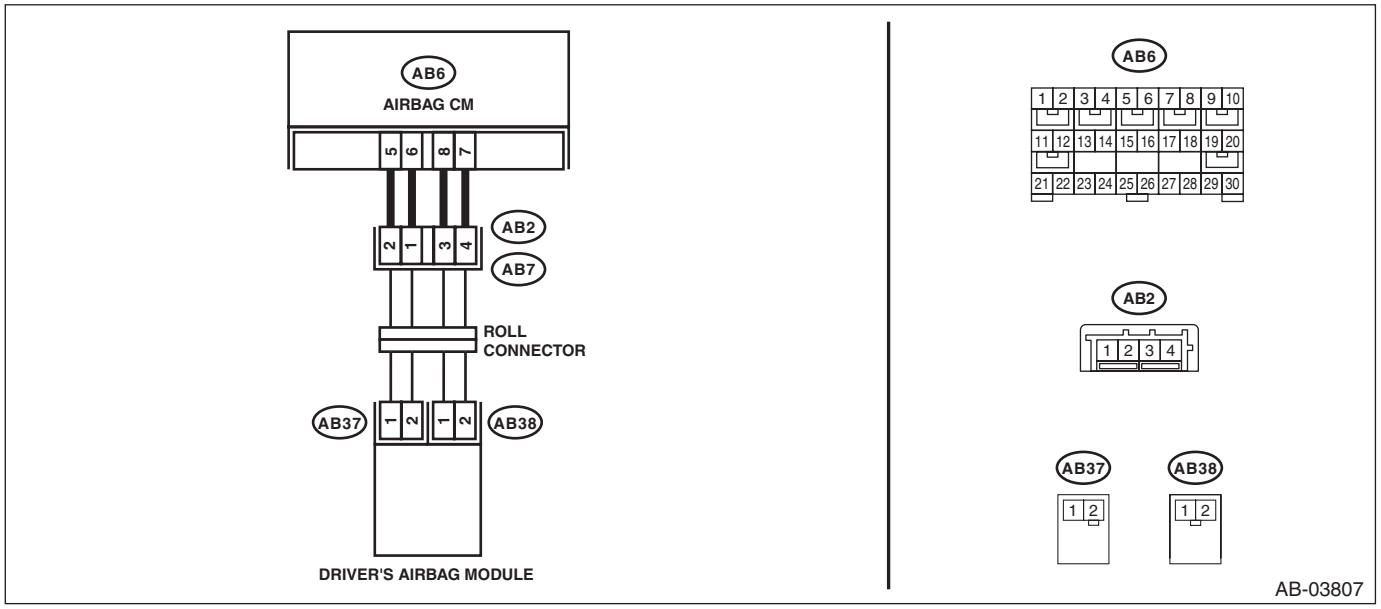
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the console front panel and disconnect the connector (AB9). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the airbag resistor from the connector (2N) in test harness N. 5) Disconnect the airbag resistor from the connector (2Q) of test harness Q. 6) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 7) 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-93, Roll Connector.>

	Step	Check	Yes	No
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-66, 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.

CL: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:

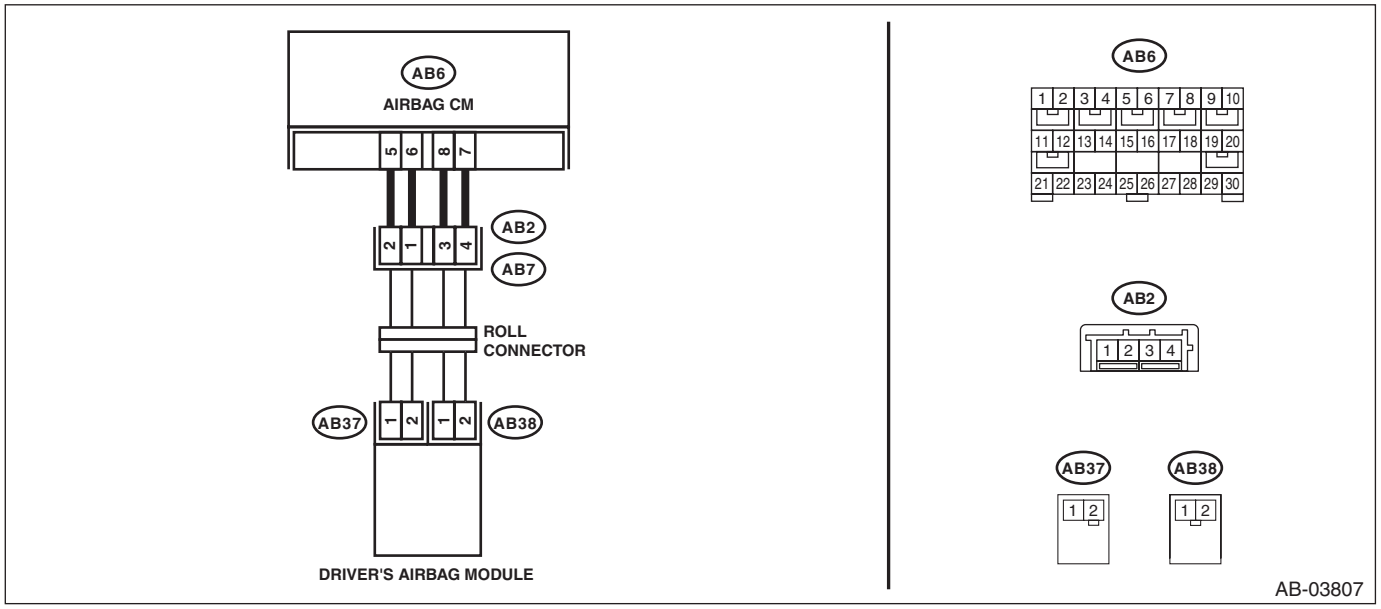
Before performing diagnosis, refer to "CAUTION" in "General Description". <Ref. to AB(diag)-4, CAUTION, General Description.>

NOTE:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 5) 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-93, Roll Connector.>

	Step	Check	Yes	No
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: Except for XV 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-66, 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.

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

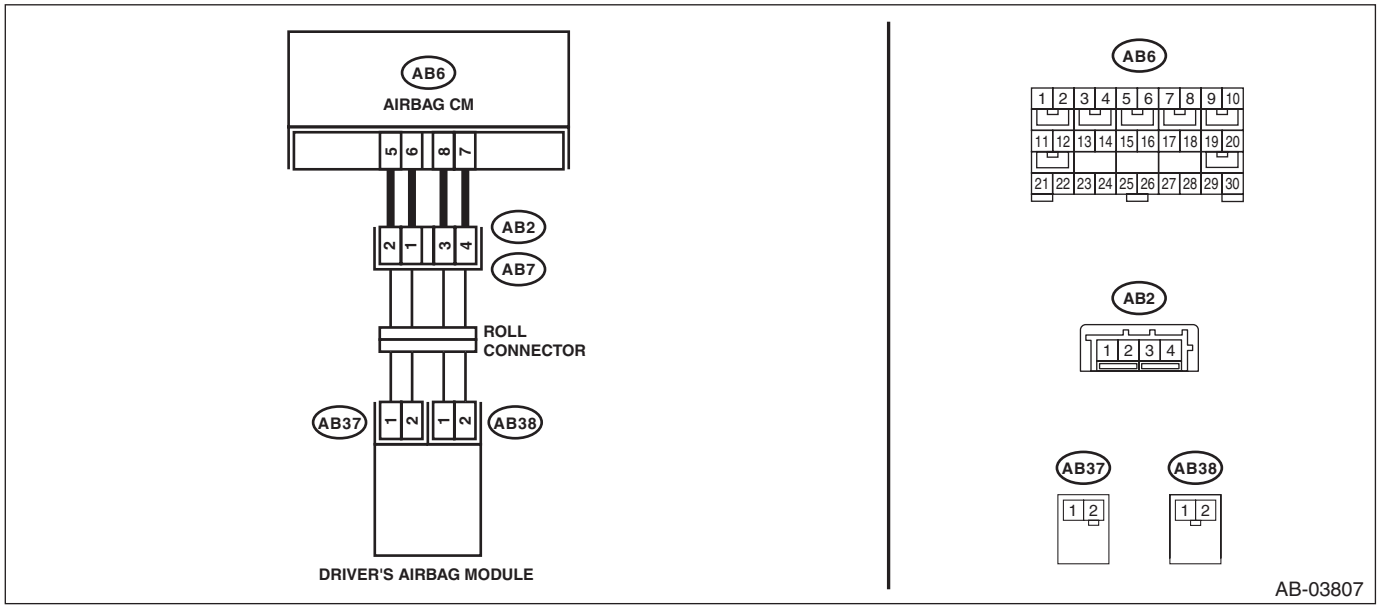
DTC DETECTING CONDITION:

- 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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-32, Driver's Airbag Module.>	Go to step **3**.
3	**CHECK ROLL CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the airbag resistor from the connector (2N) in test harness N and from the connector (2Q) in test harness Q. 5) 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-93, Roll Connector.>

	Step	Check	Yes	No
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: Except for XV 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-66, 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.

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

DTC DETECTING CONDITION:

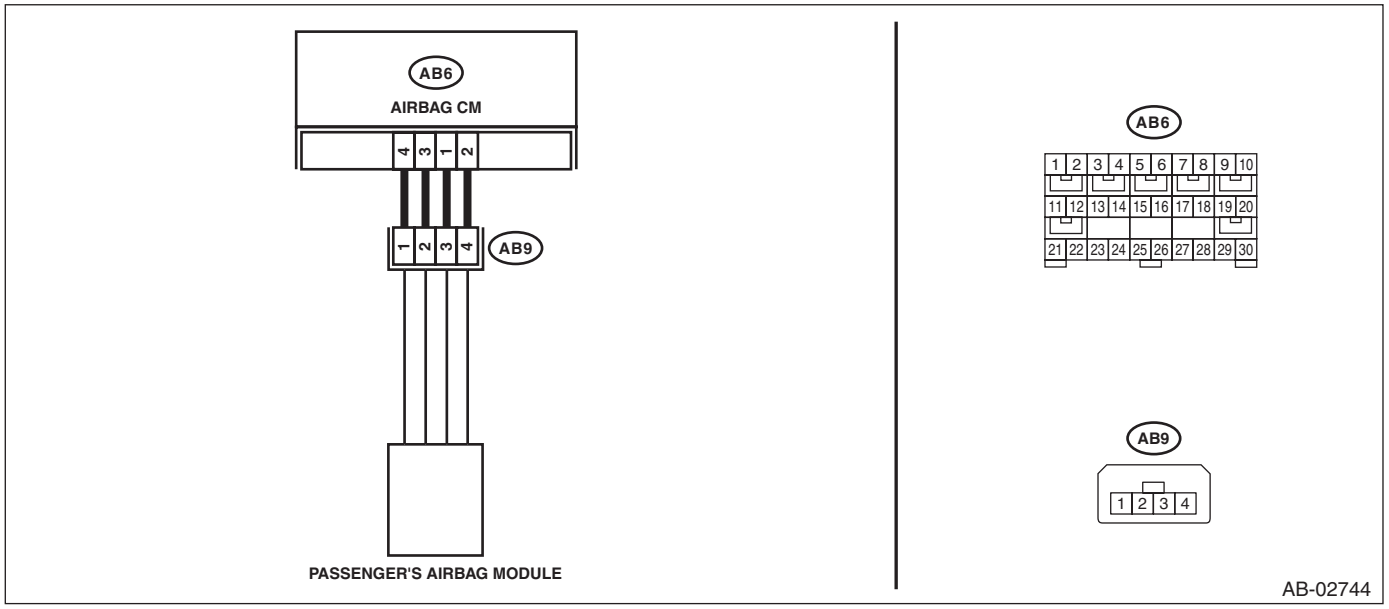
- Airbag main harness circuit is shorted.
- Airbag module harness circuit (passenger's side) is shorted.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, connect the connector (1AG) in the test harness AG, and release the short mechanism of the connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect the connectors (AB6, AB17, AB18) and the connector (1AH) in the test harness AH. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the resistance between the terminals of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the resistance, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 3 — (AB9) No. 4:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG CONTROL MODULE.** 1) Disconnect the test harness AG and test harness AH from the connectors (AB6, AB17, AB18). 2) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 3) Connect the connectors (AB7) and (AB2). 4) Connect the connector (AB66) to the driver's knee airbag module. 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Perform the Inspection Mode. 7) Read the DTC. (Current malfunction)	Is DTC B1815 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Connect the passenger's airbag module connector (AB9). 3) Connect the battery ground terminal and turn the ignition switch to ON. 4) Perform the Inspection Mode. 5) Read the DTC. (Current malfunction)	Is DTC B1815 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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 B1816 OPEN IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP

DTC DETECTING CONDITION:

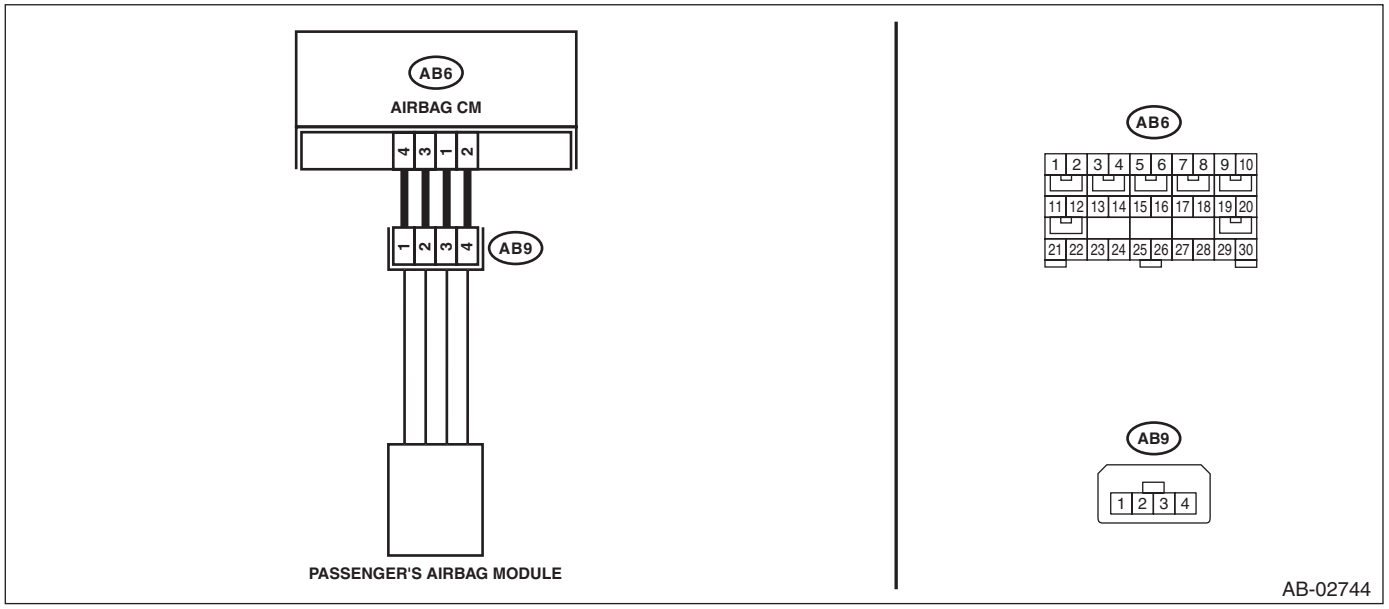
- Airbag main harness circuit is open.
- Airbag module harness (passenger's side) circuit is open.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the resistance between the terminals of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the resistance, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 3 — (AB9) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG CONTROL MODULE.** 1) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 2) Connect the connectors (AB7) and (AB2). 3) Connect the connector (AB66) to the driver's knee airbag module. 4) Using a probe, short the terminals No. 3 and No. 4 of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When shorting the terminals, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 3 — (AB9) No. 4:*** 5) Connect the battery ground terminal and turn the ignition switch to ON. 6) Perform the Inspection Mode. 7) Read the DTC. (Current malfunction)	Is DTC B1816 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Connect the passenger's airbag module connector (AB9). 3) Connect the battery ground terminal and turn the ignition switch to ON. 4) Perform the Inspection Mode. 5) Read the DTC. (Current malfunction)	Is DTC B1816 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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 B1817 SHORT IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP (TO GROUND)

DTC DETECTING CONDITION:

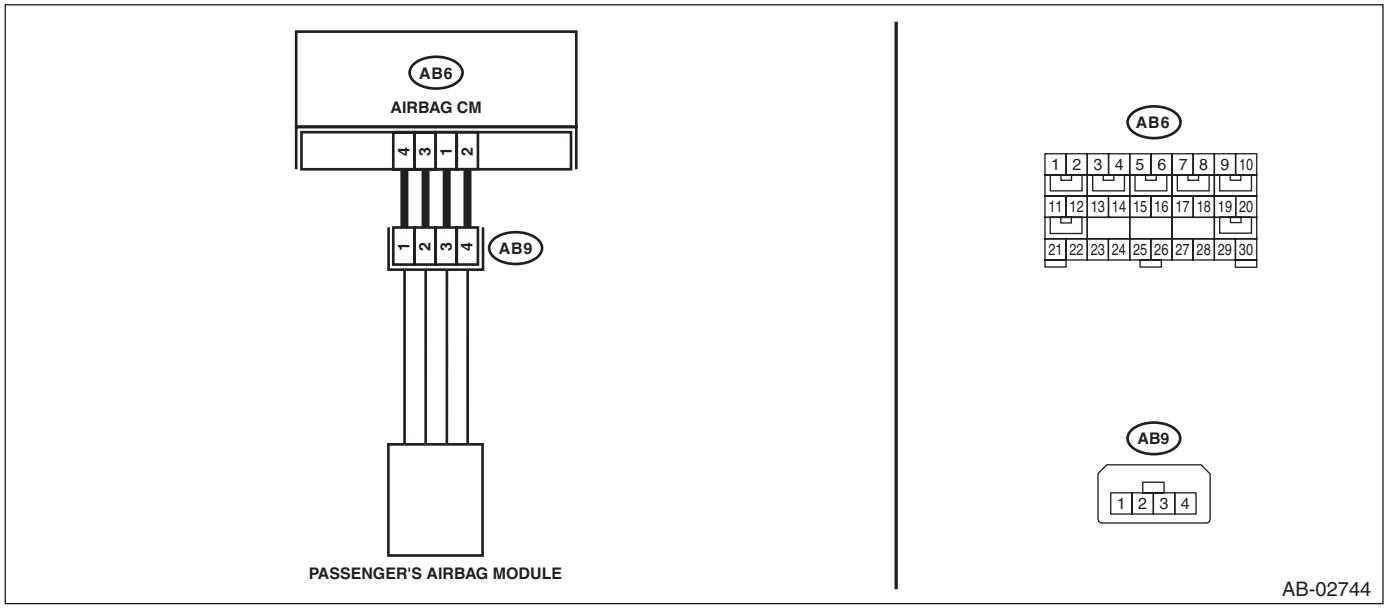
- Airbag main harness circuit is shorted to ground.
- Airbag module harness (passenger's side) circuit is shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the resistance between the connector (AB9) and chassis ground. <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the resistance, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 3 — Chassis ground:*** ***(AB9) No. 4 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **3**.	Replace the airbag main harness along with body harness.
3	**CHECK AIRBAG CONTROL MODULE.** 1) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 2) Using a probe, short the terminals No. 3 and No. 4 of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When shorting the terminals, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 3 — (AB9) No. 4:*** 3) Connect the battery ground terminal and turn the ignition switch to ON. 4) Perform the Inspection Mode. 5) Read the DTC. (Current malfunction)	Is DTC B1817 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Release the short circuit of connector (AB9). 3) Connect the passenger's airbag module connector (AB9). 4) Connect the connectors (AB7) and (AB2). 5) Connect the connector (AB66) to the driver's knee airbag module. 6) Connect the battery ground terminal and turn the ignition switch to ON. 7) Perform the Inspection Mode. 8) Read the DTC. (Current malfunction)	Is DTC B1817 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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 B1818 SHORT IN PASSENGER'S AIRBAG DUAL STAGE - 2ND STEP CIRCUIT (TO +B)

DTC DETECTING CONDITION:

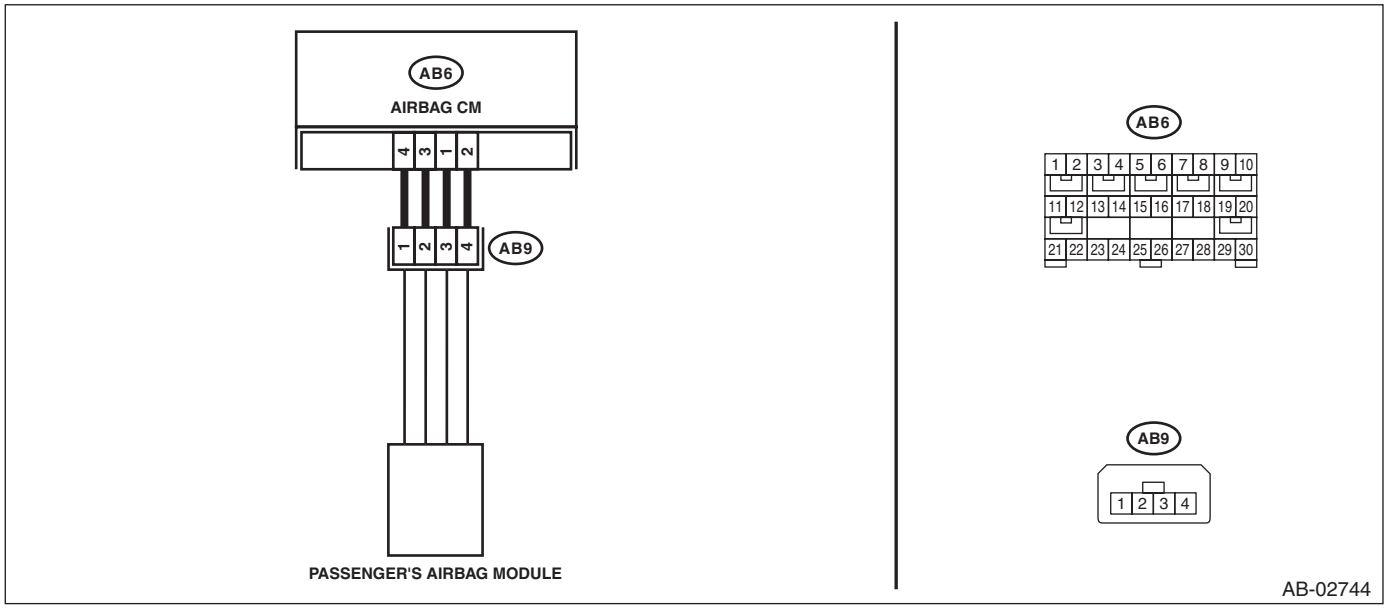
- Airbag main harness circuit is shorted to power supply.
- Airbag module harness (passenger's side) circuit is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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**.

	Step	Check	Yes	No
2	**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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB7) and (AB2). 3) Disconnect the connector (AB66) from the driver's knee airbag module. 4) Disconnect the connectors (AB6, AB17, AB18) from airbag control module. 5) Disconnect the passenger's airbag module connector (AB9). 6) Using a probe, measure the voltage between the connector (AB9) and chassis ground. <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When measuring the voltage, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 3 (+) — Chassis ground (–):*** ***(AB9) No. 4 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **3**.	Replace the airbag main harness along with body harness.

	Step	Check	Yes	No
3	**CHECK AIRBAG CONTROL MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Connect the connectors (AB6, AB17, AB18) and the airbag control module. 3) Using a probe, short the terminals No. 3 and No. 4 of connector (AB9). <Ref. to AB(diag)-16, HOW TO USE PROBE, PREPARATION TOOL, General Description.> **CAUTION:** **When shorting the terminals, make sure that the probe is inserted from the back side (harness side) of the connector. Also, do not insert the probe forcibly.** ***Connector & terminal*** ***(AB9) No. 3 — (AB9) No. 4:*** 4) Connect the battery ground terminal and turn the ignition switch to ON. 5) Perform the Inspection Mode. 6) Read the DTC. (Current malfunction)	Is DTC B1818 displayed?	Replace the airbag control module. <Ref. to AB-66, REMOVAL, Airbag Control Module.>	Go to step **4**.
4	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Release the short circuit of connector (AB9). 3) Connect the passenger's airbag module connector (AB9). 4) Connect the connectors (AB7) and (AB2). 5) Connect the connector (AB66) to the driver's knee airbag module. 6) Connect the battery ground terminal and turn the ignition switch to ON. 7) Perform the Inspection Mode. 8) Read the DTC. (Current malfunction)	Is DTC B1818 displayed?	Replace the passenger's airbag module. <Ref. to AB-37, REMOVAL, Passenger's Airbag 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 B1820 SHORT IN SIDE AIRBAG RH

DTC DETECTING CONDITION:

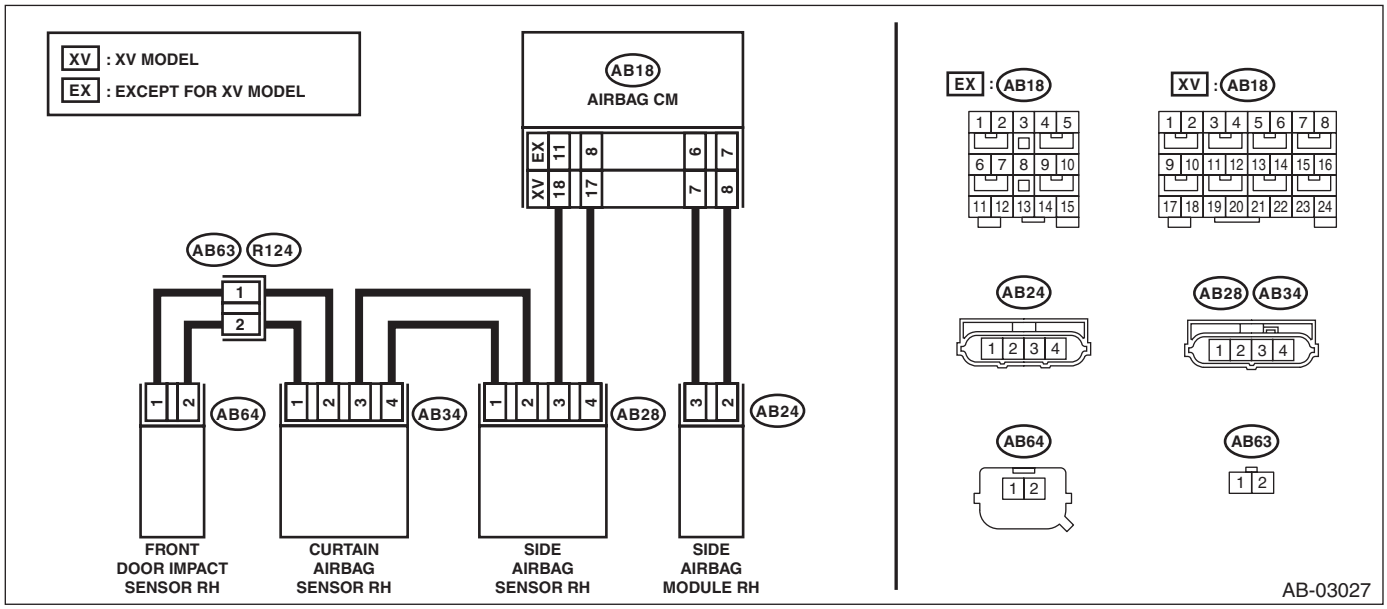
- Side airbag harness (RH) circuit is shorted.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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 — (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-66, 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 B1821 OPEN IN SIDE AIRBAG RH

DTC DETECTING CONDITION:

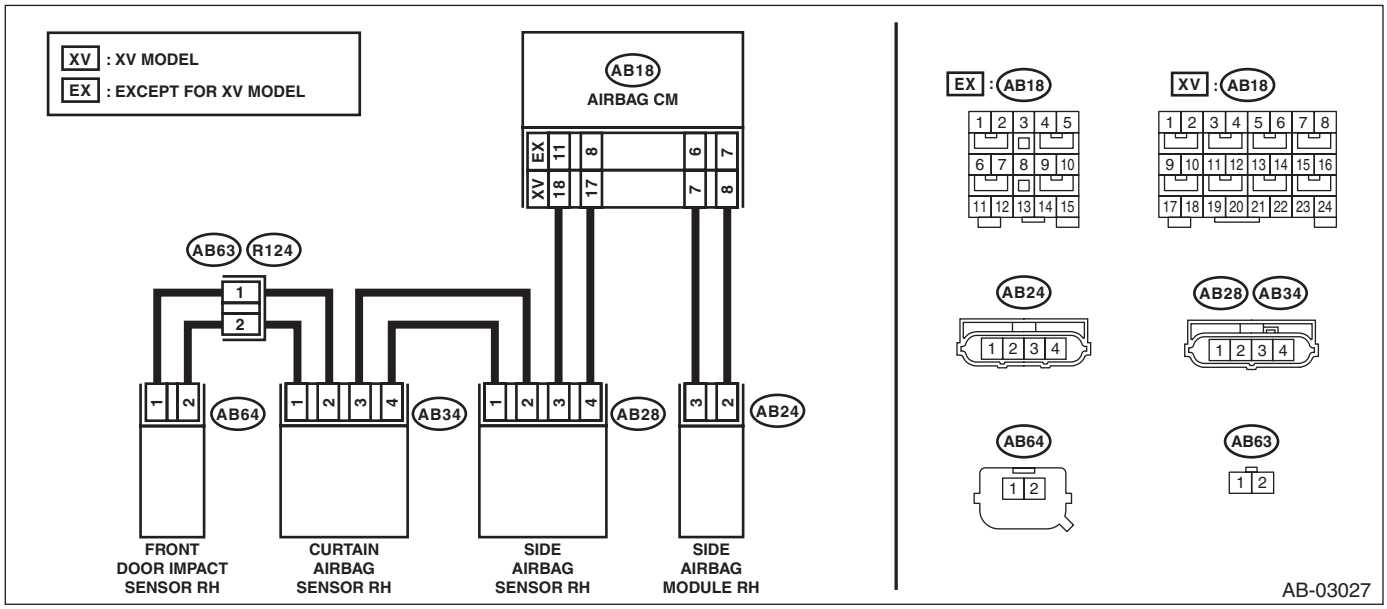
- Side airbag harness (RH) circuit is open.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 7) Measure the resistance between connector in the test harness AG and connector in the test harness AJ. ***Connector & terminal*** ***XV model*** ***(5AG) No. 5 — (3AJ) No. 1:*** ***(5AG) No. 7 — (3AJ) No. 2:*** ***Except for XV model*** ***(4AG) No. 11 — (3AJ) No. 1:*** ***(4AG) No. 13 — (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-66, 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 B1822 SHORT IN SIDE AIRBAG RH (TO GROUND)

DTC DETECTING CONDITION:

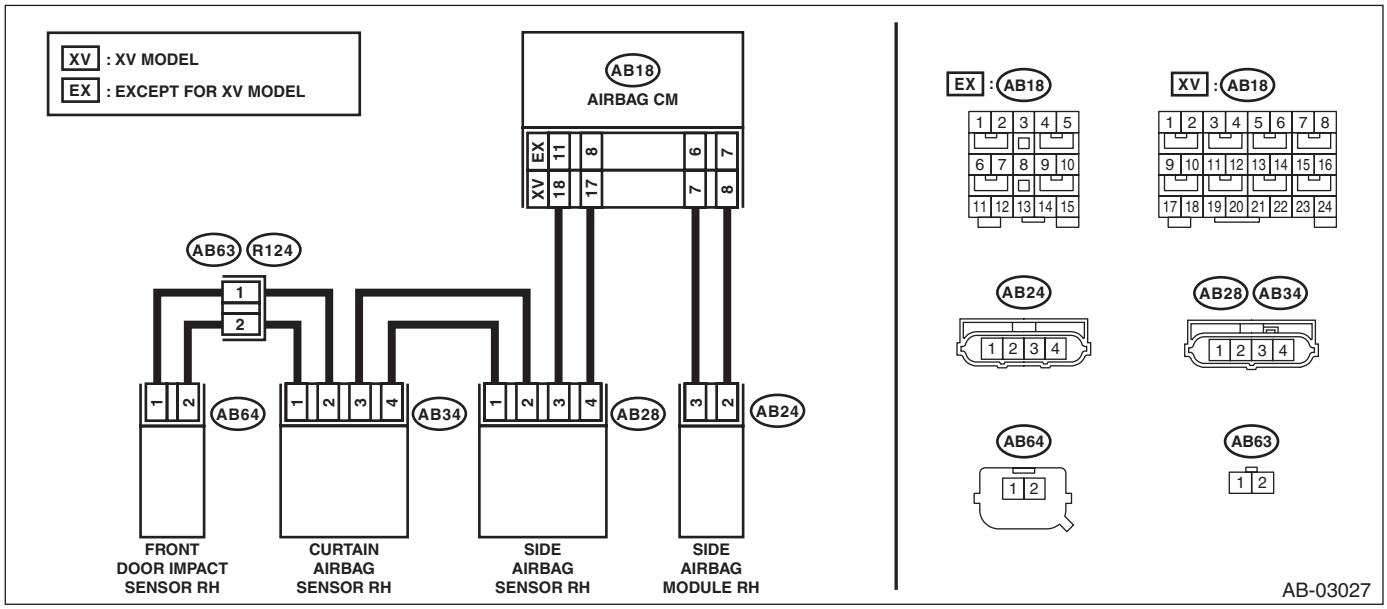
- Side airbag harness (RH) circuit is shorted to ground.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1823 SHORT IN SIDE AIRBAG RH (TO +B)

DTC DETECTING CONDITION:

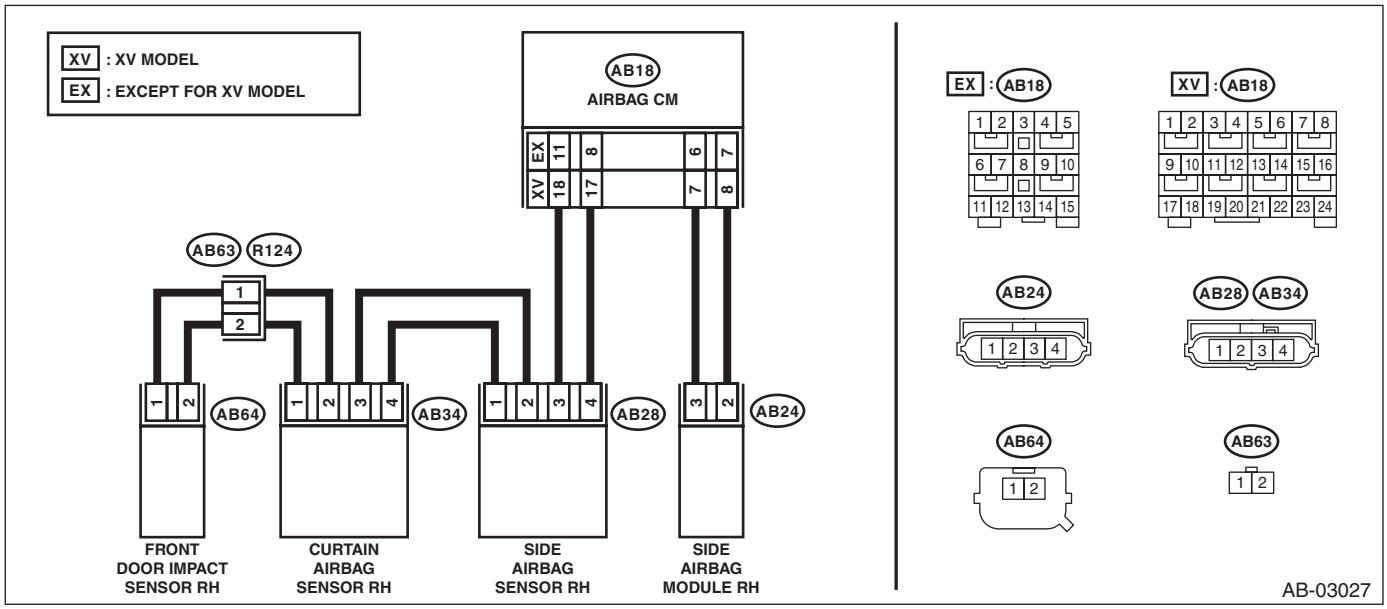
- Side airbag harness (RH) is shorted to power supply.
- Side airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1825 SHORT IN SIDE AIRBAG LH

DTC DETECTING CONDITION:

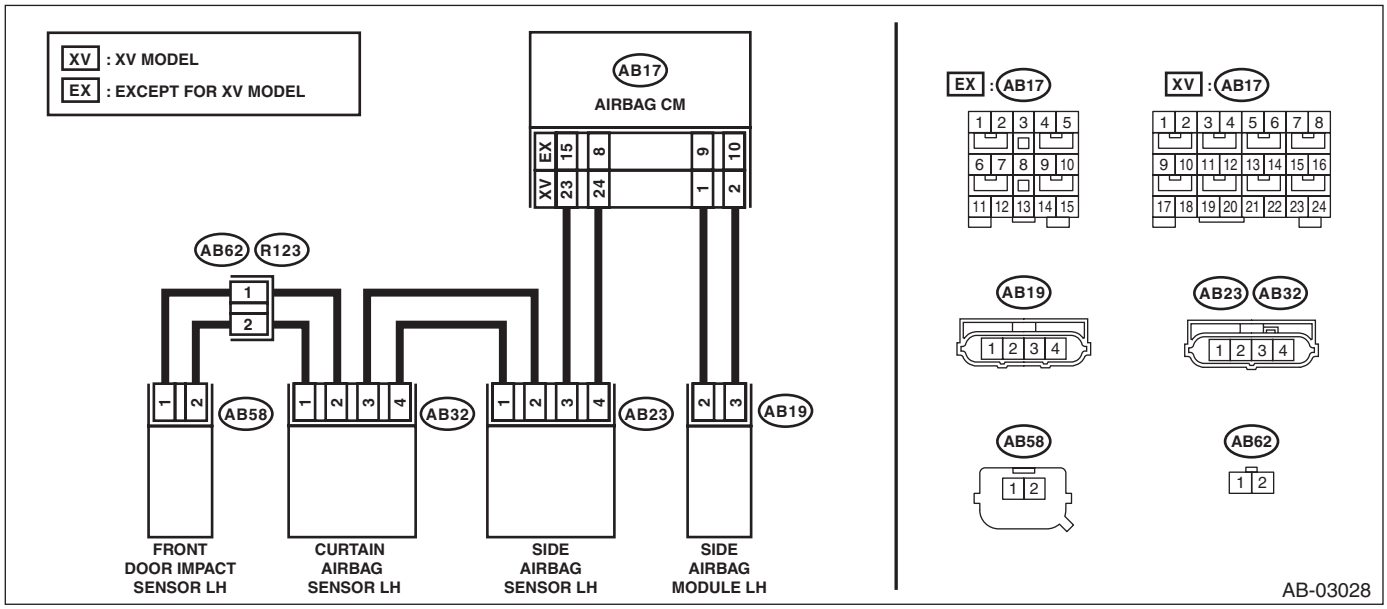
- Side airbag harness (LH) circuit is shorted.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1826 OPEN IN SIDE AIRBAG LH

DTC DETECTING CONDITION:

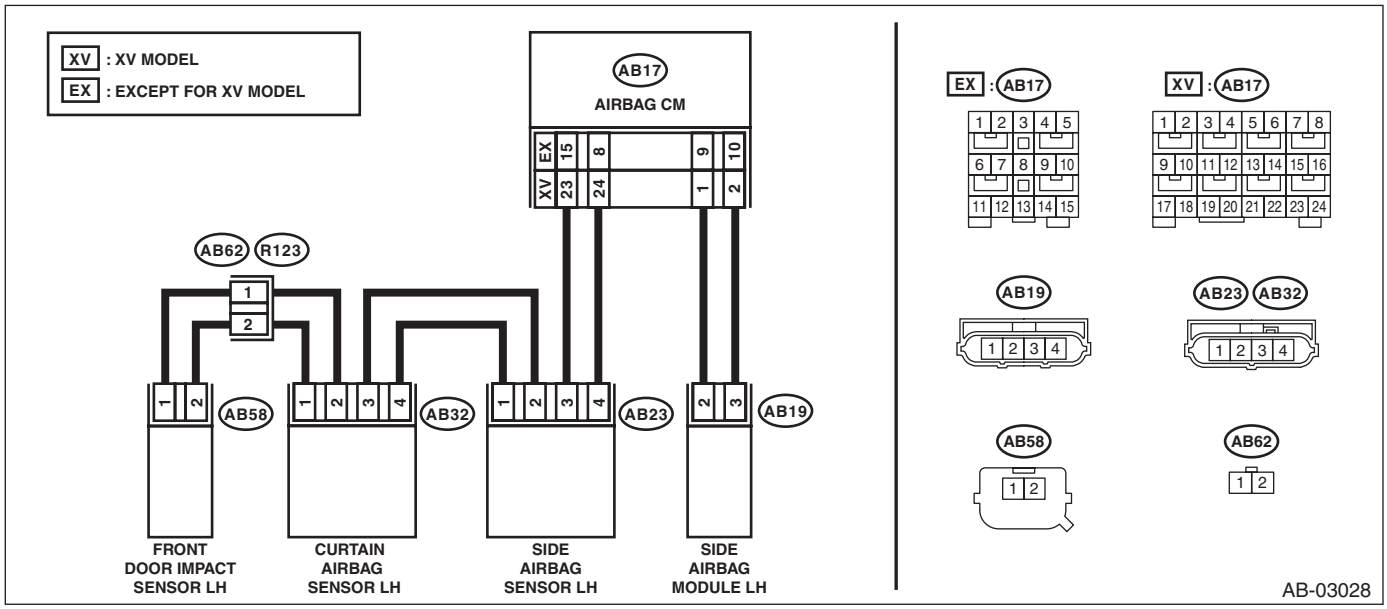
- Side airbag harness (LH) circuit is open.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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*** ***XV model*** ***(5AG) No. 1 — (3AJ) No. 2:*** ***(5AG) No. 3 — (3AJ) No. 1:*** ***Except for XV model*** ***(4AG) No. 8 — (3AJ) No. 2:*** ***(4AG) No. 10 — (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-66, 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 B1827 SHORT IN SIDE AIRBAG LH (TO GROUND)

DTC DETECTING CONDITION:

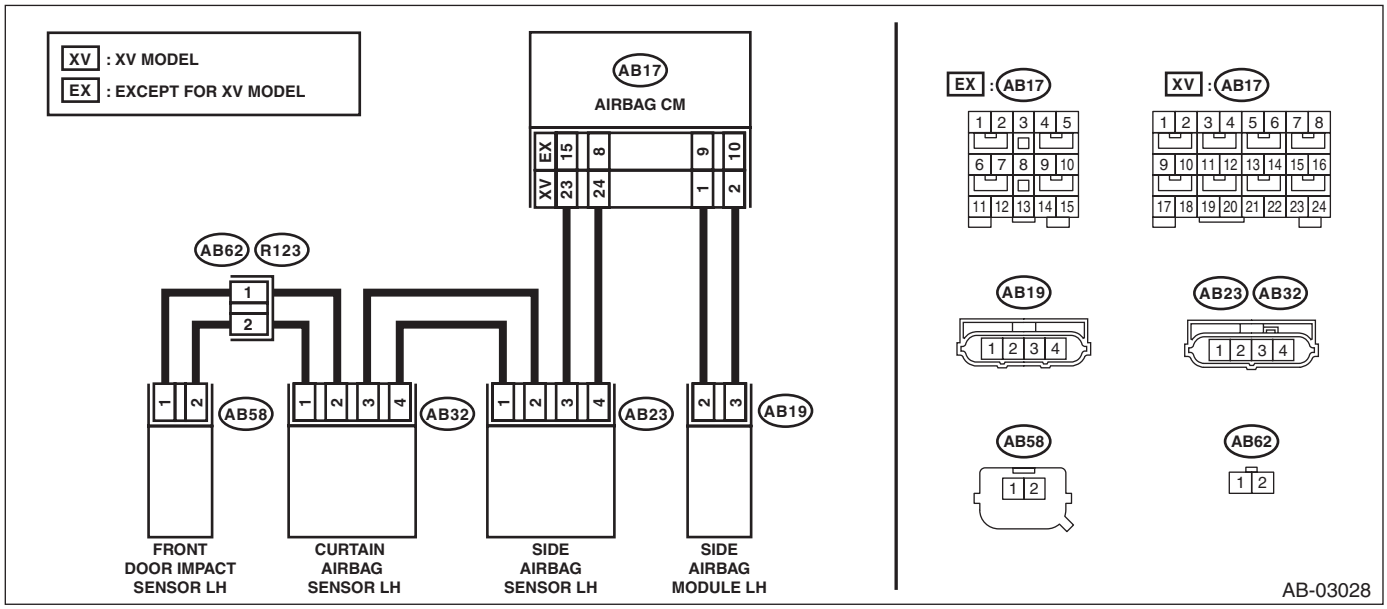
- Side airbag harness (LH) circuit is shorted to ground.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1828 SHORT IN SIDE AIRBAG LH (TO +B)

DTC DETECTING CONDITION:

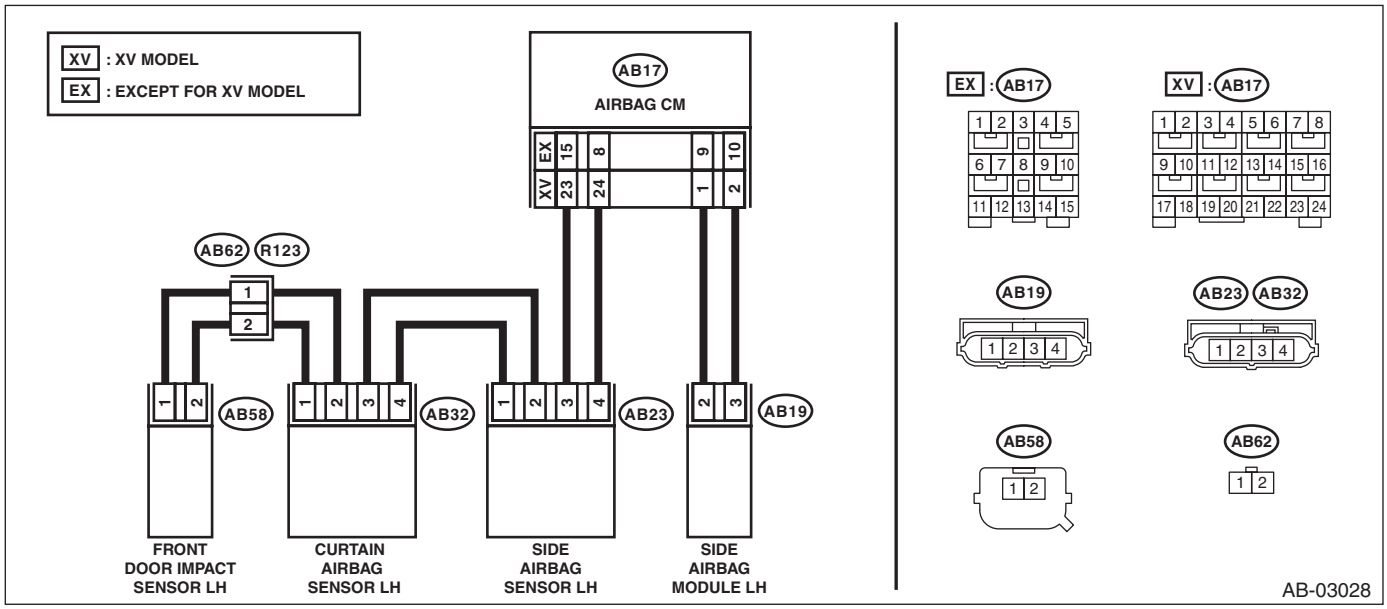
- Side airbag harness (LH) is shorted to power supply.
- Side airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-54, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1830 SHORT IN CURTAIN AIRBAG RH SQUIB CIRCUIT

DTC DETECTING CONDITION:

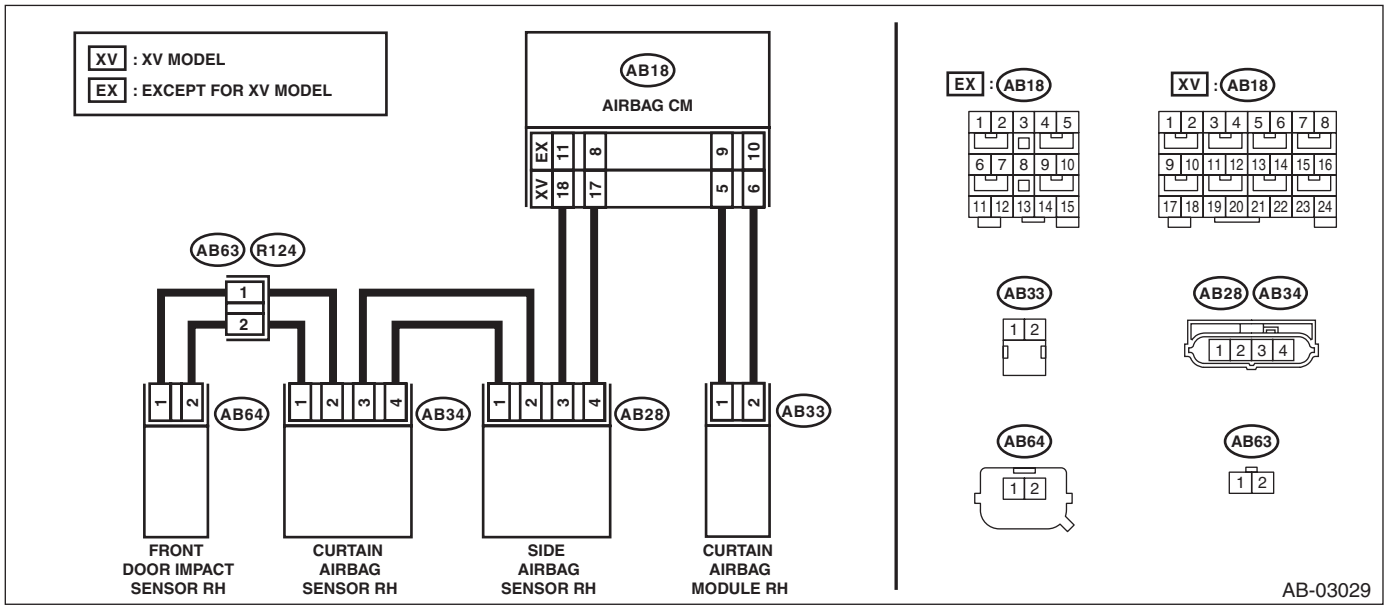
- Curtain airbag harness (RH) circuit is shorted.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1831 OPEN IN CURTAIN AIRBAG RH SQUIB CIRCUIT

DTC DETECTING CONDITION:

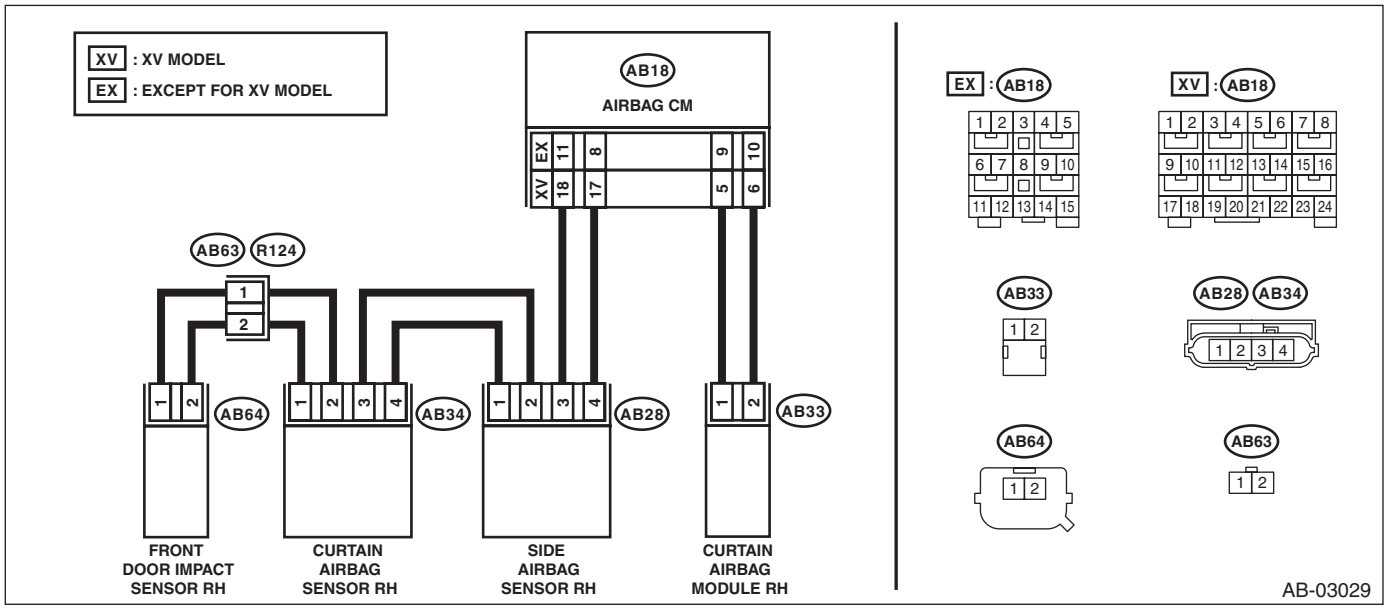
- Curtain airbag harness (RH) circuit is open.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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*** ***XV model*** ***(6AG) No. 8 — (2N) No. 2:*** ***(6AG) No. 6 — (2N) No. 1:*** ***Except for XV model*** ***(5AG) No. 6 — (2N) No. 2:*** ***(5AG) 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-66, 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 B1832 SHORT IN CURTAIN AIRBAG RH SQUIB CIRCUIT (TO GROUND)

DTC DETECTING CONDITION:

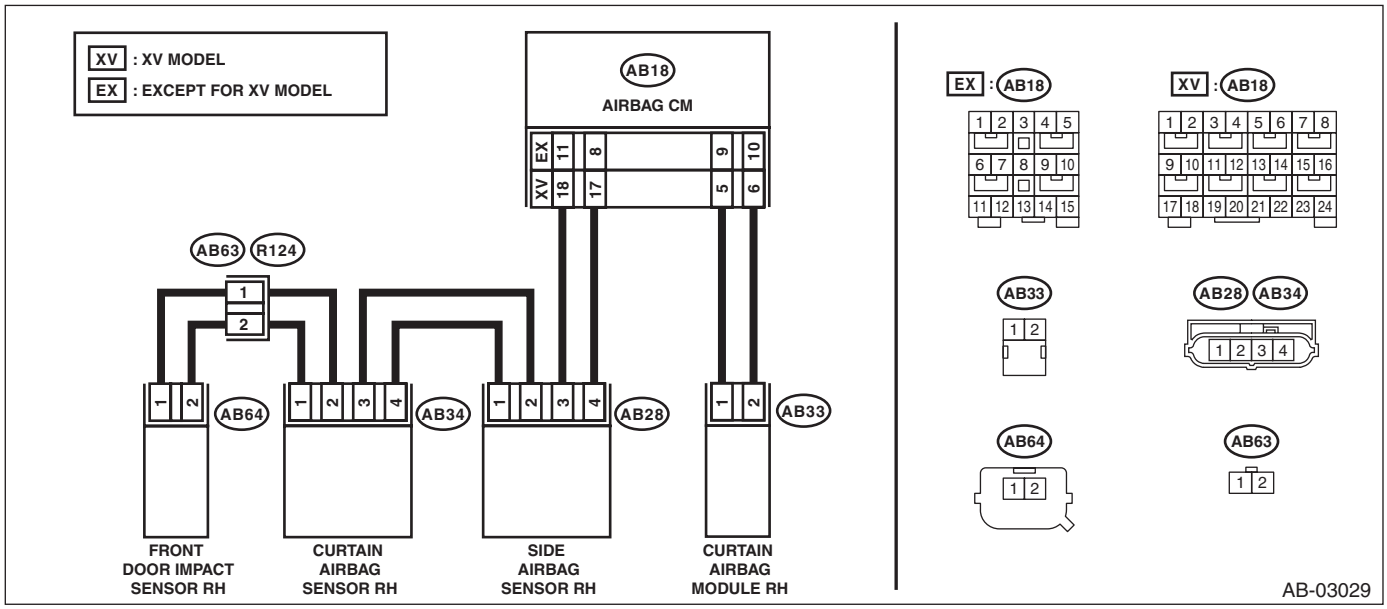
- Curtain airbag harness (RH) circuit is shorted to ground.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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 XV 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-66, 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 B1833 SHORT IN CURTAIN SHIELD AIRBAG RH SQUIB CIRCUIT (TO +B)

DTC DETECTING CONDITION:

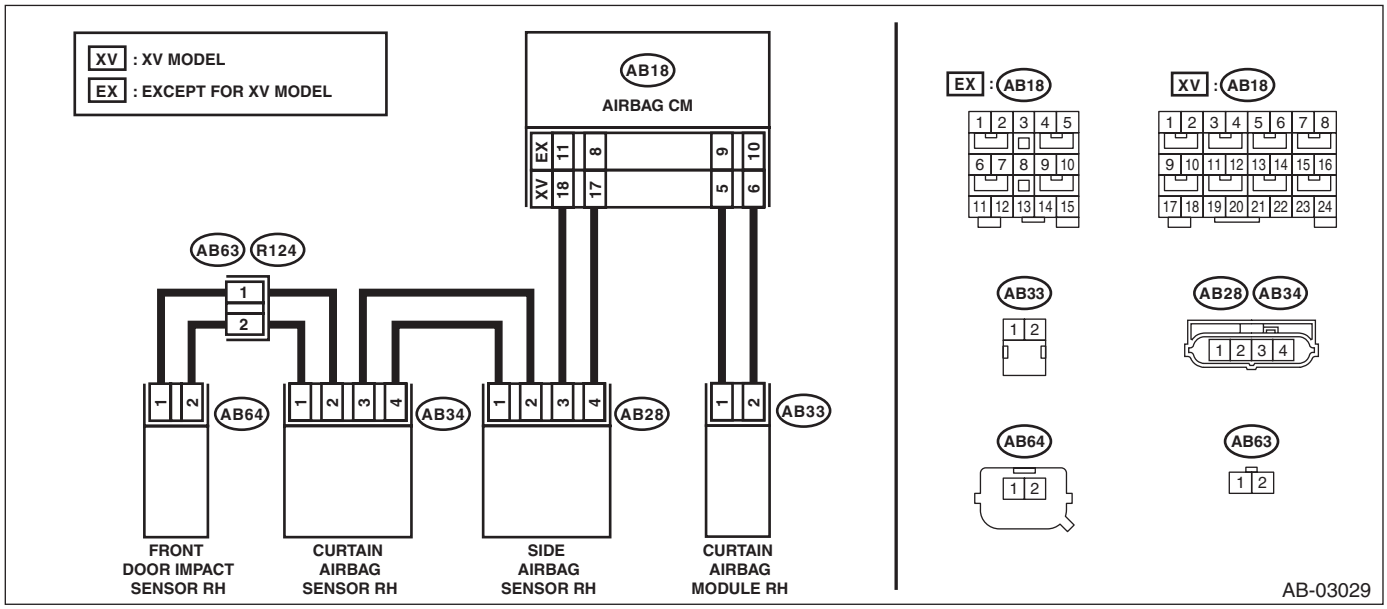
- Curtain airbag harness (RH) is shorted to power supply.
- Curtain airbag module (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1835 SHORT IN CURTAIN AIRBAG LH SQUIB CIRCUIT

DTC DETECTING CONDITION:

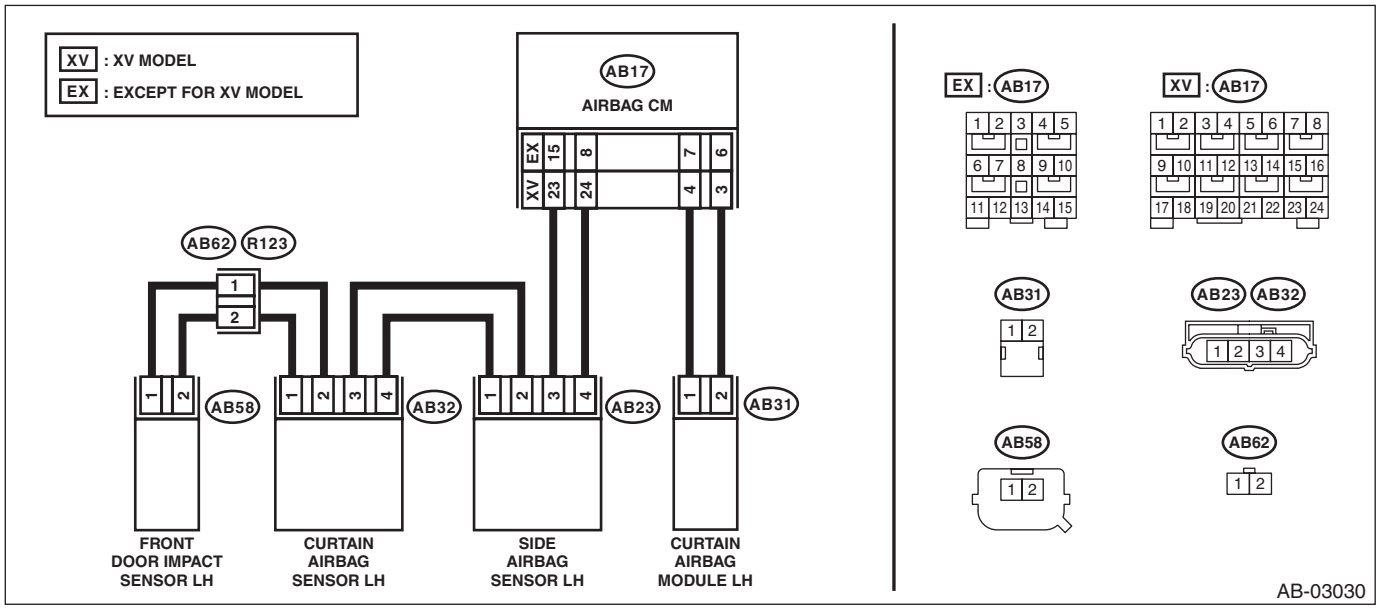
- Curtain airbag harness (LH) circuit is shorted.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1836 OPEN IN CURTAIN AIRBAG LH SQUIB CIRCUIT

DTC DETECTING CONDITION:

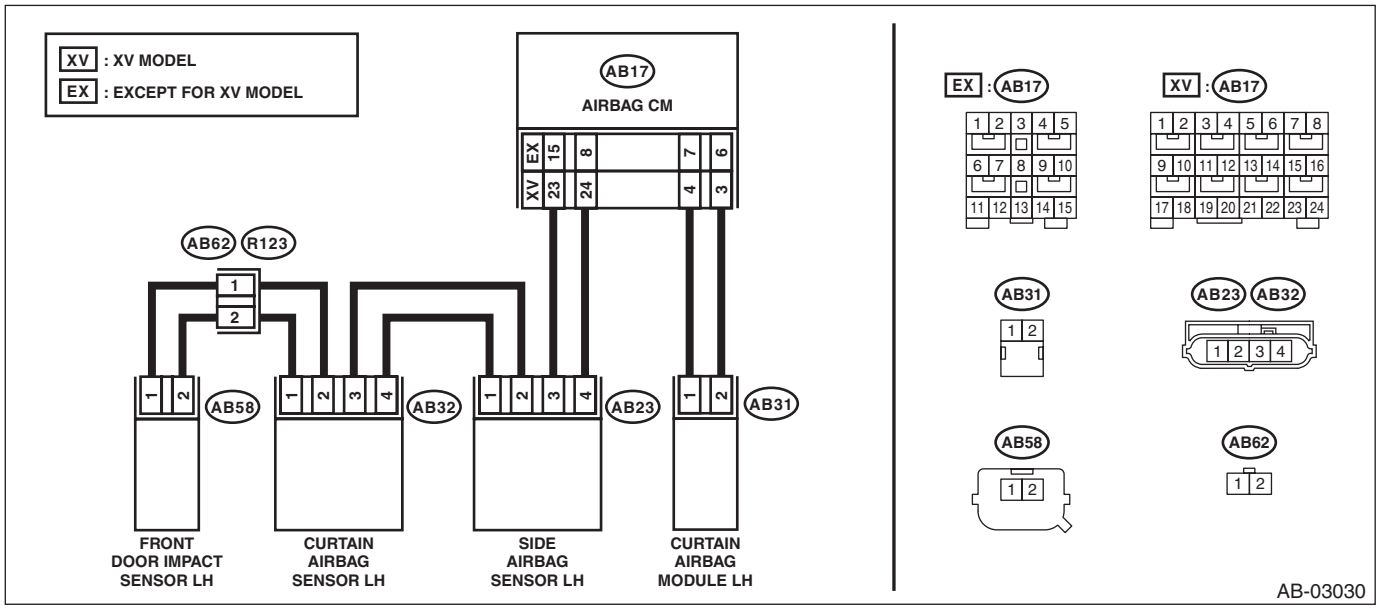
- Curtain airbag harness (LH) circuit is open.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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*** ***XV model*** ***(6AG) No. 1 — (2N) No. 2:*** ***(6AG) No. 3 — (2N) No. 1:*** ***Except for XV model*** ***(5AG) No. 2 — (2N) No. 2:*** ***(5AG) No. 4 — (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-66, 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 B1837 SHORT IN CURTAIN AIRBAG LH SQUIB CIRCUIT (TO GROUND)

DTC DETECTING CONDITION:

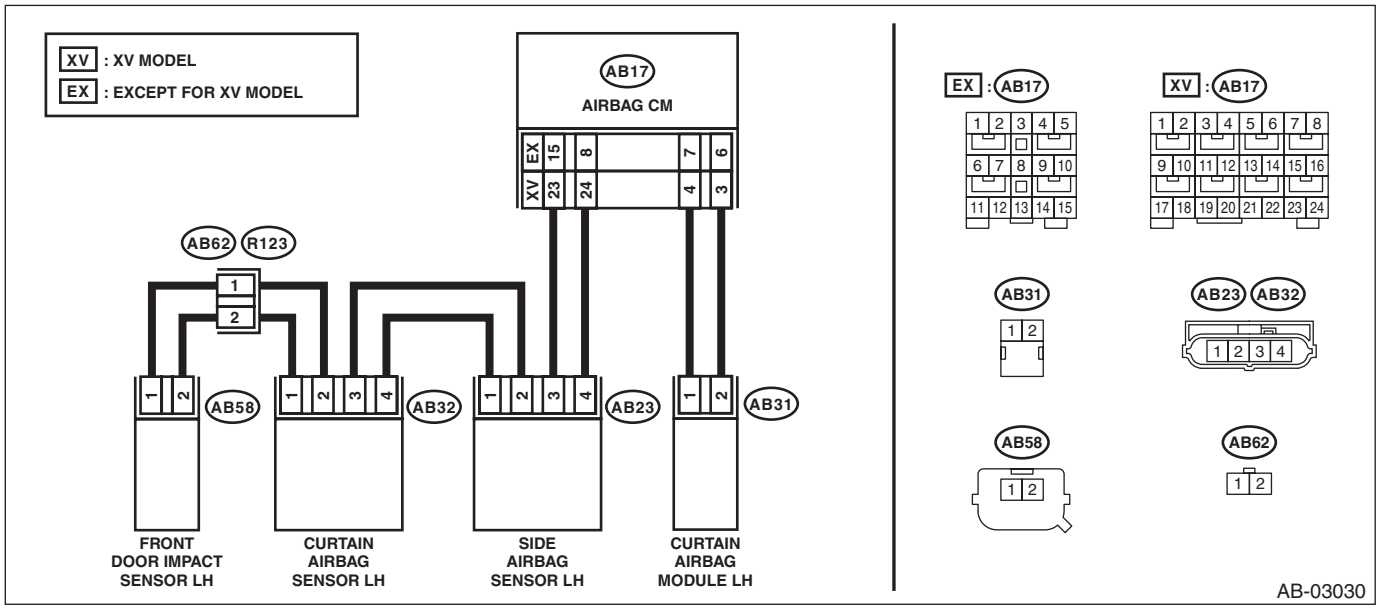
- Curtain airbag harness (LH) circuit is shorted to ground.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1838 SHORT IN CURTAIN SHIELD AIRBAG LH SQUIB CIRCUIT (TO +B)

DTC DETECTING CONDITION:

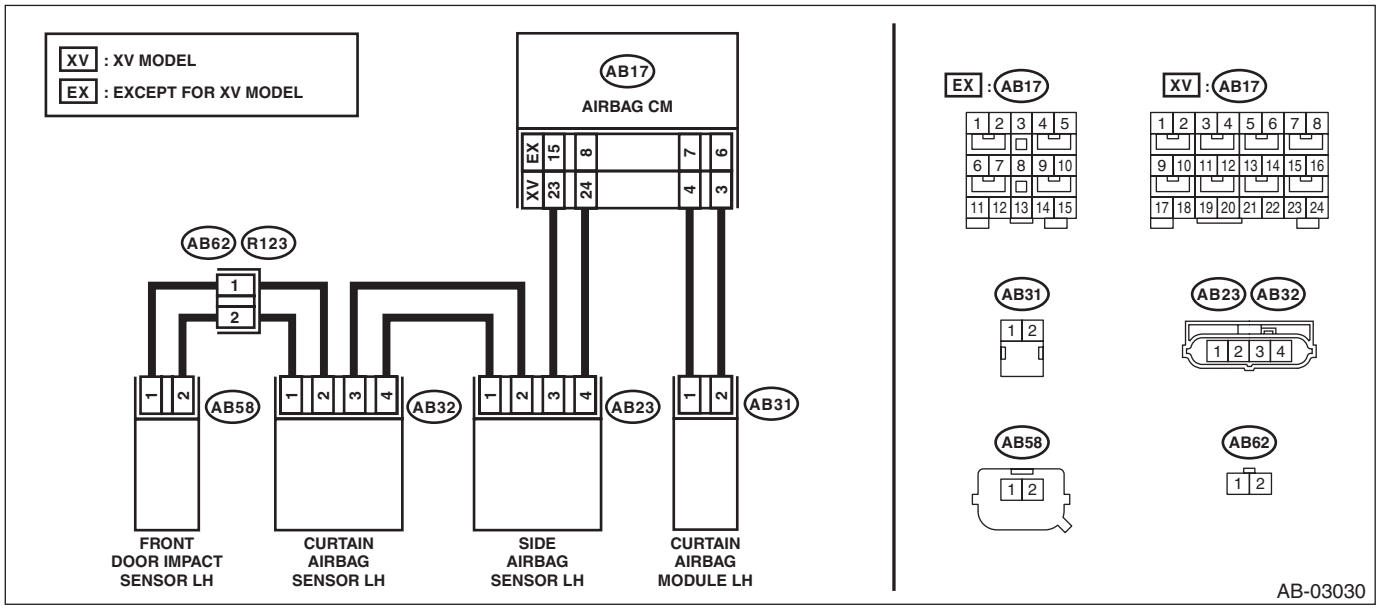
- Curtain airbag harness (LH) is shorted to power supply.
- Curtain airbag module (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-62, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1860 SHORT IN DRIVER'S KNEE AIRBAG

DTC DETECTING CONDITION:

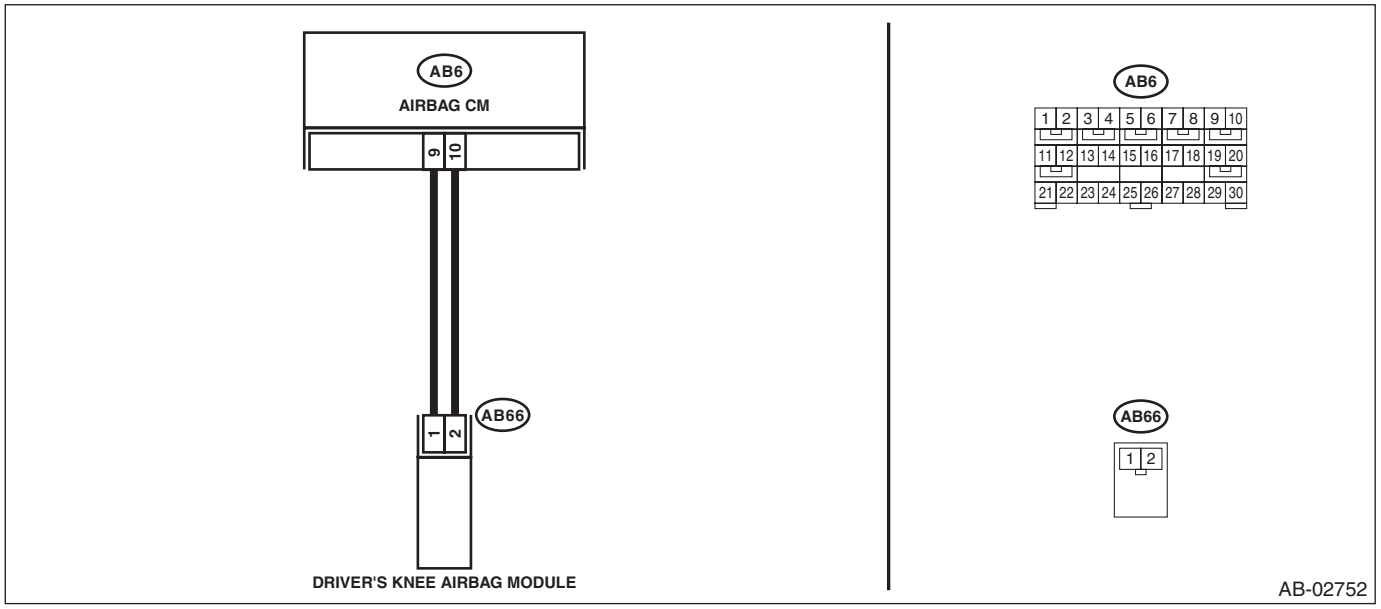
- Airbag main harness circuit is shorted.
- Knee airbag module harness circuit is shorted.
- Knee airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 knee airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK KNEE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB66) from knee airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB66). 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 knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (KNEE AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Remove the console front panel and disconnect the connector (AB9). 5) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG to connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) Measure the resistance between connector (3AG) terminals in test harness AG. ***Connector & terminal*** ***(3AG) No. 14 — (3AG) No. 16:***	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 airbag control module. <Ref. to AB-66, 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 B1861 OPEN IN DRIVER'S KNEE AIRBAG

DTC DETECTING CONDITION:

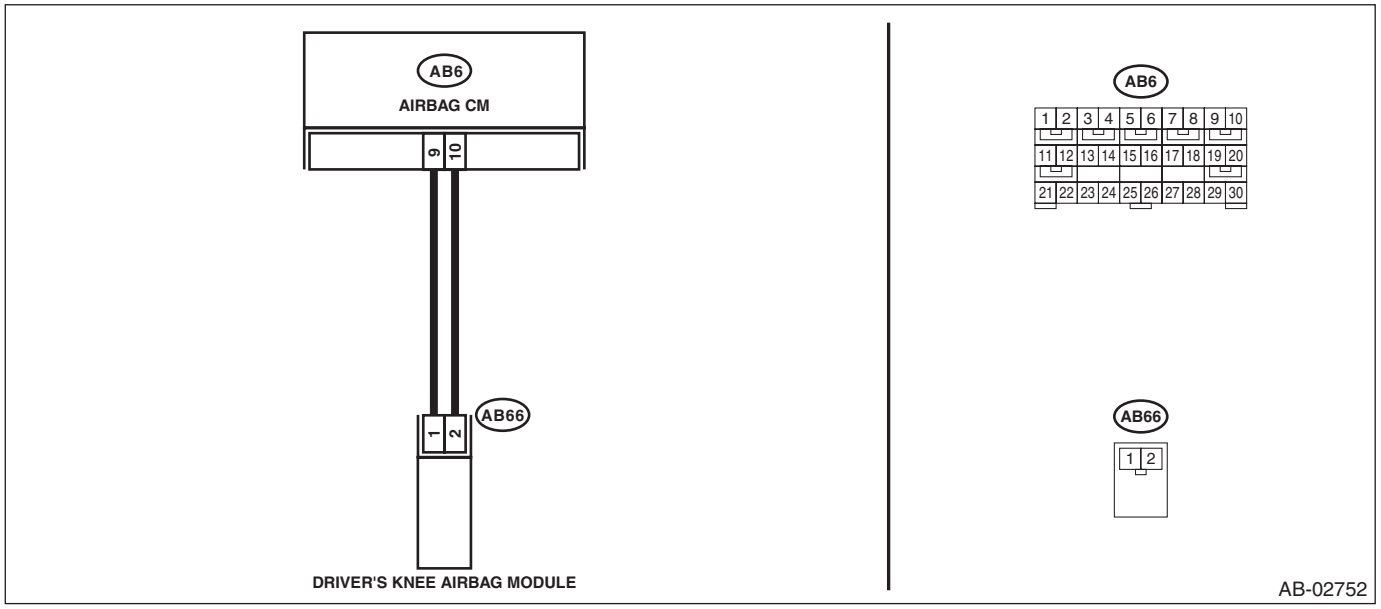
- Airbag main harness circuit is open.
- Knee airbag module harness circuit is open.
- Knee airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 knee airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK KNEE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB66) from knee airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB66). 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 knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (KNEE AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Remove the console front panel and disconnect the connector (AB9). 5) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG to connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) Measure the resistance between connector (3AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(3AG) No. 14 — (2N) No. 1:*** ***(3AG) No. 16 — (2N) 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. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-66, 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 B1862 SHORT IN DRIVER'S KNEE AIRBAG (TO GROUND)

DTC DETECTING CONDITION:

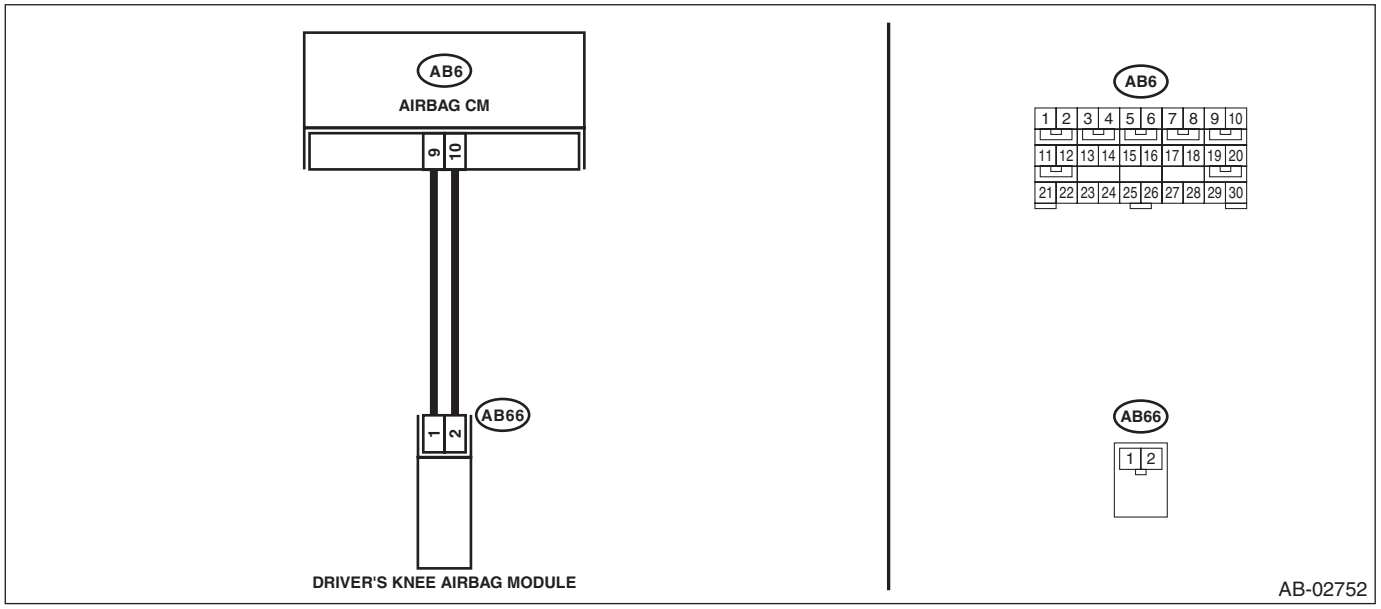
- Airbag main harness circuit is shorted to ground.
- Knee airbag module harness circuit is shorted to ground.
- Knee airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 knee airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK KNEE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB66) from knee airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB66). 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 knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (KNEE AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Remove the console front panel and disconnect the connector (AB9). 5) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG to connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) Measure the resistance between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 14 — Chassis ground:*** ***(3AG) No. 16 — 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. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-66, 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 B1863 SHORT IN DRIVER'S KNEE AIRBAG (TO +B)

DTC DETECTING CONDITION:

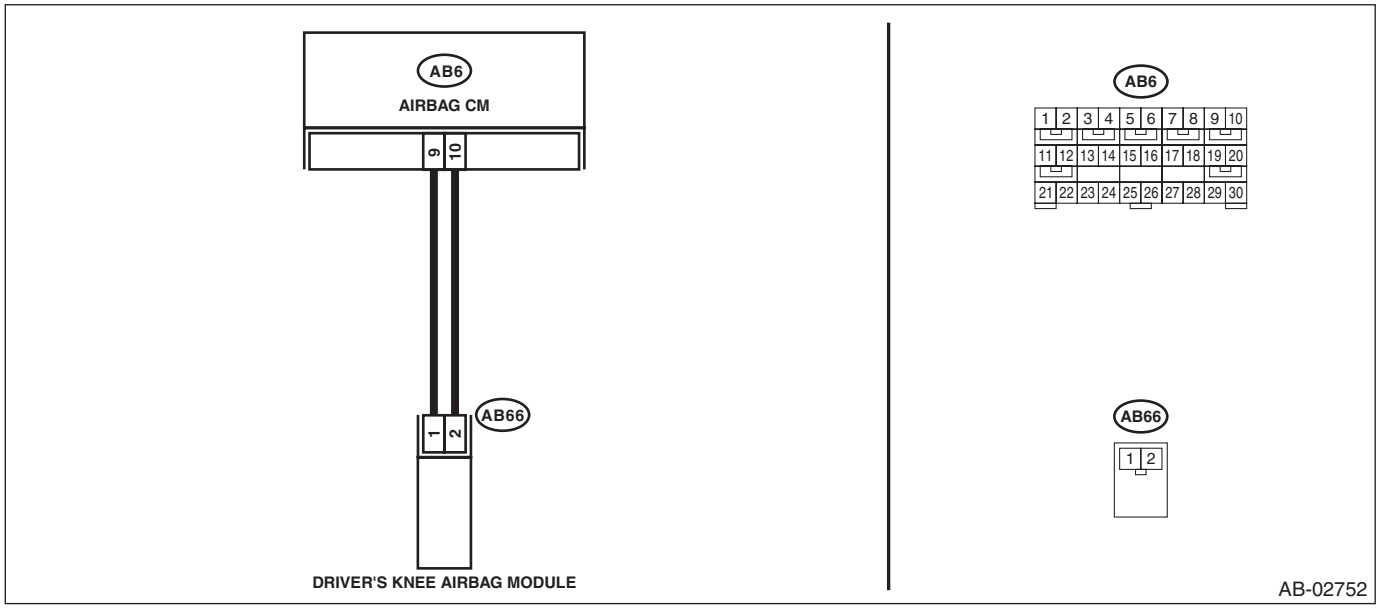
- Airbag main harness circuit is shorted to power supply.
- Knee airbag module harness circuit is shorted to power supply.
- Knee airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

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

WIRING DIAGRAM:

Airbag system <Ref. to WI(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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 knee airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK KNEE AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB66) from knee airbag module. 3) Connect the connector (1N) in the test harness N to the connector (AB66). 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 knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG MAIN HARNESS (KNEE AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 3) Remove the instrument panel lower cover and column cover, and disconnect the connector (AB7) from (AB2). 4) Remove the console front panel and disconnect the connector (AB9). 5) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG. NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 6) Connect the battery ground terminal and turn the ignition switch to ON. 7) Measure the voltage between connector (3AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***(3AG) No. 14 (+) — Chassis ground (–):*** ***(3AG) No. 16 (+) — 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. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-66, 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 B1900 SHORT IN FRONT P/T RH

DTC DETECTING CONDITION:

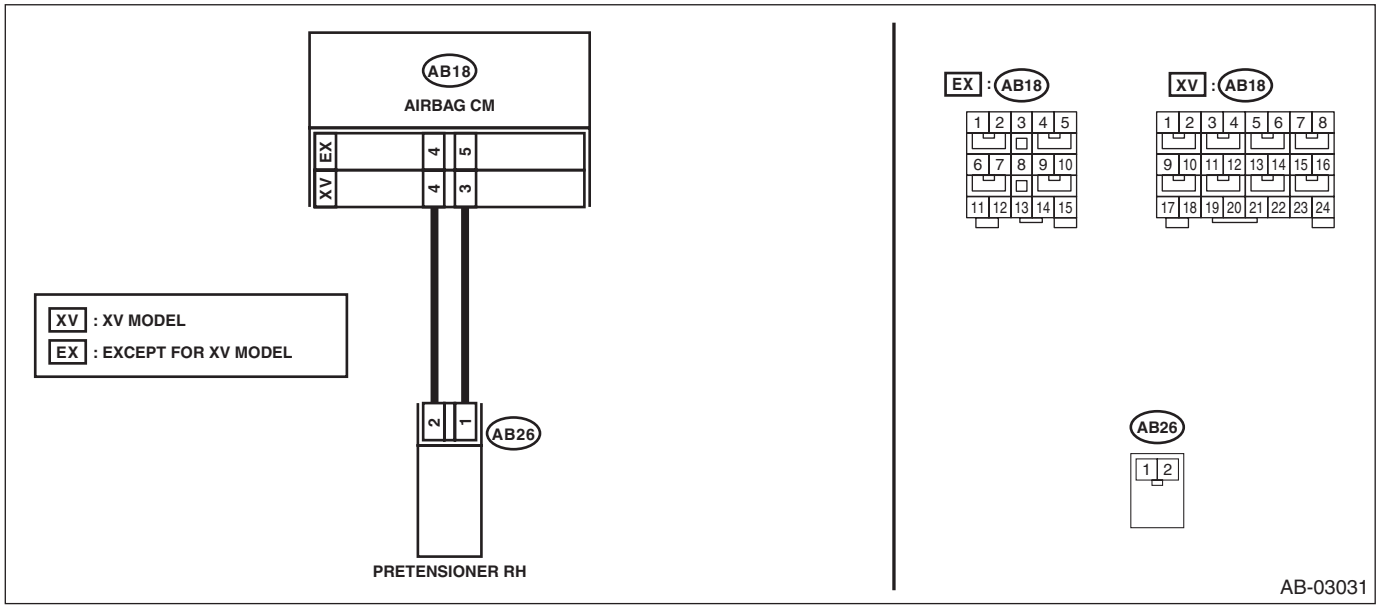
- Seat belt pretensioner (RH) circuit is shorted.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1901 OPEN IN FRONT P/T RH

DTC DETECTING CONDITION:

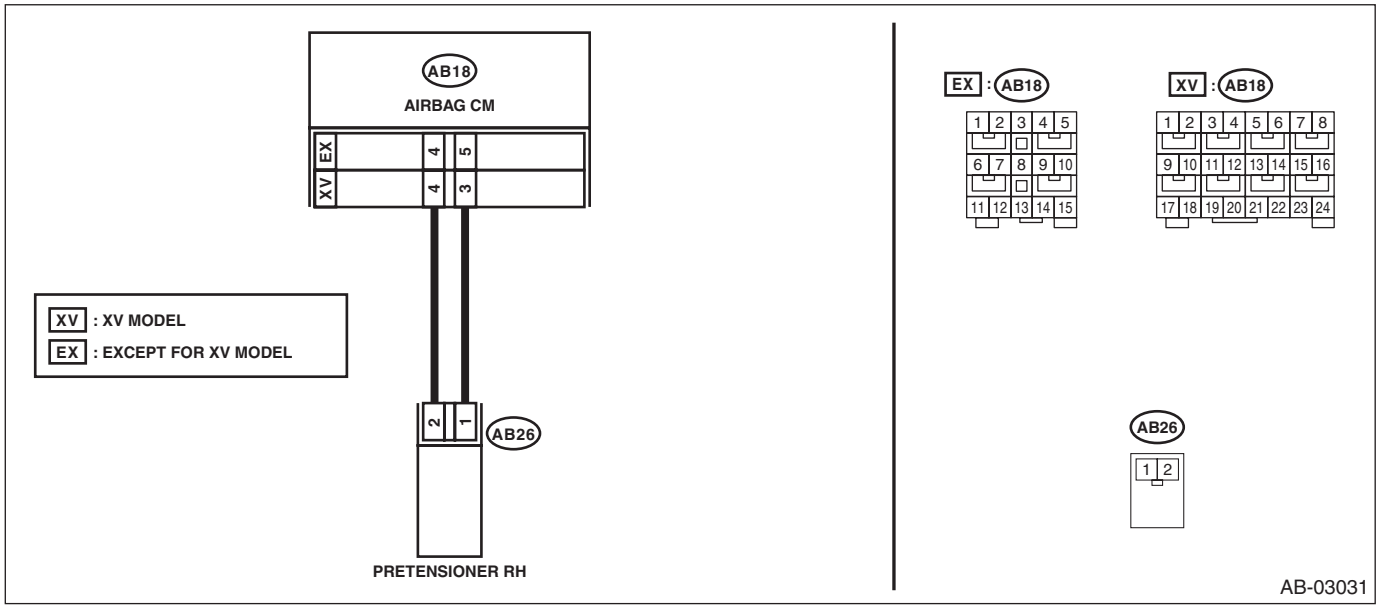
- Seat belt pretensioner (RH) circuit is open.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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. 2:*** ***(3AG) No. 20 — (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-66, 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 B1902 SHORT IN FRONT P/T RH (TO GROUND)

DTC DETECTING CONDITION:

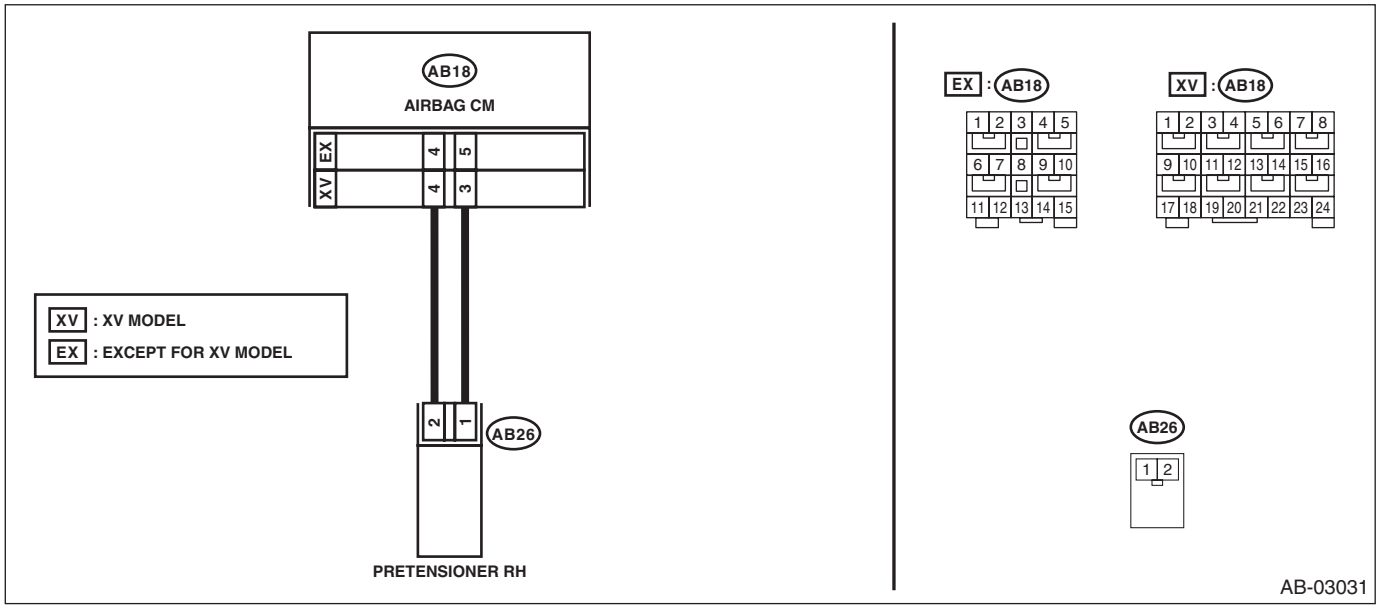
- Seat belt pretensioner (RH) circuit is shorted to ground.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRE-TENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1903 SHORT IN FRONT P/T RH (TO +B)

DTC DETECTING CONDITION:

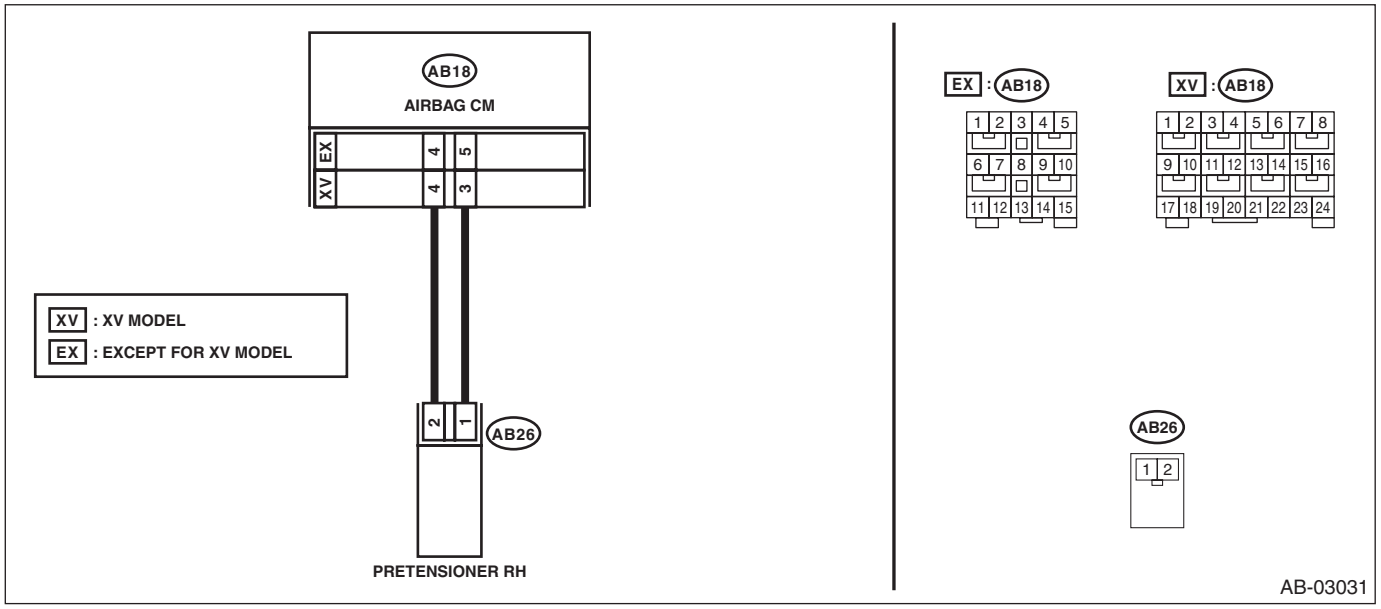
- Seat belt pretensioner (RH) circuit is shorted to power supply.
- Pretensioner (RH) is faulty.
- Pretensioner harness (RH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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. 20 (+) — Chassis ground (–):*** ***(3AG) No. 18 (+) — 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-66, 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 B1905 SHORT IN FRONT P/T LH

DTC DETECTING CONDITION:

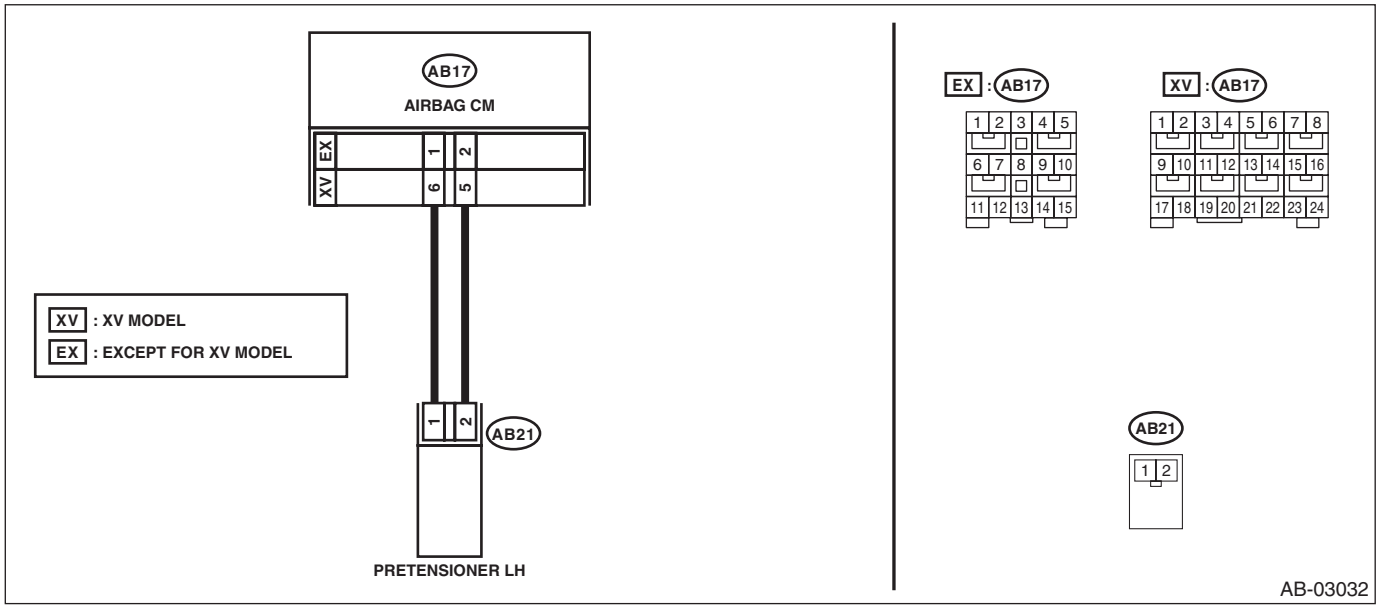
- Seat belt pretensioner (LH) circuit is shorted.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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 B1906 OPEN IN FRONT P/T LH

DTC DETECTING CONDITION:

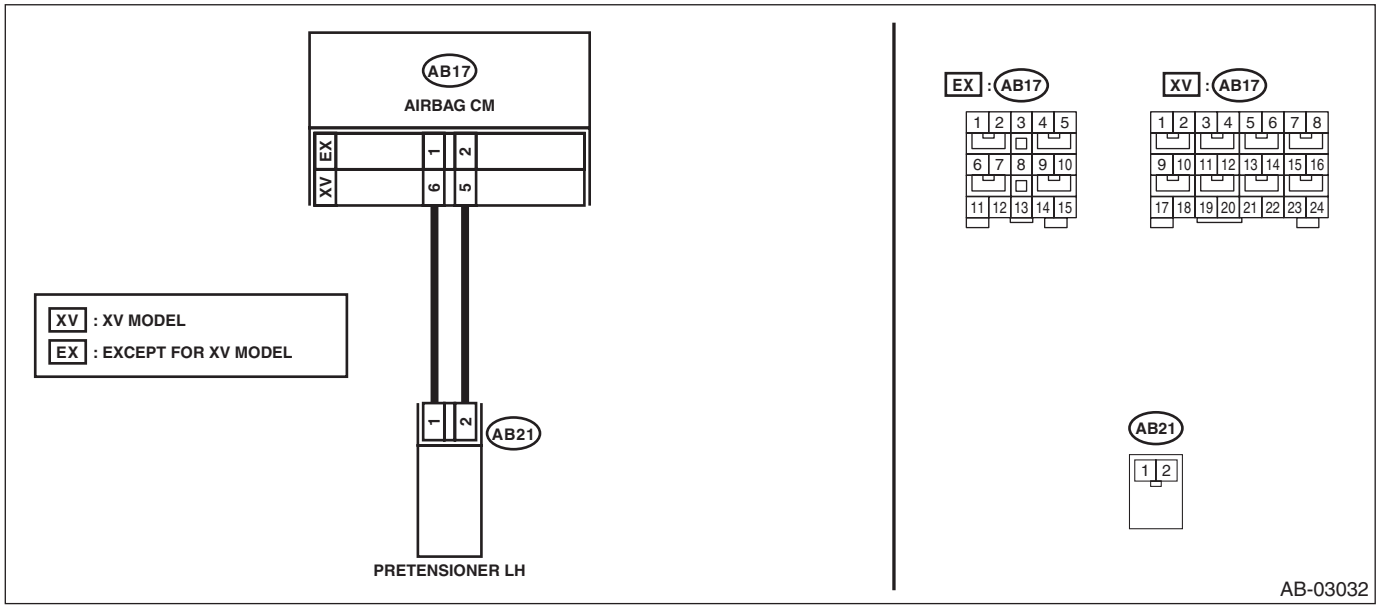
- Seat belt pretensioner (LH) circuit is open.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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. 1:*** ***(3AG) No. 12 — (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-66, 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.

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

DTC DETECTING CONDITION:

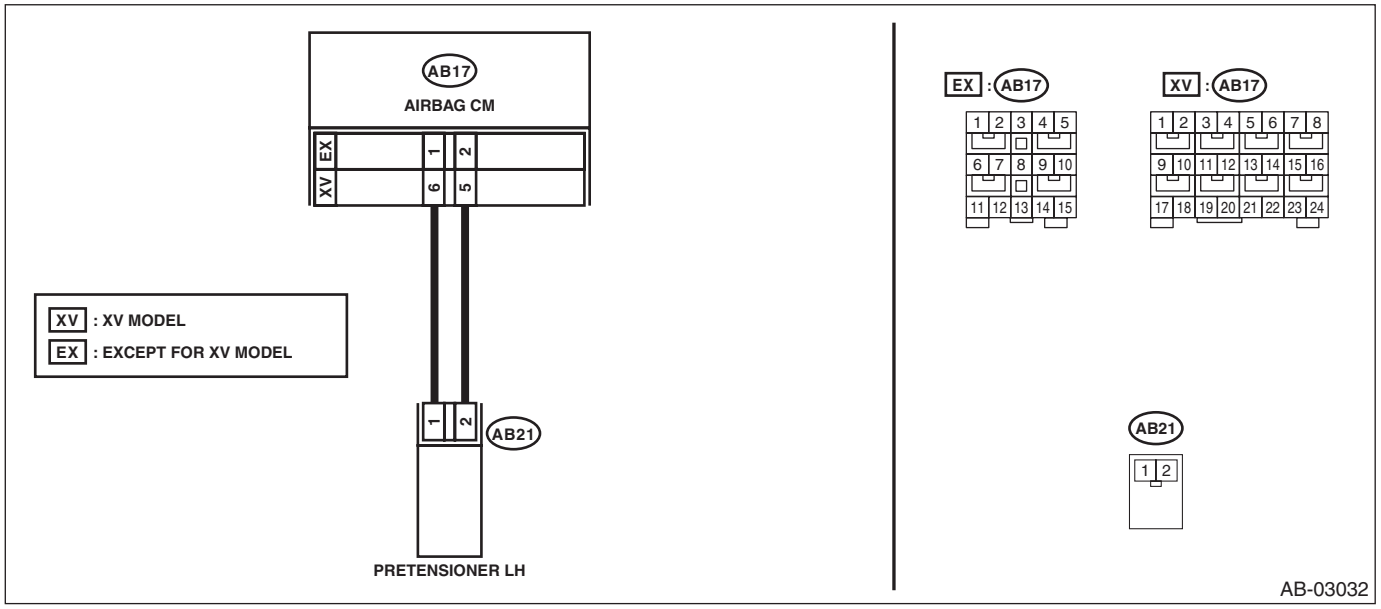
- Seat belt pretensioner (LH) circuit is shorted to ground.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, Front Seat Belt.>	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK AIRBAG REAR HARNESS (PRE-TENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 60 seconds or more. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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.

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

DTC DETECTING CONDITION:

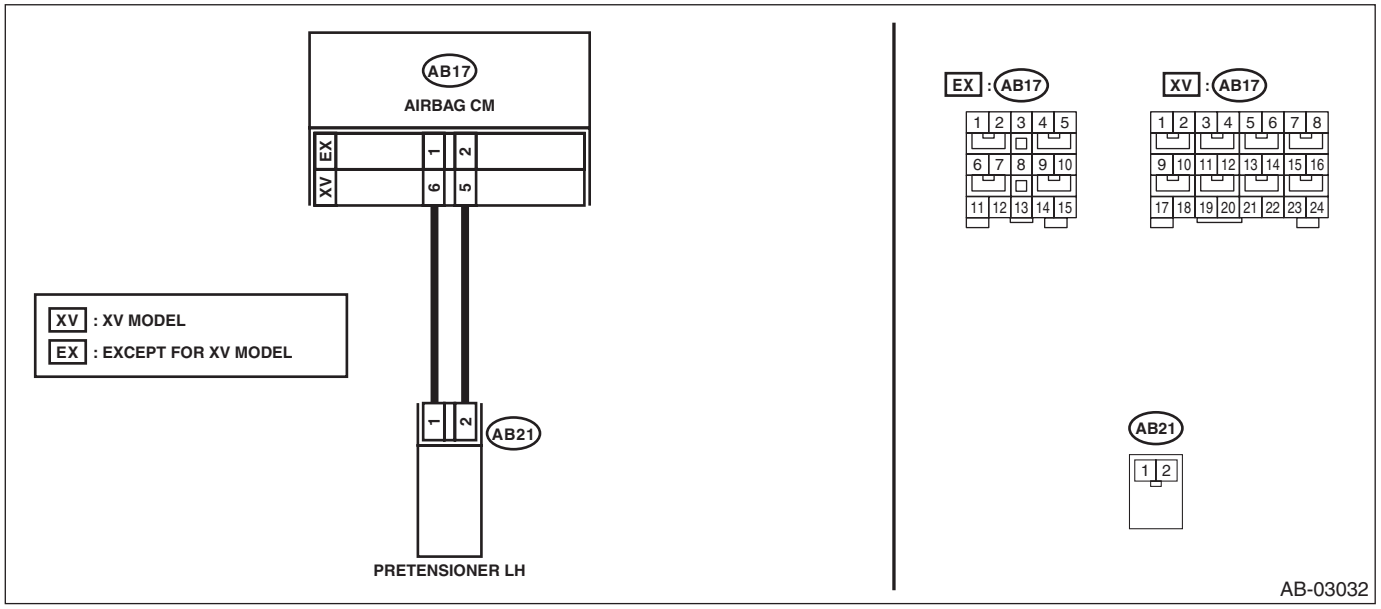
- Seat belt pretensioner (LH) circuit is shorted to power supply.
- Pretensioner (LH) is faulty.
- Pretensioner harness (LH) is faulty.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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-16, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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: Except for XV 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-66, 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.

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

DTC DETECTING CONDITION:

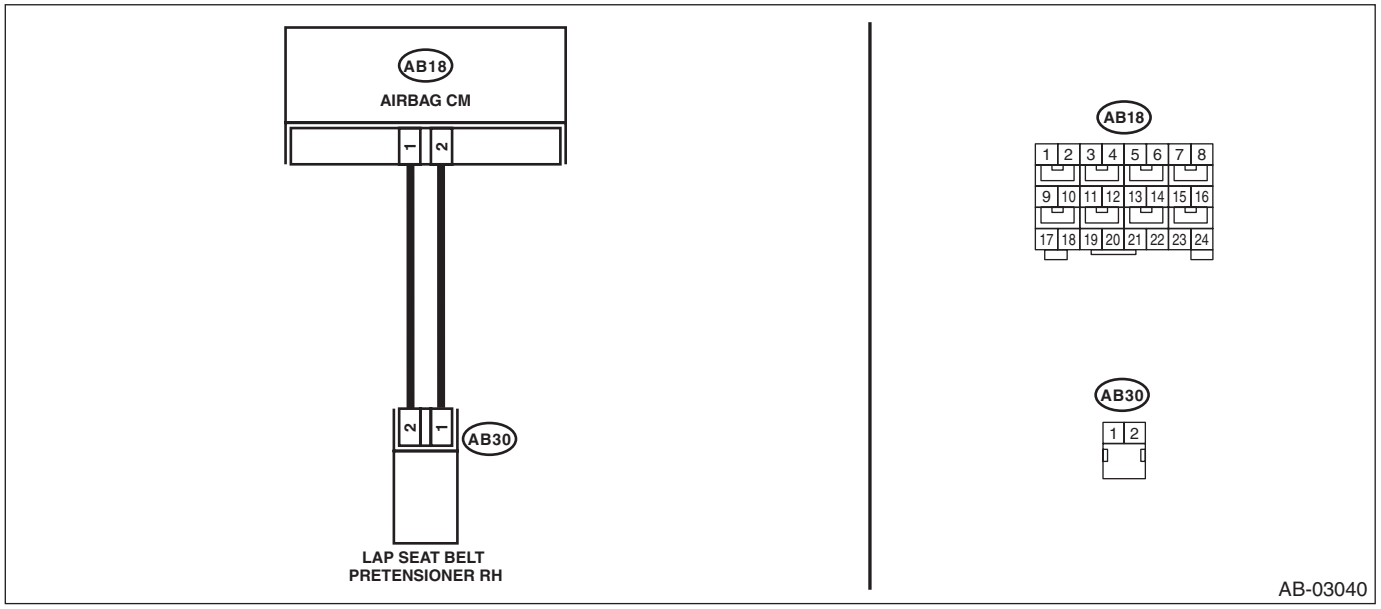
- Lap seat belt pretensioner (RH) circuit is shorted.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is shorted.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB30). 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 lap seat belt pretensioner (RH). <Ref. to SB-20, SEAT BELT INNER - FRONT, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 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). 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. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-66, 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.

DU:DTC B19F1 OPEN IN FRONT P/T 2 RH

DTC DETECTING CONDITION:

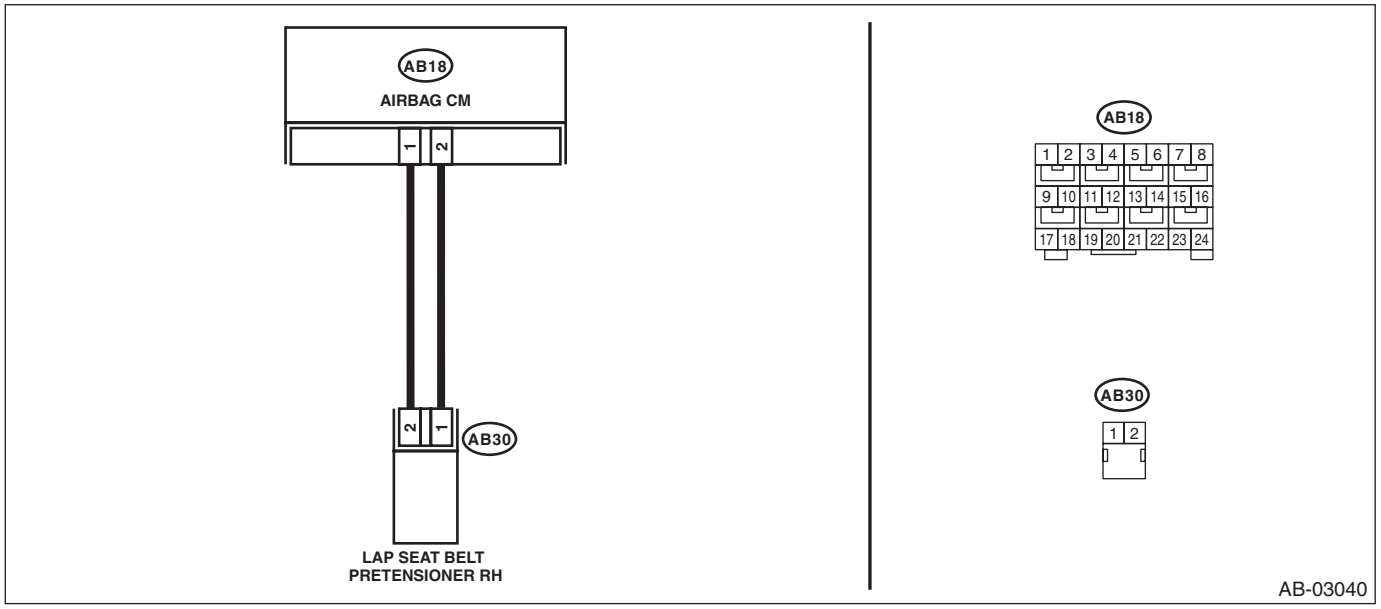
- Lap seat belt pretensioner (RH) circuit is open.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is open.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB30). 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 lap seat belt pretensioner (RH). <Ref. to SB-20, SEAT BELT INNER - FRONT, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 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). 8) Measure the resistance between connector (3AG) in the test harness AG and connector (2N) in the test harness N. ***Connector & terminal*** ***(3AG) No. 17 — (2N) No. 2:*** ***(3AG) No. 19 — (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-66, 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.

DV:DTC B19F2 SHORT IN FRONT P/T 2 RH (TO GROUND)

DTC DETECTING CONDITION:

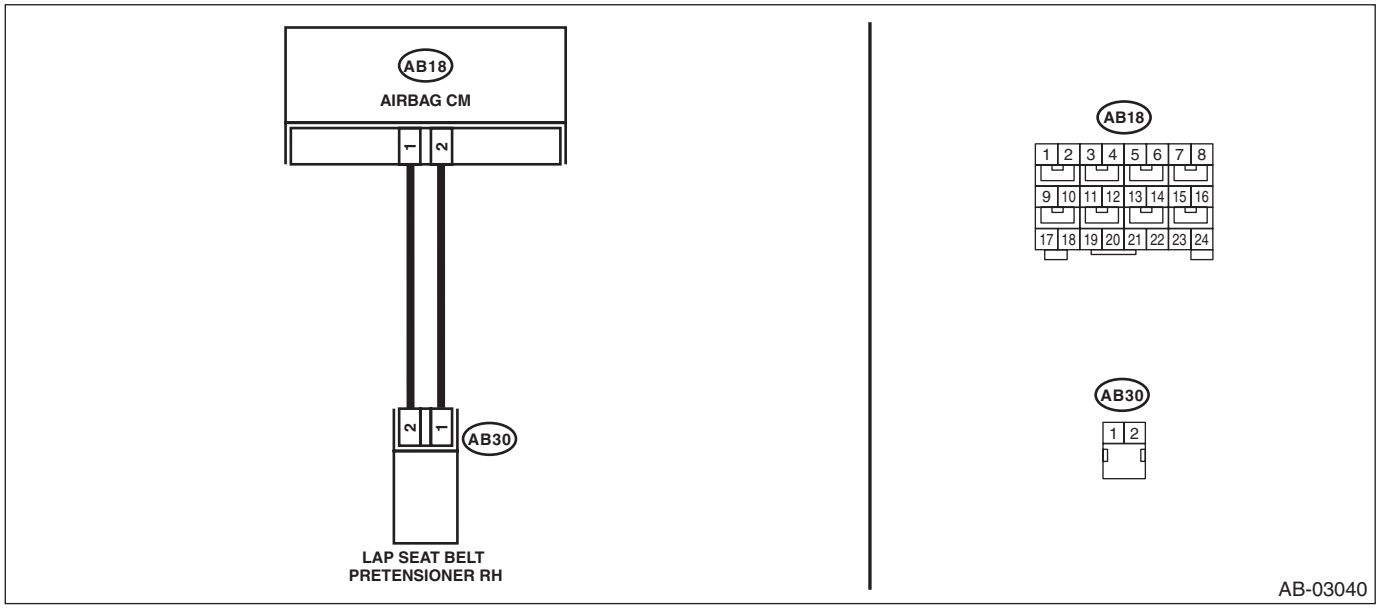
- Lap seat belt pretensioner (RH) circuit is shorted to ground.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is shorted to ground.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB30). 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 lap seat belt pretensioner (RH). <Ref. to SB-20, SEAT BELT INNER - FRONT, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 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). 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. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-66, 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.

DW:DTC B19F3 SHORT IN FRONT P/T 2 RH (TO +B)

DTC DETECTING CONDITION:

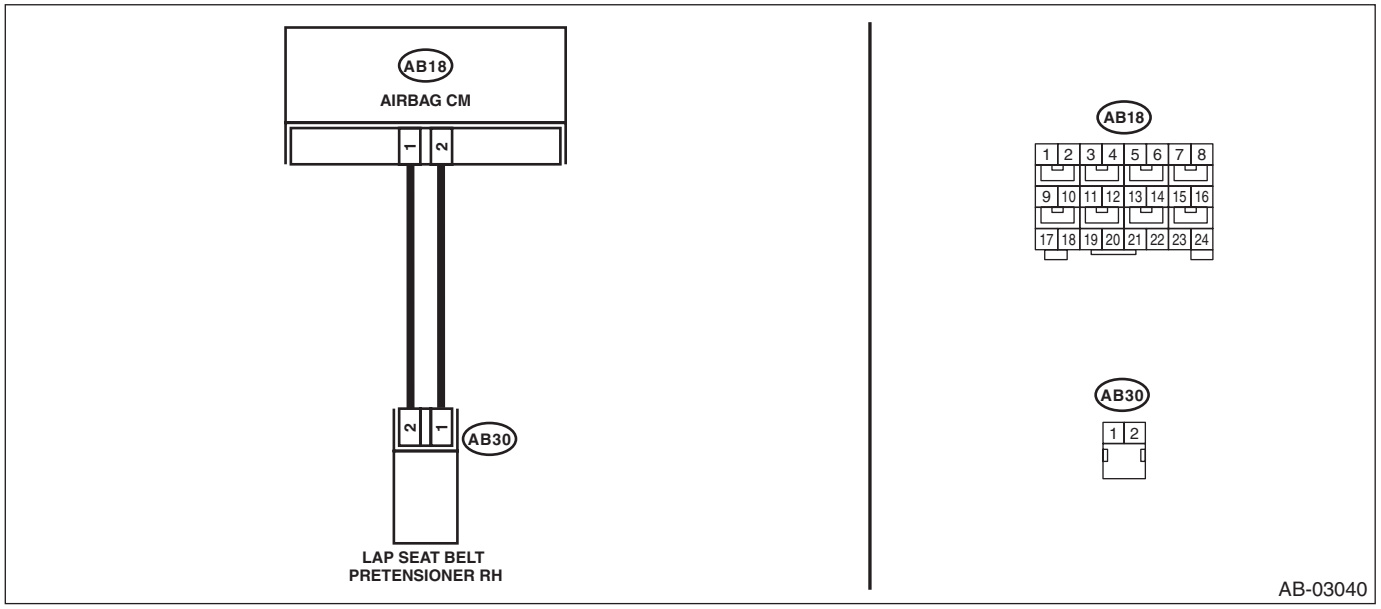
- Lap seat belt pretensioner (RH) circuit is shorted to power supply.
- Lap seat belt pretensioner (RH) is faulty.
- Lap seat belt pretensioner harness (RH) is shorted to power supply.
- Airbag control module is faulty.

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(w/o HEV)-40, WIRING DIAGRAM, Airbag System.> <Ref. to WI(HEV)-51, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connector (AB30) from lap seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB30). 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 lap seat belt pretensioner (RH). <Ref. to SB-20, SEAT BELT INNER - FRONT, 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the airbag resistor from test harness N. 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). 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. (Current malfunction)	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-66, 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)

		Page
1.	Basic Diagnostic Procedure	2
2.	Check List for Interview	3
3.	General Description	4
4.	Electrical Component Location	8
5.	Airbag Connector	9
6.	Control Module I/O Signal	10
7.	Subaru Select Monitor	11
8.	Read Diagnostic Trouble Code (DTC)	12
9.	Inspection Mode	13
10.	Clear Memory Mode	14
11.	Read Current Data	15
12.	Airbag Warning Light Illumination Pattern	16
13.	Passenger's Airbag ON/OFF Indicator Light Illumination Pattern	17
14.	List of Diagnostic Trouble Code (DTC)	18
15.	Diagnostic Procedure with Diagnostic Trouble Code (DTC)	19

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. <Ref. to AL(diag)-3, CHECK, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer. <Ref. to AL(diag)-3, CHECK, Check List for Interview.>
2	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(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 AUTO HEADLIGHT BEAM LEVELER SYSTEM.** Using the Subaru Select Monitor, read DTC of the auto headlight beam leveler system inspection. <Ref. to AL(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 AL(diag)-8, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.>	Is DTC displayed?	Record DTC and time stamp, and perform the diagnosis according to DTC. <Ref. to AL(diag)-13, LIST, List of Diagnostic Trouble Code (DTC).> For time stamp, refer to “LAN SYSTEM”. <Ref. to LAN(w/o HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.>	Go to step **4**.
4	**CHECK DIAGNOSTICS WITH PHENOMENON.** Check “Diagnostics with Phenomenon”. <Ref. to AL(diag)-18, Diagnostics with Phenomenon.>	Does the symptom apply?	Perform diagnosis according to the procedures in the diagnostics with phenomenon.	Go to step **5**.
5	**CHECK TROUBLE PHENOMENON.** 1) Perform the basic inspection and function check. <Ref. to AL(diag)-4, INSPECTION, General Description.> 2) Check the auto headlight beam leveler CM. <Ref. to AL(diag)-6, Control Module I/O Signal.> 3) Perform check of current data. <Ref. to AL(diag)-12, Read Current Data.> 4) Perform a unit check.	Was the trouble cause found?	Repair or replace the cause of trouble.	System is normal.

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">Auto Headlight Beam Leveler 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 and time when the trouble occurred</td><td></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.

B: INSPECTION

1. BASIC INSPECTION

Before performing the diagnosis, check the following items which may cause problems relating the wiper or light.
1) Check the battery. <Ref. to SC(H4DO(w/o HEV))-52, Battery.>

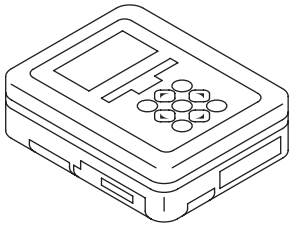
NOTE:
For HEV model, check the 12 volt auxiliary battery. <Ref. to SC(H4DO(HEV))-39, Battery.>
2) Check the relay and fuse condition. <Ref. to LI-5, Relay and Fuse.>
3) Check the connecting condition of harness and harness connector.

2. FUNCTION CHECK

With the ignition switch ON and the lighting switch set at 2 (HEAD), change the vehicle posture while the vehicle is stopped. Check that the beam moves, when the vehicle condition is kept for three seconds or more.

C: PREPARATION TOOL

1. SPECIAL TOOL

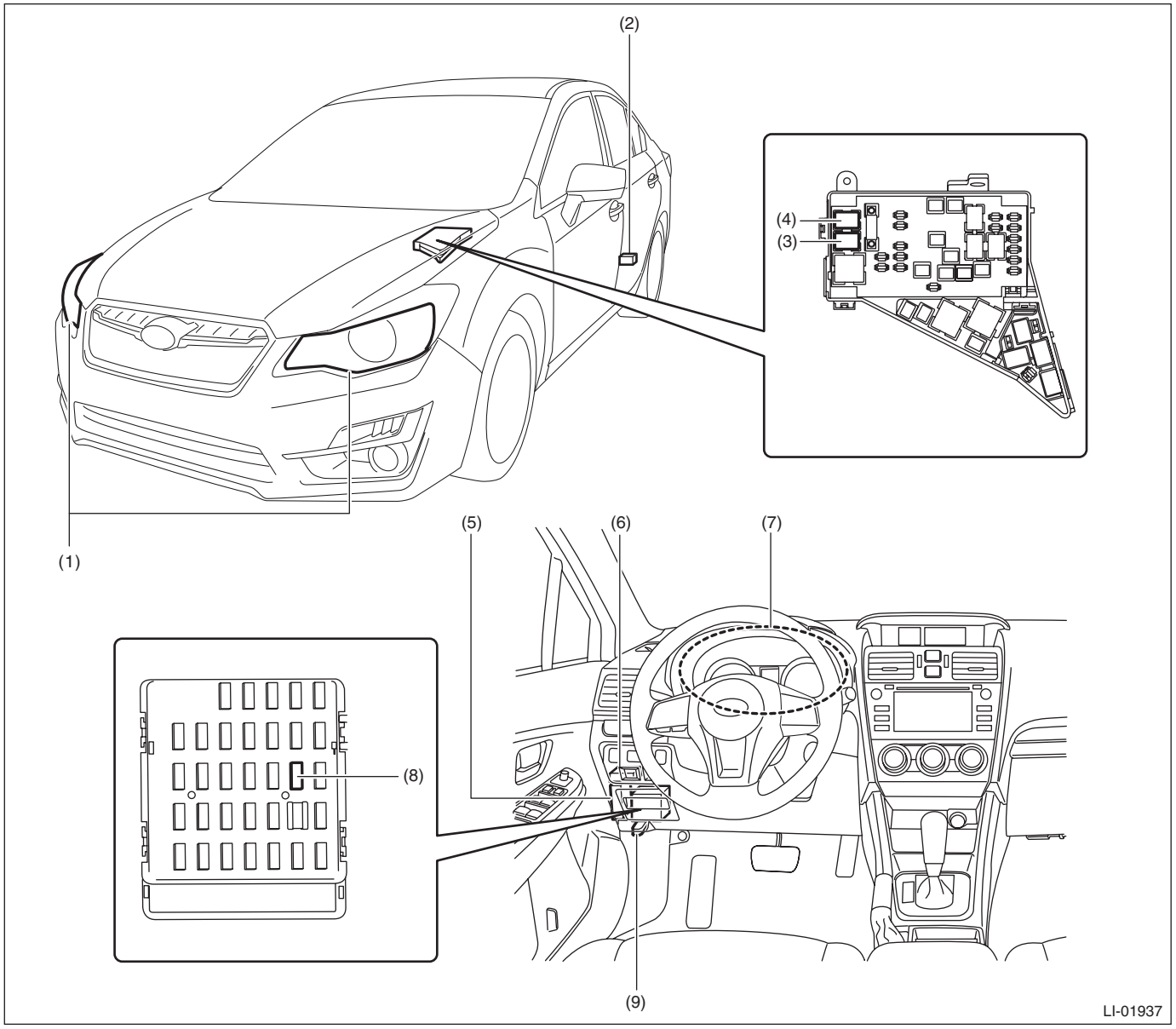
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of Subaru Select Monitor III, refer to “PC application help for Subaru Select Monitor”.

2. GENERAL TOOL

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

4. Electrical Component Location

A: LOCATION

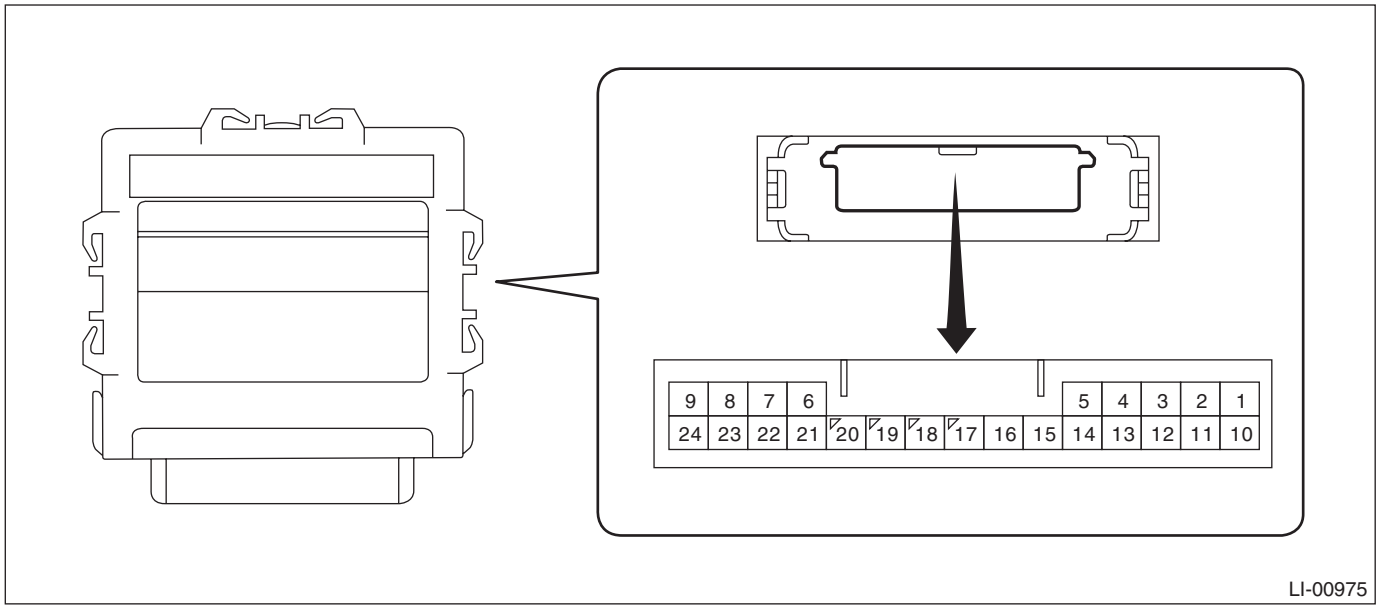


(1)	Headlight ASSY – Headlight beam leveler actuator	(4)	Headlight relay (Hi)	(7)	Combination meter
(2)	Rear vehicle height sensor	(5)	Body integrated unit	(8)	Fuse 10 A (auto headlight beam leveler CM)
(3)	Headlight relay (Lo)	(6)	Auto headlight beam leveler CM	(9)	Data link connector

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

1. AUTO HEADLIGHT BEAM LEVELER CM



Description	Terminal No.	Measuring condition	Standard
IG power supply	1 ←→ Chassis ground	Ignition switch ON	8 — 16 V
GND	2 ←→ Chassis ground	Always	Less than 1 Ω
Rear height sensor GND	3 ←→ Chassis ground	Always	Less than 1 Ω
Indicator output	6 ←→ Chassis ground	After turning the ignition switch to ON, for 3 seconds (warning light on) → after 3 seconds (warning light off)	Less than 1.35 V → 8 — 16 V
Leveling actuator power supply	10 ←→ Chassis ground	Ignition switch ON	10 — 16 V
Leveling actuator GND	11 ←→ Chassis ground	Always	Less than 1 Ω
Rear height sensor power supply	12 ←→ 3	Ignition switch ON	4.75 — 5.25 V
Leveling actuator signal	17 ←→ Chassis ground	Headlight off → on	Less than 1 V → 1.0 — 14.4 V (for 17 seconds)
		Headlight on, no vehicle height change → change and hold vehicle height for 3 seconds or more	
Rear sensor signal	19 ←→ Chassis ground	IG ON (with no passenger, no load and vehicle stopped)	Approx. 2.5 V (changes according to vehicle condition)
CAN-H	23	Cannot be measured (CAN communication line)	—
CAN-L	24	Cannot be measured (CAN communication line)	—

B: WIRING DIAGRAM

Refer to “Headlight Beam Leveler System” in the wiring diagram. <Ref. to WI(w/o HEV)-136, WIRING DIAGRAM, Headlight Beam Leveler System.> <Ref. to WI(HEV)-134, WIRING DIAGRAM, Headlight Beam Leveler System.>

6. Subaru Select Monitor

A: OPERATION

- For operation procedures, refer to the “PC application help for Subaru Select Monitor”.
- If the auto headlight beam leveler CM can not communicate with Subaru Select Monitor, perform “COMMUNICATION FOR INITIALIZING IMPOSSIBLE”. <Ref. to AL(diag)-8, INSPECTION, Subaru Select Monitor.>

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

Communication error with auto headlight beam leveler CM

DETECTING CONDITION:

- Defective harness connector
- Power supply circuit malfunction
- Defective auto headlight beam leveler CM
- Defective CAN communication circuit
- Defective Subaru Select Monitor

TROUBLE SYMPTOM:

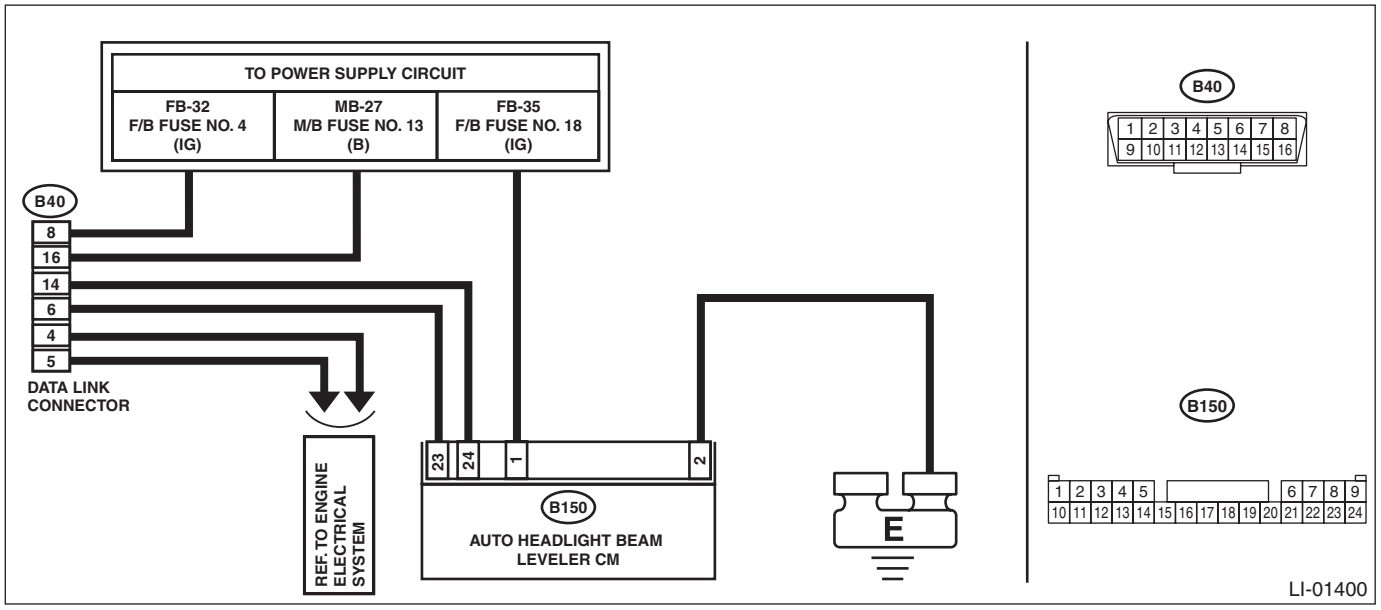
Communication is impossible between auto headlight beam leveler CM and Subaru Select Monitor.

CAUTION:

Initialization is required after replacing the auto headlight beam leveler CM.

WIRING DIAGRAM:

Headlight beam leveler system <Ref. to WI(w/o HEV)-136, WIRING DIAGRAM, Headlight Beam Leveler System.> <Ref. to WI(HEV)-134, WIRING DIAGRAM, Headlight Beam Leveler System.>



Step		Check	Yes	No
1	**CHECK OTHER COMMUNICATION.** Communicate with the system other than the auto headlight beam leveler CM 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(w/o HEV)(diag)-10, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.> <Ref. to LAN(HEV)(diag)-10, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.>

	Step	Check	Yes	No
2	**CHECK LAN SYSTEM.** Inspect LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(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 FOR POOR CONTACT.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto headlight beam leveler CM connector. 3) Connect the disconnected connectors. 4) Communicate with the auto headlight beam leveler CM using the Subaru Select Monitor.	Is communication possible?	It is possible that temporary poor communication occurs.	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>

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). <Ref. to AL(diag)-13, LIST, List of Diagnostic Trouble Code (DTC).>

8. Clear Memory Mode

A: OPERATION

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

9. Read Current Data

A: OPERATION

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

B: LIST

Item Name	Remarks	Standard	Note
Trip Count	Information of timestamp, trip counter	—	—
Count	Information of timestamp, original counter identification information	—	—
Time Count	Information of timestamp, time counter	—	—
F Sensor Signal	Output voltage value from front vehicle height sensor Display range: 0.00 — 5.00 V	5 V	Fixed at 5 V because front vehicle height sensor is not equipped.
R Sensor Signal	Output voltage value from rear vehicle height sensor Display range: 0.00 — 5.00 V	Approx. 2.5 V	Changes according to vehicle condition.
Actuator Signal	Power supply voltage value to headlight beam leveler actuator Display range: 0% — 100%	Not in operation: 0% In operation: 10 — 90% (17 seconds)	Changes according to vehicle condition.
ECU ACC	IG voltage condition of auto headlight beam leveler CM Display range: 0.00 — 25.76 V	8 — 16 V	—
Indicator Signal	Meter indicator condition Display range: Light off/Light up/Flashing	Light off: Normal Light up: Abnormal Flashing: Not initialized	—
Vehicle speed signal	Vehicle speed condition Display range: 0.00 — 3686.34 km/h	Shows vehicle speed	—
H/L Lo Signal	Headlight lighting condition Display range: Light off/Light up	Light off: Light switch is OFF Light up: Light sensor in operation when light switch is in HEAD or AUTO position	—

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

10.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Reference
U0073	Control Module Communication Bus Off	Detected when CAN line abnormality is detected.	<Ref. to AL(diag)-14, DTC U0073 CONTROL MODULE COMMUNICATION BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0122	Lost Communication With Vehicle Dynamics Control Module	Detected when CAN data from VDC (vehicle speed signal) does not arrive.	<Ref. to AL(diag)-14, DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	Detected when CAN data from body integrated unit (headlight ON signal) does not arrive.	<Ref. to AL(diag)-14, DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2900	AHLCU Error	Detected when an error occurred in auto headlight beam leveler CM.	<Ref. to AL(diag)-15, DTC B2900 AHLCU ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2902	Rear Height Sensor Error	Detected when an error occurred in rear vehicle height sensor.	<Ref. to AL(diag)-16, DTC B2902 REAR HEIGHT SENSOR ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2903	VDC Data Error	Detected when data from VDC (vehicle speed signal) is abnormal.	<Ref. to AL(diag)-17, DTC B2903 VDC DATA ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

11.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS OFF

Detected when CAN line abnormality is detected.

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

B: DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

Detected when CAN data (vehicle speed signal) is not received from VDC.

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

C: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

Detected when CAN data (headlights ON signal) is not received from the body integrated unit.

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

D: DTC B2900 AHLCU ERROR

DTC DETECTING CONDITION:
Detected when internal malfunction occurs in the auto headlight beam leveler CM.
TROUBLE SYMPTOM:
The auto headlight beam leveler does not operate.

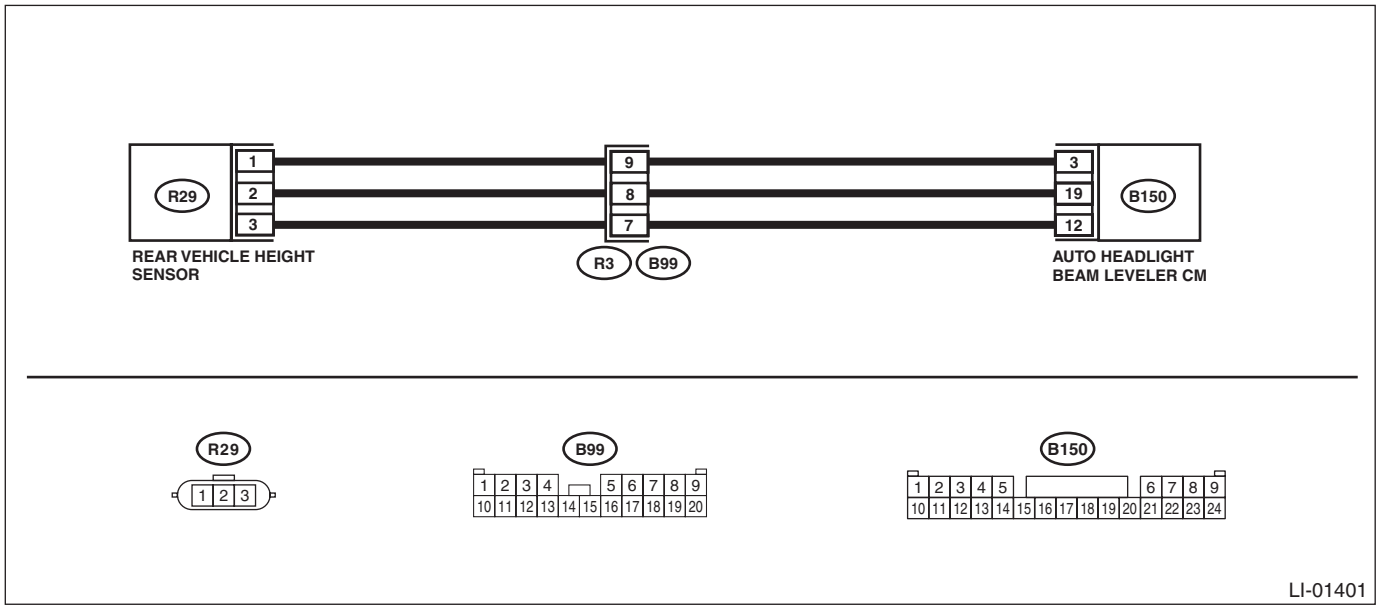
CAUTION:
Initialization is required after replacing the auto headlight beam leveler CM.

	Step	Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to OFF → ON. 2) Turn on the headlight low beam. 3) Using the Subaru Select Monitor, clear the auto headlight beam leveler system memory. 4) Turn the ignition switch to OFF → ON. 5) Use the Subaru Select Monitor and read DTCs.	Is DTC B2900 displayed? (current malfunction)	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	System is normal. It is possible that temporary poor contact occurs.

E: DTC B2902 REAR HEIGHT SENSOR ERROR

DTC DETECTING CONDITION:
Detected when error occurs in the rear height sensor.
TROUBLE SYMPTOM:
The auto headlight beam leveler does not operate.

CAUTION:
Initialization is required after replacing the auto headlight beam leveler CM.
WIRING DIAGRAM:
Headlight beam leveler system <Ref. to WI(w/o HEV)-136, WIRING DIAGRAM, Headlight Beam Leveler System.> <Ref. to WI(HEV)-134, WIRING DIAGRAM, Headlight Beam Leveler System.>



Step		Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to OFF → ON. 2) Turn on the headlight low beam. 3) Using the Subaru Select Monitor, clear the auto headlight beam leveler system memory. 4) Turn the ignition switch to OFF → ON. 5) Use the Subaru Select Monitor and read DTCs.	Is DTC B2902 displayed? (current malfunction)	Go to step **2**.	System is normal. It is possible that temporary poor contact occurs.
2	**CHECK CURRENT DATA.** Display {R Sensor Signal} using Subaru Select Monitor.	Does the data indicate the standard value?	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	Go to step **3**.
3	**CHECK CURRENT DATA.** 1) Display {R Sensor Signal} using Subaru Select Monitor. 2) Change the vehicle posture.	Does the data change?	Go to step **6**.	Go to step **4**.

	Step	Check	Yes	No
4	**CHECK OUTPUT VOLTAGE BETWEEN AUTO HEADLIGHT BEAM LEVELER CM AND VEHICLE HEIGHT SENSOR.** 1) Disconnect the vehicle height sensor connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the vehicle height sensor connector and chassis ground. ***Connector & terminal*** ***(R29) No. 3 (+) — Chassis ground (–):***	Is the voltage 5±0.25 V?	Go to step **5**.	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>
5	**CHECK REAR HEIGHT SENSOR.** 1) Remove the rear vehicle height sensor. 2) Perform the inspection of rear height sensor unit. <Ref. to LI-95, INSPECTION, Rear Height Sensor.>	Is the rear height sensor normal?	Go to step **6**.	Replace the rear height sensor. <Ref. to LI-94, Rear Height Sensor.>
6	**CHECK HARNESS.** 1) Disconnect the auto headlight beam leveler CM connector. 2) Using a tester, measure the resistance between the auto headlight beam leveler CM connector and rear height sensor connector. ***Connector & terminal*** ***(B150) No. 3 — (R29) No. 1:*** ***(B150) No. 19 — (R29) No. 2:*** ***(B150) No. 12 — (R29) No. 3:***	Is there continuity?	Go to step **7**.	Repair or replace the open circuit of harness.
7	**CHECK HARNESS.** Using a tester, measure the resistance between the auto headlight beam leveler CM connector and chassis ground. ***Connector & terminal*** ***(B150) No. 3 — Chassis ground:*** ***(B150) No. 19 — Chassis ground:*** ***(B150) No. 12 — Chassis ground:***	Is the resistance 10 kΩ or more?	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	Repair or replace the short circuit of the harness.

F: DTC B2903 VDC DATA ERROR

DTC DETECTING CONDITION:

Detected when data (vehicle speed signal) from VDC CM is abnormal.

TROUBLE SYMPTOM:

The auto headlight beam leveler does not operate.

NOTE:

Perform the diagnosis for VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

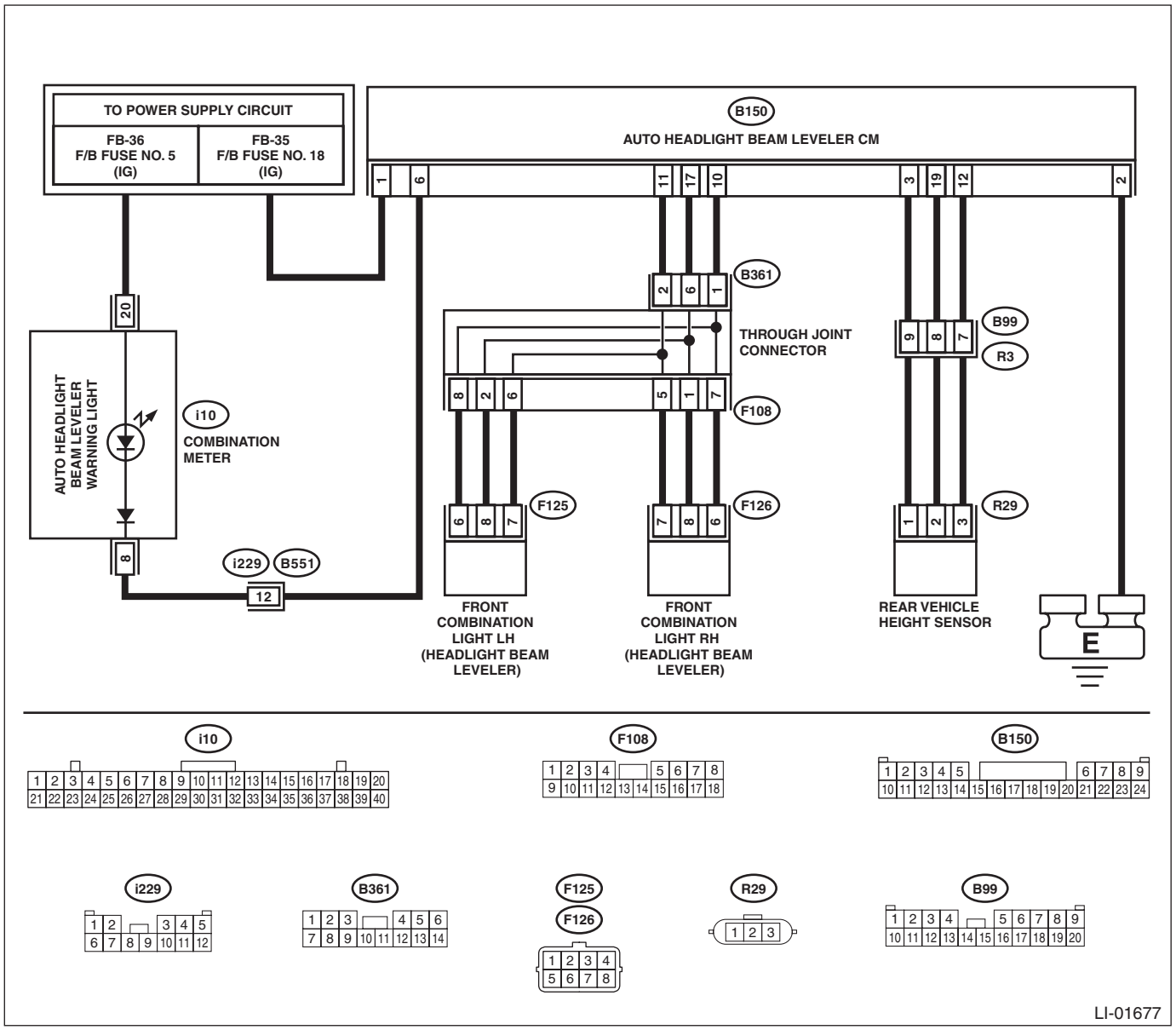
12.Diagnostics with Phenomenon

A: INSPECTION

1. BEAM LEVEL CONTROL DOES NOT FUNCTION

CAUTION:
- **Before performing diagnosis, check the fuse in this circuit.**
- **Initialization is required after replacing the auto headlight beam leveler CM.**

WIRING DIAGRAM:
Headlight beam leveler system <Ref. to WI(w/o HEV)-136, WIRING DIAGRAM, Headlight Beam Leveler System.> <Ref. to WI(HEV)-134, WIRING DIAGRAM, Headlight Beam Leveler System.>



Step		Check	Yes	No
1	**CHECK CURRENT DATA.** Display {ECU ACC} using Subaru Select Monitor.	Does the current data indicate the standard value?	Go to step **3**.	Go to step **2**.

Step		Check	Yes	No
2	**CHECK HARNESS BETWEEN POWER SUPPLY — AUTO HEADLIGHT BEAM LEVELER CM.** 1) Disconnect the auto headlight beam leveler CM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the auto headlight beam leveler CM connector and chassis ground. ***Connector & terminal*** ***(B150) No. 1 (+) — Chassis ground (–):***	Is the voltage 8 — 16 V?	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	Repair or replace the harness.
3	**CHECK INDICATOR OUTPUT.** Turn the ignition switch to ON.	Does the warning indicator turn on for three seconds?	Go to step **5**.	Go to step **4**.
4	**CHECK CURRENT DATA.** 1) Display {Indicator Signal} using Subaru Select Monitor. 2) Turn the ignition switch to ON.	Is it set as ON for 3 seconds?	Go to step **6**.	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>
5	**CHECK INDICATOR OUTPUT.** Leave the ignition switch to ON for 10 seconds.	Does the warning indicator light go off?	Go to step **9**.	Go to step **13**.
6	**CHECK HARNESS BETWEEN BATTERY — INDICATOR BULB — AUTO HEADLIGHT BEAM LEVELER CM.** 1) Disconnect the auto headlight beam leveler CM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the auto headlight beam leveler CM (indicator bulb) connector and chassis ground. ***Connector & terminal*** ***(B150) No. 6 (+) — Chassis ground (–):***	Is the voltage 12 V?	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	Go to step **7**.
7	**CHECK INDICATOR BULB.** 1) Disconnect the combination meter connector. 2) Measure the continuity between combination meter terminals. ***Connector & terminal*** ***(i10) No. 20 — (i10) No. 8:***	Is there continuity?	Go to step **8**.	Replace the meter case assembly. <Ref. to IDI-20, Combination Meter.>
8	**CHECK HARNESS BETWEEN AUTO HEADLIGHT BEAM LEVELER CM AND INDICATOR BULB.** 1) Turn the ignition switch to OFF. 2) Measure the continuity between the auto headlight beam leveler CM and the combination meter. ***Connector & terminal*** ***(B150) No. 6 — (i10) No. 8:***	Is there continuity?	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	Repair the open circuit and poor contact of the connector in the harness between the auto headlight beam leveler CM and indicator.

	Step	Check	Yes	No
9	**CHECK HEADLIGHT ASSEMBLY (ACTUATOR) DRIVE.** 1) Connect the auto headlight beam leveler CM connector. 2) Turn the ignition switch to ON, and within 10 seconds, repeat the OFF → 2 (HEAD) operation of headlight switch 5 times. 3) Check that the headlight beam drops once, then returns to normal. 4) Then, after waiting for 30 seconds or more with the ignition ON, turn the ignition switch to OFF.	Does the headlight beam drop down once, and then return?	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	Go to step **10**.
10	**CHECK HEADLIGHT ASSEMBLY (ACTUATOR) OUTPUT.** 1) Display {Actuator Signal} using Subaru Select Monitor. 2) Turn the ignition switch to ON, and within 10 seconds, repeat the OFF → 2 (HEAD) operation of headlight switch 5 times. 3) Check that the headlight beam drops once, then returns to normal. 4) Then, after waiting for 30 seconds or more with the ignition ON, turn the ignition switch to OFF.	Does the current data indicate the standard value? (Does the value change at 10 — 90%?)	Go to step **11**.	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>
11	**CHECK OUTPUT VOLTAGE BETWEEN HEADLIGHT ASSEMBLY (ACTUATOR).** 1) Disconnect the auto headlight beam leveler CM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the auto headlight beam leveler CM connector and chassis ground. ***Connector & terminal*** ***(B150) No. 10 (+) — Chassis ground (–):***	Is the voltage 12 V?	Replace the headlight assembly. <Ref. to LI-29, Headlight Assembly.>	Go to step **12**.
12	**CHECK HARNESS BETWEEN AUTO HEADLIGHT BEAM LEVELER CM AND HEADLIGHT ASSEMBLY (ACTUATOR).** 1) Disconnect the connector of headlight assembly. 2) Measure the continuity between the auto headlight beam leveler CM connector and headlight assembly (actuator) connector. ***Connector & terminal*** ***• Headlight beam leveler RH*** ***(B150) No. 10 — (F126) No. 6:*** ***(B150) No. 17 — (F126) No. 8:*** ***(B150) No. 11 — (F126) No. 7:*** ***• Headlight beam leveler LH*** ***(B150) No. 10 — (F125) No. 6:*** ***(B150) No. 17 — (F125) No. 8:*** ***(B150) No. 11 — (F125) No. 7:***	Is there continuity?	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>	Repair the open circuit or poor contact of the connector in the harness between headlight assembly and auto headlight beam leveler CM.
13	**CHECK DTC.** Display DTC using the Subaru Select Monitor.	Is DTC displayed?	Perform the diagnosis according to DTC. <Ref. to AL(diag)-13, LIST, List of Diagnostic Trouble Code (DTC).>	Replace the auto headlight beam leveler CM. <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>

STEERING RESPONSIVE FOG LIGHTS (DIAGNOSTICS)

SRF(diag)

Page

1. General Description 2

1. General Description

A: SPECIFICATION

Refer to “Body Repair Manual” for general description of body structure, reference points and reference dimensions.

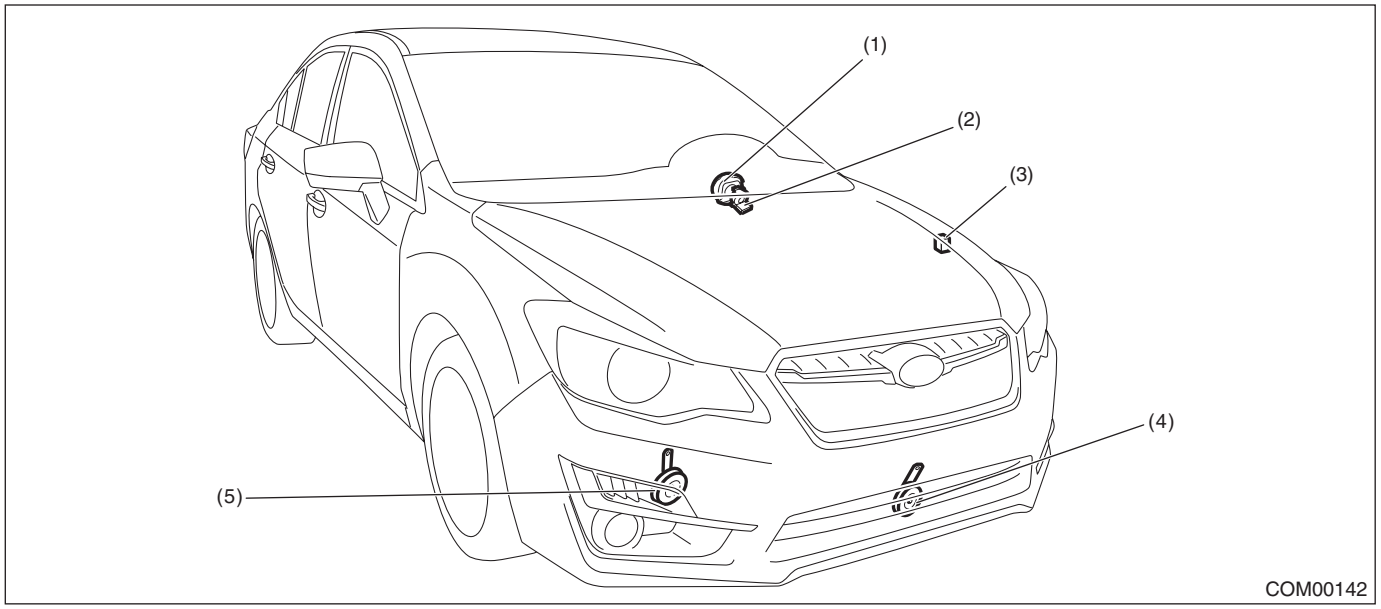
INSTRUMENTATION/DRIVER INFO

IDI

		Page
1.	General Description	2
2.	Relay and Fuse	7
3.	Combination Meter System	8
4.	Multi-function Display (MFD) System	13
5.	Combination Meter	20
6.	Speedometer	23
7.	Tachometer	24
8.	Fuel Gauge	25
9.	ECO Gauge	26
10.	Multi-function Display (MFD)	27
11.	Steering Switch	30

1. General Description

A: COMPONENT



(1) Horn switch (driver's airbag module ASSY)
(2) Roll connector
(3) Horn relay
(4) Horn ASSY - Lo
(5) Horn ASSY - Hi

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 each component operates 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 of "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.

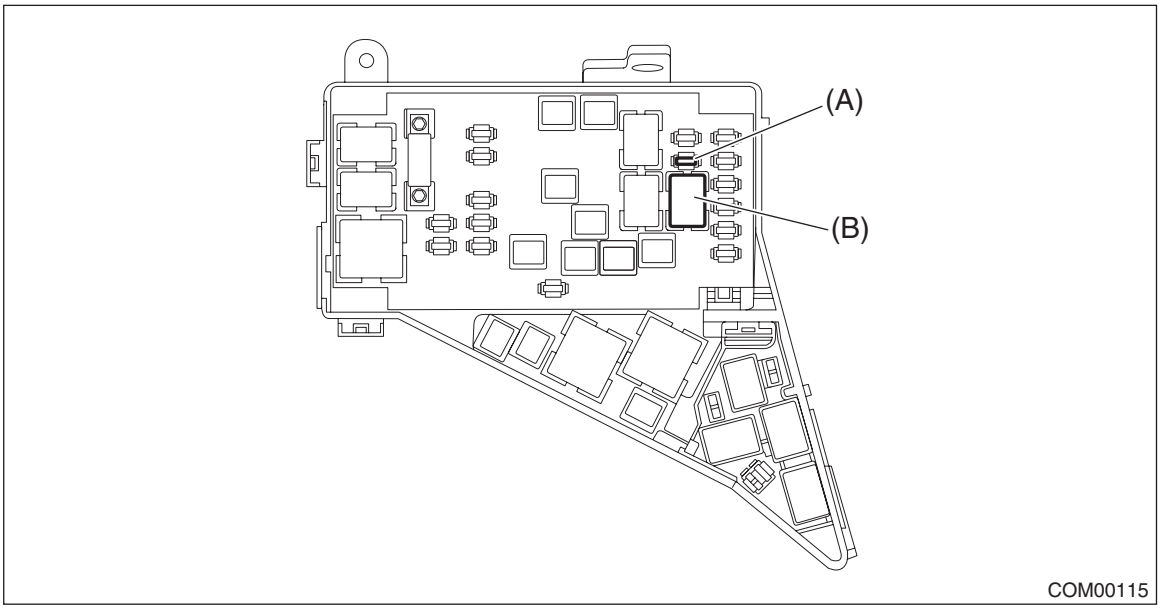
C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.

2. Relay and Fuse

A: LOCATION



Main fuse box	Fuse 15 A (horn ASSY - Hi, Lo)	(A)
	Horn relay	(B)

NOTE:
For other related fuses, refer to the wiring diagram.
- Gasoline engine model <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model <Ref. to WI(HEV)-21, Power Supply Circuit.>

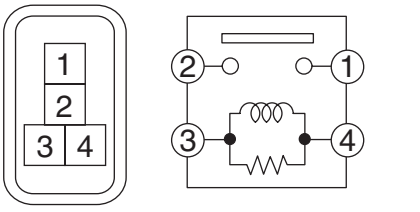
B: INSPECTION

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.

- Gasoline engine model <Ref. to WI(w/o HEV)-142, WIRING DIAGRAM, Horn System.>
- HEV model <Ref. to WI(HEV)-150, 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.

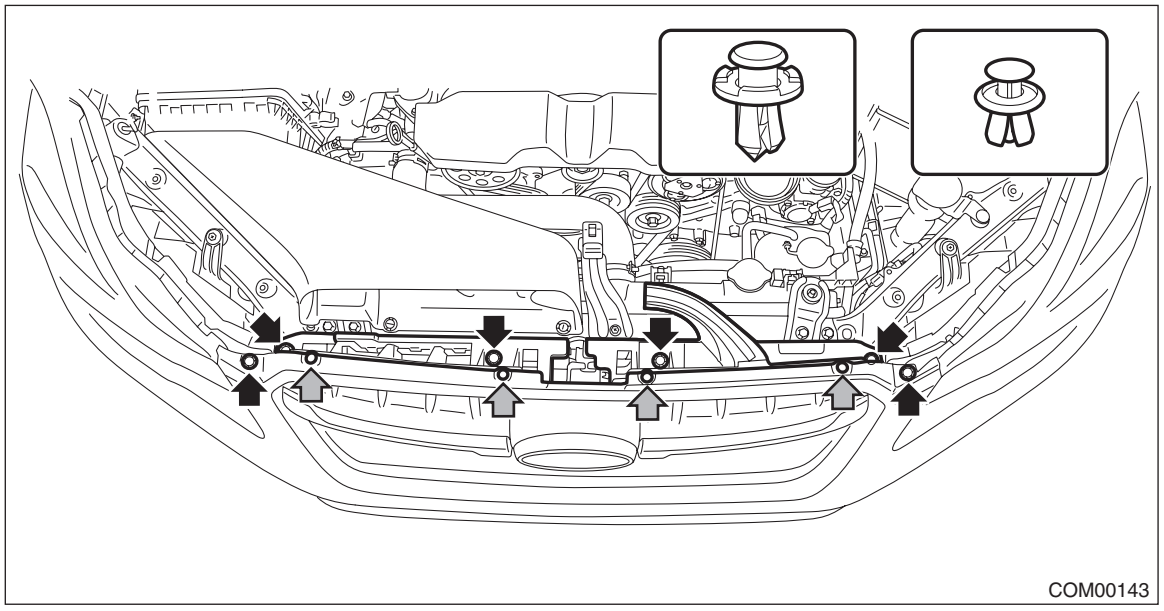
- Horn ASSY: <Ref. to COM-5, Horn.>
- Horn switch: <Ref. to COM-8, Horn Switch.>

4. Horn

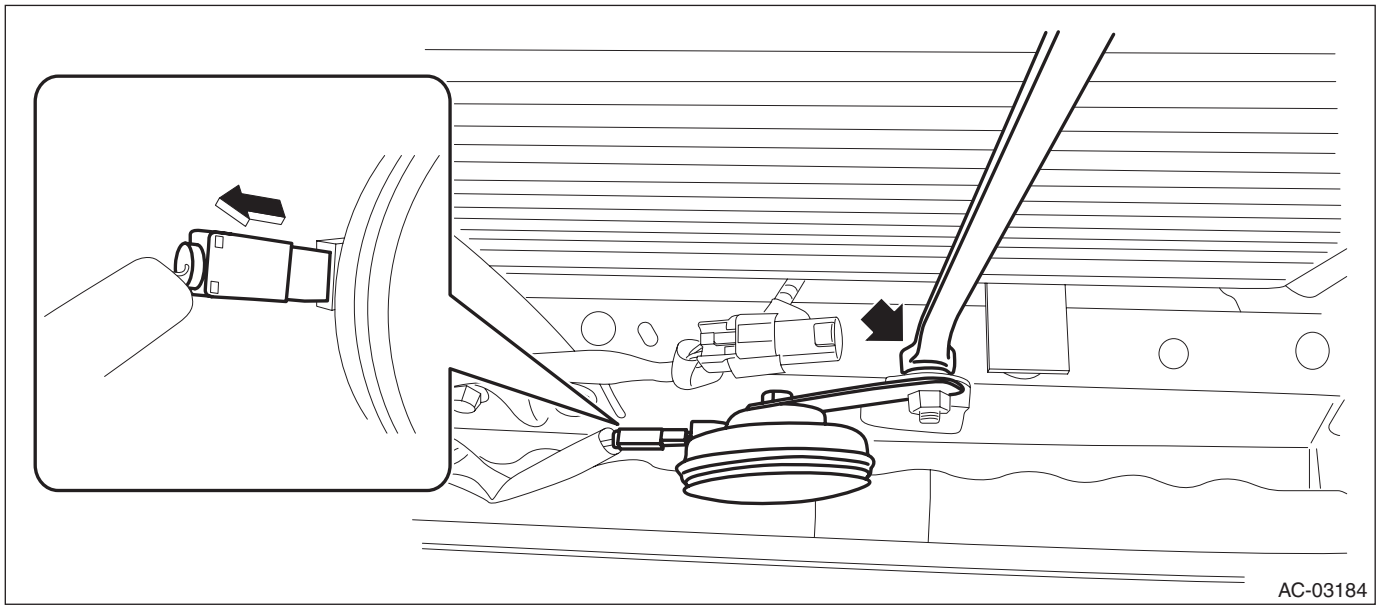
A: REMOVAL

CAUTION:
Do not remove the bumper face - front when removing the horn, in order to prevent damaging the claws of the bracket - front bumper corner and the bracket - front bumper side.

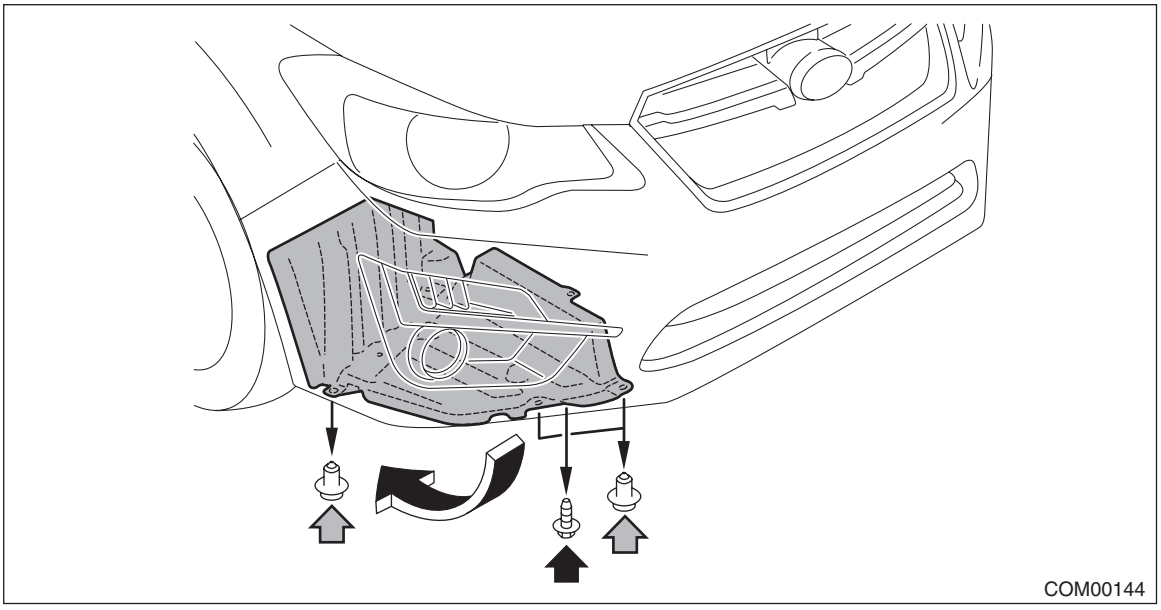
1) Disconnect the ground cable from battery.
2) Remove the clip, and remove the bracket - grille.



3) Remove the horn assembly - Lo.
   (1) Disconnect the connector.
   (2) Remove the horn bracket mounting bolt, and remove the horn assembly - Lo.

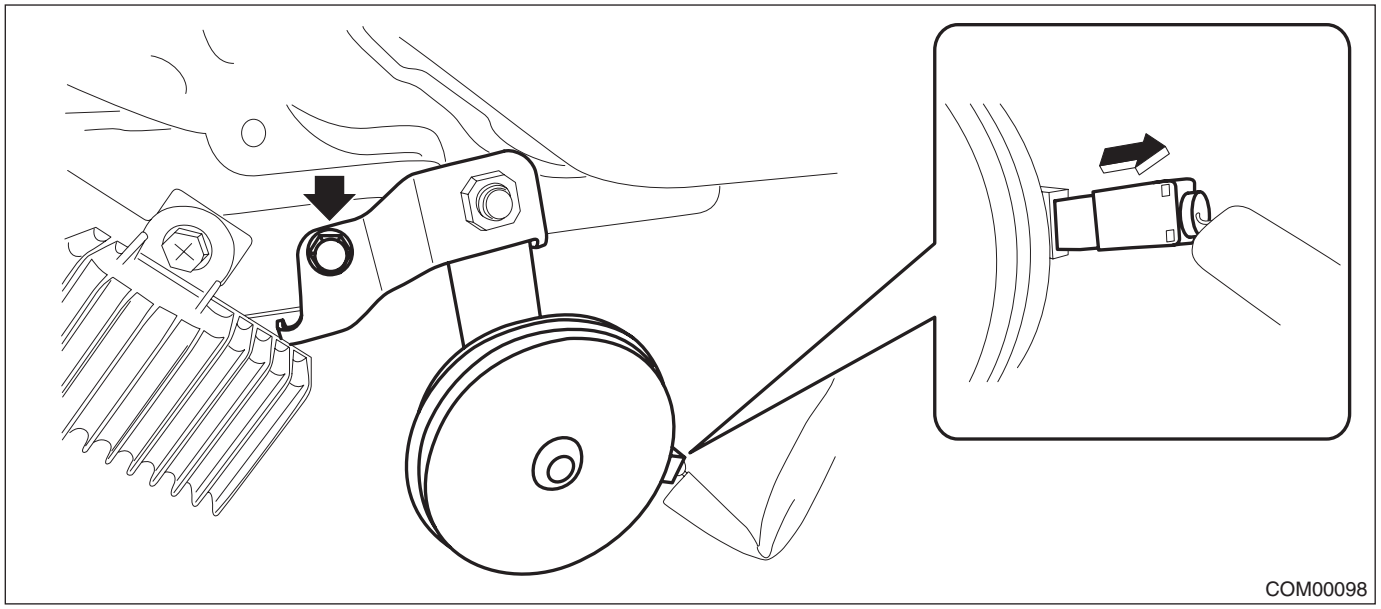


4) Remove the horn assembly - Hi.
(1) Remove the clips, and turn over the front side of the mud guard - front.



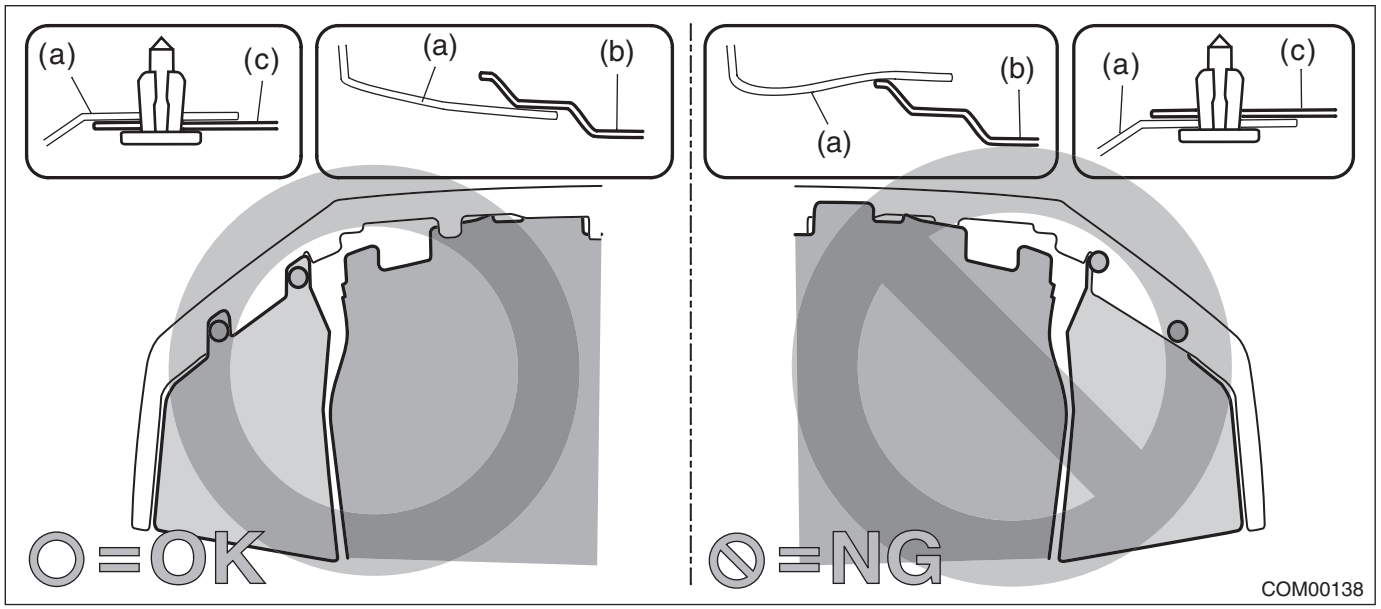
(2) Disconnect the horn connector.
(3) Remove the horn bracket mounting bolt, and remove the horn assembly - Hi.

CAUTION:
The resistor may become hot. Be careful not to burn yourself.



B: INSTALLATION

CAUTION:
Install so that the front end of the under cover (b) comes inside the bumper face - front (a), and the front end of the mud guard (c) comes outside the bumper face - front (a).



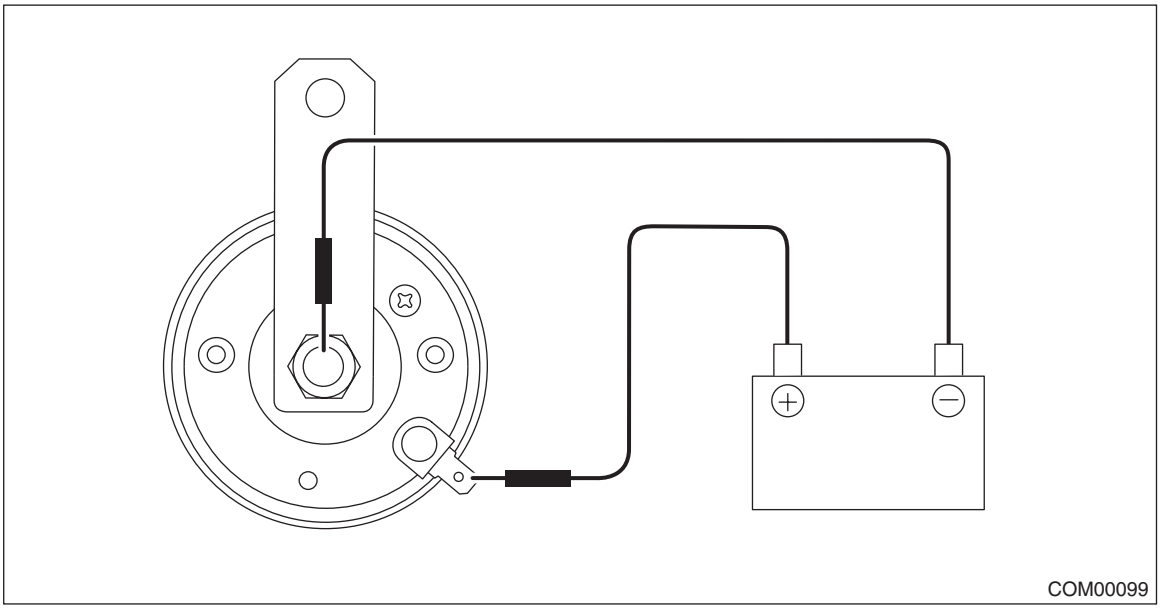
Install each part in the reverse order of removal.

Tightening torque:
Horn assembly - Hi: 13 N·m (1.33 kgf-m, 9.6 ft-lb)
Horn assembly - Lo: 18 N·m (1.84 kgf-m, 13.3 ft-lb)

C: INSPECTION

1. CHECK HORN ASSEMBLY

1) Remove the horn assembly (Hi & Lo). <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
Horn terminal (+) — Horn case (–)	Connect battery to the terminals	Sounds

3) If it does not operate normally, replace the horn assembly.

5. Horn Switch

A: NOTE

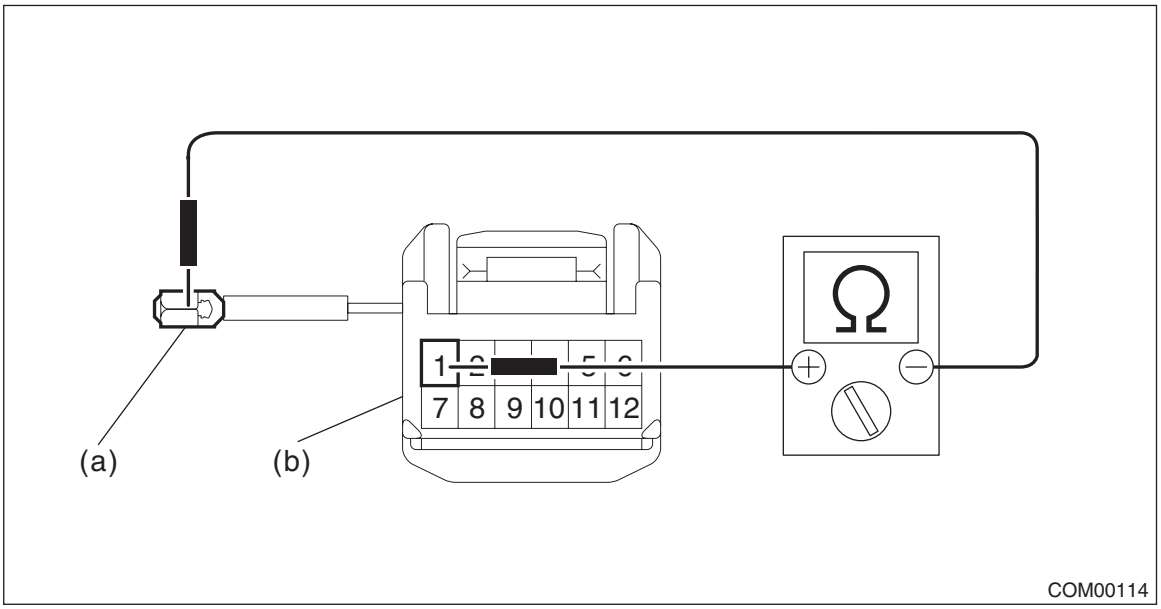
Horn switch is a unit with the driver's airbag module. For operation procedures, refer to "Driver's Airbag Module" in "AIRBAG SYSTEM". <Ref. to AB-32, Driver's Airbag Module.>

B: INSPECTION

1. CHECK HORN SWITCH

1) Remove the driver's airbag module. <Ref. to AB-32, REMOVAL, Driver's Airbag Module.>
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

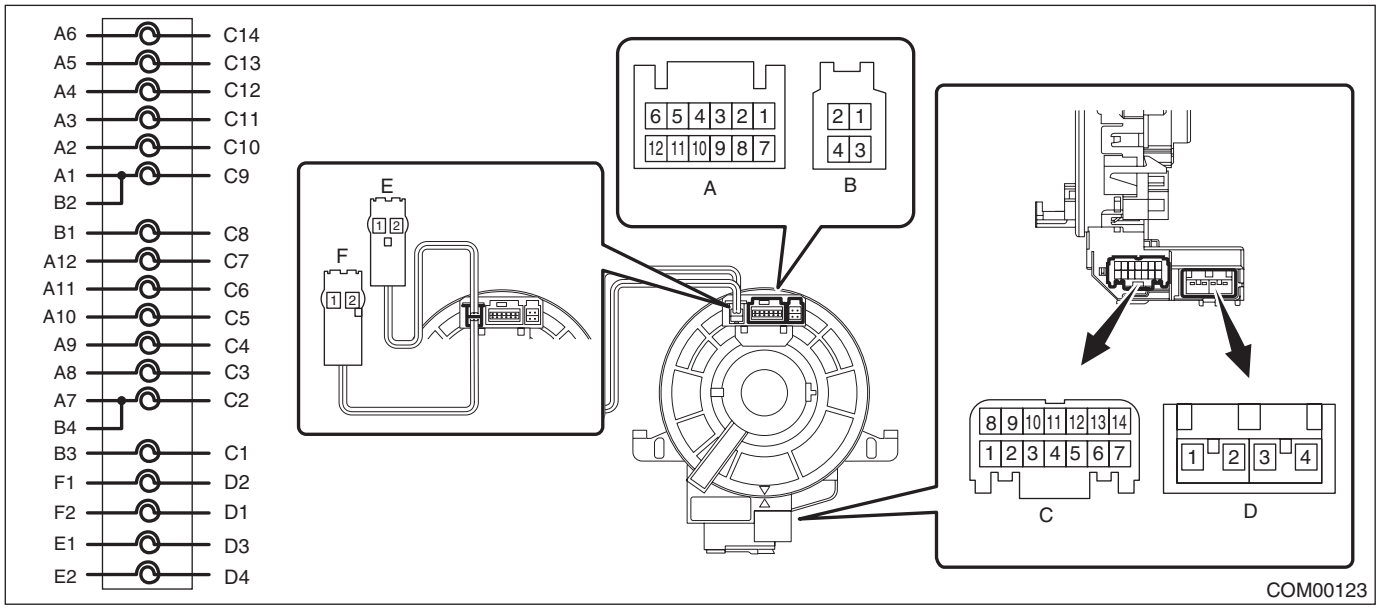
Terminal No.	Standard
Horn switch terminal — ground terminal	Less than 1 Ω

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-93, 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

		Page
1.	General Description	2
2.	Relay and Fuse	8
3.	Power Window System	10
4.	Power Window Control Switch	12
5.	Front Door Glass	18
6.	Front Regulator and Motor Assembly	21
7.	Remote Control Mirror System	23
8.	Outer Mirror Assembly	24
9.	Remote Control Mirror Switch	28
10.	Rearview Mirror	30
11.	Rear Door Glass	31
12.	Rear Regulator and Motor Assembly	33
13.	Windshield Glass	35
14.	Rear Window Glass	44
15.	Rear Gate Glass	47
16.	Rear Window Defogger System	50
17.	Rear Quarter Glass	53
18.	Wiper Deicer System	56

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 that the each component operates 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 of “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, perform the VDC setting mode. <Ref. to VDC-26, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

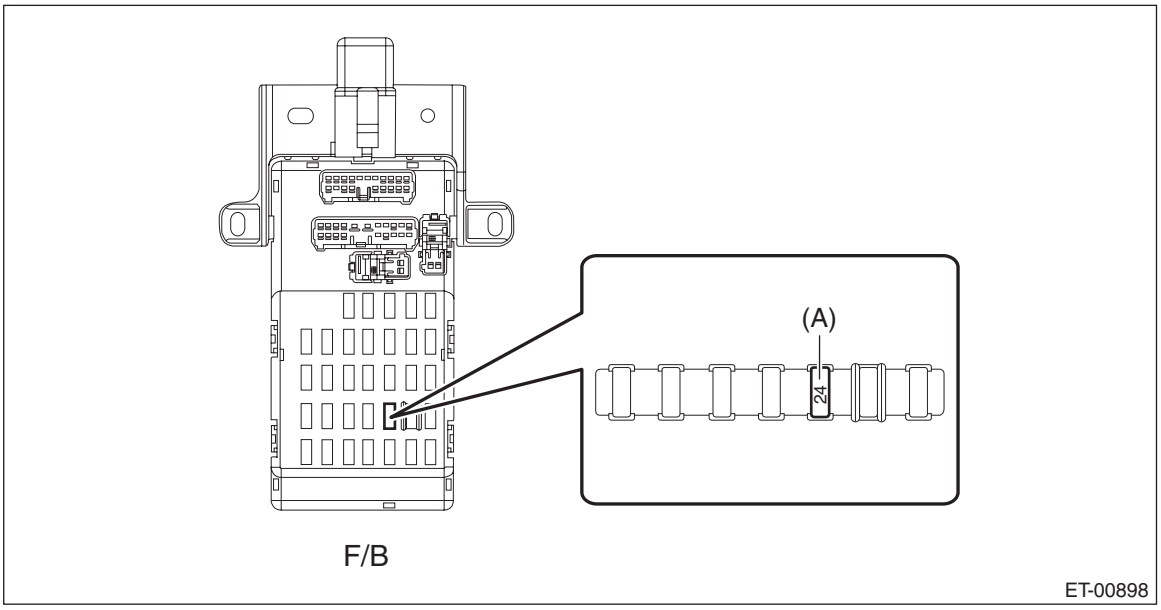
B: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.

2. Relay and Fuse

A: LOCATION



Relay & fuse box	Fuse 10A (audio, navigation unit, AUX input terminal)	(A)

NOTE:
For other related fuses, refer to the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model: <Ref. to WI(HEV)-21, 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. Audio System

A: WIRING DIAGRAM

1. AUDIO

Refer to “Audio System” in the wiring diagram.

- Gasoline engine model: <Ref. to WI(w/o HEV)-52, WIRING DIAGRAM, Audio System.>
- HEV model: <Ref. to WI(HEV)-61, WIRING DIAGRAM, Audio System.>

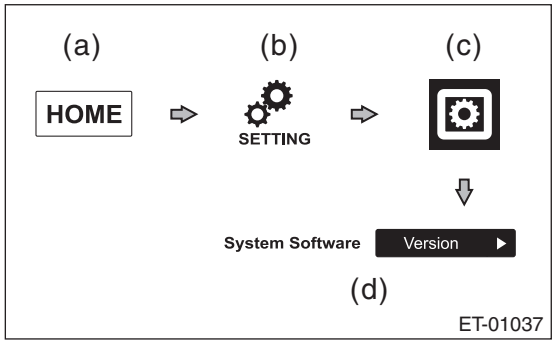
B: OPERATION

Use the following operations to confirm the product information.

CAUTION:
For models with 7 inch display, refer to “OPERATION” in “Navigation System”. <Ref. to ET-8, OPERATION, Navigation System.>

1. STARLINK CONNECTION ID DISPLAY

1) Turn the ignition switch to ACC.
2) Press the HOME button (a) to display the {HOME} screen.
3) Touch the {SETTINGS} (b) to display the {SETTINGS} screen.
4) Touch the {Settings General} (c) to display the {Settings General} screen.
5) Touch the {Version} (d) in {System Software}.



6) Confirm the Serial Number (8 digits).

2. SOFTWARE VERSION DISPLAY

1) Perform the same procedure as for the STARLINK connection ID display. <Ref. to ET-4, STARLINK CONNECTION ID DISPLAY, OPERATION, Audio System.>
2) Confirm the Software Ver.

C: INSPECTION

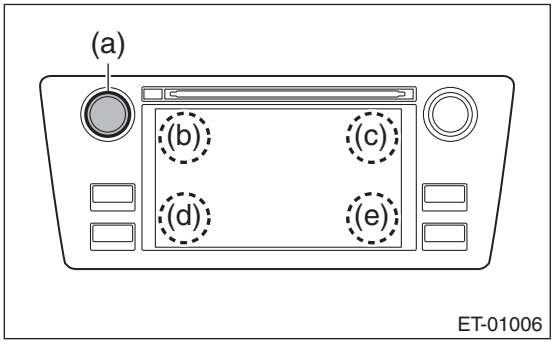
1. CHECK AUDIO OPERATION

Symptoms	Inspection steps
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 rear window defogger. 3. Check the audio ground. 4. Remove the audio and repair them.
Rear window defogger generates noise when it operate.	1. Check the rear window defogger.
Error message is displayed.	Refer to “Diagnostics with Phenomenon”. <Ref. to ET-50, Diagnostics with Phenomenon.>

2. CHECK EACH CONNECTION

CAUTION:
For models with 7 inch display, refer to “Navigation System”. <Ref. to ET-9, CHECK EACH CONNECTION, INSPECTION, Navigation System.>

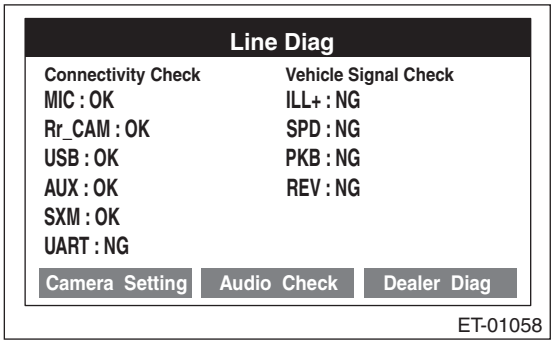
1) Turn the ignition switch to ACC.
2) (a) Press the button to display the Audio OFF screen.
3) Touch the screen in order from (b) to (e).



NOTE:
Pressing the button (a) or turning the ignition switch from the OFF to ACC position can exit the diagnostic mode.

4) {Line Diag} screen is displayed.

5) Check the connection status with the {Connectivity Check} in the {Line Diag} screen.

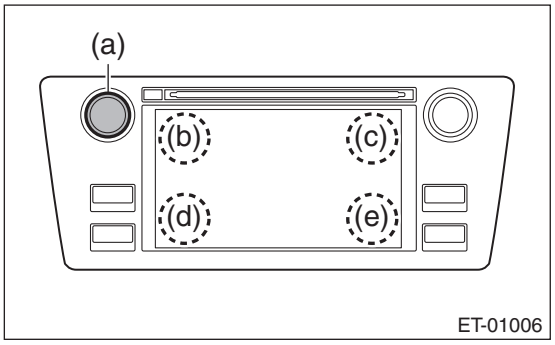


OK: Each connection device is connected properly.
NG: No connection or abnormal connection is detected.

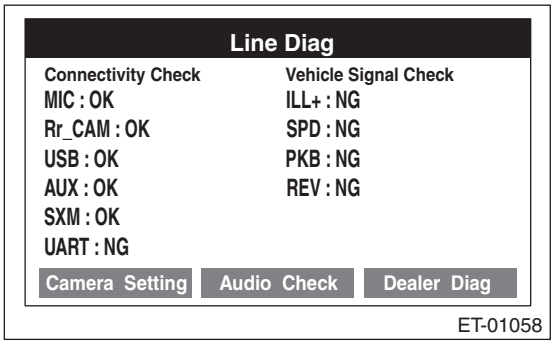
NOTE:
Check the external connection terminals (USB and AUX) by connecting a memory for check or a pin jack.
6) Check the connection status of the connector. If there are no problems, the connection device or unit could be faulty.

3. CHECK EACH VEHICLE SIGNAL

CAUTION:
For models with 7 inch display, refer to "Navigation System". <Ref. to ET-10, CHECK EACH VEHICLE SIGNAL, INSPECTION, Navigation System.>
1) Turn the ignition switch to ACC.
2) (a) Press the button to display the Audio OFF screen.
3) Touch the screen in order from (b) to (e).



NOTE:
Pressing the button (a) or turning the ignition switch from the OFF to ACC position can exit the diagnostic mode.
4) {Line Diag} screen is displayed.
5) Check the connection status with the {Vehicle Signal Check} in the {Line Diag} screen.



• **Check illumination**

NOTE:
Before starting inspections, turn the ignition to ON.
1) Set the lighting switch to the parking position.
Make sure that the bright switch is not turned ON at this time.
2) Make sure that {OK} lights in ILL+ and then the screen becomes dim.
OK: Normal
NG: 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 8 km/h (5 MPH) or more.
2) Check that {OK} is displayed in SPD.
OK: Normal
NG: Vehicle speed is less than 8 km/h (5 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 {OK} is displayed in PKB.
OK: Normal
NG: 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 to ON.
1) Pull the parking brake lever and depress the brake pedal, then place the select lever or gear shift lever in reverse.
2) Make sure that {OK} is displayed in REV.
OK: Normal
NG: Abnormal. Check the signal line connector. If there are no problems, the unit could be faulty.

D: NOTE

For procedure of each component in the audio system, refer to the respective sections.
- Audio unit: <Ref. to ET-12, Audio.>
- Front speaker
  - Tweeter (instrument panel): <Ref. to ET-15, TWEETER, REMOVAL, Front Speaker.>
  - Door speaker: <Ref. to ET-16, DOOR SPEAKER, REMOVAL, Front Speaker.>
- Rear speaker: <Ref. to ET-18, Rear Speaker.>
- Antenna: <Ref. to ET-20, Antenna.>
- Steering satellite switch: <Ref. to ET-32, Steering Satellite Switch.>
- External connection terminal: <Ref. to ET-49, External Connection Terminal.>
- Rearview camera: <Ref. to ET-37, Rearview Camera System.>

4. Navigation System

A: WIRING DIAGRAM

Refer to “Navigation System” in the wiring diagram.

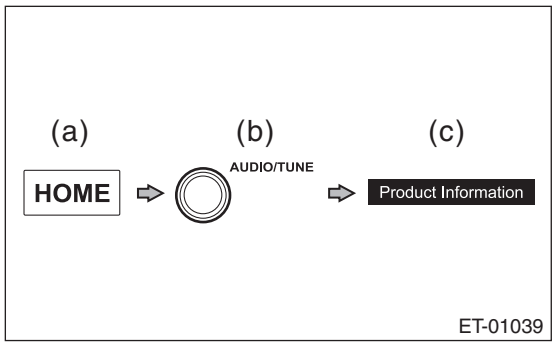
- Gasoline engine model: <Ref. to WI(w/o HEV)-166, WIRING DIAGRAM, Navigation System.>
- HEV model: <Ref. to WI(HEV)-171, WIRING DIAGRAM, Navigation System.>

B: OPERATION

Use the following operations to confirm the product information.

1. STARLINK CONNECTION ID DISPLAY

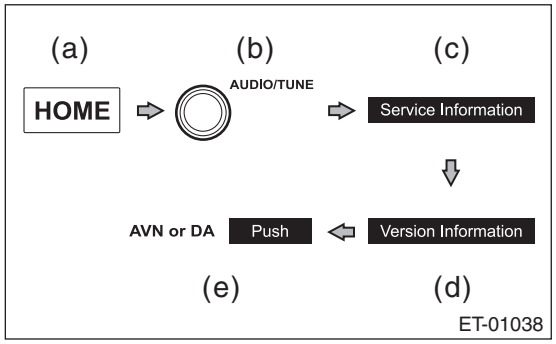
1) Turn the ignition switch to ACC.
2) Press the AUDIO/TUNE knob (b) five times with the HOME button (a) pressed to display the {Service Menu} screen.
3) Touch the {Product Information} (c) to display the {Product Information} screen.



4) Confirm the connectivity ID (16 digits).

2. SOFTWARE VERSION DISPLAY

1) Turn the ignition switch to ACC.
2) Press the AUDIO/TUNE knob (b) five times with the HOME button (a) pressed to display the {Service Menu} screen.
3) Touch the {Service Information} (c).
4) Touch the {Version Information} (d) to display the {Version Information} screen.
5) Touch the {AVN or DA} (e) to display the {Unit Version Information} screen.



6) Confirm the version.

C: INSPECTION

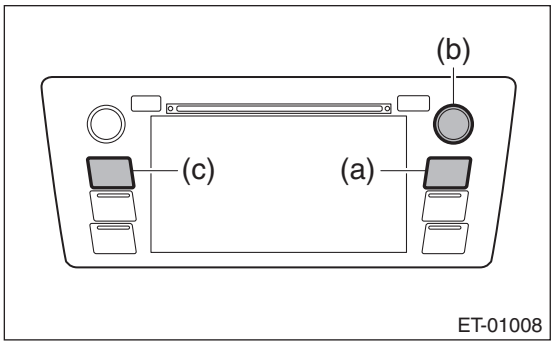
1. CHECK NAVIGATION OPERATION

Symptoms	Inspection steps
Map screen is not displayed.	1. Check the map data (microSD card). 2. Remove the map data (microSD card) to repair. 3. Remove the navigation to repair.

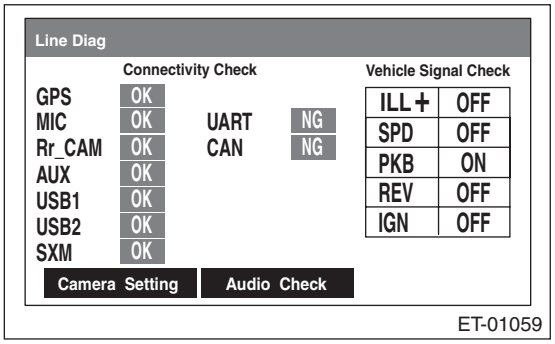
NOTE:
Refer to “Audio System” for navigation audio operation check. <Ref. to ET-5, CHECK AUDIO OPERATION, INSPECTION, Audio System.>

2. CHECK EACH CONNECTION

1) Turn the ignition switch to ACC.
2) Press the button (b) twice with the button (a) pressed.



NOTE:
Pressing the button (c) for 3 seconds or more, or turning the ignition switch from the OFF to ACC position can exit the diagnostic mode.
3) {Line Diag} screen is displayed.
4) Check the connection status with the {Connectivity Check} in the {Line Diag} screen.

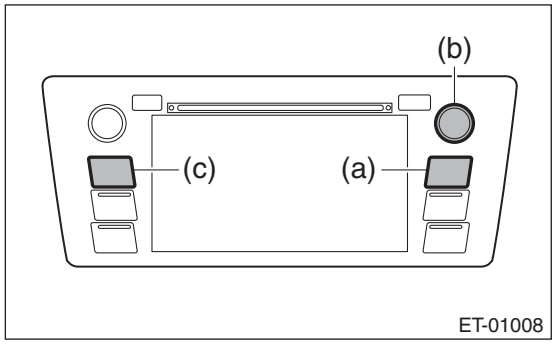


NOTE:
GPS is displayed only for the navigation system.
OK: Each connection device is connected properly.
NG: No connection or abnormal connection is detected.

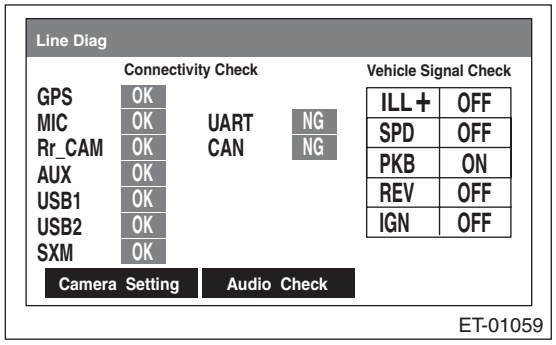
NOTE:
Check the external connection terminals (USB 1, 2 and AUX) by connecting a memory for check or a pin jack.
5) Check the connection status of the connector. If there are no problems, the connection device or unit could be faulty.

3. CHECK EACH VEHICLE SIGNAL

1) Turn the ignition switch to ACC.
2) Press the button (b) twice with the button (a) pressed.



NOTE:
Pressing the button (c) for 3 seconds or more, or turning the ignition switch from the OFF to ACC position can exit the diagnostic mode.
3) {Line Diag} screen is displayed.
4) Check the connection status with the {Vehicle Signal Check} in the {Line Diag} screen.



NOTE:
GPS is displayed only for the navigation system.

- **Check illumination**

NOTE:
Before starting inspections, turn the ignition to ON.
1) Set the lighting switch to the parking position.
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 to ON.
1) Pull the parking brake lever and depress the brake, then put the select lever 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 ignition signal**

1) Turn the ignition to ON.
2) Make sure that {ON} is displayed in IGN.
ON: Normal
OFF: Abnormal Check the signal line connector. If there are no problems, the unit could be faulty.

D: NOTE

For procedure of each component in the navigation system, refer to the respective section.
- Navigation unit: <Ref. to ET-35, Navigation Body.>
- GPS antenna: <Ref. to ET-36, GPS Antenna.>

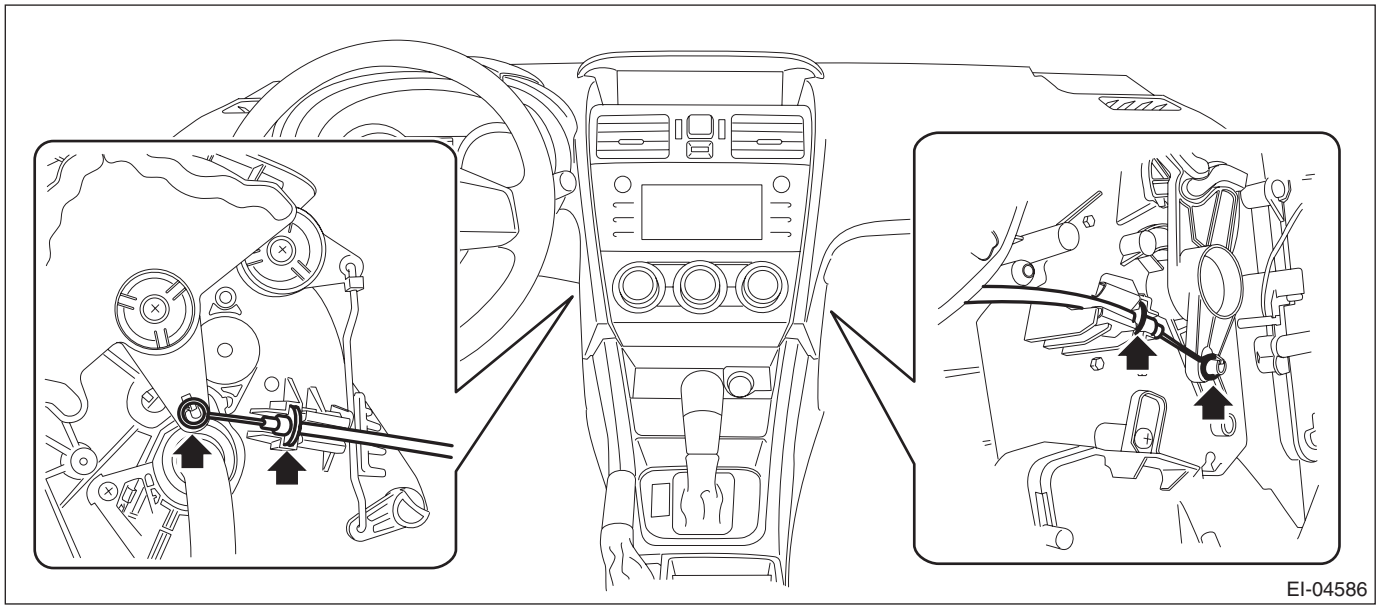
5. Audio

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

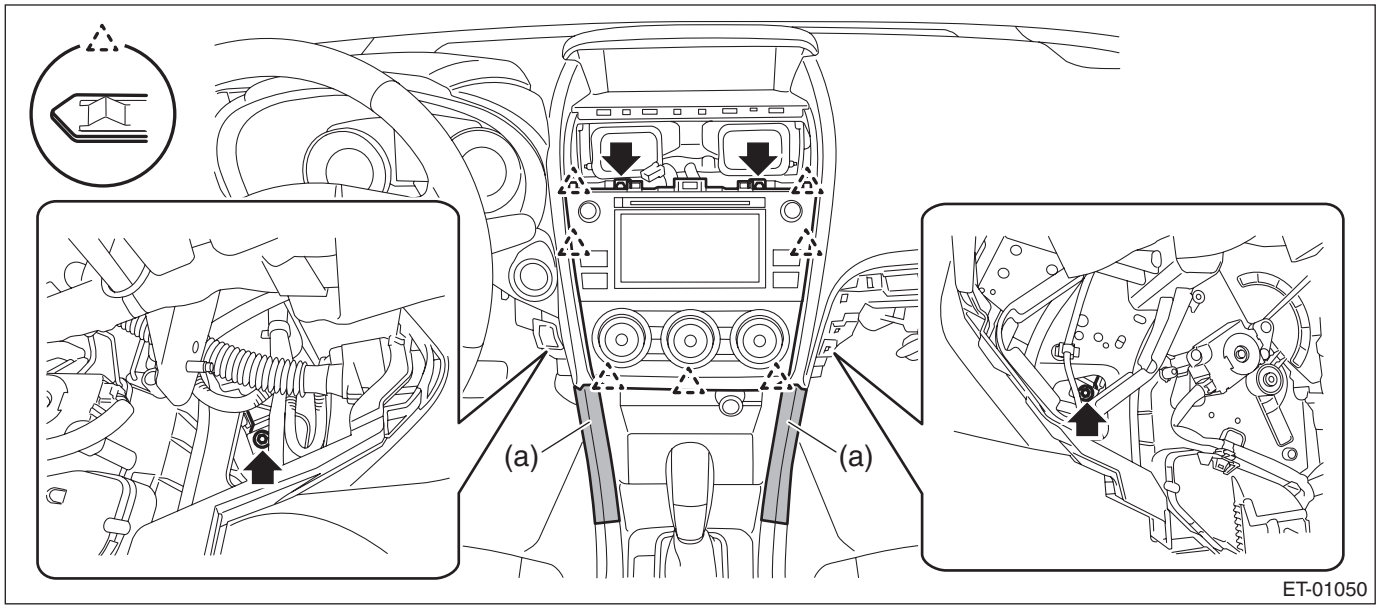
2) Remove the cover assembly - instrument panel LWR driver and the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
3) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
4) Remove the center grille assembly. <Ref. to AC-104, CENTER GRILLE ASSEMBLY, REMOVAL, Air Vent Grille.>
5) Remove the audio assembly.
   (1) On manual A/C models, disconnect the control cables from both sides of the heater & cooling unit.



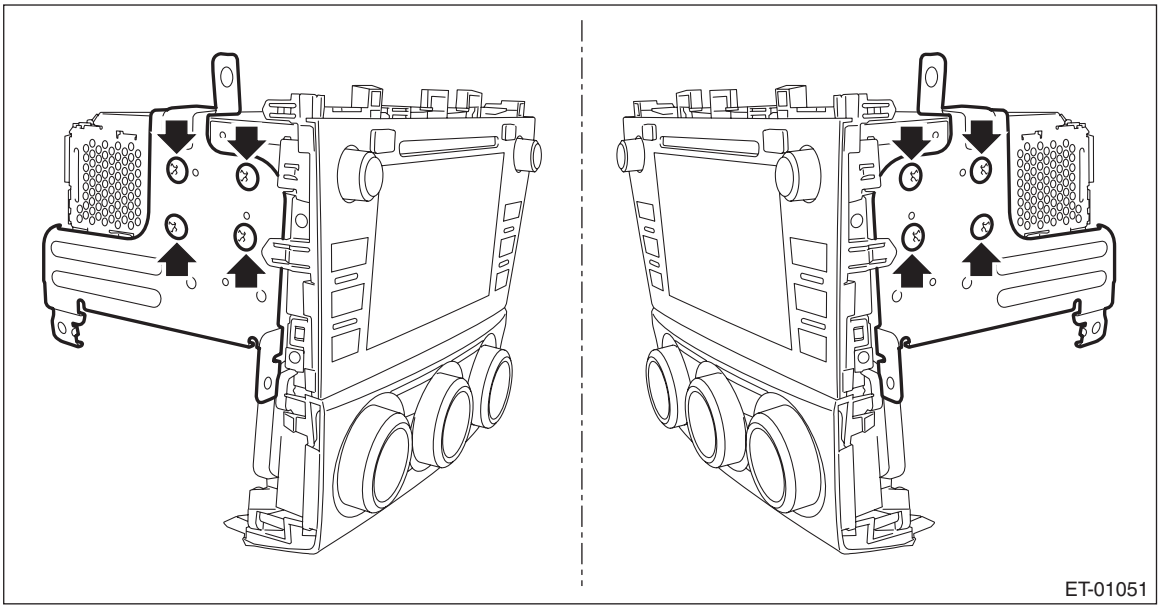
   (2) Attach the protective tape (a) to the cover - shift lever.
   (3) Remove the screws, bolts and claws, and partially pull out the audio assembly.

NOTE:
Release the claws by using a clip remover wrapped with protective tape.

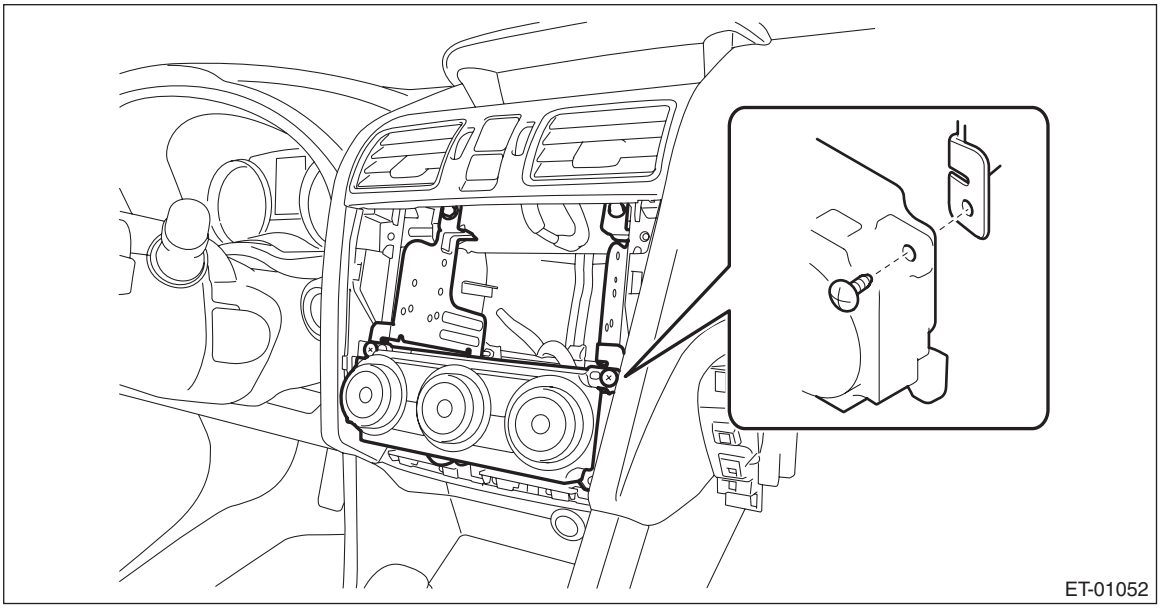
(4) Disconnect the connectors, and remove the audio assembly.



6) Remove the screws, and then remove the audio bracket.



NOTE:
To have the audio repaired, remove the audio bracket and the heater control assembly, and install it to the vehicle as shown in the figure. <Ref. to AC-50, REMOVAL, Control Panel.>



B: INSTALLATION

CAUTION:
After installing the center grille assembly, check that the air vent grille of the center grille assembly is inserted correctly into the air vent duct.
Install each part in the reverse order of removal.

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

6. Front Speaker

A: REMOVAL

1. TWEETER

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

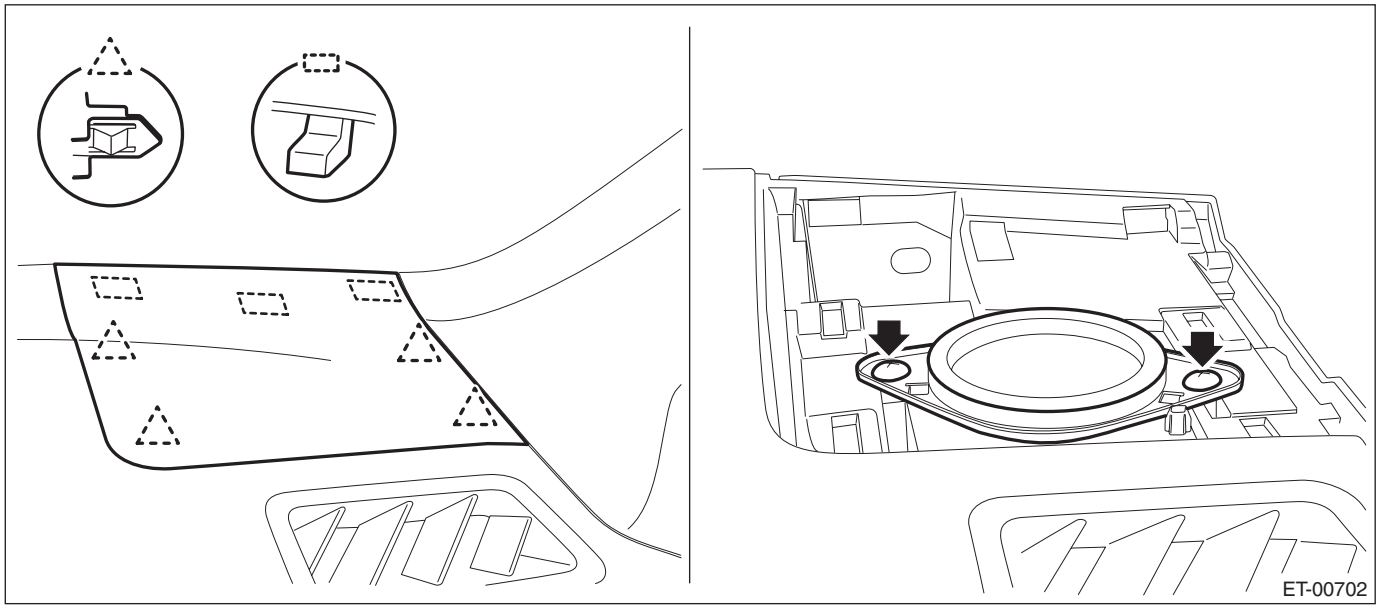
2) Remove the speaker assembly - tweeter.
   (1) Release the clips and claws, then detach the grille speaker side.

NOTE:
Remove the grille speaker side by using a plastic remover.

   (2) Remove the screws.

Preparation tool:
Stubby screwdriver

   (3) Disconnect the connector and remove the speaker assembly - tweeter.

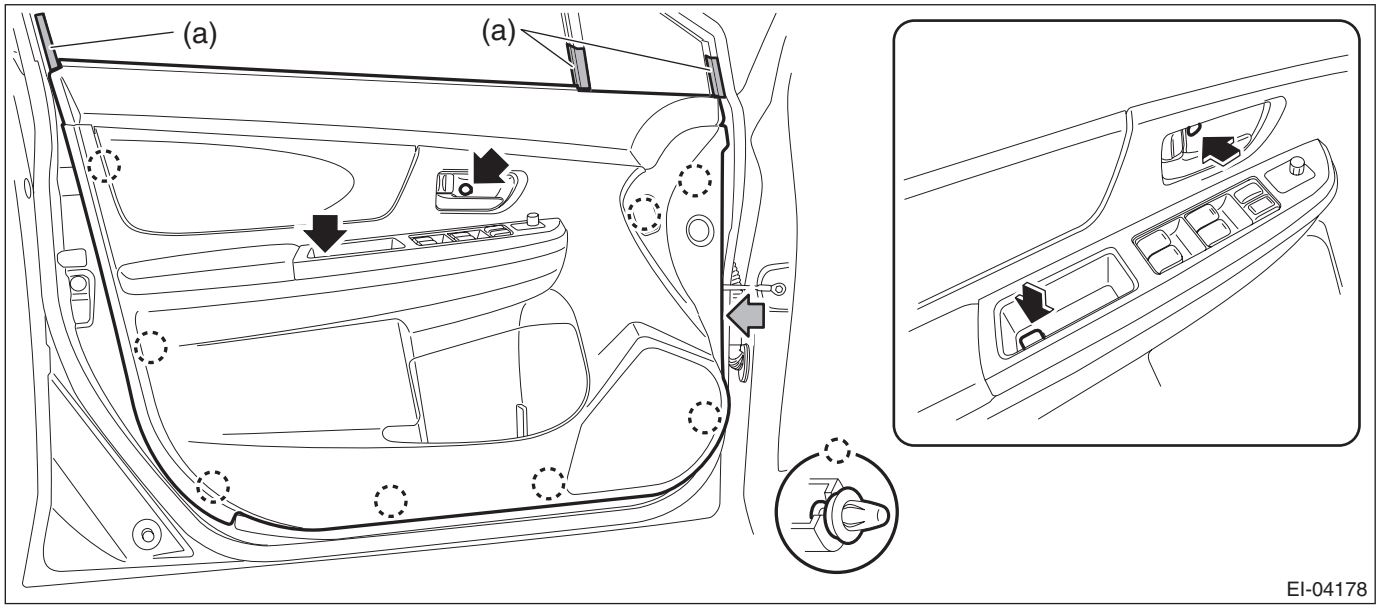


2. DOOR SPEAKER

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

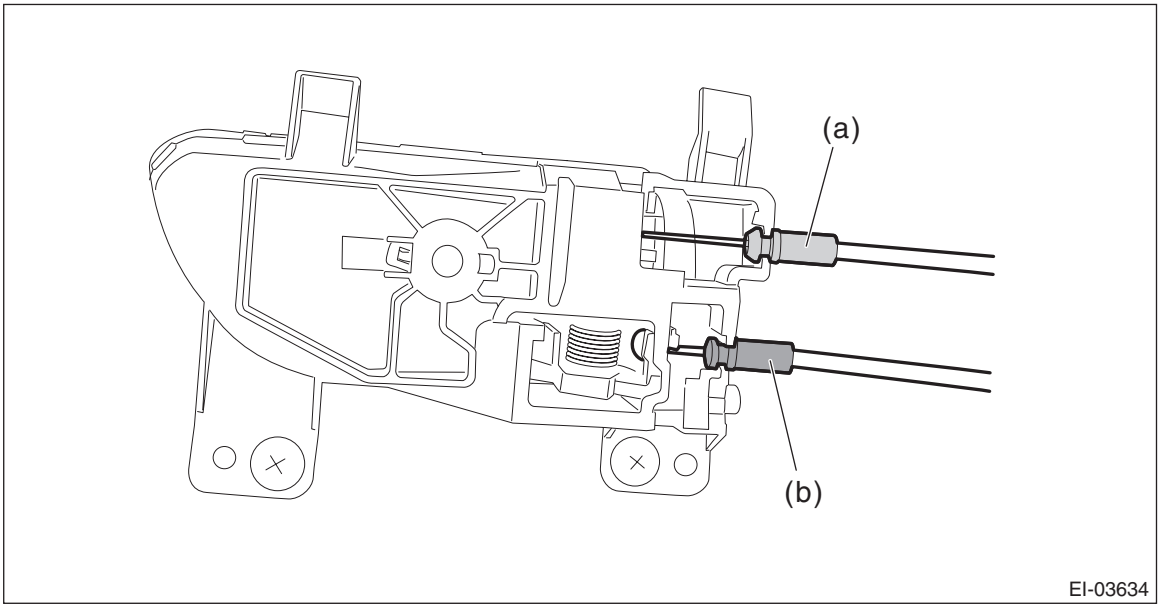
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the trim panel - front door.
   (1) Attach the protective tape (a).
   (2) Open the cover and remove the screw.
   (3) Remove the clips, and remove the trim panel - front door from the panel assembly - front door.



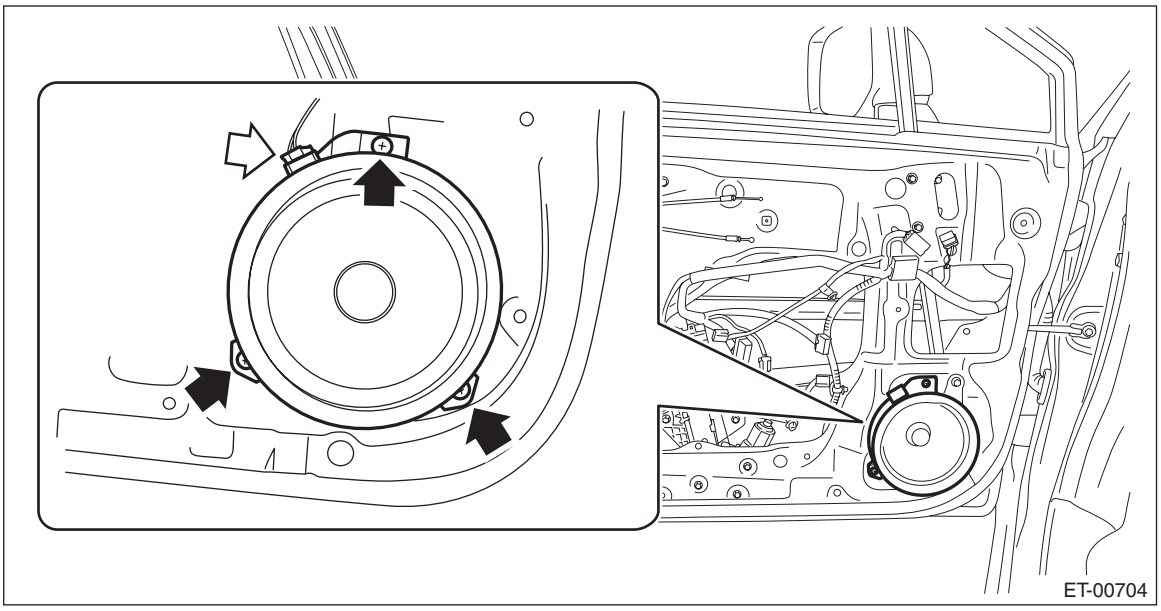
NOTE:
It is easier to remove the door trim if the removal is performed from the gray arrow section.

   (4) Detach the door lock cable (a) and door open cable (b) from the remote assembly - door.



   (5) Disconnect the harness connector and remove the trim panel - front door.

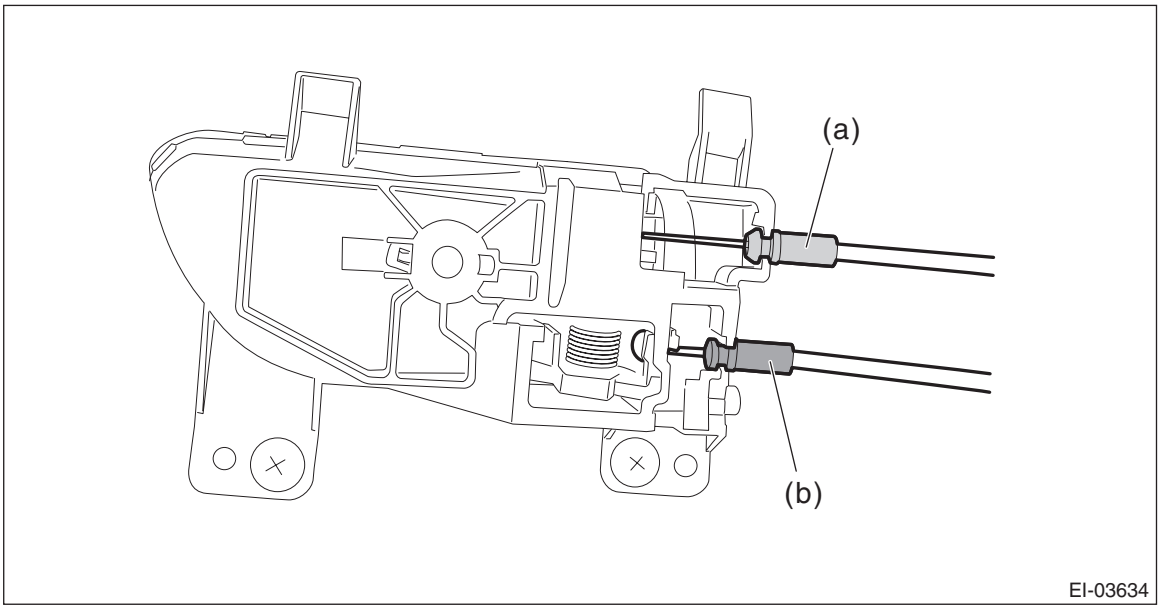
3) Remove the front door speaker assembly.
   (1) Remove the screws.
   (2) Disconnect the connector, and remove the front door speaker assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

NOTE:
Attach the door lock cable (a - end ball: small) to the upper side, and attach the door open cable (b - end ball: large) to the lower side.



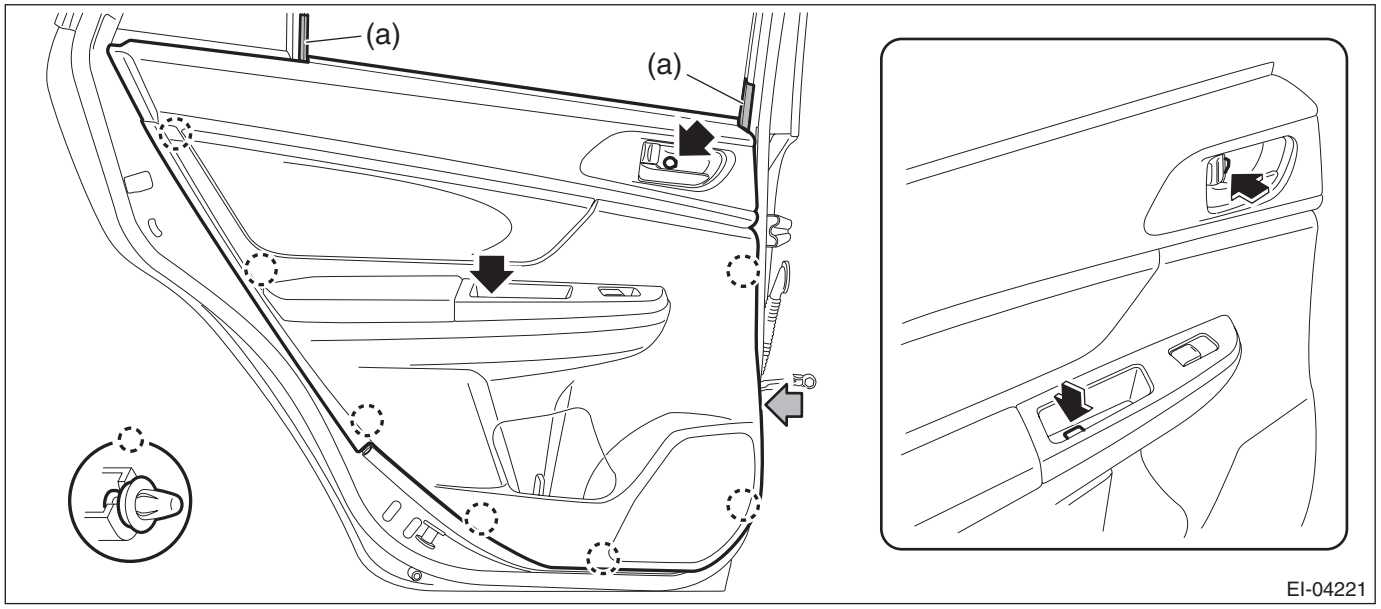
7. Rear Speaker

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

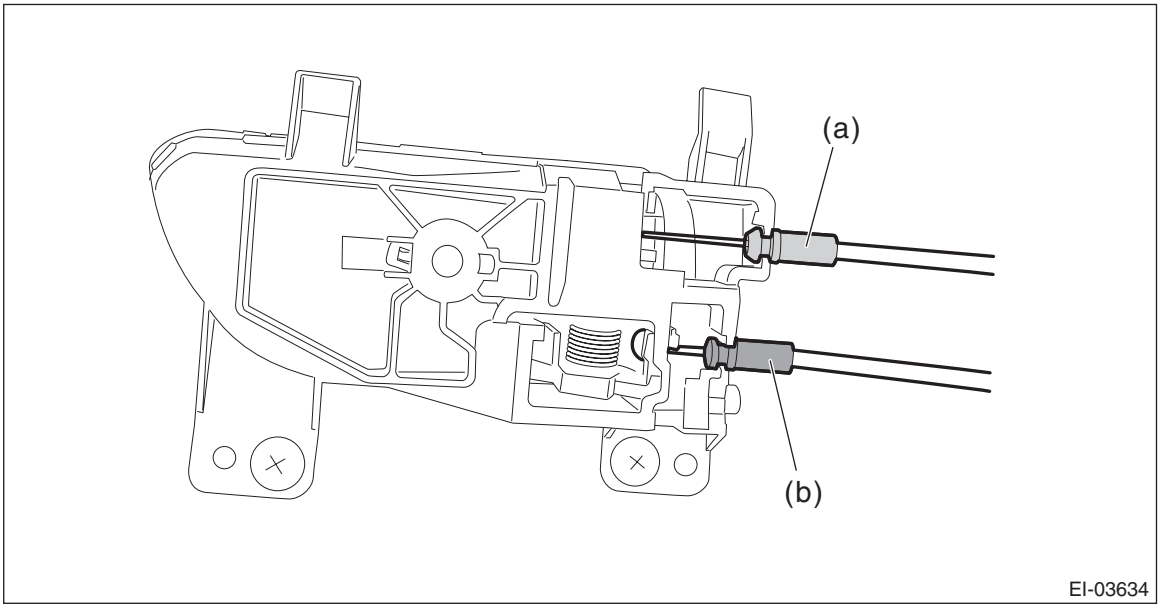
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the trim panel - rear door.
   (1) Attach the protective tape (a).
   (2) Open the cover and remove the screw.
   (3) Remove the clips, and remove the trim panel - rear door from the panel assembly - rear door.



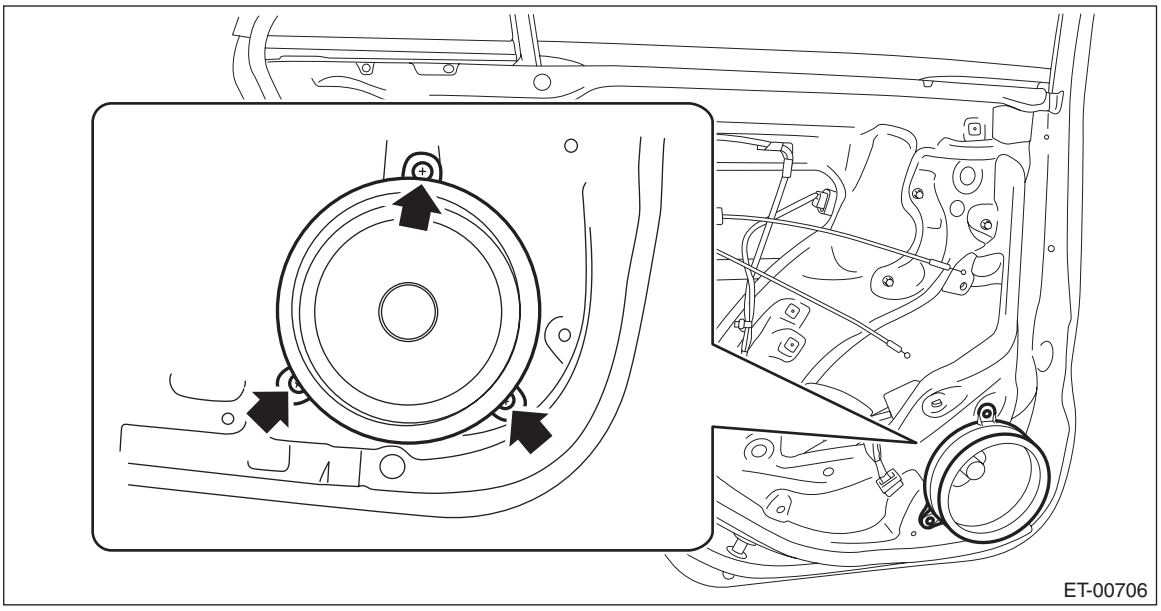
NOTE:
It is easier to remove the door trim if the removal is performed from the gray arrow section.

   (4) Detach the door lock cable (a) and door open cable (b) from the remote assembly - door.



   (5) Disconnect the harness connector and remove the trim panel - rear door.

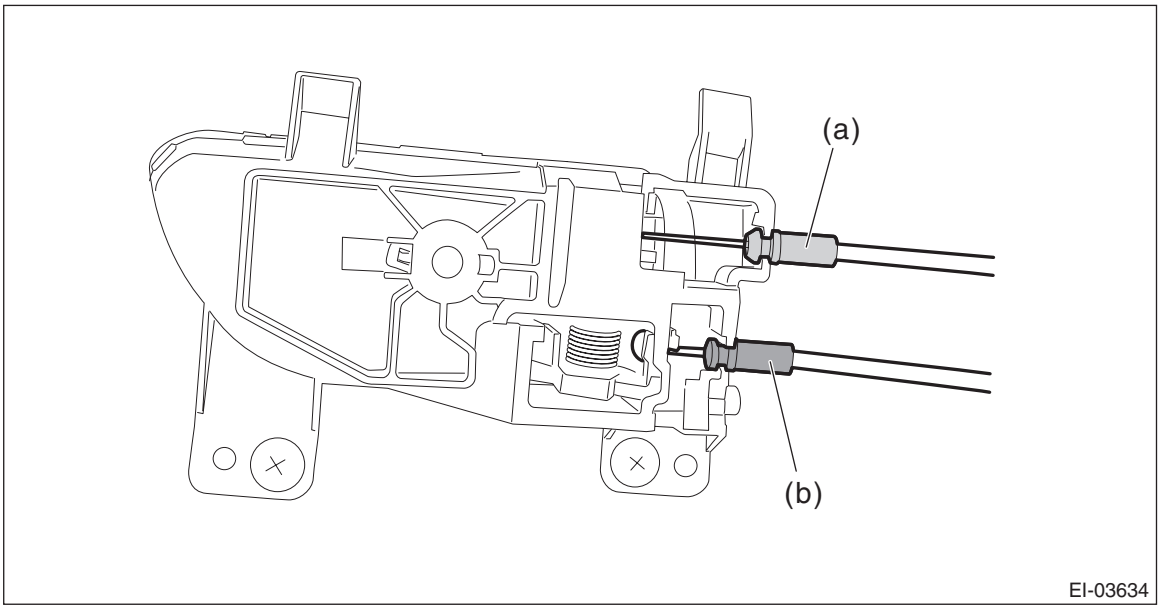
3) Remove the rear speaker assembly.
(1) Remove the screws.
(2) Disconnect the connector behind the speaker and remove the rear speaker assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

NOTE:
Attach the door lock cable (a - end ball: small) to the upper side, and attach the door open cable (b - end ball: large) to the lower side.



8. Antenna

A: REMOVAL

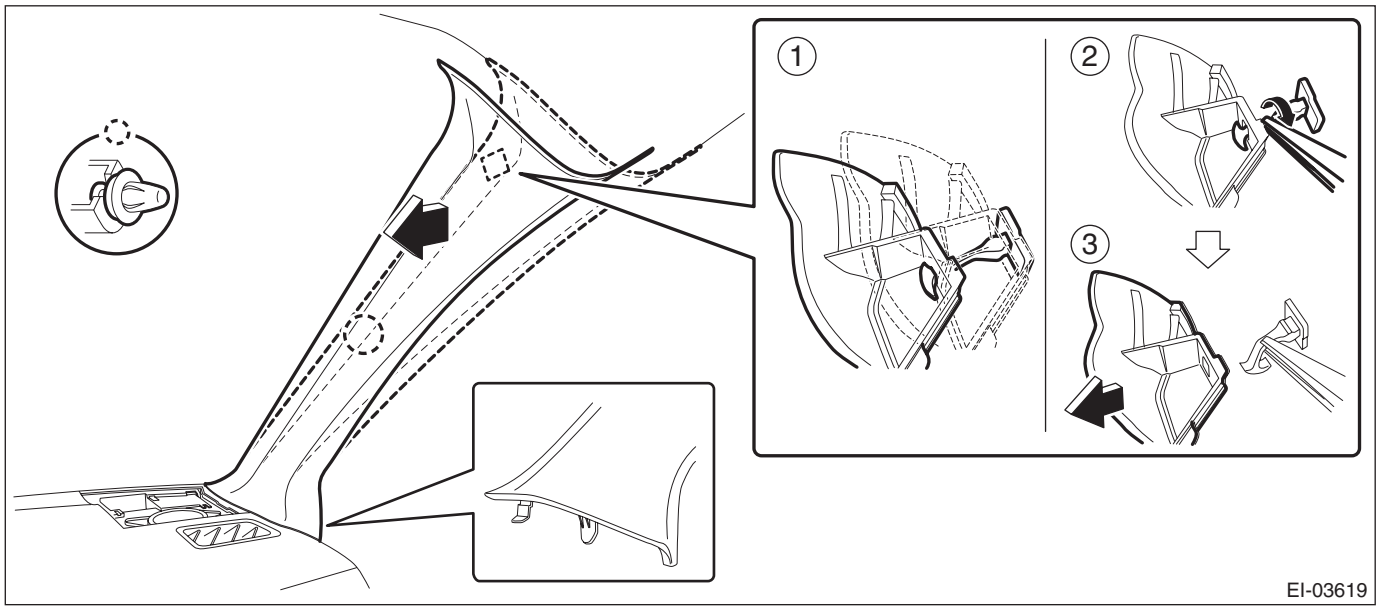
1. ANTENNA

1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

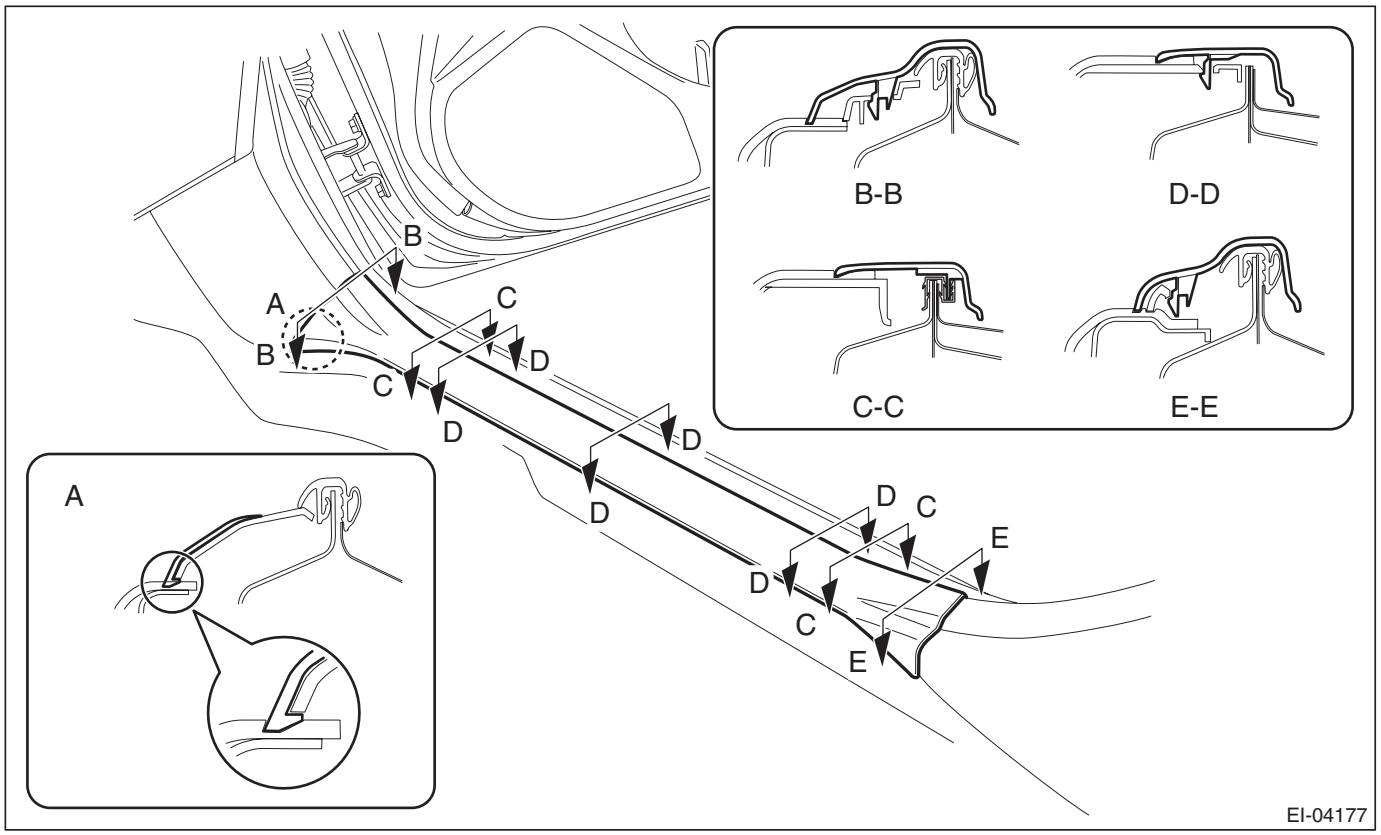
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the trim panel - front pillar UPR on the left and right sides.
   (1) Pull the upper part of the trim panel - front pillar UPR 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) Holding the tether clip twisted as in the previous step, remove the trim panel - front pillar UPR from the tether clip.
   (4) Remove the clips, and remove the trim panel - front pillar UPR.



3) Release the claws, and then remove the cover side sill - front INN on LH and RH sides.

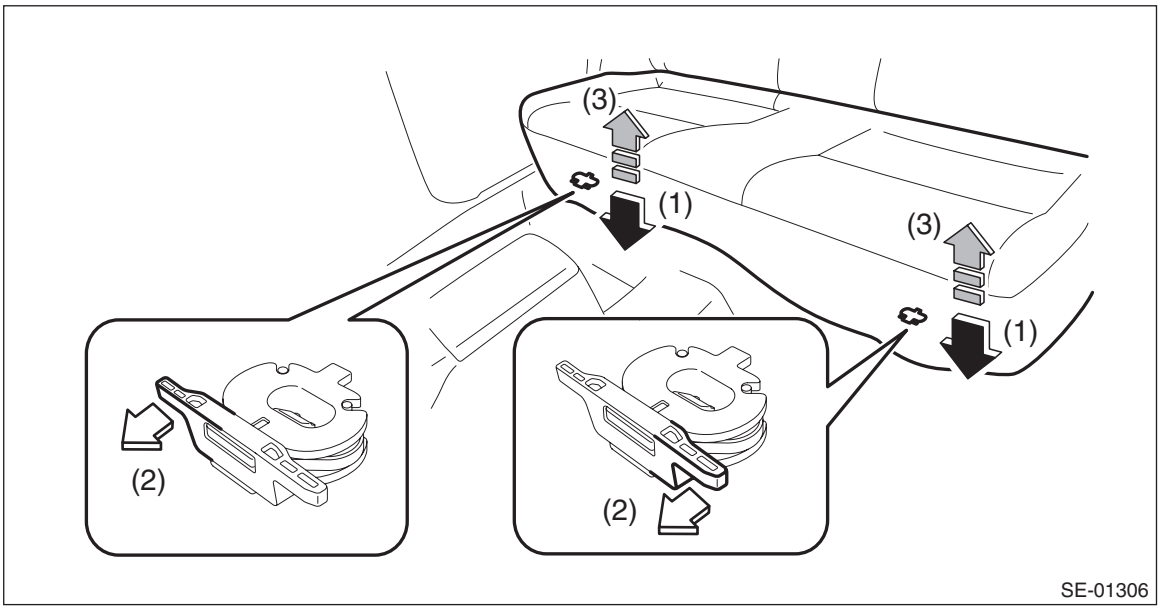


4) Remove the rear seat cushion assembly.

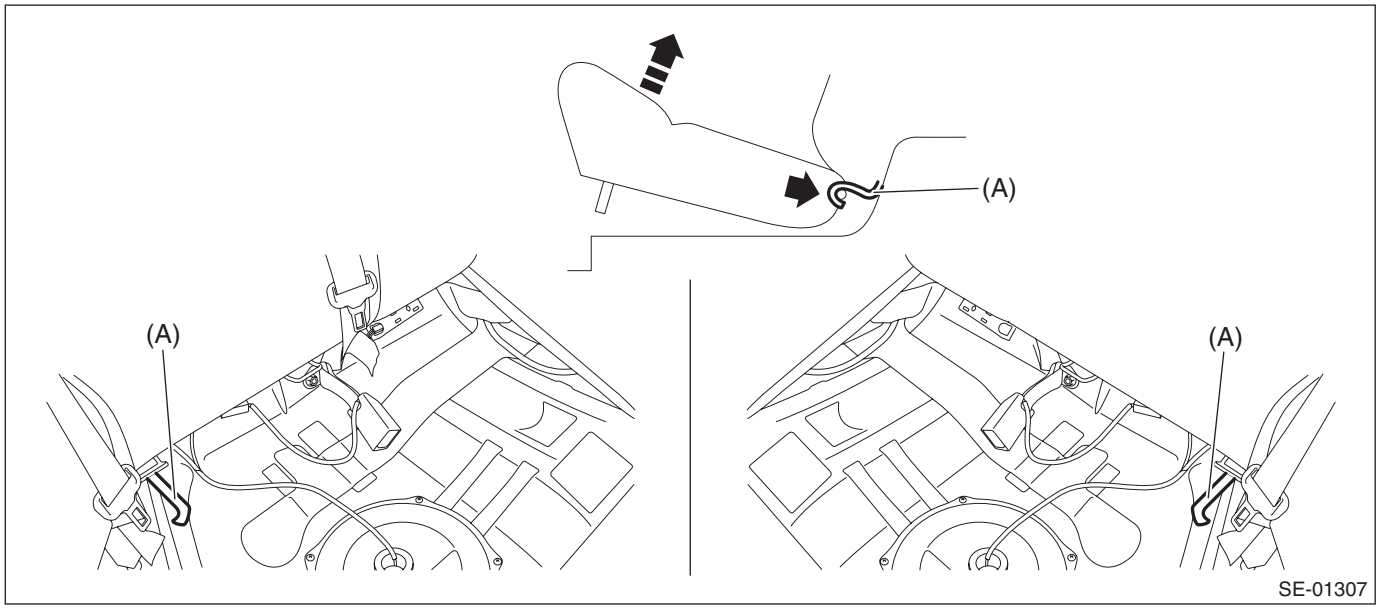
CAUTION:
Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>

(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

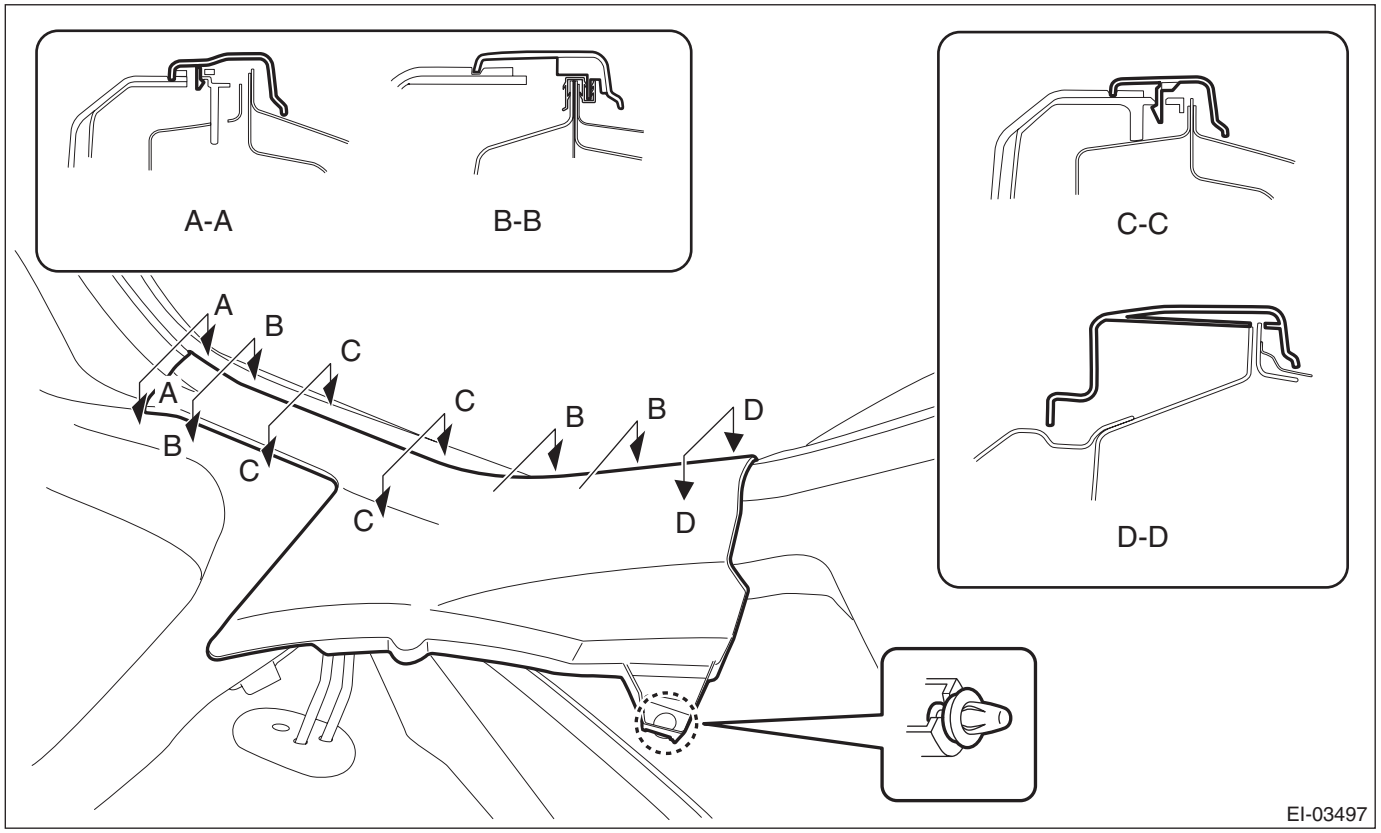


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.



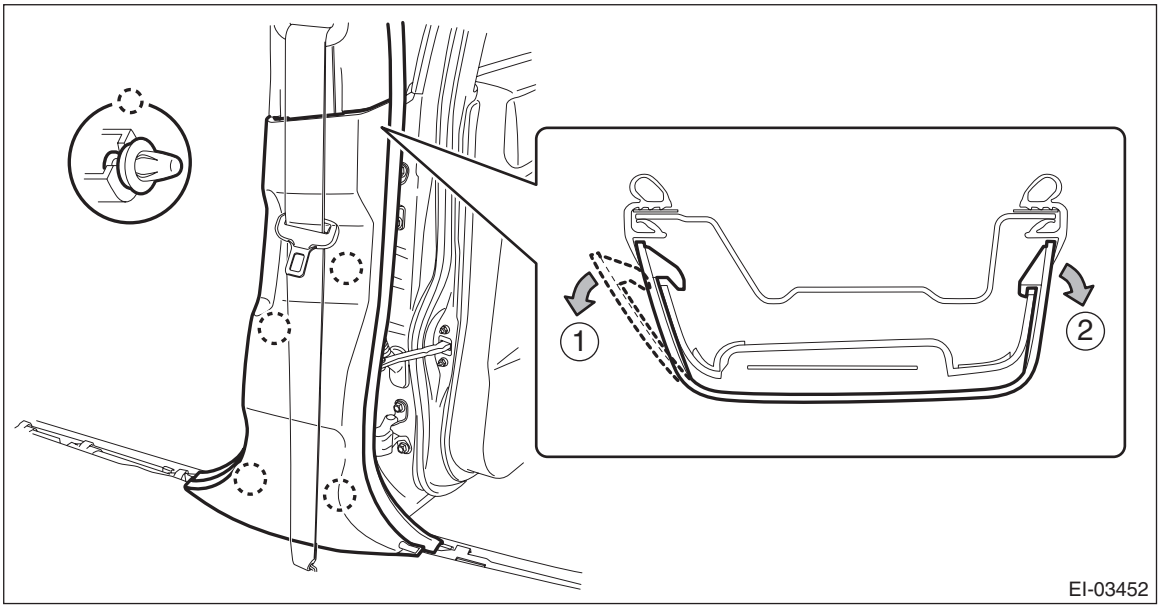
5) Release the clips and claws, and remove the cover side sill - rear INN on LH and RH sides.

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



6) Remove the trim panel - center pillar LWR on the left and right sides.
(1) Release the clip by pulling the trim panel - center pillar LWR toward you.
(2) Expand the claws of the trim panel - center pillar LWR outward, and remove it from the trim panel - center pillar UPR.

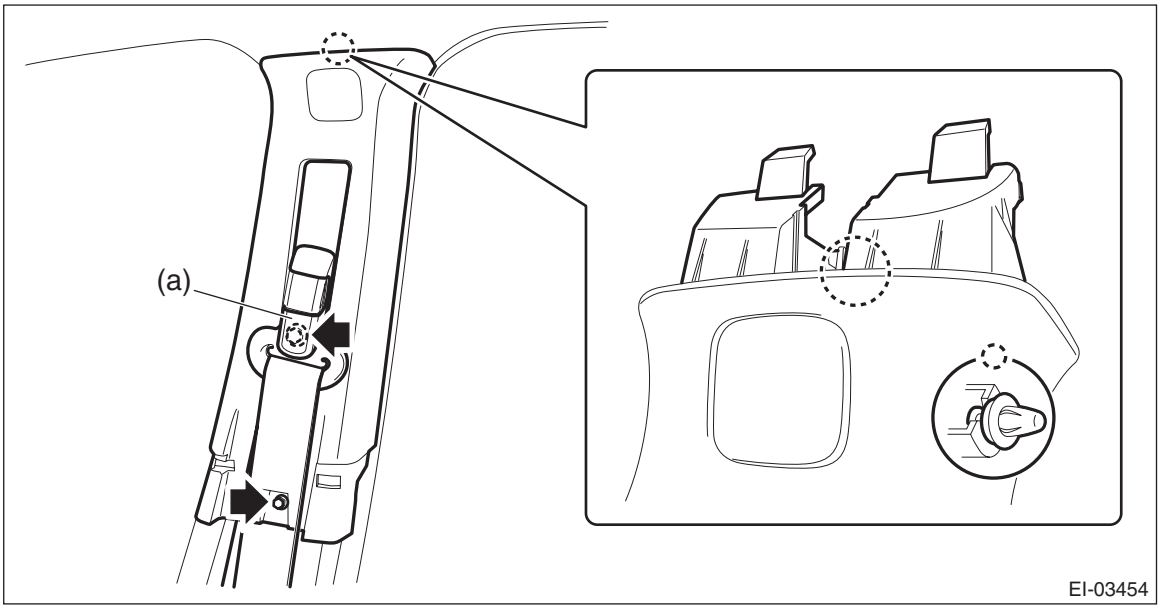
CAUTION:
Do not expand the trim panel - center pillar LWR excessively. Doing so may damage the trim.



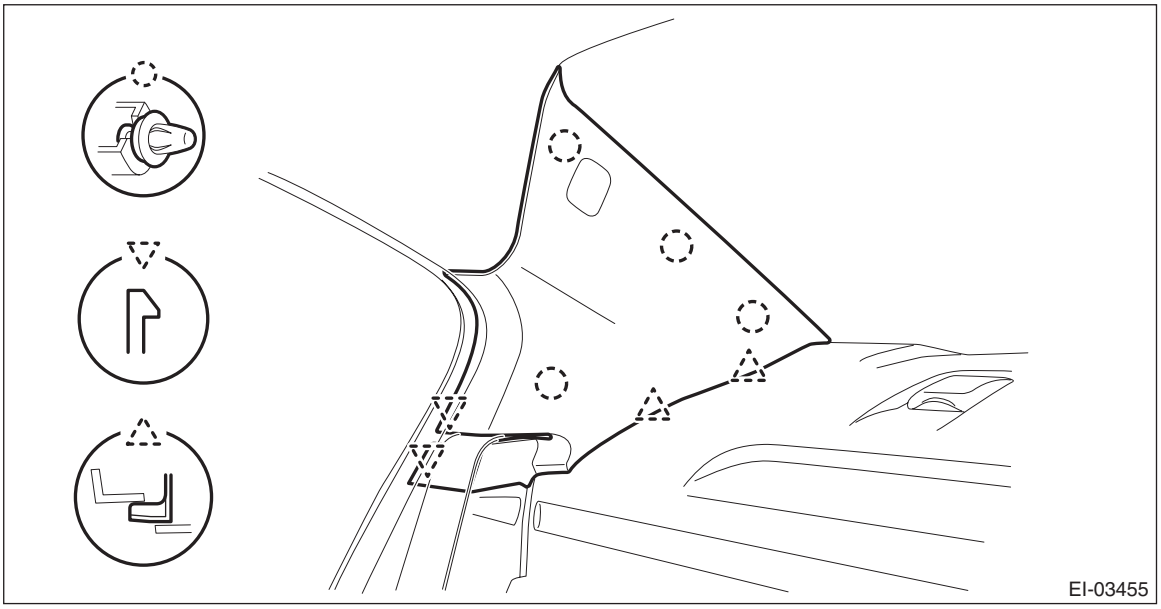
NOTE:
First release the claw located to the front of the vehicle.

7) Remove the trim panel - center pillar UPR on the left and right sides.
   (1) Remove the cover through (a), and remove the seat belt anchor bolt.
   (2) Remove the bolt on the lower side of the trim panel - center pillar UPR.
   (3) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the trim panel - center pillar UPR.

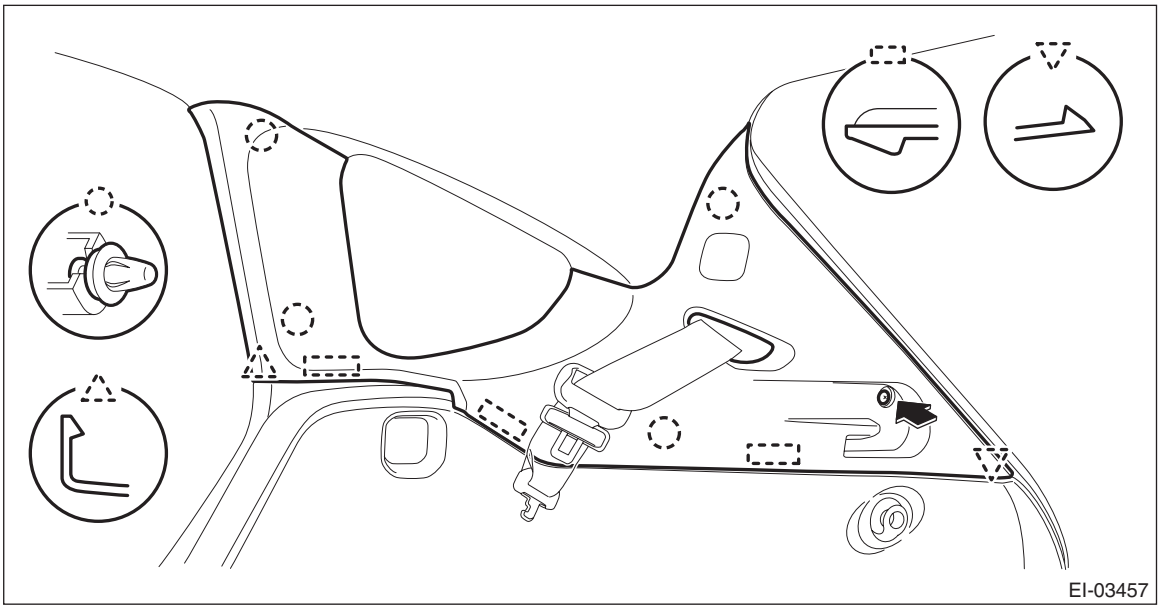
CAUTION:
Do not reuse the upper clips of the trim panel - center pillar UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.



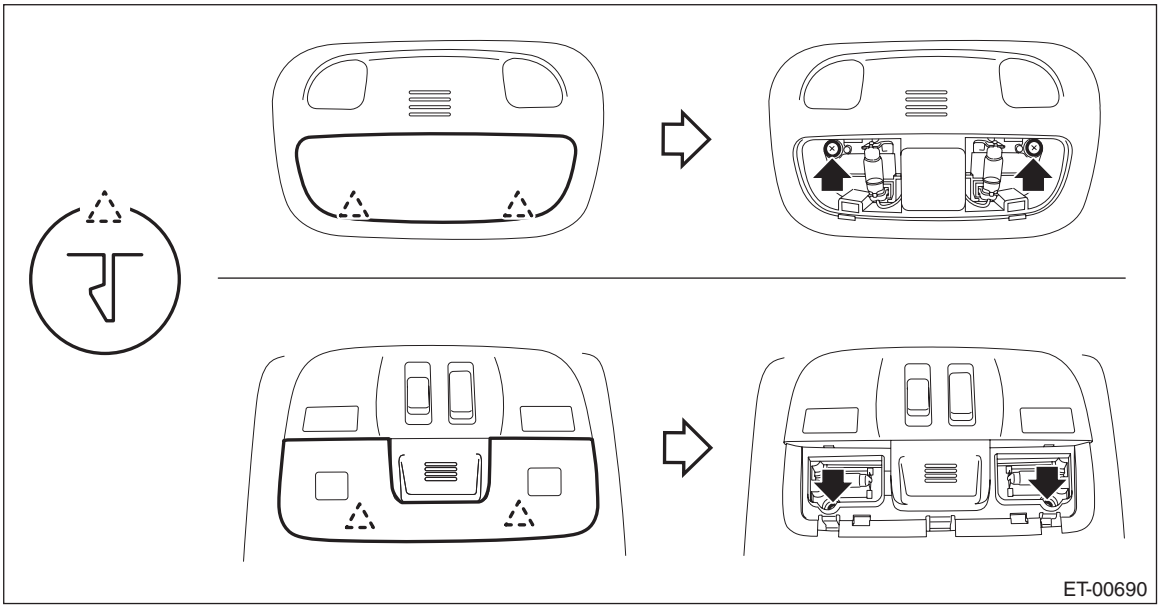
8) Remove the clips, and remove the trim panel - rear pillar UPR on the left and right sides. (4 door model)



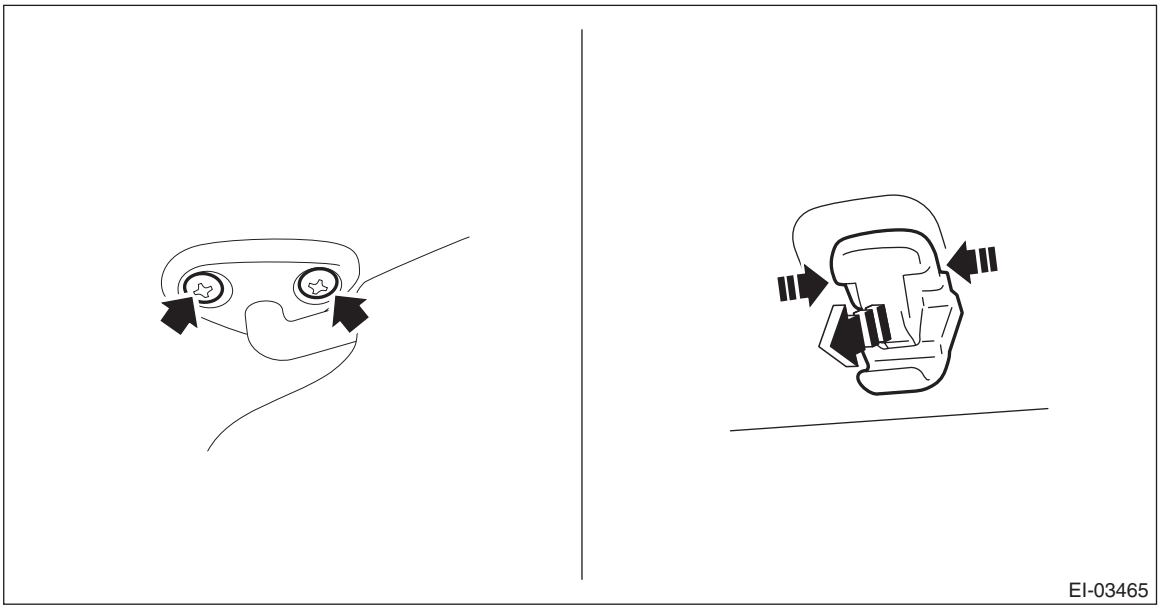
9) Remove the screws and clips, and remove the trim panel - rear quarter pillar UPR on the left and right sides. (5 door model/XV model)



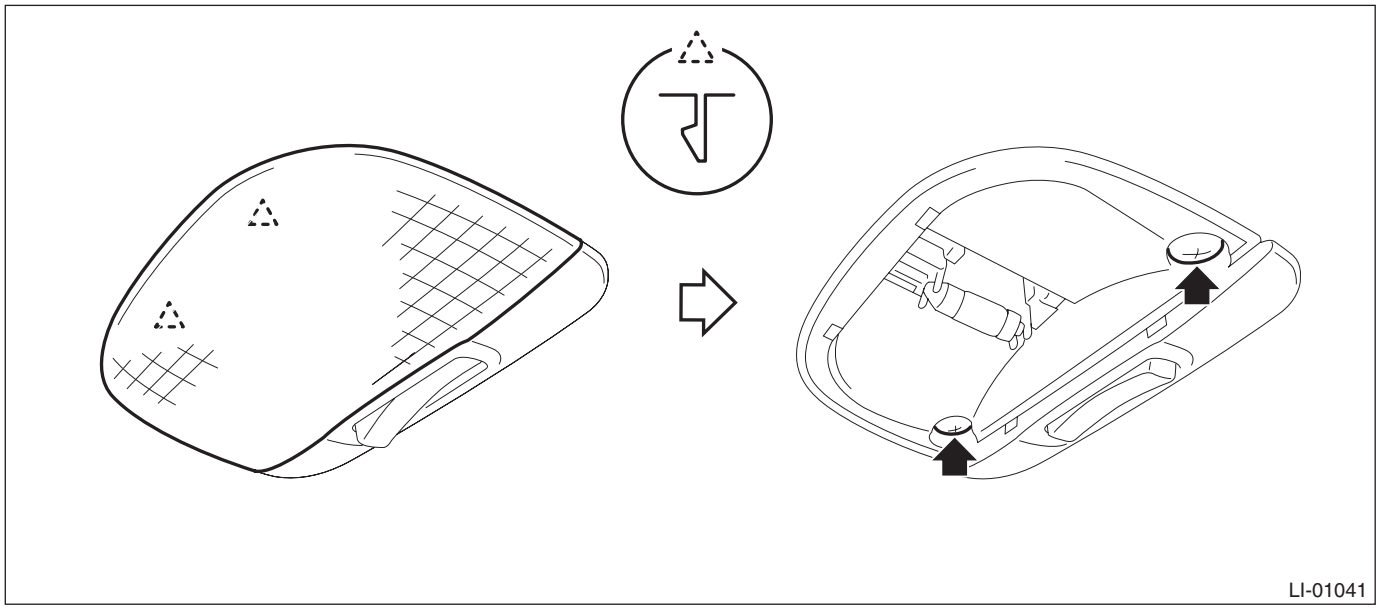
10) Remove the light assembly - map.
(1) Remove the lens and detach the screws.
(2) Disconnect the connector and remove the light assembly - map.



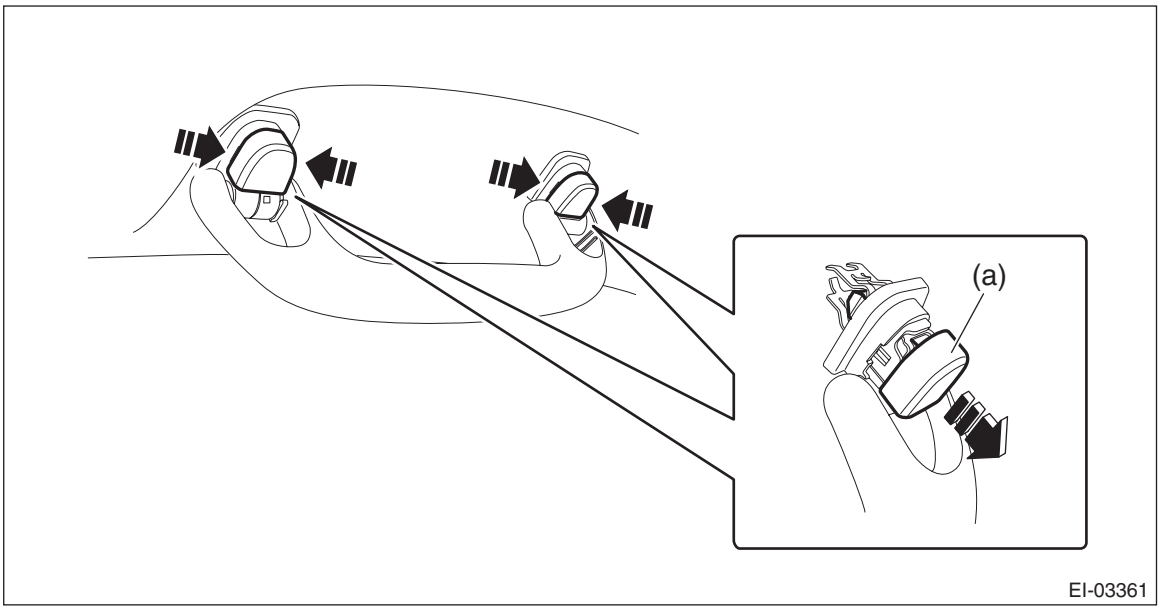
11) Remove the left and right sun visor assembly.
(1) Remove the screws and remove the sun visor assembly.
(2) Press both sides of the hook - sun visor using a flat tip screwdriver.
(3) Remove the hook - sun visor by pulling it toward you.



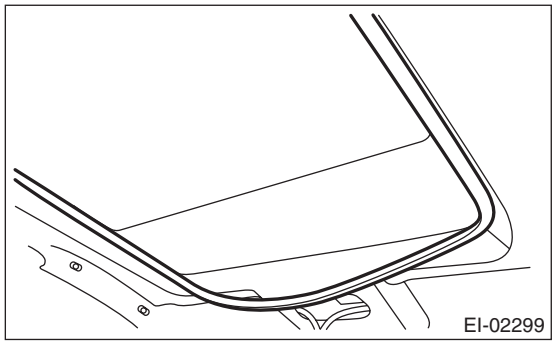
12) Remove the light assembly - room.
(1) Remove the lens and detach the screws.
(2) Disconnect the connector and remove the light assembly - room.



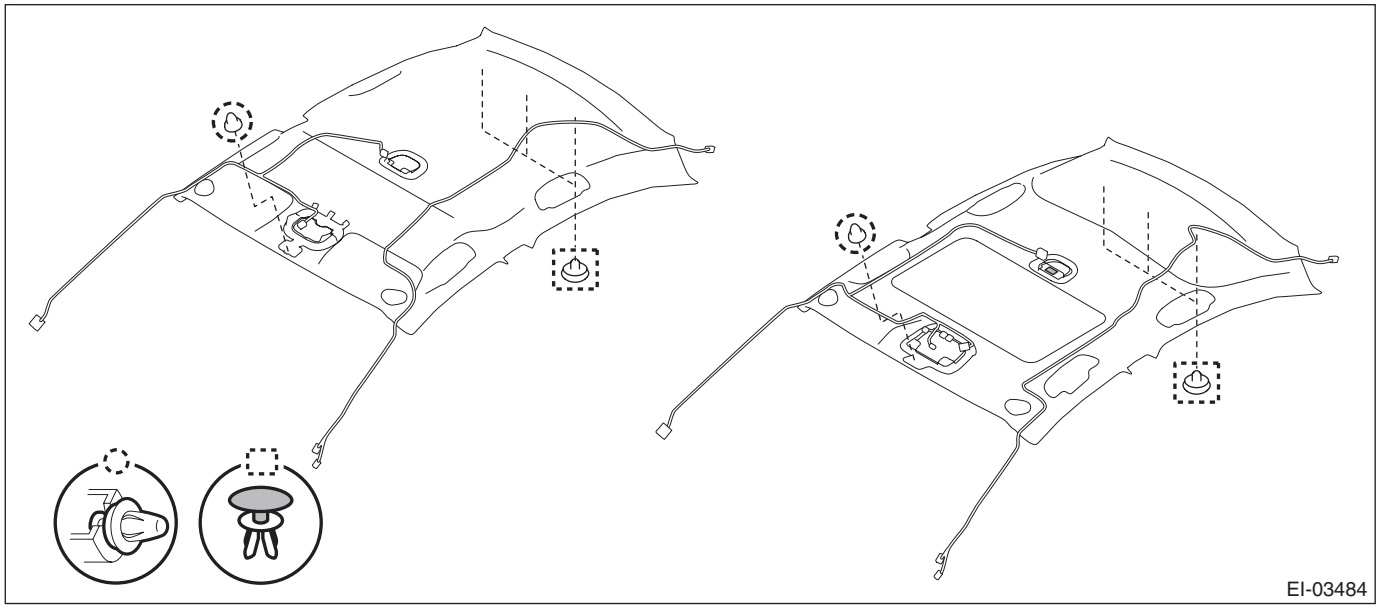
13) Remove all assist rails.
(1) Remove the cap (a) by pulling the both sides of the cap (a) using a flat tip screwdriver wrapped with a protection tape.
(2) Pull the assist grip toward you (to the vehicle center) and remove the metal clip from the bracket.

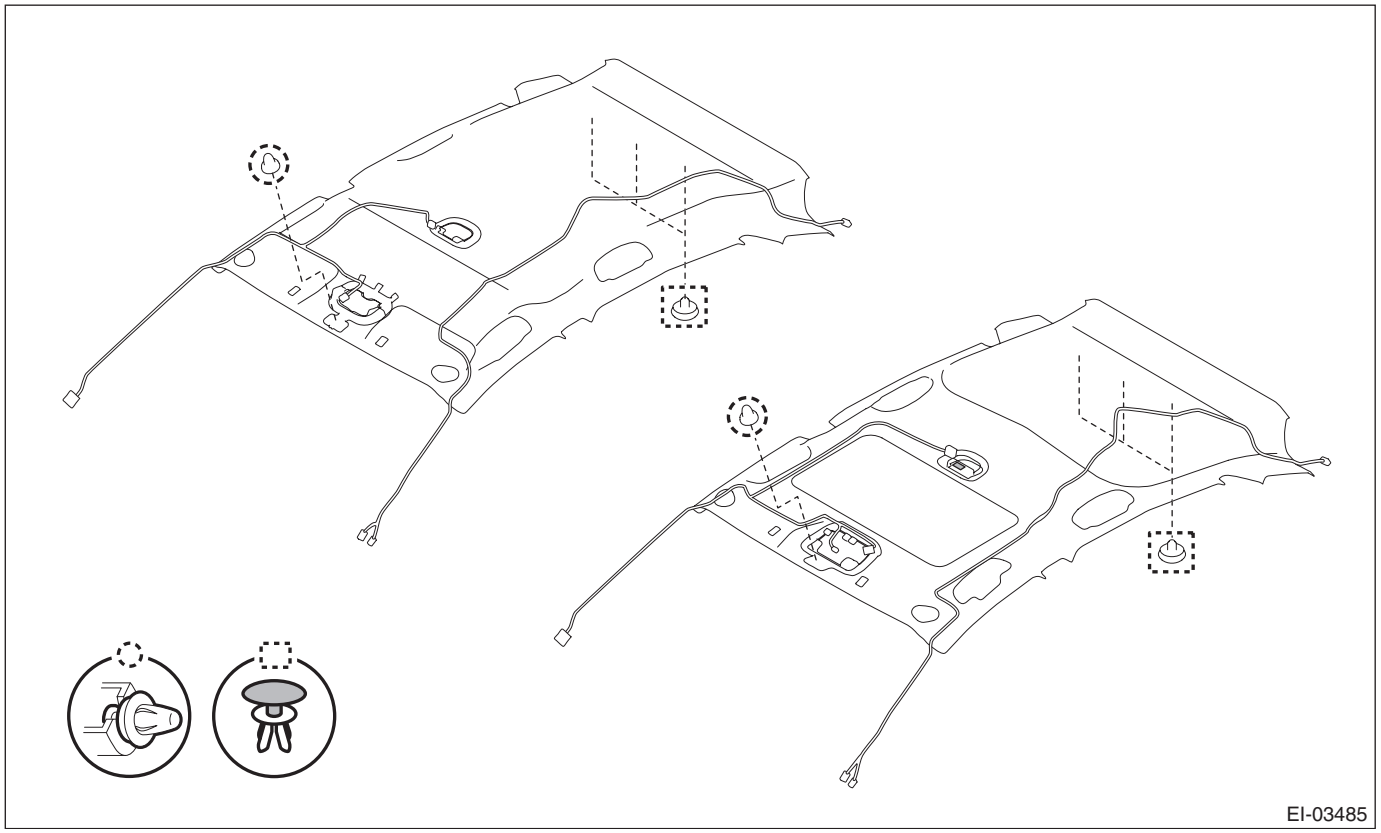


14) Remove the garnish - roof. (Model with sunroof)



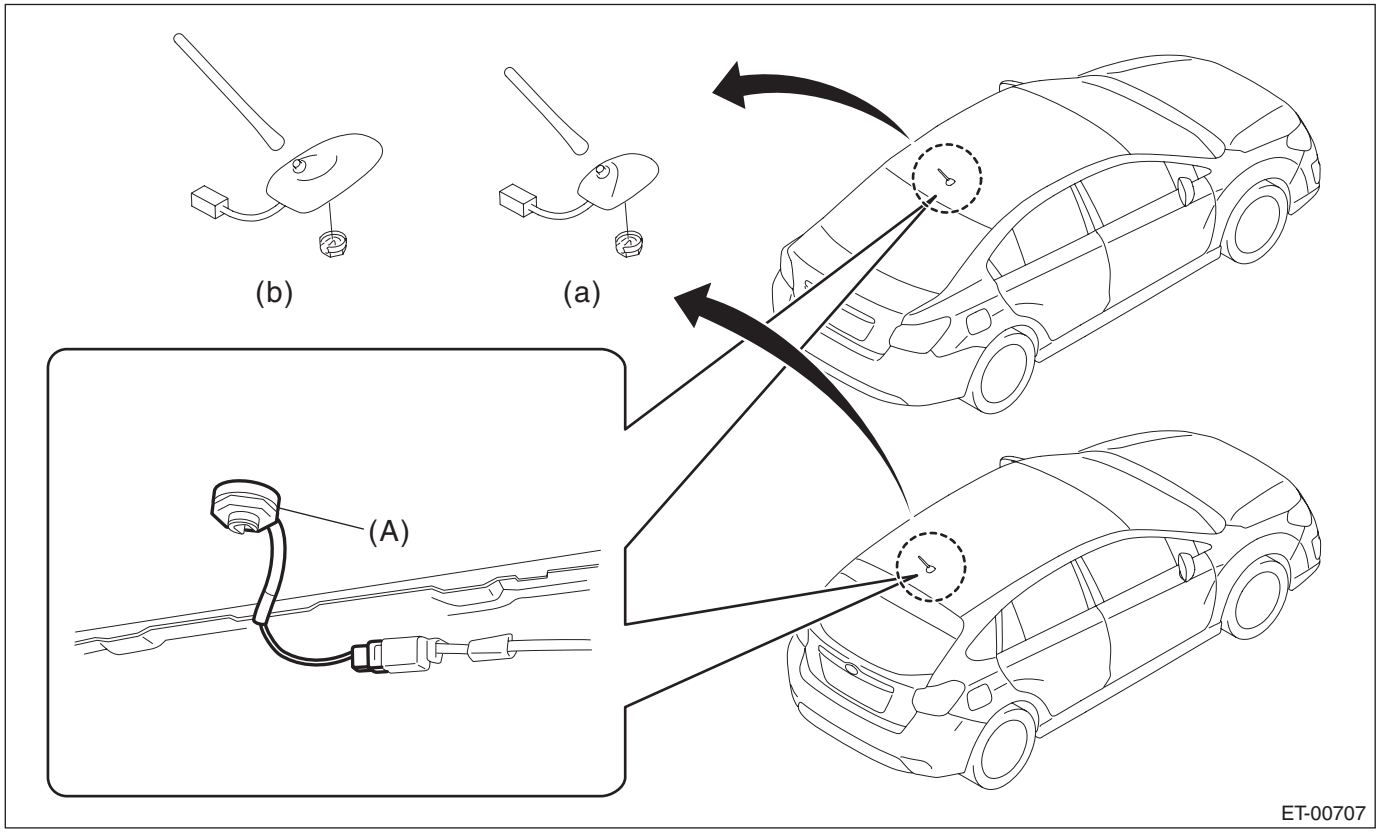
15) Remove the trim panel - roof assembly.
(1) Remove the clips and the Velcro tape behind the room light.
(2) Remove the weather strip - body side flange from the front/rear and left/right doors, and lower the trim panel - roof assembly.


EI-03484


EI-03485

16) Disconnect the harness connector and terminal, and remove the mounting nut (A).

17) Pull out the antenna from the roof top.



(a) Radio antenna (b) XM radio antenna

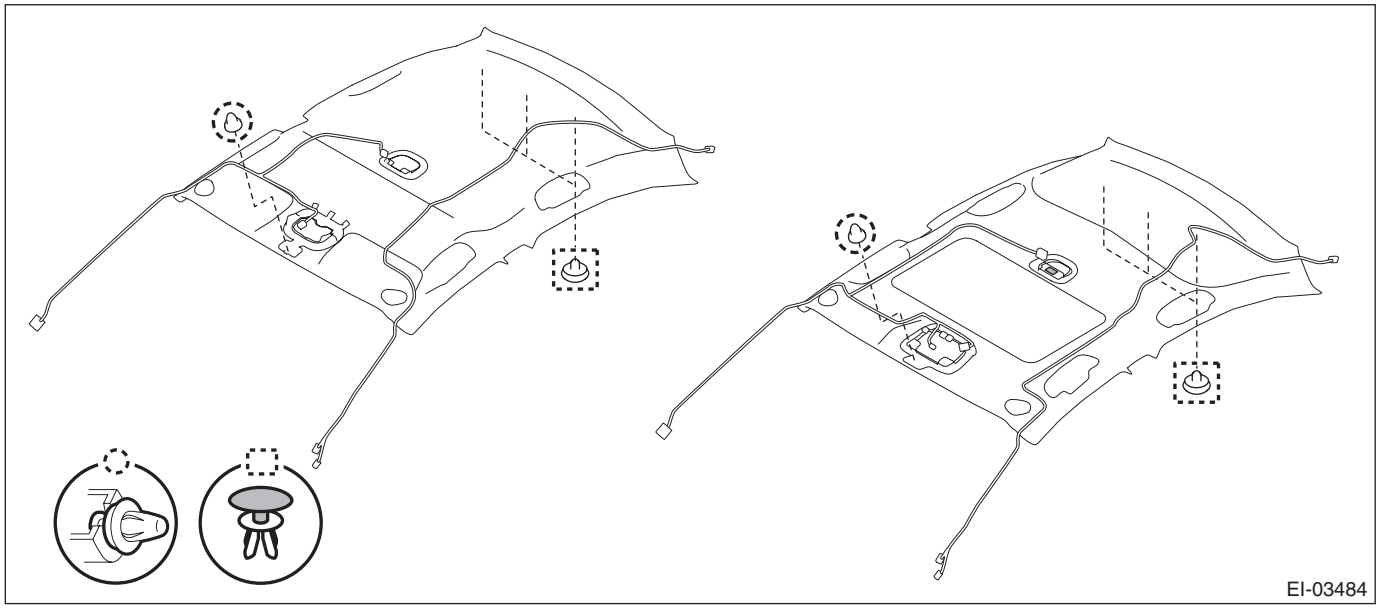
2. ANTENNA FEEDER CORD

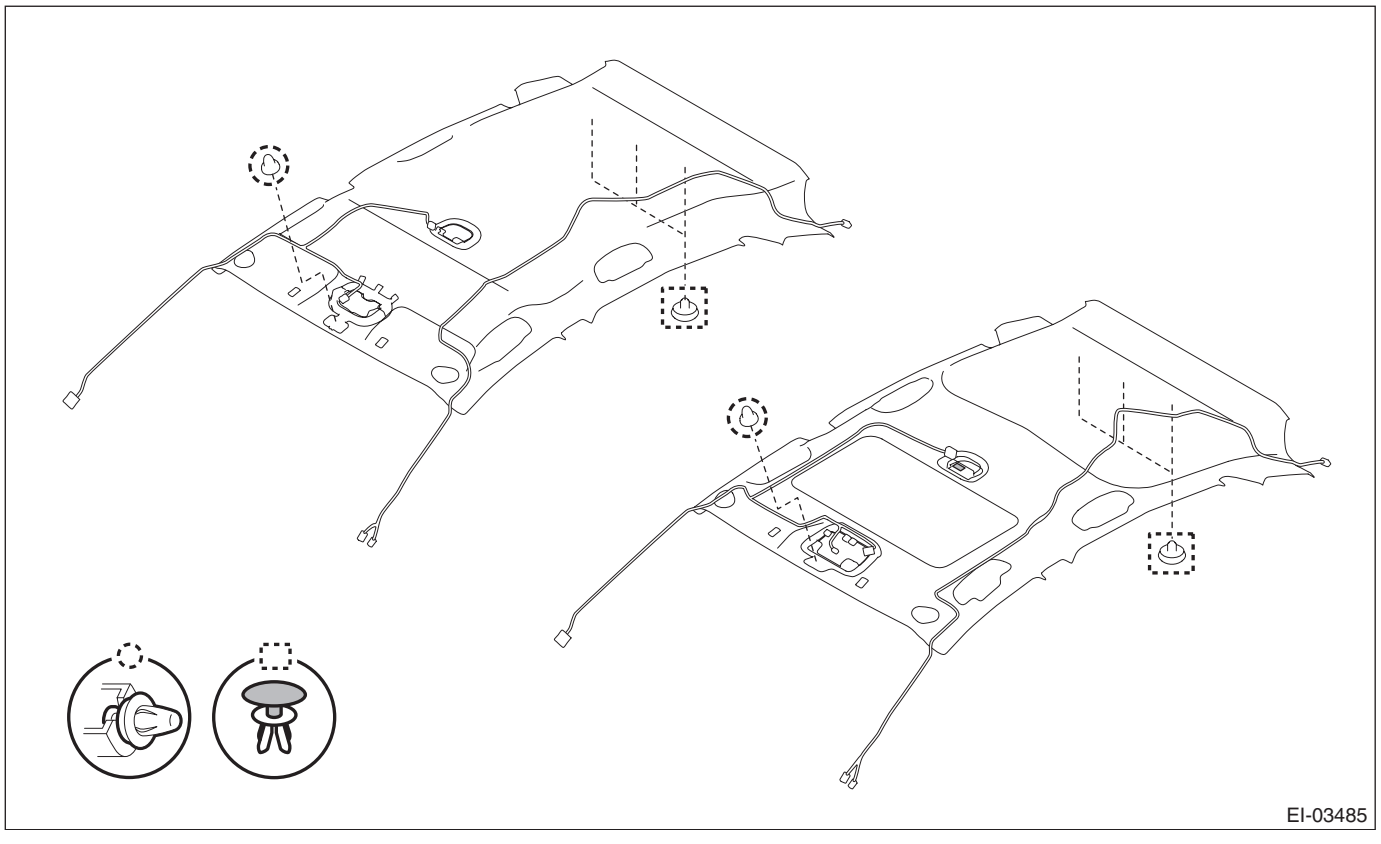
1) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Lower the trim panel - roof assembly in the same manner as the removal procedure of antenna. <Ref. to ET-20, ANTENNA, REMOVAL, Antenna.>

(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.


EI-03484

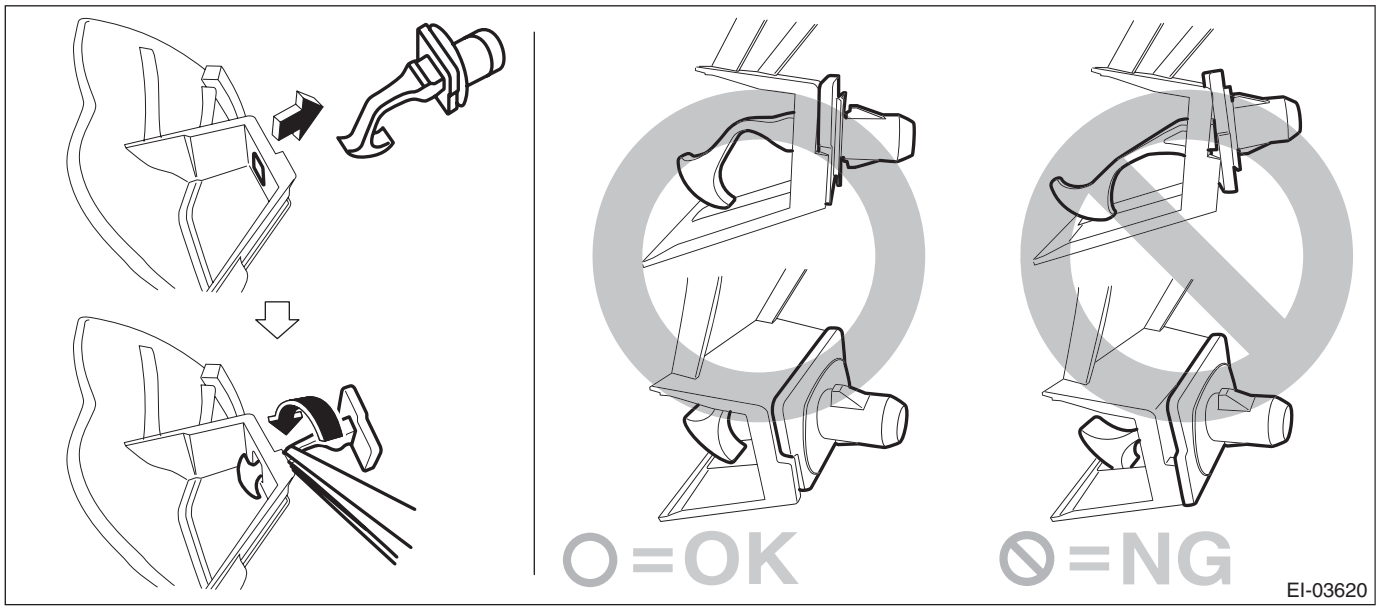

EI-03485

B: INSTALLATION

Install each part in the reverse order of removal.

CAUTION:
• When reusing the tether clip on the upper part of the trim panel - front pillar UPR, check that there is no damage to the tether clip. If the clip is damaged, its holding force is reduced and the trim panel - front pillar UPR may come off. Be sure to replace it with a new clip.
• Do not reuse the tether clip removed from the upper part of the trim panel - front pillar UPR. Always replace with a new part.
• Do not reuse the upper clips of the trim panel - center pillar UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.
• Before installing the trim panel - front pillar UPR, check the condition of protective non-woven fabric (white) of the curtain airbag. If it is damaged (airbag module cloth is exposed), replace the curtain airbag module assembly with a new part.

NOTE:
• For application of feeder cord, refer to installation procedure of the trim panel - roof assembly. <Ref. to EI-153, INSTALLATION, Roof Trim.>
• Check the installation status of the tether clips and install the trim panel - front pillar UPR.



Tightening torque:
Radio antenna: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

9. 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 to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
4) Remove the driver's airbag module. <Ref. to AB-32, REMOVAL, Driver's Airbag Module.>
5) Remove the steering wheel. <Ref. to PS-8, REMOVAL, Steering Wheel.>
6) Remove the satellite switch assembly. <Ref. to PS-10, DISASSEMBLY, Steering Wheel.>

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 has been removed, make sure that the steering roll connector is not turned from the original position.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, perform the VDC setting mode. <Ref. to VDC-26, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
• Securely install the switch. Improper insertion of the pin or claw of the switch may cause improper installation.
1) Align the center position of the steering roll connector. <Ref. to AB-98, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and the column assembly - steering.

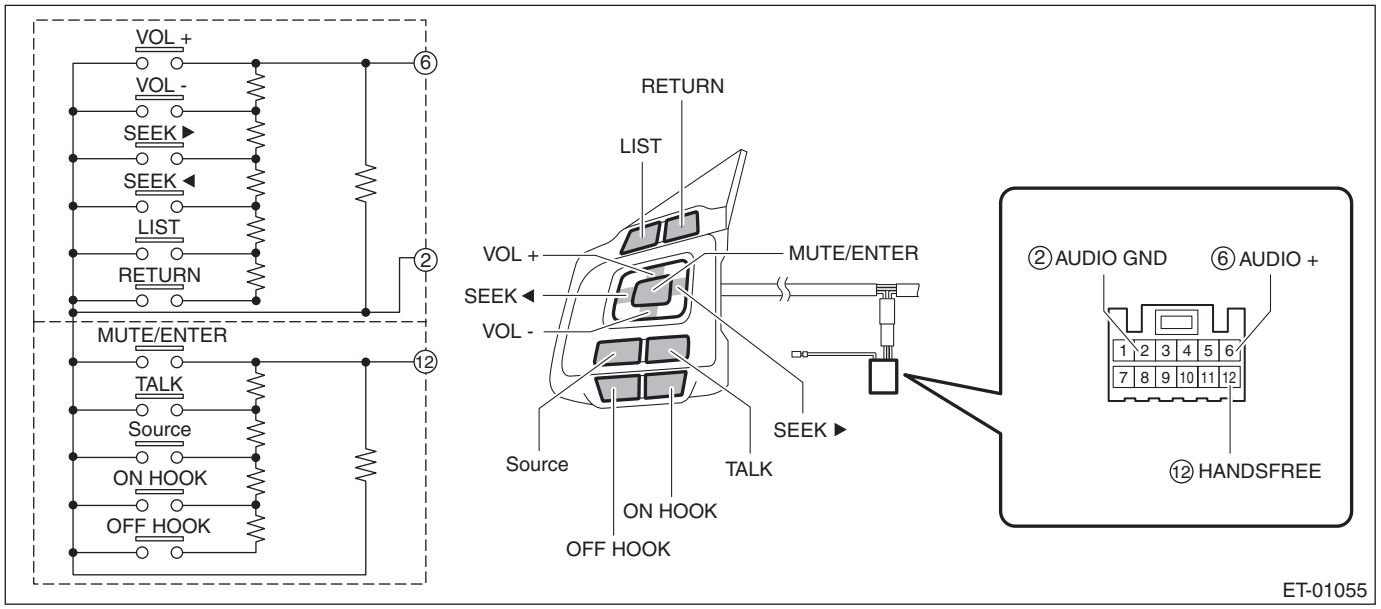
Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

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

C: INSPECTION

1) Measure the resistance between connector terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions		Standard
6 — 2	VOL (+) VOL (–) SEEK (›) SEEK (‹) LIST RETURN	A circuit is all OFF.	Approx. 100 kΩ
	VOL (+)	ON	Less than 1 Ω
	VOL (–)	ON	Approx. 50 Ω
	SEEK (›)	ON	Approx. 120 Ω
	SEEK (‹)	ON	Approx. 230 Ω
	LIST	ON	Approx. 430 Ω
	RETURN	ON	Approx. 1000 Ω
12 — 2	MUTE/ENTER TALK Source ON HOOK OFF HOOK	B circuit is all OFF.	Approx. 100 kΩ
	MUTE/ENTER	ON	Less than 1 Ω
	TALK	ON	Approx. 50 Ω
	Source	ON	Approx. 120 Ω
	ON HOOK	ON	Approx. 230 Ω
	OFF HOOK	ON	Approx. 430 Ω

2) Apply battery voltage between the connector terminals to check lighting condition of illumination inside the switch.

Terminal No.	Inspection conditions	Standard
10 (+) — 11 (–)	Apply battery voltage.	Light ON

3) If the result of the measurement is not at the standard, replace the satellite switch assembly.

10.Microphone

A: NOTE

The microphone is a single unit with the spot map light.
For operation procedures, refer to “LIGHTING SYSTEM” section. <Ref. to LI-80, Spot Map Light.>

11.Navigation Body

A: NOTE

For the operation procedures for navigation assembly, refer to “Audio” section. <Ref. to ET-12, Audio.>

12.GPS Antenna

A: REMOVAL

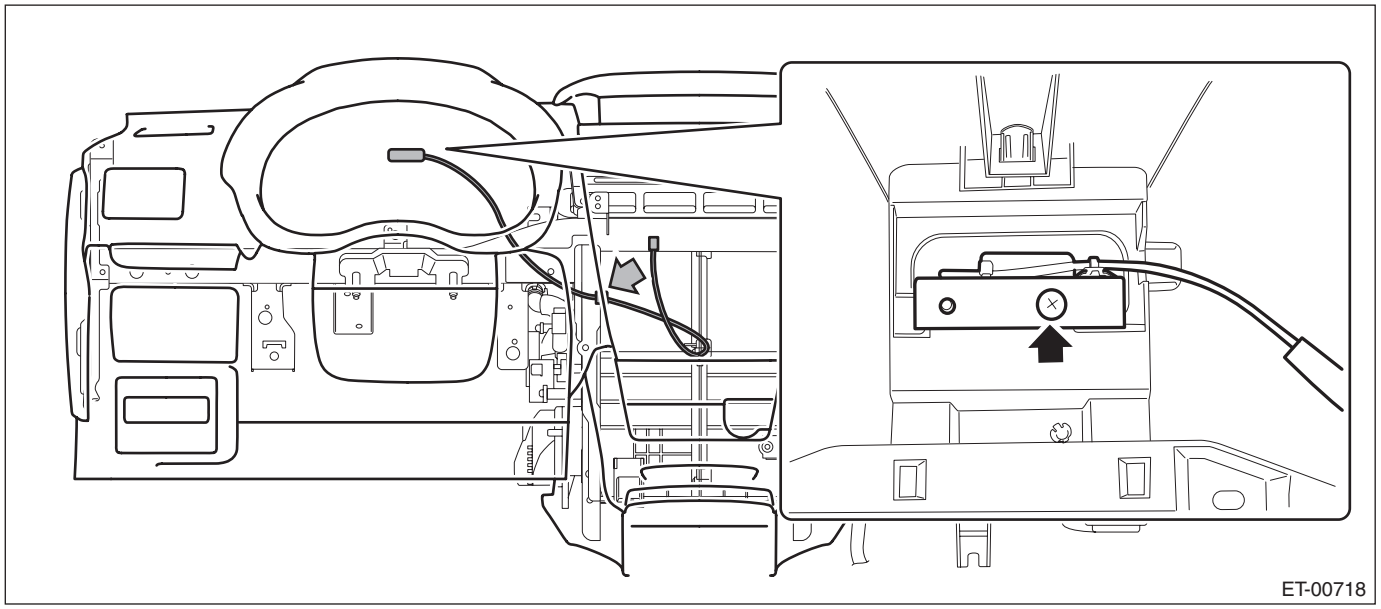
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the combination meter assembly. <Ref. to IDI-20, REMOVAL, Combination Meter.>
3) Remove the center grille assembly. <Ref. to AC-104, CENTER GRILLE ASSEMBLY, REMOVAL, Air Vent Grille.>
4) Remove the navigation assembly. <Ref. to ET-12, REMOVAL, Audio.>
5) Remove the GPS antenna assembly.
   (1) Tie a string to the GPS antenna assembly harness connector on the navigation unit side.

NOTE:
A string makes operation easier during installation.

   (2) Remove the screw and harness clamp, and pull out the GPS antenna assembly harness from the combination meter side.



   (3) When the GPS antenna assembly is pulled out, remove the string attached to the connector in step (1).

B: INSTALLATION

CAUTION:
After installing the center grille assembly, check that the air vent grille of the center grille assembly is inserted correctly into the air vent duct.
Install each part in the reverse order of removal.

13.Rearview Camera System

A: WIRING DIAGRAM

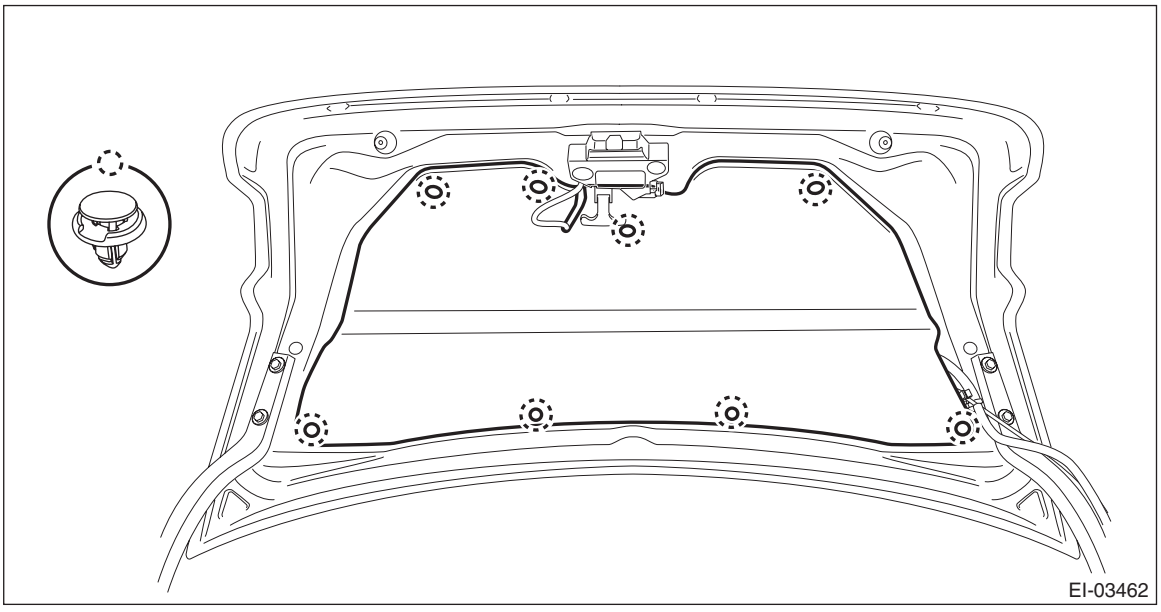
Refer to “Rearview Camera System” in the wiring diagram.

- Gasoline engine model
  4 door model (6.2 inch display): <Ref. to WI(w/o HEV)-186, 4 DOOR MODEL (6.2 INCH DISPLAY), WIRING DIAGRAM, Rearview Camera System.>
  4 door model (7 inch display): <Ref. to WI(w/o HEV)-187, 4 DOOR MODEL (7 INCH DISPLAY), WIRING DIAGRAM, Rearview Camera System.>
  5 door model (6.2 inch display): <Ref. to WI(w/o HEV)-188, 5 DOOR MODEL (6.2 INCH DISPLAY), WIRING DIAGRAM, Rearview Camera System.>
  5 door model (7 inch display): <Ref. to WI(w/o HEV)-189, 5 DOOR MODEL (7 INCH DISPLAY), WIRING DIAGRAM, Rearview Camera System.>
- HEV model
  Model without navigation system: <Ref. to WI(HEV)-188, MODELS WITHOUT NAVIGATION SYSTEM, WIRING DIAGRAM, Rearview Camera System.>
  Model with navigation system: <Ref. to WI(HEV)-189, MODELS WITH NAVIGATION SYSTEM, WIRING DIAGRAM, Rearview Camera System.>

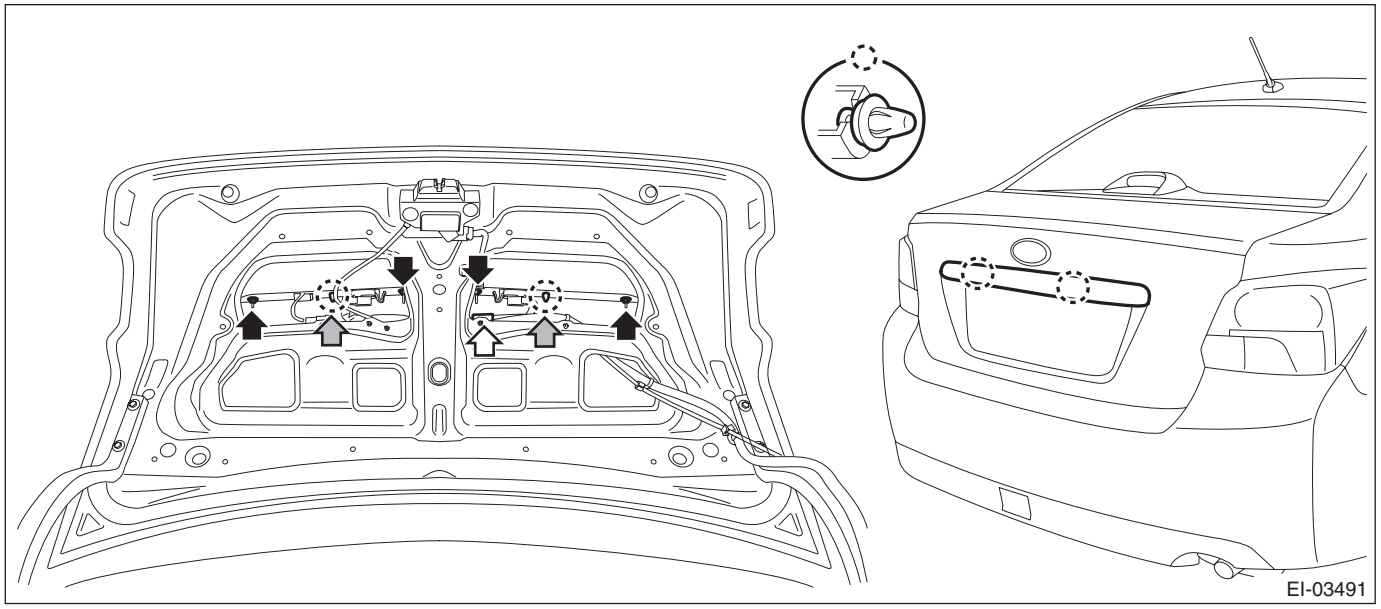
B: REMOVAL

1. 4 DOOR MODEL

1) Disconnect the ground cable from battery.
2) Remove the clips, and remove the trim panel - trunk lid.

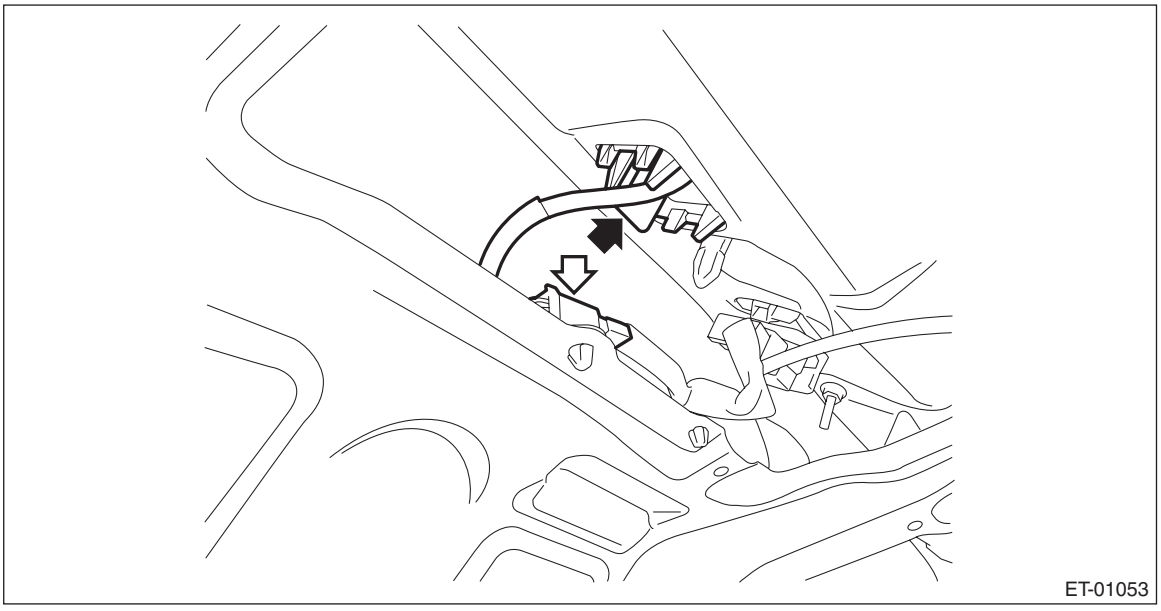


3) Remove the garnish - trunk.
   (1) Remove the nut.
   (2) Remove the clips, and remove the garnish - trunk.



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) Disconnect the claws and then remove the rearview camera assembly.

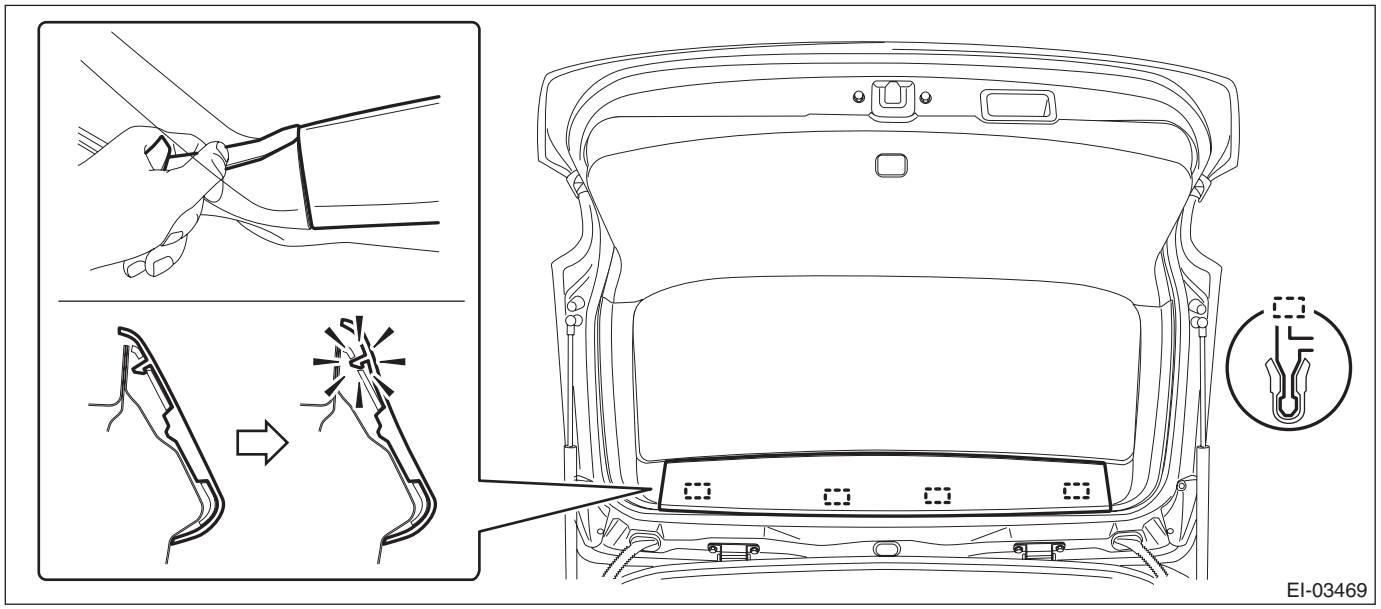


2. 5 DOOR MODEL/XV MODEL

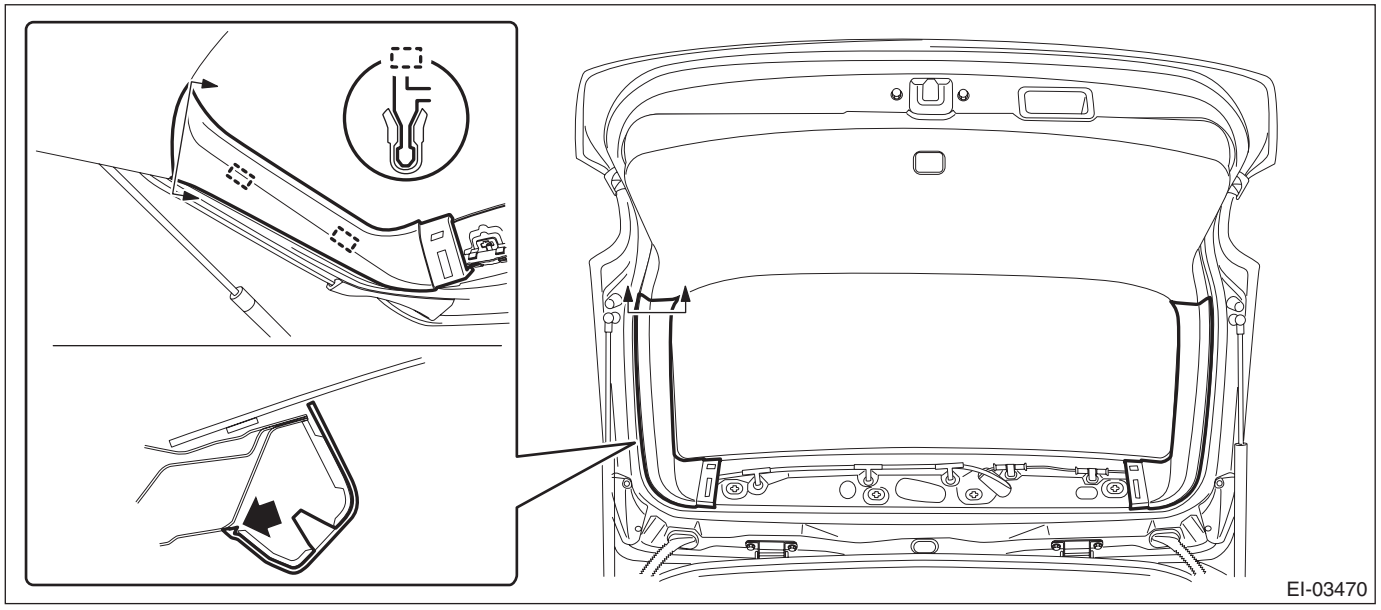
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

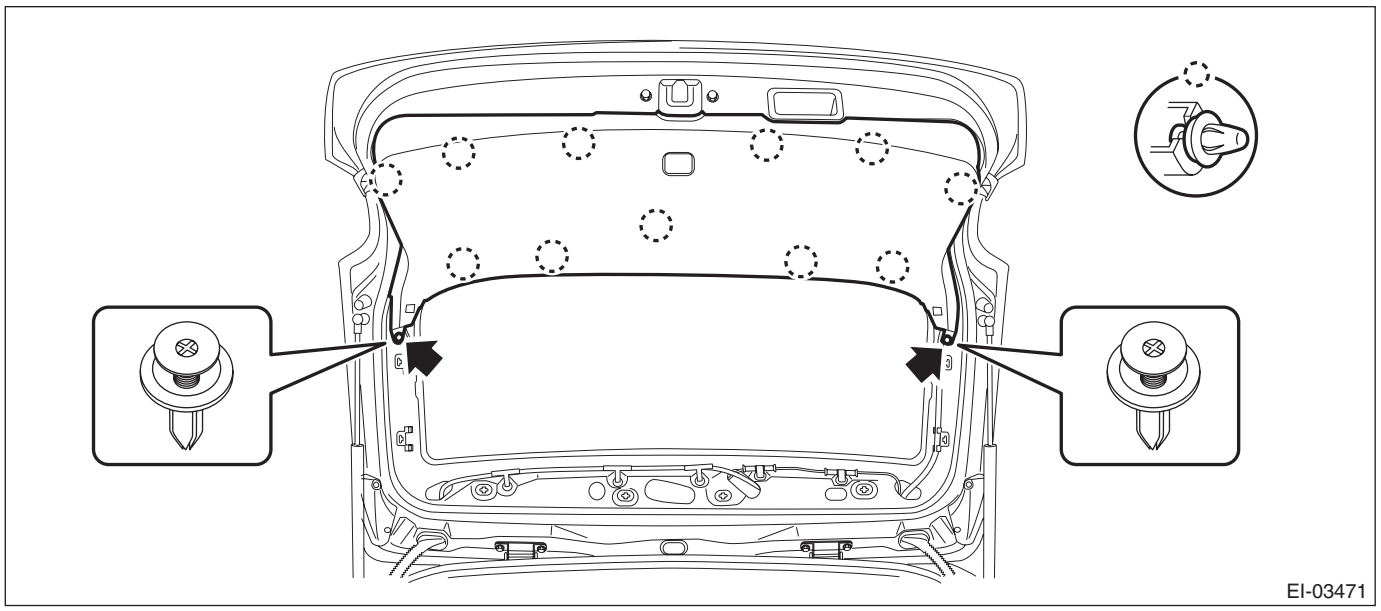
2) Remove the trim panel - rear gate UPR.
   (1) Remove the claws on the trim edge.
   (2) Release the claws in the center of trim, and remove the trim panel - rear gate UPR.



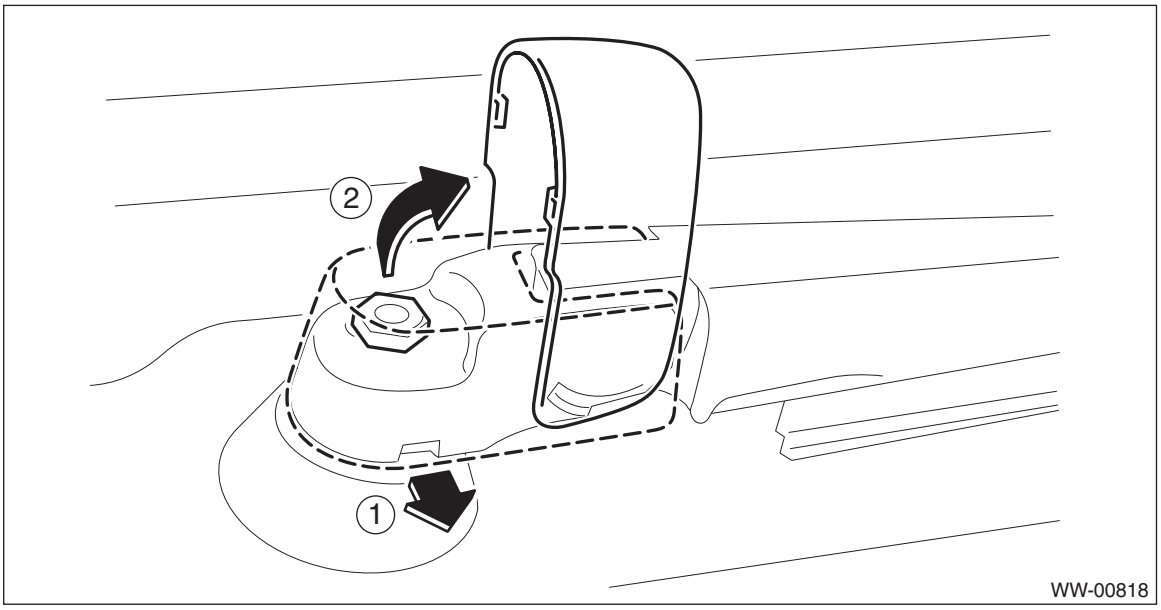
3) Remove the trim panel - rear gate pillar side.
   (1) Release the claws.
   (2) Remove the claws on the bottom of trim, and remove the trim panel - rear gate pillar side.



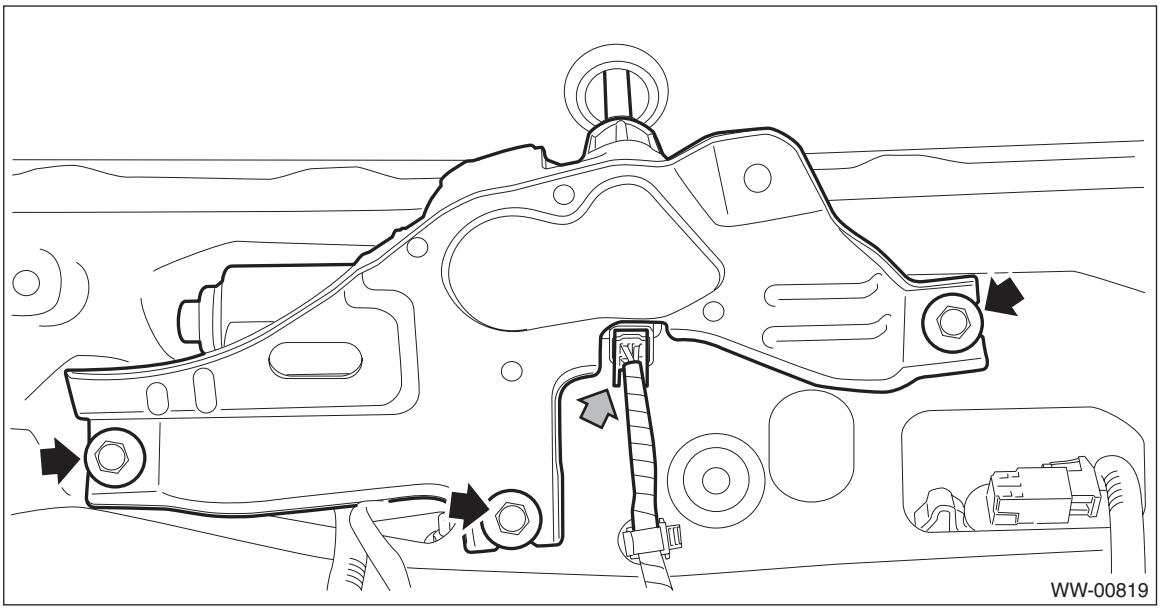
4) Remove the trim panel - rear gate LWR.
   (1) Remove the clips on both ends.
   (2) Release the clips, and remove the trim panel - rear gate LWR.



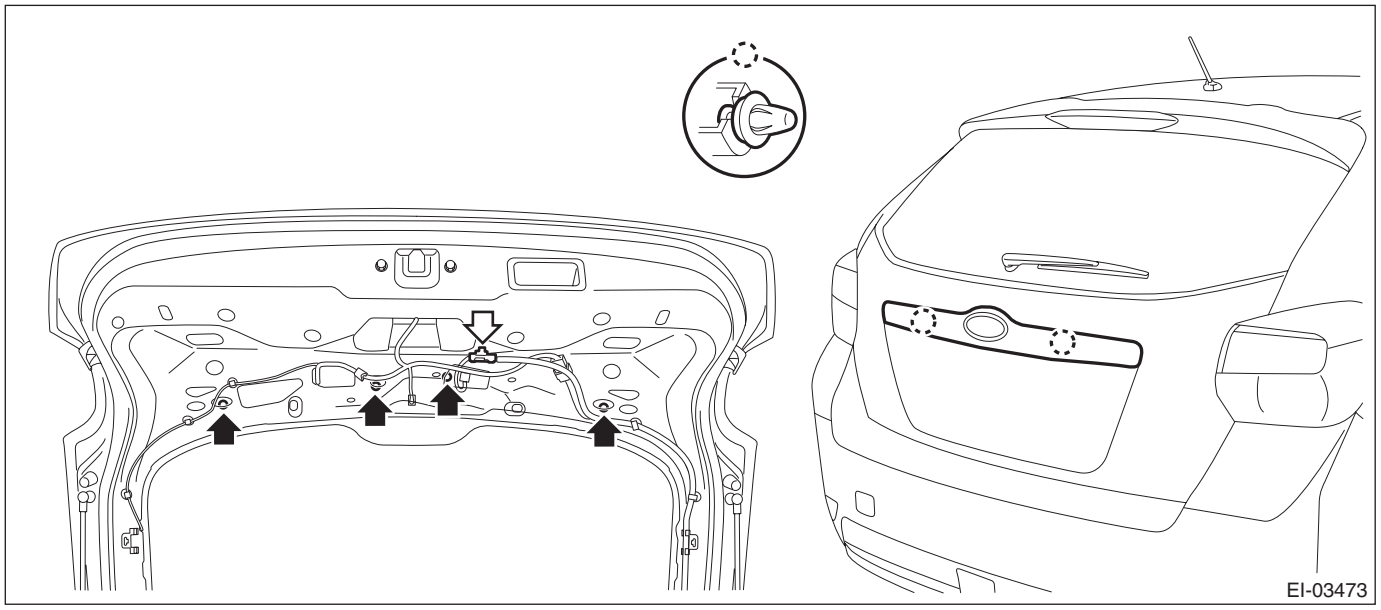
5) Remove the arm assembly - rear wiper.
   (1) Remove the cover - rear wiper arm.
   (2) Remove the nut, and remove the arm assembly - rear wiper.



6) Remove the motor assembly - rear wiper.
   (1) Disconnect the harness connector of the motor assembly - rear wiper.
   (2) Remove the bolts, and remove the motor assembly - rear wiper.

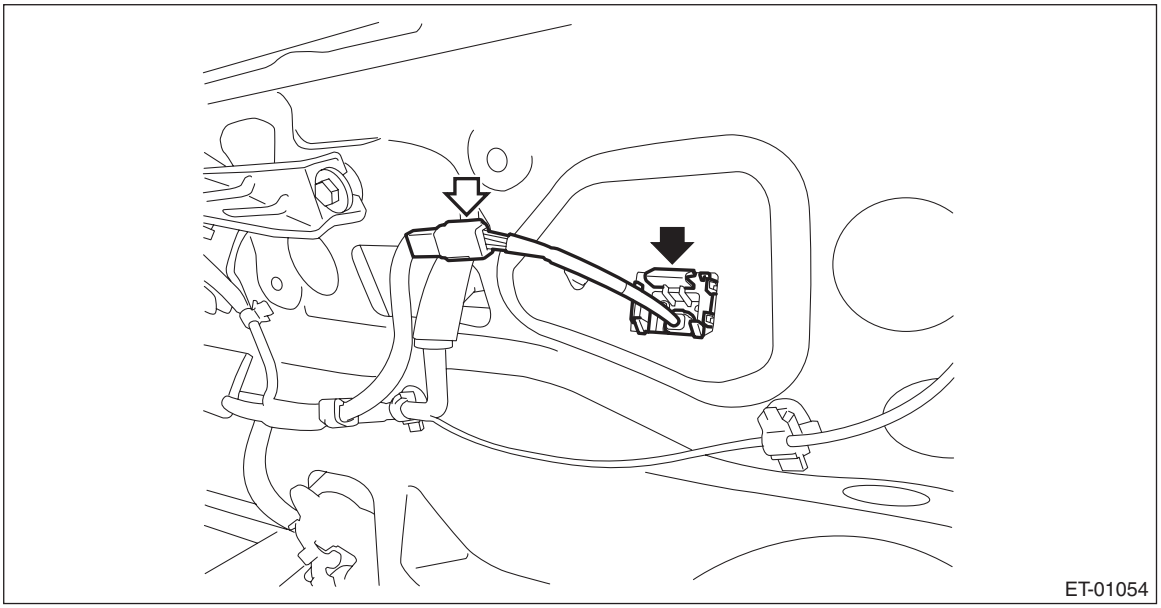


7) Remove the garnish assembly - rear gate.
   (1) Disconnect the harness connector of license plate light assembly.
   (2) Remove the nuts.
   (3) Remove the clips and remove the garnish assembly - rear gate.



8) 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) Disconnect the claws and then remove the rearview camera assembly.



C: INSTALLATION

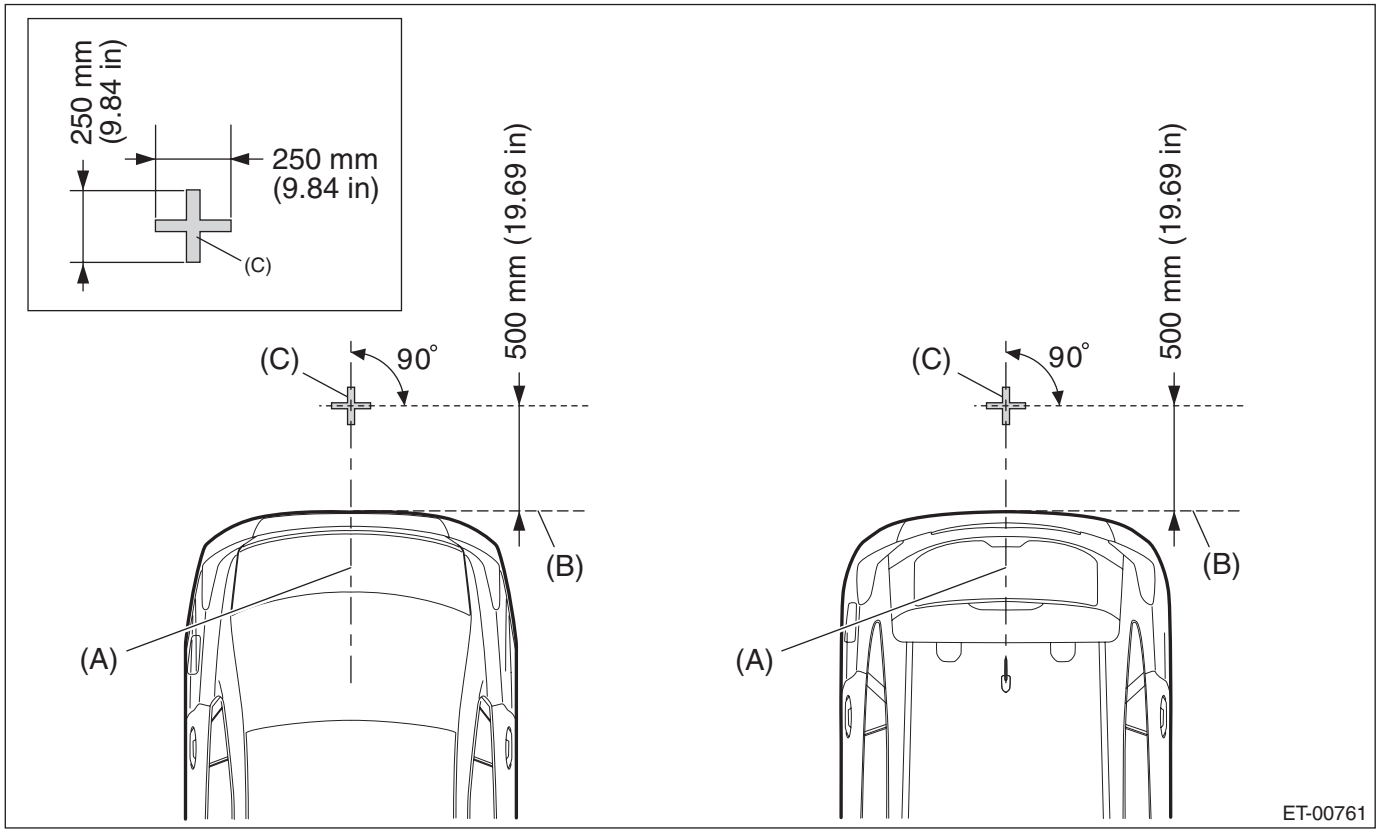
CAUTION:
Be sure to confirm the marker position, whenever the rearview camera is removed/installed/replaced.
Install each part in the reverse order of removal.

Tightening torque:
4 door model
Garnish - trunk: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)
5 door model/XV model
Garnish assembly - rear gate: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)
Motor assembly - rear wiper: 6 N·m (0.61 kgf-m, 4.4 ft-lb)
Arm assembly - rear wiper: 8 N·m (0.82 kgf-m, 5.9 ft-lb)

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.
- If the display is blank.

Rearview camera image is not displayed. (Navigation and multi-function display screen is displayed normally.)

1. Check the condition of back sensor connection.
   - Audio system: <Ref. to ET-6, CHECK EACH VEHICLE SIGNAL, INSPECTION, Audio System.>
   - Navigation system: <Ref. to ET-10, CHECK EACH VEHICLE SIGNAL, INSPECTION, Navigation System.>
2. Check the condition of rearview camera connection.
   - Audio system: <Ref. to ET-5, CHECK EACH CONNECTION, INSPECTION, Audio System.>
   - Navigation system: <Ref. to ET-9, CHECK EACH CONNECTION, INSPECTION, Navigation System.>

- If the marker is not displayed.
- If the marker position is not aligned.

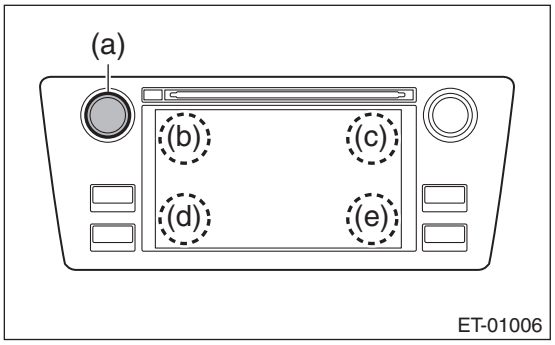
1. Adjust the marker position according to the MARKER ADJUSTMENT MODE. <Ref. to ET-44, MARKER ADJUSTMENT MODE, ADJUSTMENT, Rearview Camera System.>

E: ADJUSTMENT

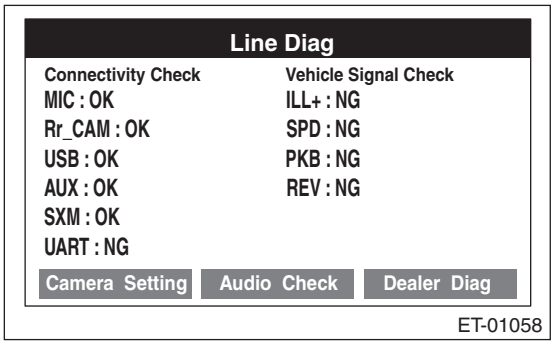
1. MARKER ADJUSTMENT MODE

- **Audio system**

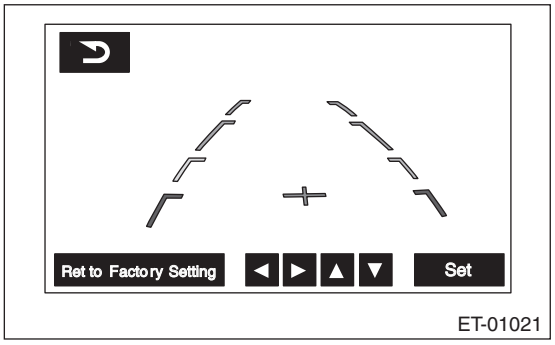
CAUTION:
For models with 7 inch display, refer to "Navigation System".
1) Prepare the target point. <Ref. to ET-43, INSPECTION, Rearview Camera System.>
2) Turn the ignition switch to ACC.
3) (a) Press the button to display the Audio OFF screen.
4) Touch the screen in order from (b) to (e).



NOTE:
Pressing the button (a) or turning the ignition switch from the OFF to ACC position can exit the diagnostic mode.
5) {Line Diag} screen is displayed.
6) Touch {Camera Setting} on the {Line Diag} screen.



7) The display will switch to the rear camera marker selection mode screen.
8) Touch the adjustment keys on the display screen to adjust the marker line.

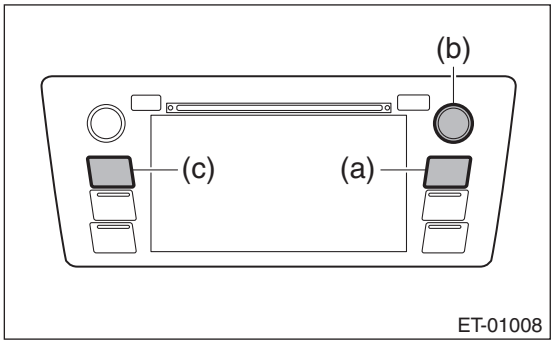


9) Touch {Set} to store the marker line setting information.

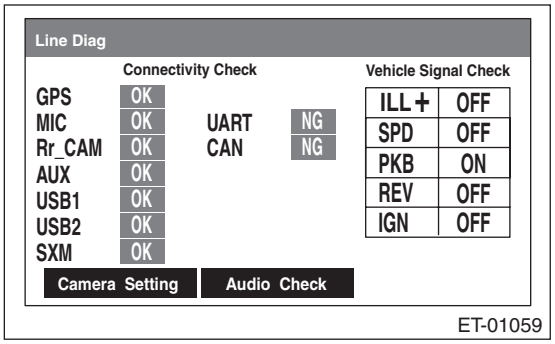
NOTE:
When {Return} is touched, the setting is not stored and the display switches to the {Line Diag} screen.
10) After the setting is completed, confirm that the marker line position is correctly adjusted.

• **Navigation system**

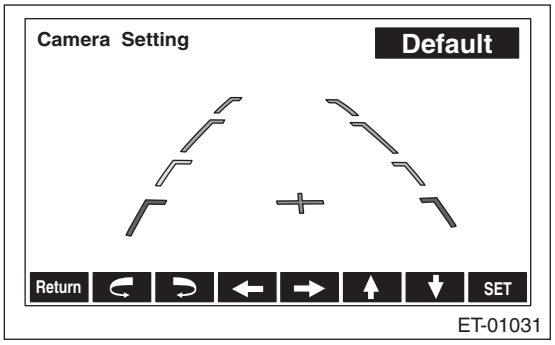
1) Prepare the target point. <Ref. to ET-43, INSPECTION, Rearview Camera System.>
2) Turn the ignition switch to ACC.
3) Press the button (b) twice with the button (a) pressed.



NOTE:
Pressing the button (c) for 3 seconds or more, or turning the ignition switch from the OFF to ACC position can exit the diagnostic mode.
4) {Line Diag} screen is displayed.
5) Touch {Camera Setting} on the {Line Diag} screen.



NOTE:
GPS is displayed only for the navigation system.
6) The display will switch to the rear camera marker selection mode screen.
7) Touch the adjustment keys on the display screen to adjust the marker line.



8) Touch {SET} to store the marker line setting information.

NOTE:
When {Return} is touched, the setting is not stored and the display switches to the {Line Diag} screen.
9) After the setting is completed, confirm that the marker line position is correctly adjusted.

14.Front Accessory Power Supply Socket

A: WIRING DIAGRAM

Refer to “Front Accessory Power Supply Socket System” in the wiring diagram.

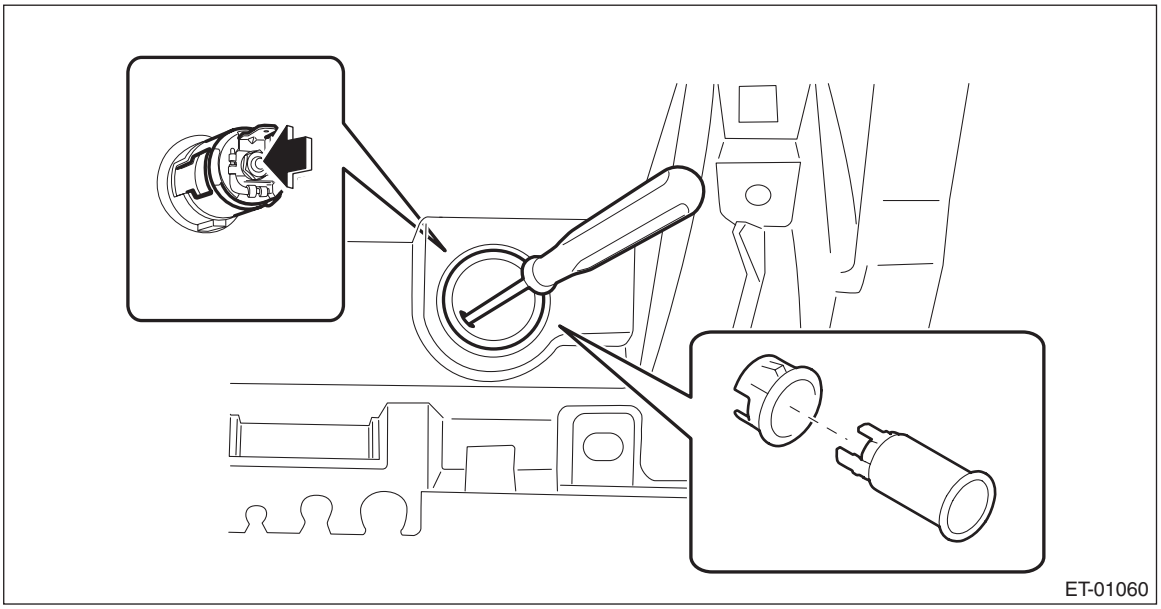
- Gasoline engine model: <Ref. to WI(w/o HEV)-130, WIRING DIAGRAM, Front Accessory Power Supply Socket System.>
- HEV model: <Ref. to WI(HEV)-128, WIRING DIAGRAM, Front Accessory Power Supply Socket System.>

B: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the cover assembly - instrument panel LWR driver and the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
3) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
4) Remove the center grille assembly. <Ref. to AC-104, CENTER GRILLE ASSEMBLY, REMOVAL, Air Vent Grille.>
5) Remove the audio assembly or navigation assembly. <Ref. to ET-12, REMOVAL, Audio.>
6) Remove the socket assembly.
   (1) Disconnect the connector.
   (2) While releasing the claw inside, press it in from the rear to remove the socket assembly.

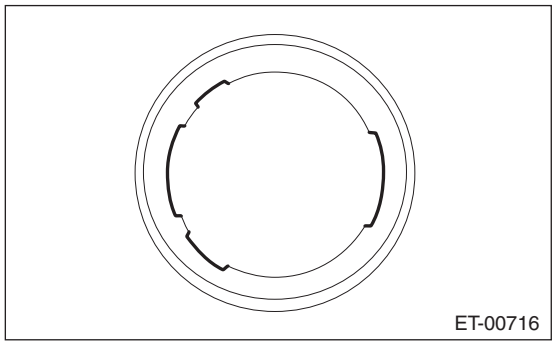


   (3) Remove the clip - socket.

C: INSTALLATION

Install each part in the reverse order of removal.

NOTE:
Align the grooves of the holder with the claws of accessory power supply socket.



15.Rear Accessory Power Supply Socket

A: WIRING DIAGRAM

Refer to “Rear Accessory Power Supply Socket System” in the wiring diagram.

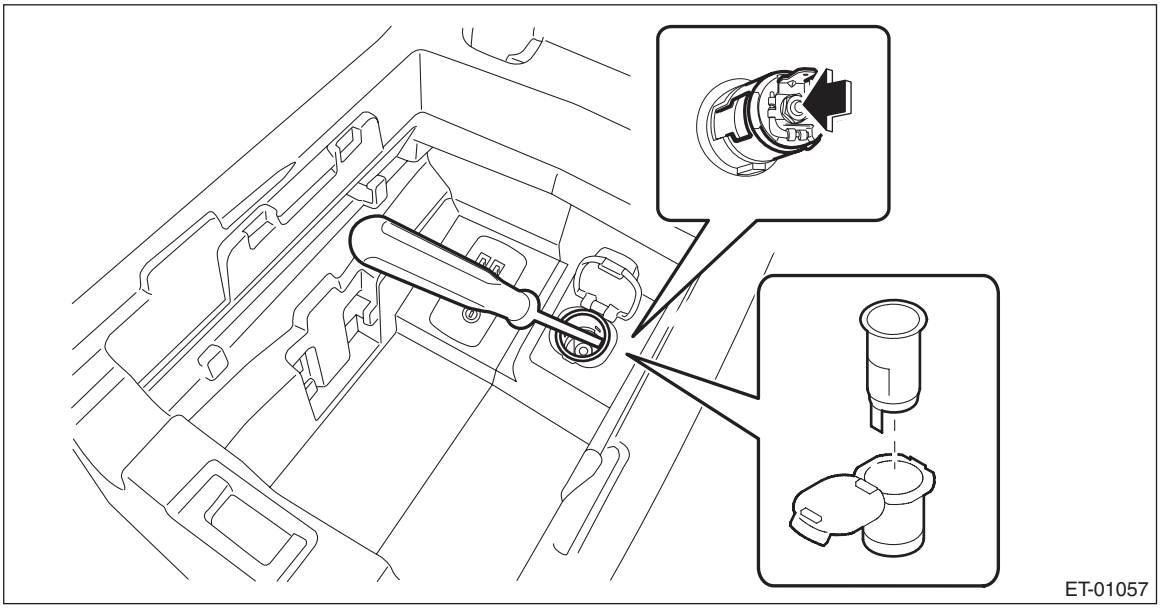
- Gasoline engine model: <Ref. to WI(w/o HEV)-184, WIRING DIAGRAM, Rear Accessory Power Supply Socket System.>
- HEV model: <Ref. to WI(HEV)-186, WIRING DIAGRAM, Rear Accessory Power Supply Socket System.>

B: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the console box assembly. <Ref. to EI-81, REMOVAL, Console Box.>
3) While releasing the claw inside, press it in from the rear to remove the socket assembly.
   (1) While releasing the claw inside, press it in from the rear to remove the socket assembly.

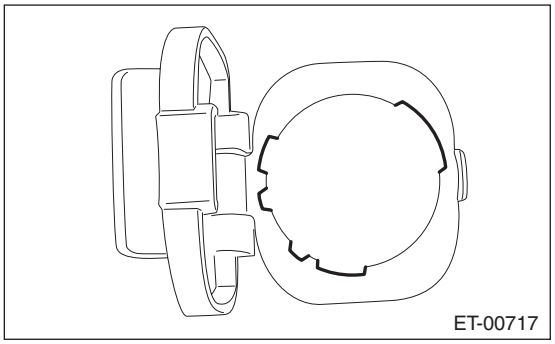


   (2) Remove the cap - socket.

C: INSTALLATION

Install each part in the reverse order of removal.

NOTE:
Align the grooves of the holder with the claws of accessory power supply socket.



Tightening torque:
Console box assembly: 6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

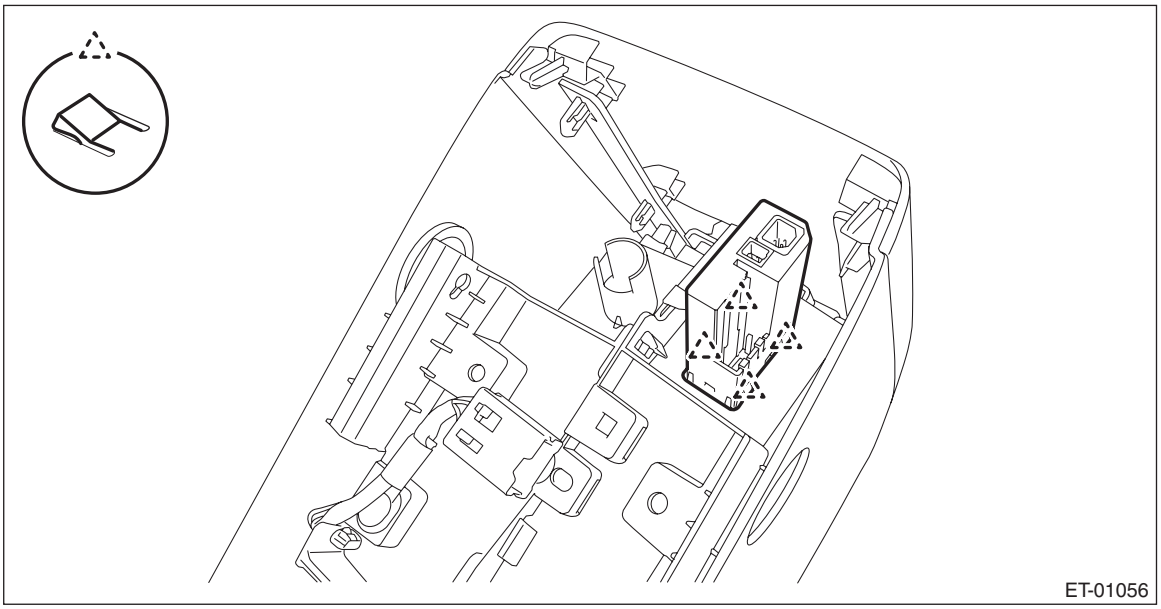
16.External Connection Terminal

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the console box assembly. <Ref. to EI-81, REMOVAL, Console Box.>
3) While pressing the claw, press it in from the rear to remove the unit assembly - AUX.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Console box assembly: 6.5 N·m (0.66 kgf-m, 4.8 ft-lb)

17.Diagnostics with Phenomenon

A: LIST

1. CHECK ABNORMALITY OF STARLINK

Symptoms	Counter-measure
STARLINK app was terminated.	Perform the procedures described on “Confirm connection between smartphone and unit”. <Ref. to ET-51, CHECK SMARTPHONE AND UNIT CONNECTION, INSPECTION, Diagnostics with Phenomenon.>
Smartphone was powered off while connecting via the STARLINK.	
Bluetooth connection stops while connecting via the STARLINK.	
Communication gets out of service while connecting via the STARLINK.	
Radio wave reception becomes worse while connecting via the STARLINK.	

NOTE:
Possible STARLINK error messages with relation to the above symptoms

Details of message
Please disconnect mobile device and install the STARLINK application on your mobile device and try again. Bluetooth disconnected, please reconnect and try again. Smartphone data connection is poor, please try to connect again.

B: INSPECTION

1. CHECK SMARTPHONE AND UNIT CONNECTION

	Step	Check	Yes	No
1	**CHECK COMPATIBILITY OF SMARTPHONE.** Check that the customer's smartphone is compatible with the system. • iPhone: iOS 4.3.5 or later • Android: Android 4.0 or later	Is it compatible?	Go to step **2**.	The smartphone cannot be used due to incompatibility.
2	**ACTIVATION OF APP.** Check the STARLINK app of the smartphone.	Is it installed?	Go to step **4**.	Go to step **3**.
3	**INSTALLATION OF APP.** Install STARLINK app to smartphone.	Is installation successful?	Go to step **4**.	Reboot the smartphone, and install the STARLINK.
4	**ACTIVATION OF APP.** Activate STARLINK app.	Is STARLINK app activated?	Go to step **5**.	Reinstall the app and activate it. If you still fail to activate it, the smartphone may be defective.
5	**CHECK BLUETOOTH CONNECTION.** NOTE: For a 6.2-inch iPhone model (with USB connection), go to the next step. Confirm the Bluetooth connection with the unit.	Is Bluetooth connection established?	Go to step **7**.	Check that the unit can connect with other smartphones. If successful, the smartphone may be defective. If the unit cannot communicate with other smartphones, replace the audio or navigation unit. <Ref. to ET-12, Audio.>
6	**CHECK USB (FOR A 6.2-INCH IPHONE MODEL).** Check that the USB cable is connected to the unit.	Is USB connection successful?	Go to step **7**.	Check that the unit can connect with other smartphones. If successful, the smartphone may be defective. If the unit cannot communicate with other smartphones, replace the audio or navigation unit. <Ref. to ET-12, Audio.>
7	**REBOOT THE SMARTPHONE.** 1) Reboot the smartphone. 2) Reinstall the STARLINK app.	Is it operating normally?	The system has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again.	Go to step **8**.

	Step	Check	Yes	No
8	**CHECK POWER SUPPLY.** Turn the ignition switch to OFF → ACC ON.	Is it operating normally?	The system has returned to a normal condition at this time. Reproduce the failure, and then perform the diagnosis again.	Go to step **9**.
9	**DELETE CACHE INFORMATION OF UNIT.** Delete cache information of the unit. Refer to the Notes in the margin.	Is it operating normally?	Cache information temporary stored in the unit was corrupted. Currently, it is normal.	Perform the procedures described on "Check STARLINK service". <Ref. to ET-52, CHECK STARLINK SERVICE, INSPECTION, Diagnostics with Phenomenon.>

NOTE:
- 7-inch display
  1. Select STARLINK from the APPS screen.
  2. On the STARLINK display (including an error message screen), press and hold the right bottom corner of the screen for 30 seconds or more.
  3. Lift your finger off the screen. If the message [Select Audio Source] appears when you lift your finger off the screen, the cache information is successfully deleted.
- 6.2-inch display
  1. Press the HOME button to display the HOME screen.
  2. Press the SETTINGS key to display the SETTINGS screen. (The most recent set entry is displayed.)
  3. Press the Settings General key to display the Settings General screen.
  4. Press the System Software key to display the System Software screen.
  5. Press the Delete key, and press OK on the confirmation message display. Then the cache information is successfully deleted.

2. CHECK STARLINK SERVICE

	Step	Check	Yes	No
1	**CHECK SMARTPHONE.** Check the smartphone connection.	Can the smartphone connect the Internet?	Go to step **4**.	Go to step **2**.
2	**CHECK RADIO WAVE CONDITION.** Move to a location where the radio wave condition is good, and confirm the connection.	Can the smartphone connect the Internet?	Go to step **4**.	Go to step **3**.
3	**CHECK RADIO WAVE CONDITION.** Communication network gets busy at times even in a good radio wave location. In this case, wait for some time and then try again.	Can the smartphone connect the Internet?	Go to step **4**.	The smartphone may be defective.
4	**CHECK STARLINK.** Check service provision status with STARLINK.	Is there any problem in the service provision status?	Try to connect after the problem in service provision is solved.	Replace the audio or navigation unit. <Ref. to ET-12, Audio.>

COMMUNICATION SYSTEM

COM

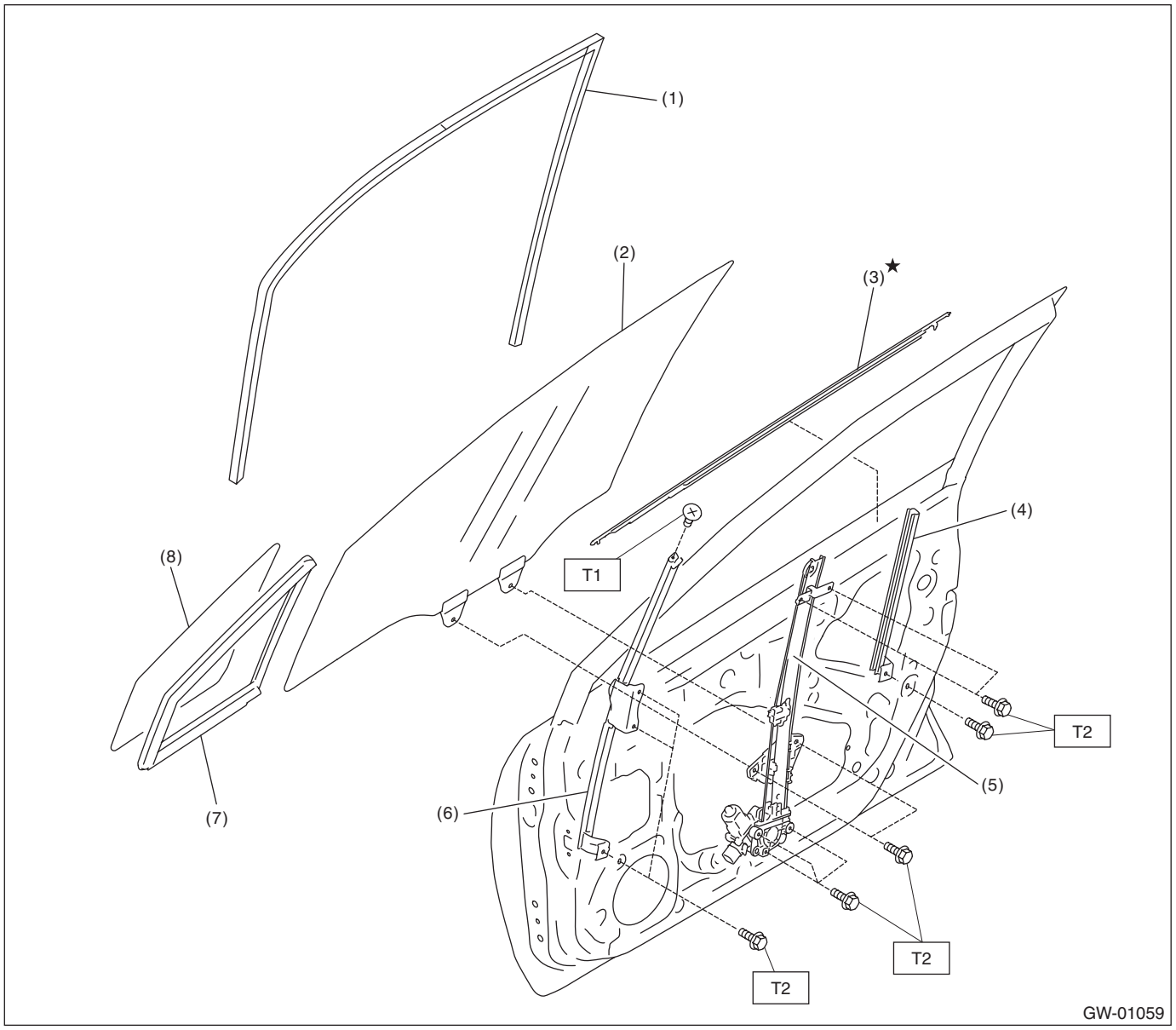
Page

1. General Description 2
2. Relay and Fuse 3
3. Horn System 4
4. Horn 5
5. Horn Switch 8

1. General Description

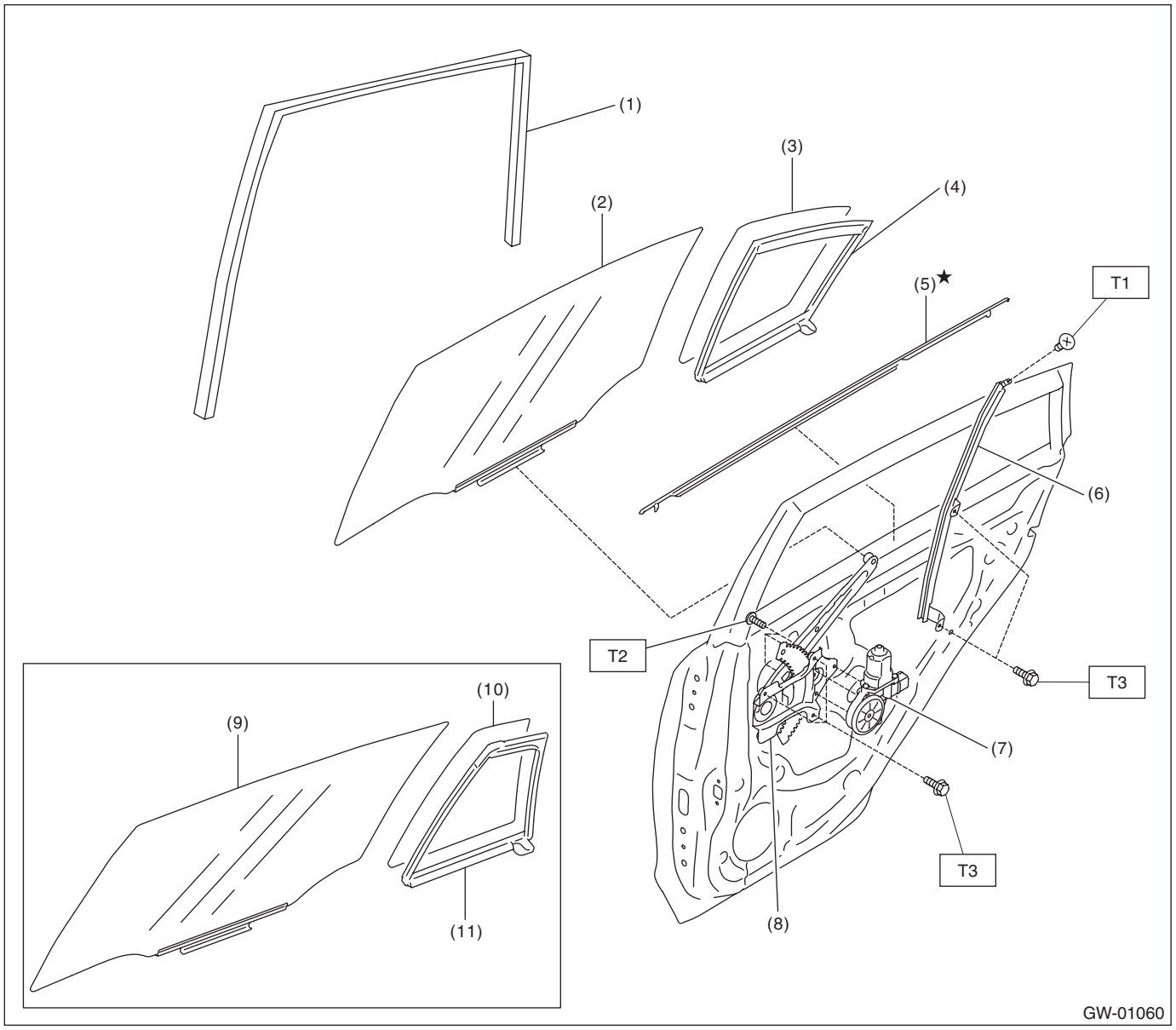
A: COMPONENT

1. FRONT DOOR GLASS



(1)	Running channel - front door	(5)	Regulator & motor ASSY - front	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Glass ASSY - front door	(6)	Sash COMPL - partition	***T1: 2.2 (0.22, 1.6)***
(3)	Weather strip outer - front door	(7)	Weather strip - front door partition	***T2: 7.5 (0.76, 5.5)***
(4)	Sash COMPL - lower	(8)	Glass - front door partition	

2. REAR DOOR GLASS



(1)	Running channel - rear door	(7)	Motor - rear
(2)	Glass ASSY - rear door (4 door model)	(8)	Regulator - rear
(3)	Glass - rear door partition (4 door model)	(9)	Glass ASSY - rear door (5 door model/XV model)
(4)	Weather strip - rear door partition (4 door model)	(10)	Glass - rear door partition (5 door model/XV model)
(5)	Weather strip outer - rear door	(11)	Weather strip - rear door partition (5 door model/XV model)
(6)	Sash COMPL - rear partition		

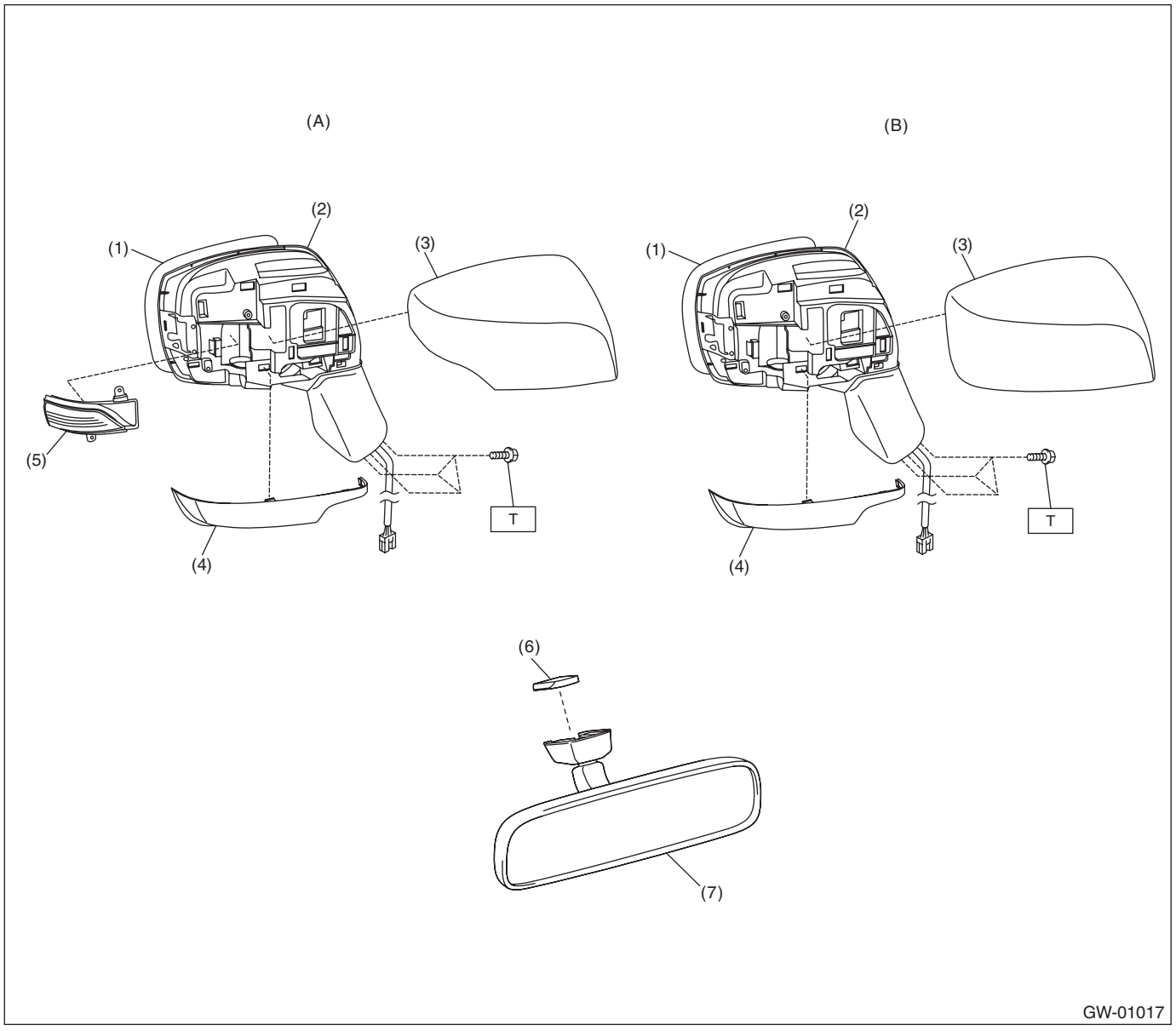
Tightening torque: N·m (kgf-m, ft-lb)

T1: 2.2 (0.22, 1.6)

T2: 5.9 (0.6, 4.4)

T3: 7.5 (0.76, 5.5)

3. MIRROR

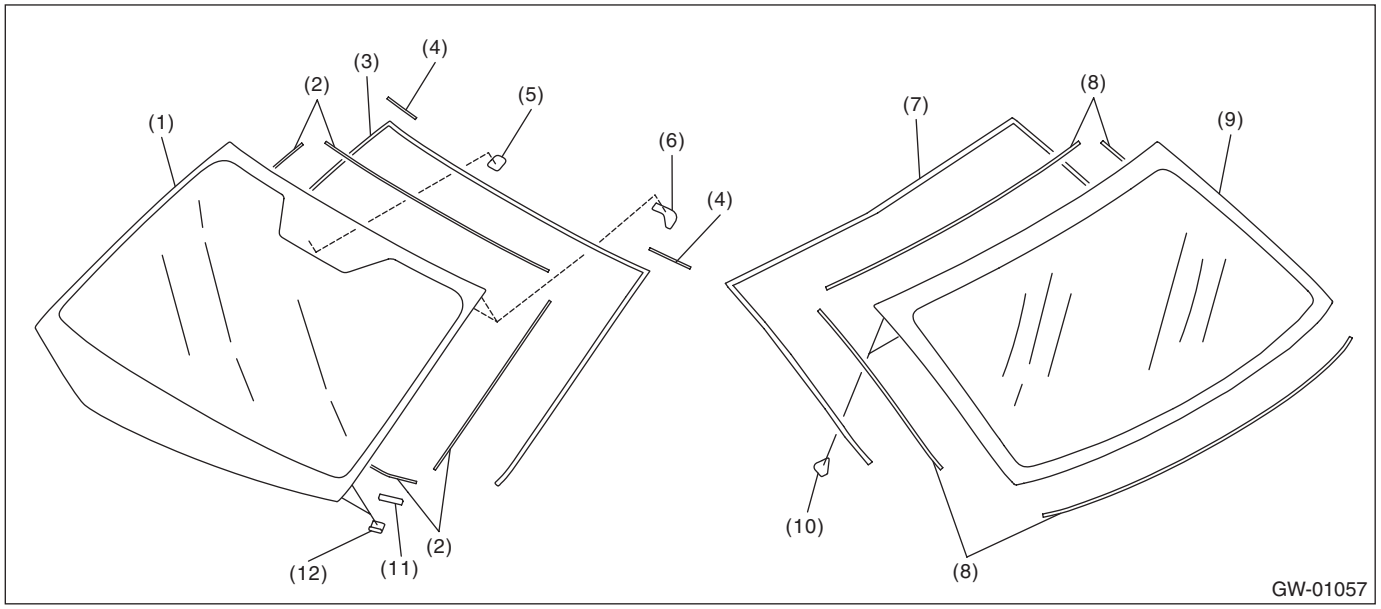


(A) Model with side turn
(B) Model without side turn

(1) Mirror - repair
(2) Mirror unit - door
(3) Cover - cap outer mirror
(4) Cover - cap outer mirror lower
(5) Light ASSY - side turn mirror
(6) Base - inner mirror
(7) Mirror ASSY - inner rearview

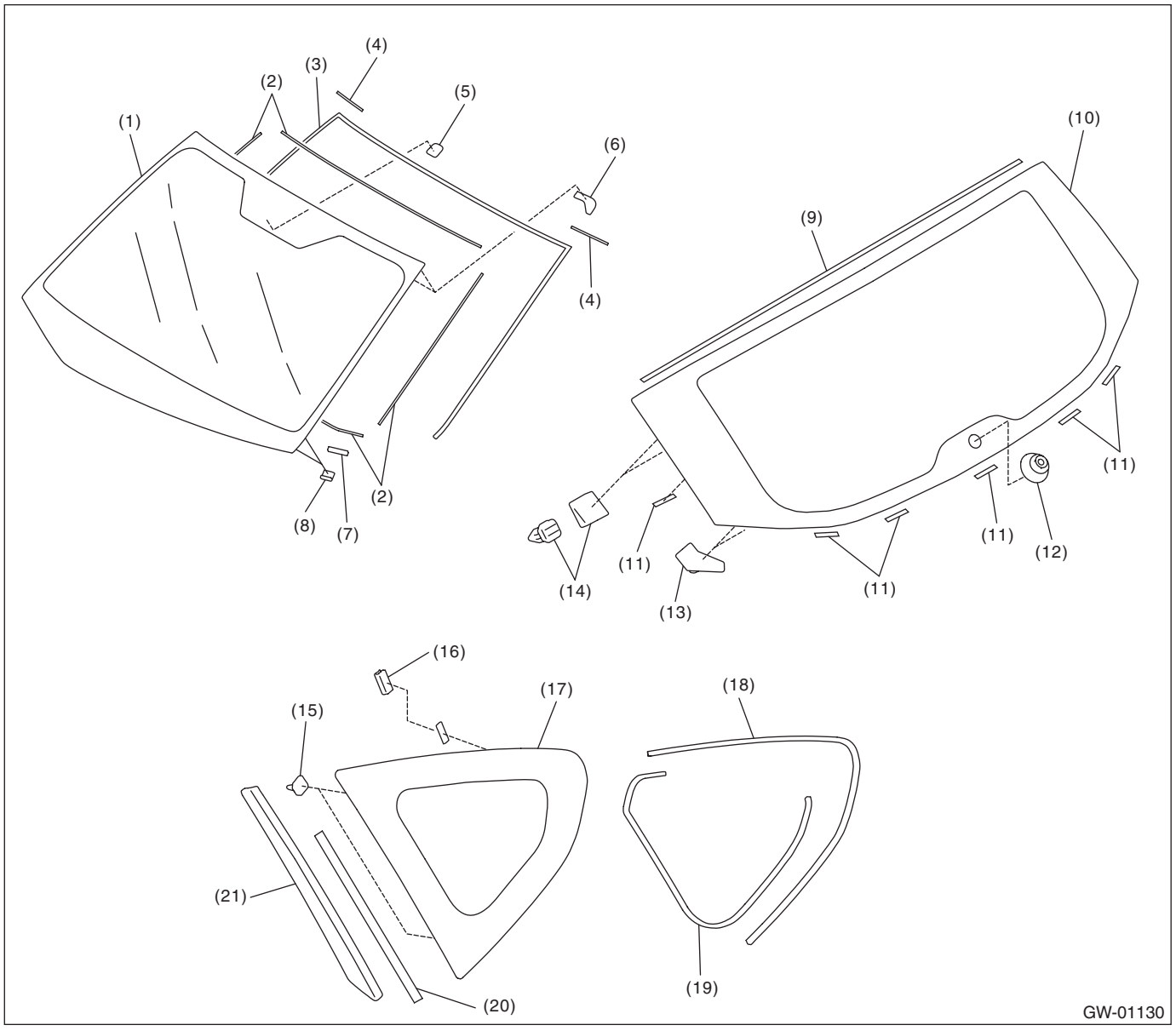
Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

4. FIXED GLASS (4 DOOR MODEL)



(1) Glass - front window
(2) Dam rubber - front
(3) Molding - front window
(4) Seal - upper
(5) Base - inner mirror
(6) Locating pin - front window
(7) Molding - rear window
(8) Dam rubber - rear
(9) Glass - rear window
(10) Locating pin - rear window
(11) Seal - lower VIN
(12) Seal - lower

5. FIXED GLASS (5 DOOR MODEL/XV MODEL)



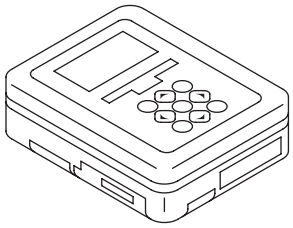
(1) Glass - front window
(2) Dam rubber - front
(3) Molding - front window
(4) Seal - upper
(5) Base - inner mirror
(6) Locating pin - front window
(7) Seal - lower VIN
(8) Seal - lower
(9) Dam rubber - rear gate
(10) Glass - rear gate
(11) Spacer - rear gate
(12) Cap - pivot
(13) Locating pin - rear gate
(14) Holder - rear gate
(15) Locating pin - rear quarter
(16) Fastener - rear quarter
(17) Glass - rear quarter
(18) Dam rubber - rear quarter
(19) Seal - rear quarter
(20) Protective plate
(21) Molding - rear quarter

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 each component operates normally.

C: PREPARATION TOOL

1. SPECIAL TOOL

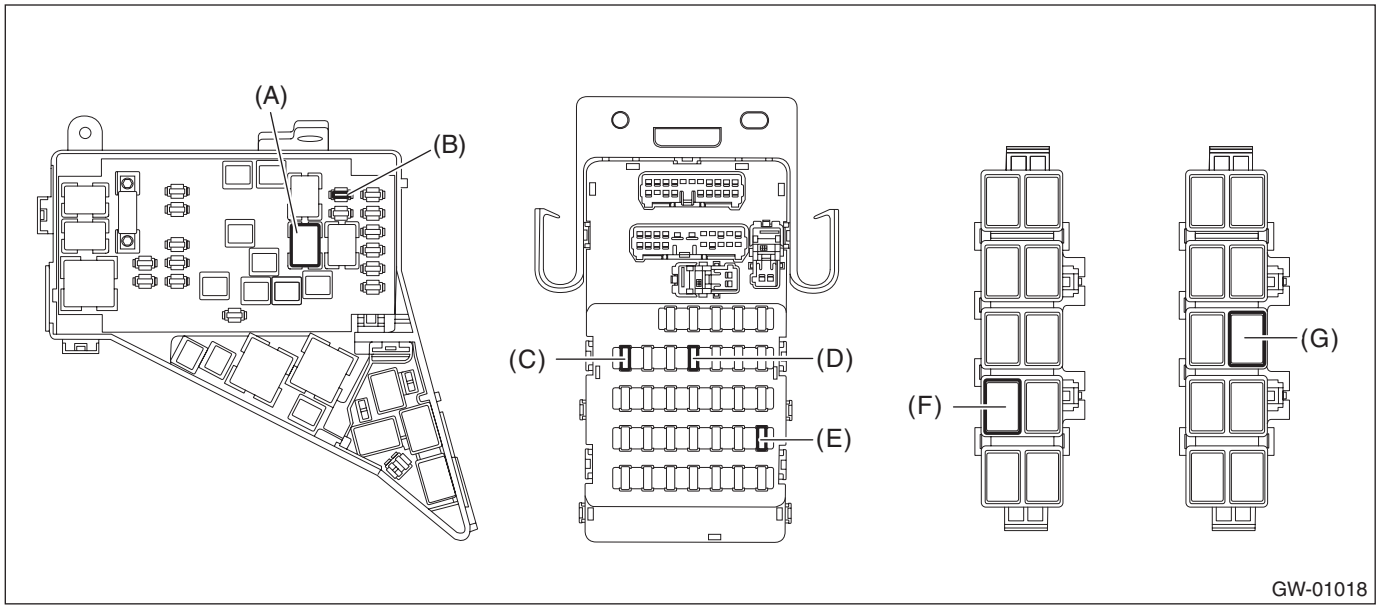
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

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.

2. Relay and Fuse

A: LOCATION



Main fuse box	Rear defogger relay	(A)
	Fuse 25 A (rear defogger)	(B)
Relay & fuse box	Fuse 7.5 A (remote control mirror)	(C)
	Fuse 15 A (wiper deicer)	(D)
	Fuse 7.5 A (power window)	(E)
Relay holder	Power window relay	(F)
	Wiper deicer relay	(G)

NOTE:
For other related fuses, refer to the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model: <Ref. to WI(HEV)-21, Power Supply Circuit.>

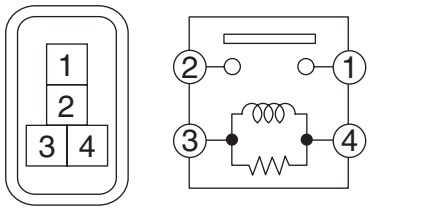
B: INSPECTION

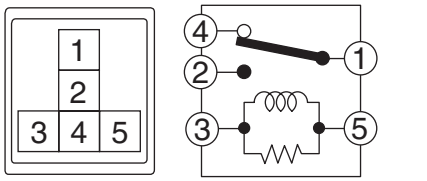
1. CHECK FUSE

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.
- Gasoline engine model: <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model: <Ref. to WI(HEV)-21, Power Supply Circuit.>

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 switch - power window main. 3. Check the switch - power window sub. 4. Check the power window motor. 5. Check the wiring harness.
“Window Lock” does not operate.	Check the switch - power window main.
Driver’s side window moves slightly (approx. 20 mm (0.79 in)).	1. Check the motor - front. 2. Check the switch - power window main. 3. Check the wiring harness.
Driver’s side window moves slightly (approx. 50 mm (1.97 in)). (This status is not a failure.)	Perform reset operation A. <Ref. to GW-10, RESET OPERATION A, OPERATION, Power Window System.>
Driver’s side window does not close completely. (Using AUTO UP allows the window to fully close first and then move in reverse resulting in slightly opening.)	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 switch - power window main to open the glass assembly - front door halfway.
4) Operate the switch - power window main in “UP” direction to fully close the glass assembly - front door on the driver’s side.
5) While the glass assembly - front door is fully closed, hold down the switch - power window main in “UP” direction for one second.
6) Operate the switch - power window main in “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) On the glass assembly - front door of the driver’s side, operate the “AUTO UP” function (fully pull up the switch) using the switch - power window main, and perform auto-reverse operations 10 times in a row (after the window fully closes, it slightly opens).
4) Check that the “AUTO UP” function no longer operates.
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-21, Front Regulator and Motor Assembly.>
- Rear door glass: <Ref. to GW-31, Rear Door Glass.>
- Rear regulator and motor assembly: <Ref. to GW-33, Rear Regulator and Motor Assembly.>

4. Power Window Control Switch

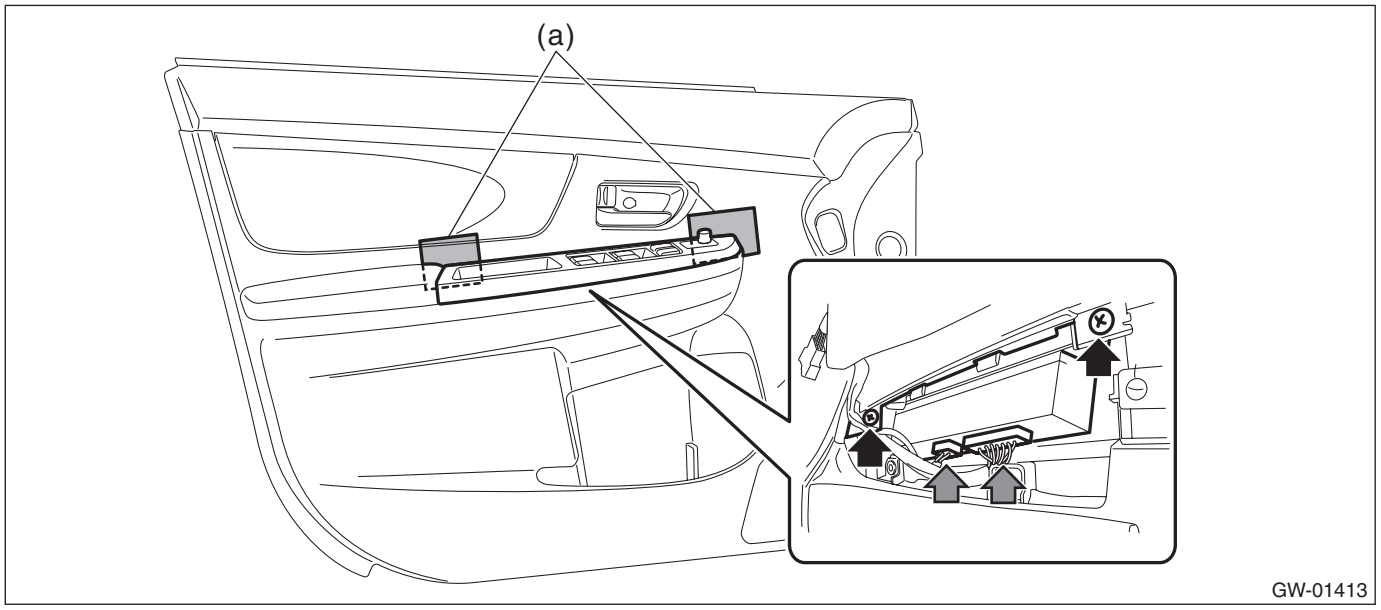
A: REMOVAL

1. MAIN SWITCH

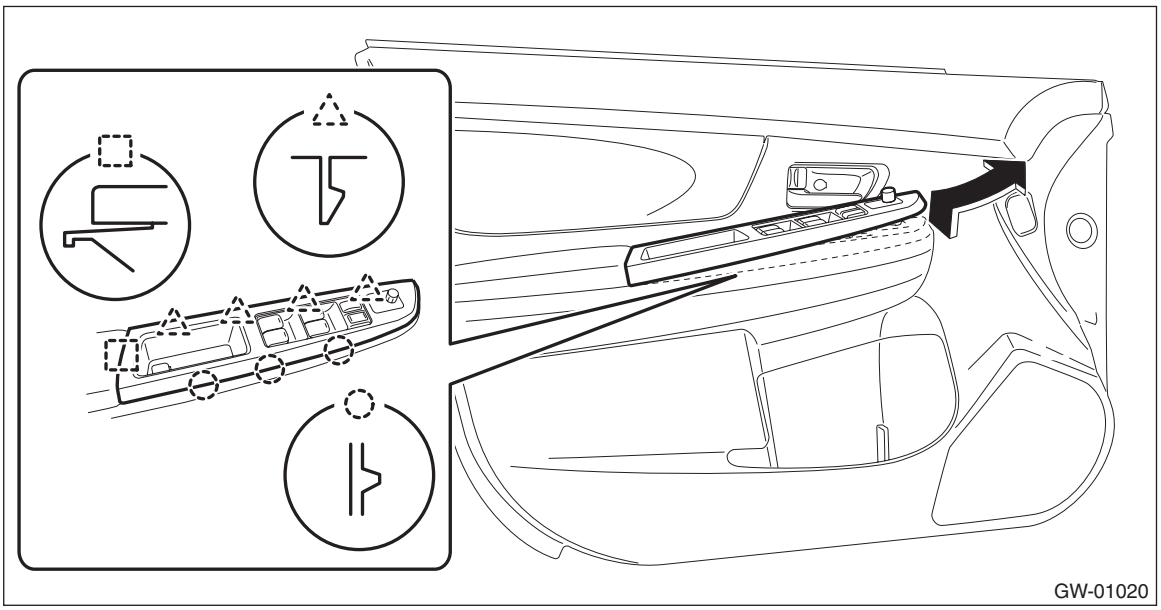
1) Remove the trim panel - front door. <Ref. to EI-72, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the panel - power window main switch.

CAUTION:
Be careful not to damage the trim panel - front door with the panel - power window main switch.

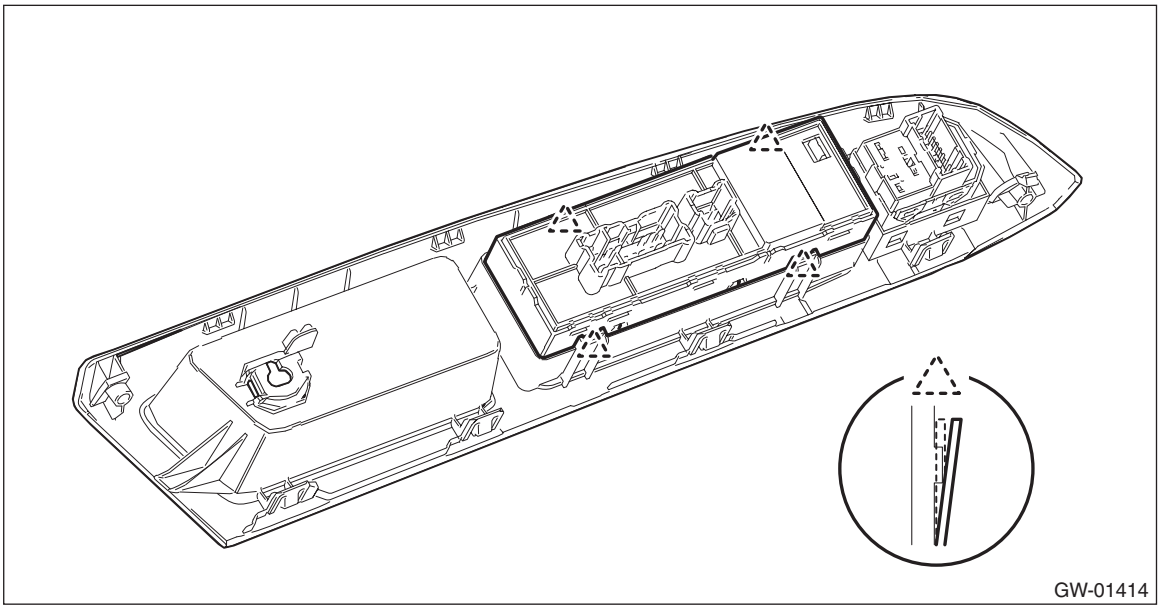
(1) Insert a sheet of protective paper (a) between panel - power window main switch and trim panel - front door.
(2) Remove the screws and disconnect the connector.



(3) Release the claws, and then remove the panel - power window main switch.



(4) Release the claws, and then remove the switch - power window main.



2. SUB-SWITCH

Switch - power window sub front

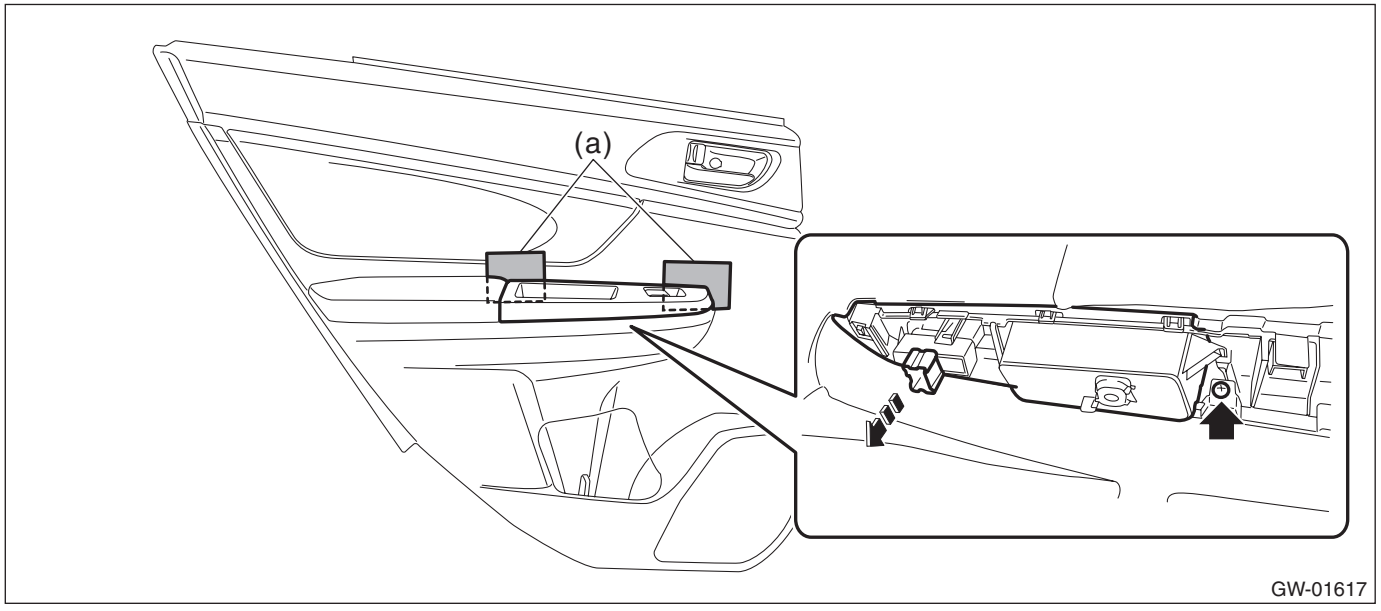
For removal of the switch - power window sub front on the passenger's seat, refer to the removal procedure of the switch - power window main. <Ref. to GW-12, MAIN SWITCH, REMOVAL, Power Window Control Switch.>

Switch - power window sub rear

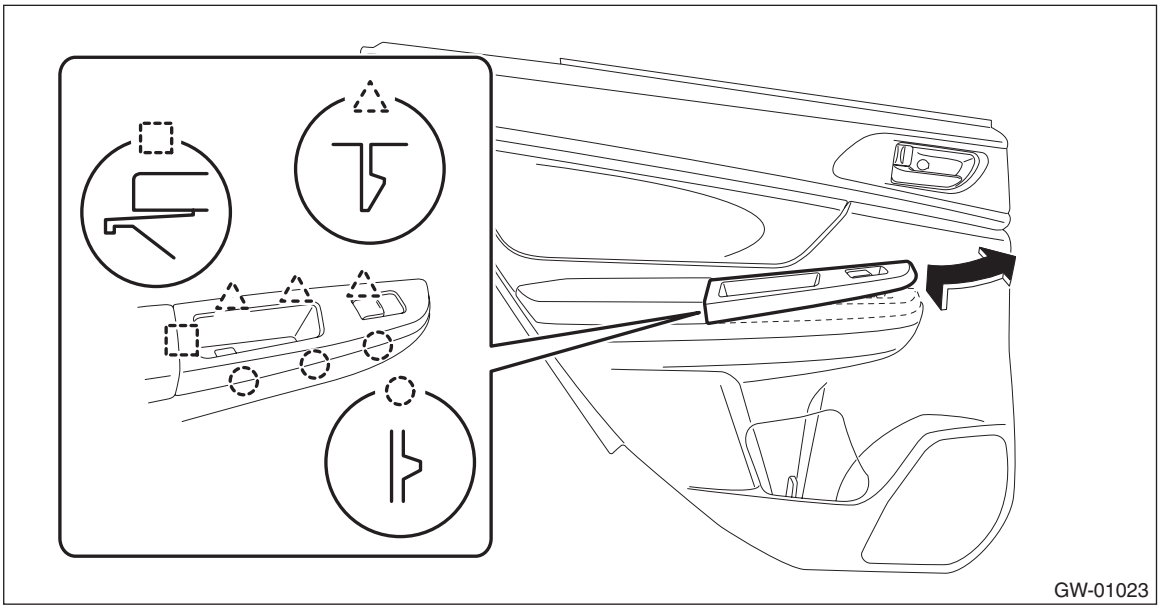
1) Remove the trim panel - rear door. <Ref. to EI-73, REAR DOOR, REMOVAL, Door Trim.>
2) Remove the panel - power window sub switch rear.

CAUTION:
Be careful not to damage the trim panel - rear door with the panel - power window sub switch rear.

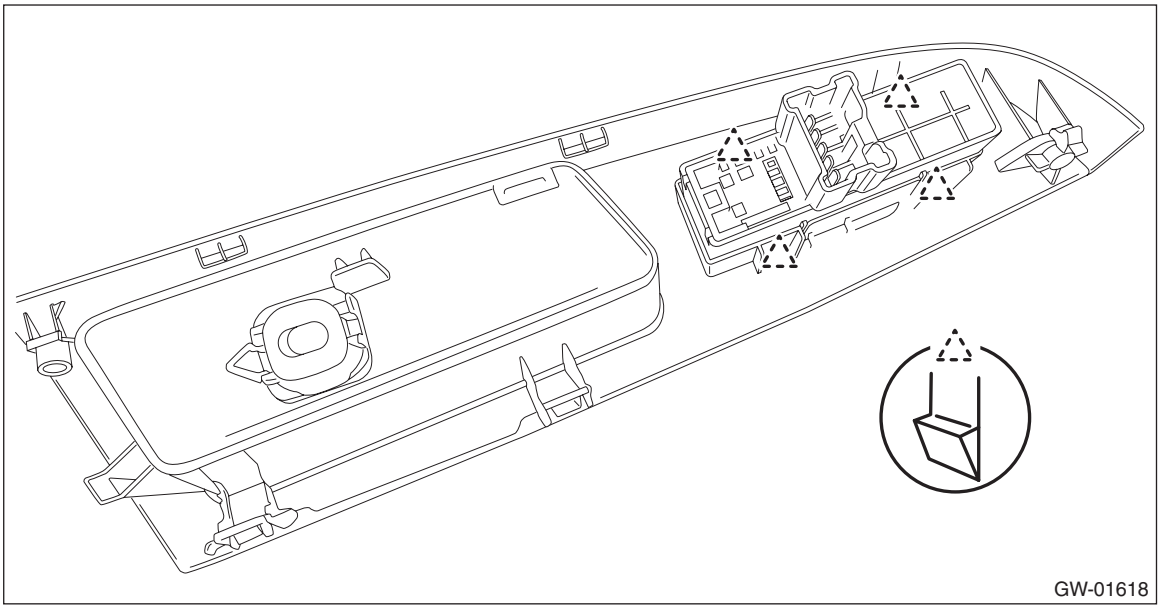
(1) Insert a sheet of protective paper (a) between panel - power window sub switch rear and trim panel - rear door.
(2) Remove the screws and disconnect the connector.



(3) Release the claws, and then remove the panel - power window sub switch rear.



3) Release the claws, and then remove the switch - power window sub rear.



B: INSTALLATION

CAUTION:

- **After installing the switch - power window main, always perform the initial setting.**

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 trim panel.**

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

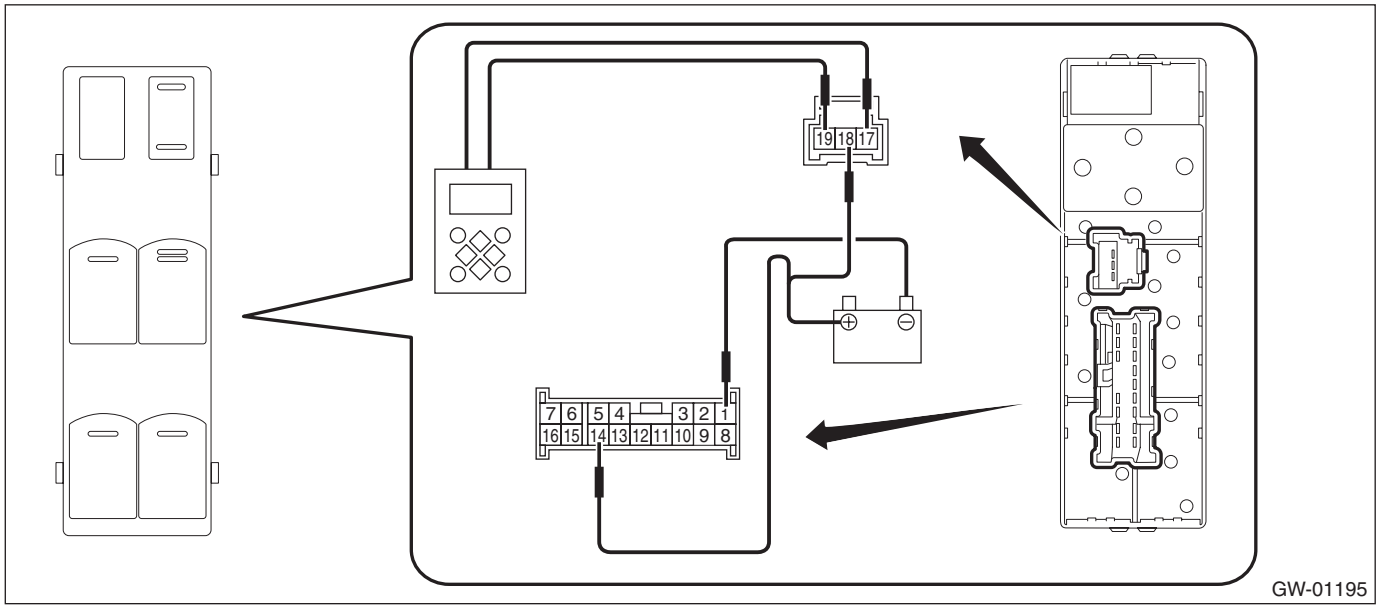
1. MAIN SWITCH

• Driver's seat

CAUTION:
Since the switch - power window main is controlled by CPU, do not check continuity for switch alone with the circuit tester. Performing continuity check with circuit tester can damage the switch - power window main circuit.
Check output from the switch - power window main to the driver's side motor using the oscilloscope function in the Subaru Select Monitor.
1) Remove the switch - power window main.
2) Connect the battery and the Subaru Select Monitor to the switch - power window main terminal.

CAUTION:
Never mix up the terminals when connecting the harness connector of the switch - power window main and the battery. If the connection is wrong, the switch - power window main may be damaged.

NOTE:
• When the battery is connected to the switch - power window main terminal, the letters "AUTO" on the driver's side knob illuminates.
• For detailed procedures, refer to "Subaru Select Monitor Operation Manual".



3) Operate the switch - power window main and check the output.

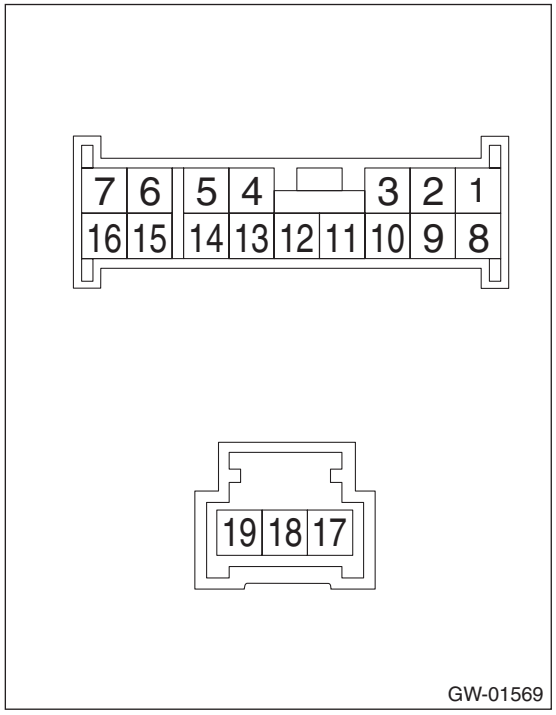
NOTE:
Since output time during window UP operation is extremely short, it cannot be checked without using a measuring instrument such as oscilloscope. Output is constantly produced while the switch is operated for window DOWN operation.

Inspection conditions	Output time	Standard
AUTO UP	Approx. 130 ms	Battery voltage
UP		
OFF	—	0 V
DOWN	During switch operation	Battery voltage
AUTO DOWN	Approx. 300 ms	

4) If the inspection result is not within the standard, replace the switch - power window main.

• **Except for driver's seat**

1) Check the resistance between terminals of the switch - power window main.

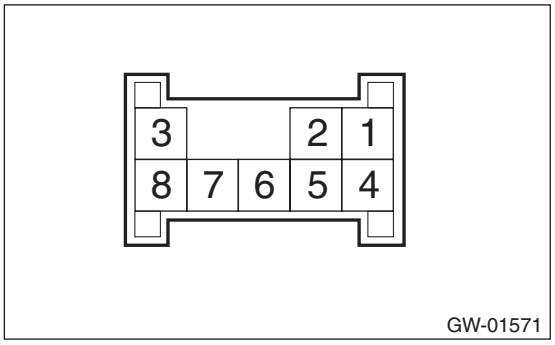


	Terminal No.	Inspection conditions	Standard
Passenger's seat	14 — 8 1 — 2	UP	Less than 1 Ω
	14 — 2 14 — 8	OFF	1 MΩ or more
	1 — 8 1 — 2 8 — 2		Less than 1 Ω
	14 — 2 1 — 8	DOWN	Less than 1 Ω
Rear LH	14 — 15 1 — 16	UP	Less than 1 Ω
	14 — 15 14 — 16	OFF	1 MΩ or more
	1 — 15 1 — 16 15 — 16		Less than 1 Ω
	14 — 16 1 — 15	DOWN	Less than 1 Ω
Rear RH	14 — 7 1 — 6	UP	Less than 1 Ω
	14 — 7 14 — 6	OFF	1 MΩ or more
	1 — 6 1 — 7 6 — 7		Less than 1 Ω
	14 — 6 1 — 7	DOWN	Less than 1 Ω

2) If the inspection result is not within the standard, replace the switch - power window main.

2. SUB-SWITCH

1) Remove the switch - power window sub.
2) Check the resistance between terminals of the switch - power window sub.



	Terminal No.	Inspection conditions	Standard
Passenger seat, rear	6 — 5 8 — 7	UP	Less than 1 Ω
	7 — 6 4 — 6	OFF	1 MΩ or more
	5 — 4 8 — 7		Less than 1 Ω
	6 — 8 5 — 4	DOWN	Less than 1 Ω

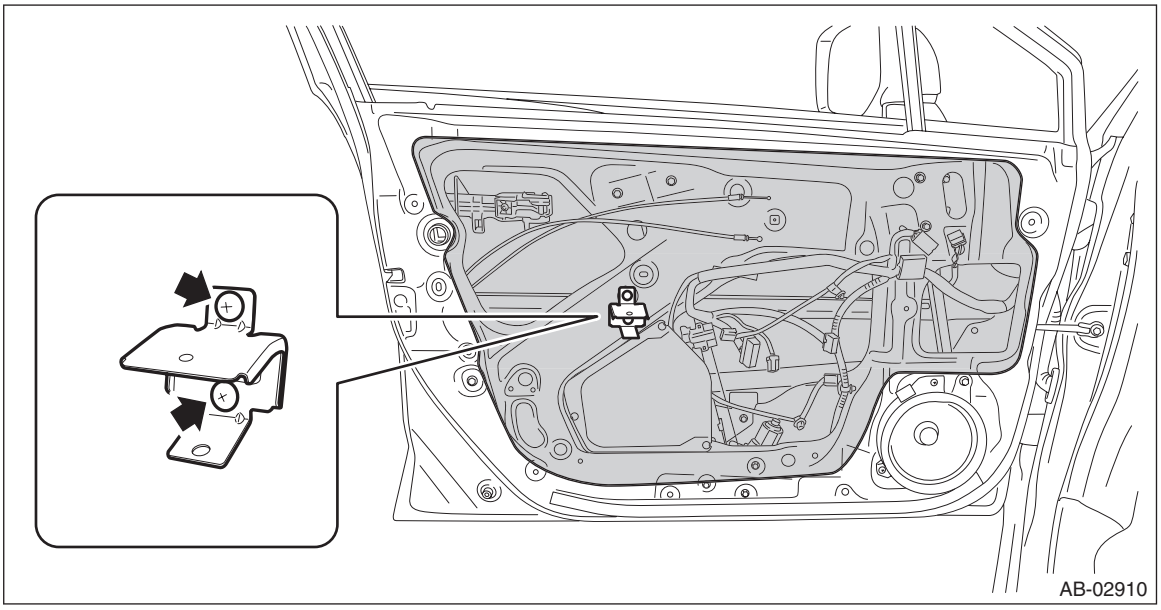
3) If the inspection result is not within the standard, replace the switch - power window sub.

5. Front Door Glass

A: REMOVAL

1) Remove the trim panel - front door. <Ref. to EI-72, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the sealing cover - front door.

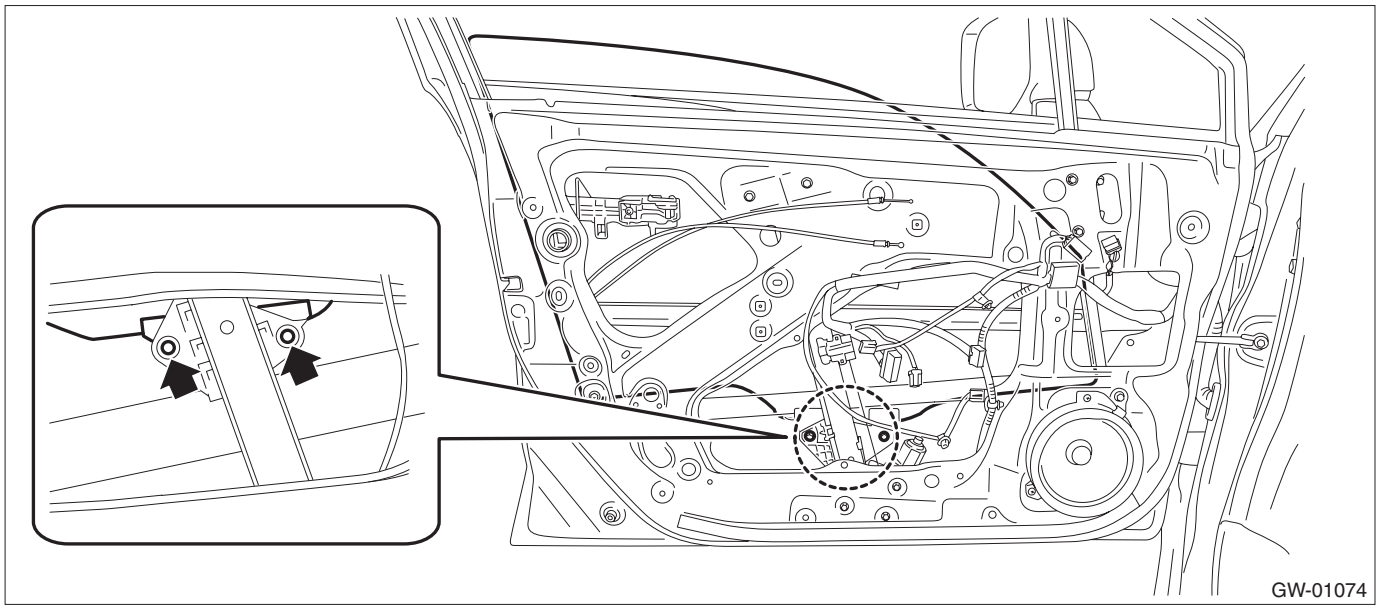
CAUTION:
- **Carefully remove the butyl tape. Excessive force will easily break the sealing cover - front door.**
- **If the sealing cover - front door gets broken, replace it with a new part.**
  (1) Remove the screw to remove the bracket - door trim front.
  (2) Carefully remove the butyl tape to remove the sealing cover - front door.



3) Remove the front door inner pad.

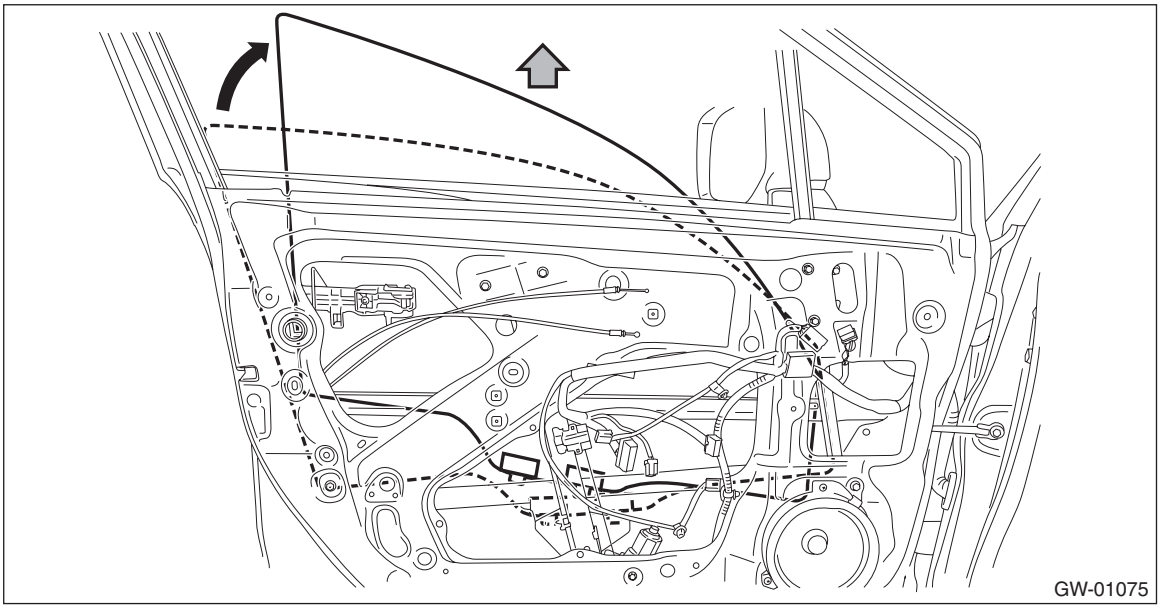
CAUTION:
If the clip is damaged, replace it with a new part because the panel assembly - front door may be deformed.
4) Attach the battery ground cable and the switch - power window, and turn the ignition to ON. <Ref. to NT-5, BATTERY, NOTE, Note.>

5) Remove the glass assembly - front door.
(1) Operate the switch - power window to move the glass assembly - front door to the position where the mounting bolts can be seen.
(2) Remove the running channel - front door.
(3) Remove the mounting bolts from the glass assembly - front door.

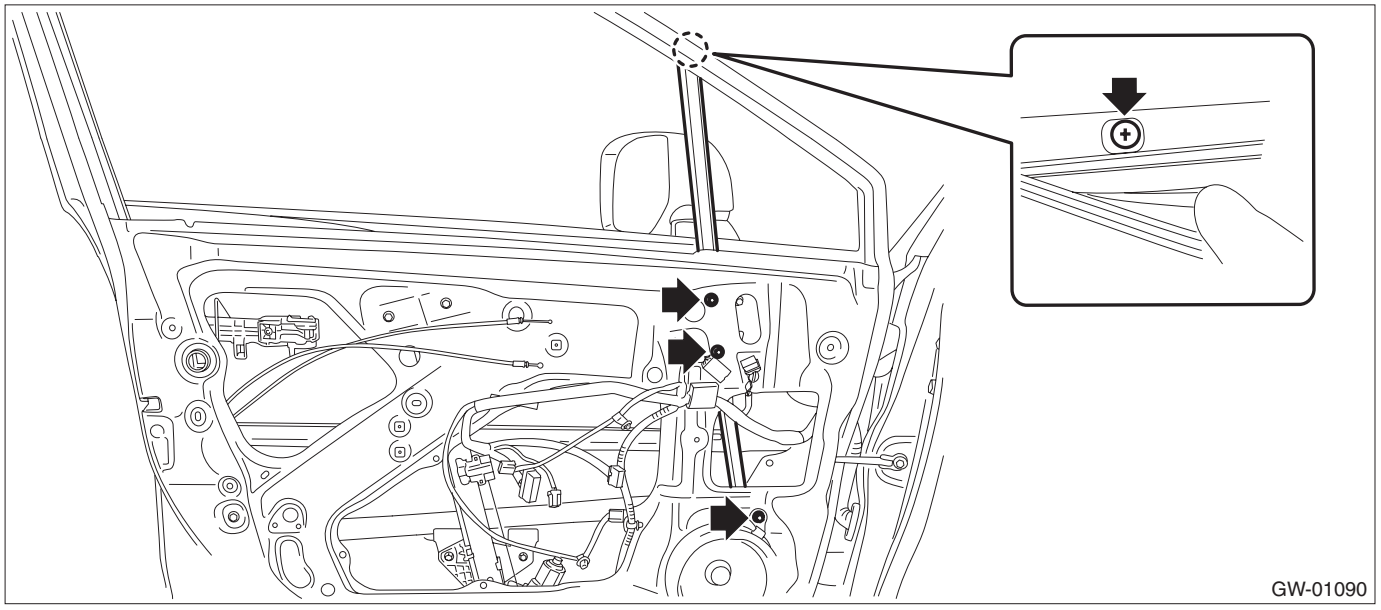


(4) While tilting the glass, remove the glass assembly - front door.

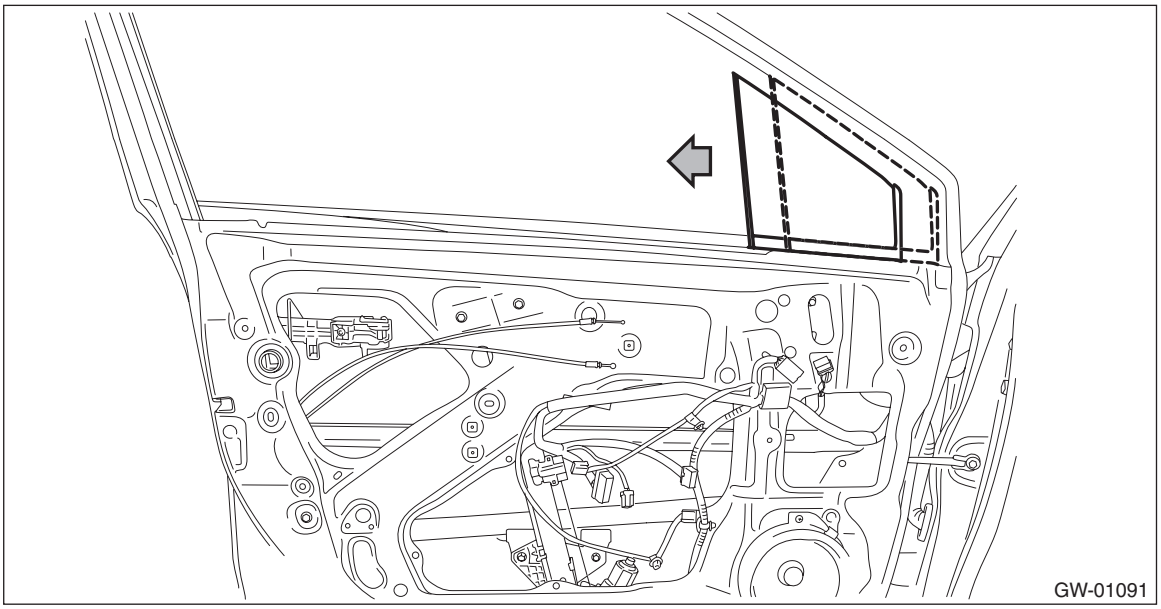
CAUTION:
Avoid impact and damage to the glass assembly - front door.



6) Remove the glass - front door partition.
(1) Remove the bolts and screws, and then remove the sash COMPL - partition.



(2) Remove the glass - front door partition.



B: INSTALLATION

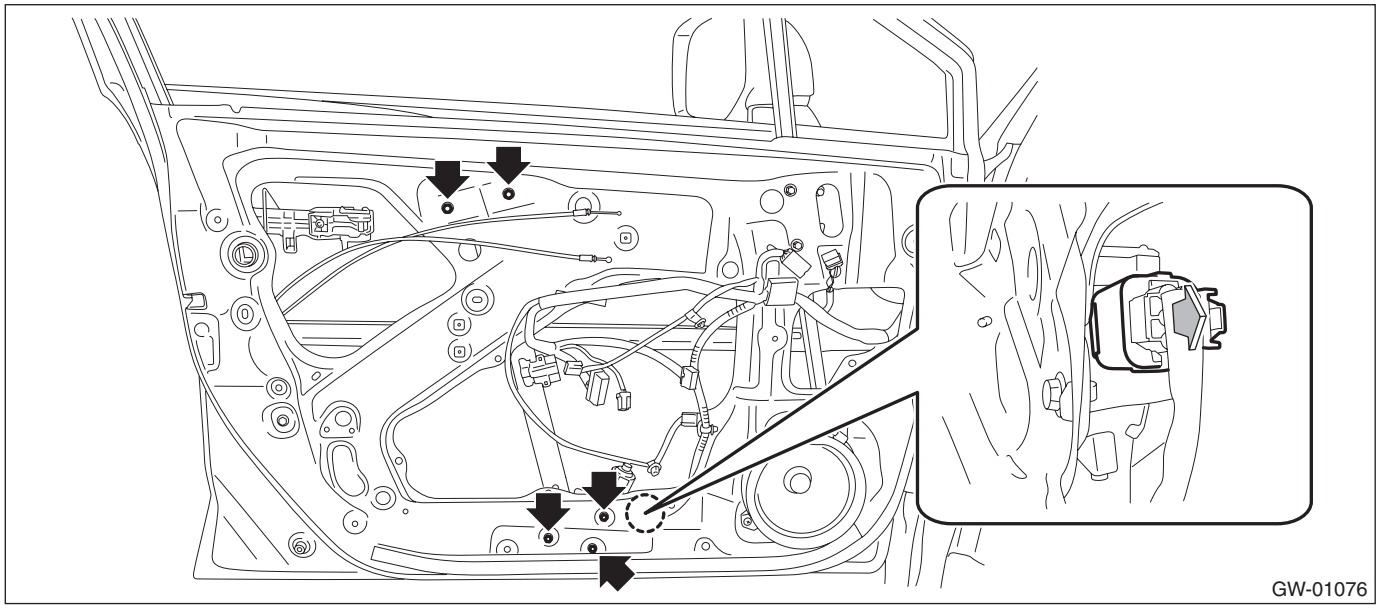
CAUTION:
• Check that the running channel - front door is securely fixed to the panel assembly - front door and to the sash COMPL - partition.
• Before installing the glass assembly - front door, check the lip of the running channel - front door for being everted or tuck-in.
Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-2, FRONT DOOR GLASS, COMPONENT, General Description.>

6. Front Regulator and Motor Assembly

A: REMOVAL

1) Remove the glass assembly - front door. <Ref. to GW-18, REMOVAL, Front Door Glass.>
2) Remove the regulator and motor assembly - front.
   (1) Disconnect the motor - front connector.
   (2) Remove the bolts, and then remove the regulator and motor assembly - front.



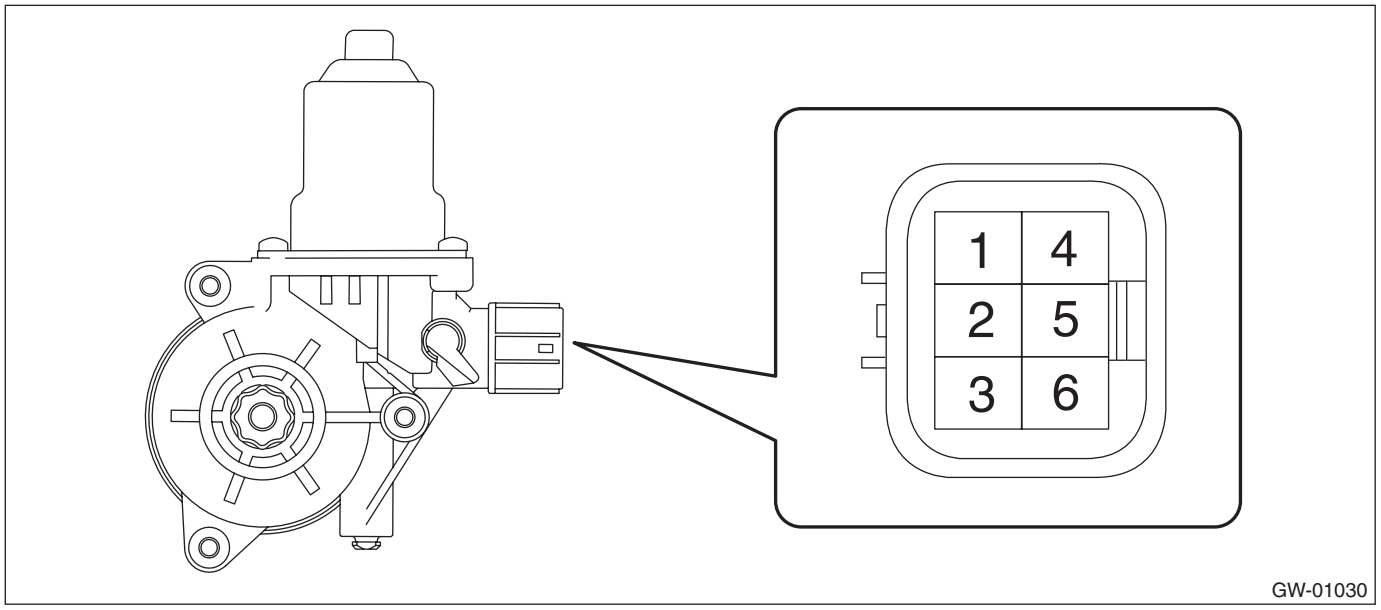
B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-2, FRONT DOOR GLASS, COMPONENT, General Description.>

C: INSPECTION

1) Disconnect the connector of the motor - front.
2) Check the motor operation when battery voltage is applied between terminals of the motor - front connector.



- LH side

Terminal No.	Inspection conditions	Standard
4 (+) — 1 (–)	Apply battery voltage between terminals.	Increase
1 (+) — 4 (–)	Apply battery voltage between terminals.	Decrease

- RH side

Terminal No.	Inspection conditions	Standard
3 (+) — 6 (–)	Apply battery voltage between terminals.	Increase
6 (+) — 3 (–)	Apply battery voltage between terminals.	Decrease

3) If it does not operate properly as a result of inspection, replace the regulator and motor assembly - front.

7. Remote Control Mirror System

A: WIRING DIAGRAM

Refer to “Remote Control Mirror System” in the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model: <Ref. to WI(HEV)-21, Power Supply Circuit.>

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 rear defogger switch. 2. Check the rear defogger relay. 3. Check the mirror heater. 4. Check the wiring harness. 5. Check body integrated unit.

NOTE:
The mirror heater operates with the rear window defogger at the same time. Refer to “INSPECTION” of “Rear Window Defogger System” for details. <Ref. to GW-50, INSPECTION, Rear Window Defogger System.>

C: NOTE

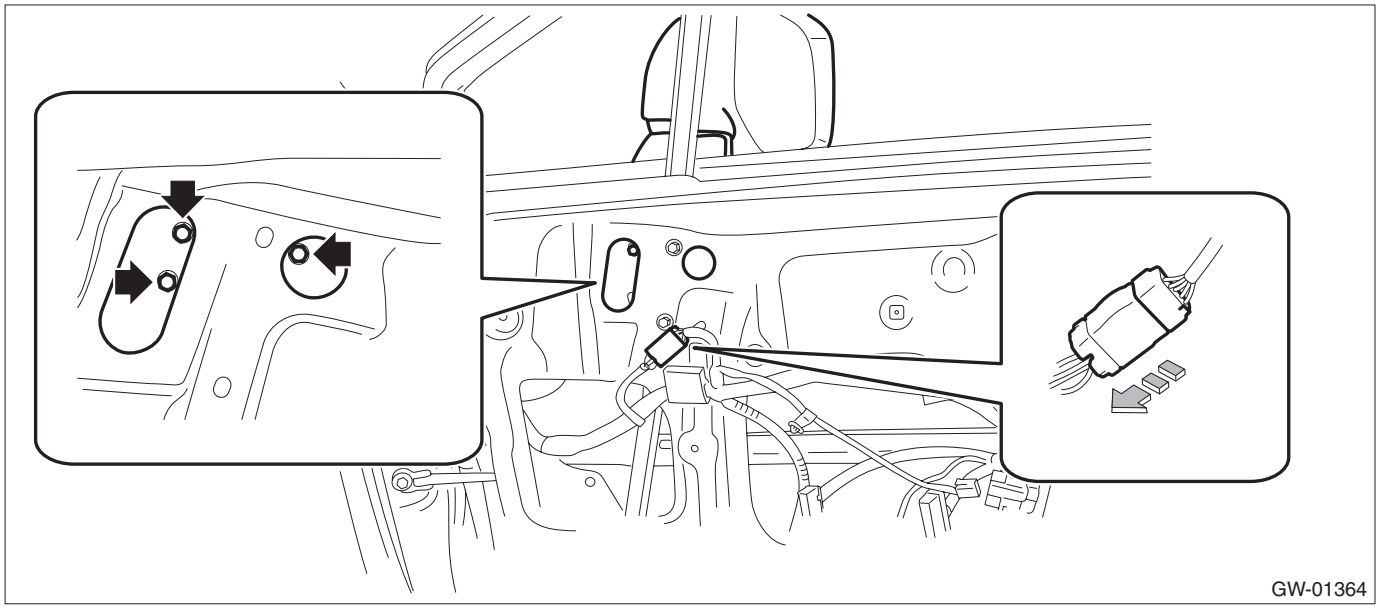
For procedure of each component in the remote control mirror system, refer to the respective section.
- Outer mirror assembly: <Ref. to GW-24, Outer Mirror Assembly.>
- Remote control mirror switch: <Ref. to GW-28, Remote Control Mirror Switch.>

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 trim panel - front door. <Ref. to EI-72, FRONT DOOR, REMOVAL, Door Trim.>
2) Remove the outer mirror assembly.
   (1) Remove the connector clip that is installed on the panel assembly - front door, and disconnect the connector.
   (2) Turn over the sealing cover - front door.
   (3) Remove the bolts to remove outer mirror assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

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

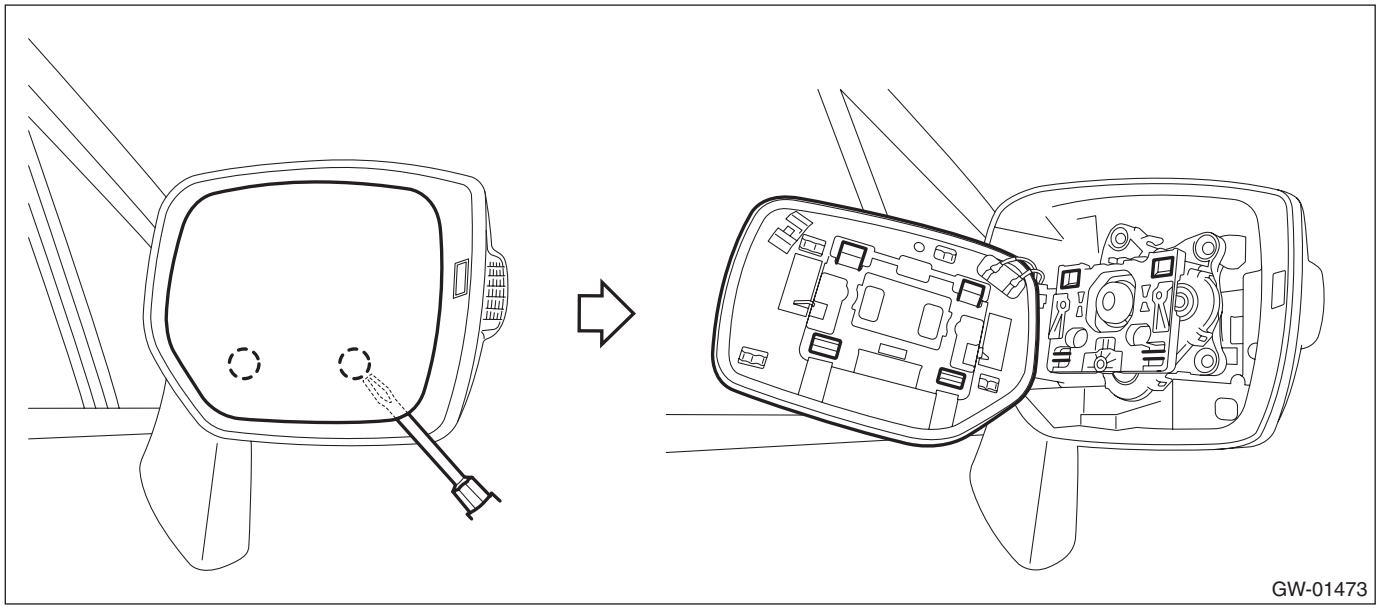
C: DISASSEMBLY

CAUTION:
- **When removing the mirror - repair, be careful not to damage the back surface of mirror - repair with a flat tip screwdriver.**
- **When installing the mirror - repair, insert the connector and clip securely.**

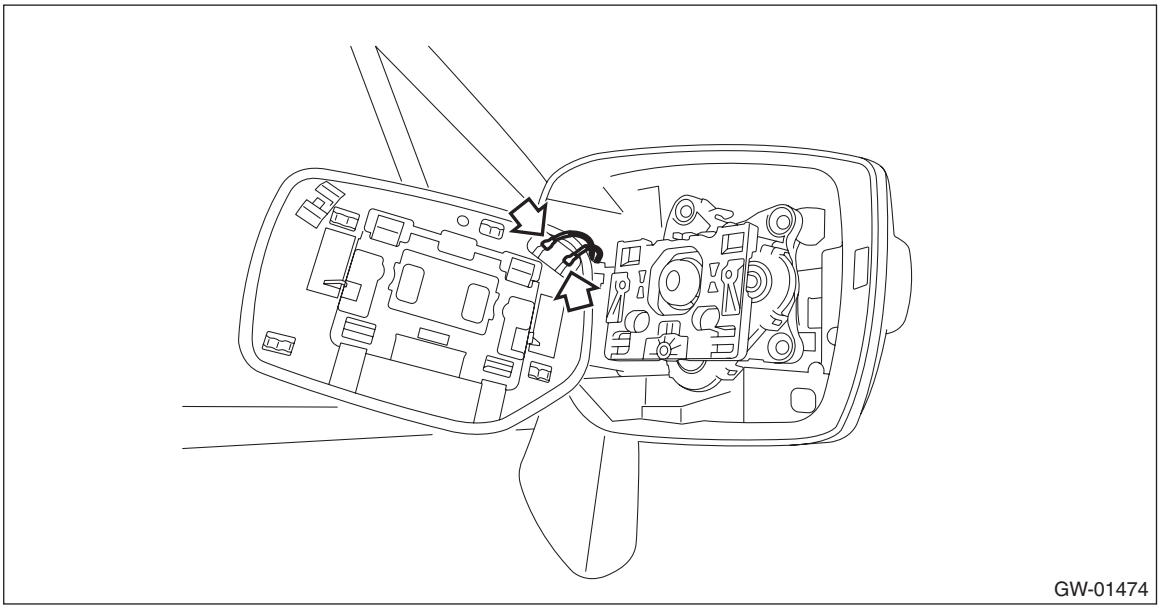
1) Operate the remote control mirror switch to face the mirror - repair upward.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

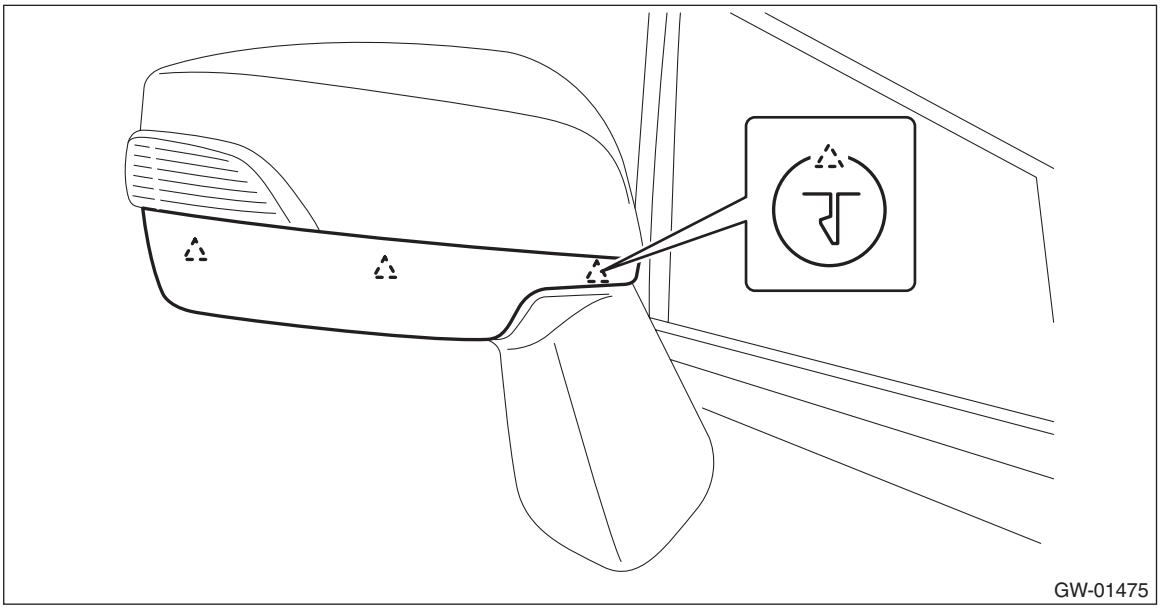
3) Remove the mirror - repair.
   (1) Using a flat tip screwdriver, release the clip, and slide the mirror - repair downward to remove.


GW-01473

   (2) Disconnect the mirror heater connector. (Model with mirror heater)

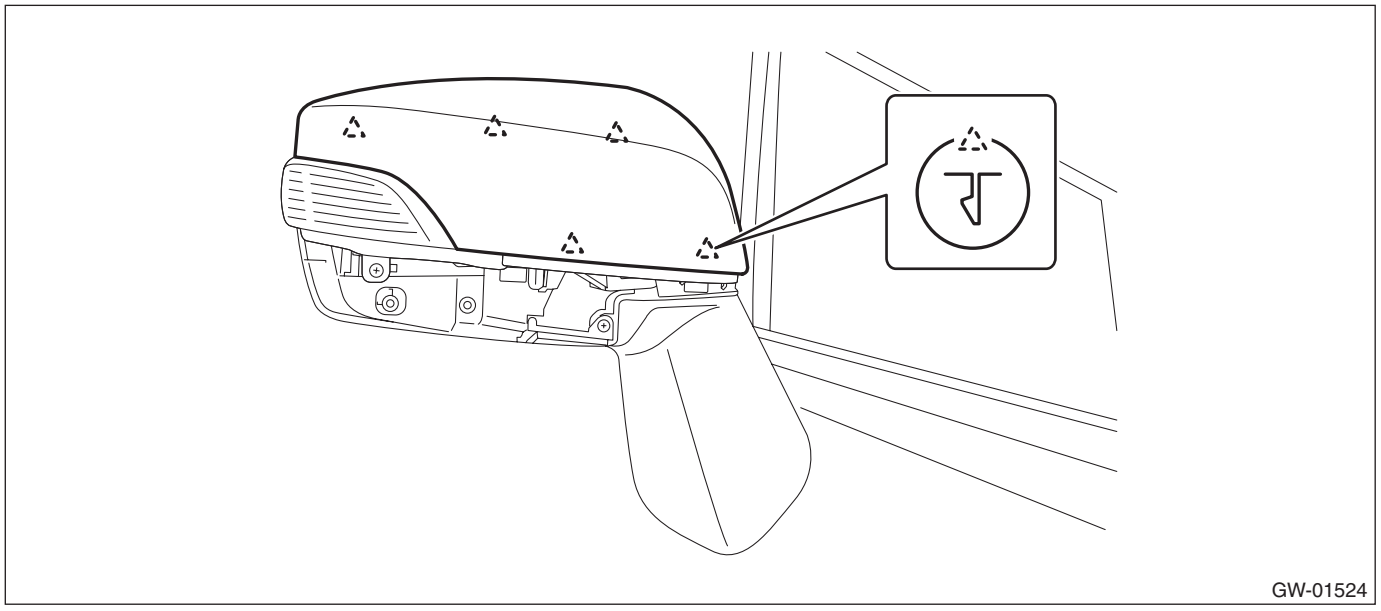

GW-01474

4) Release the claws, and then remove the cover - cap outer mirror lower.

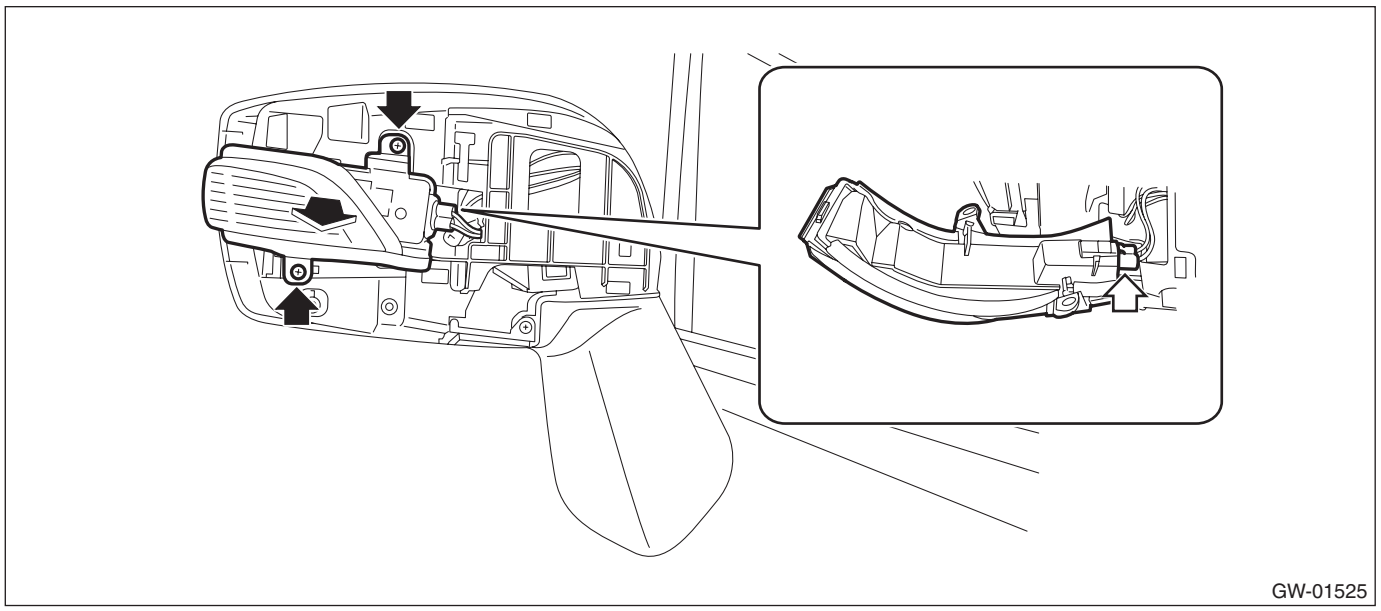


5) Release the claws, and then remove the cover - cap outer mirror.

CAUTION:
Be careful not to apply excessive force when removing the cover - cap outer mirror, as the lower hooks may become damaged.



6) Remove the light assembly - side turn mirror. (Model with side turn signal light)
   (1) Remove the screws and pull out the light assembly - side turn mirror to the front of the vehicle.
   (2) Disconnect the connector and remove the light assembly - side turn mirror.



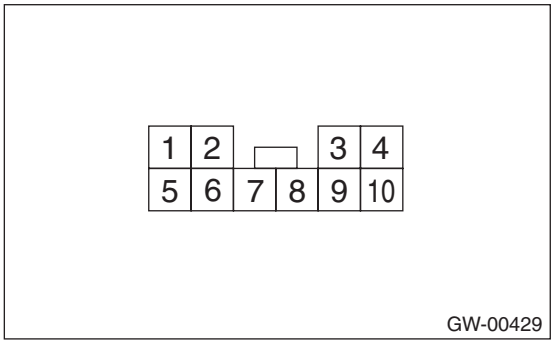
7) Remove the screws and detach the cover.

D: ASSEMBLY

CAUTION:
Be careful not to catch the harness in between the parts.
1) Install the cover.
2) Install the light assembly - side turn mirror.
3) Install the cover - cap outer mirror.
4) Install the cover - cap outer mirror lower.
5) Check that all the claws are securely engaged.

E: INSPECTION

1) Disconnect the outer mirror connector.
2) Apply battery voltage between the outer mirror connector terminals and check the mirror operation.



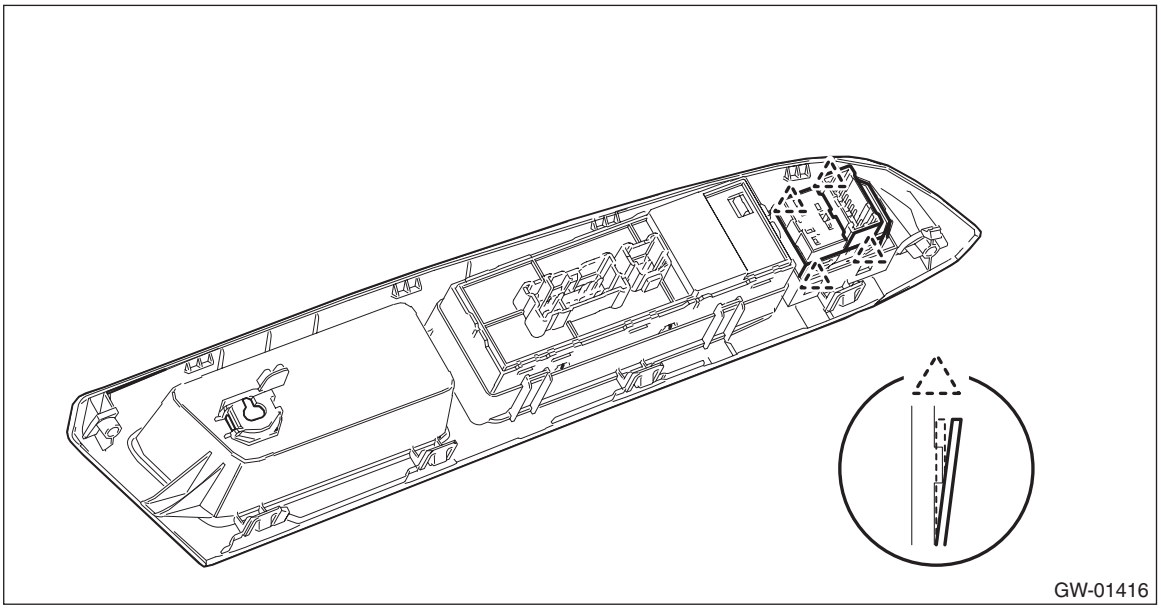
Terminal No.	Inspection conditions	Switch position
—	—	OFF
3 (+) — 8(–)	Apply battery voltage between terminals.	UP
8 (+) — 3(–)	Apply battery voltage between terminals.	DOWN
7 (+) — 3(–)	Apply battery voltage between terminals.	LEFT
3 (+) — 7(–)	Apply battery voltage between terminals.	RIGHT

3) If it does not operate normally, replace the outer mirror assembly.

9. Remote Control Mirror Switch

A: REMOVAL

1) Remove the panel - power window main switch. <Ref. to GW-12, MAIN SWITCH, REMOVAL, Power Window Control Switch.>
2) Release the claws, and then remove the switch - door mirror.



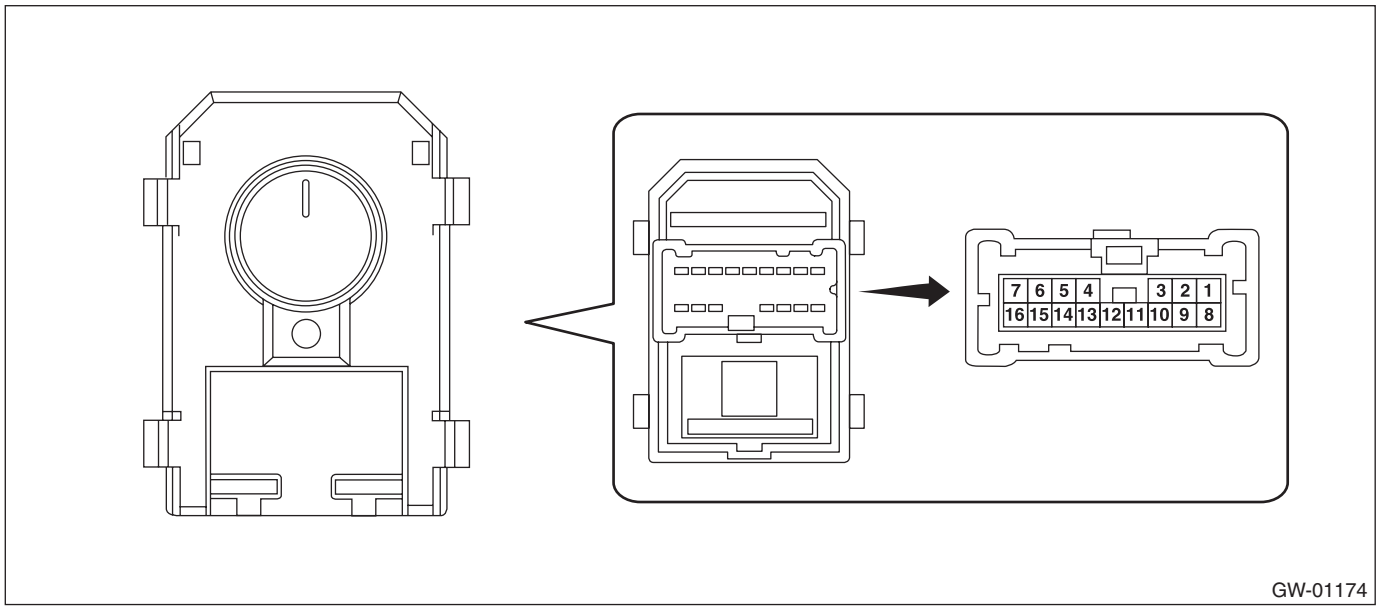
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Disconnect the connector of the switch - door mirror.
2) Check the resistance between switch - door mirror terminals.

Preparation tool:
Circuit tester



- Changeover switch RH

Terminal No.	Inspection conditions	Standard
—	OFF	1 MΩ or more
1 — 12 9 — 7	UP	Less than 1 Ω
1 — 9 12 — 7	DOWN	Less than 1 Ω
1 — 11 12 — 7	LEFT	Less than 1 Ω
1 — 12 11 — 7	RIGHT	Less than 1 Ω

- Changeover switch LH

Terminal No.	Inspection conditions	Standard
—	OFF	1 MΩ or more
1 — 14 8 — 7	UP	Less than 1 Ω
1 — 8 14 — 7	DOWN	Less than 1 Ω
1 — 10 14 — 7	LEFT	Less than 1 Ω
1 — 14 10 — 7	RIGHT	Less than 1 Ω

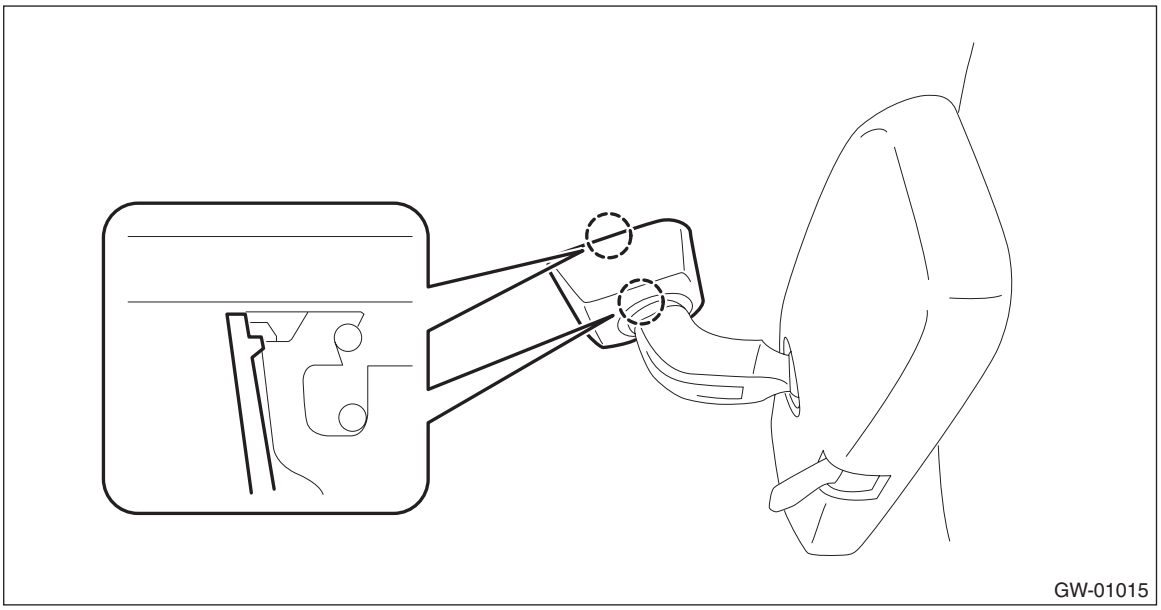
3) If the inspection result is not within the standard, replace the switch - door mirror.

10.Rearview Mirror

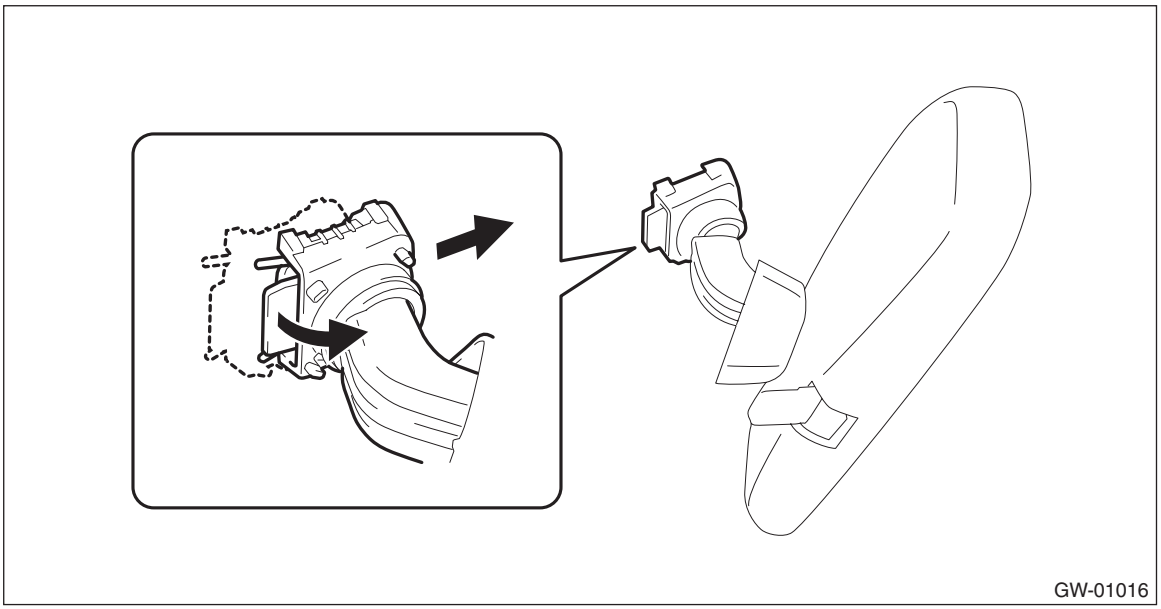
A: REMOVAL

CAUTION:
Be careful not to damage the mirror surface and the glass - front window.

1) Release the claws, and then remove the cover.



2) Release the lock lever, and slide the mirror assembly - inner rearview to remove.



3) When the mirror mount is damaged, use something like piano wire or a spatula to remove.

B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

Check the mirror and mirror mount for damage.

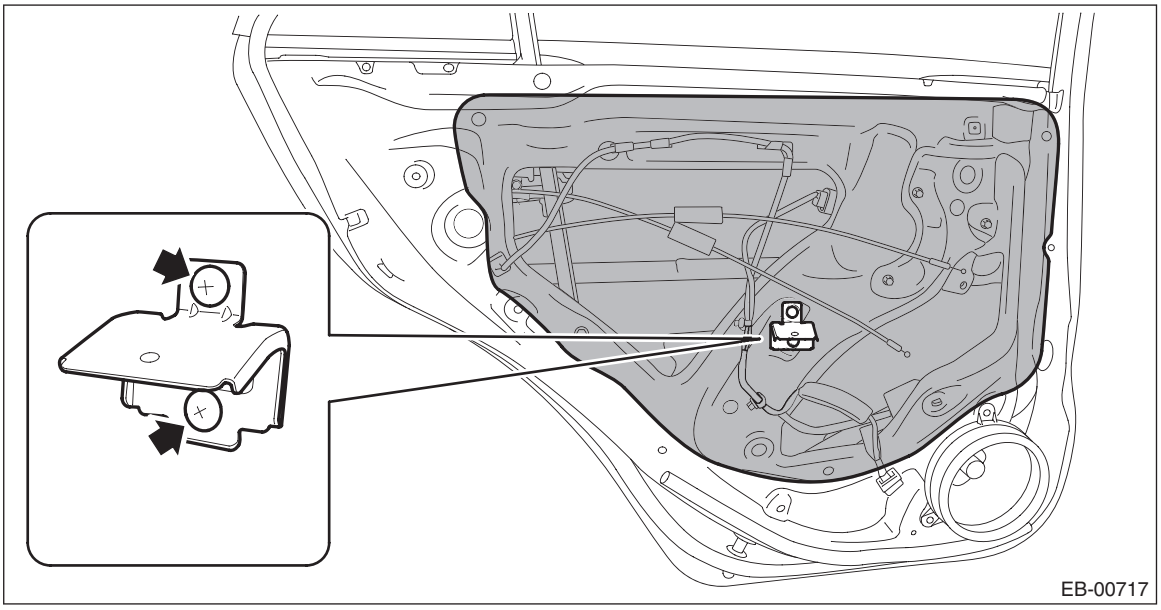
11.Rear Door Glass

A: REMOVAL

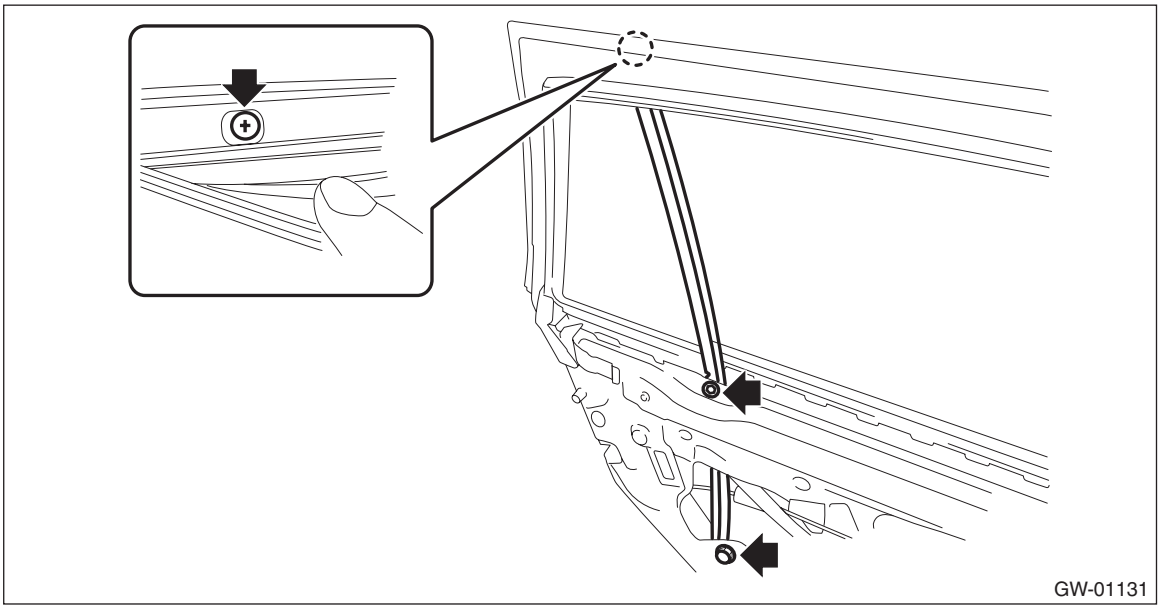
1) Remove the trim panel - rear door. <Ref. to EI-73, REAR DOOR, REMOVAL, Door Trim.>
2) Remove the sealing cover - rear door.

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

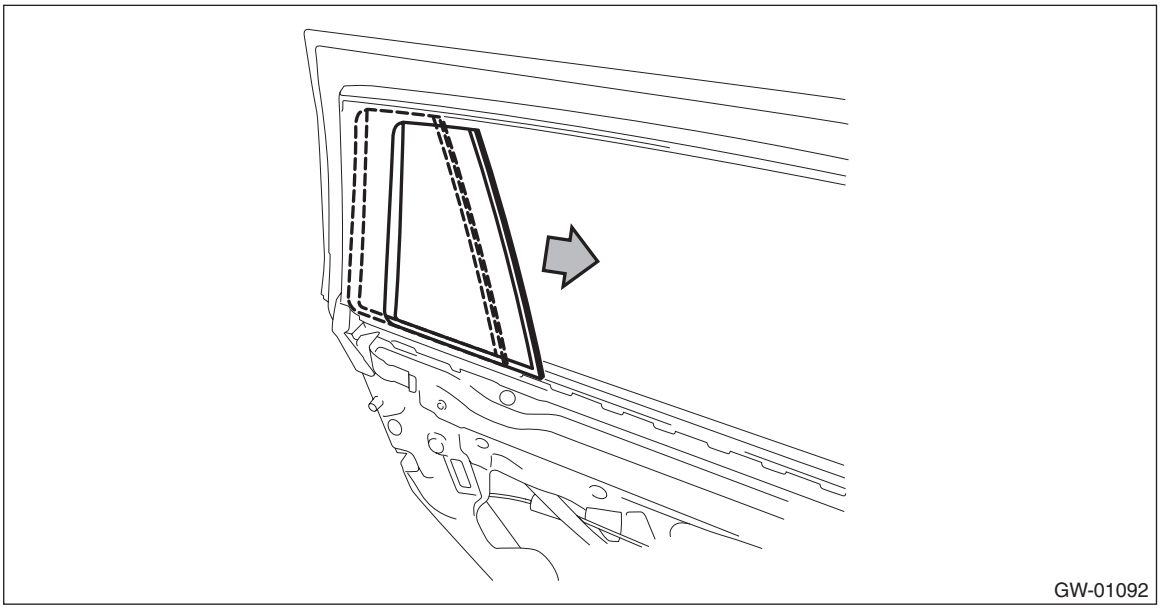
(1) Remove the screw to remove the bracket - door trim rear.
(2) Carefully remove the butyl tape to remove the sealing cover - rear door.


EB-00717

3) Attach the battery ground cable and the switch - power window, and turn the ignition to ON.
4) Remove the glass assembly - rear door.
(1) Operate the switch - power window sub rear to move the glass assembly - rear door to the lowest position.
(2) Remove the running channel - rear door.
(3) Remove the screws and bolts, and then remove the sash COMPL - rear partition.

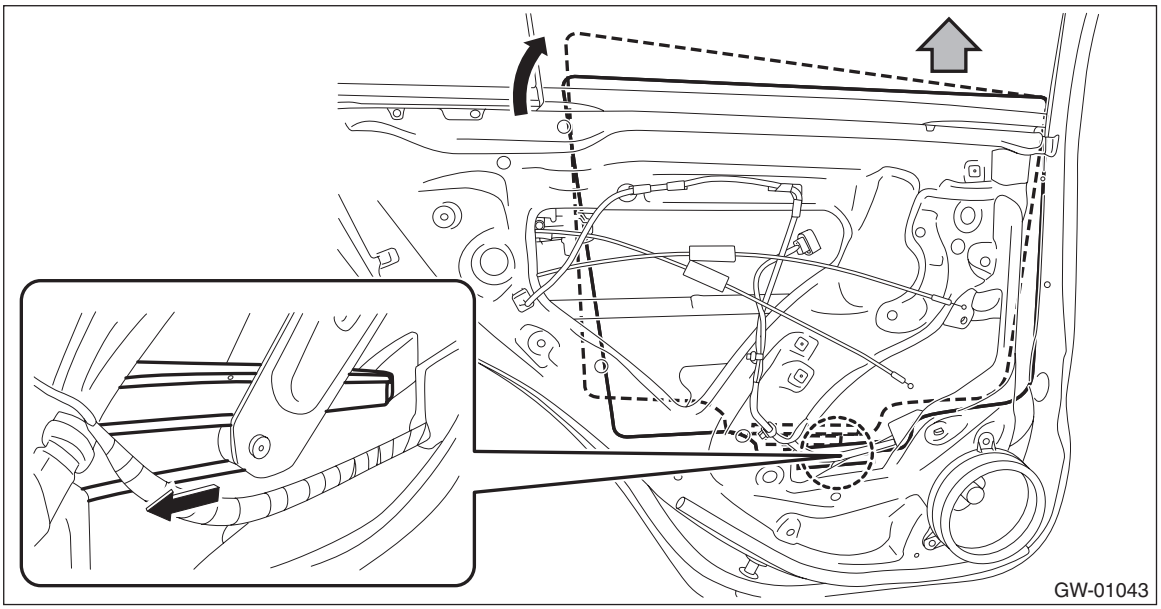

GW-01131

(4) Remove the glass - rear door partition.



(5) While tilting the glass assembly - rear door, remove the guide from the roller of the regulator and motor assembly - rear, then remove the glass assembly - rear door.

CAUTION:
Avoid impact and damage to the glass assembly - rear door.



B: INSTALLATION

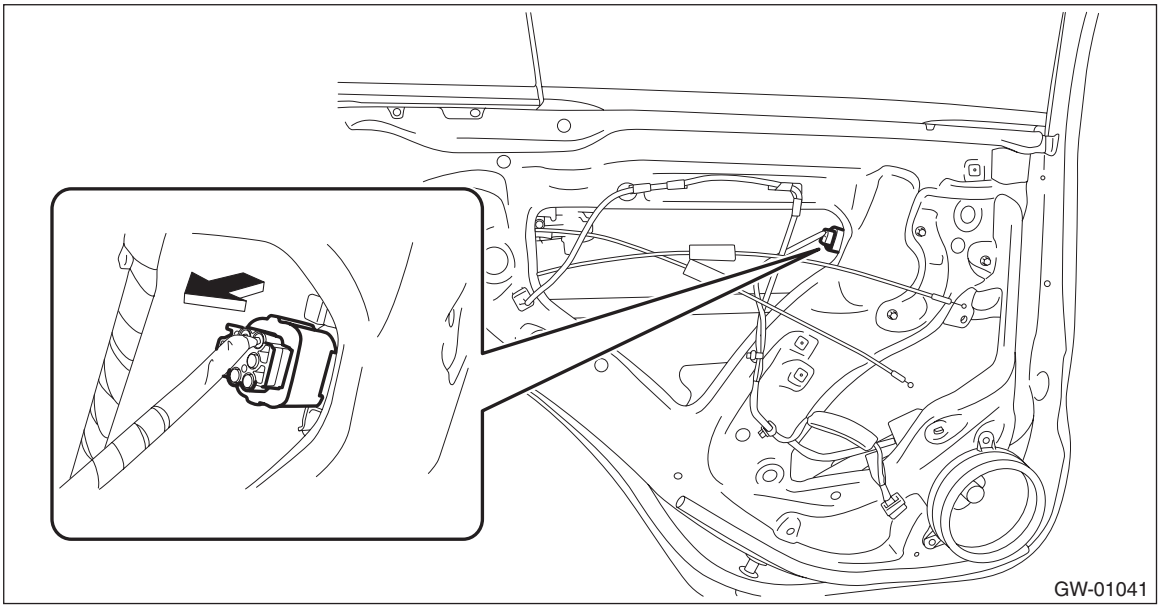
CAUTION:
• Check that the running channel - rear door is securely fixed to the panel assembly - rear door and to the sash COMPL - rear partition.
• Before installing the glass assembly - rear door, check the lip of the running channel - rear door for being everted or tuck-in.
Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-3, REAR DOOR GLASS, COMPONENT, General Description.>

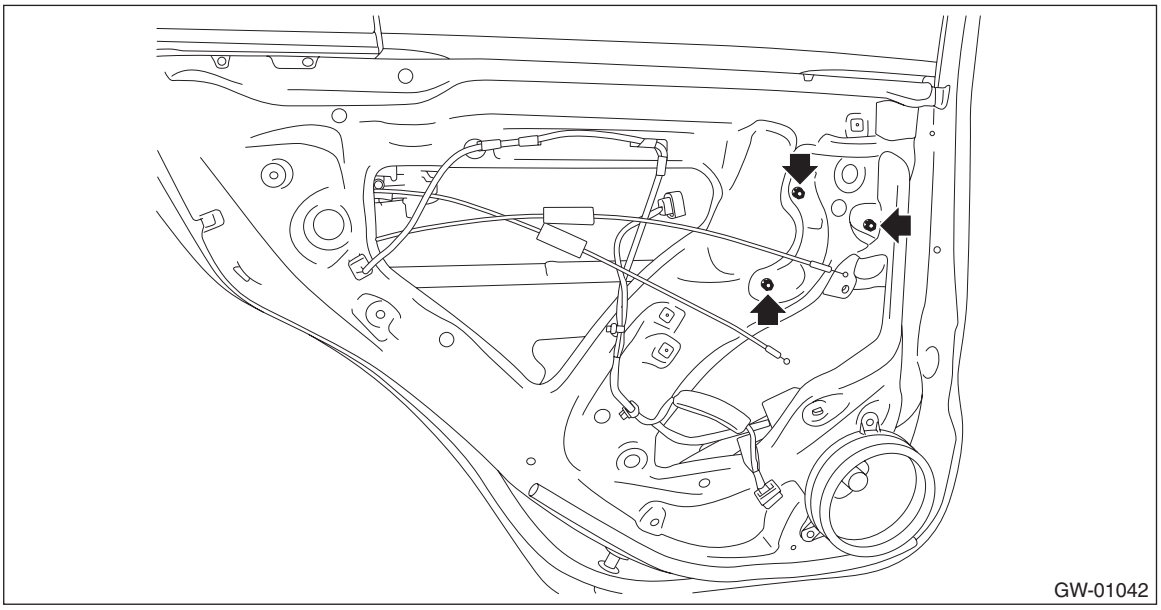
12.Rear Regulator and Motor Assembly

A: REMOVAL

1) Remove the glass assembly - rear door. <Ref. to GW-31, REMOVAL, Rear Door Glass.>
2) Remove the rear regulator and motor assembly.
   (1) Disconnect the motor - rear connector.



   (2) Remove the bolts, and then remove the rear regulator and motor assembly.



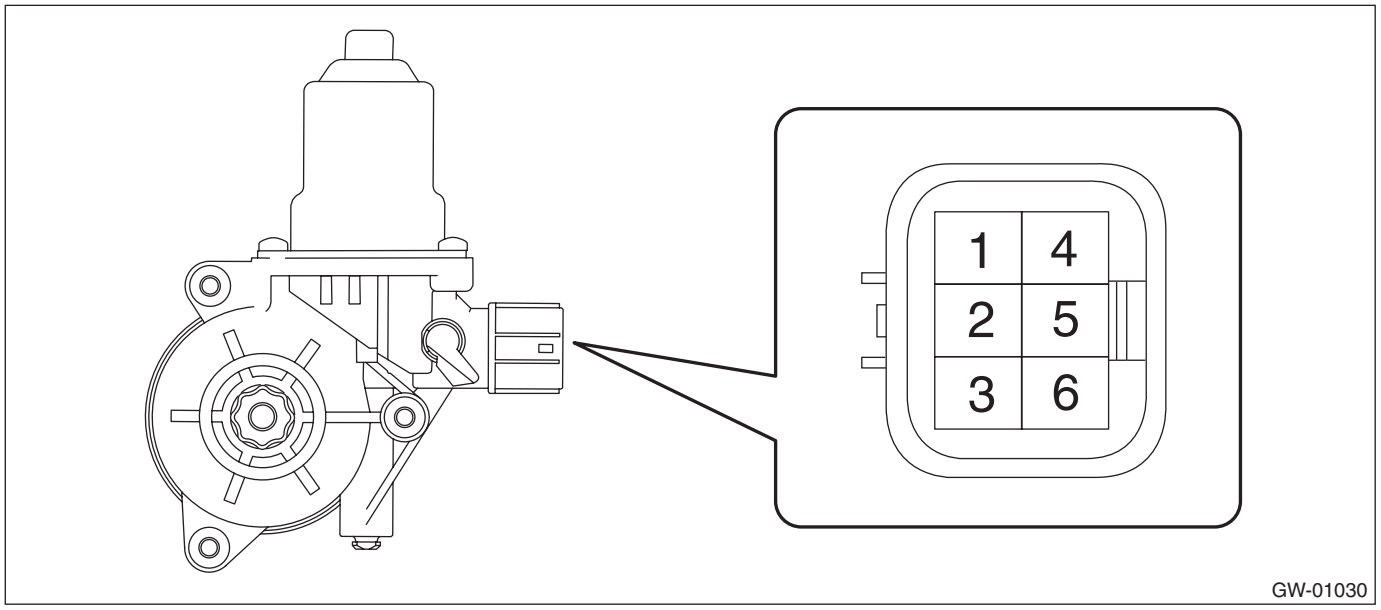
B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-3, REAR DOOR GLASS, COMPONENT, General Description.>

C: INSPECTION

1) Disconnect the connector of the motor - rear.
2) Check the motor operation when battery voltage is applied between terminals of the motor - rear connector.



- LH side

Terminal No.	Inspection conditions	Standard
4 (+) — 1(–)	Apply battery voltage between terminals.	Increase
1 (+) — 4(–)	Apply battery voltage between terminals.	Decrease

- RH side

Terminal No.	Inspection conditions	Standard
3 (+) — 6(–)	Apply battery voltage between terminals.	Increase
6 (+) — 3(–)	Apply battery voltage between terminals.	Decrease

3) If it does not operate properly as a result of inspection, replace the regulator and motor assembly - rear.

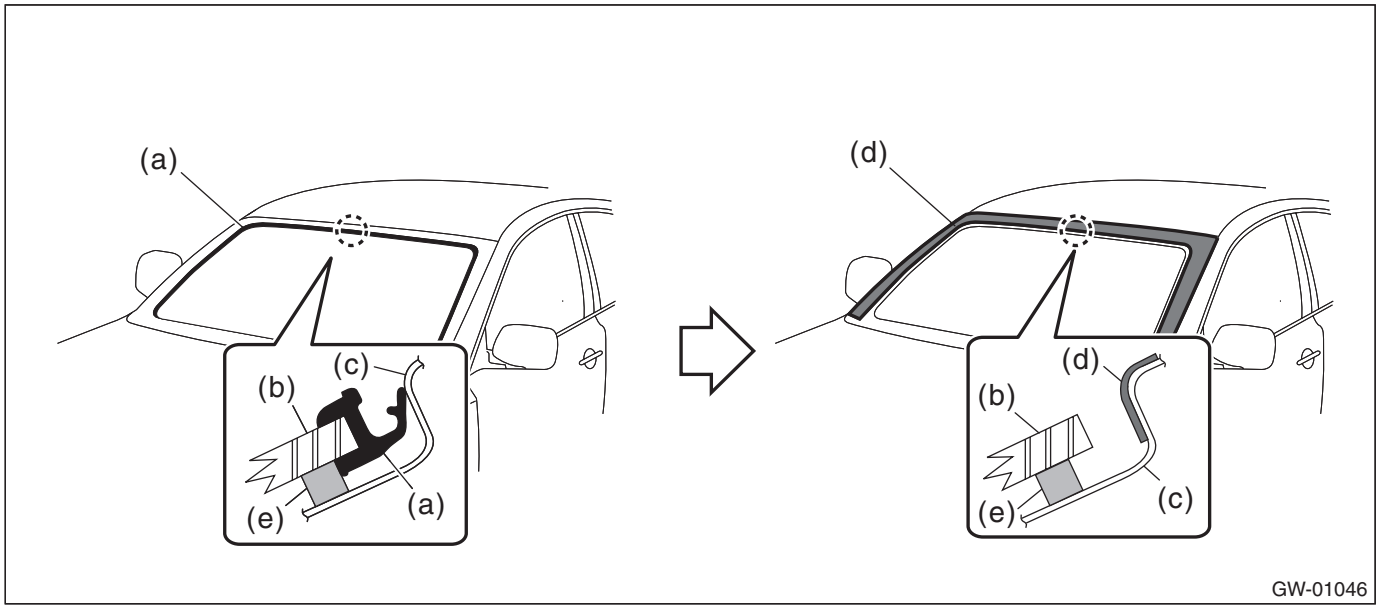
13.Windshield Glass

A: REMOVAL

1. USING WINDSHIELD GLASS KNIFE

CAUTION:
• For model with EyeSight, always remove the glass - front window after the stereo camera is removed.
• 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)-7, INSPECTION, General Description.>
Adjustment and check: <Ref. to ES-12, 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) Disconnect the ground cable from battery. (Models with wiper deicer) <Ref. to NT-5, BATTERY, NOTE, Note.>

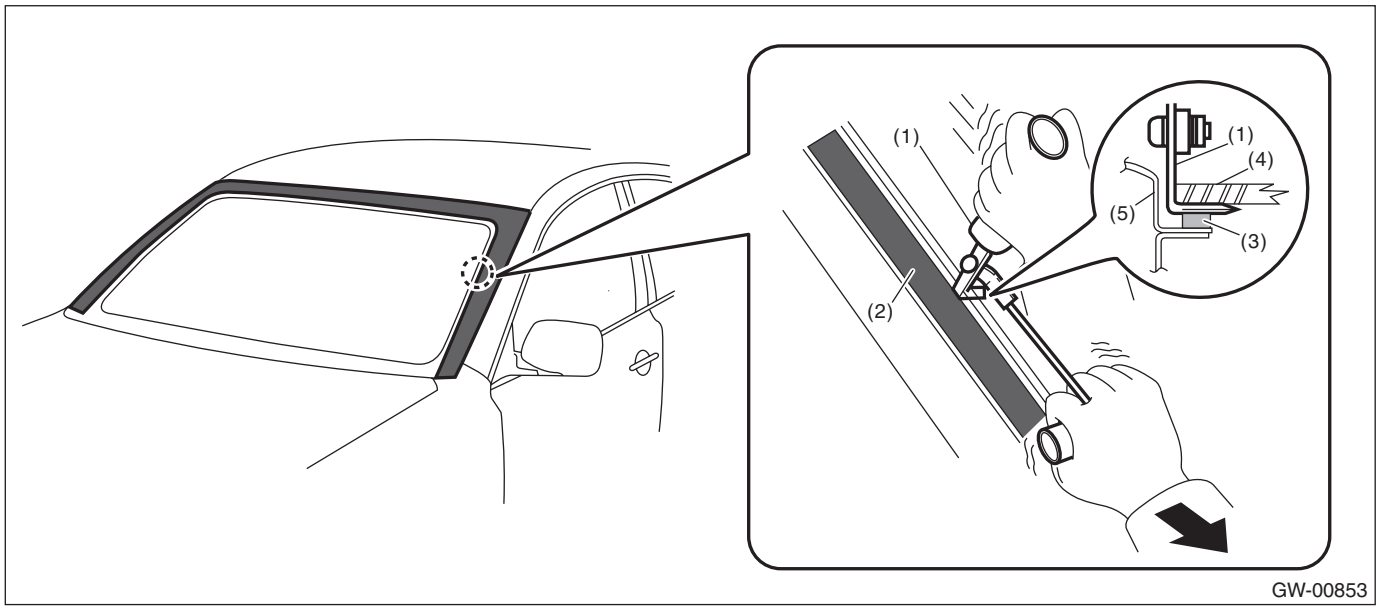
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the trim panel - front pillar UPR. <Ref. to EI-107, REMOVAL, Upper Inner Trim.>
3) Remove the cowl panel assembly. <Ref. to EI-61, REMOVAL, Cowl Panel.>
4) Disconnect the wiper deicer connector. (Models with wiper deicer)
5) Remove the stereo camera cover and stereo camera. (Models with EyeSight) <Ref. to ES-7, REMOVAL, Stereo Camera.>
6) Remove the molding - front window from the glass - front window, and attach protective tape on the body side of the circumference of the glass - front window.



(a) Molding - front window
(b) Glass - front window
(c) Body panel
(d) Protective tape
(e) Adhesive

7) Remove the glass - front window.
(1) Apply sufficient amount of soapy water to the adhesive part and insert the windshield glass knife.
(2) While holding the edges of the knife and the glass - front window at a right angle, move the windshield glass knife parallel to the edge of the glass - front window, and cut the adhesive along the surface and the edge of the glass - front window.

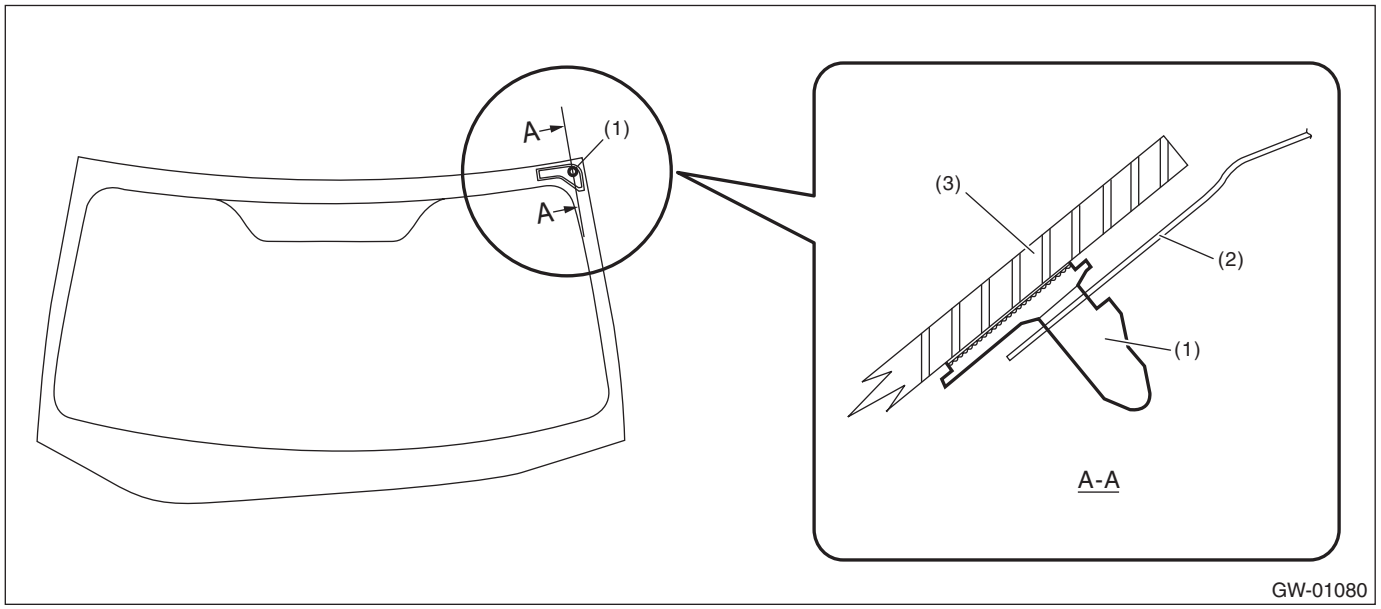
CAUTION:
• Cutting of adhesive part should be started from an area with wider gap between the glass - front window and the body.
• Never twist the windshield glass knife.



(1) Windshield glass knife
(2) Protective tape
(3) Adhesive
(4) Glass - front window
(5) Body panel

(3) Disconnect the locating pin - front window, and remove the glass - front window.

NOTE:
The locating pin - front window are bonded to the corners of the glass - front window. Use piano wire to disconnect the pins.



(1) Locating pin - front window
(2) Body panel
(3) Glass - front window

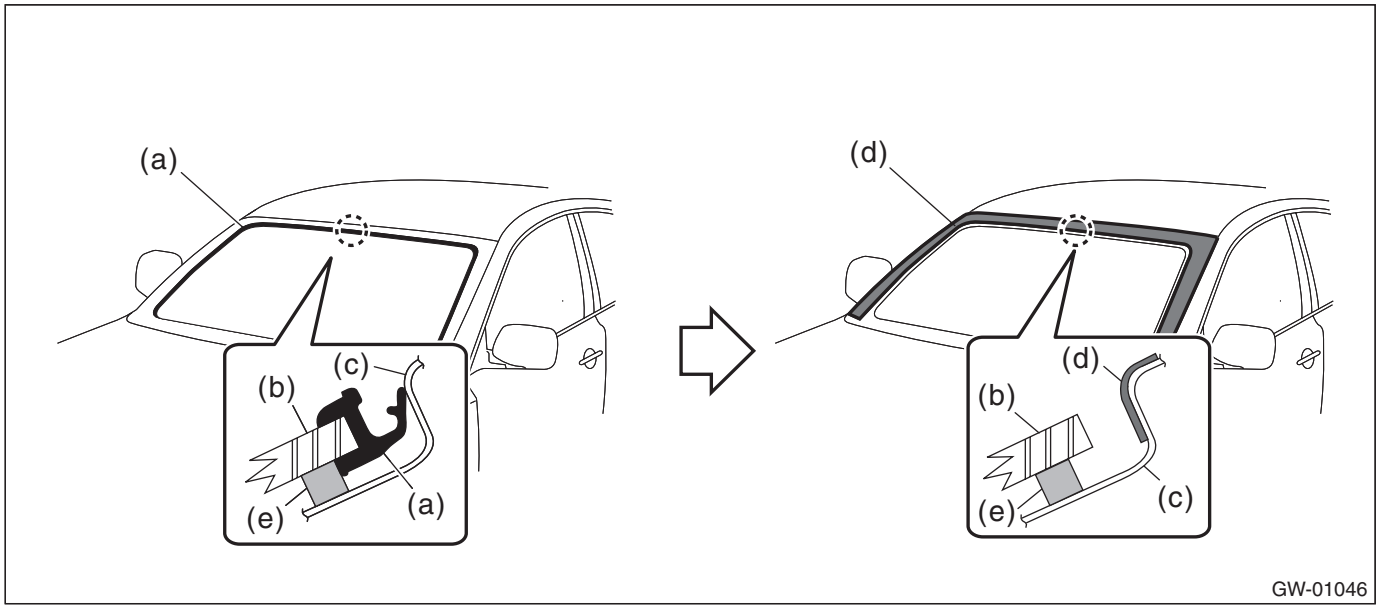
2. USING PIANO WIRE

CAUTION:
- **Do not tightly pull the piano wire against the glass - front window 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) <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

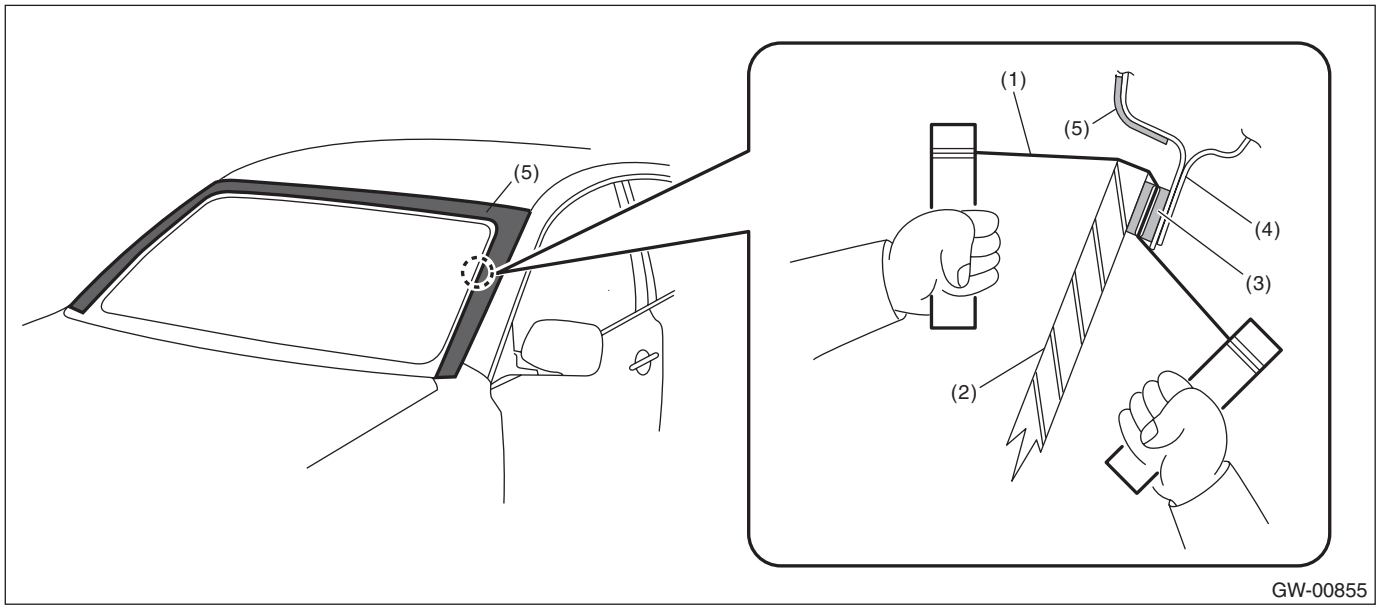
2) Remove the trim panel - front pillar UPR. <Ref. to EI-107, REMOVAL, Upper Inner Trim.>
3) Remove the cowl panel assembly. <Ref. to EI-61, REMOVAL, Cowl Panel.>
4) Disconnect the wiper deicer connector. (Models with wiper deicer)
5) Remove the stereo camera cover and stereo camera. (Models with EyeSight) <Ref. to ES-7, REMOVAL, Stereo Camera.>
6) Remove the molding - front window from the glass - front window, and attach protective tape on the body side of the circumference of the glass - front window.



(a) Molding - front window
(b) Glass - front window
(c) Body panel
(d) Protective tape
(e) Adhesive

7) Remove the glass - front window.
(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 the locating pin - front window.

CAUTION:
Attach a piece of wood to both piano wire ends.

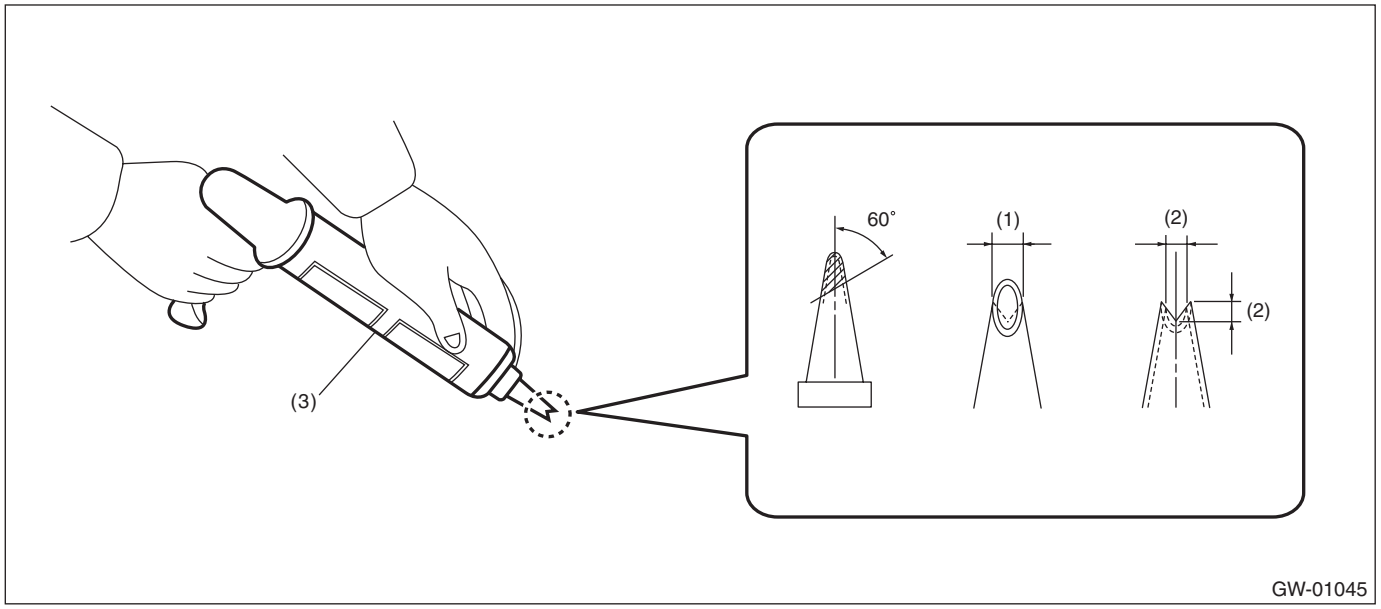


(1) Piano wire
(2) Glass - front window
(3) Adhesive
(4) Body panel
(5) Protective tape

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)-7, INSPECTION, General Description.>
Adjustment and check: <Ref. to ES-12, 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.

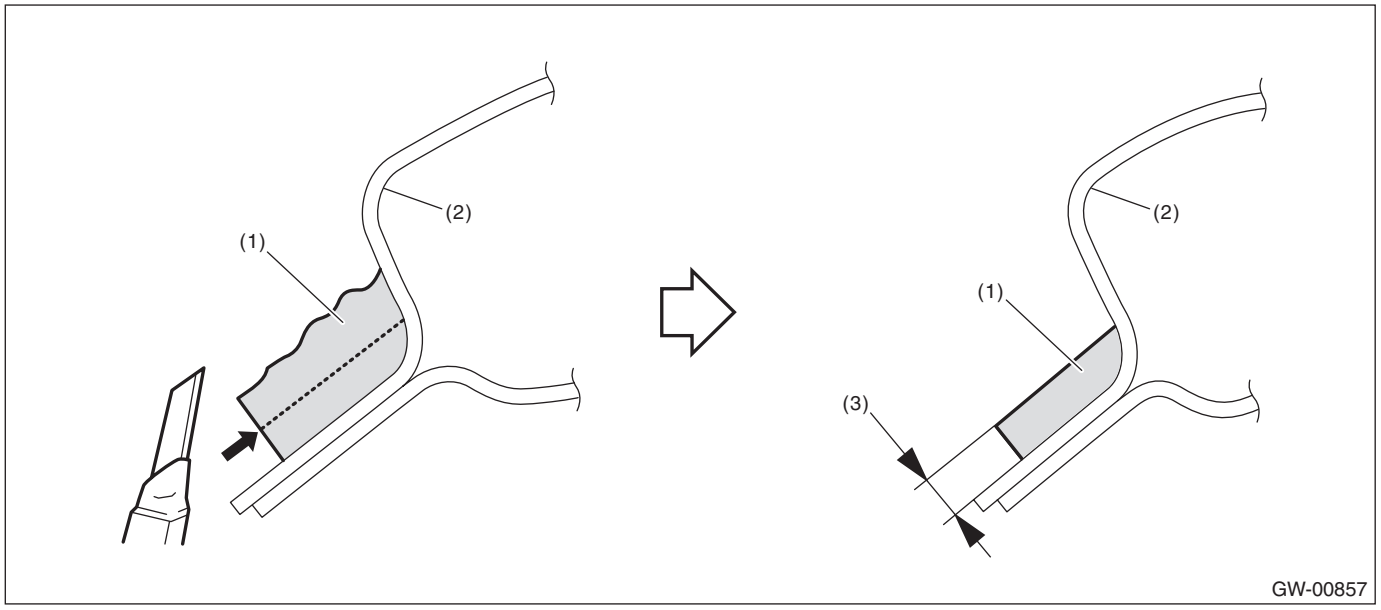
1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(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.**

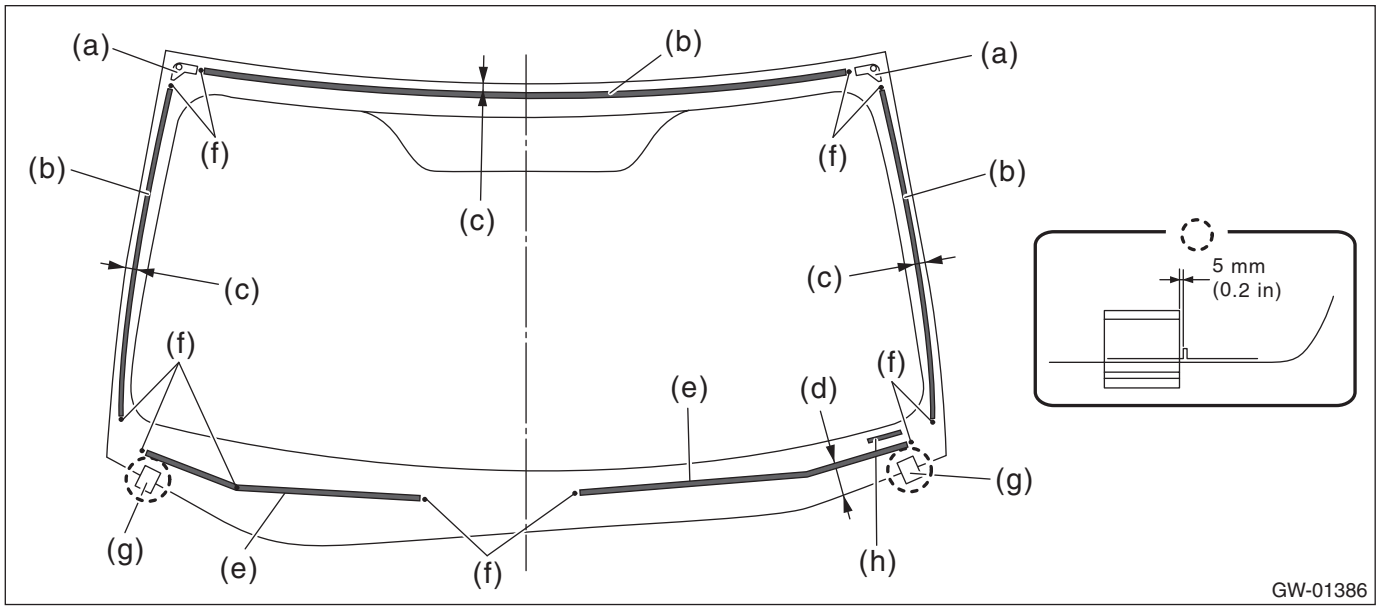


(1) Adhesive (2) Body panel (3) 2 mm (0.08 in)

3) Clean the glass - front window and the body with alcohol or appropriate cleaning solvent to completely eliminate cutting powder, dust and dirt.

4) Attach the dam rubber - front to the glass - front window.

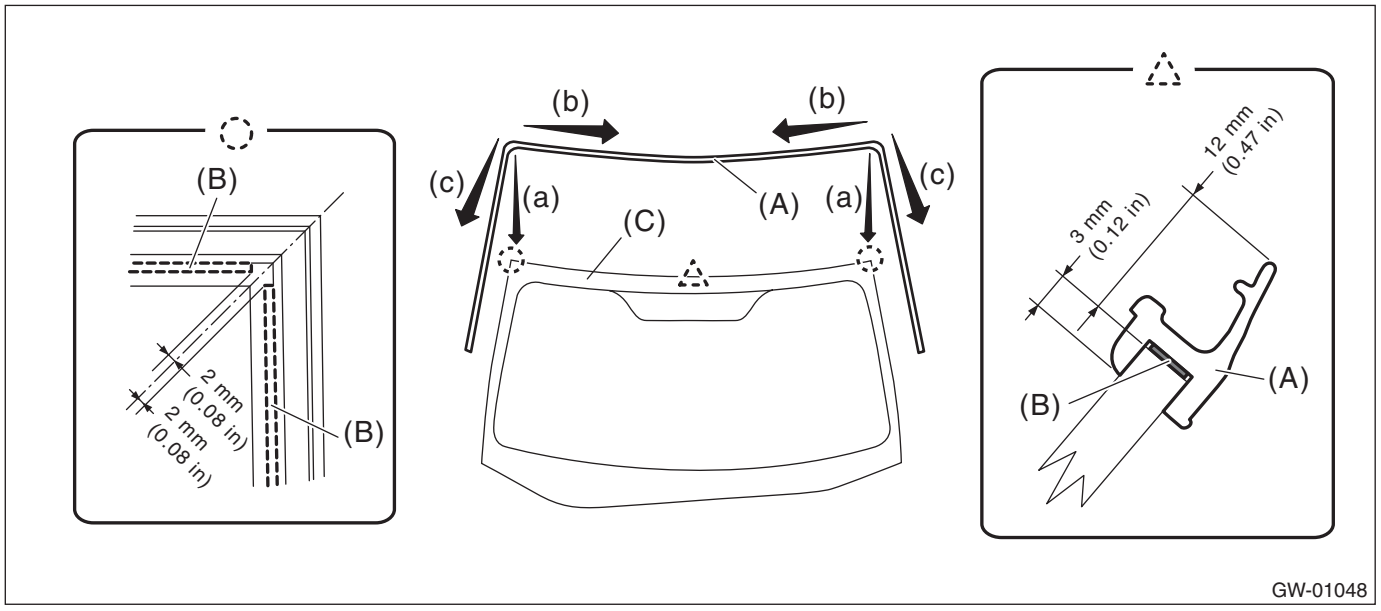
NOTE:
Adhere the dam rubber along with the dam rubber set mark.



(a) Locating pin - front window
(b) Dam rubber - front upper
(c) 16 mm (0.63 in)
(d) 14.1 mm (0.56 in)
(e) Dam rubber - front lower
(f) Dam rubber set mark
(g) Seal - lower
(h) Seal - lower VIN

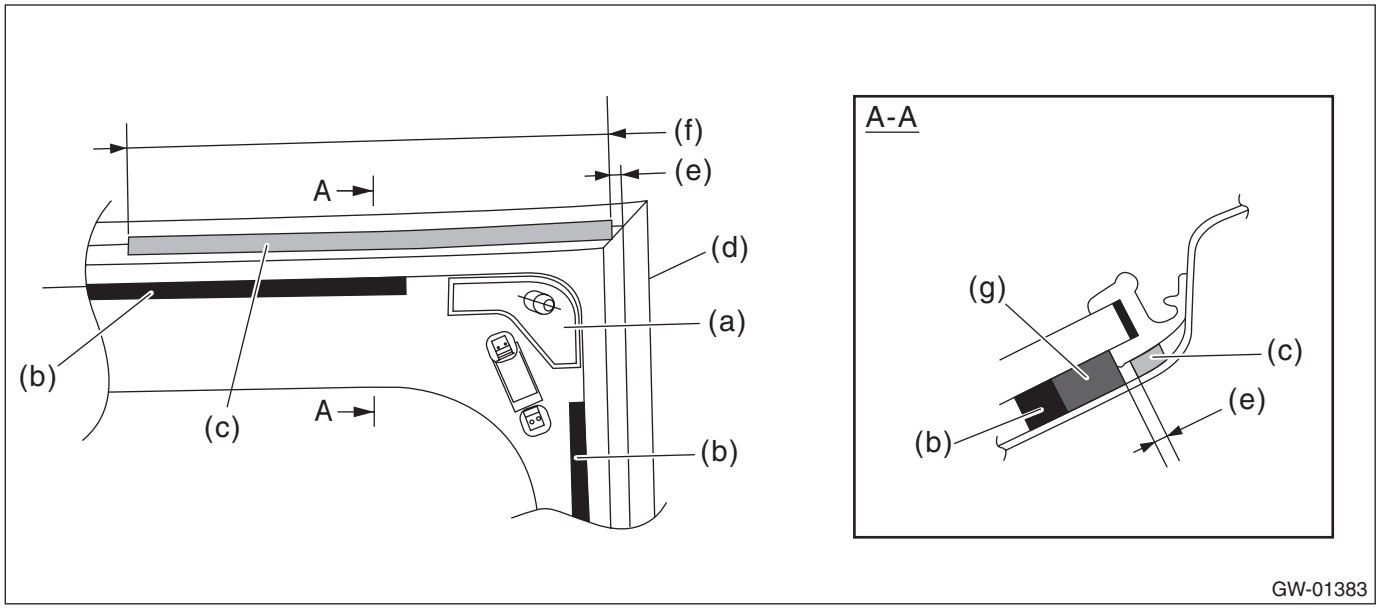
5) Attach the molding - front window to the glass - front window.

CAUTION:
Be careful to attach the molding - front window so that the molding has no loose or undulating part.



(1) Align the molding - front window (A) to the upper ends (a) of the glass - front window (C).
(2) Install the molding - front window from both corners of the upper edge toward the center (b).
(3) Install the molding - front window from both corners of the upper edge toward the lower side (c).
(4) Firmly apply the double sided tape (B) of the molding - front window evenly to the surface of the glass - front window.

6) Attach the seal - upper to the molding - front window.



(a) Locating pin - front window
(b) Dam rubber - front upper
(c) Seal - upper
(d) Molding - front window
(e) 3 mm (0.12 in)
(f) 165 mm (6.50 in)
(g) Adhesive

7) Install the glass - front window.
(1) Apply the primer to the adhesive surface of glass - front window side and body side using sponge.

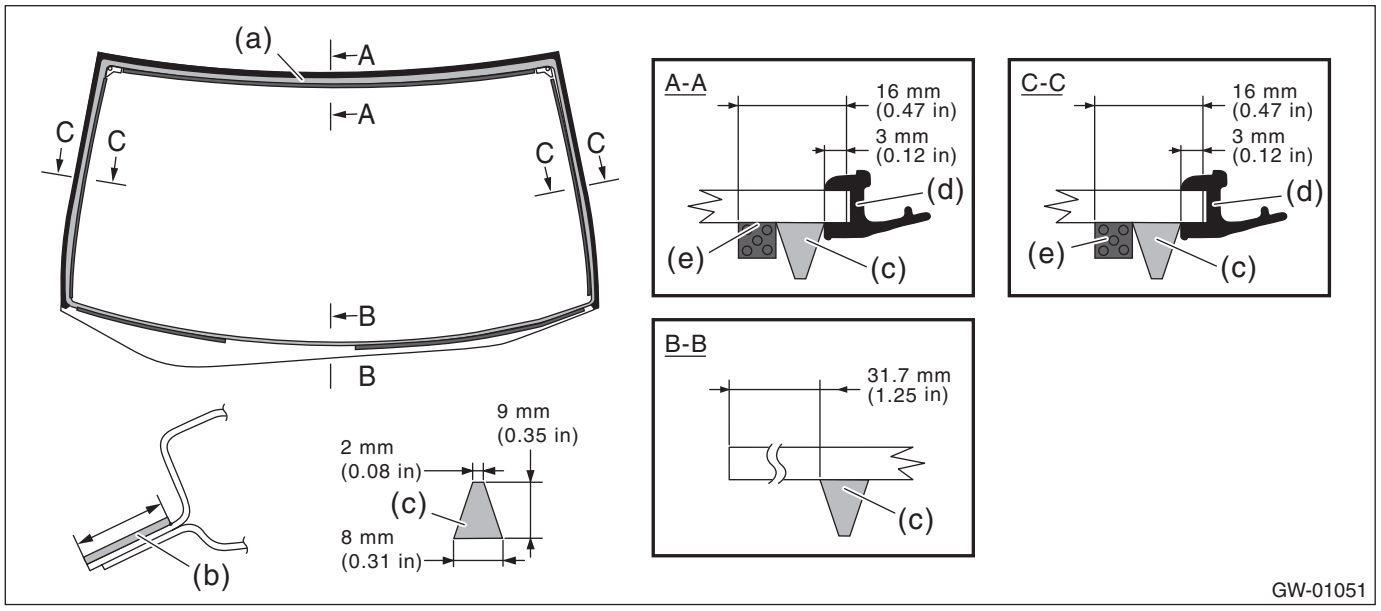
Glass primer:
Dow Automotive's
ESSEX U-401, U-402 or equivalent

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 - front window.
• Do not touch the surface coated with primer.

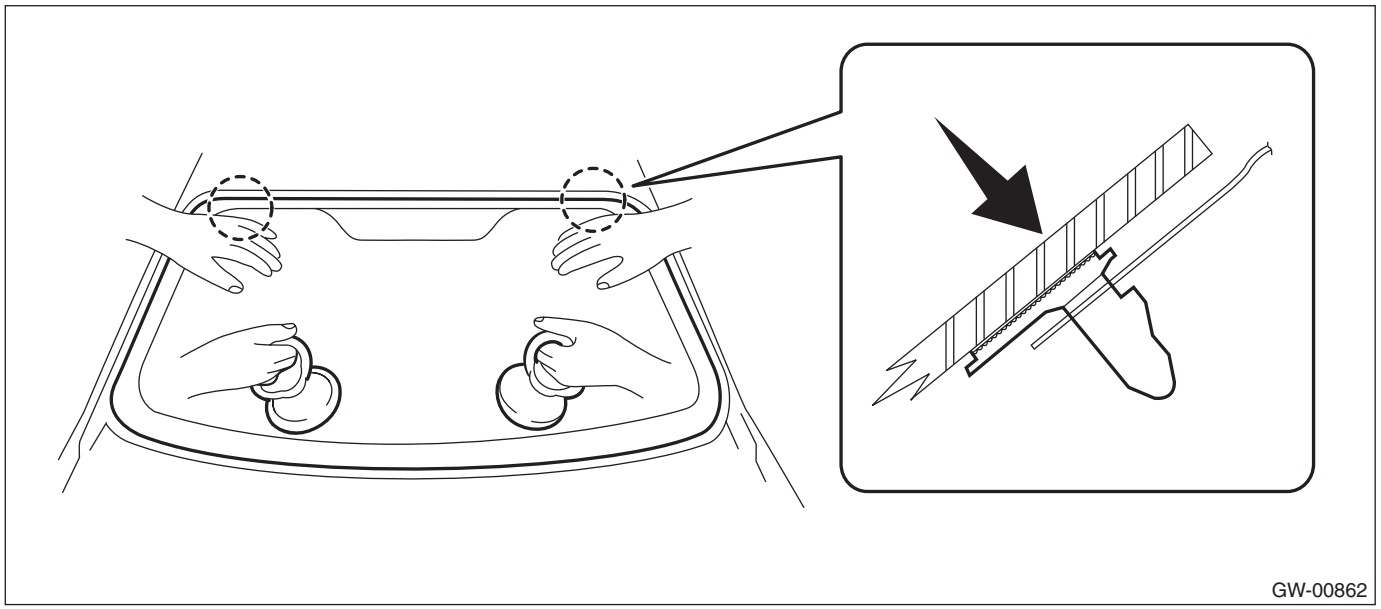
(2) Apply adhesive to the end back surface of the glass - front window.

Adhesive:
Dow Automotive's
ESSEX U-400HV or equivalent



(a) Application of primer (glass side)
(b) Application of primer (body side)
(c) Adhesive
(d) Molding - front window
(e) Dam rubber - front

(3) Fit the locating pins - front window to the vehicle body using suction rubber cups to install the windshield glass.



(4) Lightly press the entire perimeter of the glass - front window for tight fit.
(5) Make flush the adhesive surface jutted out using spatula.

8) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When opening/closing the door after the glass - front window was bonded, always lower the glass assembly - door 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.

9) Connect the wiper deicer connector. (Models with wiper deicer)
10) Install the cowl panel assembly. <Ref. to EI-63, INSTALLATION, Cowl Panel.>
11) Install the stereo camera cover and stereo camera. (Models with EyeSight) <Ref. to ES-10, INSTALLATION, Stereo Camera.>
12) Install the trim panel - front pillar UPR. <Ref. to EI-111, INSTALLATION, Upper Inner Trim.>
13) Connect the battery ground terminal. (Models with wiper deicer) <Ref. to NT-5, BATTERY, NOTE, Note.>
14) 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

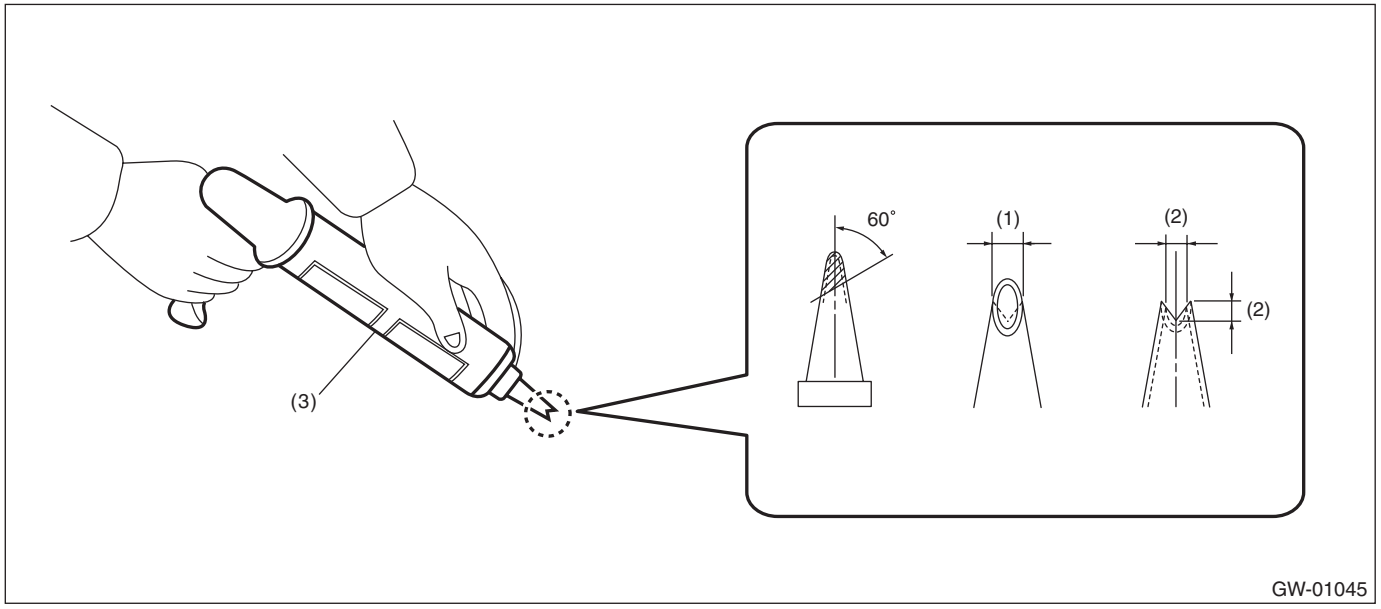
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Disconnect the rear defogger connector.
3) Remove the glass - rear window in the same procedure as for the glass - front window. <Ref. to GW-35, REMOVAL, Windshield Glass.>

B: INSTALLATION

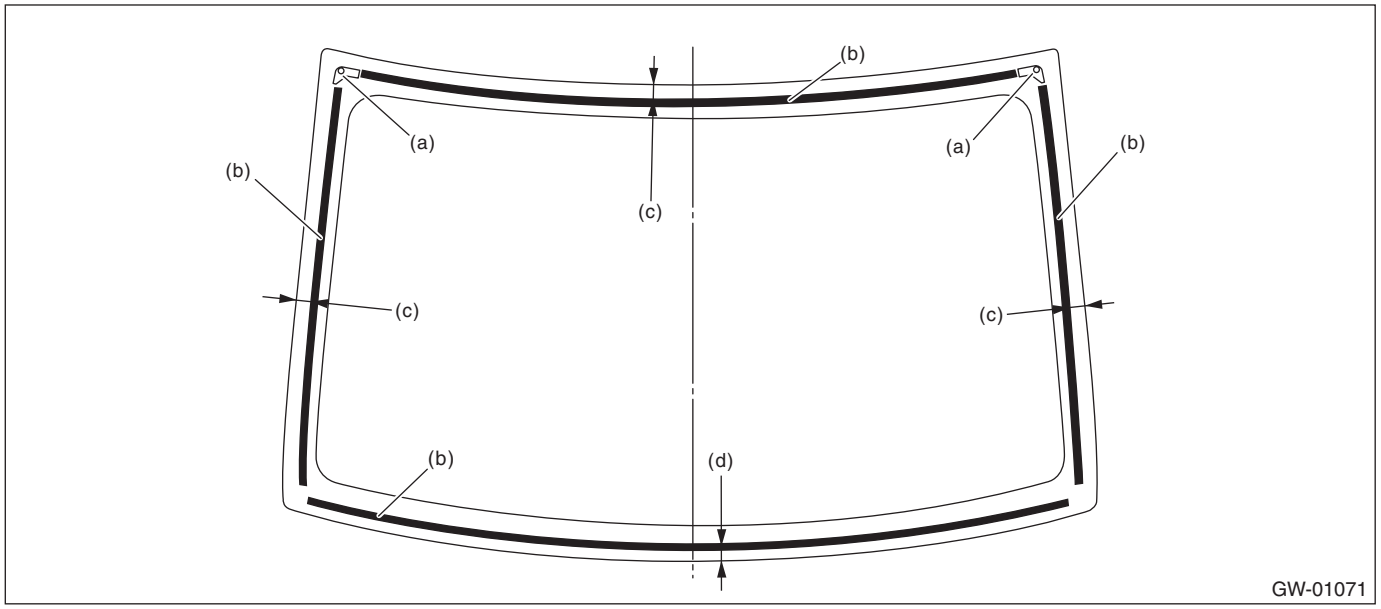
1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(1) 10 mm (0.39 in) (2) 8 mm (0.31 in) (3) Sealant gun

2) Smoothen and clean the adhesive surfaces of the glass - rear window and body using the same procedures as for the glass - front window. <Ref. to GW-38, INSTALLATION, Windshield Glass.>

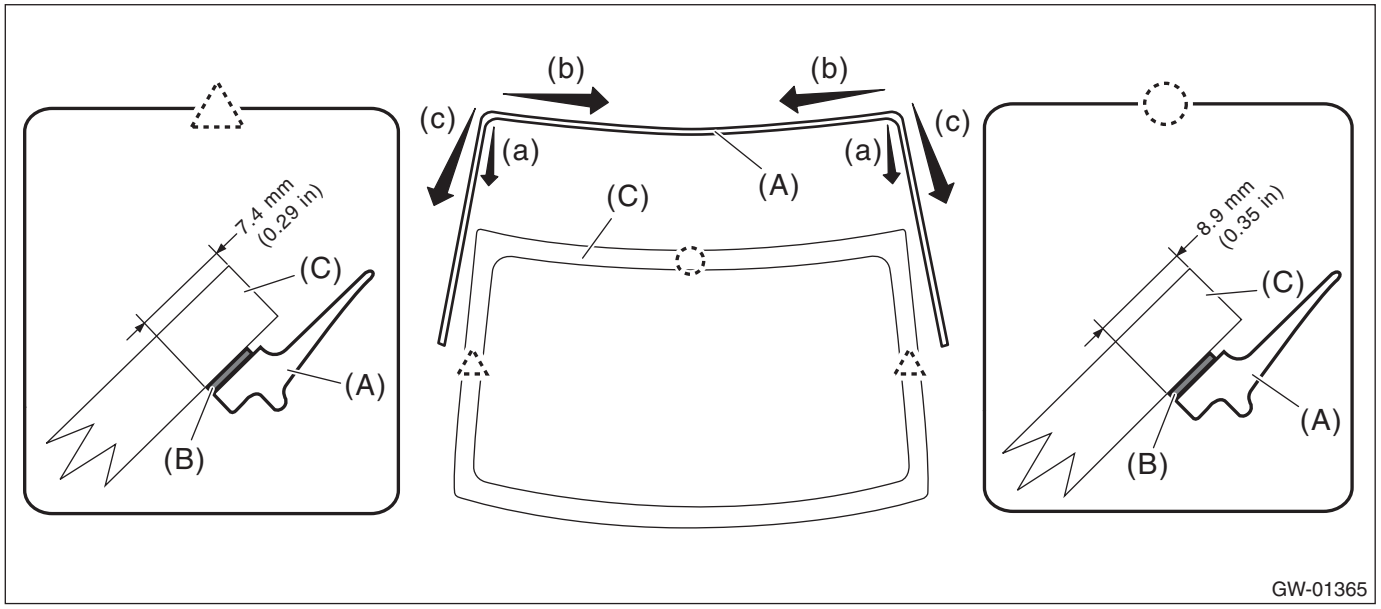
3) Attach the dam rubber - rear to the glass - rear window.



(a) Locating pin - rear window
(b) Dam rubber - rear
(c) 21.9 mm (0.86 in)
(d) 10.7 mm (0.42 in)

4) Attach the molding - rear window to the glass - rear window.

CAUTION:
Be careful to attach the molding - rear window so that the molding has no loose or undulating part.

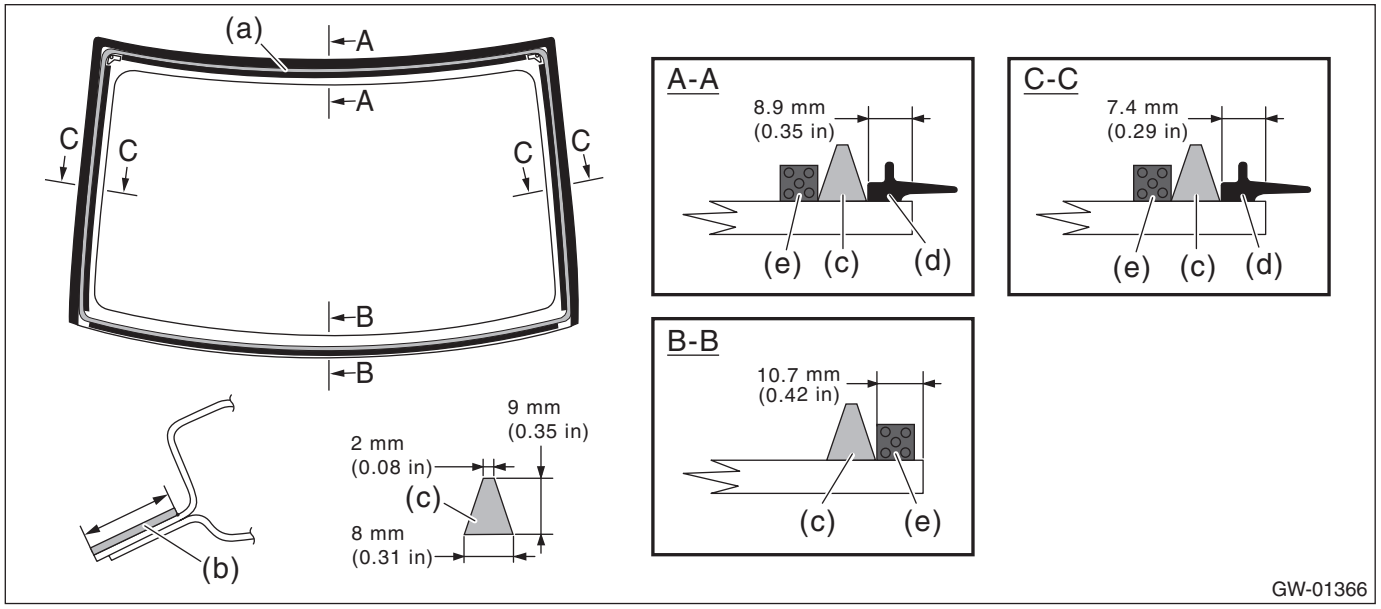


(1) Align the molding - rear window (A) to the upper ends (a) of the glass - rear window (C).
(2) Install the molding - rear window from both corners of the upper edge toward the center (b).
(3) Install the molding - rear window from both corners of the upper edge toward the lower side (c).
(4) Firmly apply the double sided tape (B) of the molding - rear window evenly to the surface of the glass - rear window.

5) Install the glass - rear window in the same procedure as for the glass - front window. <Ref. to GW-38, INSTALLATION, Windshield Glass.>

(1) Apply the primer to the adhesive surface of glass - rear window side and body side using sponge.

(2) Apply adhesive to the end back surface of the glass - rear window.



(a) Application of primer (glass side)
(b) Application of primer (body side)
(c) Adhesive
(d) Molding - rear window
(e) Dam rubber - rear

(3) Insert the locating pins - rear window into the rear panel holes, and install the glass - rear window.

(4) Lightly press the entire perimeter of the glass - rear window 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 opening/closing the door after the glass - rear window was bonded, always lower the glass assembly - door 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.

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.

15.Rear Gate Glass

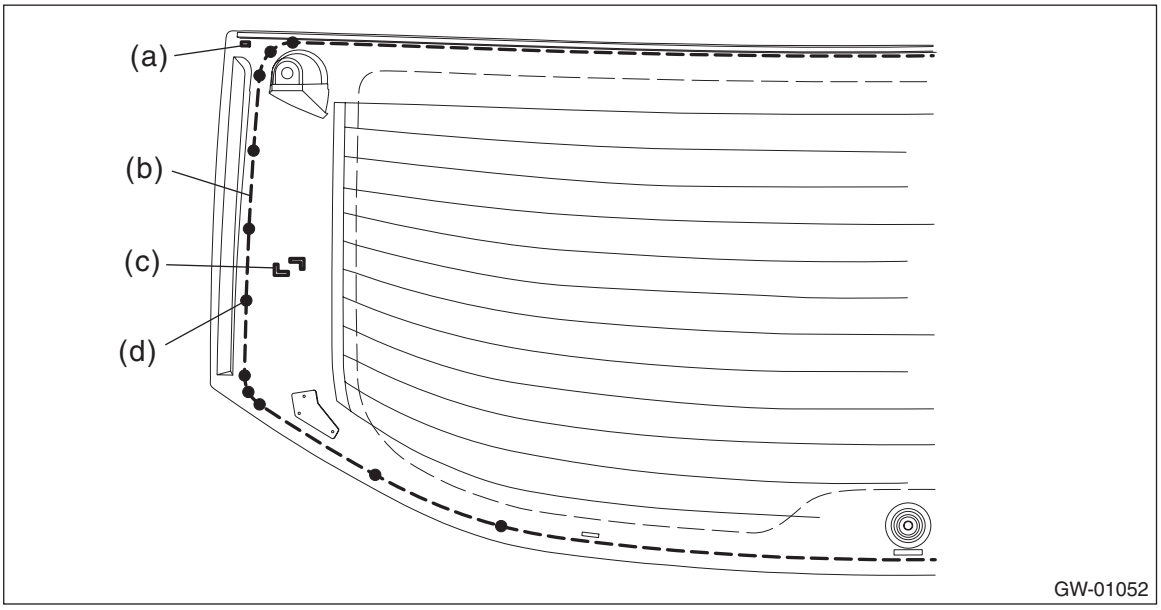
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the roof spoiler. (XV model) <Ref. to EI-71, REMOVAL, Roof Spoiler.>
3) Remove the trim panel - rear gate and the motor assembly - rear wiper. <Ref. to WW-47, REMOVAL, Rear Wiper Motor.>
4) Disconnect the rear defogger connector.
5) Remove the glass - rear gate in the same procedure as for the glass - front window. <Ref. to GW-35, REMOVAL, Windshield Glass.>

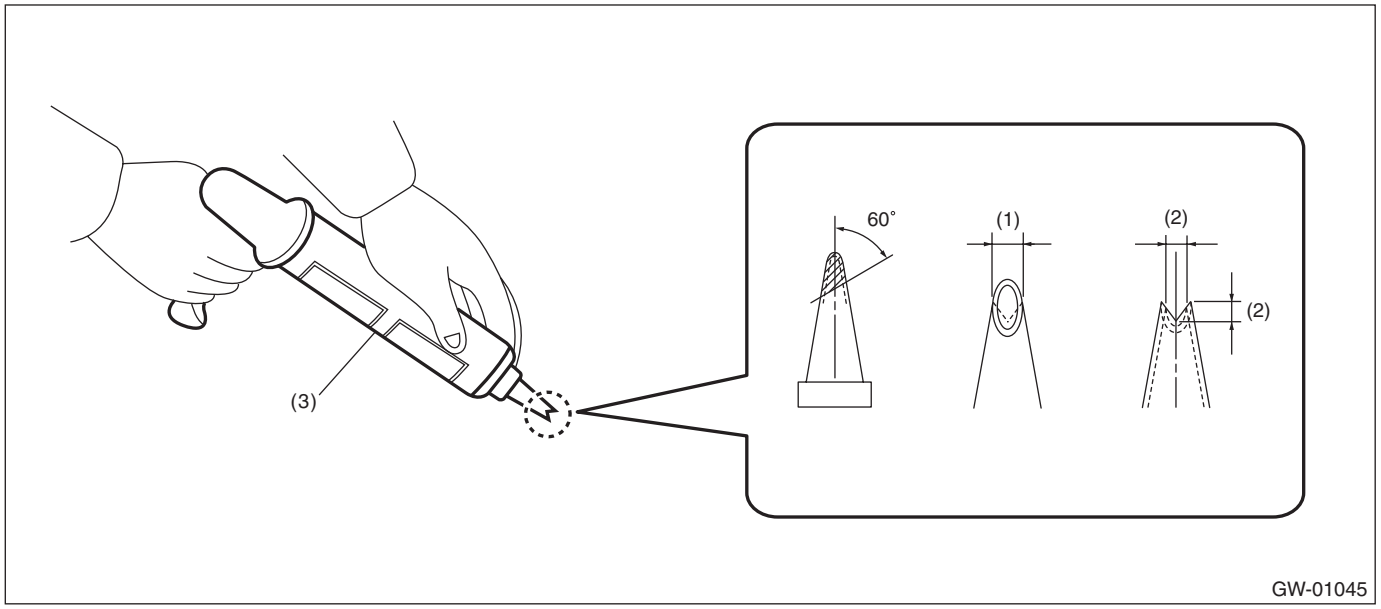
B: INSTALLATION

NOTE:
Use the markings on the glass to apply adhesive and primer, and to install the dam rubber - rear gate and the spacer - rear gate.



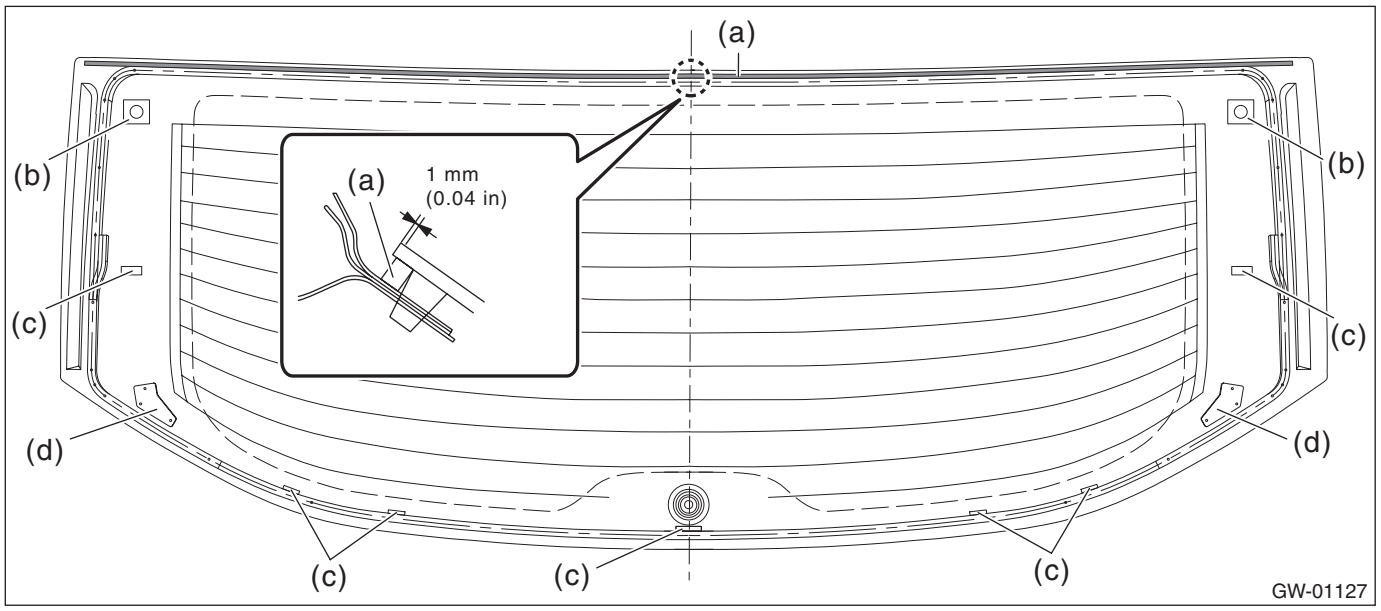
(a) Marking for dam rubber - rear gate application (Ag print)
(b) Center line for adhesive
(c) Marking for spacer - rear gate application (Ag print)
(d) Marking for primer application

1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



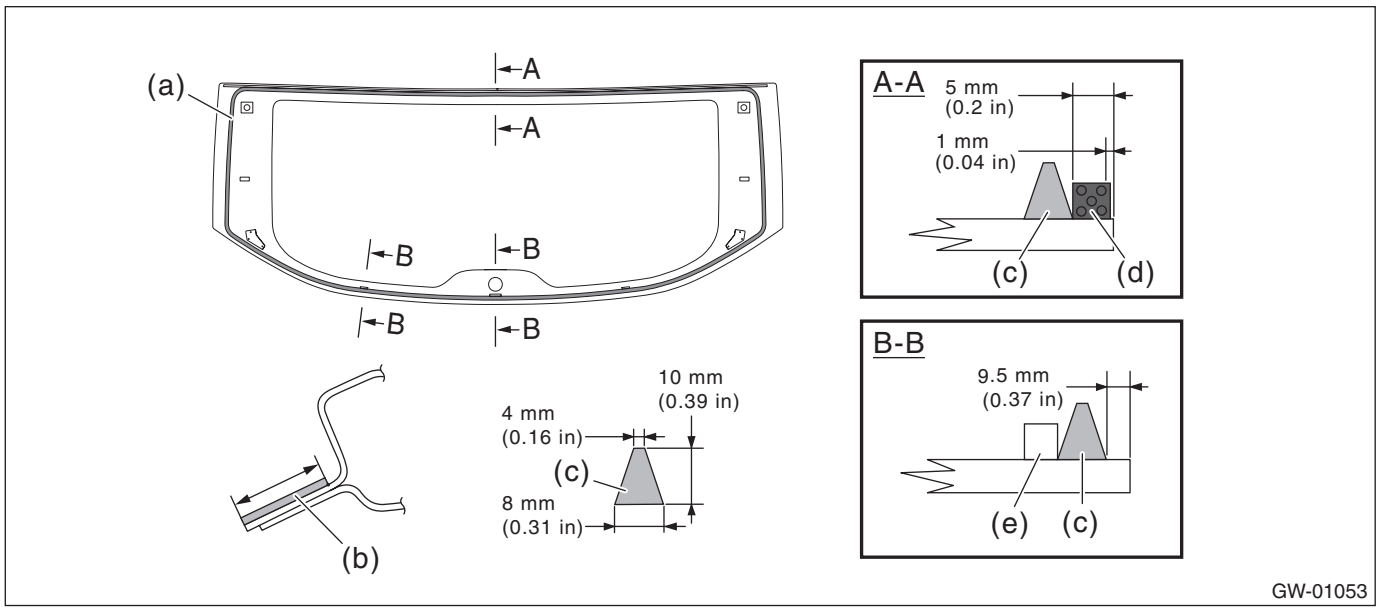
(1) 10 mm (0.39 in) (2) 8 mm (0.31 in) (3) Sealant gun

2) Smoothen and clean the adhesive surfaces of the glass - rear gate and body using the same procedures as for the glass - front window. <Ref. to GW-38, INSTALLATION, Windshield Glass.>
3) Attach the dam rubber - rear gate to the glass - rear gate.



(a) Dam rubber - rear gate (c) Spacer - rear gate (d) Locating pin - rear gate
(b) Holder - rear gate

4) Install the glass - rear gate.
(1) Apply the primer to the adhesive surface of glass - rear gate side and body side using sponge.
(2) Apply adhesive to the glass - rear gate end back surface.



(a) Application of primer (glass side)
(b) Application of primer (body side)
(c) Adhesive
(d) Dam rubber - rear gate
(e) Spacer - rear gate

(3) Attach the clip to the holder - rear gate of the glass - rear gate.
(4) Insert the locating pins - rear gate into the rear gate panel holes, and install the glass - rear gate.
(5) Lightly press the entire perimeter of the glass - rear gate 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 opening/closing the door after the glass - rear gate was bonded, always lower the glass assembly - door 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) Connect the rear defogger connector.
7) Install the motor assembly - rear wiper and the arm assembly - rear wiper.

Tightening torque:
Motor assembly - rear wiper and arm assembly - rear wiper: <Ref. to WW-4, REAR WIPER, COMPONENT, General Description.>

8) Install the roof spoiler. <Ref. to EI-165, INSTALLATION, Rear Gate Garnish.>

Tightening torque:
7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

9) Install the trim panel - rear gate. <Ref. to EI-159, INSTALLATION, Rear Gate Trim.>
10) 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.

16.Rear Window Defogger System

A: WIRING DIAGRAM

Refer to “Rear Defogger System” in the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-185, WIRING DIAGRAM, Rear Defogger System.>
- HEV model: <Ref. to WI(HEV)-187, 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 {Auto A/C Setting} of the body integrated unit is set to {support}.

System name	Initial setting	Customize setting
Rear defogger operation mode	Normal	Continuous

2. CHECK WITH SUBARU SELECT MONITOR

CAUTION:
Check whether the Rr Defogger op. 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 {Auto A/C ECU Setting} from Current Data Display & Save.
   (5) Check the vehicle equipment and the settings of body integrated unit.
   - Model with manual A/C: Without auto A/C ECM setting
   - Model with auto A/C: With auto A/C ECM setting

   If correct, go to (6).
   If not correct, go to (8).
   (6) Select the {Rr Defogger output} on {Current Data Display & Save}.
   (7) Check the displayed data (ON/OFF) by operating the rear window defogger switch.
   (8) On the system selection menu display, select the body integrated unit mode. Select customize from work support, then select {Auto A/C ECU Setting}. Match the auto A/C ECM setting to the actual vehicle equipment.
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.

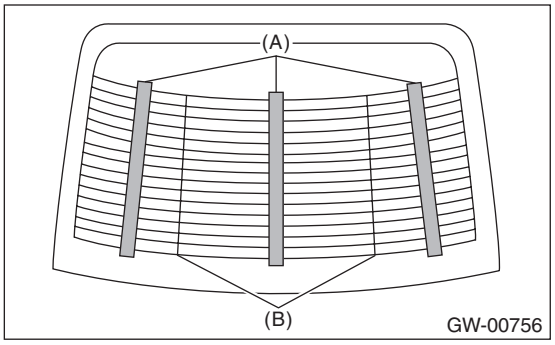
3. HEAT WIRE INSPECTION

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 glass - rear window.

NOTE:
Use the liquid crystal thermograph sheet every range it is separated with the separate line.



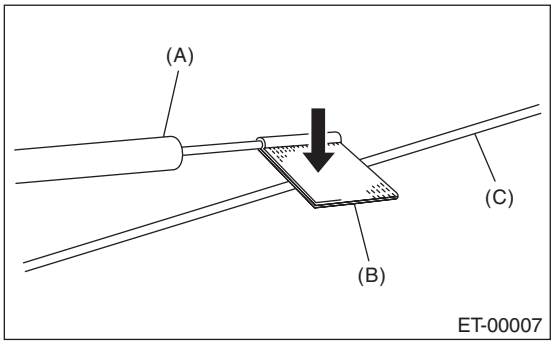
(A) Liquid crystal thermograph sheet
(B) Separate line

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 - rear window 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.

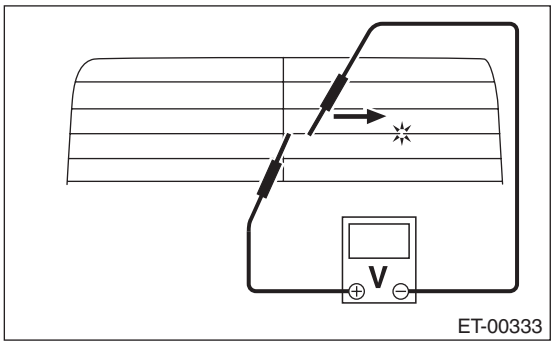
6) Wrap a piece of aluminum foil around the tip of tester probe and press it against the heat wire with your finger.



(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.

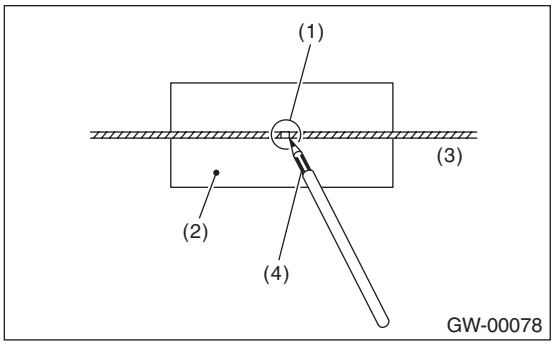


9) Repair the heat wire that determines the place of the open circuit. <Ref. to GW-52, REPAIR, Rear Window Defogger System.>

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.

17.Rear Quarter Glass

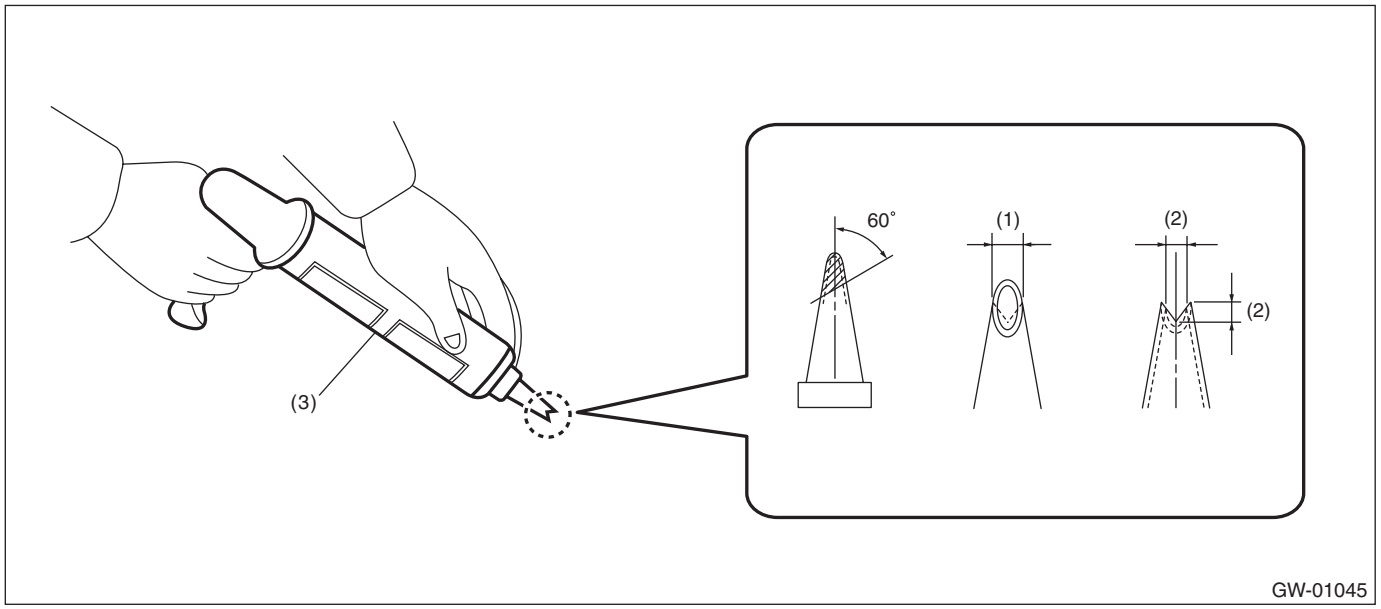
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the trim panel - rear pillar UPR. <Ref. to EI-115, 5 DOOR MODEL/XV MODEL, REMOVAL, Rear Quarter Trim.>
3) Remove the glass - rear quarter in the same procedure as for the glass - front window. <Ref. to GW-35, REMOVAL, Windshield Glass.>

B: INSTALLATION

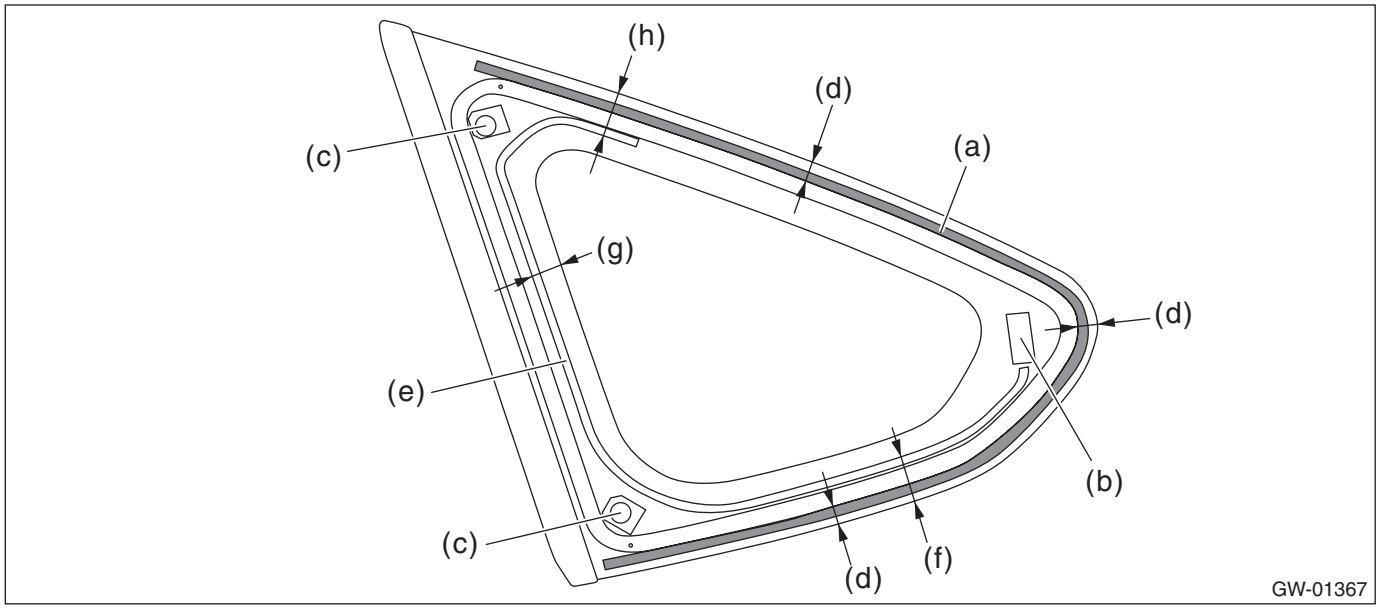
1) Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(1) 10 mm (0.39 in) (2) 8 mm (0.31 in) (3) Sealant gun

2) Smoothen and clean the adhesive surfaces of the glass - rear quarter and body using the same procedures as for the glass - front window. <Ref. to GW-38, INSTALLATION, Windshield Glass.>

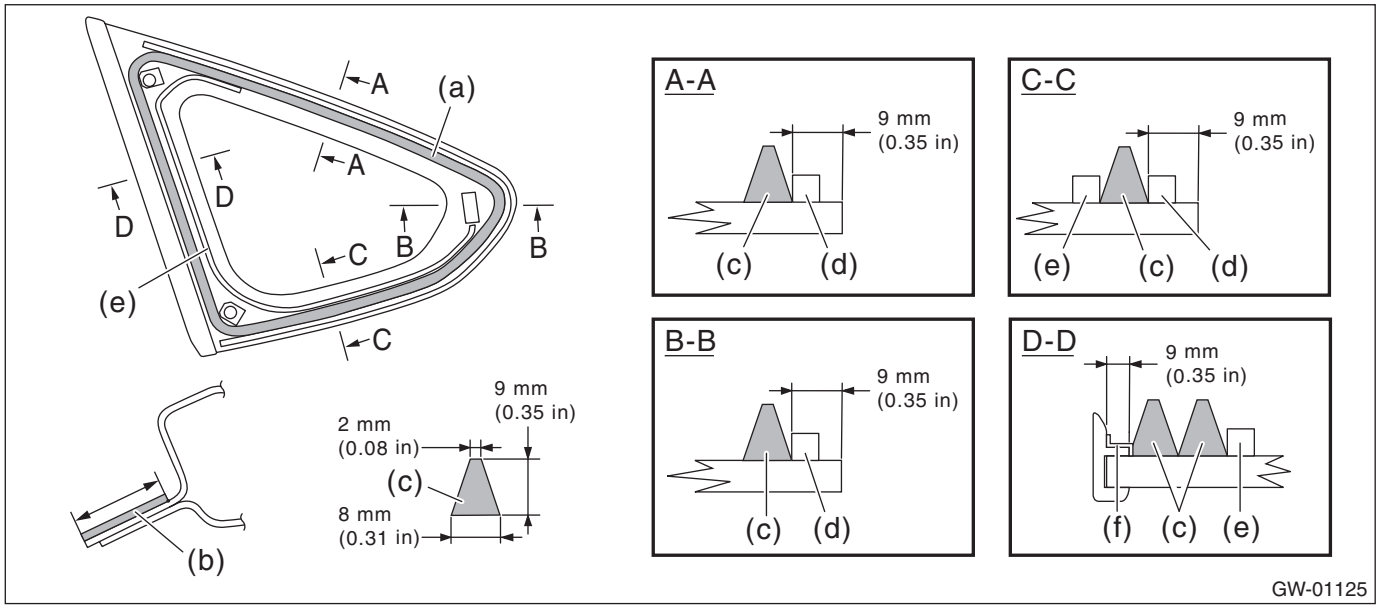
3) Install the dam rubber - rear and the seal - rear quarter to the glass - rear quarter.



(a) Dam rubber - rear quarter
(b) Fastener - rear quarter
(c) Locating pin - rear quarter
(d) 9 mm (0.35 in)
(e) Seal - rear quarter
(f) 23.1 mm (0.91 in)
(g) 15.2 mm (0.60 in)
(h) 22.4 mm (0.88 in)

4) Install the glass - rear quarter in the same procedure as for the glass - front window. <Ref. to GW-38, INSTALLATION, Windshield Glass.>

(1) Apply the primer to the adhesive surface of glass - rear quarter side and body side using sponge.
(2) Apply adhesive to the glass - rear quarter end back surface.



(a) Application of primer (glass side)
(b) Application of primer (body side)
(c) Adhesive
(d) Dam rubber - rear quarter
(e) Seal - rear quarter
(f) Protective plate

(3) Mount the fastener - rear quarter on the vehicle body.
(4) Insert the locating pins - rear quarter into the side panel holes, and install the glass - rear quarter.
(5) Lightly press the entire perimeter of the glass - rear quarter 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 opening/closing the door after the glass - rear quarter was bonded, always lower the glass assembly - door 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) Install the trim panel - rear pillar UPR. <Ref. to EI-119, INSTALLATION, Rear Quarter Trim.>

7) 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.

18.Wiper Deicer System

A: WIRING DIAGRAM

Refer to “Wiper Deicer System” in the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-185, WIRING DIAGRAM, Rear Defogger System.>
- HEV model: <Ref. to WI(HEV)-187, WIRING DIAGRAM, Rear Defogger 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 wiper deicer 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 {Auto A/C Setting} of the body integrated unit is set to {support}.
- 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
Rear defogger operation mode	Normal	Continuous*

*: When one of the following conditions occurs, the continuous operation is suspended and turned to the normal operation.
- 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)
- Malfunction occurs in CAN communication.
- Battery voltage remains at 10 V or less for 30 seconds.
- SI-DRIVE [I] mode driving continues for 10 seconds.

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 {Auto A/C ECU Setting} from Current Data Display & Save.
   (5) Check the vehicle equipment and the settings of body integrated unit.
   - Model with manual A/C: Without auto A/C ECM setting
   - Model with auto A/C: With auto A/C ECM setting

   If correct, go to (6).
   If not correct, go to (8).
   (6) Select the {wiper deicer output} on {Current Data Display & Save}.
   (7) Check the displayed data (ON/OFF) by operating the rear window defogger switch.
   (8) On the system selection menu display, select the body integrated unit mode. Select customize from work support, then select {Auto A/C ECU Setting}. Match the auto A/C ECM setting to the actual vehicle equipment.

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-51, 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-52, 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-20, 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)-45, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure for Subaru Select Monitor Communication.> • Record the time stamp and the freeze frame data recorded together with the DTC. For time stamp, refer to “LAN SYSTEM”. <Ref. to LAN(w/o HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.>	Is DTC displayed?	<Ref. to AC(diag)-47, LIST, List of Diagnostic Trouble Code (DTC).>	Refer to Diagnostics with Phenomenon. <Ref. to AC(diag)-16, 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.>	Is a malfunction detected?	Perform the diagnosis according to the self-diagnosis procedure.	Refer to Diagnostics with Phenomenon. <Ref. to AC(diag)-16, 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 control panel.
2) Do not disconnect the battery cables 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 control panel etc.
3) Before disconnecting the connectors of sensors and the A/C control panel, be sure to turn off the ignition switch.
• A/C control panel may be damaged.
4) Every A/C-related part is a precision part. Do not drop them.
5) Airbag system harness is routed near the A/C control panel and junction box.

CAUTION:
• Do not use electrical test equipment on the airbag system harness and connector.
• Be careful not to damage the airbag system harness when servicing the A/C control panel and junction box.

B: INSPECTION

Before performing diagnosis, check the following items which might affect the A/C system problems.

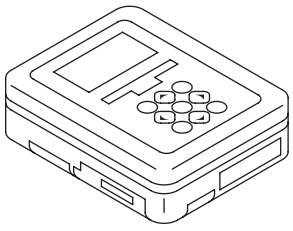
1. BATTERY

Check the battery. <Ref. to SC(H4DO(w/o HEV))-53, INSPECTION, Battery.>

NOTE:
For HEV model, check the 12 volt auxiliary battery. <Ref. to SC(H4DO(HEV))-43, INSPECTION, Battery.>

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. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

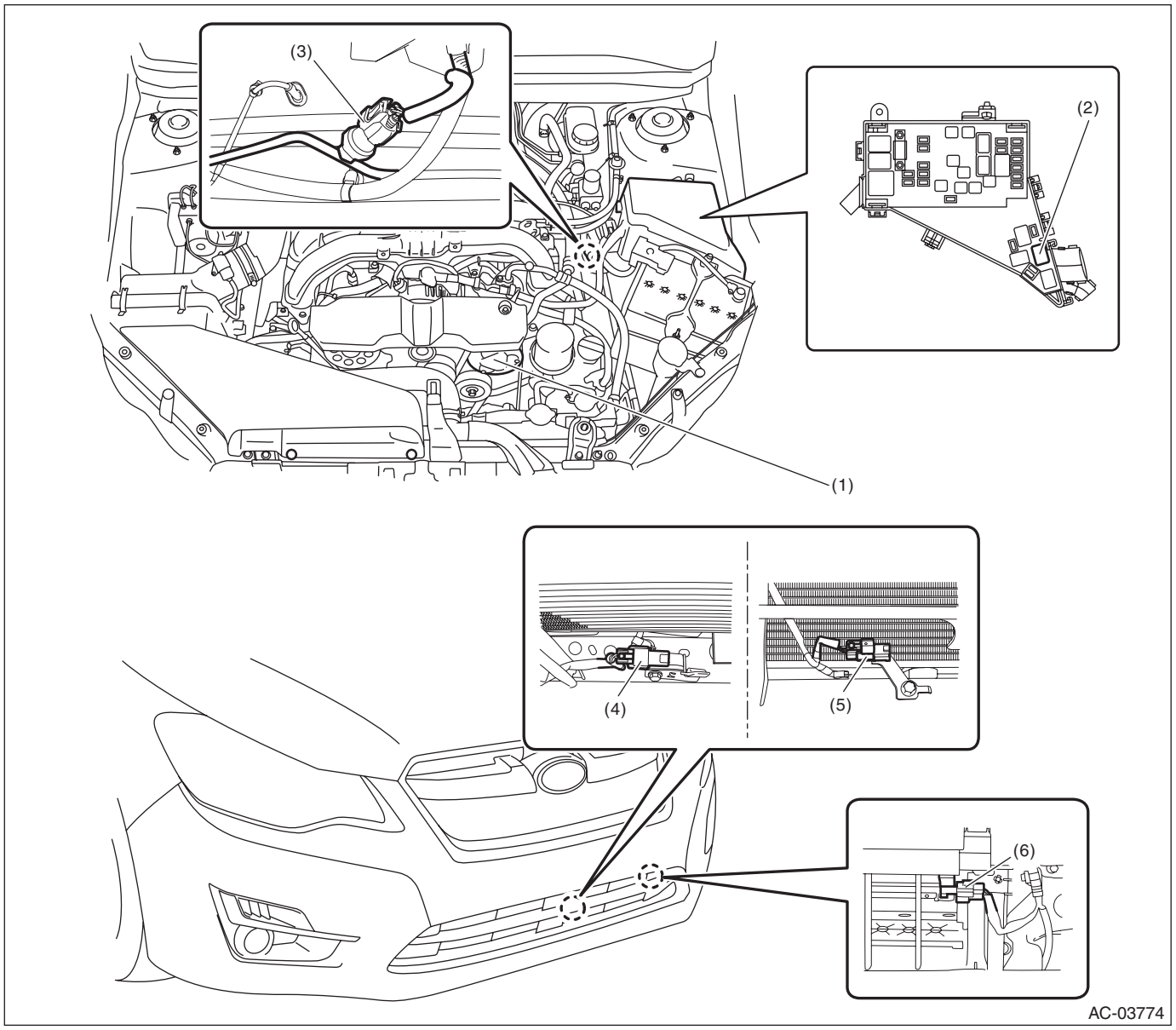
2. GENERAL TOOL

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

3. Electrical Component Location

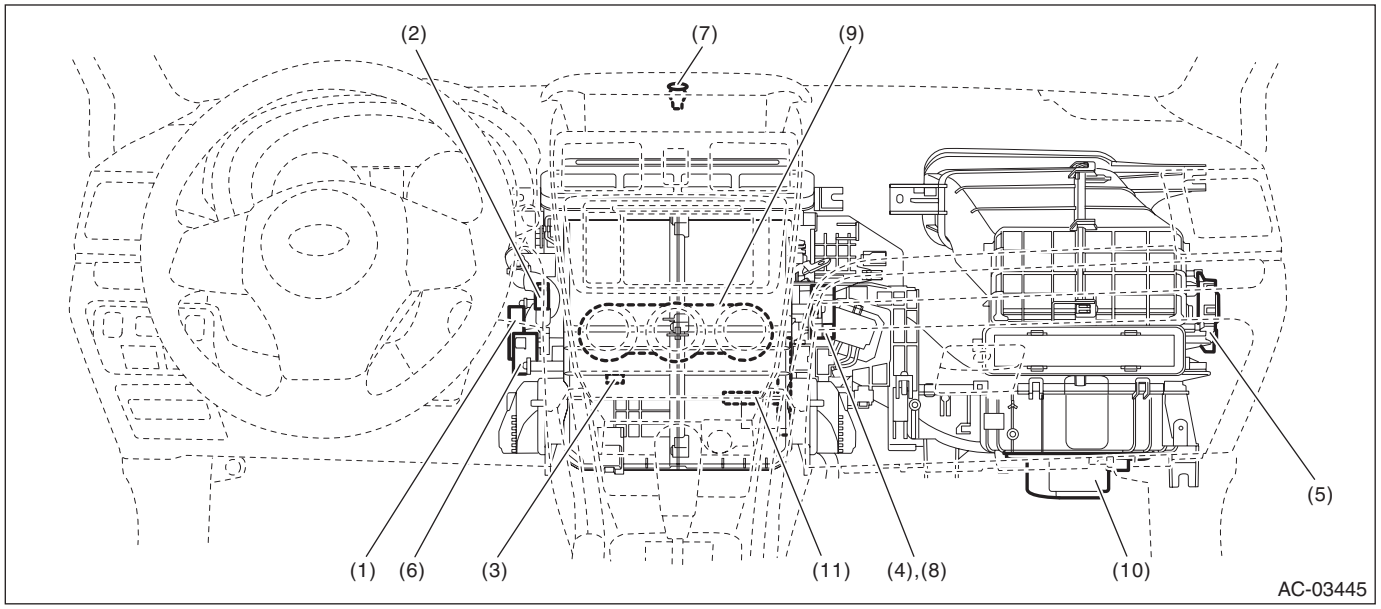
A: LOCATION

1. OUTSIDE VEHICLE



(1) A/C compressor
(2) A/C relay
(3) Pressure switch
(4) Ambient sensor (gasoline engine, except for XV model)
(5) Ambient sensor (gasoline engine, XV model)
(6) Ambient sensor (HEV model)

2. COMPARTMENT

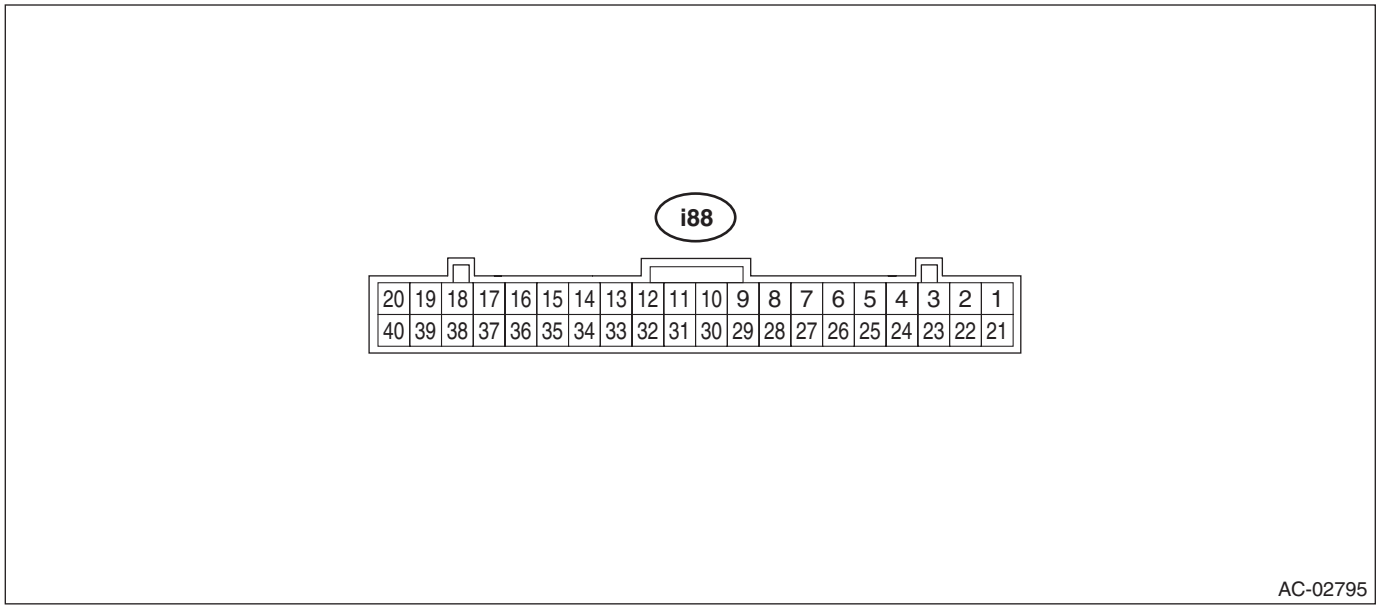


(1)	Air mix door actuator LH*2	(5)	Intake door actuator	(9)	A/C control panel
(2)	In-vehicle sensor or temperature and humidity sensor *3	(6)	Mode door actuator	(10)	Blower motor
(3)	Evaporator sensor	(7)	Sunload sensor	(11)	Heater core sensor *3
(4)	Air mix door actuator RH*2	(8)	Air mix door actuator*1		

*1: Without left/right independent air conditioning function
*2: With left/right independent air conditioning function
*3: HEV model

4. Auto A/C Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Terminal No.	Description	Measuring condition	Standard
1	Mode door actuator #4	Digital signal; can not be measured	—
2	Mode door actuator #3	Digital signal; can not be measured	—
3	Mode door actuator #2	Digital signal; can not be measured	—
4	Mode door actuator #1	Digital signal; can not be measured	—
6	Intake door actuator (FRESH)	FRESH mode	8 V or more
8	Intake door actuator (RECIRC)	RECIRC mode	8 V or more
9	Blower fan ON signal	Blower fan is ON	1 V or less
10	Intake door potentiometer power supply	Ignition switch ON	5 V
11	A/C cut-off signal	A/C is cut off	1 V or less
12	Intake door potentiometer signal	Ignition switch ON	0 — 5 V
14	GND for sensors	Always	1 V or less
15	ACC power supply	ACC ON	Battery voltage
16	Sunload sensor	Sunlight is contacting sensor	1 — 4 V
17	RECIRC sensor	Ignition switch ON	25°C: 2.5 V
18	Post evaporator sensor	Depends on temperature after the evaporator.	1 — 4.5 V
19	CAN Lo	Digital signal; can not be measured	—
20	CAN Hi	Digital signal; can not be measured	—
21	Air mix door actuator LH #4*2	Digital signal; can not be measured	—
22	Air mix door actuator LH #3*2	Digital signal; can not be measured	—
23	Air mix door actuator LH #2*2	Digital signal; can not be measured	—
24	Air mix door actuator LH #1*2	Digital signal; can not be measured	—
25	Air mix door actuator #4 *1 or air mix door actuator RH #4 *2	Digital signal; can not be measured	—
26	Air mix door actuator #3 *1 or air mix door actuator RH #3 *2	Digital signal; can not be measured	—
27	Air mix door actuator #2 *1 or air mix door actuator RH #2 *2	Digital signal; can not be measured	—
28	Air mix door actuator #1 *1 or air mix door actuator RH #1 *2	Digital signal; can not be measured	—

Terminal No.	Description	Measuring condition		Standard
31	BATT	Always		Battery voltage
32	IGN	Ignition ON		Battery voltage
33	Humidity sensor *3	Ignition ON (fluctuates depending on humidity of the vehicle interior.)		1 — 4.5 V
34	GND	Always		1 V or less
35	ILL–	Illumination ON (measure between 37 — 35)		Battery voltage
37	ILL+			
39	Heater core sensor *3	Ignition ON (fluctuates depending on temperature after the heater core.)		0.5 — 4.0 V
40	Fan control signal	Ignition switch: ON, Blower switch: ON	1st	Approx. 9 V
			2nd	Approx. 8 V
			3rd	Approx. 7 V
			4th	Approx. 6 V
			5th	Approx. 5 V
			6th	Approx. 3.5 V
			7th	Approx. 0.5 V

*1: Without left/right independent air conditioning function
*2: With left/right independent air conditioning function
*3: HEV model

B: WIRING DIAGRAM

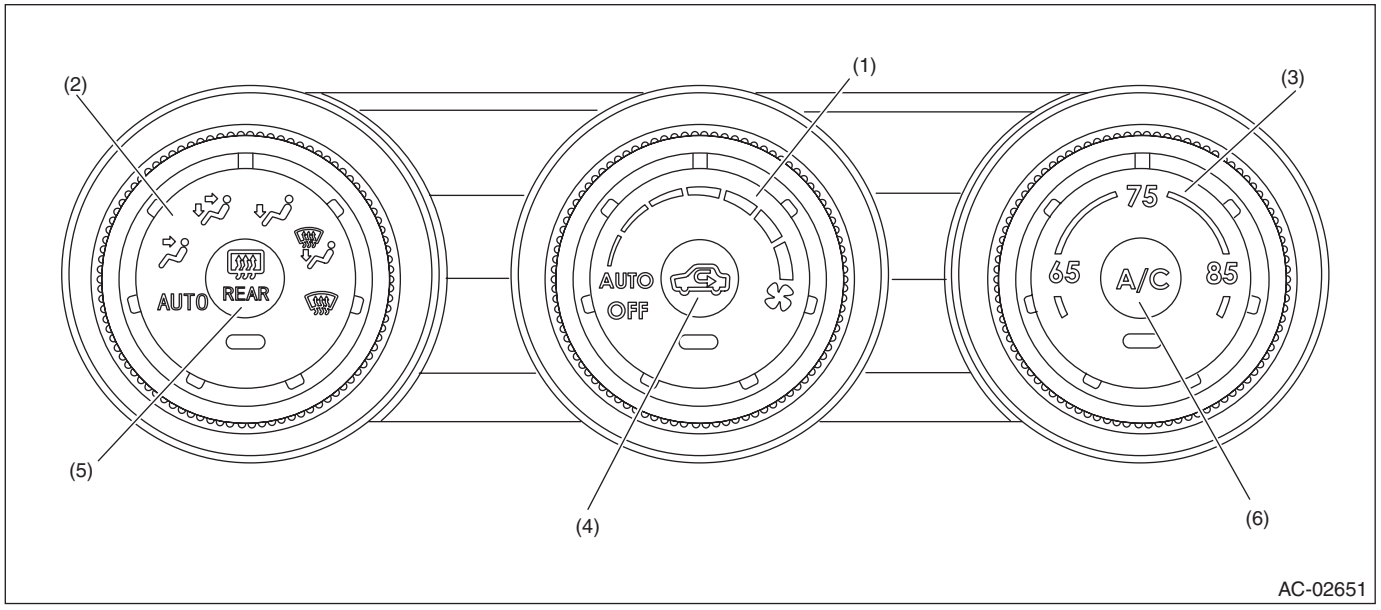
1. AIR CONDITIONER AUTO A/C MODEL

Refer to “Air Conditioning System” in the wiring diagram. <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

5. Diagnostic Chart for Self-Diagnosis

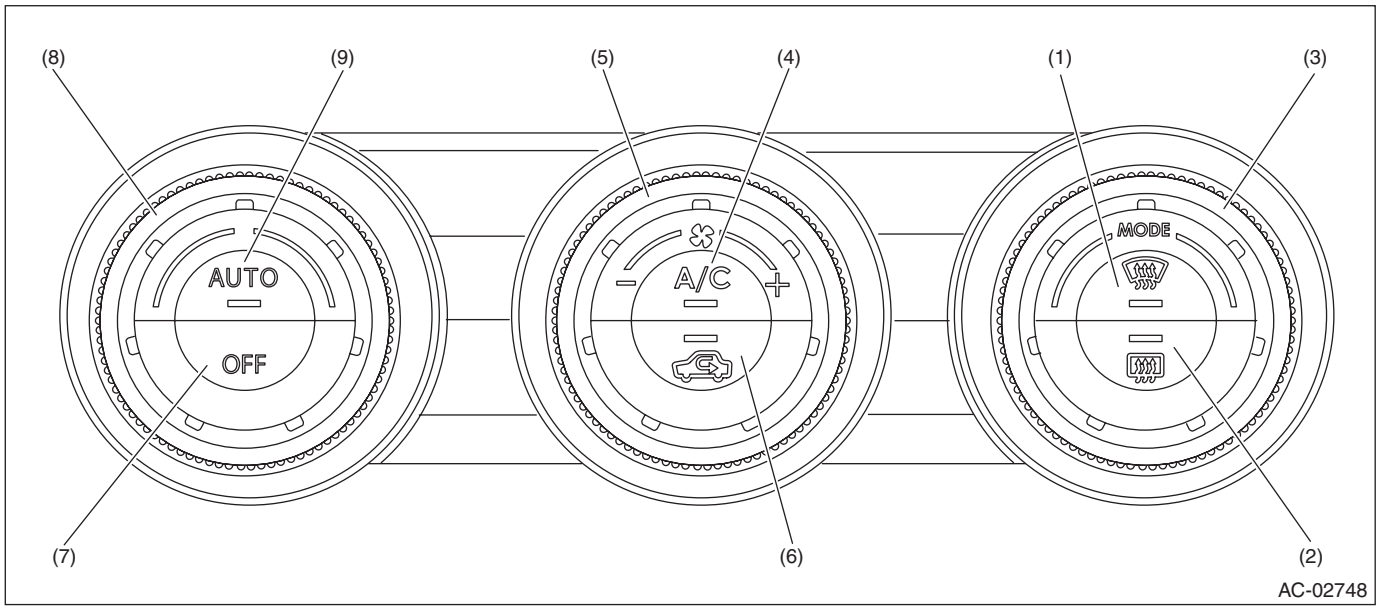
A: OPERATION

- Without left/right independent air conditioning function (without high grade MFD)



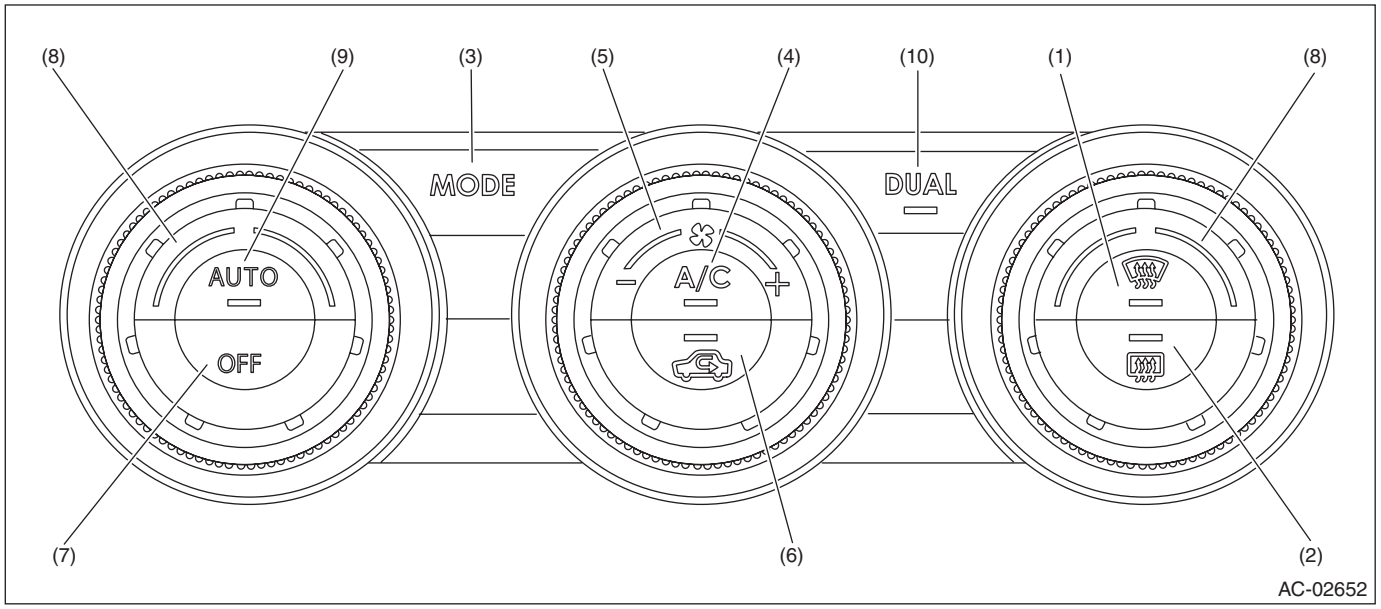
(1) Fan dial
(2) Air flow control dial
(3) Temperature adjustment dial
(4) FRESH/RECIRC switch
(5) Rear window defogger switch
(6) A/C switch

- Without left/right independent air conditioning function (with high grade MFD)



(1) Defroster switch
(2) Rear window defogger switch
(3) Air flow control dial
(4) A/C switch
(5) Fan dial
(6) FRESH/RECIRC switch
(7) OFF switch
(8) Temperature adjustment dial
(9) AUTO switch

- With left/right independent air conditioning function



(1) Defroster switch
(2) Rear window defogger switch
(3) Air flow control switch
(4) A/C switch
(5) Fan dial
(6) FRESH/RECIRC switch
(7) OFF switch
(8) Temperature adjustment dial
(9) AUTO switch
(10) Dual switch

1. A/C CONTROL PANEL SELF-DIAGNOSIS

- Without left/right independent air conditioning function (without high grade MFD)

	Step	Check	Yes	No
1	**SELECT SELF-DIAGNOSIS MODE IN THE CONTROL MODULE.** 1) Set the air flow control dial and fan dial to the AUTO position. 2) Start the engine with the A/C switch and the FRESH/RECIRC switch pressed.	Does the self-diagnosis mode operate?	Go to step **2**.	<Ref. to AC(diag)-17, NOTHING IS DISPLAYED ON THE SCREEN. NO ILLUMINATION APPEARS ON THE INDICATOR, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
2	**CHECK THE LIGHTING OF THE LED.** Make sure that all switch LEDs on the control panel illuminate.	Do all LEDs blink eight times?	Go to step **3**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
3	**CHECK SENSOR MALFUNCTION.** 1) Set the air flow control dial and fan dial to the AUTO position. 2) If the system has trouble for each sensor, the FRESH/RECIRC switch LED blinks or is turned off. 3) If the system has no malfunctions, the FRESH/RECIRC switch LED is illuminated.	Does the FRESH/RECIRC switch LED illuminate?	Go to step **5**.	Go to step **4**.

	Step	Check	Yes	No
4	**CONFIRM MALFUNCTIONING SENSOR.** 1) Set the air flow control dial to AUTO. 2) Turn the fan dial to each mode position, and check each switch LED illumination according to sensor check table. <Ref. to AC(diag)-12, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	When turning the fan dial to each mode position, does the FRESH/RECIRC switch LED go off?	Go to step **5**.	Repair the defective sensor.
5	**CHECK AIR MIX DOOR AND MODE DOOR POSITION OPERATION SIGNALS.** 1) Set the air flow control dial to FACE. 2) Turn the fan dial to AUTO. 3) If there is a system malfunction in the air mix door signal or the mode door position signal, the FRESH/RECIRC switch LED goes off or blinks. 4) If the system has no malfunctions, the FRESH/RECIRC switch LED is illuminated.	Does the FRESH/RECIRC switch LED illuminate?	Go to step **8**.	Go to step **6**.
6	**CHECK AIR MIX DOOR POSITION DRIVE SIGNALS.** 1) Set the air flow control dial to FACE. 2) Place the fan dial in each position and then check each LED illumination conditions. <Ref. to AC(diag)-14, DRIVE SIGNAL CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Do the LEDs illuminate in accordance with operation signal table?	Go to step **7**.	Check the air mix door actuator circuit.
7	**CHECK MODE DOOR POSITION DRIVE SIGNAL.** 1) Press the A/C switch. 2) Place the fan dial in each position and then check each LED illumination conditions. <Ref. to AC(diag)-14, DRIVE SIGNAL CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Do the LEDs illuminate in accordance with operation signal table?	Go to step **8**.	Check the mode door actuator circuit.
8	**CHECK OPERATION OF EACH ACTUATOR, BLOWER FAN AND COMPRESSOR CLUTCH.** 1) Set the air flow control dial to B/L. 2) Turn the fan dial from AUTO to 7th, and select operating modes. 3) Check the operation of each mode according to operating mode table. <Ref. to AC(diag)-13, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Does the operation of each mode match to operating mode table?	Turn the fan dial to OFF or the ignition switch to OFF in order to complete self-diagnosis.	Repair the malfunctioning part in accordance with each diagnostic chart.

• Without left/right independent air conditioning function (with high grade MFD), with left/right independent air conditioning function

	Step	Check	Yes	No
1	**SELECT SELF-DIAGNOSIS MODE IN THE CONTROL MODULE.** Start the engine with the A/C switch and the FRESH/RECIRC switch pressed.	Does the self-diagnosis mode operate?	Go to step **2**.	<Ref. to AC(diag)-17, NOTHING IS DISPLAYED ON THE SCREEN. NO ILLUMINATION APPEARS ON THE INDICATOR, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
2	**CHECK INDICATOR BLINKS.** Make sure that all switch indicators on the control panel blink.	Do all indicators blink eight times?	Go to step **3**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
3	**CHECK SENSOR MALFUNCTION.** 1) The inspection mode for sensor is initiated by turning the fan dial one click to the right. (The auto switch indicator blinks two times.) 2) If all sensors have no malfunctions, the A/C switch indicator illuminates. If any sensor has a malfunction, the A/C switch indicator blinks. 3) Identify defective sensors according to the sensor check table. <Ref. to AC(diag)-12, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Does the A/C switch indicator illuminate?	Go to step **4**.	Repair the defective sensor.
4	**CHECK ACTUATOR DRIVE SIGNAL.** 1) The inspection mode for actuator is initiated by turning the fan dial one click to the right. (The AUTO switch indicator blinks three times.) 2) If all actuators have no malfunctions, the defroster indicator illuminates. If any actuator has a malfunction, the defroster indicator blinks. 3) Identify defective actuator circuit according to the drive signal check table. <Ref. to AC(diag)-14, DRIVE SIGNAL CHECK TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Does the defroster switch indicator illuminate?	Go to step **5**.	Repair the defective actuator circuit.
5	**CHECK OPERATION OF EACH ACTUATOR, BLOWER FAN AND COMPRESSOR CLUTCH.** 1) The inspection mode for blower fan, actuator and compressor is initiated by turning the fan dial one click to the right. (The AUTO switch indicator blinks four times.) 2) The number of blinking of A/C switch indicator changes and the operation mode changes each time the A/C switch is pressed. 3) Check each operation according to the operating mode table. <Ref. to AC(diag)-13, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.>	Does each operation match to operating mode table?	System is normal. Press the OFF switch or turn the ignition switch to OFF in order to complete self-diagnosis.	Repair the defective part in accordance with each diagnostic chart.

2. SENSOR CHECK TABLE

- Without left/right independent air conditioning function (without high grade MFD)

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 at a location exposed to direct sunlight.
- Past malfunction will illuminate if four malfunctions or more were detected previously.
- To cancel the past malfunction, perform either of the following procedures: Disconnect the negative terminal from battery (12 volt auxiliary battery for HEV model), or press and hold the FRESH/RECIRC switch for 5 seconds or more while performing self-diagnosis step 3 — 7.

Air flow control dial position	Fan dial position	Sensor	No trouble	Short circuit	Open circuit	When currently malfunctioning	When having malfunctioned in the past
AUTO	AUTO	In-vehicle sensor or temperature and humidity sensor	FRESH/ RECIRC switch LED is turned off	FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)	FRESH/ RECIRC switch LED blinks (Illuminates for 1 sec. ←→ turns off for 1 sec.)	Rear window defogger switch LED is turned off	Rear window defogger switch LED illuminates
	1st	Ambient sensor		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)			
	2nd	Evaporator sensor		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)			
	3rd	Engine coolant temperature sensor		—			
	4th	Sunload sensor		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)			
	5th	CAN communication		—			
	6th	FRESH/RECIRC potentiometer		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)			
	7th	Heater core sensor *1		FRESH/RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)			

*1: HEV model

• Without left/right independent air conditioning function (with high grade MFD), with left/right independent air conditioning function

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 at a location exposed to direct sunlight.
• If there are multiple defective sensors, a malfunction is displayed in the sequence of priority (1, 2, 3, etc.). The display changes in the sequence of priority (1, 2, 3, etc.) each time the A/C switch is pressed.
• Past malfunction will illuminate if four malfunctions or more were detected previously.
• To cancel the past malfunction, perform either of the following procedures: Disconnect the negative terminal from battery (12 volt auxiliary battery for HEV model), or press and hold the FRESH/RECIRC switch for 5 seconds or more while performing self-diagnosis step 3 — 4.

Sensor	A/C switch indicator	FRESH/RECIRC switch indicator				Rear window defogger switch indicator*2	
		Open	Sequence of priority	Short	Sequence of priority	Current malfunction	Past malfunction
In-vehicle sensor or temperature and humidity sensor	Once	Light OFF	1	Light ON	2	Light OFF	Light ON
Ambient sensor	Twice	Light OFF	3	Light ON	4	Light OFF	Light ON
Evaporator sensor	3 times	Light OFF	5	Light ON	6	Light OFF	Light ON
Engine coolant temperature sensor	4 times	Light OFF			7	Light OFF	Light ON
Sunload sensor	5 times	Light OFF*1	8	Light ON	9	Light OFF	Light ON
CAN communication	6 times	Light OFF	10	—		Light OFF	Light ON
FRESH/RECIRC potentiometer	7 times	Light OFF	11	Light ON	12	Light OFF	Light ON
Heater core sensor*3	8 times	Light OFF	13	Light ON	14	Light OFF	Light ON

*1: Displays current malfunction only.
*2: If the same diagnostic object contains a current malfunction and a past malfunction, the current malfunctions is displayed.
*3: HEV model

3. OPERATING MODE TABLE

• Without left/right independent air conditioning function (without high grade MFD)

Operation	Fan dial position							
	AUTO	1st	2nd	3rd	4th	5th	6th	7th
Blower fan	4 V	4 V	4.9 V	5.9 V	7.0 V	8.3 V	9.8 V	14 V
FRESH/RECIRC door	RECIRC	RECIRC	MIX	FRESH	FRESH	FRESH	FRESH	FRESH
Air flow control door	FACE	FACE	FACE	B/L	HEAT	HEAT	D/H	DEF
Air mix door	0%	0%	0%	50%	50%	100%	100%	100%
A/C compressor	OFF	ON	ON	ON	ON	ON	ON	ON

• Without left/right independent air conditioning function (with high grade MFD), with left/right independent air conditioning function

Operation	Number of blinking of A/C switch indicator							
	Once	Twice	3 times	4 times	5 times	6 times	7 times	8 times
Blower fan	4 V	4 V	4.9 V	5.9 V	7.0 V	8.3 V	9.8 V	14 V
FRESH/RECIRC door	RECIRC	RECIRC	MIX	FRESH	FRESH	FRESH	FRESH	FRESH
Air flow control door	FACE	FACE	FACE	B/L	HEAT	HEAT	D/H	DEF
Air mix door *1 or air mix door RH *2	0%	0%	0%	50%	50%	100%	100%	100%
Air mix door LH *2	0%	0%	0%	50%	50%	100%	100%	100%
A/C compressor	OFF	ON	ON	ON	ON	ON	ON	ON

*1: Without left/right independent air conditioning function
*2: With left/right independent air conditioning function

4. DRIVE SIGNAL CHECK TABLE

• Without left/right independent air conditioning function (without high grade MFD)

NOTE:
• Past malfunction will illuminate if four malfunctions or more were detected previously.
• To cancel the past malfunction, perform either of the following procedures: Disconnect the negative terminal from battery (12 volt auxiliary battery for HEV model), or press and hold the FRESH/RECIRC switch for 5 seconds or more while performing self-diagnosis step 3 — 7.

<table>
<tr><th>Air flow control dial position</th><th>Fan dial position</th><th>Drive signal to check</th><th>A/C switch LED</th><th>No trouble</th><th>Short circuit</th><th>Open circuit</th><th>When currently malfunctioning</th><th>When having malfunctioned in the past</th></tr>
<tr><td rowspan="14">FACE</td><td>AUTO</td><td>MIX #1</td><td rowspan="5">Blinking (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)</td><td rowspan="14">FRESH/ RECIRC switch LED is turned off</td><td rowspan="2">FRESH/ RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)</td><td rowspan="2">FRESH/ RECIRC switch LED blinks (Illuminates for 1 sec. ←→ turns off for 1 sec.)</td><td rowspan="2">Rear window defogger switch LED is turned off</td><td rowspan="14">Rear window defogger switch LED illuminates</td></tr>
<tr><td>1st</td><td>MIX #2</td></tr>
<tr><td>2nd</td><td>MIX #3</td><td rowspan="2">FRESH/RECIRC switch LED blinks (Illuminates for 1 sec. ←→ turns off for 1 sec.)</td><td rowspan="2">—</td></tr>
<tr><td>3rd</td><td>MIX #4</td></tr>
<tr><td>4th to 7th</td><td>Intake door actuator lock</td></tr>
<tr><td>AUTO</td><td>MODE #1</td><td rowspan="5">Blinking (Illuminates for 1 sec. ←→ turns off for 1 sec.)</td><td rowspan="2">FRESH/ RECIRC switch LED blinks (Illuminates for 0.2 sec. ←→ turns off for 0.2 sec.)</td><td rowspan="2">FRESH/ RECIRC switch LED blinks (Illuminates for 1 sec. ←→ turns off for 1 sec.)</td><td rowspan="2">Rear window defogger switch LED is turned off</td></tr>
<tr><td>1st</td><td>MODE #2</td></tr>
<tr><td>2nd</td><td>MODE #3</td><td rowspan="2">FRESH/RECIRC switch LED blinks (Illuminates for 1 sec. ←→ turns off for 1 sec.)</td><td rowspan="2">—</td></tr>
<tr><td>3rd</td><td>MODE #4</td></tr>
<tr><td>4th to 7th</td><td>Intake door actuator lock</td></tr>
</table>

• Without left/right independent air conditioning function (with high grade MFD), with left/right independent air conditioning function

NOTE:
• If there are multiple defective sensors, a malfunction is displayed in the sequence of priority (1, 2, 3, etc.). The display changes in the sequence of priority (1, 2, 3, etc.) each time the A/C switch is pressed.
• Past malfunction will illuminate if four malfunctions or more were detected previously.
• To cancel the past malfunction, perform either of the following procedures: Disconnect the negative terminal from battery (12 volt auxiliary battery for HEV model), or press and hold the FRESH/RECIRC switch for 5 seconds or more while performing self-diagnosis step 3 — 4.

Drive signal		Defroster indicator	A/C switch indicator	FRESH/RECIRC switch indicator				Rear window defogger switch indicator*3	
				Open	Sequence of priority	Short	Sequence of priority	Current malfunction	Past malfunction
Air mix door actuator*1 or air mix door actuator RH*2	#1	Once	Once	Light OFF	1	Light ON	2	Light OFF	Light ON
	#2		Twice	Light OFF	3	Light ON	4	Light OFF	Light ON
	#3		3 times	Light OFF	5	Light ON	6	Light OFF	Light ON
	#4		4 times	Light OFF	7	Light ON	8	Light OFF	Light ON
Air mix door actuator LH*2	#1	Twice	Once	Light OFF	9	Light ON	10	Light OFF	Light ON
	#2		Twice	Light OFF	11	Light ON	12	Light OFF	Light ON
	#3		3 times	Light OFF	13	Light ON	14	Light OFF	Light ON
	#4		4 times	Light OFF	15	Light ON	16	Light OFF	Light ON
Air flow control door actuator	#1	3 times	Once	Light OFF	17	Light ON	18	Light OFF	Light ON
	#2		Twice	Light OFF	19	Light ON	20	Light OFF	Light ON
	#3		3 times	Light OFF	21	Light ON	22	Light OFF	Light ON
	#4		4 times	Light OFF	23	Light ON	24	Light OFF	Light ON
Intake door actuator		4 times	Light ON	Light ON				—	Light ON

*1: Without left/right independent air conditioning function
*2: With left/right independent air conditioning function
*3: If the same diagnostic object contains a current malfunction and a past malfunction, the current malfunctions is displayed.

5. DIAGNOSTIC PROCEDURE IF A/C CONTROL PANEL SELF DIAGNOSIS FAILS TO OPERATE

NOTE:
For the diagnostic procedures, refer to Diagnostics with Phenomenon “Nothing is displayed on the screen. No illumination appears on the indicator.” <Ref. to AC(diag)-17, NOTHING IS DISPLAYED ON THE SCREEN. NO ILLUMINATION APPEARS ON THE INDICATOR, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

6. Diagnostics with Phenomenon

A: INSPECTION

1. Perform the diagnosis according to the diagnostic procedure of the corresponding symptom that is shown in the symptom list.
2. If there are multiple symptoms, perform the diagnosis in the symptom sequence (1 → 2 →... → 13).

1. SYMPTOM LIST

Symptoms		Diagnostic procedure
1	Nothing is displayed on the screen. No illumination appears on the indicator.	<Ref. to AC(diag)-17, NOTHING IS DISPLAYED ON THE SCREEN. NO ILLUMINATION APPEARS ON THE INDICATOR, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
2	Air conditioner does not stop when pressing the OFF switch.	<Ref. to AC(diag)-19, AIR CONDITIONER DOES NOT STOP WHEN PRESSING THE OFF SWITCH, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
3	Windshield grass does not clear when pressing the DEF switch.	<Ref. to AC(diag)-20, WINDSHIELD GRASS DOES NOT CLEAR WHEN PRESSING THE DEF SWITCH, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	Cold air not emitted.	<Ref. to AC(diag)-21, COLD AIR NOT EMITTED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
5	Warm air not emitted.	<Ref. to AC(diag)-23, WARM AIR NOT EMITTED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
6	Compartment temperature is lower than setting temperature.	<Ref. to AC(diag)-25, COMPARTMENT TEMPERATURE IS LOWER THAN SETTING TEMPERATURE, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
7	Compartment temperature is higher than setting temperature.	<Ref. to AC(diag)-27, COMPARTMENT TEMPERATURE IS HIGHER THAN SETTING TEMPERATURE, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
8	Air does not come out. Airflow is low. (Blower motor does not rotate.)	<Ref. to AC(diag)-29, AIR DOES NOT COME OUT. AIRFLOW IS LOW, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	Airflow cannot be adjusted. (Blower motor turns at a high speed.)	<Ref. to AC(diag)-32, AIR CANNOT BE CONTROLLED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
10	Cool air does not come out when pressing the A/C switch. Fog cannot be cleared. (Compressor does not operate.)	<Ref. to AC(diag)-34, COOL AIR DOES NOT COME OUT WHEN PRESSING THE A/C SWITCH. FOG CANNOT BE CLEARED. (COMPRESSOR DOES NOT OPERATE.), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
11	Unable to switch suction vents.	<Ref. to AC(diag)-36, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
12	Unable to switch blow vents.	<Ref. to AC(diag)-37, UNABLE TO SWITCH VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
13	Illumination does not illuminate or cannot be dimmed.	<Ref. to AC(diag)-38, ILLUMINATION DOES NOT ILLUMINATE OR CANNOT BE DIMMED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

B: DIAGNOSTIC PROCEDURE WITH PHENOMENON

1. NOTHING IS DISPLAYED ON THE SCREEN. NO ILLUMINATION APPEARS ON THE INDICATOR

TROUBLE SYMPTOM:

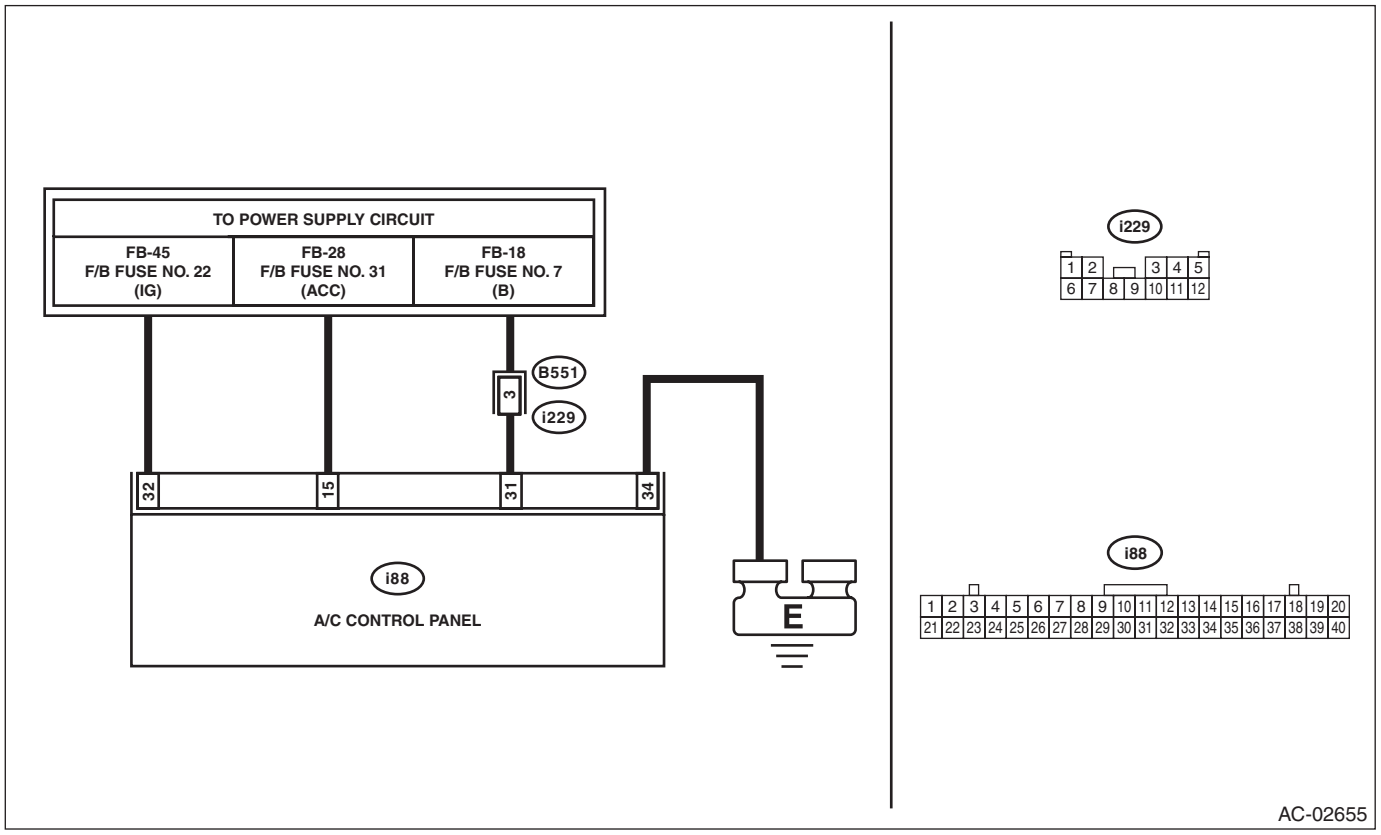
- When the AUTO button is pressed with IGN ON, nothing is displayed on the screen or indicators do not illuminate.
- Self diagnosis using A/C control panel does not operate.

TROUBLE CAUSES:

- A/C control panel power supply circuit failure
- CAN communication failure

WIRING DIAGRAM:

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove a fuse from 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 for poor contact of connector.	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*** ***(i88) No. 15 (+) — Chassis ground (–):*** ***(i88) No. 31 (+) — Chassis ground (–):*** ***(i88) No. 32 (+) — 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*** ***(i88) No. 34 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the harness for ground line.
5	**CHECK FOR POOR CONTACT.** Check poor contact of A/C control panel connector.	Is there poor contact of connector?	Repair the connector.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

2. AIR CONDITIONER DOES NOT STOP WHEN PRESSING THE OFF SWITCH

TROUBLE SYMPTOM:

Blower fan does not switch to OFF, inlet opening does not switch to FRESH, and compressor does not switch to OFF, when pressing the OFF switch.

TROUBLE CAUSE:

- CAN communication failure
- A/C control panel failure
- Blower motor failure
- Intake 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 located on the A/C panel. 3) Check the following data in “Read Current Data” using the Subaru Select Monitor. • Blower Fan Level • Fresh/Recircle Air Door Actuator Position Target	Does “Blower Fan Level” indicate 0 and “Fresh/Recircle Air Door Actuator Position Target” indicate 100%?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
2	**CHECK BLOWER MOTOR.** Check the blower motor operation with the OFF switch pressed.	Does the blower motor stop?	Go to step **3**.	<Ref. to AC(diag)-32, AIR CANNOT BE CONTROLLED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
3	**CHECK INTAKE ACTUATOR.** Check the intake door operation with the OFF switch pressed.	Is the intake door FRESH?	Go to step **4**.	<Ref. to AC(diag)-36, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	**CHECK COMPRESSOR.** Check the compressor operation with the OFF switch pressed.	Does the compressor stop?	System is normal.	<Ref. to AC(diag)-34, COOL AIR DOES NOT COME OUT WHEN PRESSING THE A/C SWITCH. FOG CANNOT BE CLEARED. (COMPRESSOR DOES NOT OPERATE.), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

3. WINDSHIELD GRASS DOES NOT CLEAR WHEN PRESSING THE DEF SWITCH

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 FRESH/RECIRC does not switch to FRESH.

TROUBLE CAUSES:

- CAN 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 • Fresh/Recircle Air Door Actuator Position Target	Does “Mode Door Actuator Position Target” indicate 100% and “Fresh/Recircle Air Door Actuator Position Target” indicate 100%?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-50, 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)-37, 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.	Is the FRESH/RECIRC set to FRESH?	Go to step **4**.	<Ref. to AC(diag)-36, 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)-34, COOL AIR DOES NOT COME OUT WHEN PRESSING THE A/C SWITCH. FOG CANNOT BE CLEARED. (COMPRESSOR DOES NOT OPERATE.), 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
- CAN communication failure
- A/C control panel failure
- Air mix actuator RH failure
- Air mix actuator LH failure (only with left/right independent air conditioning function)
- Intake door actuator failure
- Evaporator sensor failure
- In-vehicle sensor failure
- Ambient sensor failure
- Sunload sensor failure

	Step	Check	Yes	No
1	**CHECK MAX COOL.** Set the A/C control panel dials as follows. Temperature control dial: MAX COOL FRESH/RECIRC switch: RECIRC Mode switch or mode dial: VENT A/C switch: ON	Does cold air come out?	Go to step **2**.	Go to step **4**.
2	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-29, AIR DOES NOT COME OUT. AIRFLOW IS LOW, 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-24, REFRIGERANT GAS PRESSURE INSPECTION, PROCEDURE, Refrigerant Pressure with Manifold Gauge Set.>	Is the refrigerant pressure normal?	Go to step **4**.	Perform repair according to refrigerant pressure inspection.
4	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX COOL. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"*1?	Go to step **5**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
5	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX HOT. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"*2?	Go to step **6**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
6	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX COOL and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 displayed?	Perform the diagnosis according to DTC.	Go to step **7**.

	Step	Check	Yes	No
7	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX HOT and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 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)-36, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	**CHECK EVAPORATOR SENSOR UNIT.** Perform the inspection of evaporator sensor unit. <Ref. to AC-90, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **10**.	Replace the evaporator sensor. <Ref. to AC-89, REMOVAL, Evaporator Sensor.>
10	**CHECK IN-VEHICLE SENSOR OR TEMPERATURE AND HUMIDITY SENSOR UNIT.** Check the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor or temperature and humidity sensor normal?	Go to step **11**.	Replace the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
11	**CHECK AMBIENT SENSOR UNIT.** Check the ambient sensor. <Ref. to AC-80, INSPECTION, Ambient Sensor.>	Is the ambient sensor normal?	Go to step **12**.	Replace the ambient sensor. <Ref. to AC-77, REMOVAL, Ambient Sensor.>
12	**CHECK SUNLOAD SENSOR UNIT.** Check the sunload sensor unit. <Ref. to AC-82, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-81, REMOVAL, Sunload Sensor (Auto A/C Model).>

*1: For the 75°F center specification. 18 for the 25°C center specification.
*2: For the 75°F center specification. 32 for the 25°C center specification.

5. WARM AIR NOT EMITTED

TROUBLE SYMPTOM:
Warm air not emitted.
TROUBLE CAUSES:
- Airflow capacity failure
- Coolant level failure
- CAN communication failure
- A/C control panel failure
- Air mix actuator RH failure
- Air mix actuator LH failure (only with left/right independent air conditioning function)
- Intake door actuator failure
- Evaporator sensor failure
- In-vehicle sensor failure
- Ambient sensor failure
- Sunload sensor failure

	Step	Check	Yes	No
1	**CHECK MAX HOT.** Set the A/C control panel dials as follows. Temperature control dial: MAX HOT FRESH/RECIRC switch: FRESH Mode switch or mode dial: HEAT A/C switch: OFF	Does warm air come out?	Go to step **2**.	Go to step **4**.
2	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-29, AIR DOES NOT COME OUT. AIRFLOW IS LOW, 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 level within the specification?	Go to step **4**.	Fill engine coolant. If there is coolant leakage, repair the leaks according to Engine Cooling System Trouble in General. <Ref. to CO(H4DO(w/o HEV))-98, Engine Cooling System Trouble in General.>
4	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX COOL. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"*1?	Go to step **5**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
5	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX HOT. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"*2?	Go to step **6**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

Step		Check	Yes	No
6	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX COOL and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 displayed?	Perform the diagnosis according to DTC.	Go to step **7**.
7	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX HOT and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 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)-36, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
9	**CHECK EVAPORATOR SENSOR UNIT.** Perform the inspection of evaporator sensor unit. <Ref. to AC-90, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **10**.	Replace the evaporator sensor. <Ref. to AC-89, REMOVAL, Evaporator Sensor.>
10	**CHECK IN-VEHICLE SENSOR OR TEMPERATURE AND HUMIDITY SENSOR UNIT.** Check the in-vehicle sensor or temperature and humidity sensor circuit. <Ref. to AC-83, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor or temperature and humidity sensor circuit normal?	Go to step **11**.	Replace the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
11	**CHECK AMBIENT SENSOR UNIT.** Check the ambient sensor. <Ref. to AC-80, INSPECTION, Ambient Sensor.>	Is the ambient sensor normal?	Go to step **12**.	Replace the ambient sensor. <Ref. to AC-77, REMOVAL, Ambient Sensor.>
12	**CHECK SUNLOAD SENSOR UNIT.** Check the sunload sensor unit. <Ref. to AC-82, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-81, REMOVAL, Sunload Sensor (Auto A/C Model).>

*1: For the 75°F center specification. 18 for the 25°C center specification.
*2: For the 75°F center specification. 32 for the 25°C center specification.

6. COMPARTMENT TEMPERATURE IS LOWER THAN SETTING TEMPERATURE

TROUBLE SYMPTOM:

Compartment temperature is excessively lower than setting temperature.

TROUBLE CAUSES:

- Large airflow capacity
- Refrigerant pressure failure
- CAN communication failure
- A/C control panel failure
- Air mix actuator RH failure
- Air mix actuator LH failure (only with left/right independent air conditioning function)
- Evaporator sensor failure
- In-vehicle sensor failure
- Ambient sensor failure
- Sunload sensor failure

	Step	Check	Yes	No
1	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-32, AIR CANNOT BE CONTROLLED, 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-24, REFRIGERANT GAS PRESSURE INSPECTION, PROCEDURE, Refrigerant Pressure with Manifold Gauge Set.>	Is the refrigerant pressure normal?	Go to step **3**.	Perform repair according to refrigerant pressure inspection.
3	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX COOL. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"*1?	Go to step **4**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
4	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX HOT. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"*2?	Go to step **5**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
5	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX COOL and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 displayed?	Perform the diagnosis according to DTC.	Go to step **6**.
6	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX HOT and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 displayed?	Perform the diagnosis according to DTC.	Go to step **7**.

	Step	Check	Yes	No
7	**CHECK EVAPORATOR SENSOR UNIT.** Perform the inspection of evaporator sensor unit. <Ref. to AC-90, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **8**.	Replace the evaporator sensor. <Ref. to AC-89, REMOVAL, Evaporator Sensor.>
8	**CHECK IN-VEHICLE SENSOR OR TEMPERATURE AND HUMIDITY SENSOR UNIT.** Check the in-vehicle sensor or temperature and humidity sensor circuit. <Ref. to AC-83, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor or temperature and humidity sensor circuit normal?	Go to step **9**.	Replace the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
9	**CHECK AMBIENT SENSOR UNIT.** Check the ambient sensor. <Ref. to AC-80, INSPECTION, Ambient Sensor.>	Is the ambient sensor normal?	Go to step **10**.	Replace the ambient sensor. <Ref. to AC-77, REMOVAL, Ambient Sensor.>
10	**CHECK SUNLOAD SENSOR UNIT.** Check the sunload sensor unit. <Ref. to AC-82, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-81, REMOVAL, Sunload Sensor (Auto A/C Model).>

*1: For the 75°F center specification. 18 for the 25°C center specification.
*2: For the 75°F center specification. 32 for the 25°C center specification.

7. COMPARTMENT TEMPERATURE IS HIGHER THAN SETTING TEMPERATURE

TROUBLE SYMPTOM:

Compartment temperature is excessively higher than setting temperature.

TROUBLE CAUSES:

- Large airflow capacity
- CAN communication failure
- A/C control panel failure
- Air mix actuator RH failure
- Air mix actuator LH failure (only with left/right independent air conditioning function)
- Intake door actuator failure
- Evaporator sensor failure
- In-vehicle sensor failure
- Ambient sensor failure
- Sunload sensor failure

	Step	Check	Yes	No
1	**CHECK AIRFLOW CAPACITY.** Check the airflow capacity. <Ref. to AC(diag)-32, AIR CANNOT BE CONTROLLED, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>	Is the airflow capacity normal?	Go to step **2**.	Perform repair according to inspection procedure.
2	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX COOL. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "60"*1?	Go to step **3**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
3	**CHECK A/C CONTROL PANEL.** 1) Turn the temperature control dials (driver's side) and (passenger's side) to MAX HOT. 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)	Do "Heater Control Panel Setting Value (Driver's)" and "Heater Control Panel Setting Value (Passenger's)" indicate "90"*2?	Go to step **4**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
4	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX COOL and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 displayed?	Perform the diagnosis according to DTC.	Go to step **5**.
5	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Turn the temperature control dial at MAX HOT and leave 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.	Is DTC B14E1, B14E2, B14E3 or B14E4 displayed?	Perform the diagnosis according to DTC.	Go to step **6**.

	Step	Check	Yes	No
6	**CHECK INTAKE DOOR ACTUATOR.** Visually check the intake door actuator operation.	Is the intake door actuator normal?	Go to step **7**.	Check the intake door actuator. <Ref. to AC(diag)-36, UNABLE TO SWITCH SUCTION VENTS, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
7	**CHECK EVAPORATOR SENSOR UNIT.** Perform the inspection of evaporator sensor unit. <Ref. to AC-90, INSPECTION, Evaporator Sensor.>	Is the evaporator sensor normal?	Go to step **8**.	Replace the evaporator sensor. <Ref. to AC-89, REMOVAL, Evaporator Sensor.>
8	**CHECK IN-VEHICLE SENSOR OR TEMPERATURE AND HUMIDITY SENSOR UNIT.** Check the in-vehicle sensor or temperature and humidity sensor circuit. <Ref. to AC-83, INSPECTION, In-Vehicle Sensor (Auto A/C Model).>	Is the in-vehicle sensor or temperature and humidity sensor circuit normal?	Go to step **9**.	Replace the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>
9	**CHECK AMBIENT SENSOR UNIT.** Check the ambient sensor. <Ref. to AC-80, INSPECTION, Ambient Sensor.>	Is the ambient sensor normal?	Go to step **10**.	Replace the ambient sensor. <Ref. to AC-77, REMOVAL, Ambient Sensor.>
10	**CHECK SUNLOAD SENSOR UNIT.** Check the sunload sensor unit. <Ref. to AC-82, INSPECTION, Sunload Sensor (Auto A/C Model).>	Is the sunload sensor normal?	System is normal.	Replace the sunload sensor. <Ref. to AC-81, REMOVAL, Sunload Sensor (Auto A/C Model).>

*1: For the 75°F center specification. 18 for the 25°C center specification.
*2: For the 75°F center specification. 32 for the 25°C center specification.

8. AIR DOES NOT COME OUT. AIRFLOW IS LOW

TROUBLE SYMPTOM:

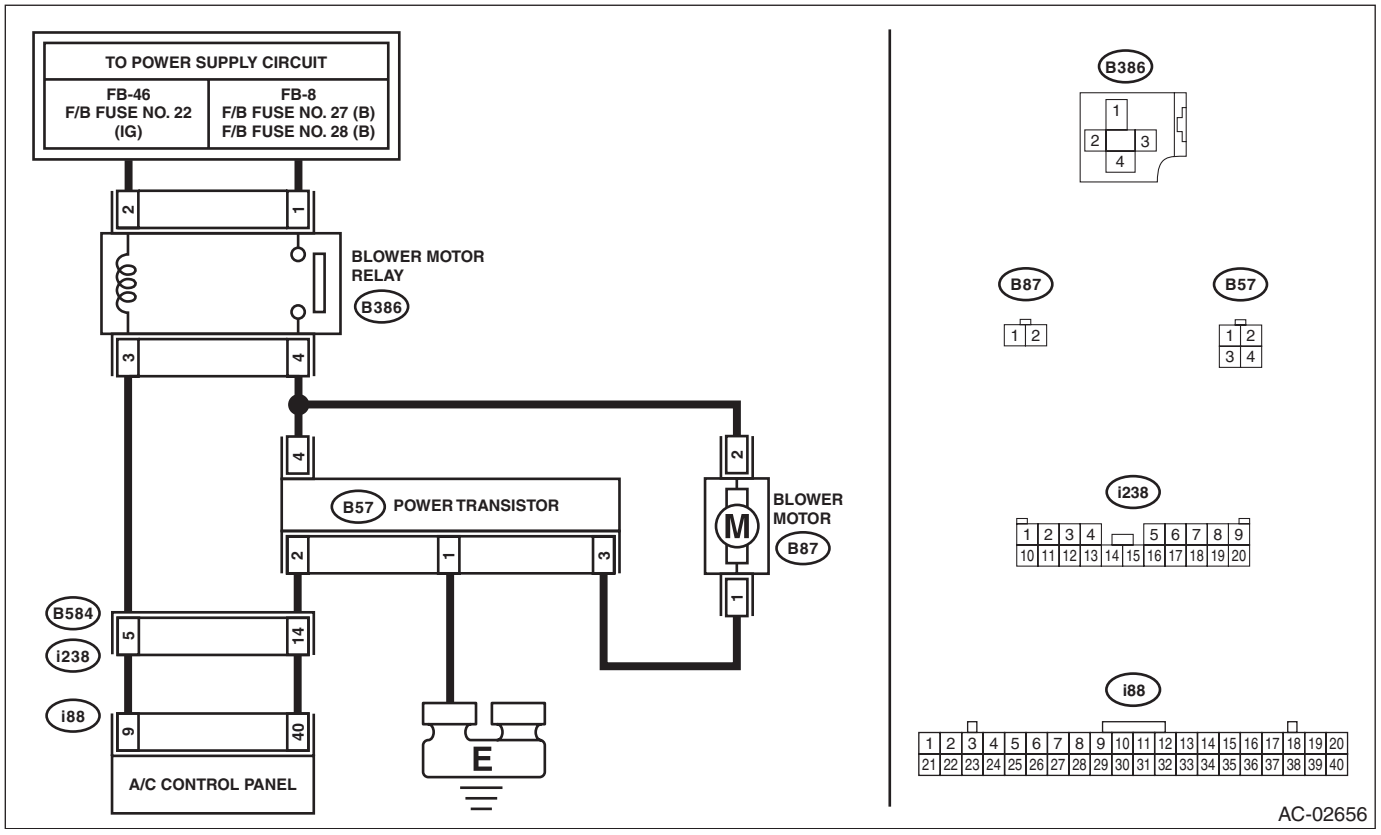
- Airflow capacity is insufficient.
- Air does not come out when operating the fan dial.

TROUBLE CAUSES:

- Airflow capacity failure
- CAN communication failure
- A/C control panel failure
- Blower motor failure

WIRING DIAGRAM:

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK A/C CONTROL PANEL.** 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) • Blower fan level 2) Turn the temperature control dial at MAX COOL and increase and decrease the A/C control panel fan dial. (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)" indicate "0%"? Also, does the value of "Blower Fan Level" increase or decrease in conjunction with the fan dial operation?	Go to step **2**.	Go to step **5**.
2	**CHECK AIRFLOW CAPACITY.** Turn the temperature control dial to LO (both dials for the models equipped with left/right independent air conditioning function), A/C control panel fan dial to MAX and FRESH/RECIRC switch to RECIRC.	Is the airflow capacity insufficient for the same model?	Go to step **3**.	System is normal.

	Step	Check	Yes	No
3	**CHECK A/C FILTER.** Check the 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.	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) Turn the fan dial to the 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 "7"?	Go to step **6**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
6	**CHECK A/C CONTROL PANEL.** 1) Turn the fan dial to the 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-50, REMOVAL, Control Panel.>
7	**CHECK CONNECTOR.** Check for poor contact of connector.	Is there poor contact of connector?	Repair the connector.	Go to step **8**.
8	**CHECK FUSE.** 1) Remove a fuse in the fuse & relay 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 dial OFF. 3) Turn the ignition switch to ON. 4) Using a tester, measure the voltage between the A/C control panel connector (i88) and chassis ground. ***Connector & terminal*** ***(i88) No. 9 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **10**.	• Check for open or short circuit in the harness between fuse and ECM. • Check the blower relay connector and relay unit. <Ref. to AC-36, CHECK RELAY, INSPECTION, Relay and Fuse.>
10	**CHECK BLOWER MOTOR RELAY ON SIGNAL.** 1) Start the engine. 2) Turn the fan dial to ON. 3) Using a tester, measure the voltage between the A/C control panel connector (i88) and chassis ground. ***Connector & terminal*** ***(i88) No. 9 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **11**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
11	**CHECK BLOWER MOTOR POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Turn the fan dial to ON. 3) Use a tester to measure the voltage between the blower motor connector (B87) and chassis ground. ***Connector & terminal*** ***(B87) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **12**.	• Check the blower motor power supply line harness for open circuit or connector disconnection. • Check the blower relay connector and relay unit. <Ref. to AC-36, CHECK RELAY, INSPECTION, Relay and Fuse.>

	Step	Check	Yes	No
12	**CHECK BLOWER MOTOR UNIT.** Check the blower motor. <Ref. to AC-41, INSPECTION, Blower Motor.>	Is the blower motor OK?	Go to step **13**.	Replace the blower motor. <Ref. to AC-40, REMOVAL, Blower Motor.>
13	**CHECK HARNESS.** 1) Disconnect the power transistor and A/C control panel connector. 2) Using a tester, measure the resistance between harness terminals. ***Connector & terminal*** ***(B386) No. 4 — (B57) No. 4:*** ***(B87) No. 1 — (B57) No. 3:*** ***(B57) No. 2 — (i88) No. 40:*** ***(B57) No. 1 — 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 harness resistance between the power transistor connector and chassis ground. ***Connector & terminal*** ***(B57) No. 2 — 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-42, REMOVAL, Power Transistor (Auto A/C Model).>	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

9. AIR CANNOT BE CONTROLLED

TROUBLE SYMPTOM:

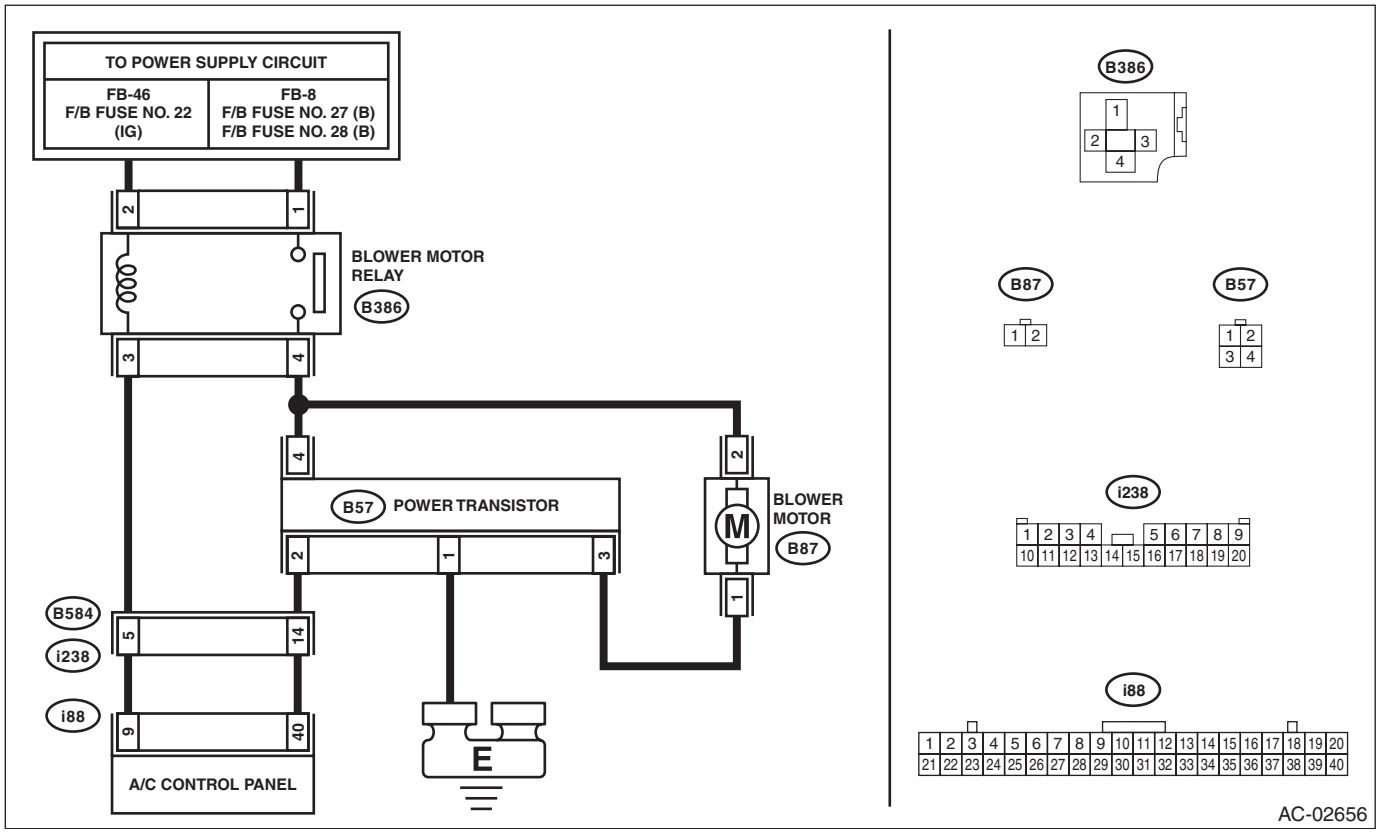
- The blower rotates even though the blower switch is not turned on.
- The blower motor continues to rotate at high speed. (Not adjustable.)

TROUBLE CAUSES:

- Airflow capacity failure
- CAN communication failure
- A/C control panel failure
- Blower motor failure

WIRING DIAGRAM:

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

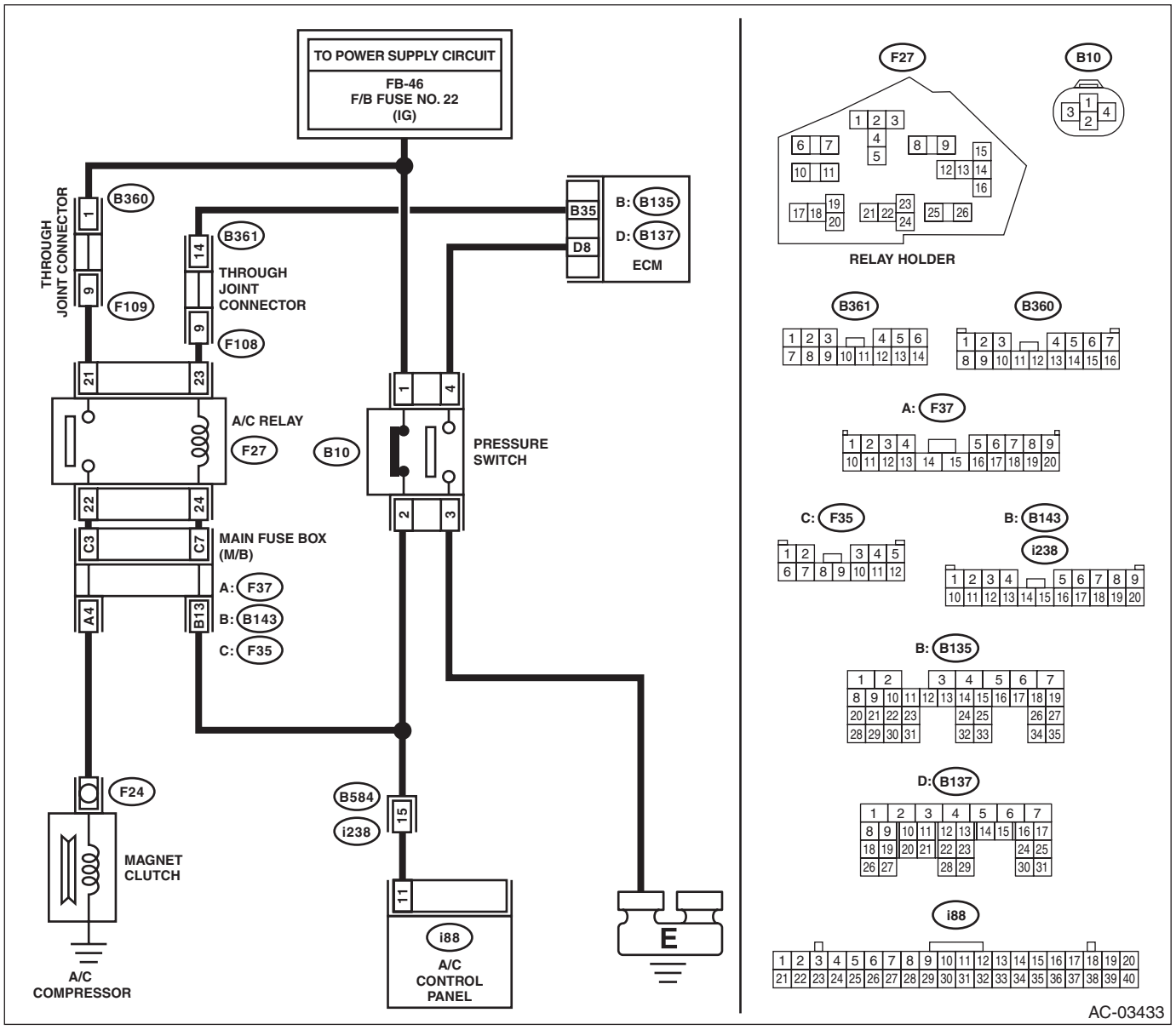


Step		Check	Yes	No
1	**CHECK A/C CONTROL PANEL.** 1) Turn the ignition switch to ON. 2) Turn the fan dial to the maximum position. 3) Using the Subaru Select Monitor, check "Blower Fan Level" of the current data from the A/C diagnosis.	Does "Blower Fan Level" indicate "7"?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
2	**CHECK A/C CONTROL PANEL.** 1) Turn the fan dial to the 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-50, 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*** ***(B57) No. 4 — Chassis ground:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit of the harness between blower motor and power transistor.	Go to step **4**.
4	**CHECK HARNESS.** 1) Remove the A/C control panel. 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*** ***(B57) No. 2 — Chassis ground:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit of the harness between A/C control panel 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*** ***(B57) No. 2 (+) — Chassis ground (–):***	Is the voltage approx. 9 V when fan dial in 1st, and approx. 3.5 V when fan dial in 6th?	Replace the power transistor. <Ref. to AC-42, REMOVAL, Power Transistor (Auto A/C Model).>	Go to step **6**.
6	**CHECK A/C CONTROL PANEL.** 1) Turn the fan dial 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*** ***(B57) No. 2 — Chassis ground:***	When the fan dial is OFF and other than OFF, does the resistance change?	Replace the power transistor. <Ref. to AC-42, REMOVAL, Power Transistor (Auto A/C Model).>	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

10.COOL AIR DOES NOT COME OUT WHEN PRESSING THE A/C SWITCH. FOG CANNOT BE CLEARED. (COMPRESSOR DOES NOT OPERATE.)

TROUBLE SYMPTOM:
Compressor does not operate after turning the A/C switch to ON and fan dial between LO and HI.
TROUBLE CAUSES:
Compressor failure
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, 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) Turn the fan dial to the maximum position. 4) Press the A/C switch.	Is "A/C" displayed on the A/C control panel?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

	Step	Check	Yes	No
2	**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 **4**.	Go to step **3**.
3	**CHECK EVAPORATOR SENSOR.** Check the evaporator sensor. <Ref. to AC-90, INSPECTION, Evaporator Sensor.>	Is the sensor normal?	Go to step **4**.	Replace the evaporator sensor. <Ref. to AC-89, REMOVAL, Evaporator Sensor.>
4	**CHECK PRESSURE SWITCH.** Check the pressure switch connection.	Is the connector normal?	Go to step **5**.	Repair the connector.
5	**CHECK PRESSURE SWITCH.** Using the Subaru Select Monitor, check "Pressure Switch" of the current data from Air Conditioning Diagnosis.	Does the data indicate normal?	Go to step **10**.	Go to step **6**.
6	**CHECK AMOUNT OF REFRIGERANT PRESSURE.** Check the refrigerant pressure. <Ref. to AC-24, REFRIGERANT GAS PRESSURE INSPECTION, 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 CONNECTOR.** Check poor contact of A/C control panel connector.	Is the connector normal?	Go to step **8**.	Repair the connector.
8	**CHECK FUSE.** 1) Turn the ignition switch to ON. 2) Remove a fuse in the fuse & relay box. 3) Check the fuse.	Is the fuse normal?	Go to step **9**.	Replace the fuse.
9	**CHECK PRESSURE SWITCH SIGNAL.** 1) Turn the ignition switch to OFF. 2) Disconnect the A/C control panel connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between A/C control panel connector terminal and chassis ground. ***Connector & terminal*** ***(i88) No. 11 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	• Check for open or short circuit in the harness between fuse and A/C control panel. • Check for poor contact of pressure switch connector.
10	**CHECK CAN COMMUNICATION CIRCUIT.** Using the Subaru Select Monitor, check "A/C Switch" of the current data from Engine Diagnosis.	Does the data indicate ON?	Go to step **12**.	Go to step **11**.
11	**CHECK CAN COMMUNICATION CIRCUIT.** Perform the diagnosis for LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is the system normal?	Repair it according to DTC of LAN system.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
12	**CHECK A/C RELAY ON SIGNAL.** 1) Disconnect the ECM connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***(B135) No. 35 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **13**.	• Check for open or short in the harness between pressure switch and ECM. • Check poor contact of A/C relay connector. • Check the A/C relay. <Ref. to AC-36, INSPECTION, Relay and Fuse.>

	Step	Check	Yes	No
13	**CHECK A/C RELAY ON SIGNAL.** 1) Start the engine. 2) Turn the A/C switch to ON. 3) Turn the temperature control dial at maximum cool position. 4) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***(B135) No. 35 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **14**.	Replace the ECM. <Ref. to FU(H4DO(w/o HEV))-100, Engine Control Module (ECM).> <Ref. to FU(H4DO(HEV))-85, Engine Control Module (ECM).>
14	**CHECK MAGNET CLUTCH POWER SUPPLY CIRCUIT.** 1) Stop the engine. 2) Disconnect the magnet clutch connector. 3) Start the engine. 4) Turn the A/C switch to ON. 5) Turn the temperature control dial at maximum cool position. 6) Measure the voltage between magnet clutch connector terminal and chassis ground. ***Connector & terminal*** ***(F24) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check the magnet clutch. <Ref. to AC-56, INSPECTION, Compressor.>	• Check for open or short circuit in the harness between fuse and magnet clutch. • Check poor contact of A/C relay connector. • Check the A/C relay. <Ref. to AC-36, INSPECTION, Relay and Fuse.>

11.UNABLE TO SWITCH SUCTION VENTS

TROUBLE SYMPTOM:

Inlet opening does not switch RECIRC → FRESH or FRESH → RECIRC each time pressing the FRESH/RECIRC switch.

TROUBLE CAUSE:

Intake actuator failure.

	Step	Check	Yes	No
1	**VISUALLY CHECK INTAKE DOOR OPERATION.** 1) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.> 2) Visually check the intake door operation by operating the FRESH/RECIRC switch.	Does the intake door operate normally? Is the portion between 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 Air Conditioning 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-50, REMOVAL, Control Panel.>
3	**CHECK DTC.** 1) Turn the FRESH/RECIRC switch to RECIRC, and leave for 16 seconds or more. 2) Read the DTC using Subaru Select Monitor.	Is DTC B14E9, B14EA and B14EB displayed?	Perform the diagnosis according to DTC.	Go to step **4**.
4	**CHECK DTC.** 1) Turn the FRESH/RECIRC switch to FRESH, and leave for 16 seconds or more. 2) Read the DTC using Subaru Select Monitor.	Is DTC B14E9, B14EA and B14EB displayed?	Perform the diagnosis according to DTC.	System is normal.

12.UNABLE TO SWITCH VENTS

TROUBLE SYMPTOM:

- Unable to switch blow vents.
- Outlet opening does not switch in the sequence of FACE → B/L → FOOT → F/D after operating the mode switch or mode dial.

TROUBLE CAUSE:

Mode 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 Air Conditioning Diagnosis. 3) Operate the air flow control switch.	Does the value of "Mode Door Actuator Position Target" change?	Go to step **2**.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>
2	**CHECK DTC.** 1) Turn the air flow control switch to DEF, and leave for 16 seconds or more. 2) Read the DTC using Subaru Select Monitor.	Is DTC B14E5 and B14E6 displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK DTC.** 1) Turn the air flow control switch to VENT, and leave for 16 seconds or more. 2) Using the Subaru Select Monitor, read DTC of A/C control panel.	Is DTC B14E5 and B14E6 displayed?	Perform the diagnosis according to DTC.	System is normal.

13.ILLUMINATION DOES NOT ILLUMINATE OR CANNOT BE DIMMED

TROUBLE SYMPTOM:

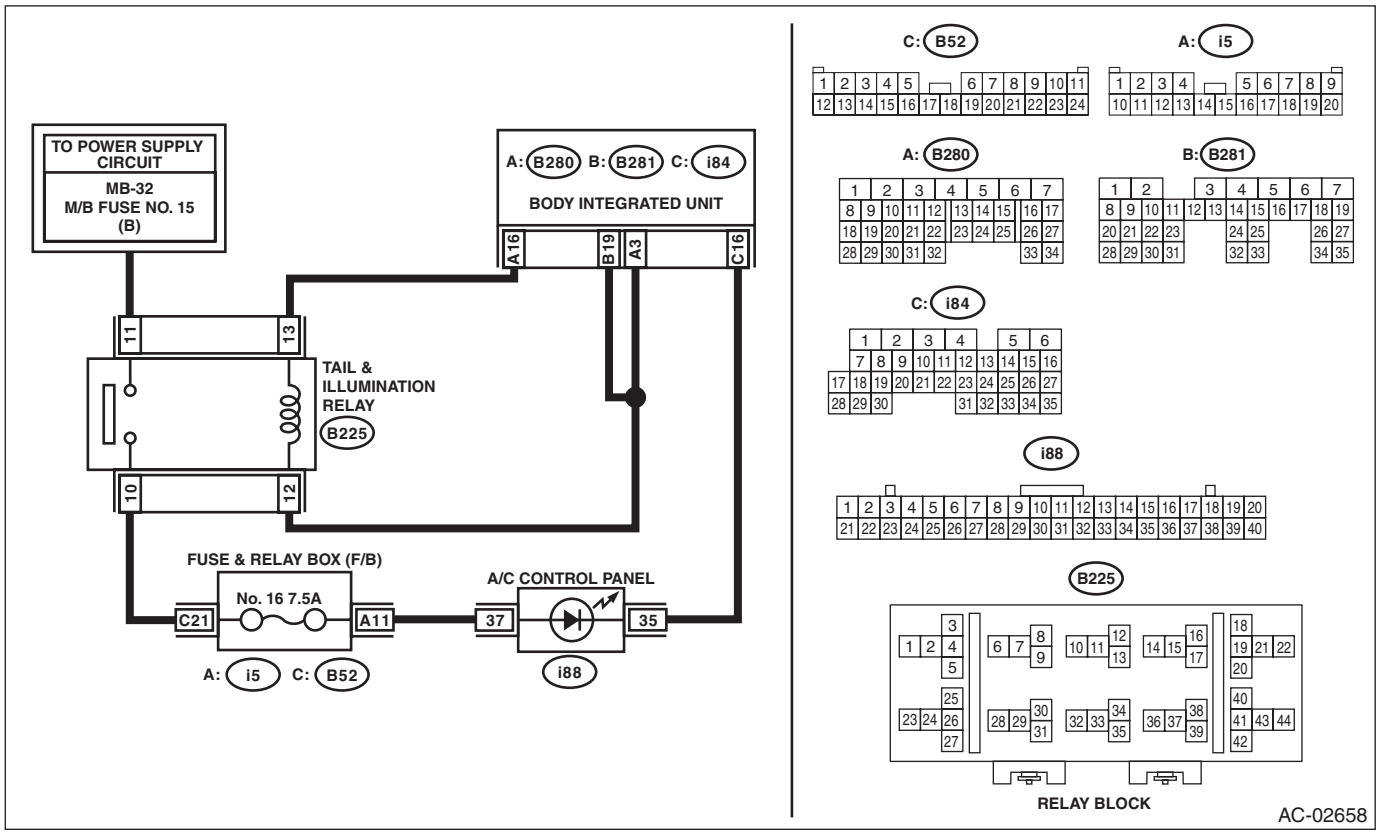
Even when the lighting switch is operated, the illumination does not come on. Even when the illumination control is operated, the illumination does not dim.

TROUBLE SYMPTOM:

Open circuit in illumination circuit

WIRING DIAGRAM:

Clearance Light and Illumination Light System <Ref. to WI(w/o HEV)-68, WIRING DIAGRAM, Clearance Light and Illumination Light System.> <Ref. to WI(HEV)-70, WIRING DIAGRAM, Clearance Light and Illumination Light System.>



Step		Check	Yes	No
1	**CHECK ILLUMINATION.** Make sure that all illuminations except A/C come on.	Do other illuminations come on?	Go to step **2**.	<Ref. to LI-11, INSPECTION, Clearance Light and Illumination Light System.>
2	**CHECK CONNECTOR.** Check for poor contact of connector.	Is there poor contact?	Repair the connector.	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the lighting switch to ON. 2) Using a tester, measure the voltage between the A/C control panel connector and chassis ground. ***Connector & terminal*** ***(i88) No. 37 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Turn the lighting switch to OFF. 2) Measure the resistance between A/C control panel connector and body integrated unit connector. ***Connector & terminal*** ***(i88) No. 35 — (i84) No. 16:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK A/C CONTROL PANEL UNIT.** Check the A/C control panel. <Ref. to AC-50, REMOVAL, 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-50, REMOVAL, Control Panel.>

7. Subaru Select Monitor

A: OPERATION

For details of basic operations, refer to “PC application help for Subaru Select Monitor”.

NOTE:
If the communication for initializing of Subaru Select Monitor is impossible, perform the diagnosis using “Diagnostic Procedure for Subaru Select Monitor Communication Error”.

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

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

9. Clear Memory Mode

A: OPERATION

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

10.Read Current Data

A: OPERATION

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

B: LIST

Items to be displayed	Unit of measure	Remarks	Note
In-vehicle Sensor Temperature	°C (°F)	A/C control panel input value	—
Quantity of Sunload	W/m^2	A/C control panel input value	—
A/C Pressure Switch	ON/OFF	A/C control panel input value	—
Heater Water Temperature	°C (°F)	Data value received by CAN	—
Heater Control Panel Setting Value (Driver’s)	LO: 18°C (60°F) HI: 32°C (90°F)	Control panel display value	—
Heater Control Panel Setting Value (Passenger’s)	LO: 18°C (60°F) HI: 32°C (90°F)	Control panel display value	For models with left/right independent air conditioning function only
Blower outlet request temperature (Driver’s)	°C (°F)	A/C control panel internal setting value	For models with left/right independent air conditioning function only
Blower outlet request temperature (Passenger’s)	°C (°F)	A/C control panel internal setting value	For models with left/right independent air conditioning function only
Air mix door actuator position (driver’s side)	%	A/C control panel input value	—
Air mix door actuator position (passenger’s side)	%	A/C control panel input value	For models with left/right independent air conditioning function only
Mode Door Actuator Position	%	A/C control panel input value	—
Fresh/Recircle Air Door Actuator Position	%	A/C control panel input value	—
Target air mix door actuator position (driver’s side)	%	A/C control panel input value	—
Target air mix door actuator position (passenger’s side)	%	A/C control panel input value	—
Mode Door Actuator Position Target	%	A/C control panel input value	—
Fresh/Recircle Air Door Actuator Position Target	%	A/C control panel input value	—
Blower Fan Level	Level	A/C control panel internal output value	—
Ambient Air Temperature	°C (°F)	Data value received by CAN	—
Compressor operation status	OFF/AUTO	A/C control panel input value	—
Blower Fan Operating Condition	MANU/AUTO	A/C control panel input value	—
A/C Operating Condition	MANU/AUTO	A/C control panel input value	—
Fresh/Recircle Air Operating Condition	MANU/AUTO	A/C control panel input value	—
Mode Operating Condition	MANU/AUTO	A/C control panel input value	—
Rear Defogger	ON/OFF	A/C control panel input value	—
Engine Speed	rpm	Data value received by CAN	—
Vehicle speed	km/h	Data value received by CAN	—
Evaporator Temperature	°C (°F)	A/C control panel input value	—
Evaporator Temperature Target	°C (°F)	A/C control panel input value	—
Blower outlet Door Request Temperature	°C (°F)	A/C control panel internal setting value	—
PTC permitted number	0 — 3	A/C control panel input value	Not supported
PTC operation steps	0 — 3	A/C control panel input value	Not supported
PTC Heater 1	Inoperative/Operate	A/C control panel input value	Not supported

Items to be displayed	Unit of measure	Remarks	Note
PTC Heater 2	Inoperative/Operate	A/C control panel input value	Not supported
PTC Heater 3	Inoperative/Operate	A/C control panel input value	Not supported
Request engine speed	0: Without Request 1: Cooler H 2: Heater H 3: Cooler L 4: Heater L	A/C control panel internal output value	—
Heater core Temp.	°C (°F)	A/C control panel input value	HEV model only
Humidity	%	A/C control panel input value	HEV model only

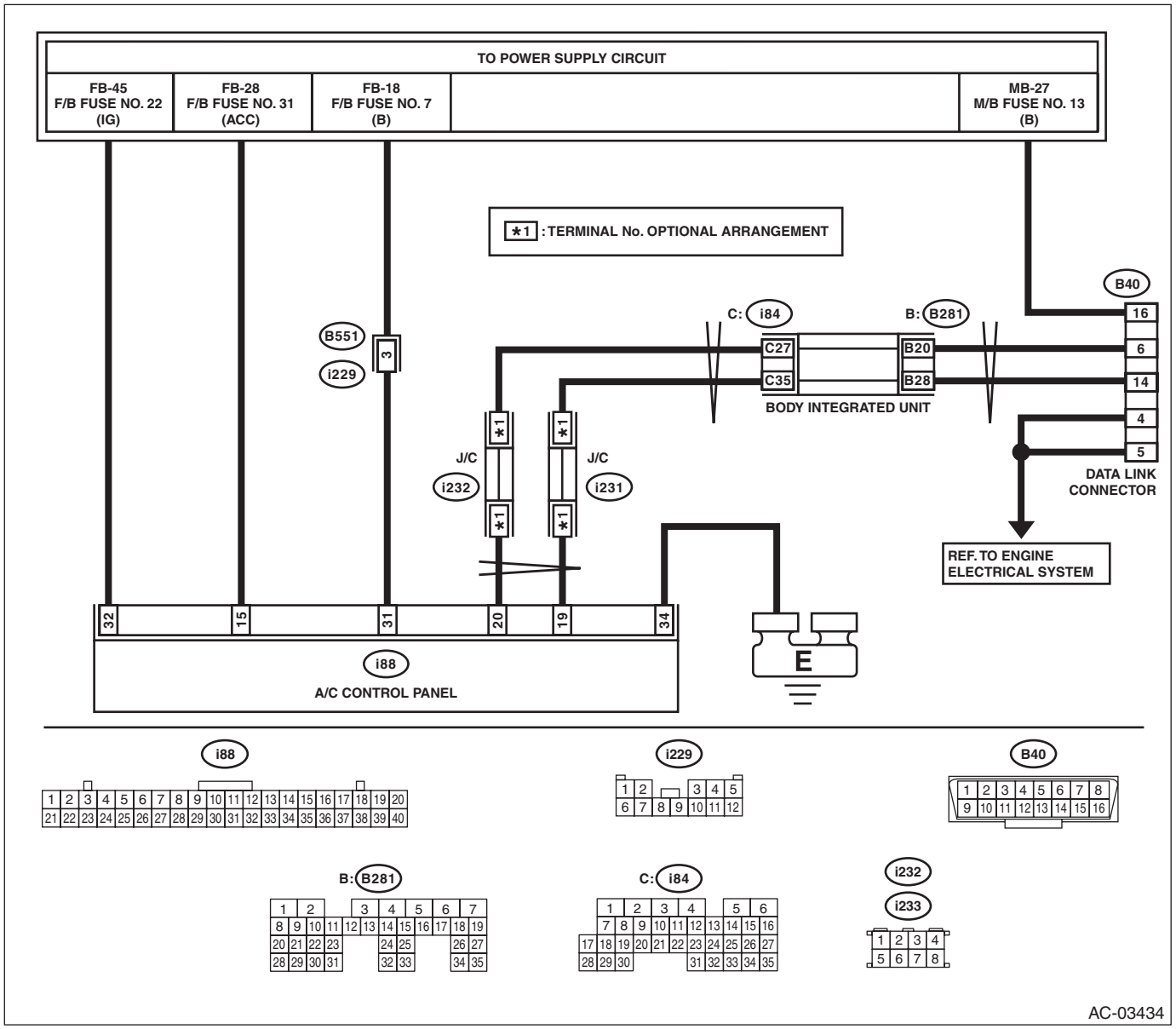
NOTE:
For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.

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 control panel

WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



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 LAN SYSTEM.** Check the LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step **6**.	Repair it according to the diagnosis for LAN system.
6	**CHECK CONNECTOR.** Check for poor contact of power supply circuit connector.	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 a fuse from the fuse box. 3) Check the fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **8**.
8	**CHECK A/C CONTROL PANEL POWER CIRCUIT.** 1) Disconnect the A/C control panel connector. 2) Measure the voltage between A/C control panel connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***(i88) No. 15 (+) — Chassis ground (–):*** ***(i88) No. 31 (+) — Chassis ground (–):*** ***(i88) No. 32 (+) — 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 control panel and fuse.
9	**CHECK A/C CONTROL PANEL GROUND CIRCUIT.** Measure the resistance of harness between A/C control panel and chassis ground. ***Connector & terminal*** ***(i88) No. 34 — 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

DTC	Item	Content of diagnosis	Note
B1430	Room Temperature Sensor Circuit Wire Break	In-vehicle air temperature sensor circuit or temperature and humidity sensor circuit is open.	<Ref. to AC(diag)-50, DTC B1430 ROOM TEMPERATURE SENSOR CIRCUIT WIRE BREAK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1431	Room Temperature Sensor Circuit Short-Circuit	In-vehicle air temperature sensor circuit or temperature and humidity sensor circuit is shorted.	<Ref. to AC(diag)-52, DTC B1431 ROOM TEMPERATURE SENSOR CIRCUIT SHORT-CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1432	Outside Air Sensor Circuit Wire Break (Air-Conditioning)	Ambient air temperature sensor circuit is open.	<Ref. to AC(diag)-54, DTC B1432 OUTSIDE AIR SENSOR CIRCUIT WIRE BREAK (AIR-CONDITIONING), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1433	Outside Air Sensor Circuit Short-Circuit (Air-Conditioning)	Ambient air temperature sensor circuit is shorted.	<Ref. to AC(diag)-57, DTC B1433 OUTSIDE AIR SENSOR CIRCUIT SHORT-CIRCUIT (AIR-CONDITIONING), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1434	Ambient Temperature Sensor Circuit Wire Break	Post evaporator sensor circuit is open.	<Ref. to AC(diag)-59, DTC B1434 AMBIENT TEMPERATURE SENSOR CIRCUIT WIRE BREAK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1435	Evaporator Sensor Circuit Short-Circuit	Post evaporator sensor circuit is shorted.	<Ref. to AC(diag)-60, DTC B1435 EVAPORATOR SENSOR CIRCUIT SHORT-CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14A1	Sunload Sensor Circuit Open	Sunload sensor circuit is open.	<Ref. to AC(diag)-61, DTC B14A1 SUNLOAD SENSOR CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14A2	Sunload Sensor Circuit Short	Sunload sensor circuit is shorted.	<Ref. to AC(diag)-62, DTC B14A2 SUNLOAD SENSOR CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E1	Air Mix Door Actuator Stepping Motor Circuit Wire Break (Driver's Seat)	Air mix door actuator stepping motor circuit is open.	<Ref. to AC(diag)-63, DTC B14E1 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT WIRE BREAK (DRIVER'S SEAT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E2	Air Mix Door Actuator Stepping Motor Circuit Short-Circuit (Driver's Seat)	Air mix door actuator stepping motor circuit is shorted.	<Ref. to AC(diag)-65, DTC B14E2 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT SHORT-CIRCUIT (DRIVER'S SEAT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E3	Air Mix Door Actuator Stepping Motor Circuit Wire Break (Passenger's Seat)	Air mix door actuator stepping motor circuit is open.	<Ref. to AC(diag)-67, DTC B14E3 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT WIRE BREAK (PASSENGER'S SEAT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E4	Air Mix Door Actuator Stepping Motor Circuit Short-Circuit (Passenger's Seat)	Air mix door actuator stepping motor circuit is shorted.	<Ref. to AC(diag)-69, DTC B14E4 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT SHORT-CIRCUIT (PASSENGER'S SEAT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E5	Mode Door Actuator Stepping Motor Circuit Wire Break	Mode door actuator stepping motor circuit is open.	<Ref. to AC(diag)-71, DTC B14E5 MODE DOOR ACTUATOR STEPPING MOTOR CIRCUIT WIRE BREAK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
B14E6	Mode Door Actuator Stepping Motor Circuit Short-Circuit	Mode door actuator stepping motor circuit is shorted.	<Ref. to AC(diag)-73, DTC B14E6 MODE DOOR ACTUATOR STEPPING MOTOR CIRCUIT SHORT-CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E7	Heater Core Rear Sensor Circuit Wire Break	Heater core sensor circuit is open.	<Ref. to AC(diag)-75, DTC B14E7 HEATER CORE REAR SENSOR CIRCUIT WIRE BREAK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E8	Heater Core Rear Sensor Circuit Short-Circuit	Heater core sensor circuit is shorted.	<Ref. to AC(diag)-76, DTC B14E8 HEATER CORE REAR SENSOR CIRCUIT SHORT-CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14E9	Intake Door Actuator Potentiometer Circuit Wire Break	Intake door actuator potentiometer circuit is open.	<Ref. to AC(diag)-77, DTC B14E9 INTAKE DOOR ACTUATOR POTENTIOMETER CIRCUIT WIRE BREAK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14EA	Intake Door Actuator Potentiometer Circuit Short-Circuit	Intake door actuator potentiometer circuit is shorted.	<Ref. to AC(diag)-79, DTC B14EA INTAKE DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT-CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14EB	Intake Door Actuator Lock	Intake door actuator is locked.	<Ref. to AC(diag)-81, DTC B14EB INTAKE DOOR ACTUATOR LOCK, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14EC	Humidity Sensor Circuit Open	Humidity sensor circuit is open.	<Ref. to AC(diag)-83, DTC B14EC HUMIDITY SENSOR CIRCUIT OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B14ED	Humidity Sensor Circuit Short	Humidity sensor circuit is shorted.	<Ref. to AC(diag)-84, DTC B14ED HUMIDITY SENSOR CIRCUIT SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0073	Control Module Communication Bus Off	CAN communication error occurred.	<Ref. to AC(diag)-85, DTC U0073 CONTROL MODULE COMMUNICATION BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0100	Lost Communication With ECM/PCM “A”	ECM data receive error occurred.	<Ref. to AC(diag)-85, DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0101	Lost Communication With TCM	TCM data receive error occurred.	<Ref. to AC(diag)-85, DTC U0101 LOST COMMUNICATION WITH TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0122	Lost Communication With Vehicle Dynamics Control Module	VDC data receive error occurred.	<Ref. to AC(diag)-85, DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	BIU data receive error occurred.	<Ref. to AC(diag)-85, 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	METER data receive error occurred.	<Ref. to AC(diag)-85, 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”	An error occurred in ECM data.	<Ref. to AC(diag)-85, DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM “A”, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
U0402	Invalid Data Received From TCM	An error occurred in TCM data.	<Ref. to AC(diag)-85, DTC U0402 INVALID DATA RECEIVED FROM TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0416	Invalid Data Received From Vehicle Dynamics Control Module	An error occurred in VDC data.	<Ref. to AC(diag)-86, 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	An error occurred in BIU data.	<Ref. to AC(diag)-86, 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	An error occurred in METER data.	<Ref. to AC(diag)-86, DTC U0423 INVALID DATA RECEIVED FROM INSTRUMENT PANEL CLUSTER CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

13.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1430 ROOM TEMPERATURE SENSOR CIRCUIT WIRE BREAK

DTC DETECTING CONDITION:

In-vehicle sensor or temperature and humidity sensor circuit is open.

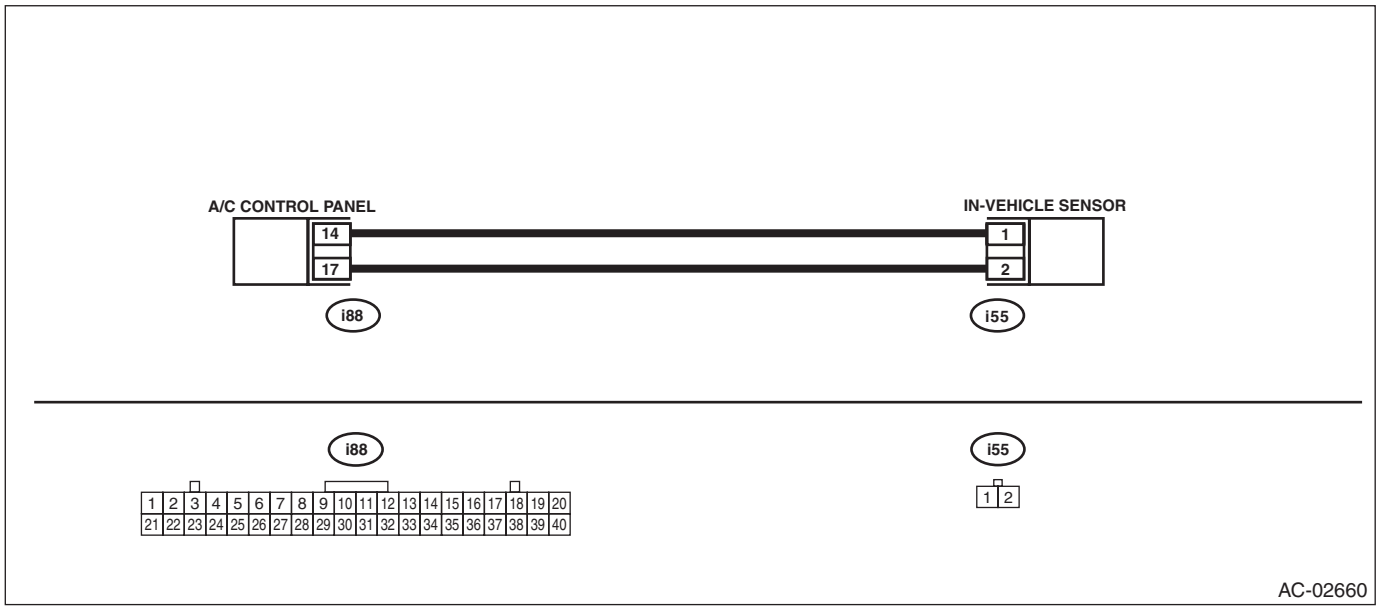
TROUBLE SYMPTOM:

In-vehicle air temperature is falsely recognized as 25°C (77°F), and the compartment temperature is adjusted.

WIRING DIAGRAM:

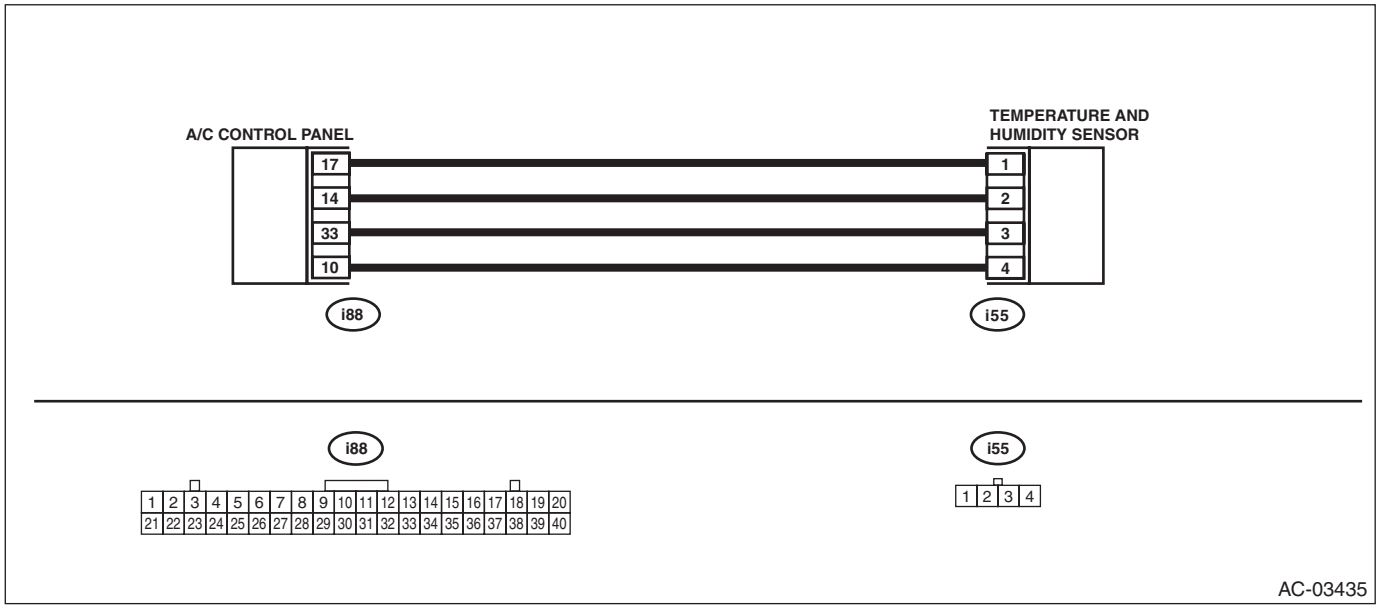
- Gasoline engine model

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.>



- HEV model

Air conditioning system <Ref. to WI(HEV)-56, 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 B1430 displayed?	Go to step **2**.	Check the connection of the in-vehicle sensor or temperature and humidity sensor circuit.
2	**CHECK IN-VEHICLE SENSOR OR TEMPERATURE AND HUMIDITY SENSOR.** 1) Disconnect the in-vehicle sensor or temperature and humidity sensor. 2) Short the connector. 3) Read the DTC relating the ECM using the Subaru Select Monitor.	Is B1431 displayed?	Replace the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, 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*** ***Gasoline engine model*** ***(i55) No. 2 (+) — No. 1 (–):*** ***HEV model*** ***(i55) 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 the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***Gasoline engine model*** ***(i55) No. 1 — (i88) No. 14:*** ***(i55) No. 2 — (i88) No. 17:*** ***HEV model*** ***(i55) No. 1 — (i88) No. 17:*** ***(i55) No. 2 — (i88) No. 14:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the open circuit of harness.

B: DTC B1431 ROOM TEMPERATURE SENSOR CIRCUIT SHORT-CIRCUIT

DTC DETECTING CONDITION:

In-vehicle sensor or temperature and humidity sensor circuit is shorted.

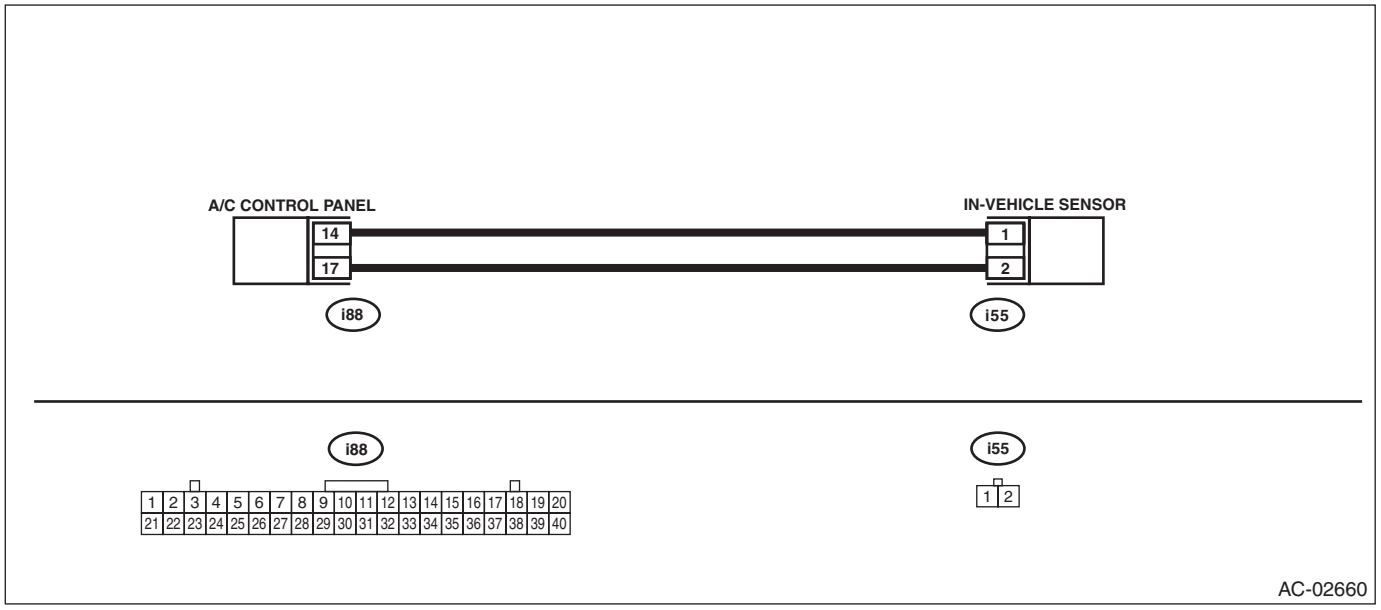
TROUBLE SYMPTOM:

In-vehicle air temperature is falsely recognized as 25°C (77°F), and the compartment temperature is adjusted.

WIRING DIAGRAM:

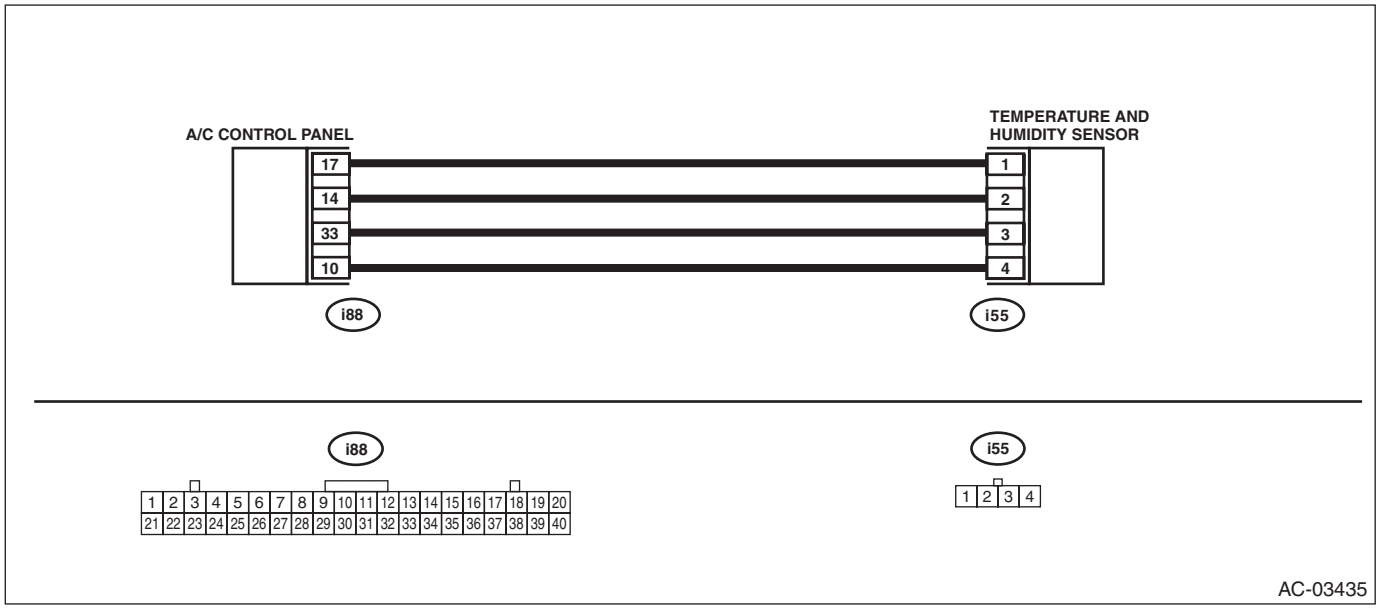
- Gasoline engine model

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.>



- HEV model

Air conditioning system <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



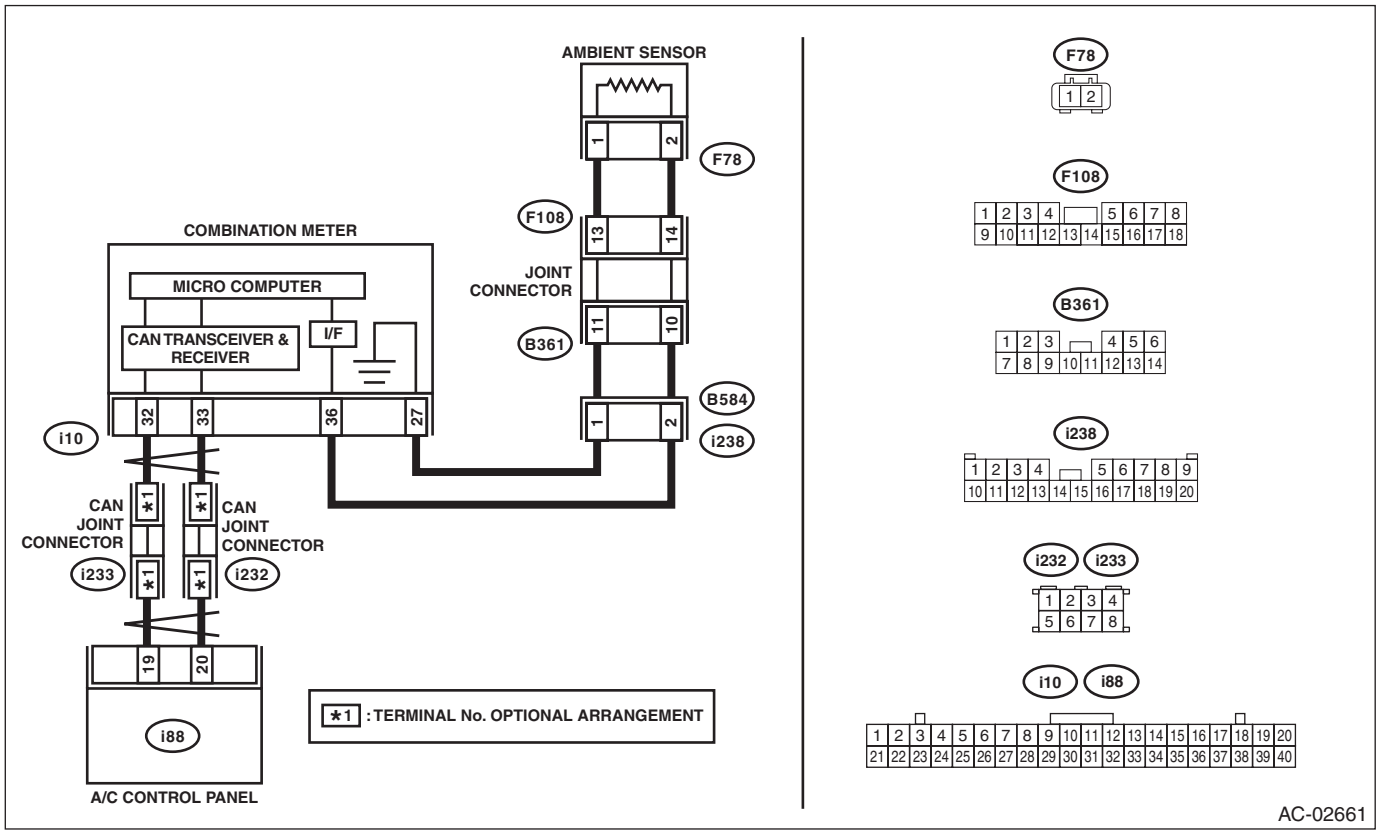
Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B1431 displayed?	Go to step **2**.	Check the connection of the in-vehicle sensor or temperature and humidity sensor circuit.

	Step	Check	Yes	No
2	**CHECK IN-VEHICLE SENSOR OR TEMPERATURE AND HUMIDITY SENSOR.** 1) Disconnect the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, REMOVAL, In-Vehicle Sensor (Auto A/C Model).> 2) Read the DTC using Subaru Select Monitor.	Is B1430 displayed?	Replace the in-vehicle sensor or temperature and humidity sensor. <Ref. to AC-83, 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*** ***Gasoline engine model*** ***(i55) No. 2 (+) — No. 1 (–):*** ***HEV model*** ***(i55) No. 1 (+) — No. 2 (–):***	Is the voltage 4.5 — 5.0 V?	Check the connection of the in-vehicle sensor or temperature and humidity sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i55) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

C: DTC B1432 OUTSIDE AIR SENSOR CIRCUIT WIRE BREAK (AIR-CONDITIONING)

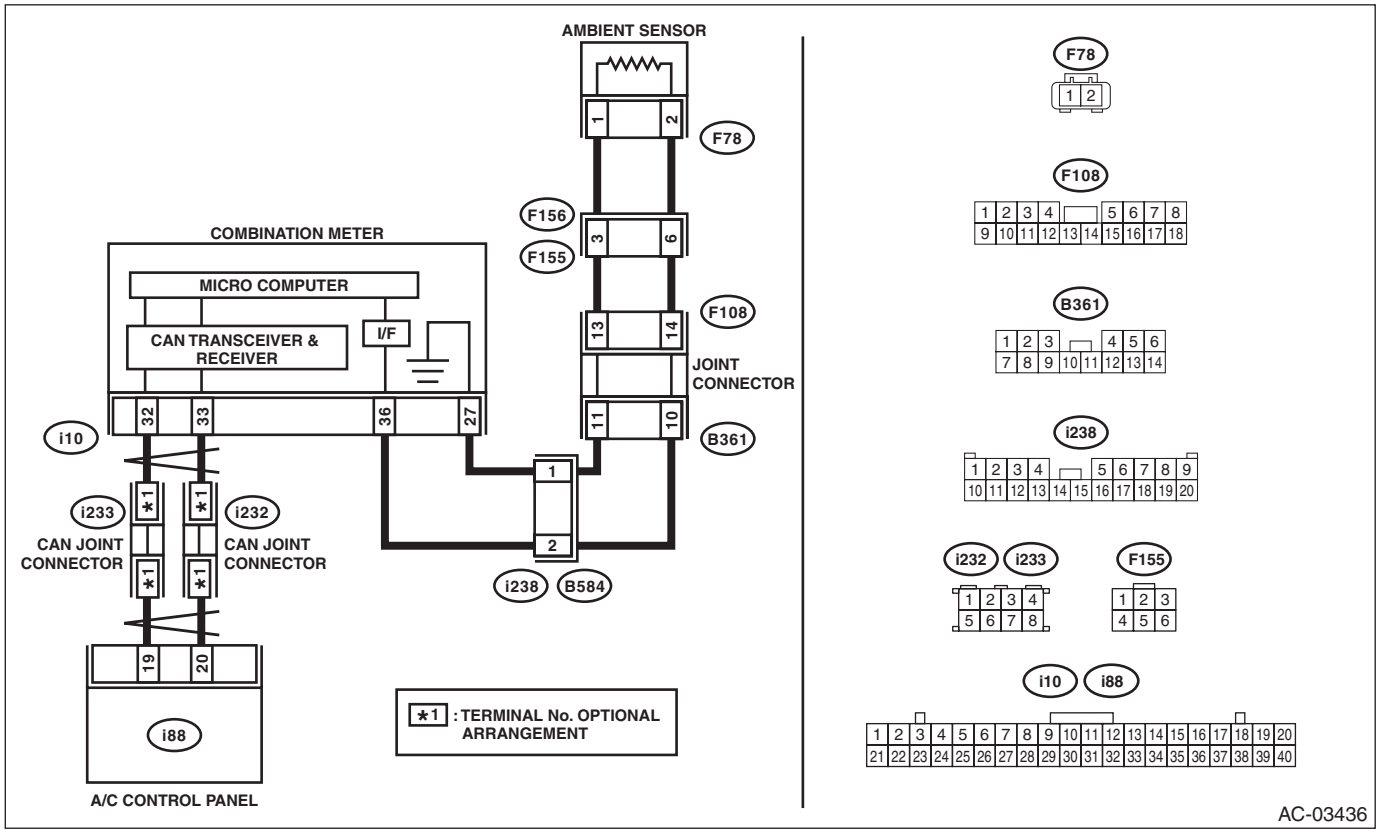
DTC DETECTING CONDITION:
Ambient sensor circuit is open.
TROUBLE SYMPTOM:
Ambient temperature is falsely recognized, and the compartment temperature is adjusted.
WIRING DIAGRAM:
- Gasoline engine model

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.>



• HEV model

Air conditioning system <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



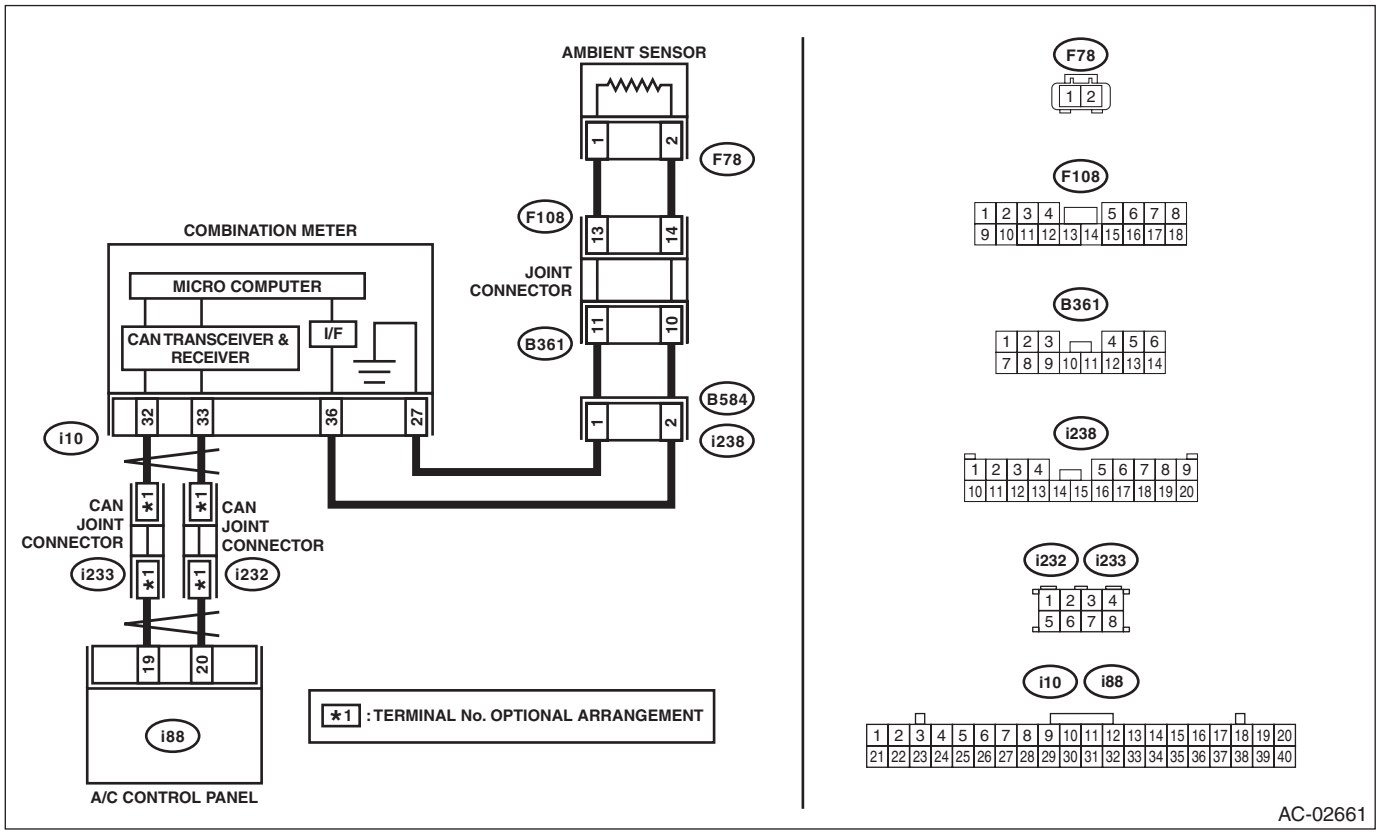
Step		Check	Yes	No
1	**CHECK AMBIENT SENSOR.** Perform the inspection of ambient sensor unit. <Ref. to AC-80, INSPECTION, Ambient Sensor.>	Is the sensor normal?	Go to step **2**.	Replace the ambient sensor. <Ref. to AC-77, REMOVAL, Ambient Sensor.>
2	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(F78) No. 2 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>	Go to step **3**.
3	**CHECK COMBINATION METER OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Pull out the combination meter. 3) Disconnect the connector from the combination meter. 4) Turn the ignition switch to ON. 5) Measure the voltage between the combination meter connector terminals. ***Connector & terminal*** ***(i10) No. 36 (+) — No. 27 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the connector from the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(F78) No. 1 — (i10) No. 27:*** ***(F78) No. 2 — (i10) No. 36:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK FOR POOR CONTACT.** Check for poor contact of combination meter connector.	Is there poor contact of connector?	Repair the connector.	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>

D: DTC B1433 OUTSIDE AIR SENSOR CIRCUIT SHORT-CIRCUIT (AIR-CONDITIONING)

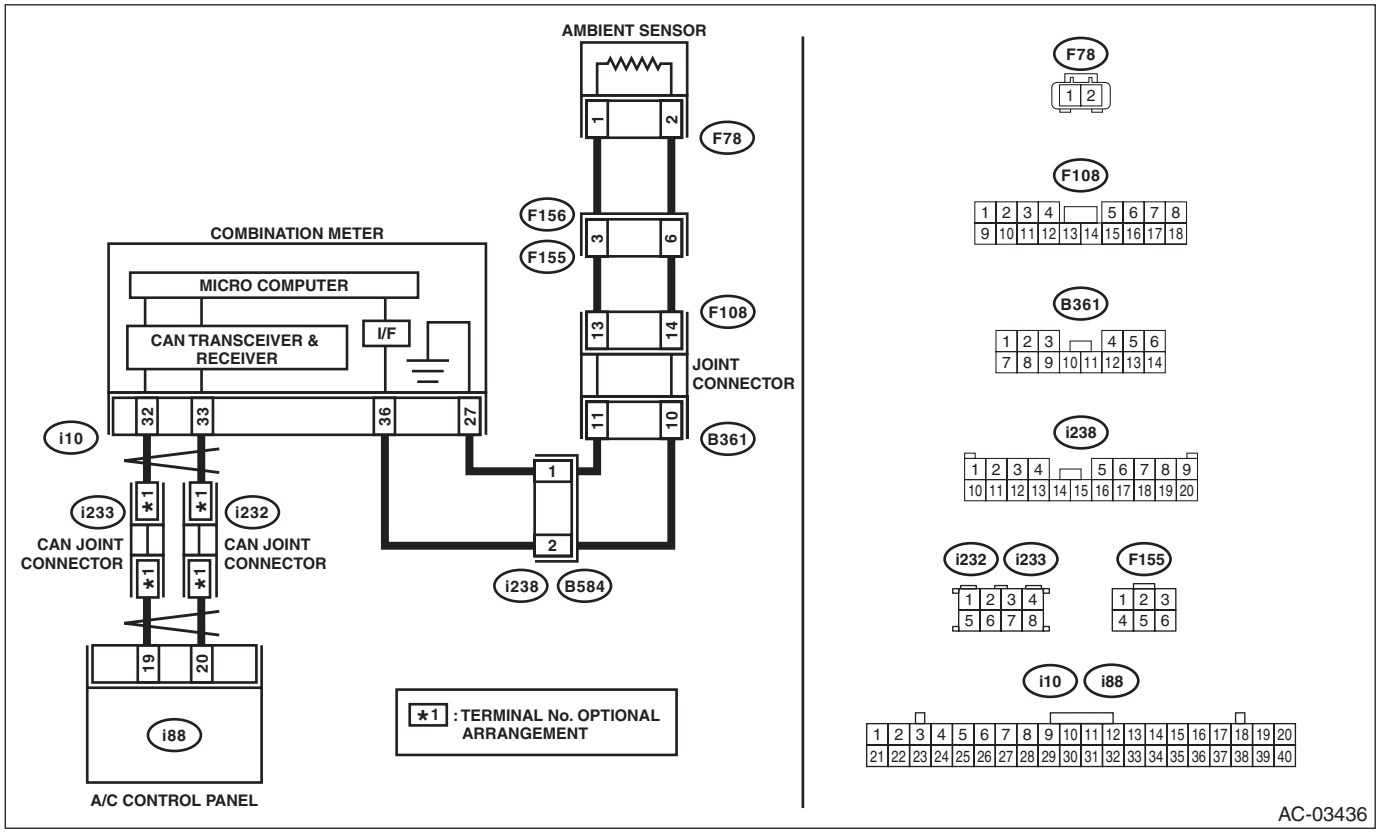
DTC DETECTING CONDITION:
Ambient sensor circuit is shorted.
TROUBLE SYMPTOM:
Ambient temperature is falsely recognized, and the compartment temperature is adjusted.
WIRING DIAGRAM:
- Gasoline engine model

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.>



- HEV model

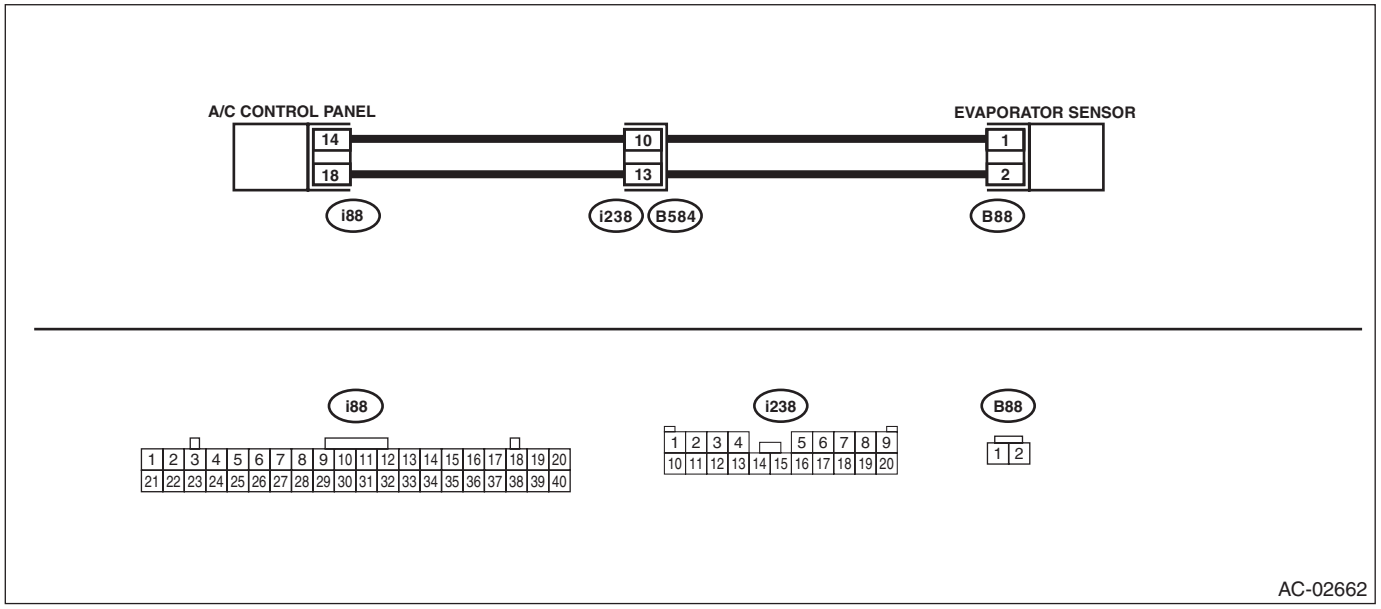
Air conditioning system <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK AMBIENT SENSOR.** Perform the inspection of ambient sensor unit. <Ref. to AC-80, INSPECTION, Ambient Sensor.>	Is the sensor normal?	Go to step **2**.	Replace the ambient sensor. <Ref. to AC-77, REMOVAL, Ambient Sensor.>
2	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(F78) No. 2 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>	Go to step **3**.
3	**CHECK COMBINATION METER OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Pull out the combination meter. 3) Disconnect the connector from the combination meter. 4) Turn the ignition switch to ON. 5) Measure the voltage between the combination meter connector terminals. ***Connector & terminal*** ***(i10) No. 36 (+) — No. 27 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>
4	**CHECK HARNESS.** 1) Disconnect the connector from the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(F78) No. 1 — (F78) No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>

E: DTC B1434 AMBIENT TEMPERATURE SENSOR CIRCUIT WIRE BREAK

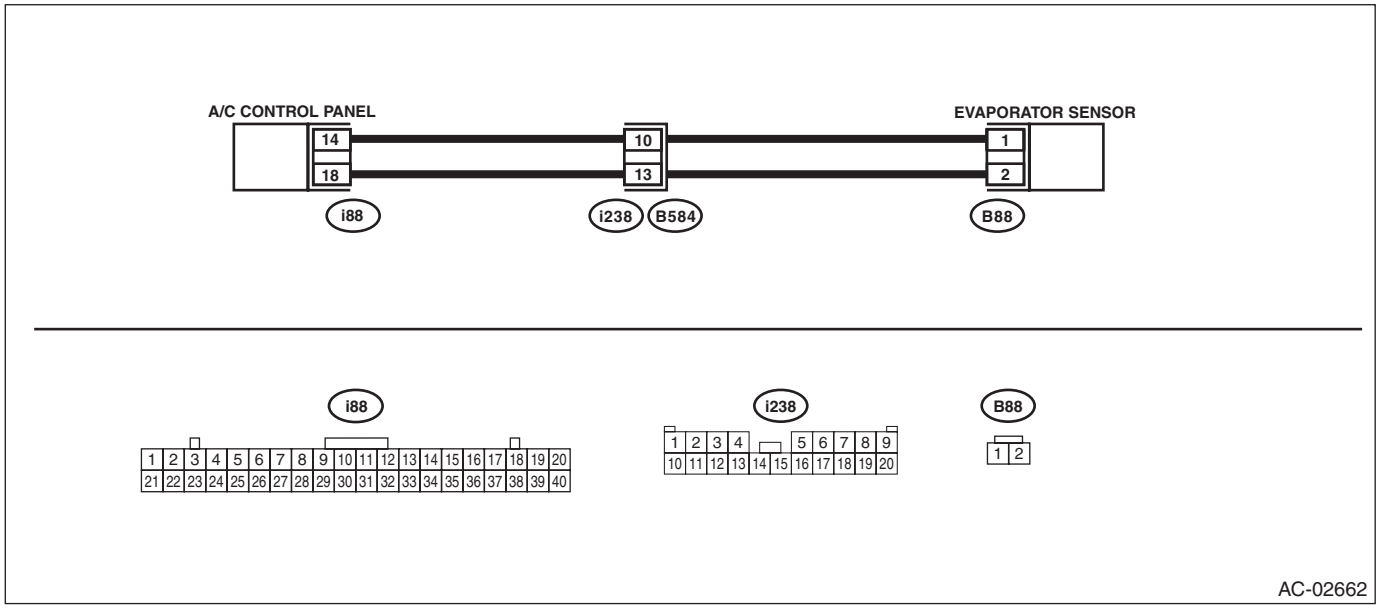
DTC DETECTING CONDITION:
Evaporator sensor circuit is open.
TROUBLE SYMPTOM:
Evaporator temperature is falsely recognized as low, and the compartment temperature is adjusted.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, 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 B1434 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 evaporator sensor connector (B88). 3) Read the DTC using Subaru Select Monitor.	Is B1435 displayed?	Replace the evaporator sensor. <Ref. to AC-63, 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*** ***(B88) 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 the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B88) No. 1 — (i88) No. 18:*** ***(B88) No. 2 — (i88) No. 14:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the open circuit of harness.

F: DTC B1435 EVAPORATOR SENSOR CIRCUIT SHORT-CIRCUIT

DTC DETECTING CONDITION:
Evaporator sensor circuit is shorted.
TROUBLE SYMPTOM:
Evaporator temperature is falsely recognized as high, and the compartment temperature is adjusted.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, 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 B1435 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 using Subaru Select Monitor.	Is B1434 displayed?	Replace the evaporator sensor. <Ref. to AC-63, 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 (B88) No. 2 (+) — No. 1 (–):***	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 the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal (B88) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

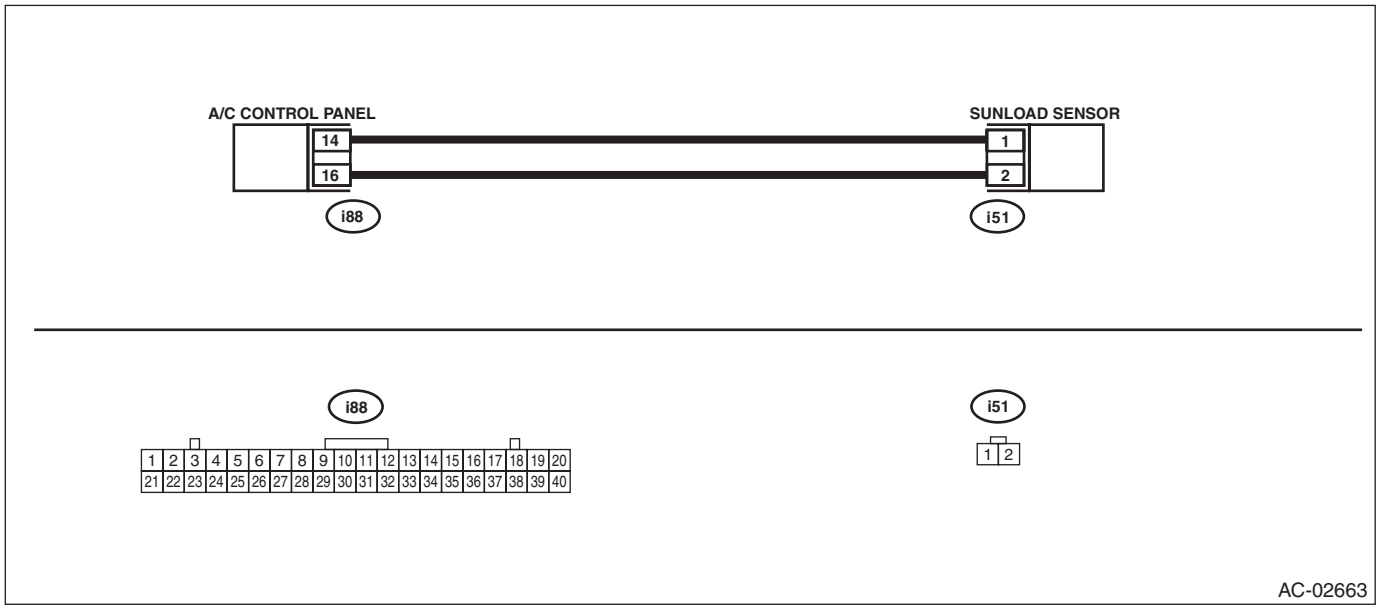
G: DTC B14A1 SUNLOAD SENSOR CIRCUIT OPEN

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.

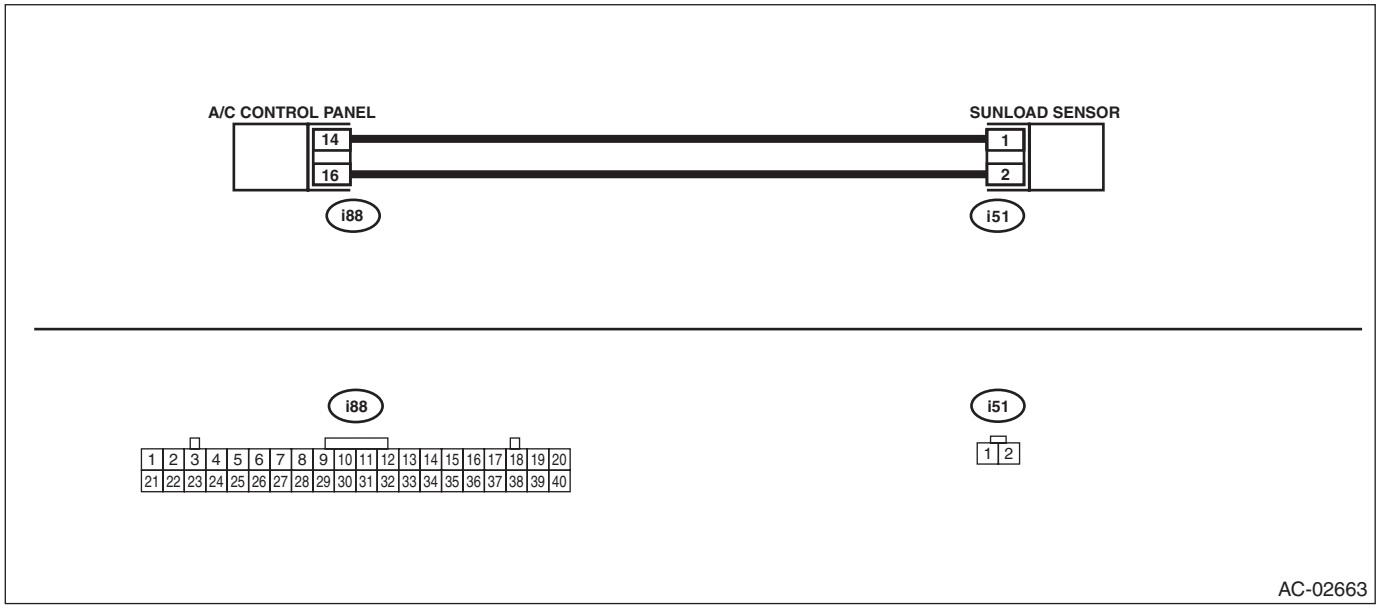
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14A1 displayed?	Go to step **2**.	Check the connection of the sunload sensor circuit.
2	**CHECK SUNLOAD SENSOR.** 1) Disconnect the sunload sensor. 2) Short the connector. 3) Read the DTC using Subaru Select Monitor.	Is B14A2 displayed?	Replace the sunload sensor. <Ref. to AC-81, 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*** ***(i51) No. 2 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **4**.	Repair or replace the open circuit of the harness.
4	**CHECK HARNESS.** 1) Disconnect the connector from the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i51) No. 1 — (i88) No. 14:*** ***(i51) No. 1 — (i88) No. 16:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the short circuit of the harness.

H: DTC B14A2 SUNLOAD SENSOR CIRCUIT SHORT

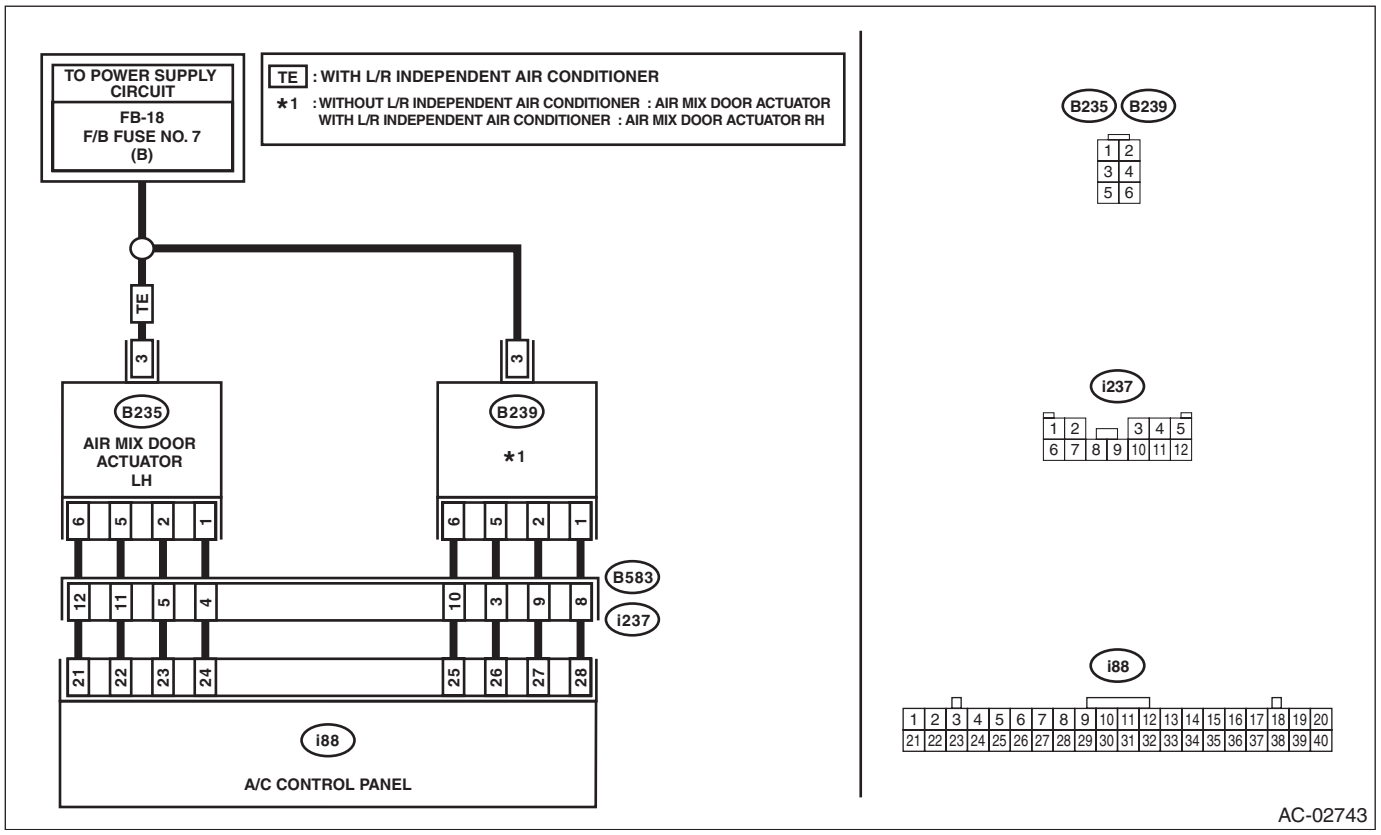
DTC DETECTING CONDITION:
Sunload sensor circuit is shorted.
TROUBLE SYMPTOM:
Operation is performed as no sunload.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14A2 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 using Subaru Select Monitor.	Is B14A1 displayed?	Replace the sunload sensor. <Ref. to AC-81, 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*** ***(i51) No. 2 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Check the connection of the sunload sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i51) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

I: DTC B14E1 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT WIRE BREAK (DRIVER'S SEAT)

DTC DETECTING CONDITION:
Air mix door actuator stepping motor circuit is open.
TROUBLE SYMPTOM:
Temperature cannot be adjusted.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

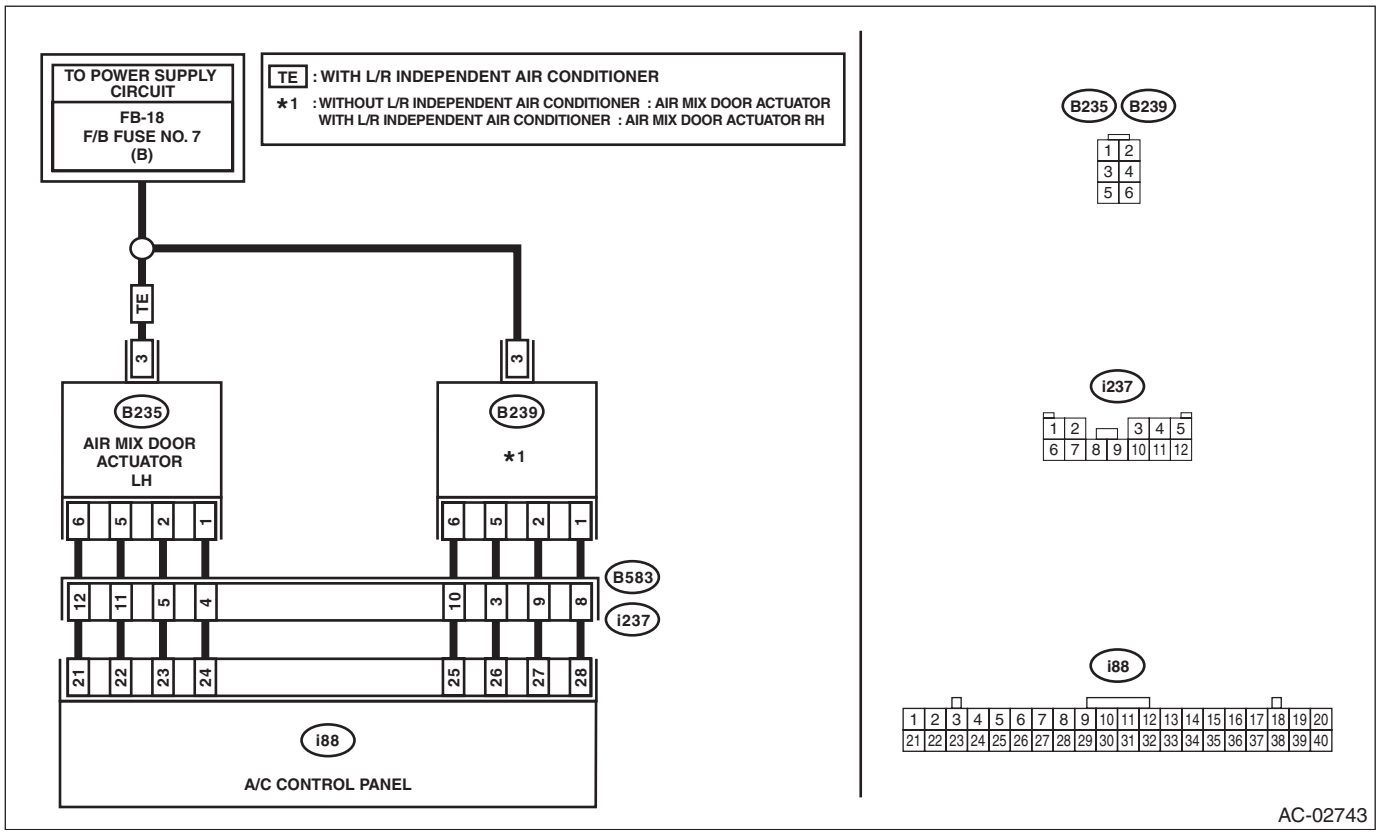


Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E1 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the air mix door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between the air mix door actuator connector terminal and chassis ground. ***Connector & terminal*** ***Without left/right independent air conditioning function*** ***(B239) No. 3 (+) — Chassis ground (–):*** ***With left/right independent air conditioning function*** ***(B235) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 10 V or more?	Go to step **3**.	Check the DC power supply circuit.

	Step	Check	Yes	No
3	**CHECK AIR MIX DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between air mix door actuator terminals using a tester. ***Connector & terminal*** ***Without left/right independent air conditioning function*** ***(B239) No. 3 — No. 1:*** ***(B239) No. 3 — No. 2:*** ***(B239) No. 3 — No. 5:*** ***(B239) No. 3 — No. 6:*** ***With left/right independent air conditioning function*** ***(B235) No. 3 — No. 1:*** ***(B235) No. 3 — No. 2:*** ***(B235) No. 3 — No. 5:*** ***(B235) No. 3 — No. 6:***	Is the resistance 80 — 100 Ω?	Go to step **4**.	Replace the actuator. <Ref. to AC-102, REMOVAL, Air Mix Door Actuator.>
4	**CHECK HARNESS BETWEEN A/C CONTROL PANEL AND AIR MIX DOOR ACTUATOR.** 1) Disconnect the A/C control panel connector. 2) Measure the resistance between A/C control panel and air mix door actuator connector. ***Connector & terminal*** ***Without left/right independent air conditioning function*** ***(B239) No. 1 — (i88) No. 28:*** ***(B239) No. 2 — (i88) No. 27:*** ***(B239) No. 5 — (i88) No. 26:*** ***(B239) No. 6 — (i88) No. 25:*** ***With left/right independent air conditioning function*** ***(B235) No. 1 — (i88) No. 24:*** ***(B235) No. 2 — (i88) No. 23:*** ***(B235) No. 5 — (i88) No. 22:*** ***(B235) No. 6 — (i88) No. 21:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the open circuit of harness.

J: DTC B14E2 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT SHORT-CIRCUIT (DRIVER'S SEAT)

DTC DETECTING CONDITION:
Air mix door actuator stepping motor circuit is shorted.
TROUBLE SYMPTOM:
Temperature cannot be adjusted.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

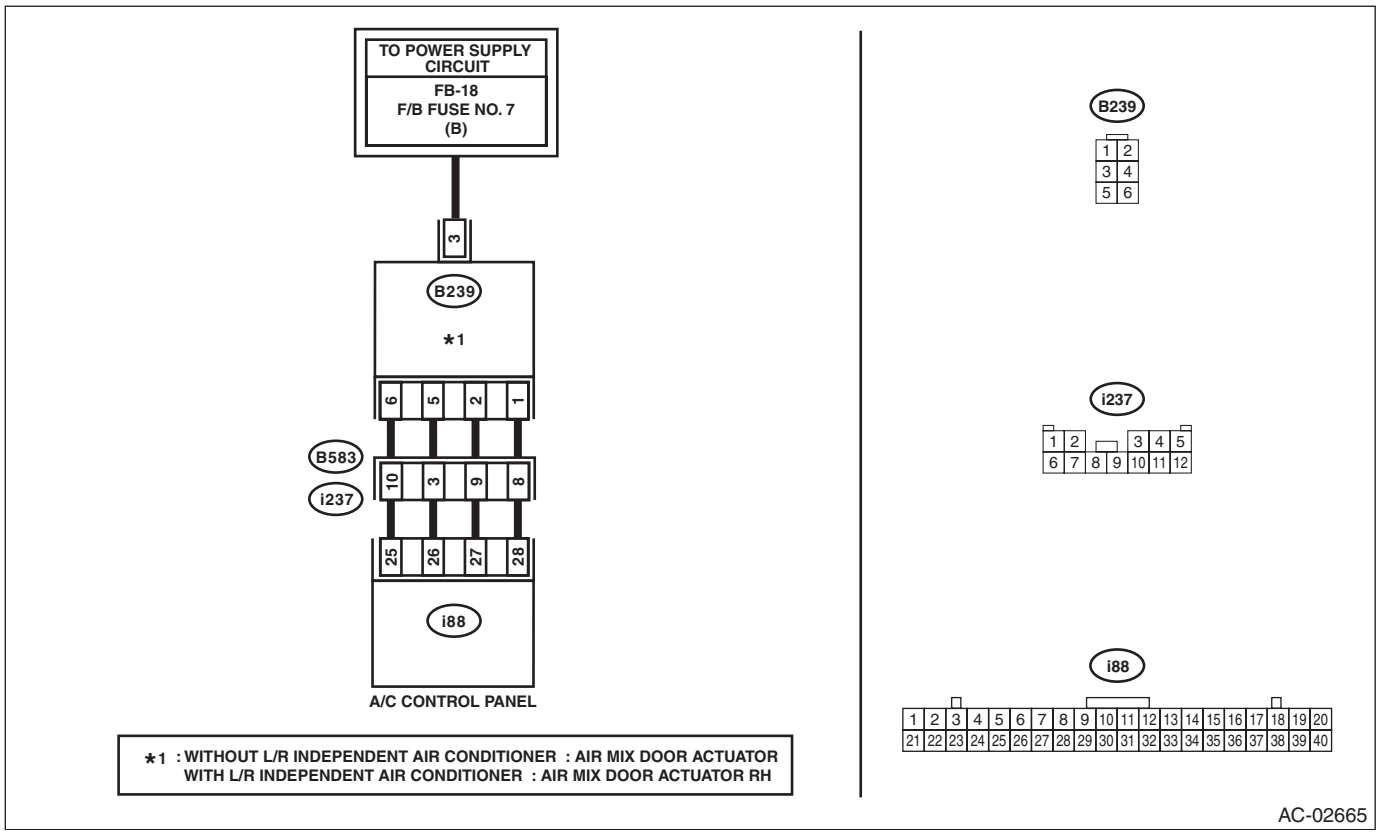


Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E2 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK POWER SUPPLY OF AIR MIX DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the air mix door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between the air mix door actuator connector terminal and chassis ground. ***Connector & terminal*** ***Without left/right independent air conditioning function*** ***(B239) No. 3 (+) — Chassis ground (–):*** ***With left/right independent air conditioning function*** ***(B235) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 10 V or more?	Go to step **3**.	Check the DC power supply circuit.

	Step	Check	Yes	No
3	**CHECK AIR MIX DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between air mix door actuator terminals using a tester. ***Connector & terminal*** ***Without left/right independent air conditioning function*** ***(B239) No. 3 — No. 1:*** ***(B239) No. 3 — No. 2:*** ***(B239) No. 3 — No. 5:*** ***(B239) No. 3 — No. 6:*** ***With left/right independent air conditioning function*** ***(B235) No. 3 — No. 1:*** ***(B235) No. 3 — No. 2:*** ***(B235) No. 3 — No. 5:*** ***(B235) No. 3 — No. 6:***	Is the resistance 80 — 100 Ω?	Go to step **4**.	Replace the actuator. <Ref. to AC-102, REMOVAL, Air Mix Door Actuator.>
4	**CHECK HARNESS BETWEEN A/C CONTROL PANEL AND AIR MIX DOOR ACTUATOR.** 1) Disconnect the A/C control panel connector. 2) Measure the voltage between air mix door actuator connector and chassis ground. ***Connector & terminal*** ***Without left/right independent air conditioning function*** ***(B239) No. 1 (+) — Chassis ground (–):*** ***(B239) No. 2 (+) — Chassis ground (–):*** ***(B239) No. 5 (+) — Chassis ground (–):*** ***(B239) No. 6 (+) — Chassis ground (–):*** ***With left/right independent air conditioning function*** ***(B235) No. 1 (+) — Chassis ground (–):*** ***(B235) No. 2 (+) — Chassis ground (–):*** ***(B235) No. 5 (+) — Chassis ground (–):*** ***(B235) No. 6 (+) — Chassis ground (–):***	Is there any voltage?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

K: DTC B14E3 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT WIRE BREAK (PASSENGER'S SEAT)

DTC DETECTING CONDITION:
Air mix door actuator stepping motor circuit is open.
TROUBLE SYMPTOM:
Temperature cannot be adjusted.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

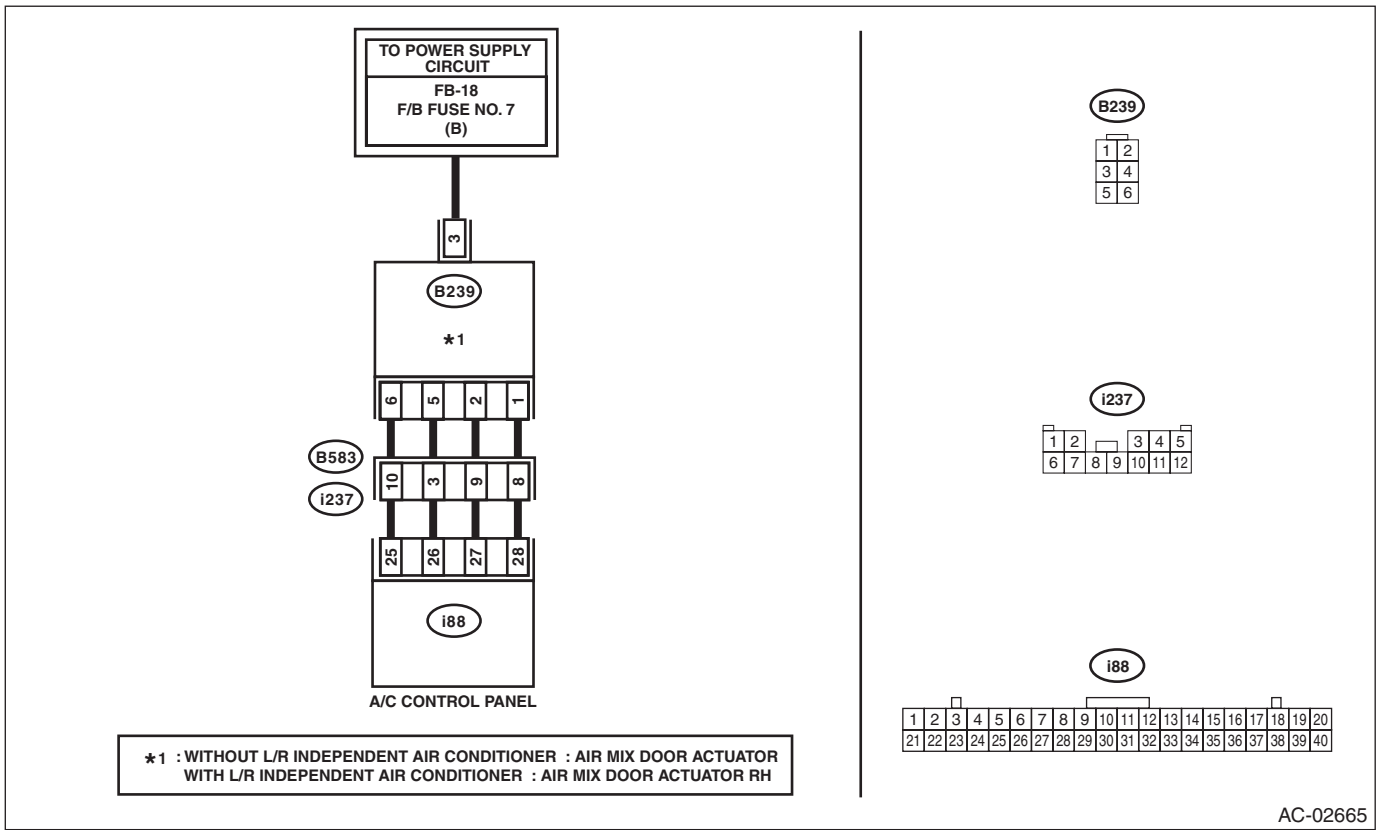


Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E3 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the air mix door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between the air mix door actuator connector terminal and chassis ground. ***Connector & terminal*** ***(B239) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 10 V or more?	Go to step **3**.	Check the DC power supply circuit.

	Step	Check	Yes	No
3	**CHECK AIR MIX DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between air mix door actuator terminals using a tester. ***Connector & terminal*** ***(B239) No. 3 — No. 1:*** ***(B239) No. 3 — No. 2:*** ***(B239) No. 3 — No. 5:*** ***(B239) No. 3 — No. 6:***	Is the resistance 80 — 100 Ω?	Go to step **4**.	Replace the actuator. <Ref. to AC-102, REMOVAL, Air Mix Door Actuator.>
4	**CHECK HARNESS BETWEEN A/C CONTROL PANEL AND AIR MIX DOOR ACTUATOR.** 1) Disconnect the A/C control panel connector. 2) Measure the resistance between A/C control panel and air mix door actuator connector. ***Connector & terminal*** ***(B239) No. 1 — (i88) No. 28:*** ***(B239) No. 2 — (i88) No. 27:*** ***(B239) No. 5 — (i88) No. 26:*** ***(B239) No. 6 — (i88) No. 25:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the open circuit of harness.

L: DTC B14E4 AIR MIX DOOR ACTUATOR STEPPING MOTOR CIRCUIT SHORT-CIRCUIT (PASSENGER'S SEAT)

DTC DETECTING CONDITION:
Air mix door actuator stepping motor circuit is shorted.
TROUBLE SYMPTOM:
Temperature cannot be adjusted.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

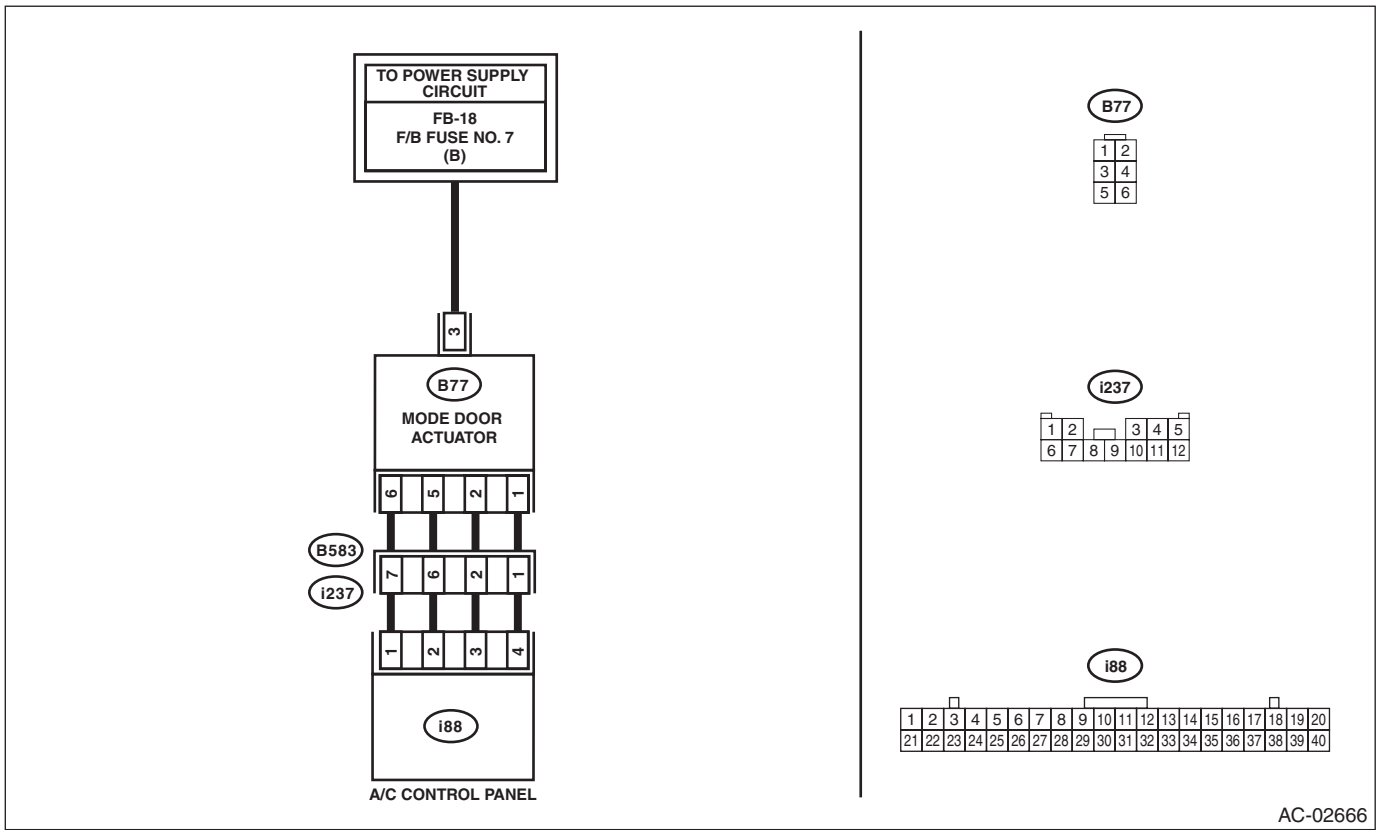


	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E4 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK POWER SUPPLY OF AIR MIX DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the air mix door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between the air mix door actuator connector terminal and chassis ground. ***Connector & terminal*** ***(B239) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 10 V or more?	Go to step **3**.	Check the DC power supply circuit.

	Step	Check	Yes	No
3	**CHECK AIR MIX DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between air mix door actuator terminals using a tester. ***Connector & terminal*** ***(B239) No. 3 — No. 1:*** ***(B239) No. 3 — No. 2:*** ***(B239) No. 3 — No. 5:*** ***(B239) No. 3 — No. 6:***	Is the resistance 80 — 100 Ω?	Go to step **4**.	Replace the actuator. <Ref. to AC-102, REMOVAL, Air Mix Door Actuator.>
4	**CHECK HARNESS BETWEEN A/C CONTROL PANEL AND AIR MIX DOOR ACTUATOR.** 1) Disconnect the A/C control panel connector. 2) Measure the voltage between air mix door actuator connector and chassis ground. ***Connector & terminal*** ***(B239) No. 1 (+) — Chassis ground (–):*** ***(B239) No. 2 (+) — Chassis ground (–):*** ***(B239) No. 5 (+) — Chassis ground (–):*** ***(B239) No. 6 (+) — Chassis ground (–):***	Is there any voltage?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

M: DTC B14E5 MODE DOOR ACTUATOR STEPPING MOTOR CIRCUIT WIRE BREAK

DTC DETECTING CONDITION:
Mode door actuator stepping motor circuit is open.
TROUBLE SYMPTOM:
Vent does not change.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

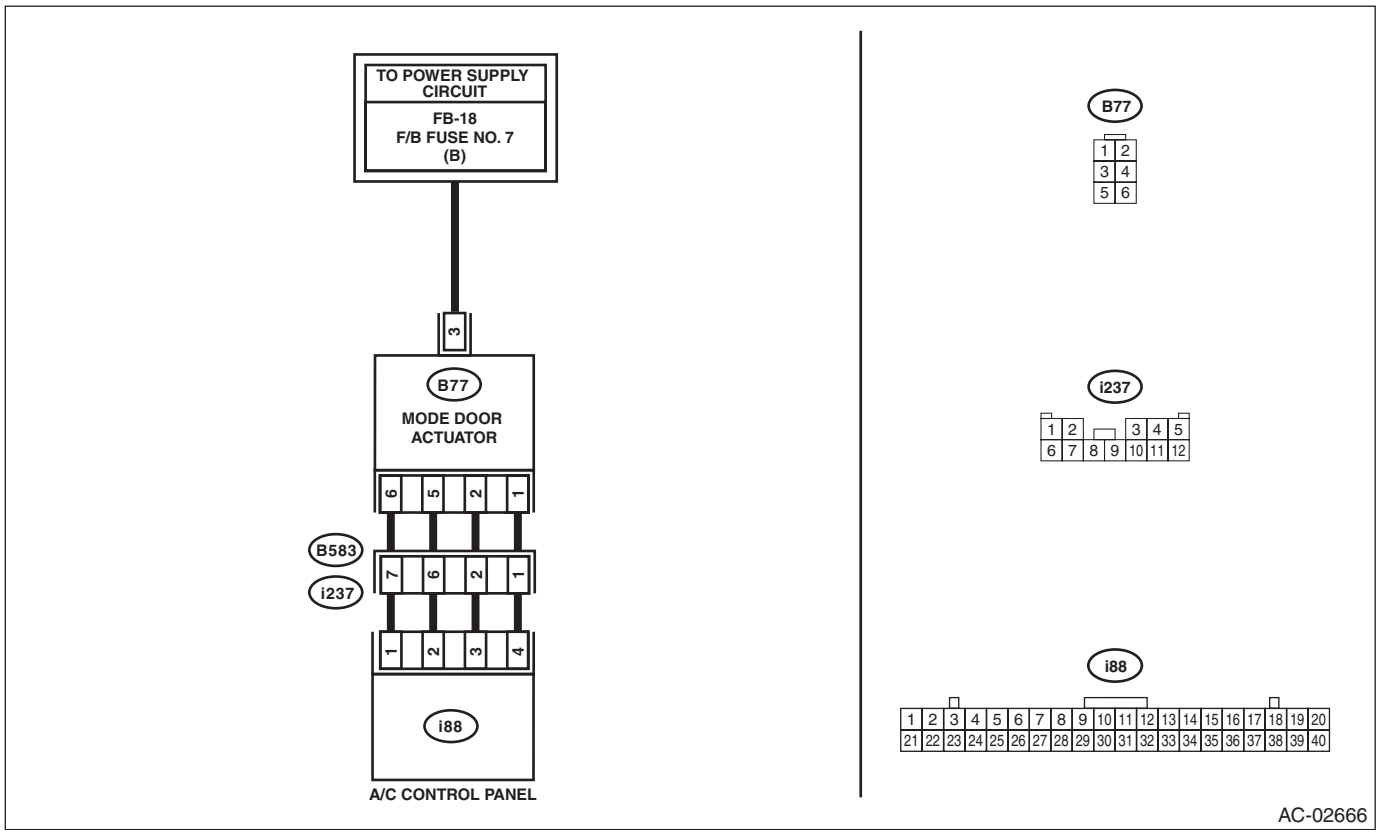


Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E5 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the mode door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between the mode door actuator connector terminal and chassis ground. ***Connector & terminal*** ***(B77) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 10 V or more?	Go to step **3**.	Check the DC power supply circuit.

	Step	Check	Yes	No
3	**CHECK AIR MIX DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between mode door actuator terminals using a tester. ***Connector & terminal*** ***(B77) No. 3 — No. 1:*** ***(B77) No. 3 — No. 2:*** ***(B77) No. 3 — No. 5:*** ***(B77) No. 3 — No. 6:***	Is the resistance 80 — 100 Ω?	Go to step **4**.	Replace the actuator. <Ref. to AC-101, REMOVAL, Mode Door Actuator.>
4	**CHECK HARNESS BETWEEN A/C CONTROL PANEL AND MODE DOOR ACTUATOR.** 1) Disconnect the A/C control panel connector. 2) Measure the resistance between A/C control panel and air mix door actuator connector. ***Connector & terminal*** ***(B77) No. 1 — (i88) No. 4:*** ***(B77) No. 2 — (i88) No. 3:*** ***(B77) No. 5 — (i88) No. 2:*** ***(B77) No. 6 — (i88) No. 1:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the open circuit of harness.

N: DTC B14E6 MODE DOOR ACTUATOR STEPPING MOTOR CIRCUIT SHORT-CIRCUIT

DTC DETECTING CONDITION:
Mode door actuator stepping motor circuit is shorted.
TROUBLE SYMPTOM:
Vent does not change.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

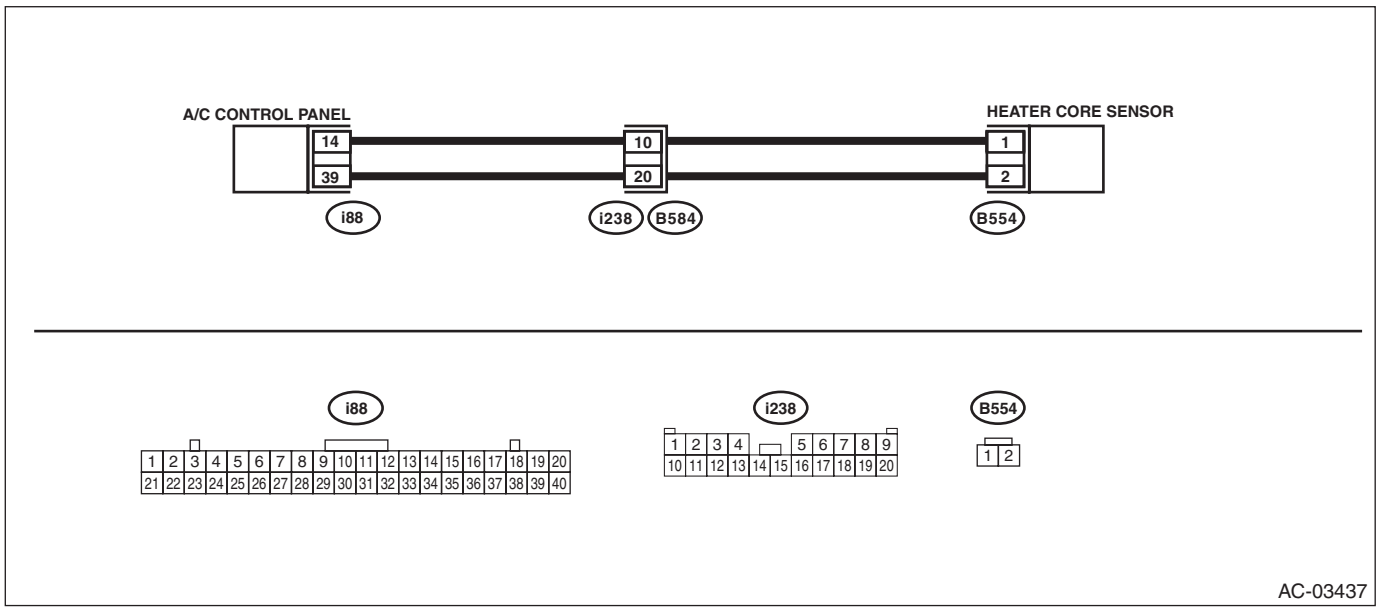


Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E6 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the mode door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between the mode door actuator connector terminal and chassis ground. ***Connector & terminal*** ***(B77) No. 3 (+) — Chassis ground (–):***	Is the voltage approx. 10 V or more?	Go to step **3**.	Check the DC power supply circuit.

	Step	Check	Yes	No
3	**CHECK MODE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between mode door actuator terminals using a tester. ***Connector & terminal*** ***(B77) No. 3 — No. 1:*** ***(B77) No. 3 — No. 2:*** ***(B77) No. 3 — No. 5:*** ***(B77) No. 3 — No. 6:***	Is the resistance 80 — 100 Ω?	Go to step **4**.	Replace the actuator. <Ref. to AC-101, REMOVAL, Mode Door Actuator.>
4	**CHECK HARNESS BETWEEN A/C CONTROL PANEL AND MODE DOOR ACTUATOR.** 1) Disconnect the A/C control panel connector. 2) Measure the voltage between mode door actuator connector and chassis ground. ***Connector & terminal*** ***(B77) No. 1 (+) — Chassis ground (–):*** ***(B77) No. 2 (+) — Chassis ground (–):*** ***(B77) No. 5 (+) — Chassis ground (–):*** ***(B77) No. 6 (+) — Chassis ground (–):***	Is there any voltage?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

O: DTC B14E7 HEATER CORE REAR SENSOR CIRCUIT WIRE BREAK

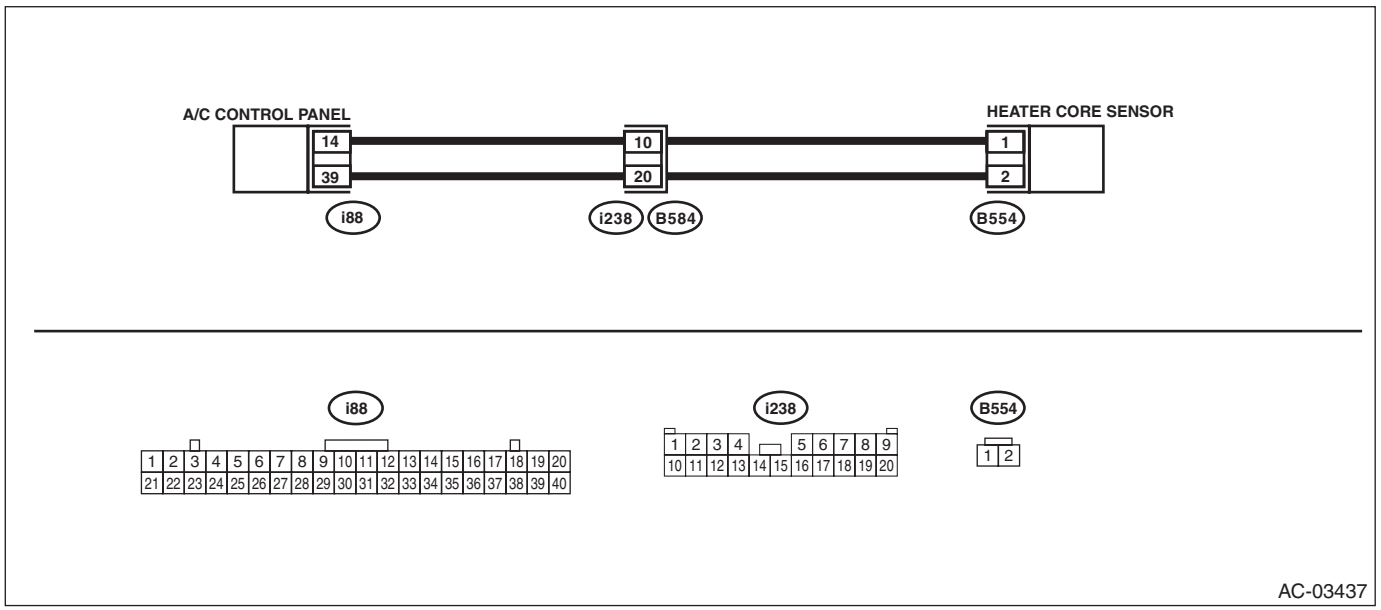
DTC DETECTING CONDITION:
Heater core sensor circuit is open.
TROUBLE SYMPTOM:
Proper outlet air temperature cannot be kept during Auto Start Stop.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E7 displayed?	Go to step **2**.	Check the connection of the heater core sensor circuit.
2	**CHECK HEATER CORE SENSOR.** 1) Disconnect the heater core sensor. 2) Short the heater core sensor connector (B554). 3) Read the DTC using Subaru Select Monitor.	Is B14E8 displayed?	Replace the heater core sensor. <Ref. to AC-94, REMOVAL, Heater Core Sensor.>	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*** ***(B554) 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 the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B554) No. 2 — (i88) No. 14:*** ***(B554) No. 2 — (i88) No. 39:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the open circuit of harness.

P: DTC B14E8 HEATER CORE REAR SENSOR CIRCUIT SHORT-CIRCUIT

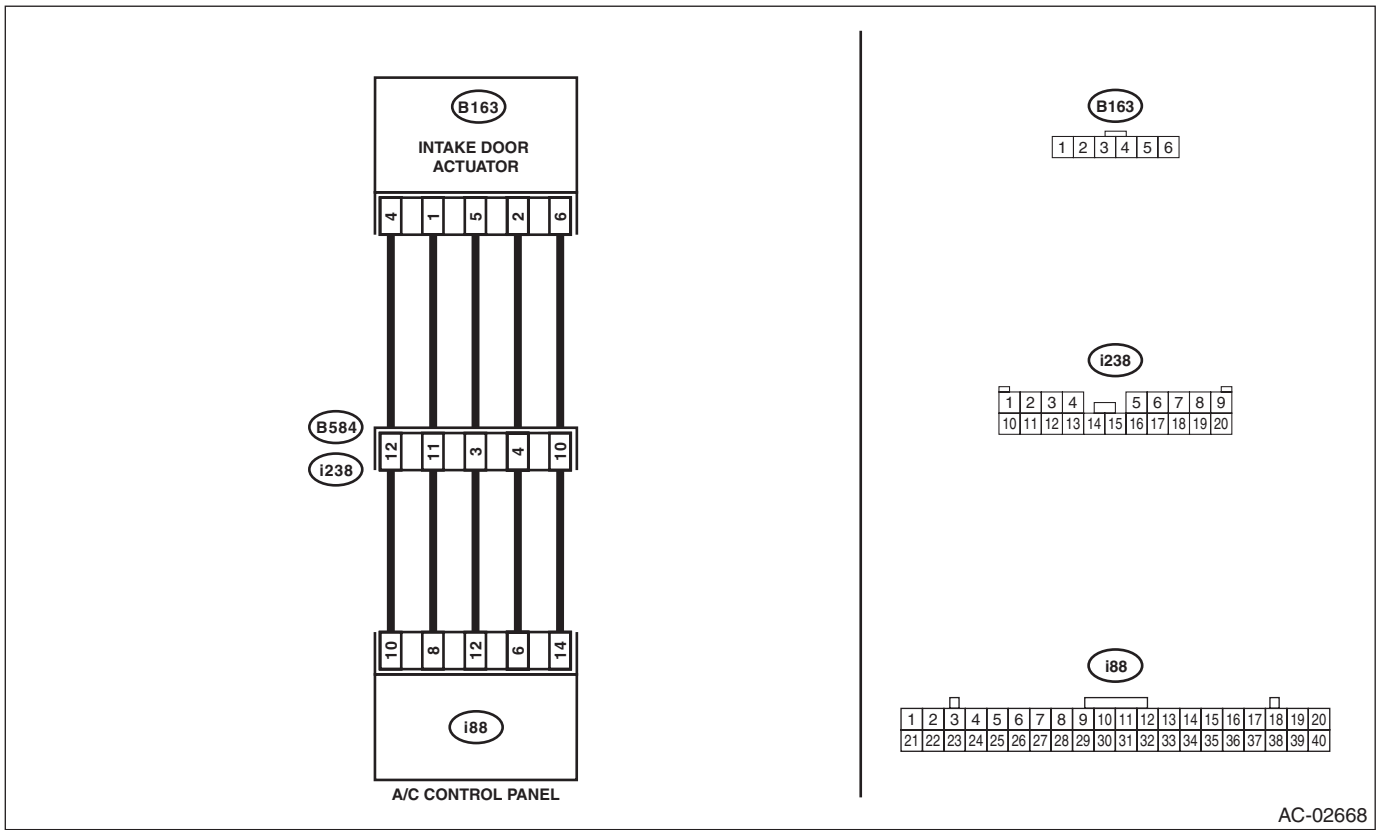
DTC DETECTING CONDITION:
Heater core sensor circuit is shorted.
TROUBLE SYMPTOM:
Proper outlet air temperature cannot be kept during Auto Start Stop.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E8 displayed?	Go to step **2**.	Check the connection of the heater core sensor circuit.
2	**CHECK HEATER CORE SENSOR.** 1) Disconnect the heater core sensor. 2) Read the DTC using Subaru Select Monitor.	Is B14E7 displayed?	Replace the heater core sensor. <Ref. to AC-94, REMOVAL, Heater Core Sensor.>	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*** ***(B554) No. 2 (+) — No. 1 (–):***	Is the voltage 4.5 — 5.0 V?	Check the connection of the heater core sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B554) No. 1 — No. 2:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

Q: DTC B14E9 INTAKE DOOR ACTUATOR POTENTIOMETER CIRCUIT WIRE BREAK

DTC DETECTING CONDITION:
Intake door actuator potentiometer circuit is open.
TROUBLE SYMPTOM:
FRESH/RECIRC does not operate.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

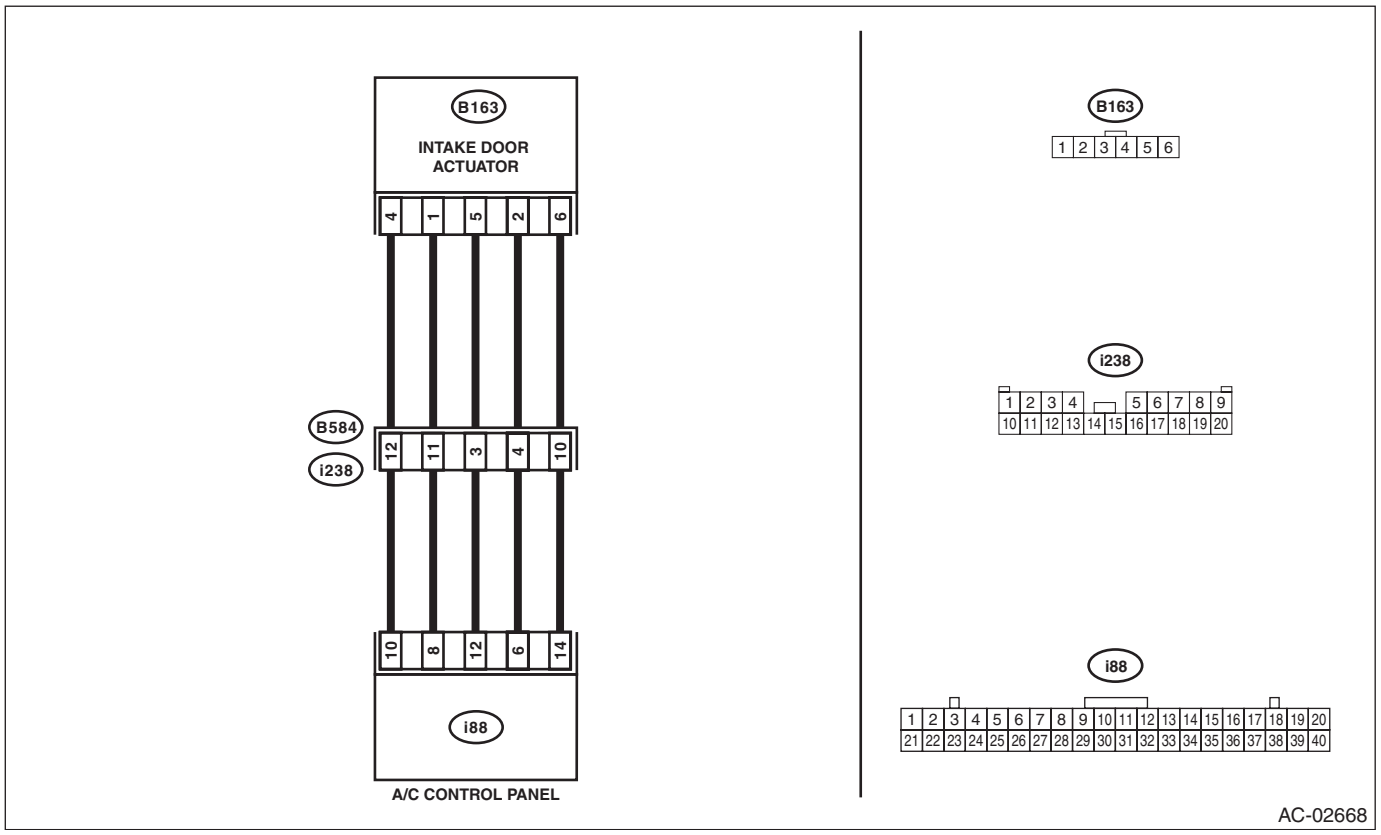


Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14E9 displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B163) No. 4 (+) — No. 6 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B163) No. 1 — (i88) No. 8:*** ***(B163) No. 2 — (i88) No. 6:*** ***(B163) No. 4 — (i88) No. 10:*** ***(B163) No. 5 — (i88) No. 12:*** ***(B163) No. 6 — (i88) No. 14:***	Is there continuity?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK ACTUATOR.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal (B163) No. 5 (+) — No. 6 (–):***	Is the voltage 0.5 — 4.5 V?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Go to step **5**.
5	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal (B163) No. 4 — No. 5:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit of the harness.	Replace the actuator. <Ref. to AC-97, REMOVAL, FRESH/RECIRC Door Actuator.>

R: DTC B14EA INTAKE DOOR ACTUATOR POTENTIOMETER CIRCUIT SHORT-CIRCUIT

DTC DETECTING CONDITION:
Intake door actuator potentiometer circuit is shorted.
TROUBLE SYMPTOM:
FRESH/RECIRC does not operate.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, 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 B14EA displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK ACTUATOR.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B163) No. 4 (+) — No. 6 (–):***	Is the voltage 4.5 — 5.0 V?	Go to step **3**.	Repair or replace the open circuit of harness.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(B163) No. 4 — (i88) No. 10:*** ***(B163) No. 5 — (i88) No. 12:*** ***(B163) No. 6 — (i88) No. 14:***	Is there continuity?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK ACTUATOR.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B163) No. 5 (+) — No. 6 (–):***	Is the voltage 0.5 — 4.5 V?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Go to step **5**.
5	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B163) No. 5 — No. 6:***	Is the resistance less than 1 Ω?	Repair or replace the short circuit of the harness.	Replace the actuator. <Ref. to AC-97, REMOVAL, FRESH/RECIRC Door Actuator.>

S: DTC B14EB INTAKE DOOR ACTUATOR LOCK

DTC DETECTING CONDITION:

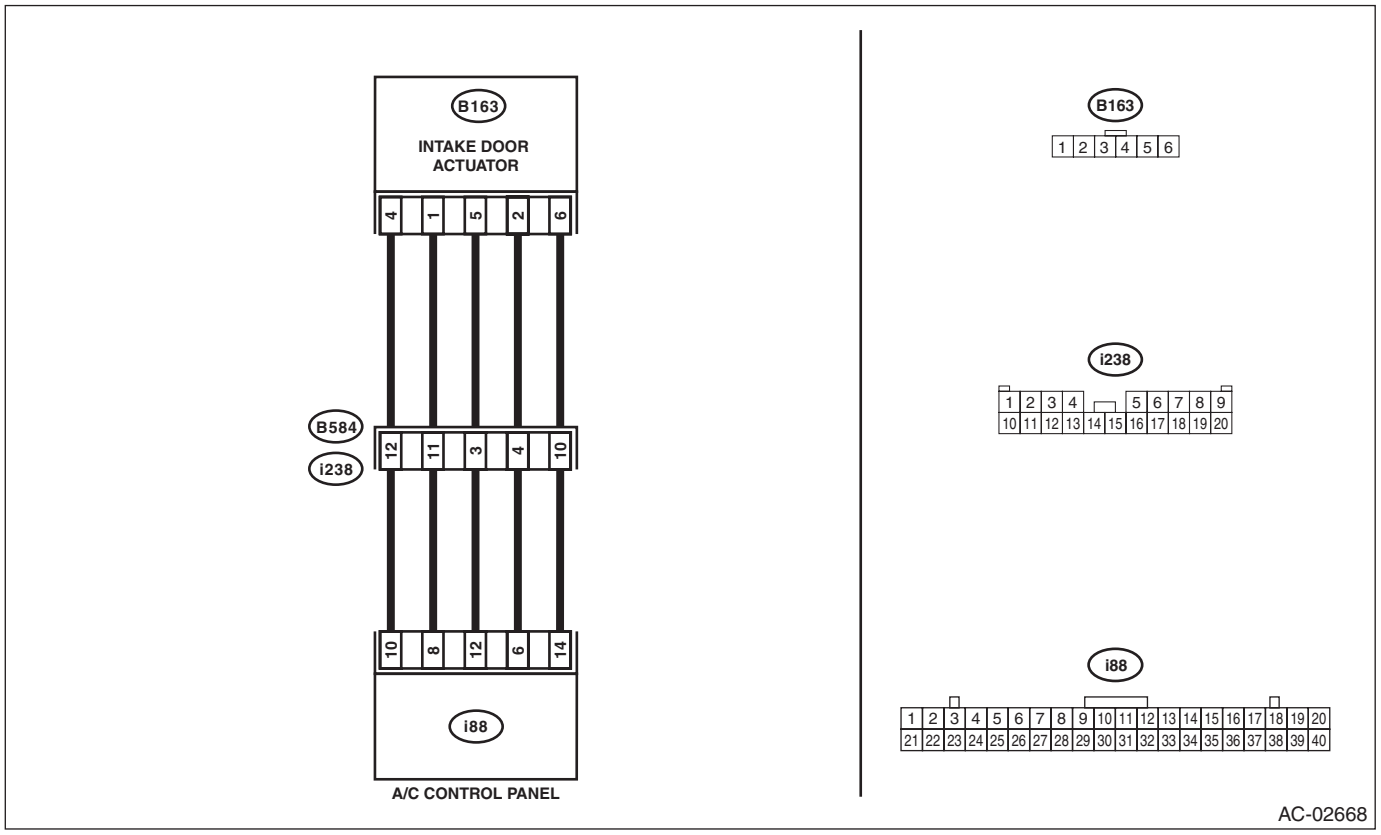
- Intake door actuator is locked.
- The potentiometer value of the actuator does not change.

TROUBLE SYMPTOM:

FRESH/RECIRC does not operate.

WIRING DIAGRAM:

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.> <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

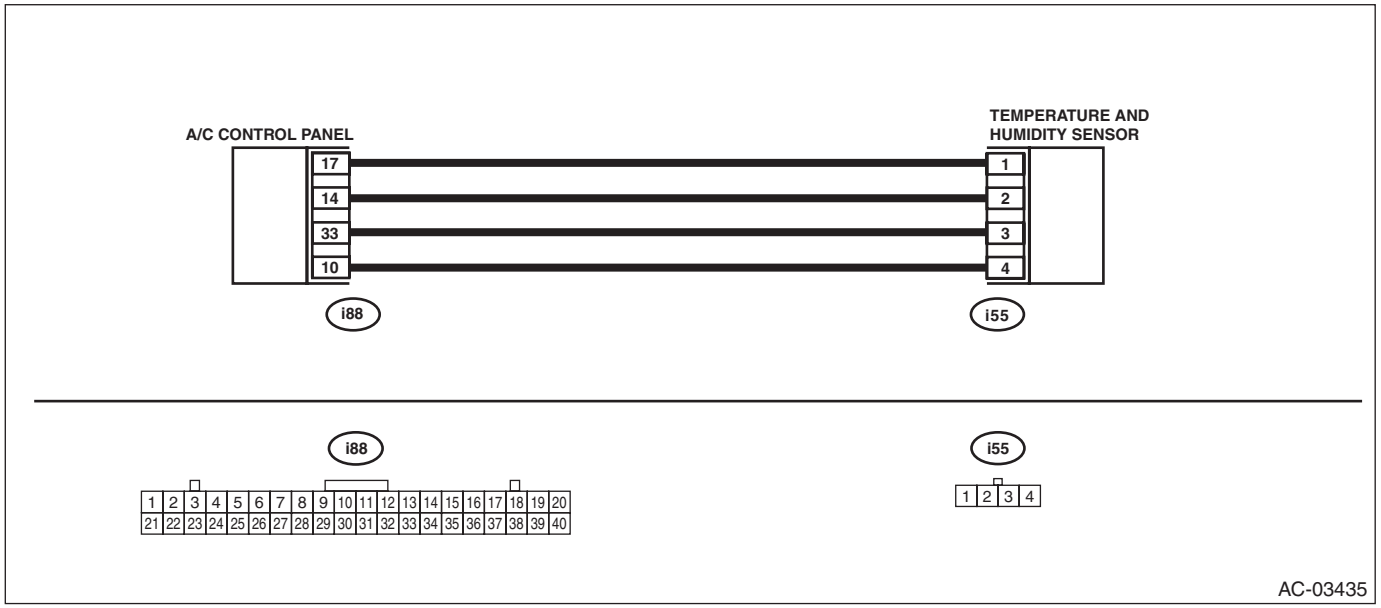


Step		Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14EB displayed?	Go to step **2**.	Repair the poor contact of connector.
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, change the setting of “Fresh/Rec Air Dr Act Trgt Open Angle” from Air Conditioning Diagnosis and perform the active test**.**	Did the actuator move to the specified target opening angle?	Intake 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. 4 (+) — No. 6 (–):***	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 the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i163) No. 1 — (i88) No. 8:*** ***(i163) No. 2 — (i88) No. 6:*** ***(i163) No. 4 — (i88) No. 10:*** ***(i163) No. 5 — (i88) No. 12:*** ***(i163) No. 6 — (i88) No. 14:***	Is there continuity?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK INTAKE DOOR ACTUATOR.** Check the intake door actuator parts.	Is the actuator normal?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Replace the actuator. <Ref. to AC-97, REMOVAL, FRESH/RECIRC Door Actuator.>

T: DTC B14EC HUMIDITY SENSOR CIRCUIT OPEN

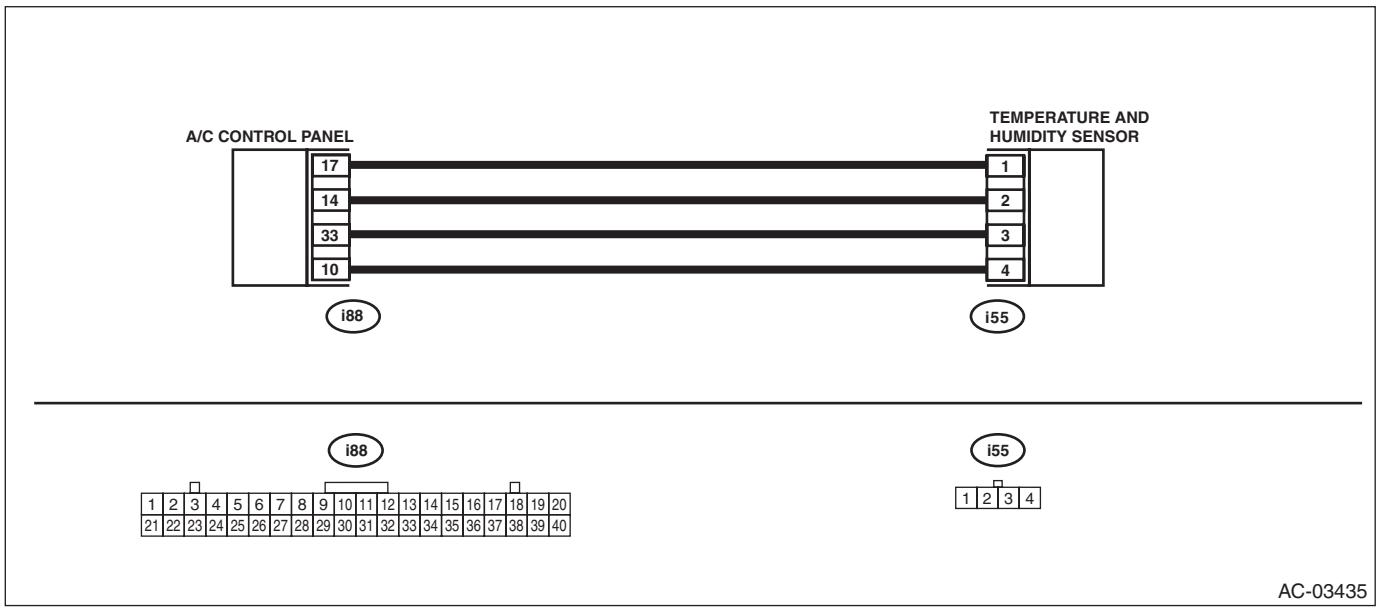
DTC DETECTING CONDITION:
Temperature and humidity sensor circuit is open.
TROUBLE SYMPTOM:
Proper outlet air temperature cannot be kept during Auto Start Stop.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



	Step	Check	Yes	No
1	**CHECK CONNECTOR.** 1) Check the condition of connector connection. 2) Read the DTC using Subaru Select Monitor.	Is B14EC displayed?	Go to step **2**.	Check the connection of the temperature and humidity sensor circuit.
2	**CHECK TEMPERATURE AND HUMIDITY SENSOR.** 1) Disconnect the temperature and humidity sensor. 2) Short the temperature and humidity sensor connector (i55). 3) Read the DTC using Subaru Select Monitor.	Is B14ED displayed?	Replace the temperature and humidity sensor. <Ref. to AC-86, REMOVAL, Temperature and Humidity Sensor.>	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*** ***(i55) No. 4 (+) — No. 3 (–):***	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 the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i55) No. 3 — (i88) No. 33:*** ***(i55) No. 4 — (i88) No. 10:***	Is there continuity?	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>	Repair or replace the open circuit of harness.

U: DTC B14ED HUMIDITY SENSOR CIRCUIT SHORT

DTC DETECTING CONDITION:
Temperature and humidity sensor circuit is shorted.
TROUBLE SYMPTOM:
Proper outlet air temperature cannot be kept during Auto Start Stop.
WIRING DIAGRAM:
Air conditioning system <Ref. to WI(HEV)-56, 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 B14ED displayed?	Go to step **2**.	Check the connection of the temperature and humidity sensor circuit.
2	**CHECK TEMPERATURE AND HUMIDITY SENSOR.** 1) Disconnect the temperature and humidity sensor. 2) Read the DTC using Subaru Select Monitor.	Is B14EC displayed?	Replace the temperature and humidity sensor. <Ref. to AC-86, REMOVAL, Temperature and Humidity Sensor.>	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*** ***(i55) No. 4 (+) — No. 3 (–):***	Is the voltage 4.5 — 5.0 V?	Check the connection of the temperature and humidity sensor circuit.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connector from the A/C control panel. 2) Using a tester, check continuity between terminals. ***Connector & terminal*** ***(i55) No. 4 — No. 3:***	Is there continuity?	Repair or replace the short circuit of the harness.	Replace the A/C control panel. <Ref. to AC-50, REMOVAL, Control Panel.>

V: DTC U0073 CONTROL MODULE COMMUNICATION BUS OFF

Detected when CAN line abnormality is detected.

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

W: DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”

Detected when CAN data is not received from engine control module (ECM).

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

X: DTC U0101 LOST COMMUNICATION WITH TCM

Detected when CAN data is not received from TCM.

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

Y: DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

Detected when CAN data is not received from VDC.

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

Z: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

This is detected when CAN signal is not received from BIU.

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

AA:DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE

This is detected when CAN signal is not received from meter.

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

AB:DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM “A”

This is detected when CAN data from engine control module (ECM) is abnormal.

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

AC:DTC U0402 INVALID DATA RECEIVED FROM TCM

This is detected when CAN data from TCM is abnormal.

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

AD:DTC U0416 INVALID DATA RECEIVED FROM VEHICLE DYNAMICS CONTROL MODULE

This is detected when CAN data from VDC is abnormal.

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

AE:DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE

This is detected when CAN data from BIU is abnormal.

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

AF:DTC U0423 INVALID DATA RECEIVED FROM INSTRUMENT PANEL CLUSTER CONTROL MODULE

This is detected when CAN data from meter is abnormal.

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

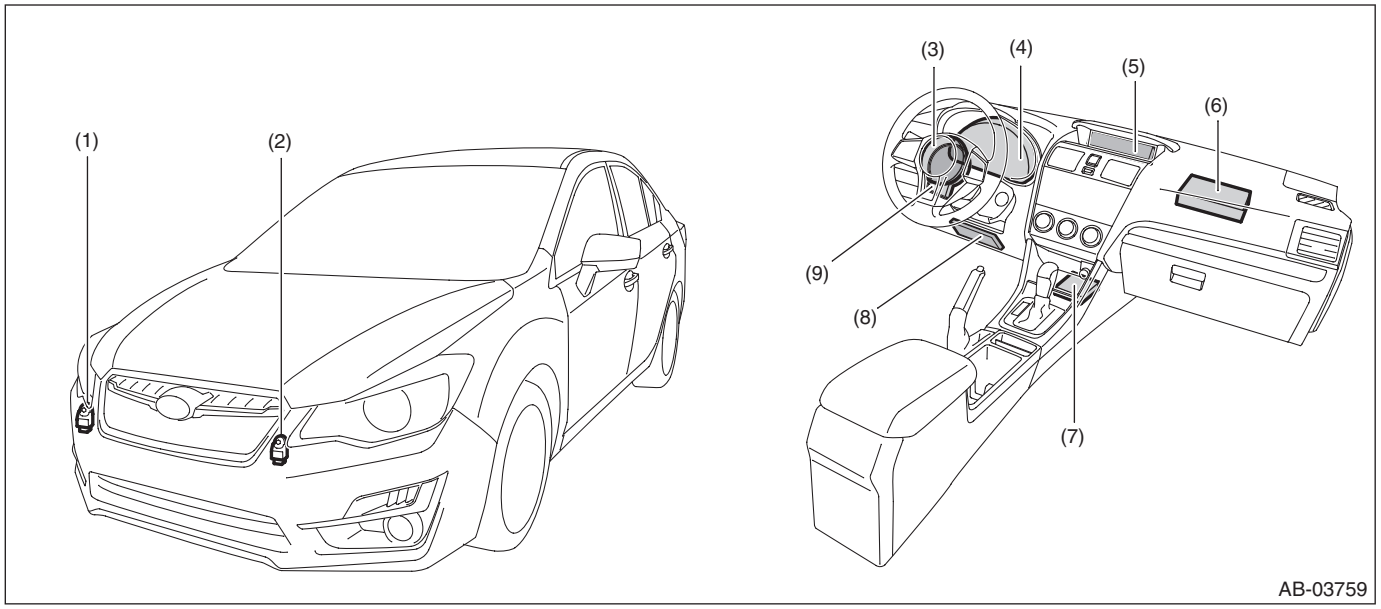
AIRBAG SYSTEM

AB

		Page
1.	General Description	2
2.	Airbag Connector	18
3.	Inspection Locations after a Collision	24
4.	Driver's Airbag Module	32
5.	Knee Airbag Module	34
6.	Passenger's Airbag Module	37
7.	Side Airbag Module	54
8.	Curtain Airbag Module	62
9.	Airbag Control Module	66
10.	Front Sub Sensor	70
11.	Front Door Impact Sensor	74
12.	Side Airbag Sensor	77
13.	Curtain Airbag Sensor	82
14.	Satellite Safing Sensor	90
15.	Roll Connector	93
16.	Airbag Module Disposal (Deployment Processing on Vehicle)	99

1. General Description

A: COMPONENT



(1)	Front sub sensor RH	(4)	Airbag warning light (in combination meter)	(7)	Airbag control module
(2)	Front sub sensor LH	(5)	Airbag ON/OFF indicator light (MFD)	(8)	Knee airbag module
(3)	Driver's airbag module	(6)	Passenger's airbag module	(9)	Steering roll connector

1. General Description

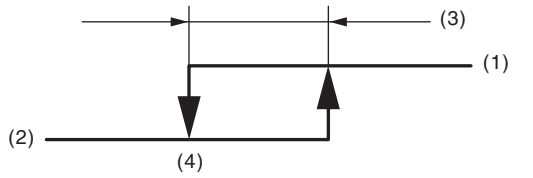
A: SPECIFICATION

1. HEATER SYSTEM

Item		Specifications	Condition
Heating capacity		5.0 kW (4,299 kcal/h, 17,059 BTU/h) or more	• Air flow control dial or switch: FOOT • Temperature control 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		290 m^3 (10,243 cu ft)/h	FOOT mode (FRESH), MAX HOT at 12.5 V
Max air flow rate		480 m^3 (16,954 cu ft)/h	• Temperature control dial: LO (MAX COOL) • Fan dial: HI (MAX) Auto A/C model: 7th position Manual A/C model: 4th position • FRESH/RECIRC switch: RECIRC
Heater core	Dimensions (W × H × T)	257.5 × 118.5 × 27 mm (10.1 × 4.67 × 1.06 in)	—
Blower motor	Type	Magnet motor 300 W or less	12 V
	Fan type and size (diameter × width)	Sirocco fan type 150 × 75 mm (5.91 × 2.95 in)	—

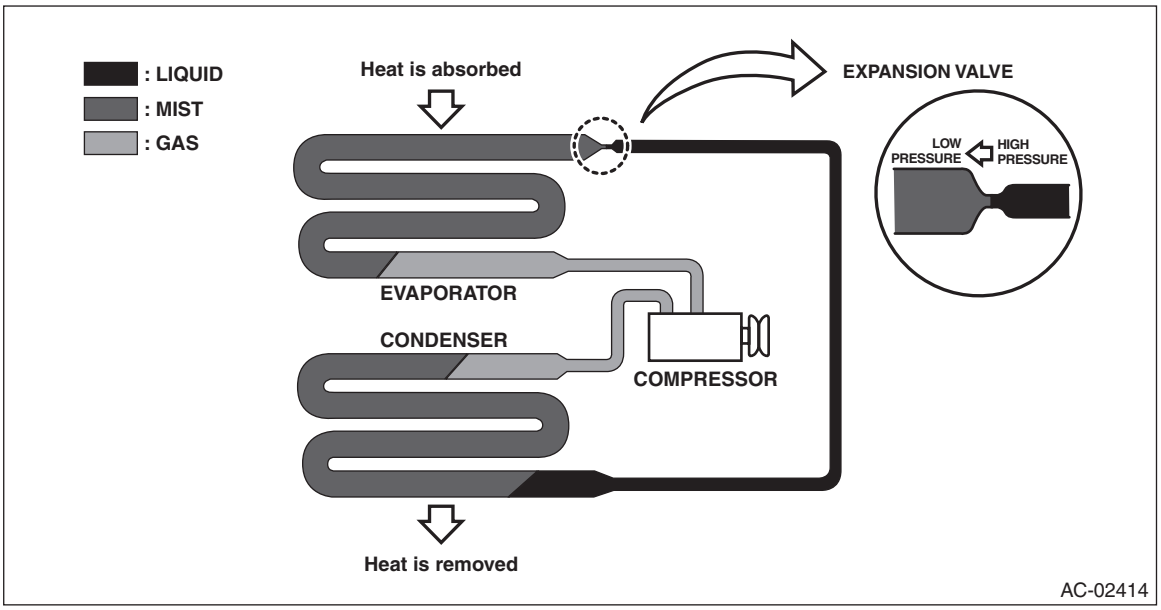
2. A/C SYSTEM

Item		Specifications
Type of air conditioner		Reheat air-mix type
Cooling capacity		5.0 kW (4,299 kcal/h, 17,059 BTU/h)
Refrigerant		HFC-134a (CH_2FCF_3) [0.475±0.025 kg (1.05±0.06 lb)]
Compressor	Type	Rotary fixed capacity (DKV-10Z)
	Discharge	105 cc (6.41 cu in)/rev
	Max. permissible speed	7,700 r/min
Magnet clutch	Type	Dry, single-disc type
	Power consumption	45 W
	Type of belt	Gasoline engine model: V-belt 6 PK HEV model: V-belt 7 PK
	Pulley dia. (effective dia.)	110 mm (4.33 in)
	Pulley ratio	1.3
Condenser	Type	Sub cool type
	Core face area	0.188 m^2 (2.002 sq ft)
	Core thickness	16 mm (0.63 in)
	Radiation area	4.5 m^2 (48.44 sq ft)
Expansion valve	Type	Block
Evaporator	Type	Dual-tank
	Dimensions (W × H × T)	290.1 × 172 × 39 mm (11.42 × 6.77 × 1.54 in)
Blower fan	Fan type	Sirocco fan
	Outer diameter × Width	150 × 75 mm (5.91 × 2.95 in)
	Power consumption	280 W
Condenser fan (sub fan)	Motor type	Magnet
	Power consumption	120 W
	Fan outer diameter	318.5 mm (12.5 in)

Item			Specifications
Radiator fan (main fan)		Motor type	Magnet
		Power consumption	120 W
		Fan outer diameter	318.5 mm (12.5 in)
Idle speed		No load	650±100 r/min
		A/C ON	800 — 900±50 r/min
Triple switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	196±25 kPa (2.00±0.25 kgf/cm^2, 28.4±3.6 psi)
		OFF → ON	225±30 kPa (2.29±0.31 kgf/cm^2, 32.6±4.3 psi)
	High-pressure switch operating pressure	ON → OFF	2,940±200 kPa (29.98±2.04 kgf/cm^2, 426.3±29 psi)
		OFF → ON	2,350±200 kPa (24.00±2.04 kgf/cm^2, 340.7±29.0 psi)
	Middle-pressure switch operating pressure	ON → OFF	1,470±120 kPa (14.99±1.22 kgf/cm^2, 213.15±17.4 psi)
		OFF → ON	1,770±100 kPa (18.05±1.02 kgf/cm^2, 256.65±14.5 psi)
Thermo-control amplifier working temperature			 AC-00601 (1) ON (2) OFF (3) 1.5±0.3°C (34.7±0.5°F) (4) 1.0±0.5°C (33.8±0.9°F)

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”.

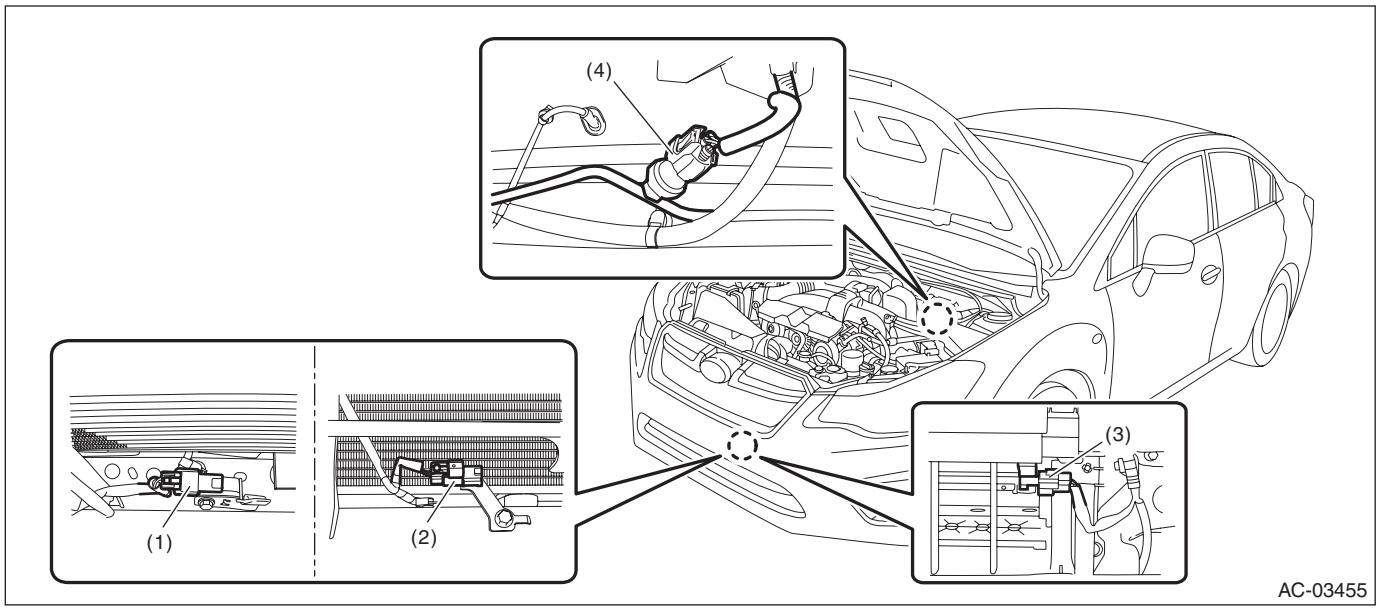


Item	Operation
Compressor	Sucks and pressurizes the low temperature, low pressure refrigerant gas that was vaporized at the evaporator by absorbing heat from the compartment, and sends the high temperature, high pressure refrigerant gas to the condenser.
Condenser	Cools the high temperature, high pressure 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

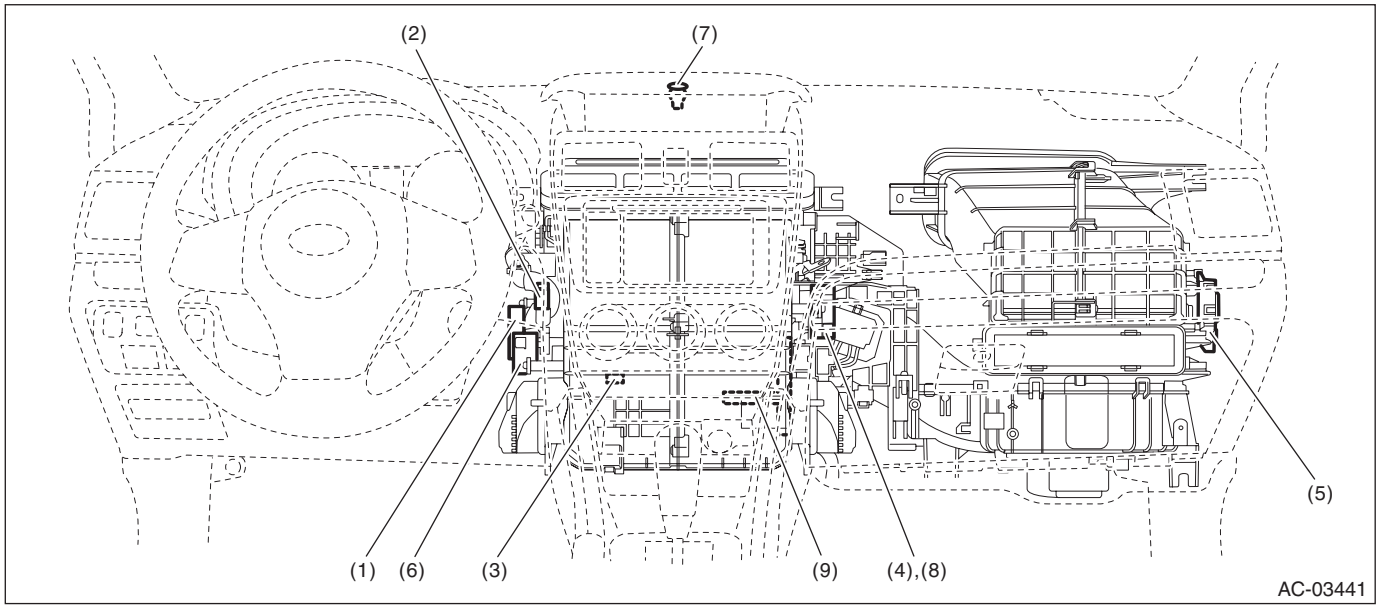
1. ELECTRICAL COMPONENT (ACTUATORS AND SENSORS)

- Engine compartment



(1) Ambient sensor (gasoline engine, except for XV model)
(2) Ambient sensor (gasoline engine, XV model)
(3) Ambient sensor (HEV model)
(4) Pressure switch

- Compartment

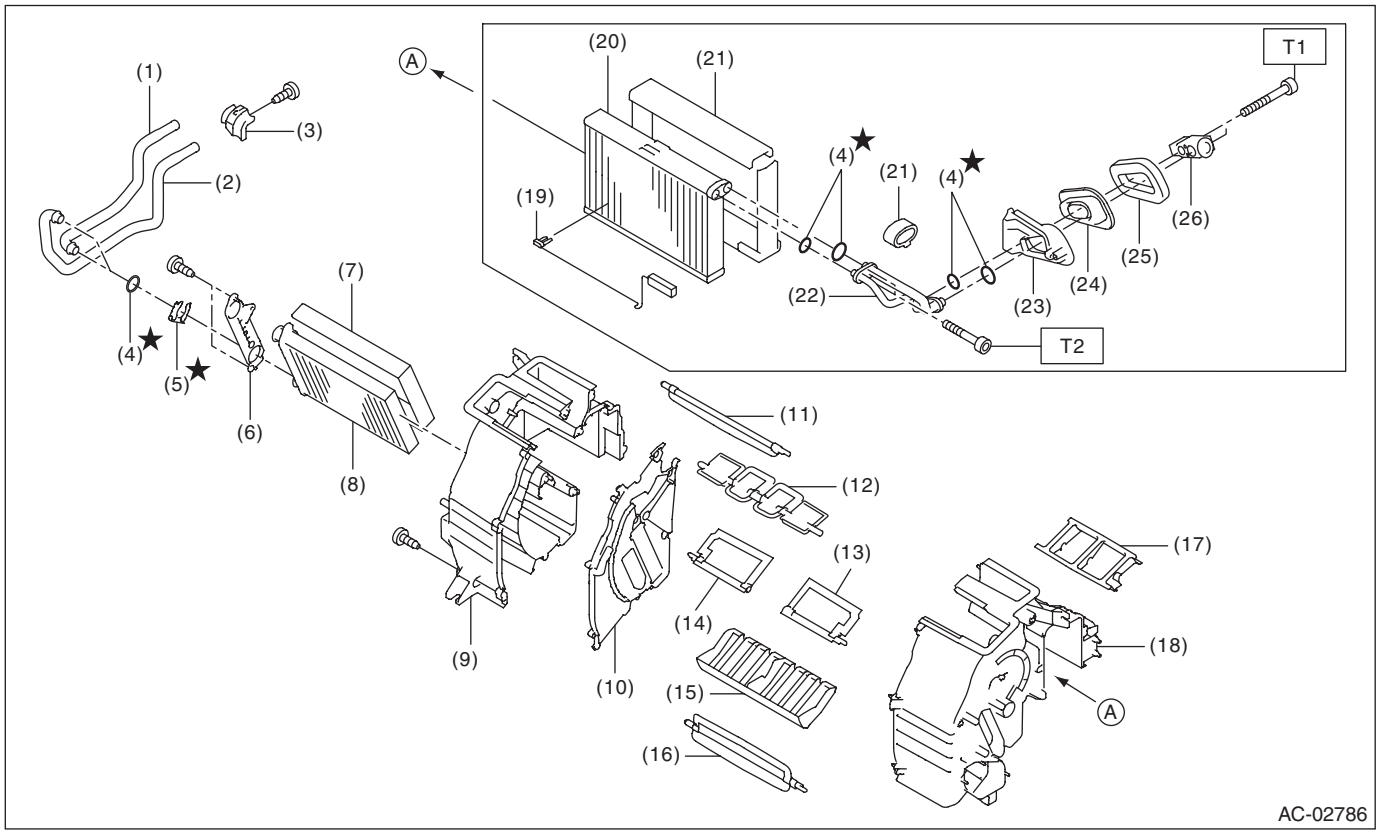


(1) Dual A/C air mix door actuator LH
(2) In-vehicle sensor
(3) Evaporator sensor
(4) Dual A/C air mix door actuator RH
(5) Intake door actuator
(6) Mode door actuator
(7) Sunload sensor
(8) Single A/C air mix door actuator
(9) Heater core sensor (HEV model)

C: COMPONENT

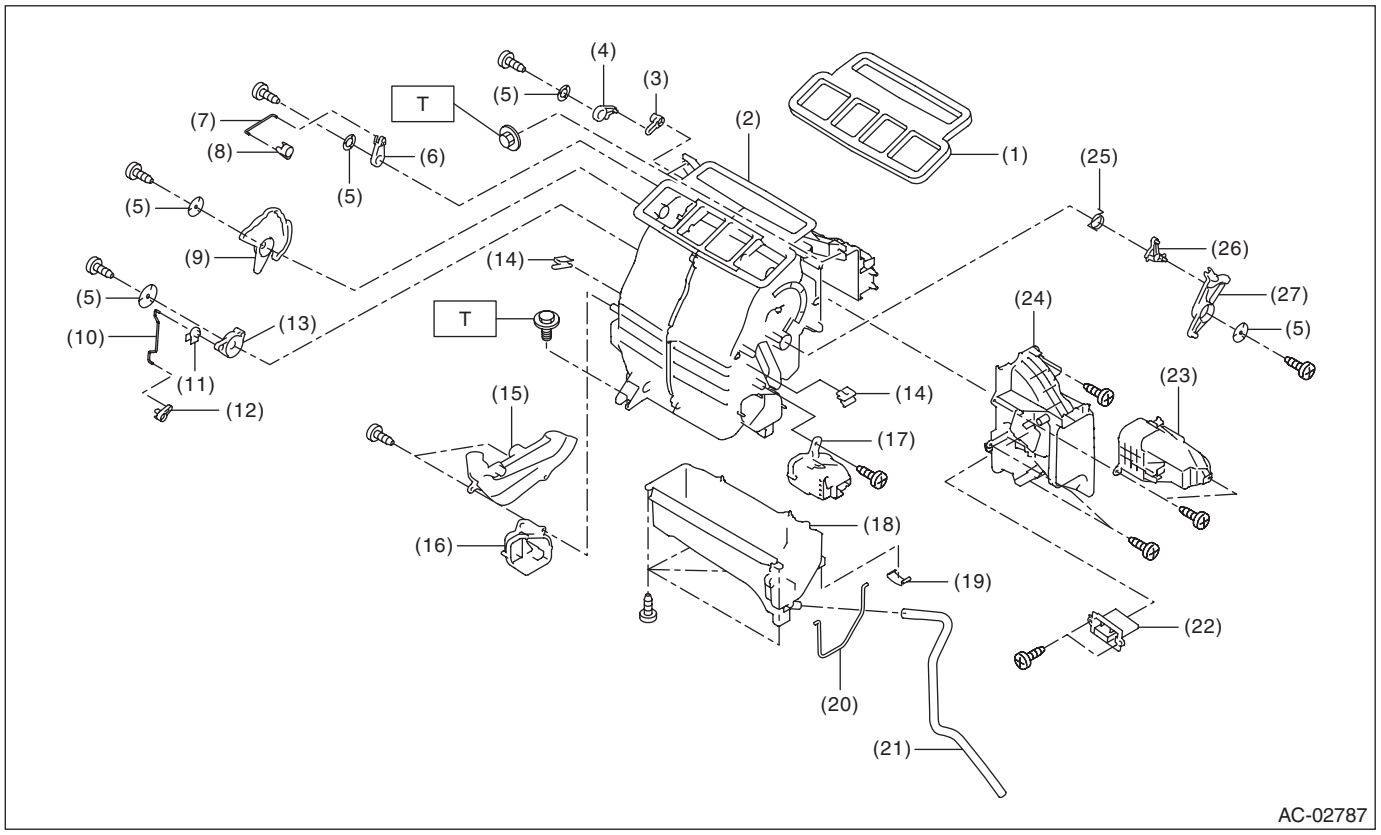
1. HEATER AND COOLING UNIT

- Manual A/C model



(1) Pipe - inlet
(2) Pipe - outlet
(3) Clamp - pipe
(4) Seal O-ring
(5) Clamp
(6) Plate - heater core
(7) Packing - heater core
(8) Heater core
(9) Case - heater unit UPR LH
(10) Plate CTR
(11) Shutter - defroster
(12) Shutter - vent
(13) Shutter - air mix RH
(14) Shutter - air mix LH
(15) Guide - heater unit
(16) Shutter - foot
(17) Case - vent duct
(18) Case - heater unit UPR RH
(19) Thermostat - cooling
(20) Evaporator ASSY - cooling
(21) Packing - evaporator core
(22) Pipe - evaporator core
(23) Case - expansion valve
(24) Seal - cooling
(25) Packing - heater unit
(26) Expansion valve - cooling

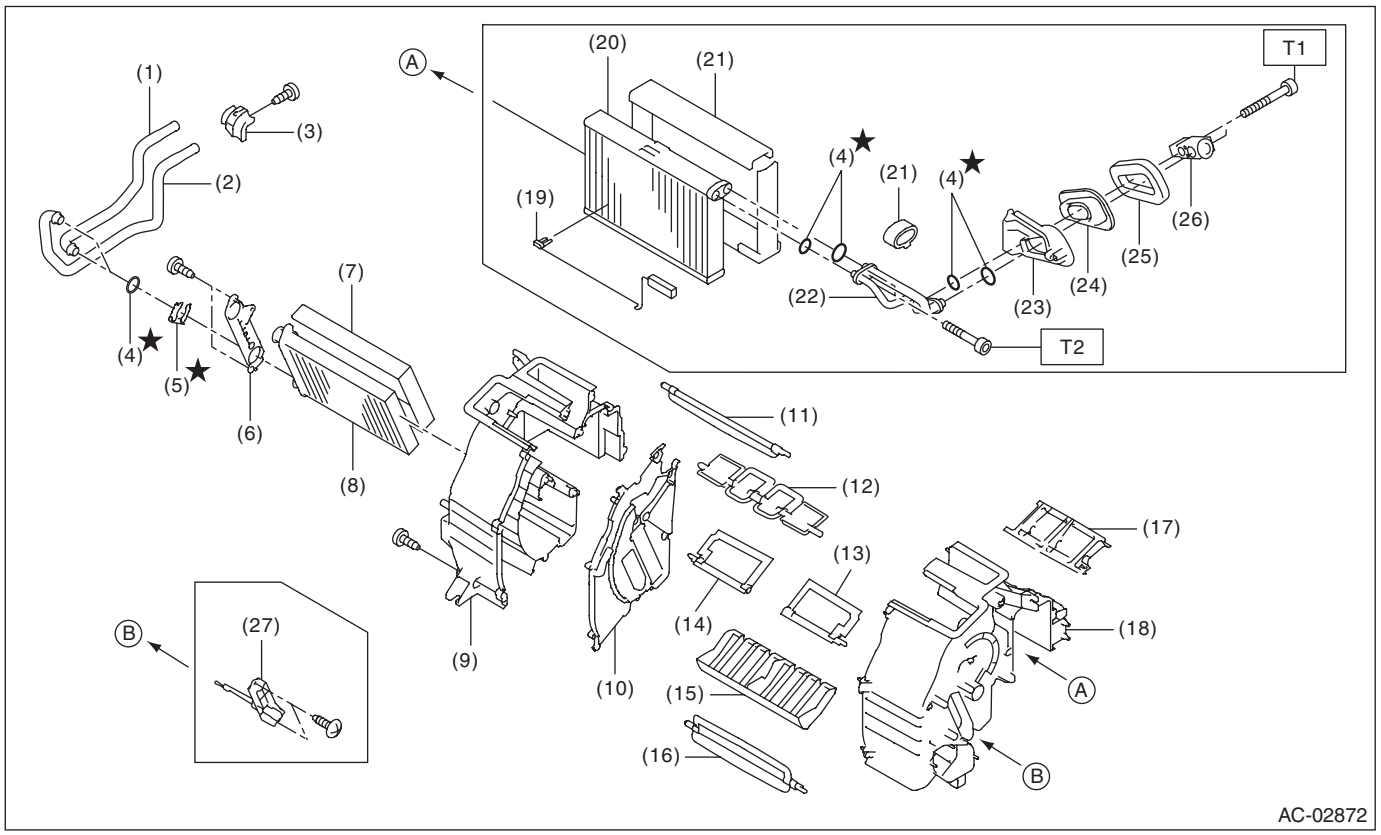
Tightening torque: N·m (kgf-m, ft-lb)
T1: 5.0 (0.51, 3.7)
T2: 6.7 (0.68, 4.9)



(1) Packing - heater unit
(2) Case - heater unit
(3) Lever - defroster
(4) Lever - defroster sub
(5) Washer - heater
(6) Lever - ventilator sub
(7) Rod - ventilator
(8) Lever - ventilator door
(9) Lever - mode
(10) Rod - foot
(11) Clip
(12) Lever - foot
(13) Lever - foot sub
(14) Clamp - cable
(15) Cover - heater pipe
(16) Duct - foot LH
(17) Duct - foot RH
(18) Case - heater LWR
(19) Clip - case
(20) Packing - evaporator cover
(21) Hose - drain
(22) Resistor
(23) Cover
(24) Cover - heater unit
(25) Spring - heater unit
(26) Lever A
(27) Lever B

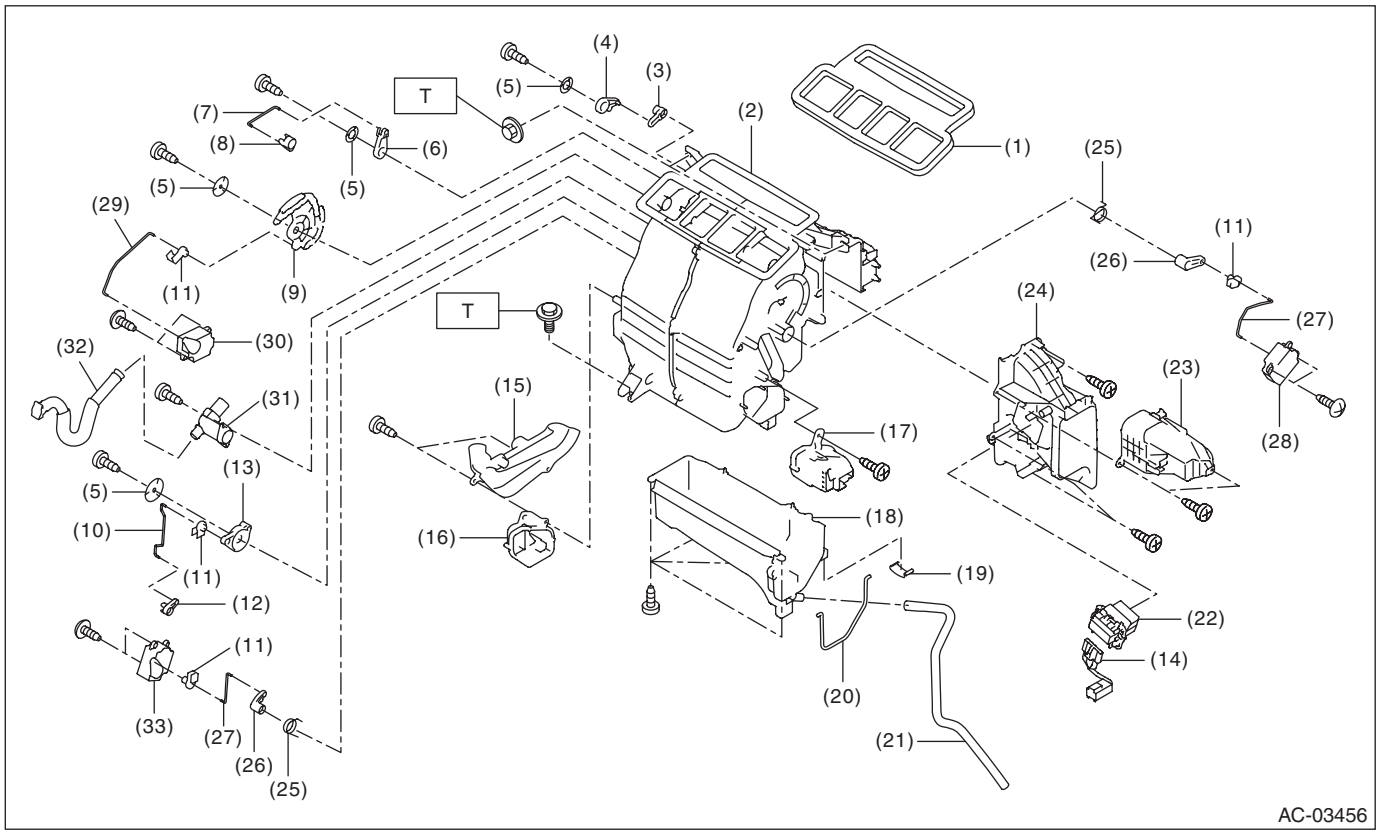
Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

- Auto A/C model



(1) Pipe - inlet
(2) Pipe - outlet
(3) Clamp - pipe
(4) Seal O-ring
(5) Clamp
(6) Plate - heater core
(7) Packing - heater core
(8) Heater core
(9) Case - heater unit UPR LH
(10) Plate CTR
(11) Shutter - defroster
(12) Shutter - vent
(13) Shutter - air mix RH
(14) Shutter - air mix LH
(15) Guide - heater unit
(16) Shutter - foot
(17) Case - vent duct
(18) Case - heater unit UPR RH
(19) Thermostat - cooling
(20) Evaporator ASSY - cooling
(21) Packing - evaporator core
(22) Pipe - evaporator core
(23) Case - expansion valve
(24) Seal - cooling
(25) Packing - heater unit
(26) Expansion valve - cooling
(27) Heater core sensor (HEV model)

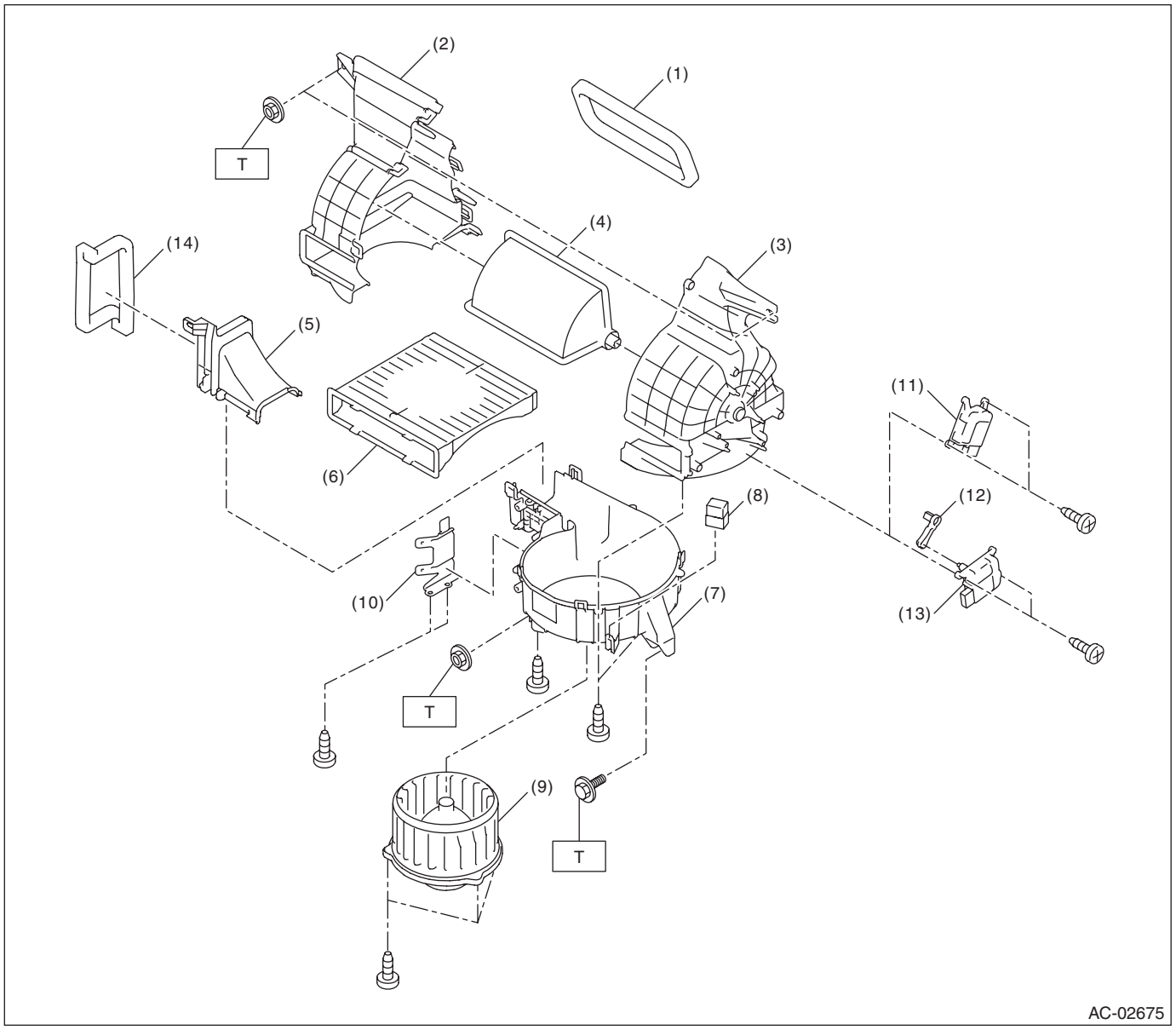
Tightening torque: N·m (kgf-m, ft-lb)
T1: 5.0 (0.51, 3.7)
T2: 6.7 (0.68, 4.9)



(1) Packing - heater unit
(2) Case - heater unit
(3) Lever - defroster
(4) Lever - defroster sub
(5) Washer - heater
(6) Lever - ventilator sub
(7) Rod - ventilator
(8) Lever - ventilator door
(9) Lever - mode
(10) Rod - foot
(11) Clip
(12) Lever - foot
(13) Lever - foot sub
(14) Harness - heater unit
(15) Cover - heater pipe
(16) Duct - foot LH
(17) Duct - foot RH
(18) Case - heater LWR
(19) Clip - case
(20) Packing - evaporator cover
(21) Hose - drain
(22) Power transistor
(23) Cover
(24) Cover - heater unit
(25) Spring - heater unit
(26) Lever - air mix
(27) Rod - air mix
(28) Motor - actuator mix RH
(29) Rod - mode
(30) Motor - actuator mode
(31) Aspirator - heater unit
(32) Aspirator hose
(33) Motor - actuator mix LH (dual A/C model)

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

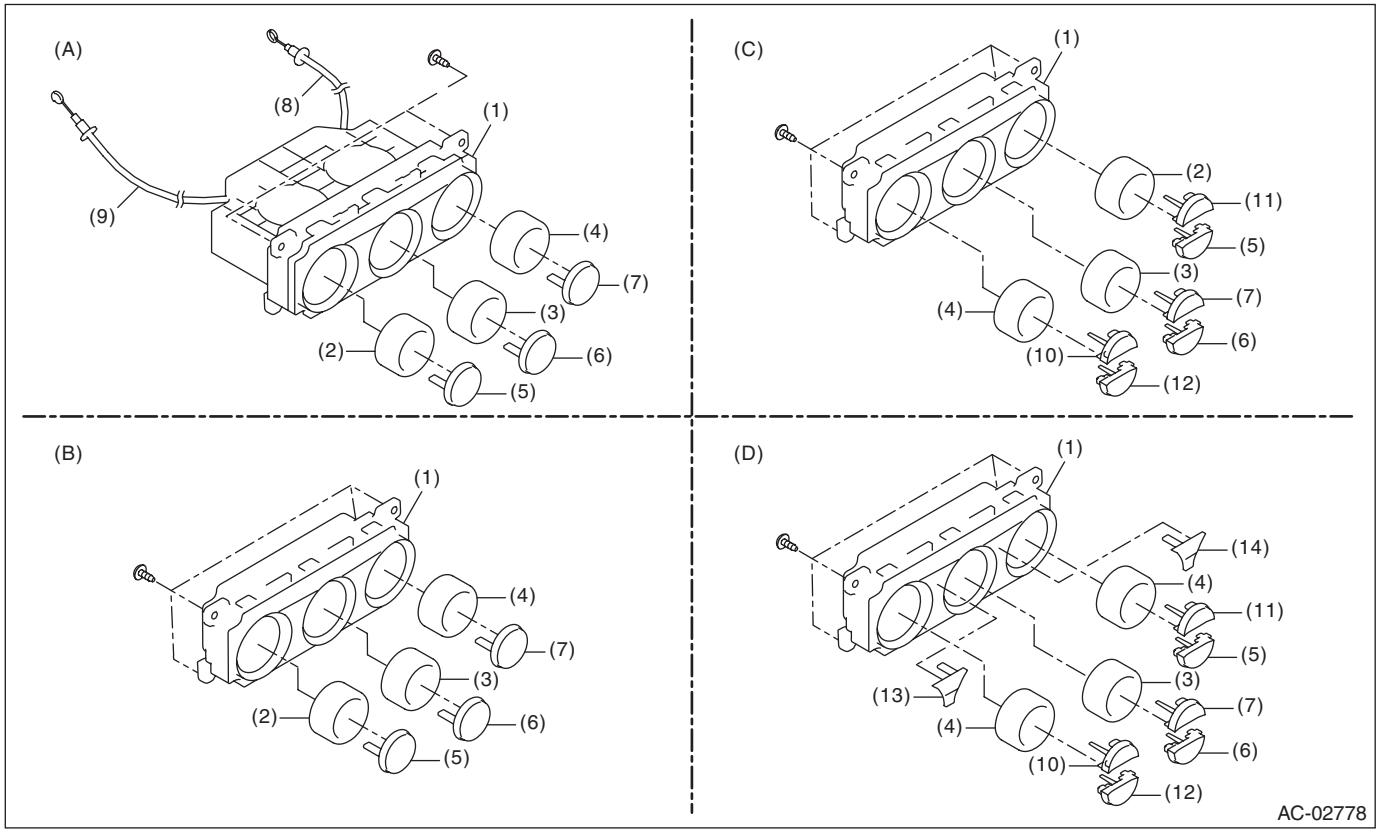
2. BLOWER MOTOR UNIT



(1) Packing - blower
(2) Case - blower intake LH
(3) Case - blower intake RH
(4) Shutter - blower
(5) Case upper - blower
(6) Filter kit
(7) Case lower - blower
(8) Blower motor relay
(9) Blower - motor
(10) Bracket
(11) Motor - actuator blower (auto A/C model)
(12) Lever
(13) Motor - actuator blower (manual A/C model)
(14) Packing

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

3. CONTROL PANEL



(A) Manual A/C model

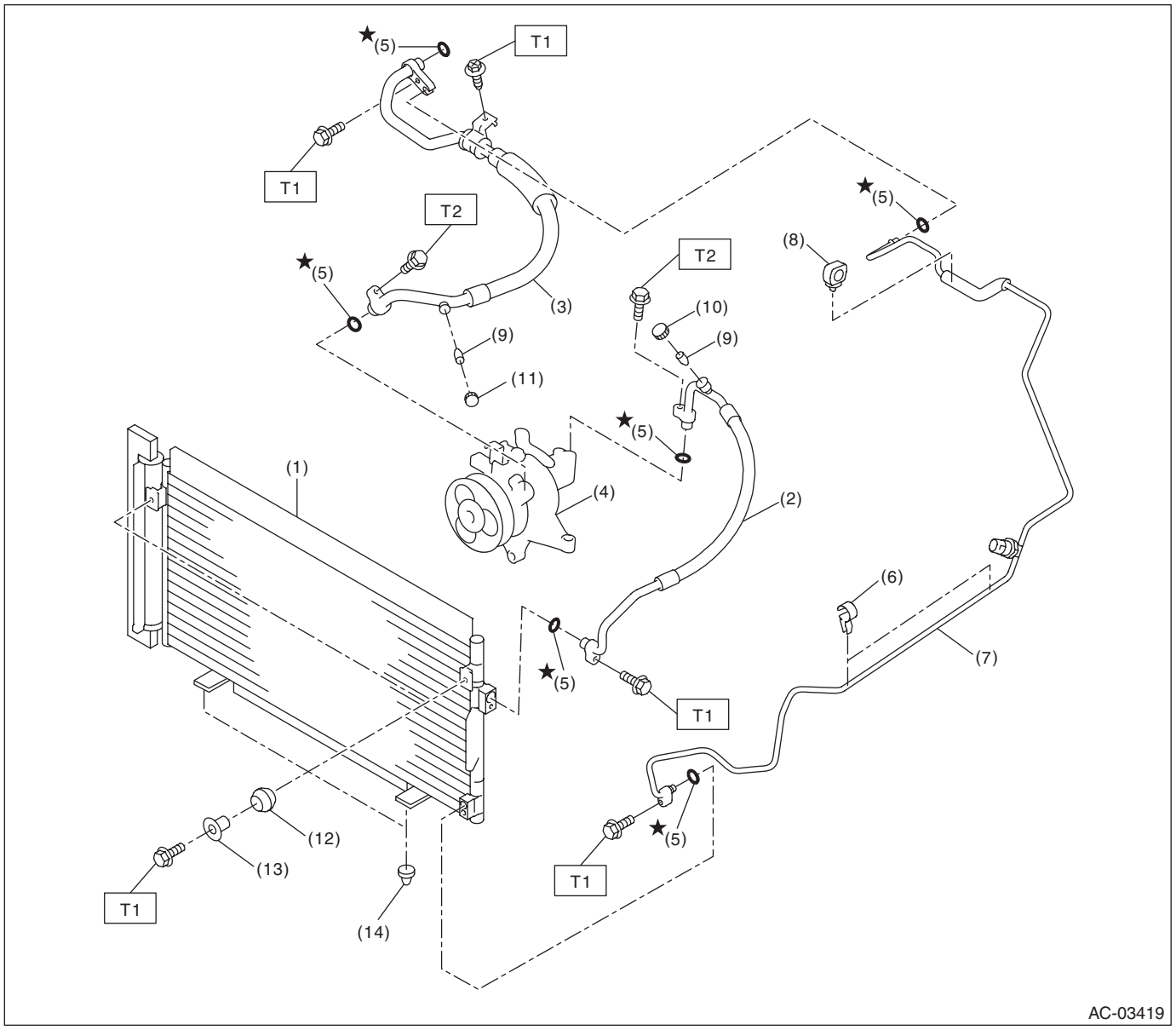
(B) Single auto A/C model (with standard MFD)

(C) Single auto A/C model (with high grade MFD)

(D) Dual auto A/C model

(1) Control case
(2) Air flow control dial
(3) Fan dial
(4) Temperature adjustment dial
(5) Rear window defogger switch
(6) FRESH/RECIRC switch
(7) A/C switch
(8) Temperature control cable
(9) Air flow control cable
(10) AUTO switch
(11) Defroster switch
(12) OFF switch
(13) Air flow control switch
(14) Dual switch

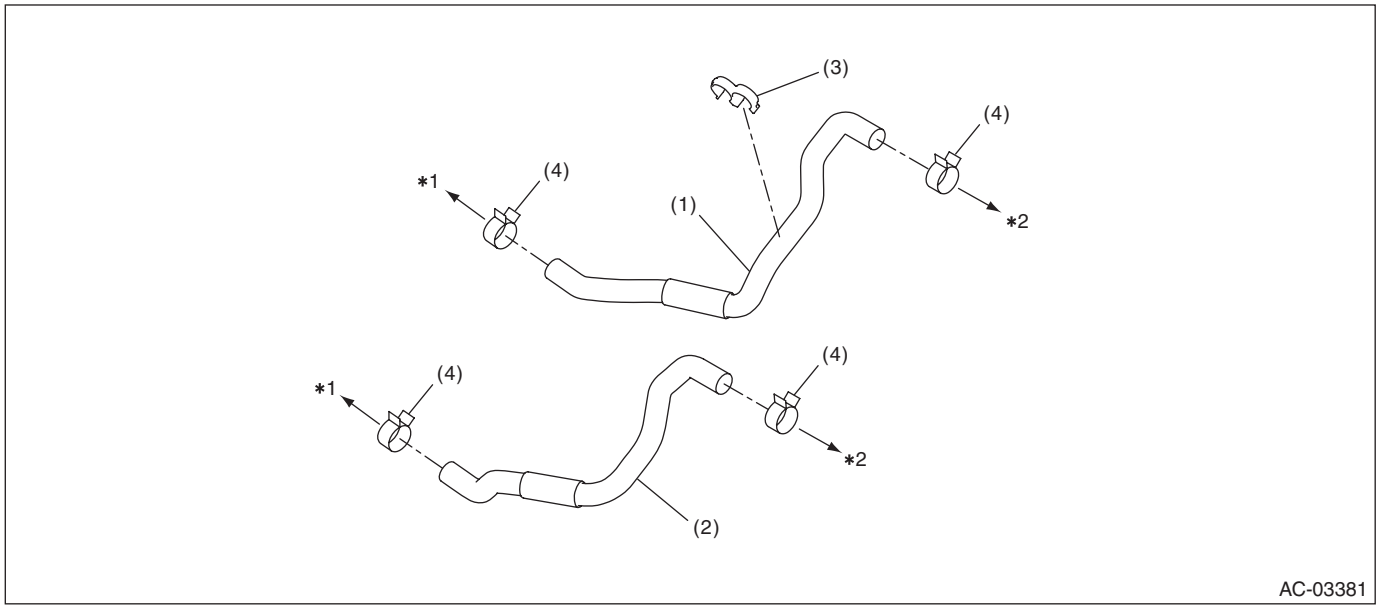
4. AIR CONDITIONING UNIT



(1) Condenser ASSY - air conditioner
(2) Hose - pressure discharge
(3) Hose - pressure suction
(4) Compressor ASSY
(5) Seal O-ring
(6) Clip - pipe
(7) Pipe - evaporator cooling
(8) Clip
(9) Valve - hose pressure
(10) Cap - hose pressure discharge
(11) Cap - hose pressure suction
(12) Grommet
(13) Spacer
(14) Bushing - condenser

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 10 (1.02, 7.4)

5. HEATER HOSE

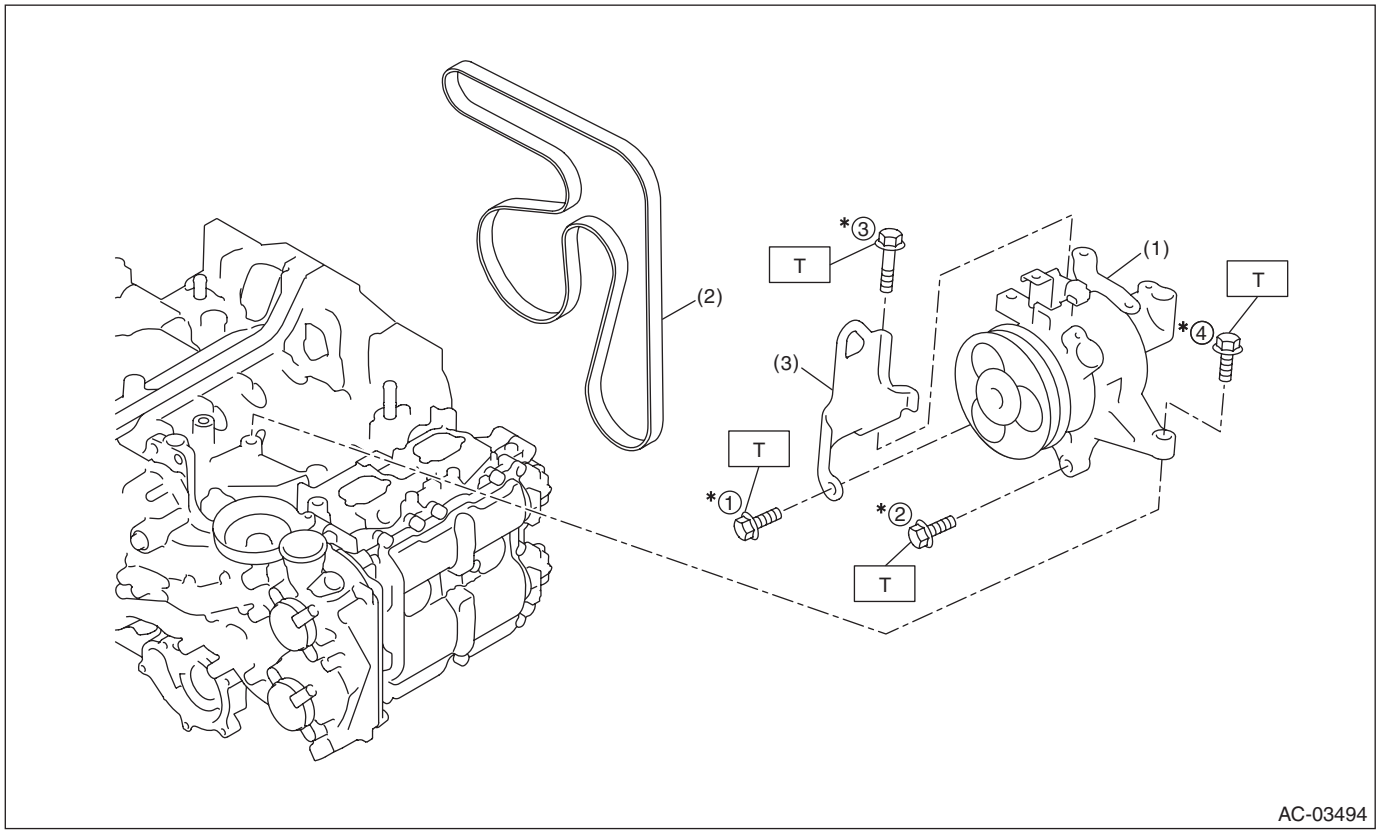


(1) Hose - heater outlet
(2) Hose - heater inlet
(3) Clip
(4) Clamp

*1: Engine side
*2: Heater core side

6. COMPRESSOR

- Gasoline engine model

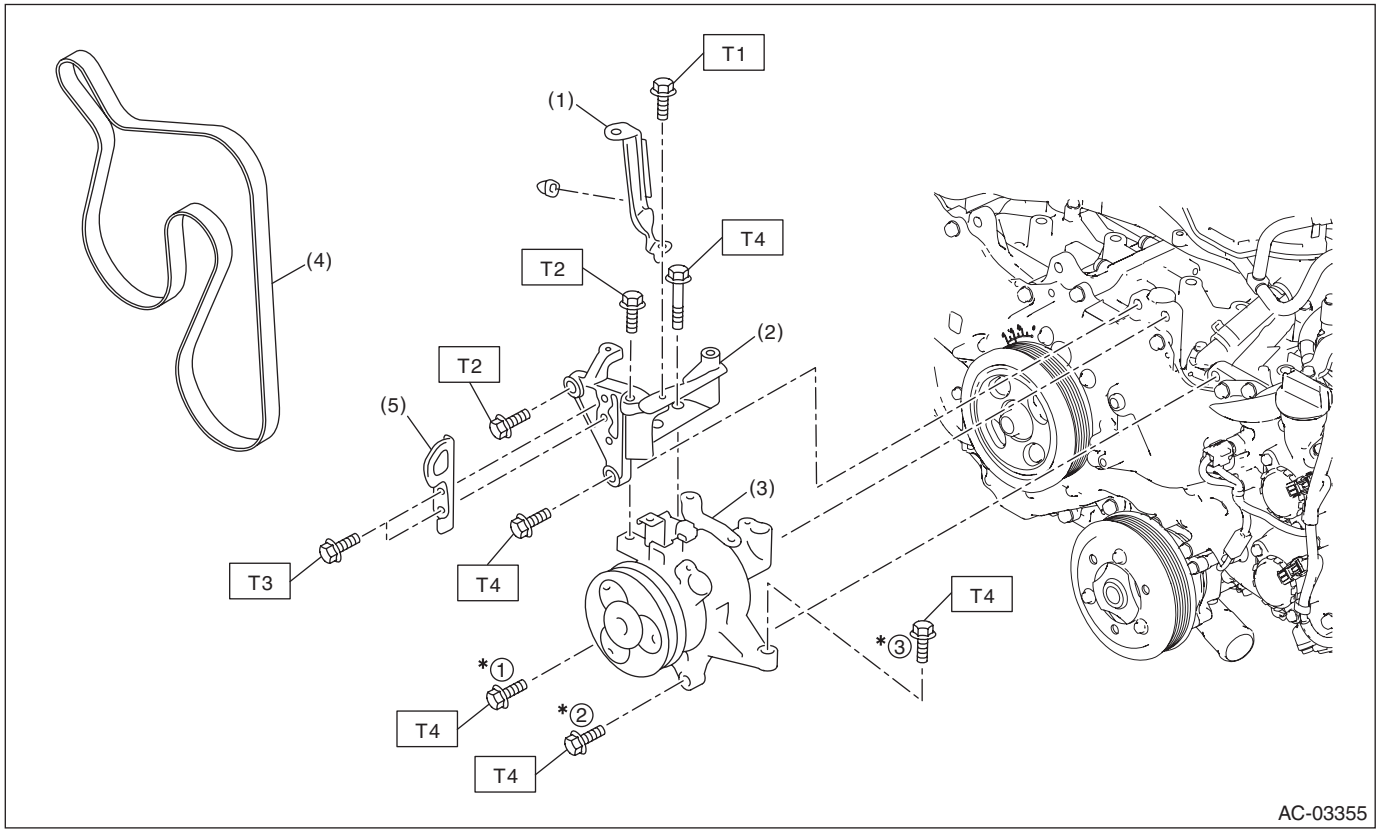


(1) Compressor ASSY
(2) V-belt (6 PK)
(3) Hanger - engine front

Tightening torque: N·m (kgf-m, ft-lb)
T: 36 (3.67, 26.6)

*: Tighten the compressor in the numerical order as shown in the figure.

- HEV model

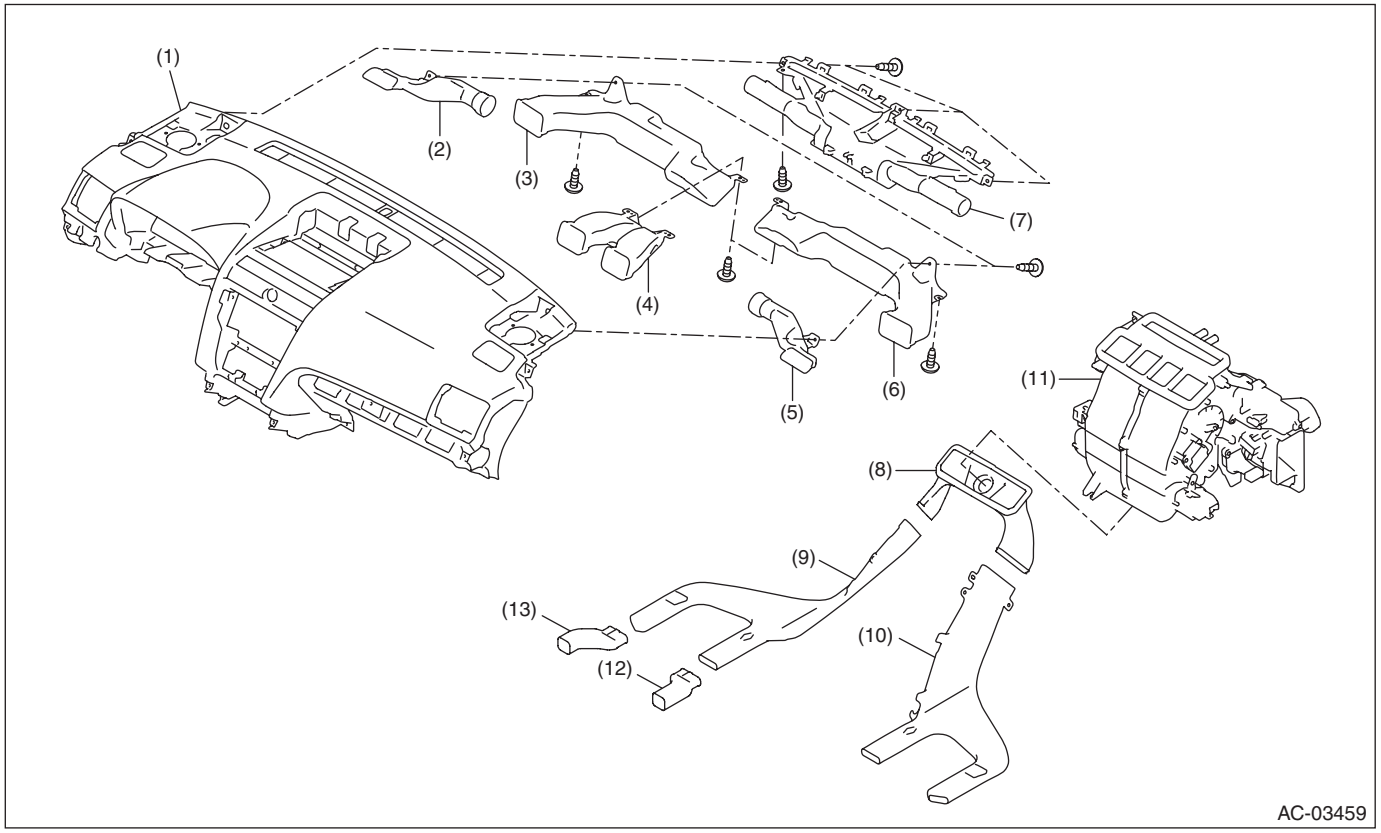


(1) Bracket - vacuum pump connector
(2) Bracket COMPL - vacuum pump
(3) Compressor ASSY
(4) V-belt (7 PK)
(5) Hanger - engine front

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.4 (0.65, 4.7)
T2: 18 (1.84, 13.3)
T3: 19 (1.94, 14)
T4: 36 (3.67, 26.6)

*: Tighten the compressor in the numerical order as shown in the figure.

7. HEATER DUCT



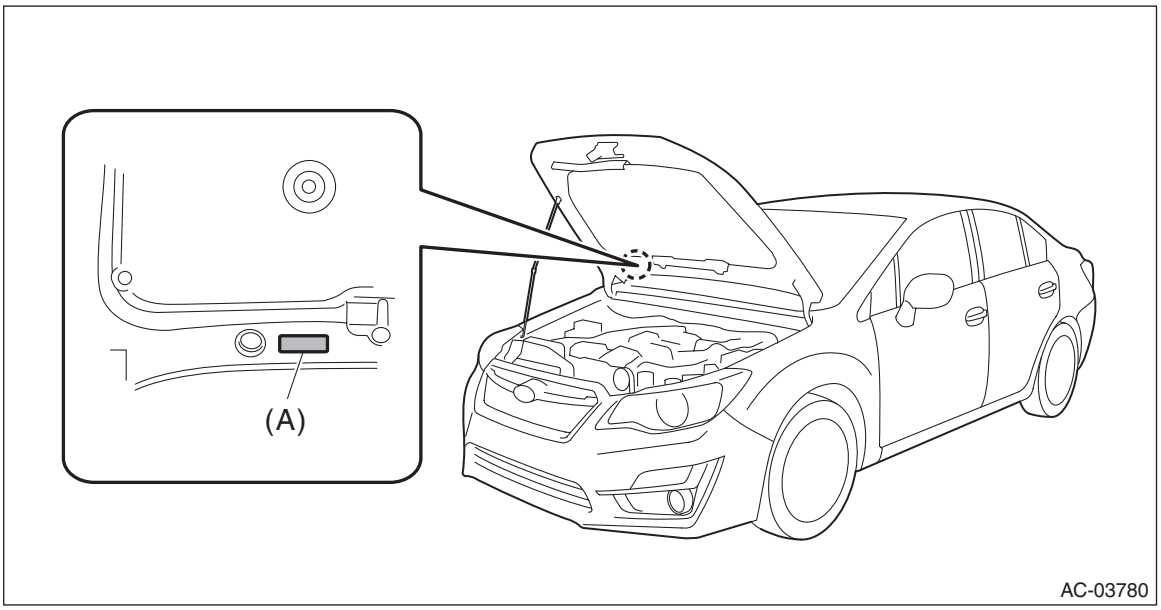
(1) Panel COMPL - instrument
(2) Duct - side defroster LH
(3) Duct - side ventilation LH
(4) Duct - center vent
(5) Duct - side defroster RH
(6) Duct - side ventilation RH
(7) Nozzle - front defroster
(8) Duct - rear heater CTR
(9) Duct - rear heater LH
(10) Duct - rear heater RH
(11) Heater and cooling unit ASSY
(12) Duct - extension LH (HEV model)
(13) Duct - extension RH (HEV model)

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 each component operates 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

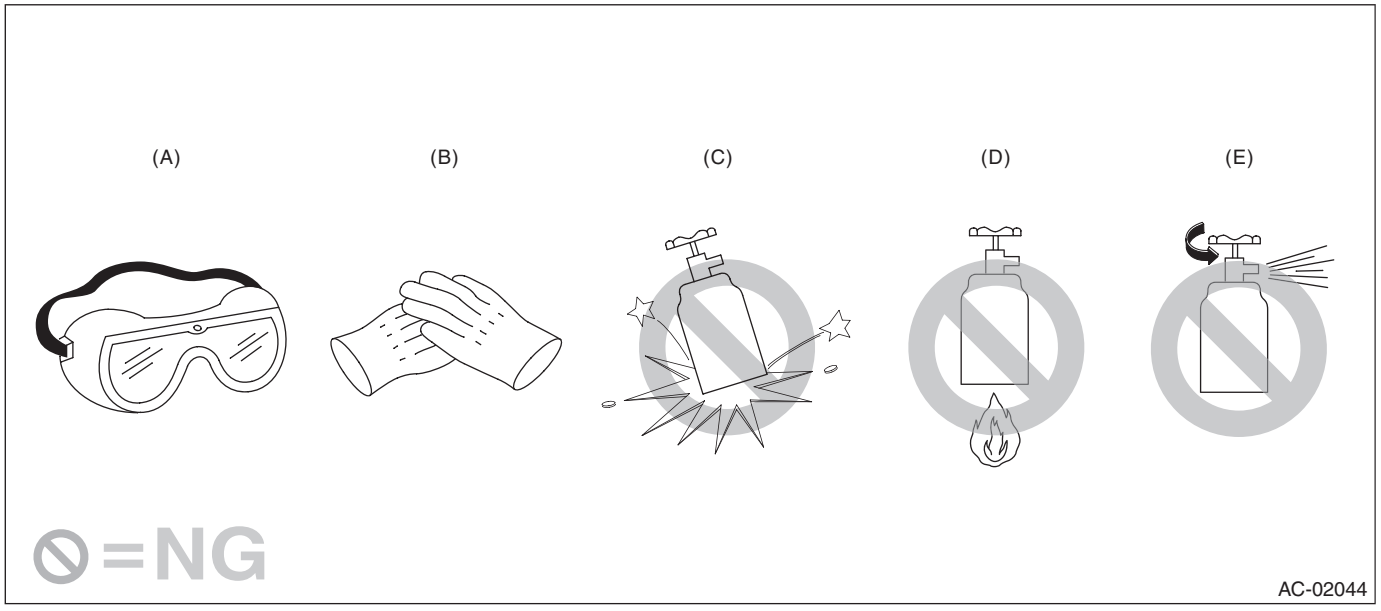
• HFC-134a compressor oil has no compatibility with that of CFC-12 system.
• Use only the manufacturer-authorized compressor oil for the HFC-134a system; only use DH-PR (ZXL200PG).
• Do not mix multiple compressor oils.
If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may become 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.

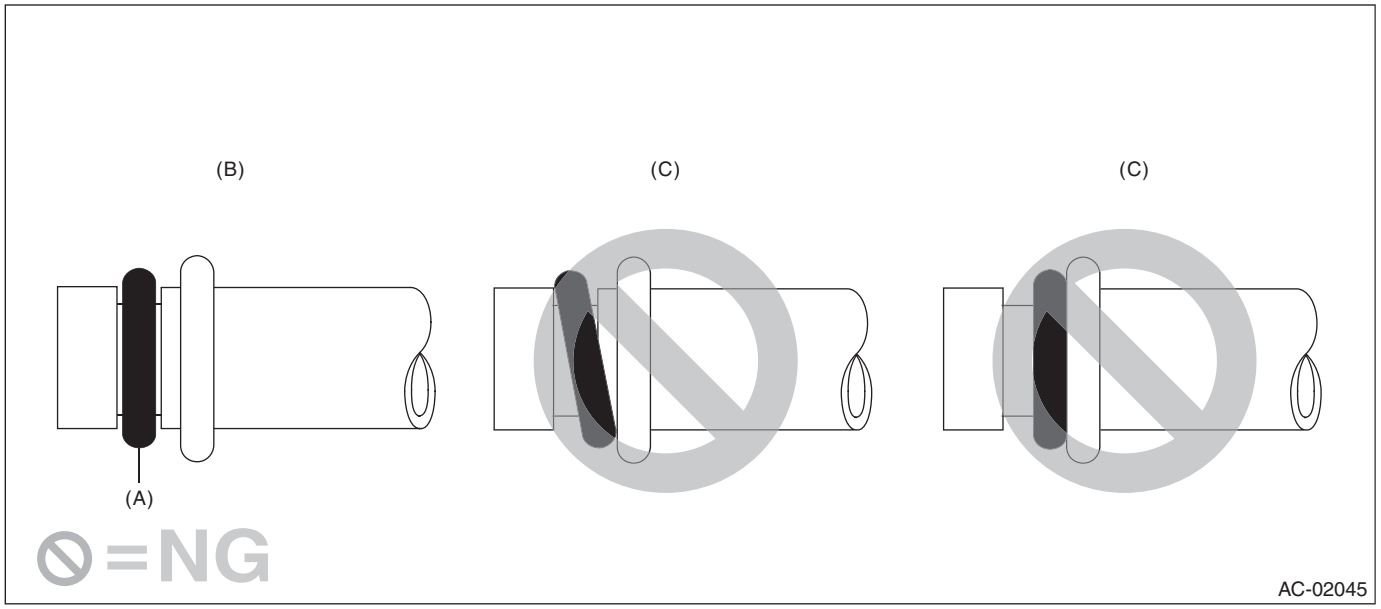


(A) Goggles
(B) Gloves
(C) Do not apply impact.
(D) No direct heat on container
(E) Do not discharge

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.

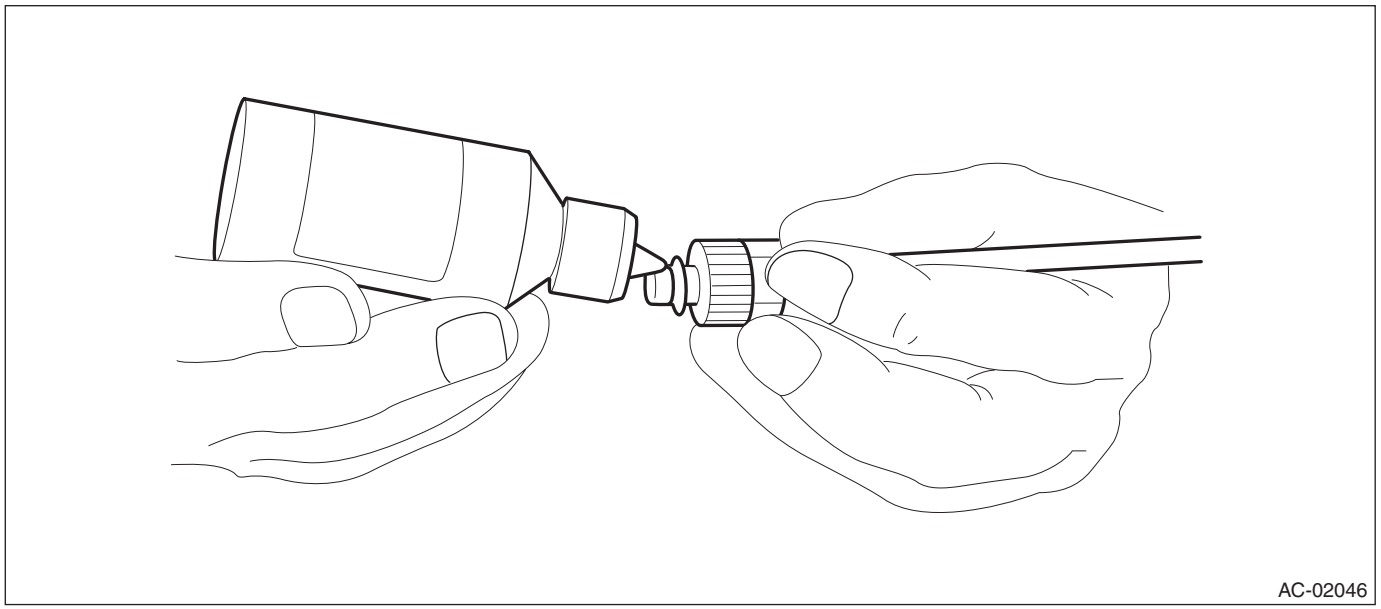
- Install the O-rings straight against the pipe groove.



(A) O-ring (B) OK (C) NG

- Use compressor oil specified in the service manual to lubricate the O-rings.

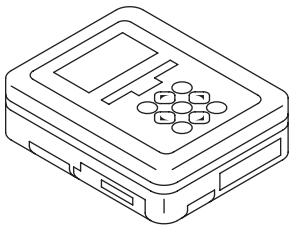
Apply oil to the top and sides of O-rings before installation.
Apply compressor oil to the pipe grooves.



- 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 setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

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

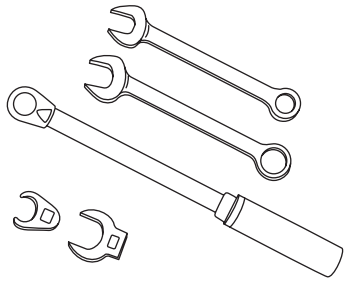
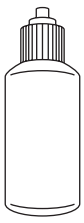
Illustration	Tools and Equipment
 AC-00213	Wrench Various **WRENCHES** will be required to service any A/C system. 7 — 40 N·m (0.7 to 4.1 kgf-m, 5 to 30 ft-lb) torque wrench and various crow-foot wrenches will be needed. Open end or flare nut wrenches will be needed to affix the pipe and hose fittings.
 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.

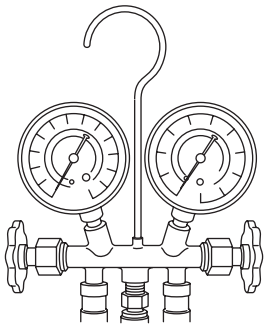
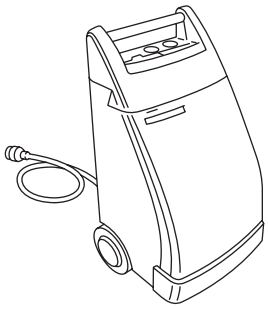
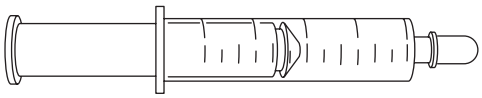
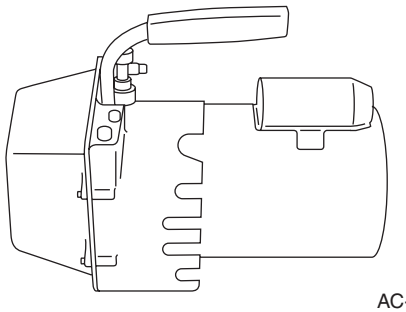
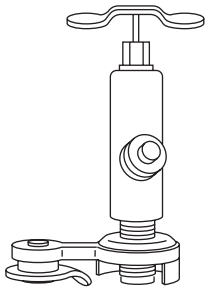
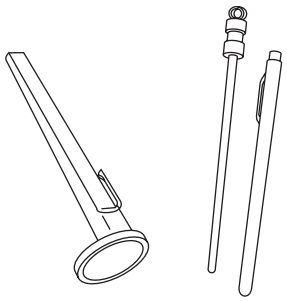
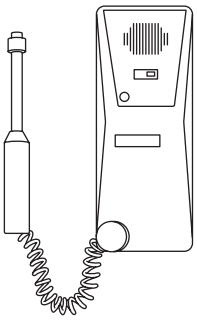
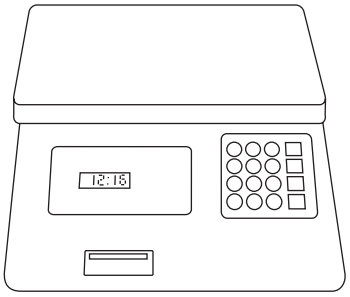
Illustration	Tools and Equipment
 AC-00013	Manifold gauge set A **MANIFOLD GAUGE SET** (with hoses) is available at either a refrigerant supplier or an automotive equipment supplier.
 AC-00014	Refrigerant recovery system A **REFRIGERANT RECOVERY SYSTEM** is used for the recovery and recycling of A/C 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.

- Gasoline engine model

Manual A/C model: <Ref. to WI(w/o HEV)-45, MANUAL A/C MODEL, WIRING DIAGRAM, Air Conditioning System.>
Auto A/C model: <Ref. to WI(w/o HEV)-47, AUTO A/C MODEL, WIRING DIAGRAM, Air Conditioning System.>

- HEV model: <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>

B: ELECTRICAL SPECIFICATION

Refer to “Auto A/C Control Module I/O Signal” of “HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)” section. <Ref. to AC(diag)-6, ELECTRICAL SPECIFICATION, Auto A/C Control Module I/O Signal.>

C: INSPECTION

Refer to “Basic Diagnostic Procedure” for “HVAC SYSTEM (AUTO A/C) (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-38, Blower Motor Unit Assembly.>
- Blower motor: <Ref. to AC-40, Blower Motor.>
- Power transistor (auto A/C model): <Ref. to AC-42, Power Transistor (Auto A/C Model).>
- Blower resistor (manual A/C model): <Ref. to AC-43, Blower Resistor (Manual A/C Model).>
- Control panel: <Ref. to AC-50, Control Panel.>
- Compressor: <Ref. to AC-53, Compressor.>
- Condenser: <Ref. to AC-57, Condenser.>
- Heater and cooling unit: <Ref. to AC-60, Heater and Cooling Unit.>
- Evaporator: <Ref. to AC-63, Evaporator.>
- Expansion valve: <Ref. to AC-69, Expansion Valve.>
- Hose & pipe: <Ref. to AC-71, Hose and Pipe.>
- Ambient sensor: <Ref. to AC-77, Ambient Sensor.>
- Sunload sensor (auto A/C model): <Ref. to AC-81, Sunload Sensor (Auto A/C Model).>
- In-vehicle sensor (auto A/C model) (gasoline engine model): <Ref. to AC-83, In-Vehicle Sensor (Auto A/C Model).>
- Evaporator sensor: <Ref. to AC-89, Evaporator Sensor.>
- Intake door actuator: <Ref. to AC-97, FRESH/RECIRC Door Actuator.>
- Mode door actuator: <Ref. to AC-101, Mode Door Actuator.>
- Air mix door actuator: <Ref. to AC-102, Air Mix Door Actuator.>
- Temperature and humidity sensor (HEV model): <Ref. to AC-86, Temperature and Humidity Sensor.>

3. Refrigerant Pressure with Manifold Gauge Set

A: PROCEDURE

1. REFRIGERANT GAS PRESSURE INSPECTION

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 the front 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.

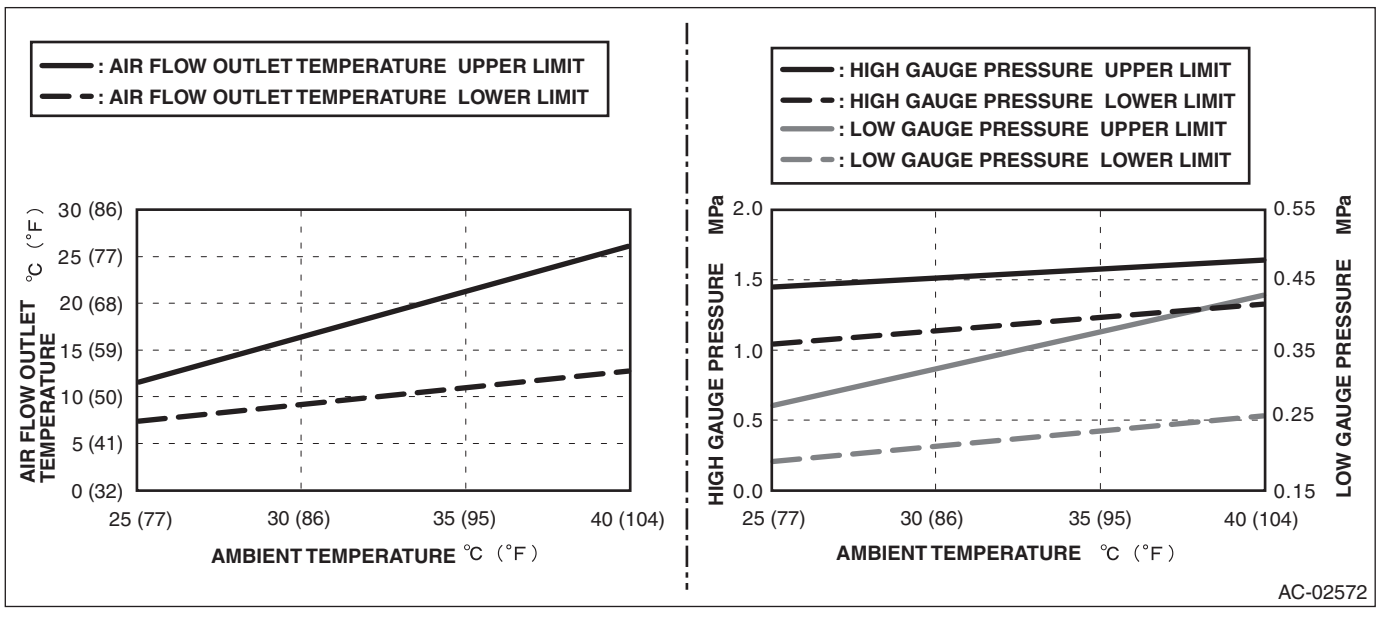
Item	Condition
Engine	Warmed up (Engine coolant temperature indicator light: OFF)
Air vent grille	Shutter is fully open.
A/C switch	ON
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial or switch	VENT
Fan dial	Auto A/C model: 5/7 level
	Manual A/C model: 3/4 level

(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-25, INSPECTION WITH PRESSURE SYMPTOMS, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>

B: INSPECTION

1. INSPECTION WITH PRESSURE SYMPTOMS

Symptoms	Reference
Both high and low pressure sides are low.	<Ref. to AC-25, 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-25, BOTH HIGH AND LOW PRESSURE SIDES ARE HIGH, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
Both high and low pressure sides are equal, or high-pressure side is low.	<Ref. to AC-26, BOTH 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-26, HIGH-PRESSURE SIDE IS HIGH, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
Low-pressure side is low.	<Ref. to AC-27, LOW-PRESSURE SIDE IS LOW, INSPECTION, Refrigerant Pressure with Manifold Gauge Set.>
Low-pressure side is high.	<Ref. to AC-27, 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 LEAKAGE.** Check the refrigerant for leakage. <Ref. to AC-33, INSPECTION, Refrigerant Leak Check.> NOTE: When the pressure on the high-pressure side is less than 0.69 Mpa: Go to Step 2.	Are there any refrigerant leakage?	Repair the refrigerant leakage.	Go to step **2**.
2	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain the refrigerant completely, and then refill the proper amount of refrigerant. • Recovery: <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.> • Refill: <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Perform appropriate inspection with pressure symptoms.

3. BOTH HIGH AND LOW PRESSURE SIDES ARE HIGH

	Step	Check	Yes	No
1	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain the refrigerant completely, and then refill the proper amount of refrigerant. • Recovery: <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.> • Refill: <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Perform appropriate inspection with pressure symptoms.

4. BOTH HIGH AND LOW PRESSURE SIDES ARE EQUAL, OR HIGH-PRESSURE SIDE IS LOW

	Step	Check	Yes	No
1	**CHECK REFRIGERANT LEAKAGE.** Check the refrigerant for leakage. <Ref. to AC-33, INSPECTION, Refrigerant Leak Check.> NOTE: When the pressure on the high-pressure side is less than 0.69 Mpa: Go to Step 2.	Are there any refrigerant leakage?	Repair the refrigerant leakage.	Go to step **2**.
2	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain the refrigerant completely, and then refill the proper amount of refrigerant. • Recovery: <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.> • Refill: <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Inspect the compressor. <Ref. to AC(diag)-34, COOL AIR DOES NOT COME OUT WHEN PRESSING THE A/C SWITCH. FOG CANNOT BE CLEARED. (COMPRESSOR DOES NOT OPERATE.), 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-59, INSPECTION, Condenser.>	Is condenser normal?	Go to step **2**.	Clean or replace the condenser.
2	**CHECK RADIATOR FAN.** Check the radiator fan system. <Ref. to CO(H4DO(w/o HEV))-10, Radiator Fan System.>	Is radiator fan system normal?	Go to step **3**.	Repair or replace the faulty parts of the radiator fan system.
3	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain the refrigerant completely, and then refill the proper amount of refrigerant. • Recovery: <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.> • Refill: <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Check the high-pressure hose and condenser for deformation or clogging, and replace if defective.

6. LOW-PRESSURE SIDE IS LOW

	Step	Check	Yes	No
1	**CHECK REFRIGERANT LEAKAGE.** Check the refrigerant for leakage. <Ref. to AC-33, INSPECTION, Refrigerant Leak Check.> NOTE: When the pressure on the high-pressure side is less than 0.69 Mpa: Go to Step 2.	Are there any refrigerant leakage?	Repair the refrigerant leakage.	Go to step **2**.
2	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain the refrigerant completely, and then refill the proper amount of refrigerant. • Recovery: <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.> • Refill: <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Go to step **3**.
3	**REPLACE EXPANSION VALVE.** Replace the expansion valve. <Ref. to AC-69, REMOVAL, Expansion Valve.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Inspect the compressor. <Ref. to AC(diag)-34, COOL AIR DOES NOT COME OUT WHEN PRESSING THE A/C SWITCH. FOG CANNOT BE CLEARED. (COMPRESSOR DOES NOT OPERATE.), DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

7. LOW-PRESSURE SIDE IS HIGH

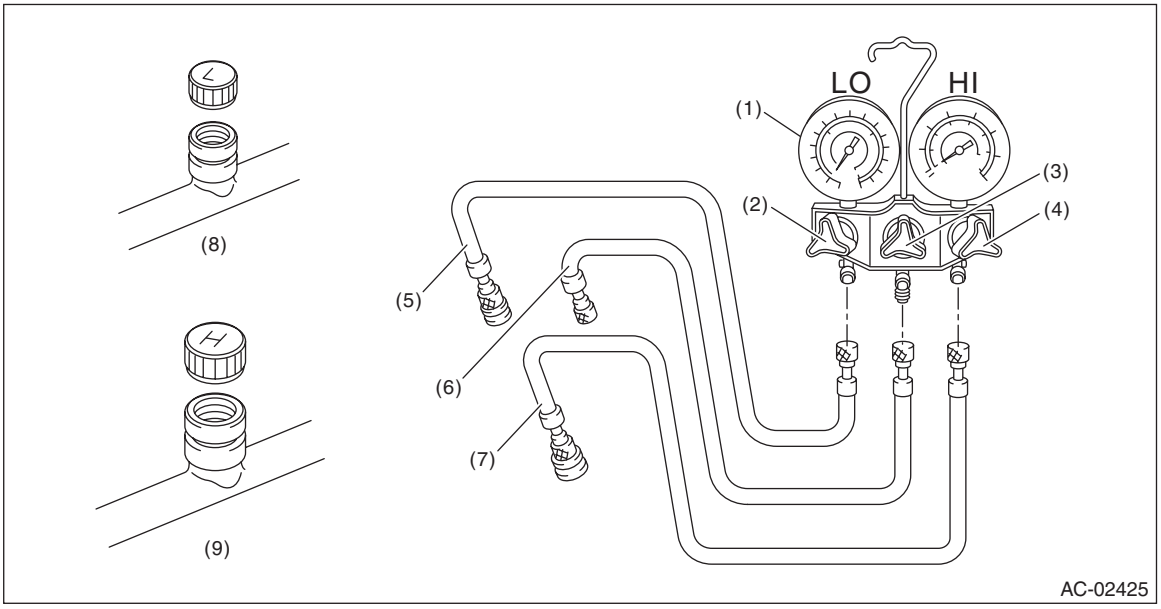
	Step	Check	Yes	No
1	**FILL PROPER AMOUNT OF REFRIGERANT.** Drain the refrigerant completely, and then refill the proper amount of refrigerant. • Recovery: <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.> • Refill: <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Go to step **2**.
2	**REPLACE EXPANSION VALVE.** Replace the expansion valve. <Ref. to AC-69, REMOVAL, Expansion Valve.>	Is the refrigerant pressure within the specified range?	Refrigerant pressure is normal.	Replace the evaporator. <Ref. to AC-63, REMOVAL, Evaporator.>

4. Refrigerant Recovery Procedure

A: PROCEDURE

Preparation tool:
Manifold gauge set
Refrigerant recovery system

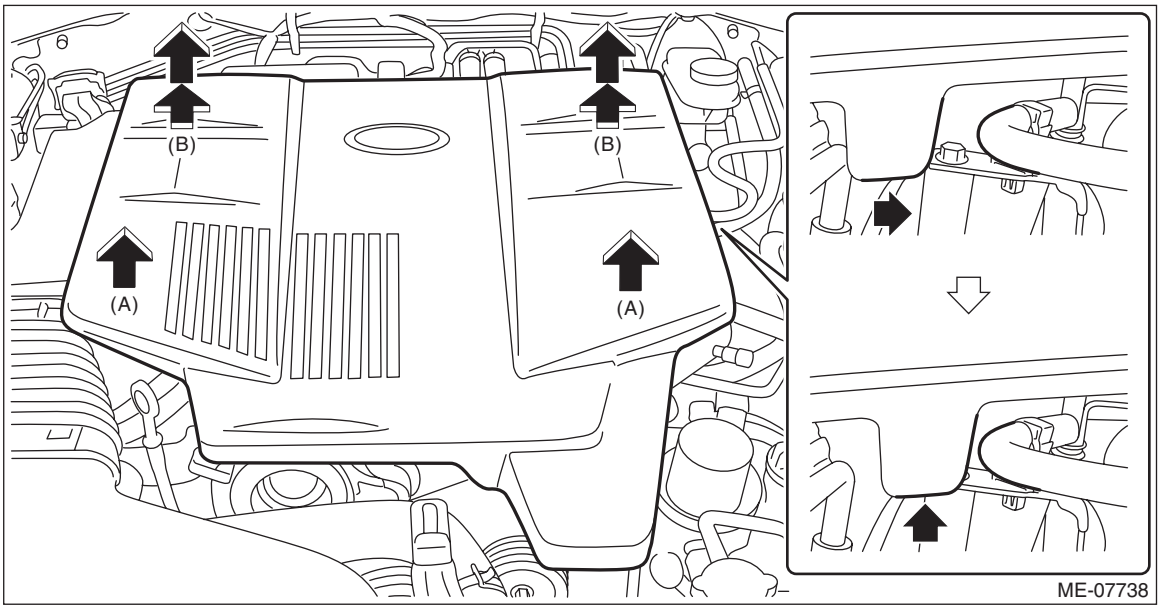
CAUTION:
• During operation, be sure to wear protective goggles and protective gloves.
• Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and recycle the gas.
• When recycling the discharged refrigerant, keep service cans on hand. Because 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
(2) Low pressure valve
(3) Center valve
(4) High pressure valve
(5) Low-pressure hose
(6) Center manifold hose (vacuum pump and charge)
(7) High-pressure hose
(8) Low-pressure side service port
(9) High-pressure side service port

1) Perform compressor oil return operation. <Ref. to AC-37, PROCEDURE, Compressor Oil.>
2) Turn the ignition switch to OFF.
3) Remove the collector cover. (HEV model)
   (1) Carefully pull up the front of collector cover at two positions (A).
   (2) Carefully pull up the rear of collector cover at two positions (B) while moving it backward.

NOTE:
Be careful not to contact the fuel delivery tube when moving the collector cover rearward.



4) 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.

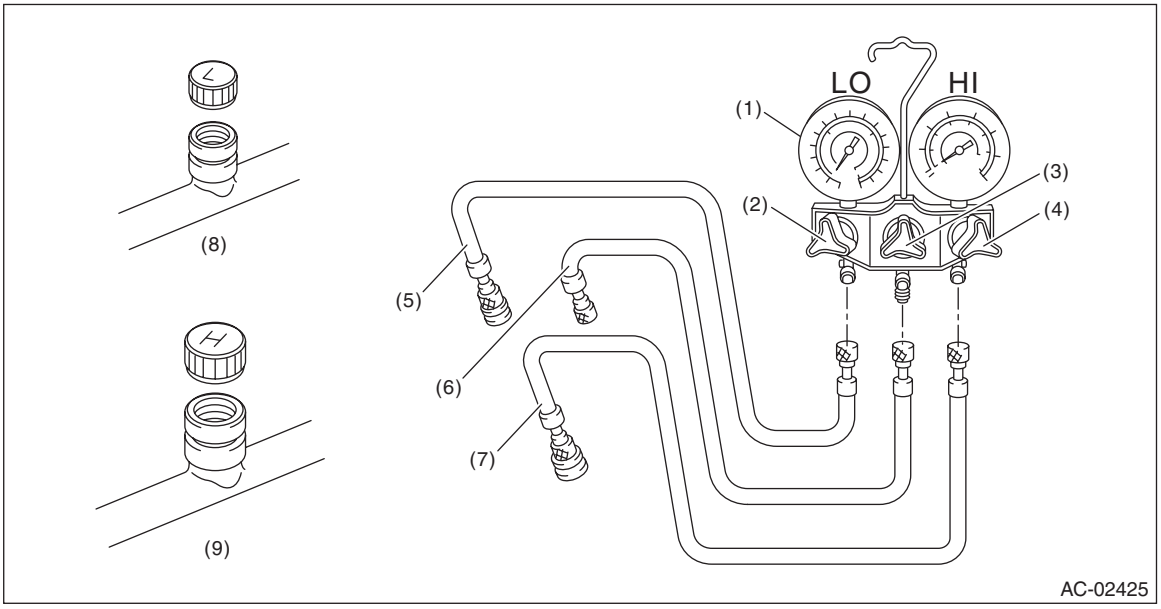
CAUTION:
Confirm that the connections are secure.
   (3) Connect the center hose to the refrigerant recovery system.
5) Follow the operation manual attached to the refrigerant recovery system to collect the refrigerant.

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.



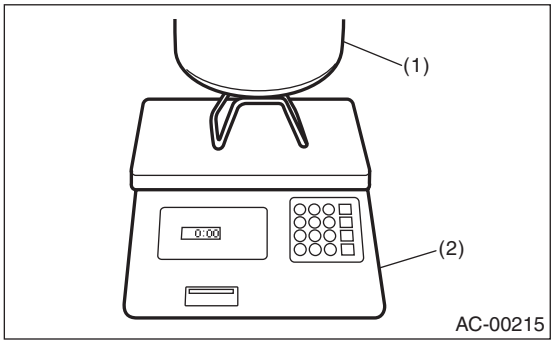
(1) Manifold gauge
(2) Low pressure valve
(3) Center valve
(4) High pressure valve
(5) Low-pressure hose
(6) Center manifold hose (vacuum pump and charge)
(7) High-pressure hose
(8) Low-pressure side service port
(9) High-pressure side service port

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.
   After repair, retry charging the refrigerant from the 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 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 manifold gauge valves and the tap valve of HFC-134a supply container, and replace the empty supply container with a new one. 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 r/min
A/C switch	ON
Temperature adjustment dial	LO (MAX COOL)
Fan dial	HI (MAX)
FRESH/RECIRC switch	RECIRC
Air flow control dial or 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-25, INSPECTION WITH PRESSURE SYMPTOMS, 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-33, 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

1) Attach the manifold gauge set.
   (1) Confirm 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 to operate the A/C system for approx. 10 minutes, and check that the high-pressure side shows at least 0.69 MPa (7.0 kgf/cm^2, 100 psi).

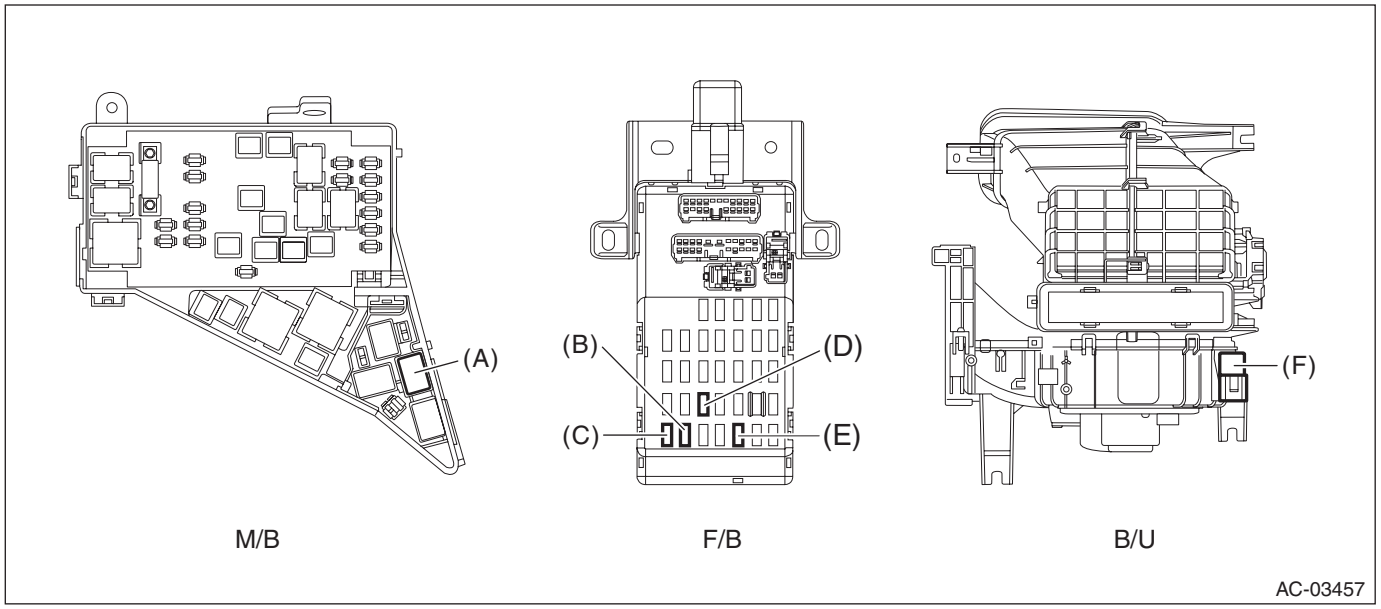
2) Stop the engine to start the leak test.

Inspection parts	Condition	Corrective action
Pipe	Check the connection between pipe and expansion valve.	Check the O-ring and tightening torque on the connection. 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 and tightening torque on the connection. If necessary, replace each part.
Condenser	Check the welded spot of condenser and the core.	Replace the condenser.
Hose (high-pressure)	Check the connection between hose (high-pressure) and compressor.	Check the O-ring and tightening torque on the connection. If necessary, replace each part.
	Check the connection between hose (high-pressure) and condenser.	Check the O-ring and tightening torque on the connection. If necessary, replace each part.
	Check the rubber part of the flexible hose and the seam between hose and pipe. **CAUTION:** **Carefully check the external surface of flexible hose and pipe 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 valve or cap.
Compressor	Check the compressor pulley and the 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.

Inspection parts	Condition	Corrective action
Hose (low-pressure)	Check the connection between hose (low-pressure) and expansion valve.	Check the O-ring and tightening torque on the connection. If necessary, replace each part.
	Check the connection between hose (low-pressure) and compressor.	Check the O-ring and tightening torque on the connection. If necessary, replace each part.
	Check the rubber part of the flexible hose and the seam between hose and pipe. **CAUTION:** **Carefully check the external surface of flexible hose and pipe 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 valve or cap.
Evaporator	Remove the drain hose from the heater case, and check the end portion 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	A/C relay	(A)
Relay & fuse box	Fuse 15 A (blower motor relay)	(B)
	Fuse 15 A (blower motor relay)	(C)
	Fuse 10 A (A/C control panel)	(D)
	Fuse 7.5 A (A/C control panel)	(E)
Blower motor unit	Blower motor relay	(F)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- Gasoline engine model: <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model: <Ref. to WI(HEV)-21, Power Supply Circuit.>

B: INSPECTION

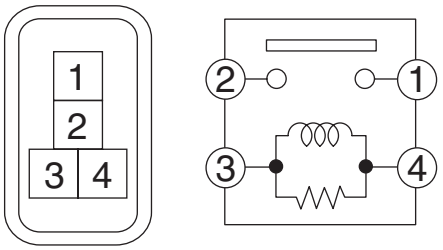
1. CHECK FUSE

1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

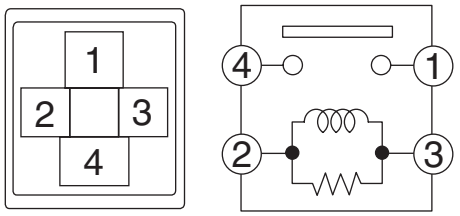
NOTE:
If the fuse is blown again, check the system wiring harness.

2. CHECK RELAY

1) Check the resistance between relay terminals.
- A/C relay

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Always	1 MΩ or more	 LI-01273
1 — 2	Apply battery voltage between terminals 4 and 3.	Less than 1 Ω	

- Blower motor relay

Terminal No.	Inspection conditions	Standard	Circuit
1 — 4	Always	1 MΩ or more	 AC-02796
1 — 4	Apply battery voltage between terminals 2 and 3.	Less than 1 Ω	

2) Replace the relay if the inspection result is not within the standard.

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 assembly.
1) Increase the engine speed to 1,500 r/min.
2) Turn the A/C switch to ON.
3) Turn the temperature control dial to LO (MAX COOL).
4) Turn the FRESH/RECIRC switch to RECIRC position.
5) Turn the fan 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 assembly, the new compressor assembly 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 assembly) and install the new compressor assembly.

NOTE:
Since the hygroscopicity of compressor oil is high, perform this series of works quickly.

9. Blower Motor Unit Assembly

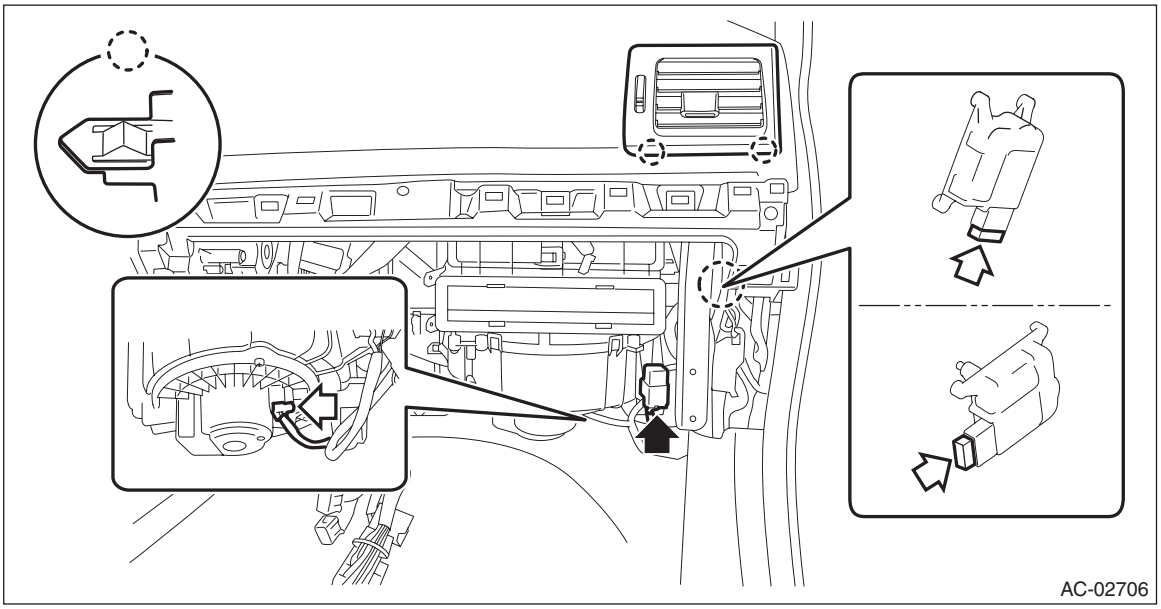
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

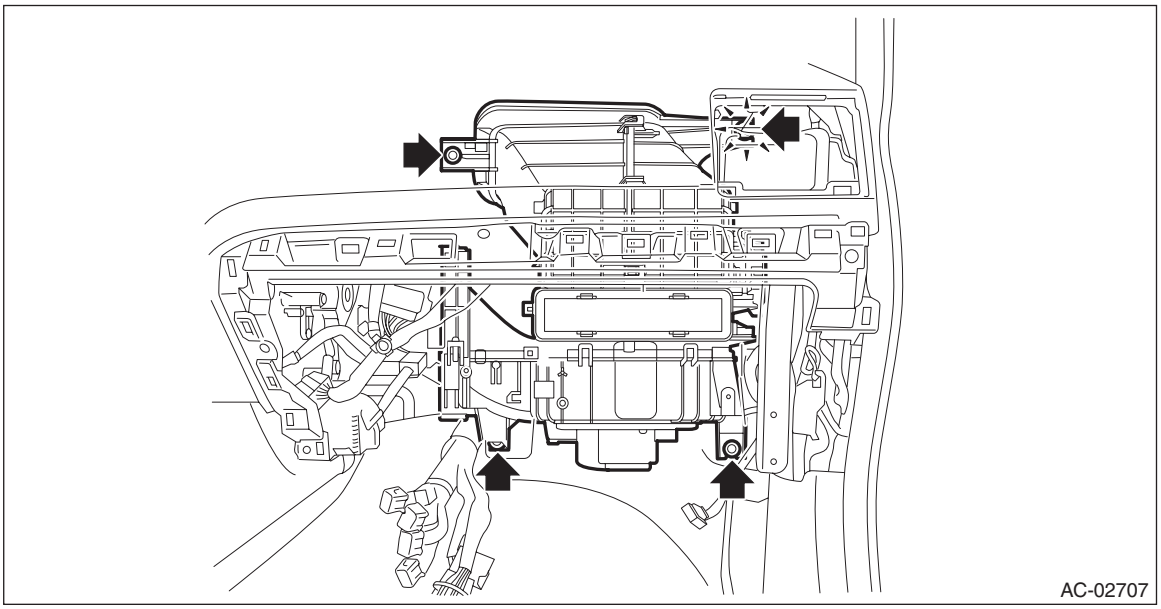
2) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
3) Remove the engine control module (ECM).
- Gasoline engine model: <Ref. to FU(H4DO(w/o HEV))-100, REMOVAL, Engine Control Module (ECM).>
- HEV model: <Ref. to FU(H4DO(HEV))-85, REMOVAL, Engine Control Module (ECM).>

4) Remove the blower motor unit assembly.
   (1) Release the claws, and then remove the grille assembly - ventilation RH.
   (2) Disconnect the blower motor relay and each connector.


AC-02706

   (3) Remove the bolts and nuts to remove blower motor unit assembly.

NOTE:
Remove the RH upper nut from the mounting portion of the grille assembly - ventilation RH.


AC-02707

B: INSTALLATION

CAUTION:
After installing the grille assembly - ventilation RH, check that the air vent grille of the grille assembly - ventilation RH is inserted correctly into the air vent duct.
Install each part in the reverse order of removal.

Tightening torque:
Blower motor unit: <Ref. to AC-10, BLOWER MOTOR UNIT, COMPONENT, General Description.>

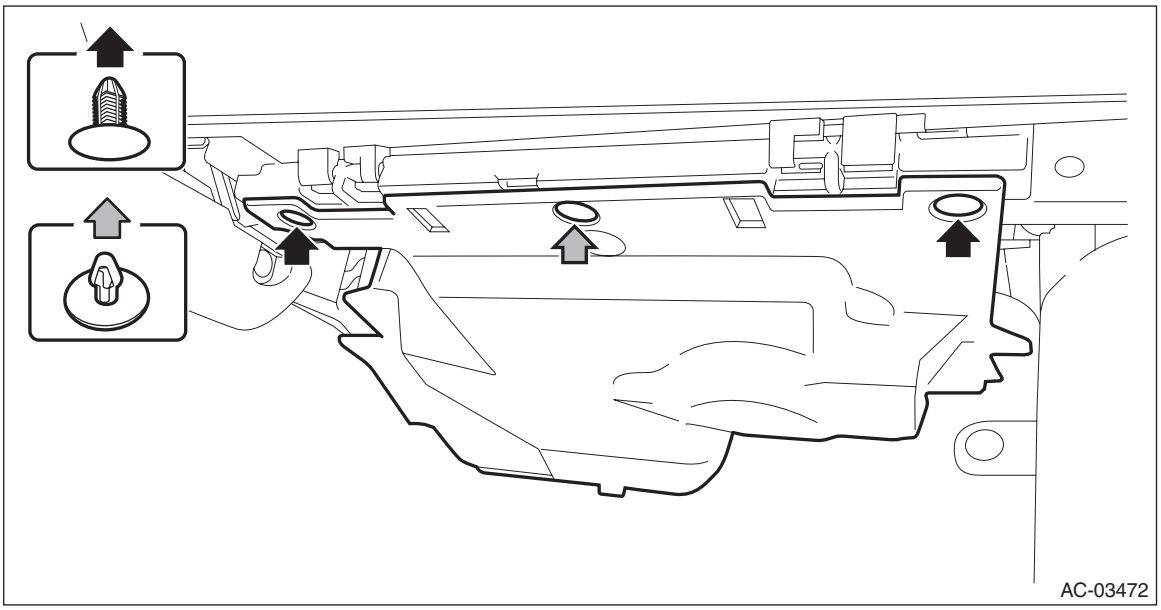
10.Blower Motor

A: REMOVAL

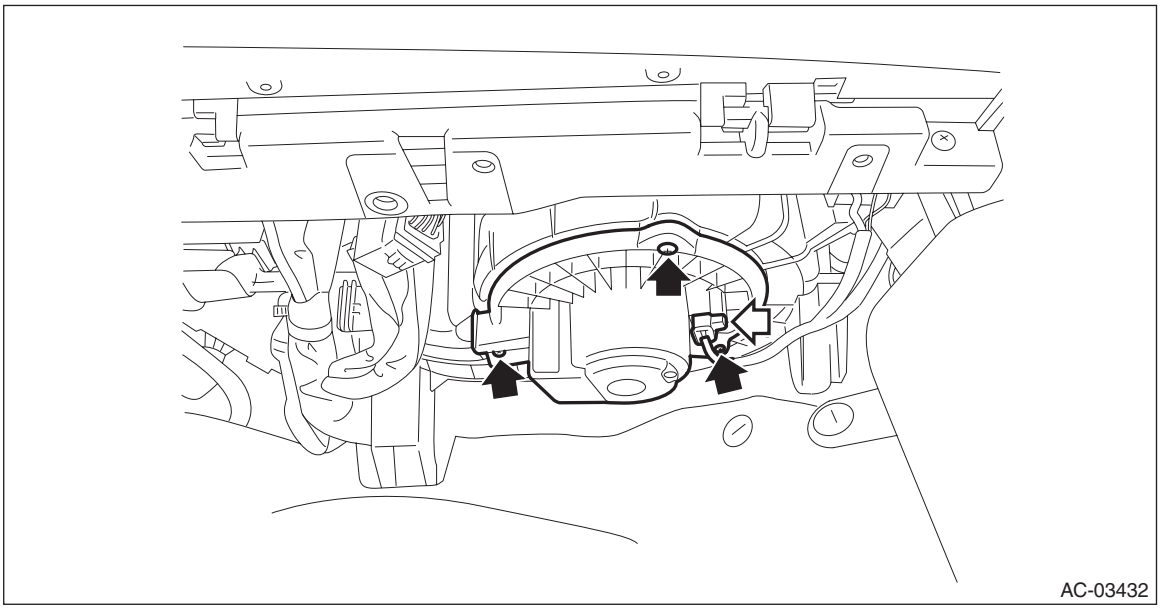
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Release the clips, and remove the under cover assembly - passenger.



3) Remove the blower - motor.
   (1) Disconnect the connector.
   (2) Remove the screws and detach the blower - motor.



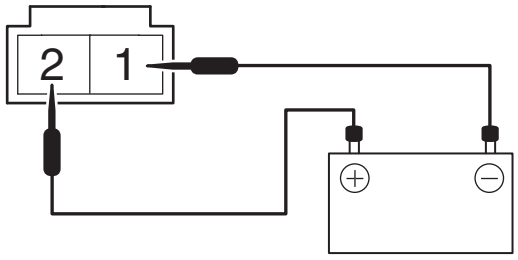
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

UNIT INSPECTION

1) Check the motor operation when battery voltage is applied between the terminals of motor.

Terminal No.	Inspection conditions	Specification	Connection diagram
2 (+) — 1 (–)	Connect battery to the terminals	Speed	 AC-02797

2) If it does not operate normally, replace the blower - motor.

11.Power Transistor (Auto A/C Model)

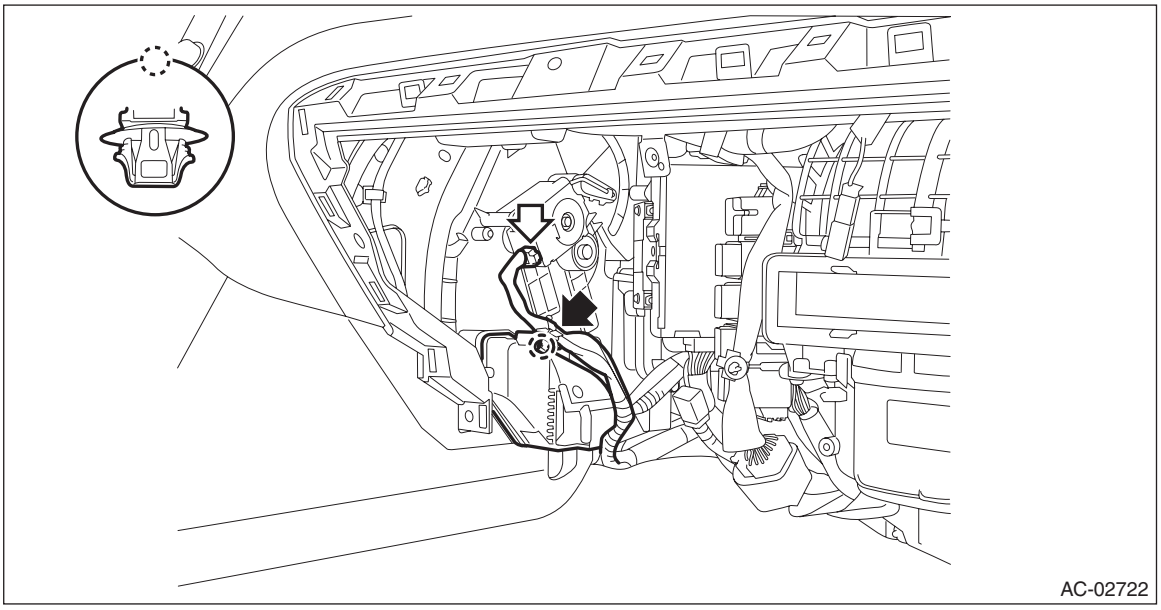
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

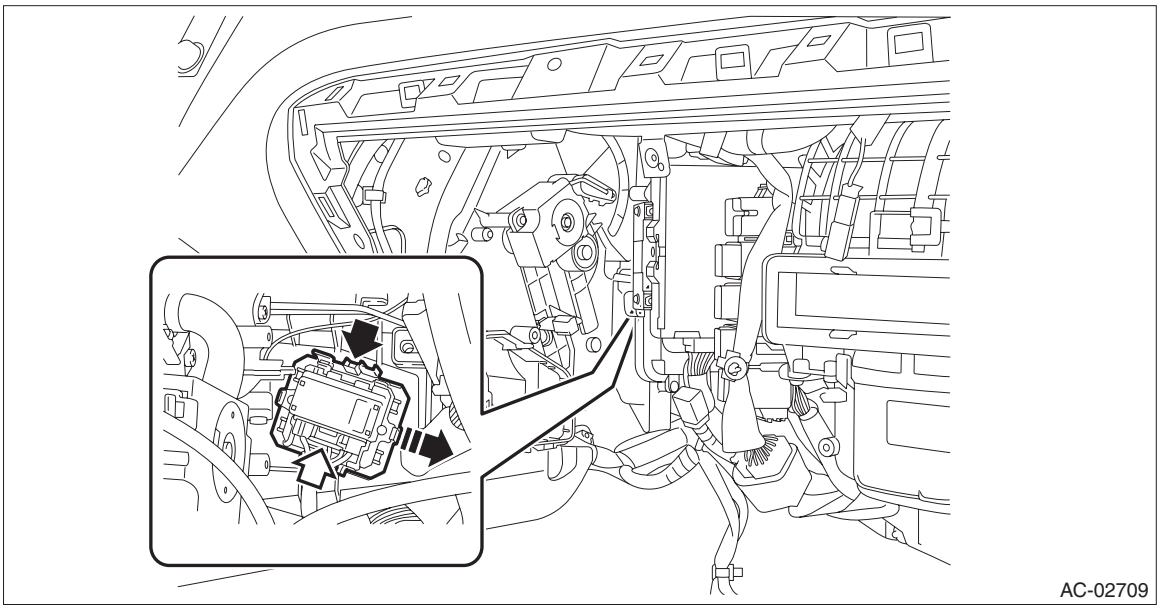
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
3) Remove the screws and remove the duct - foot RH.

NOTE:
Remove the connector and clip of the motor - actuator mix RH, and move the harness aside.


AC-02722

4) Remove the power transistor.
   (1) Disconnect the connector.
   (2) Remove the power transistor while pressing the power transistor body claw part and sliding it.


AC-02709

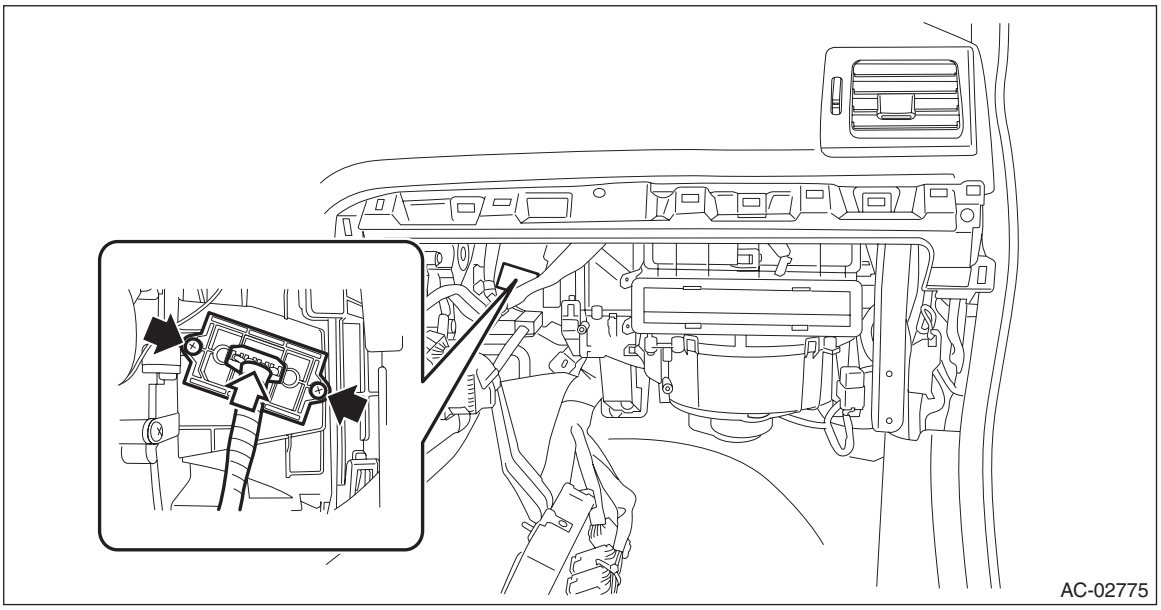
B: INSTALLATION

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 glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
3) Remove the engine control module (ECM). <Ref. to FU(H4DO(w/o HEV))-100, REMOVAL, Engine Control Module (ECM).>
4) Remove the resistor.
   (1) Disconnect the connector.
   (2) Remove the screw and remove the resistor.



B: INSTALLATION

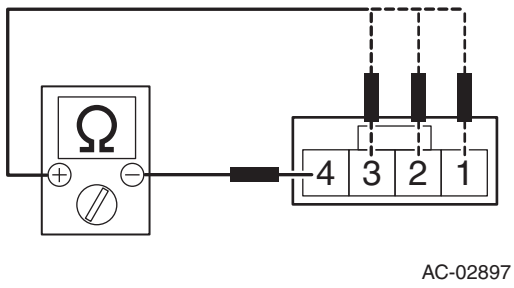
Install each part in the reverse order of removal.

C: INSPECTION

UNIT INSPECTION

PREPARATION TOOL:
Circuit tester

1) Check the resistance between resistor terminals.

Terminal No.	Standard	Connection diagram
4 — 3	Approx. 0.43 Ω	
4 — 2	Approx. 1.03 Ω	
4 — 1	Approx. 3 Ω	

2) Replace the resistor if the inspection result is not within the standard.

13.Heater Core

A: REMOVAL

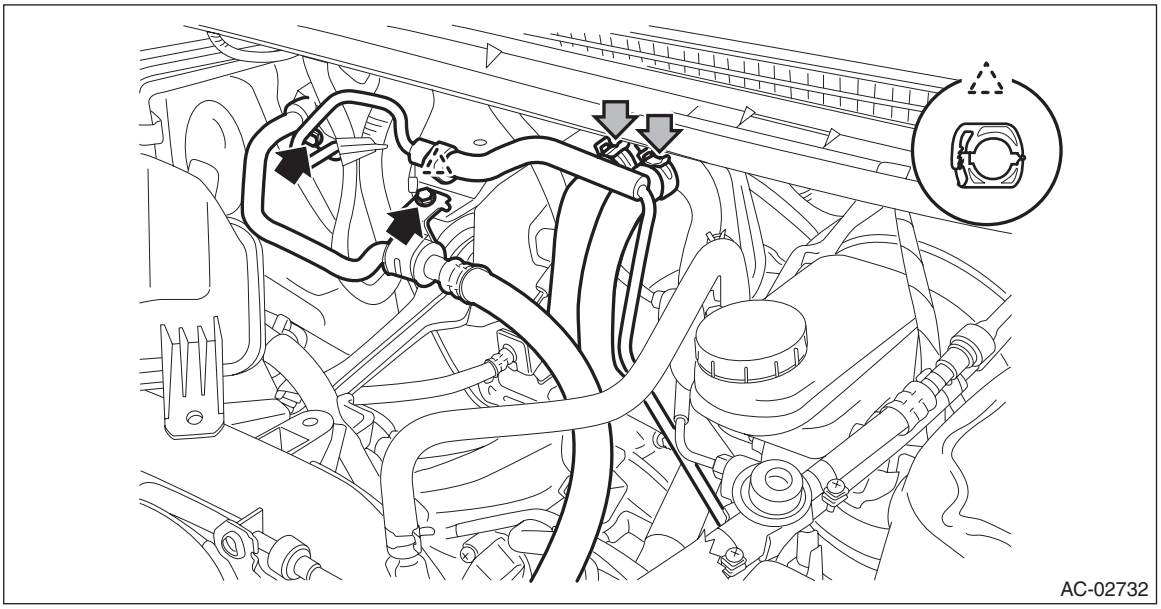
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain the coolant from the radiator. <Ref. to CO(H4DO(w/o HEV))-16, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
4) Remove the intake boot. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-12, REMOVAL, Air Intake Boot.>

CAUTION:
Move aside the intake boot to perform the operation without disconnecting the PCV hose.
5) Remove the air cleaner case. (HEV model) <Ref. to IN(H4DO(HEV))-6, REMOVAL, Air Cleaner Case.>
6) Remove the bolt, and remove the hose - pressure suction and the pipe - evaporator cooling from the expansion valve - cooling.

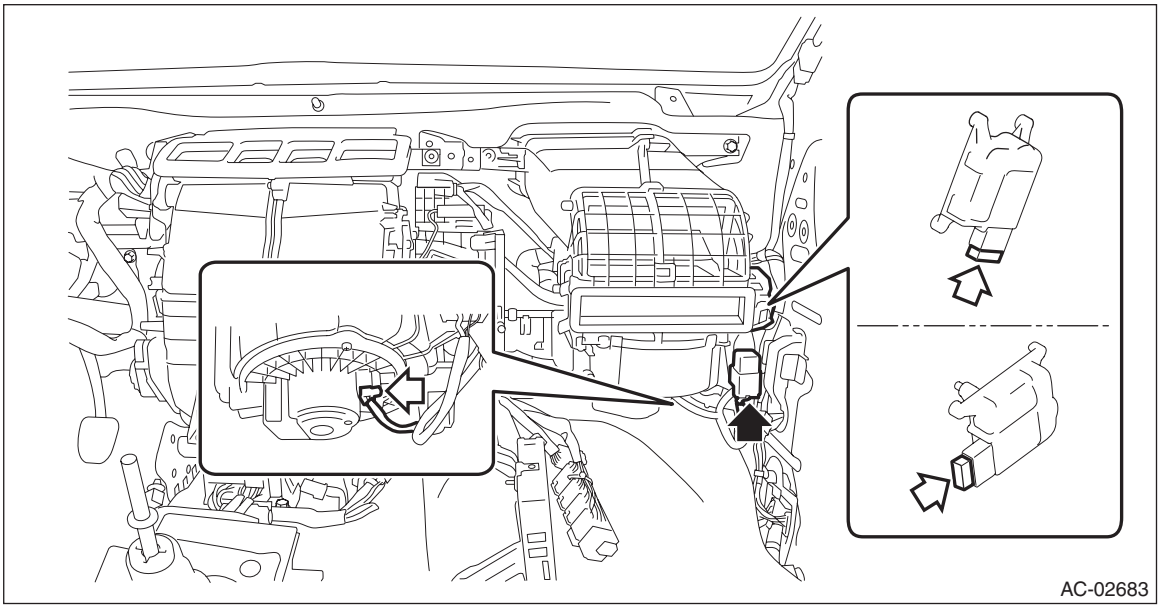
CAUTION:
Seal the disconnected hose and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.
7) Loosen the heater hose clamps and remove the hoses.

NOTE:
Put alignment marks to hoses, clamps, etc. and remove them.

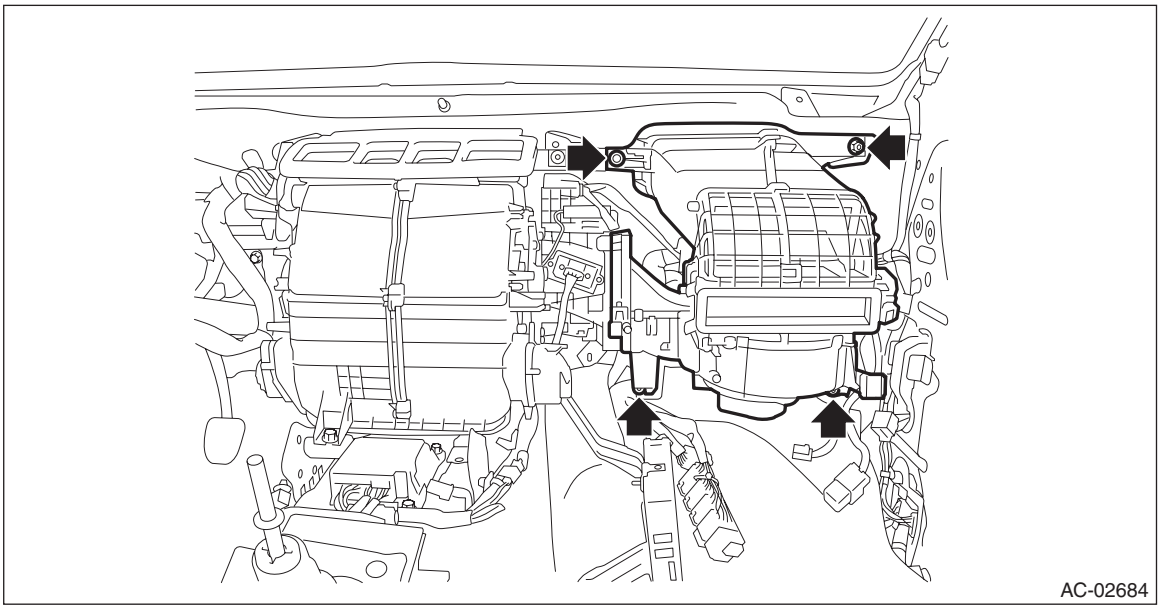


8) Remove the instrument panel assembly. <Ref. to EI-83, REMOVAL, Instrument Panel Assembly.>
9) Remove the engine control module (ECM).
- Gasoline engine model: <Ref. to FU(H4DO(w/o HEV))-100, REMOVAL, Engine Control Module (ECM).>
- HEV model: <Ref. to FU(H4DO(HEV))-85, REMOVAL, Engine Control Module (ECM).>

10) Remove the blower motor unit assembly.
(1) Disconnect the blower motor relay and each connector.

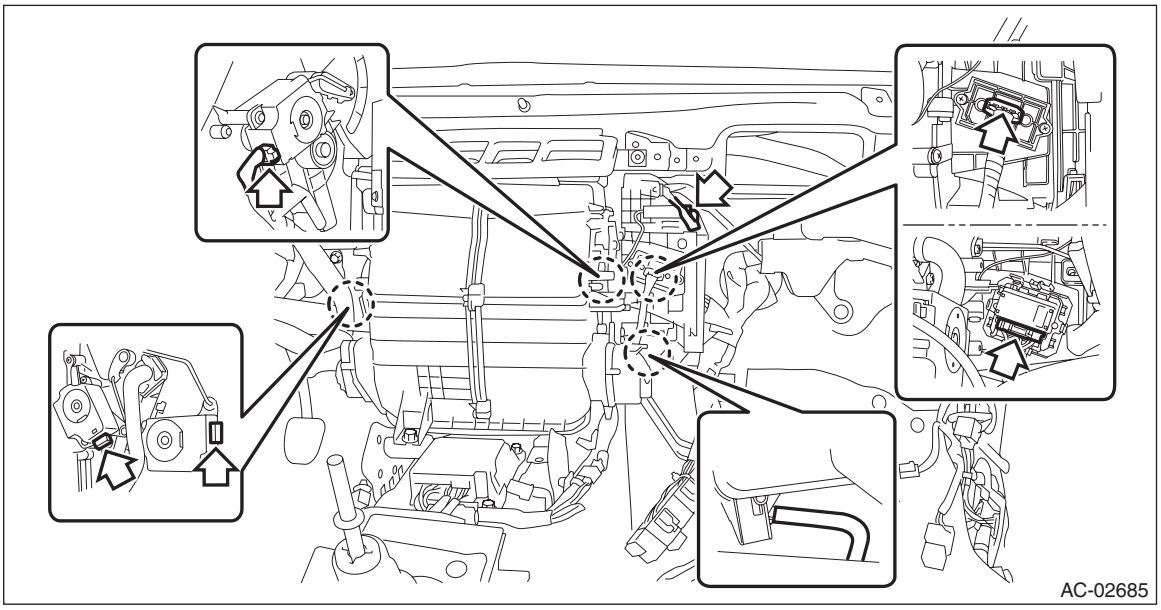


(2) Remove the bolts and nuts to remove blower motor unit assembly.

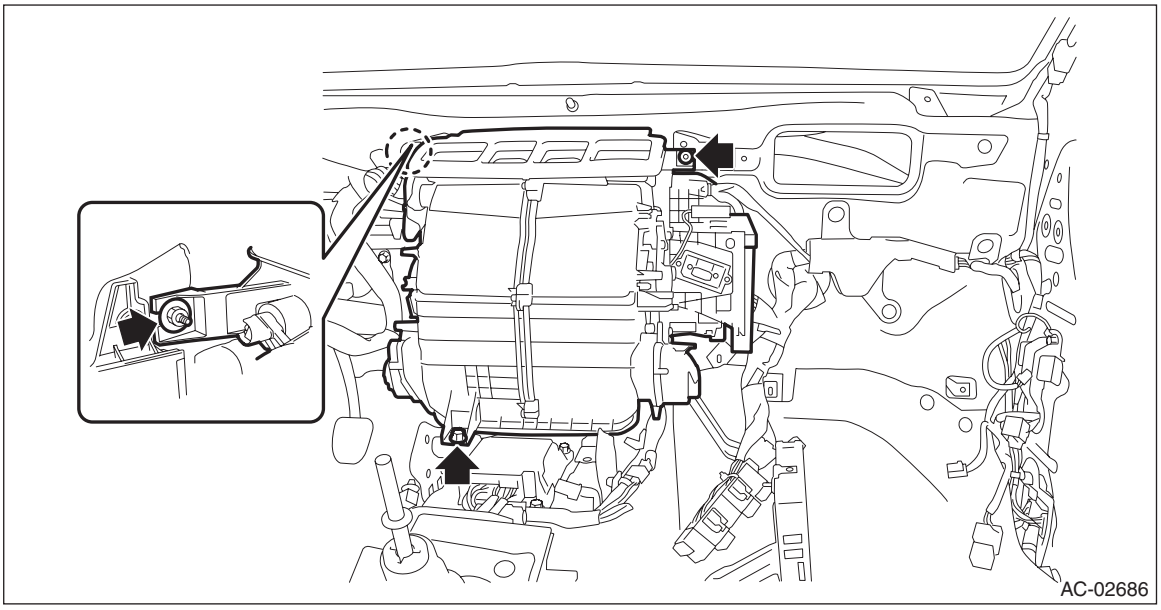


11) Remove the heater and cooling unit assembly.
(1) Disconnect each connector and the hose - drain.

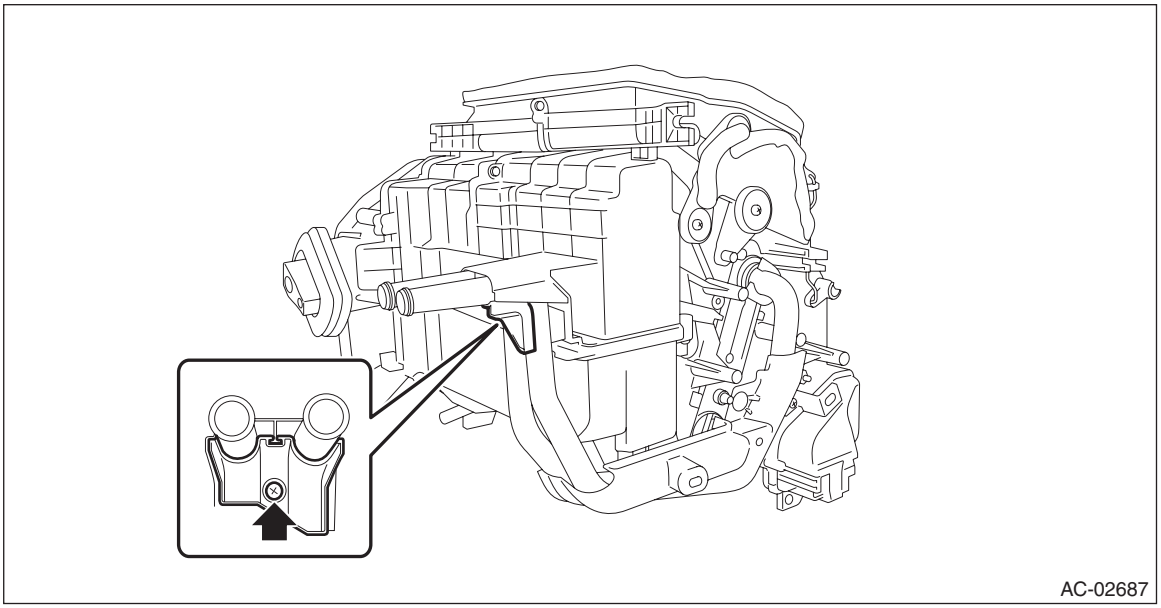
NOTE:
For HEV model, disconnect the heater core sensor connector.



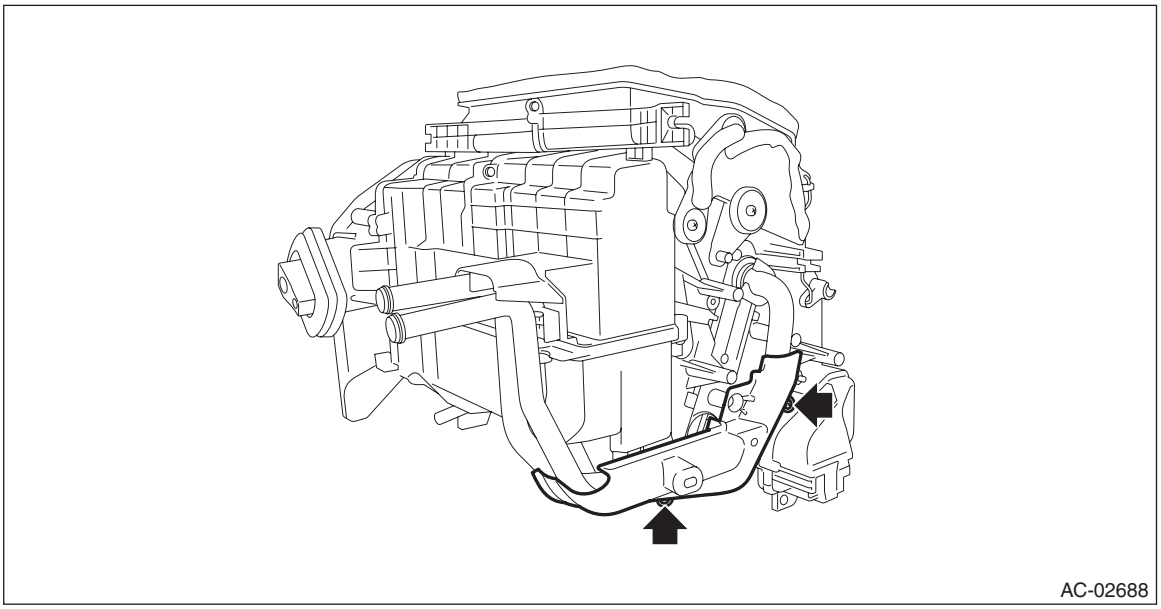
(2) Remove the bolt and nuts, and remove the heater & cooling unit assembly.



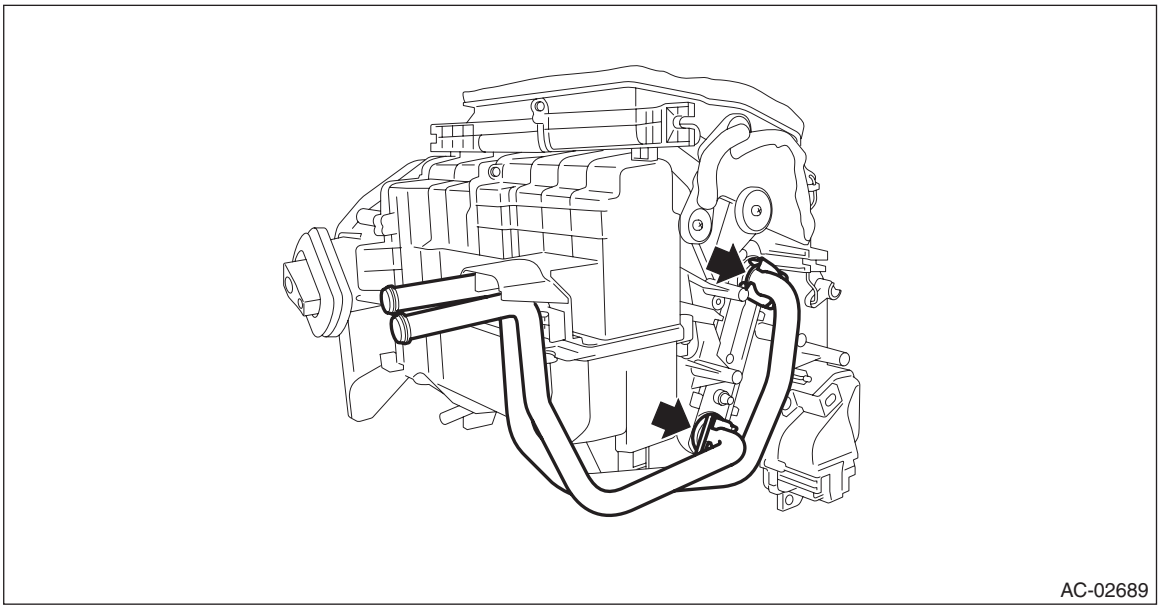
12) Remove the heater core.
(1) Remove the screw and detach the clamp - pipe.


AC-02687

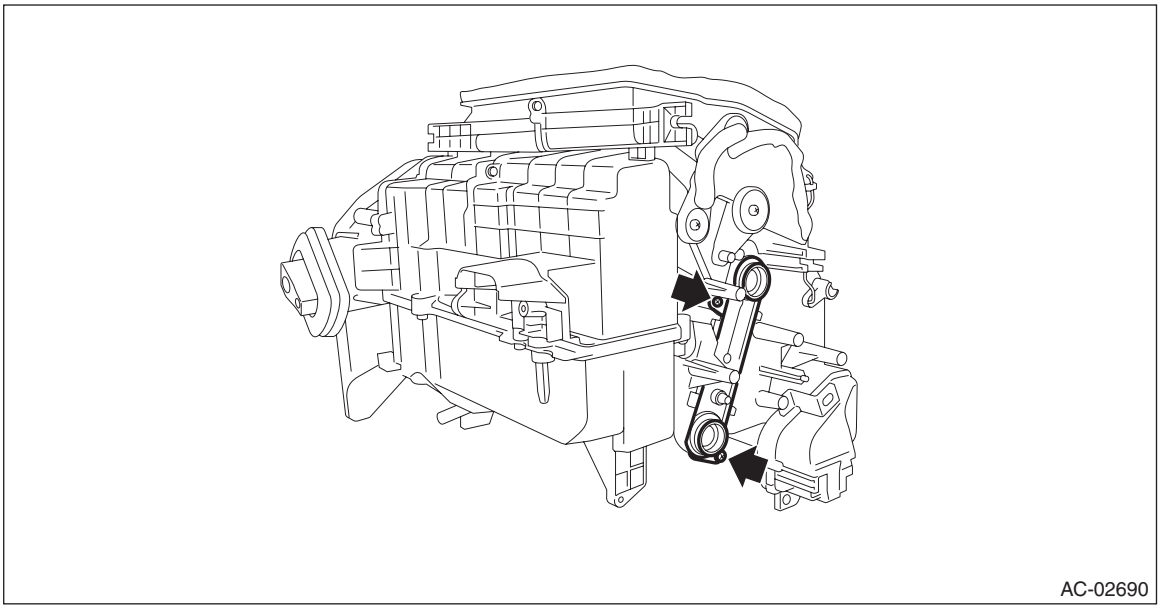
(2) Remove the screws and detach the cover - heater pipe.


AC-02688

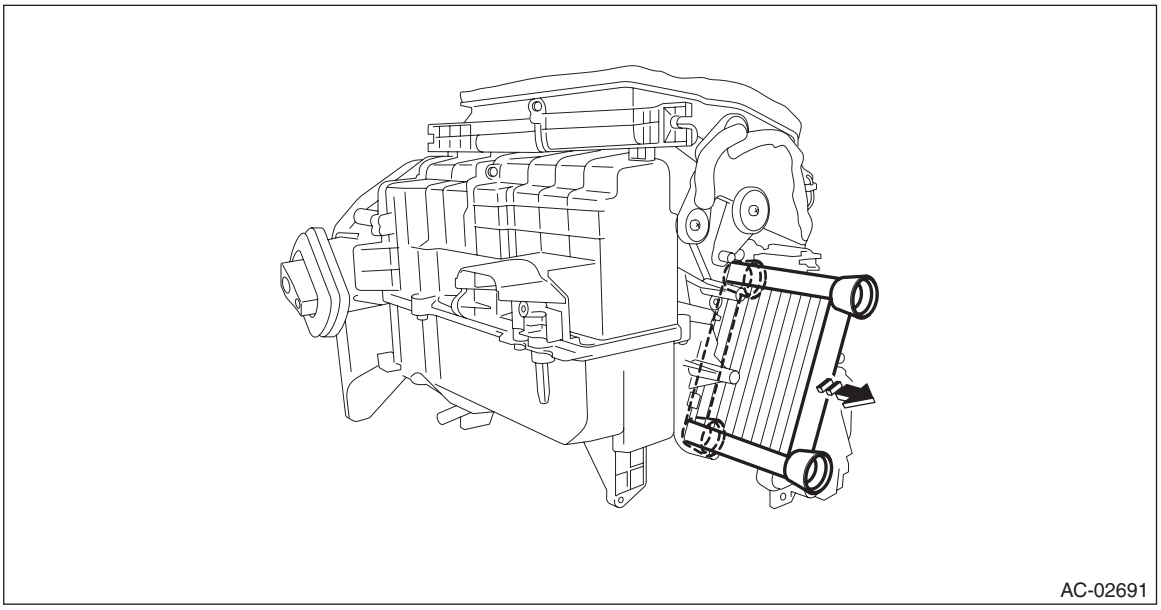
(3) Remove the clamp, and remove the pipe - inlet and outlet.



(4) Remove the screws and detach the plate - heater core.



(5) Pull out the heater core from the case - heater unit.



B: INSTALLATION

CAUTION:
Replace O-rings and clamps with new parts and install securely.
1) Install each part in the reverse order of removal.

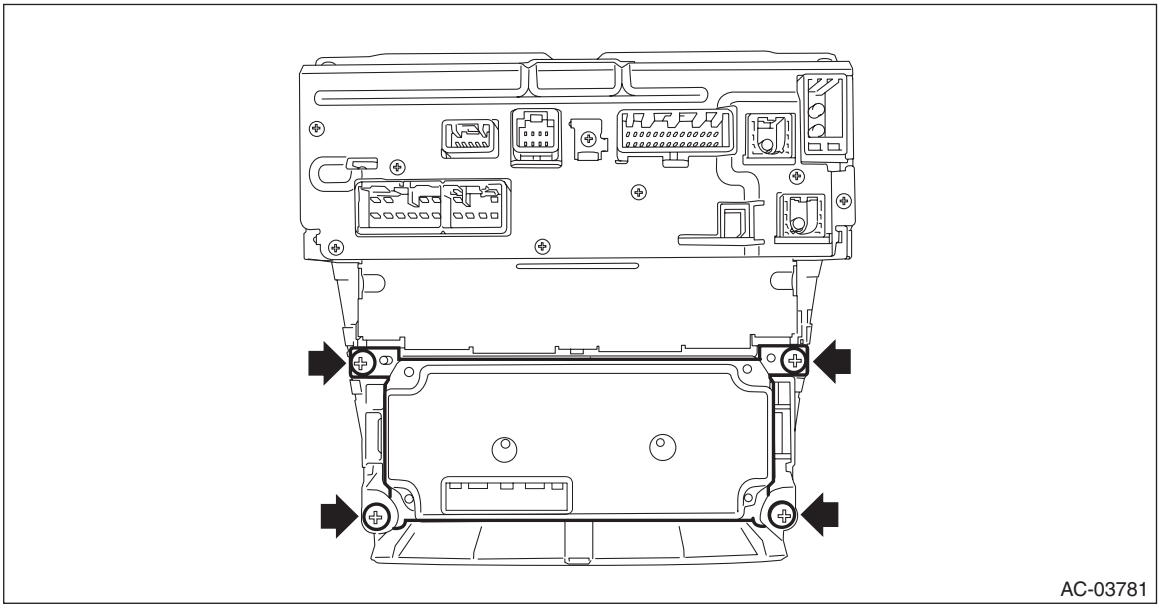
Tightening torque:
Heater and cooling unit: <Ref. to AC-6, HEATER AND COOLING UNIT, COMPONENT, General Description.>
Blower motor unit: <Ref. to AC-10, BLOWER MOTOR UNIT, COMPONENT, General Description.>
Air conditioning unit: <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>
2) Fill engine coolant. <Ref. to CO(H4DO(w/o HEV))-16, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
3) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

14.Control Panel

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the cover assembly - instrument panel LWR driver and the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
3) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
4) Remove the center grille assembly. <Ref. to AC-104, CENTER GRILLE ASSEMBLY, REMOVAL, Air Vent Grille.>
5) Remove the audio assembly or navigation assembly. <Ref. to ET-12, REMOVAL, Audio.>
6) Remove the screws to remove the heater control assembly.



NOTE:
For manual A/C model, refer to the above steps for removal.

B: INSTALLATION

CAUTION:
After installing the center grille assembly, check that the air vent grille of the center grille assembly is inserted correctly into the air vent duct.
Install each part in the reverse order of removal.

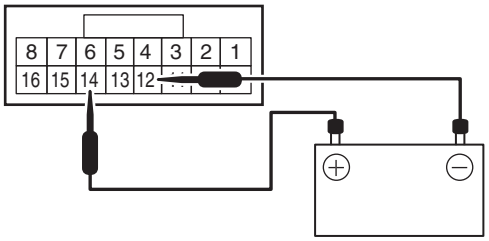
C: INSPECTION

1. CHECK ILLUMINATION

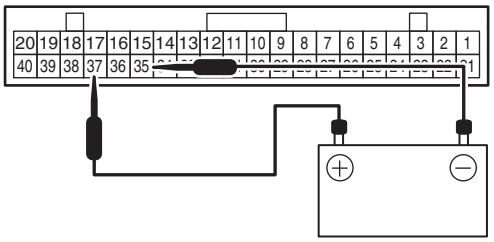
UNIT INSPECTION

1) Check the illumination operation when battery voltage is applied between the terminals of control panel.

- Manual A/C model

Terminal No.	Inspection conditions	Specification	Connection diagram
14 (+) — 12 (–)	Connect battery to the terminals	Light ON	 AC-02733

- Auto A/C model

Terminal No.	Inspection conditions	Specification	Connection diagram
37 (+) — 35 (–)	Connect battery to the terminals	Light ON	 AC-02734

2) If it does not operate normally, replace the heater control assembly.

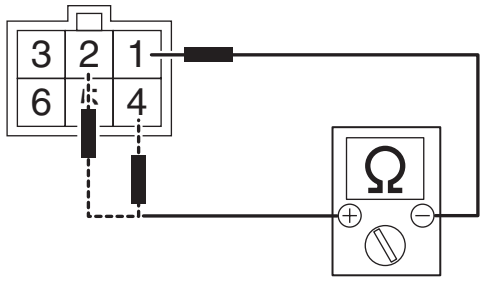
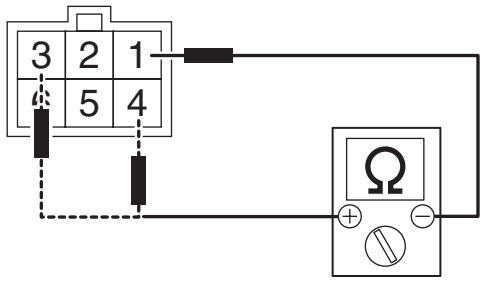
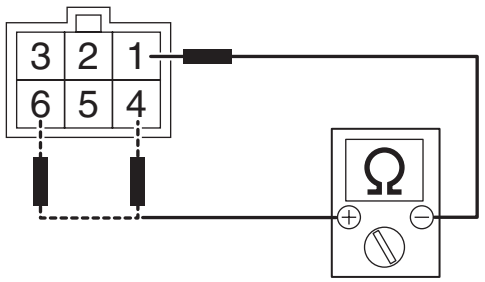
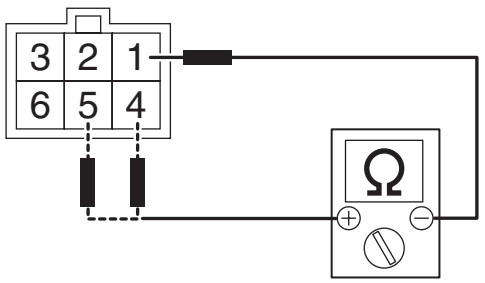
2. BLOWER SWITCH (MANUAL A/C MODEL)

UNIT INSPECTION

PREPARATION TOOL:

Circuit tester

1) Measure the resistance between the control panel terminals.

Terminal No.	Inspection conditions	Standard	Connection diagram
—	OFF	—	—
1 — 2, 4	1 (LO)	Less than 1 Ω	 AC-02798
1 — 3, 4	2 (M1)	Less than 1 Ω	 AC-02799
1 — 4, 6	3 (M2)	Less than 1 Ω	 AC-02800
1 — 4, 5	4 (HI)	Less than 1 Ω	 AC-02801

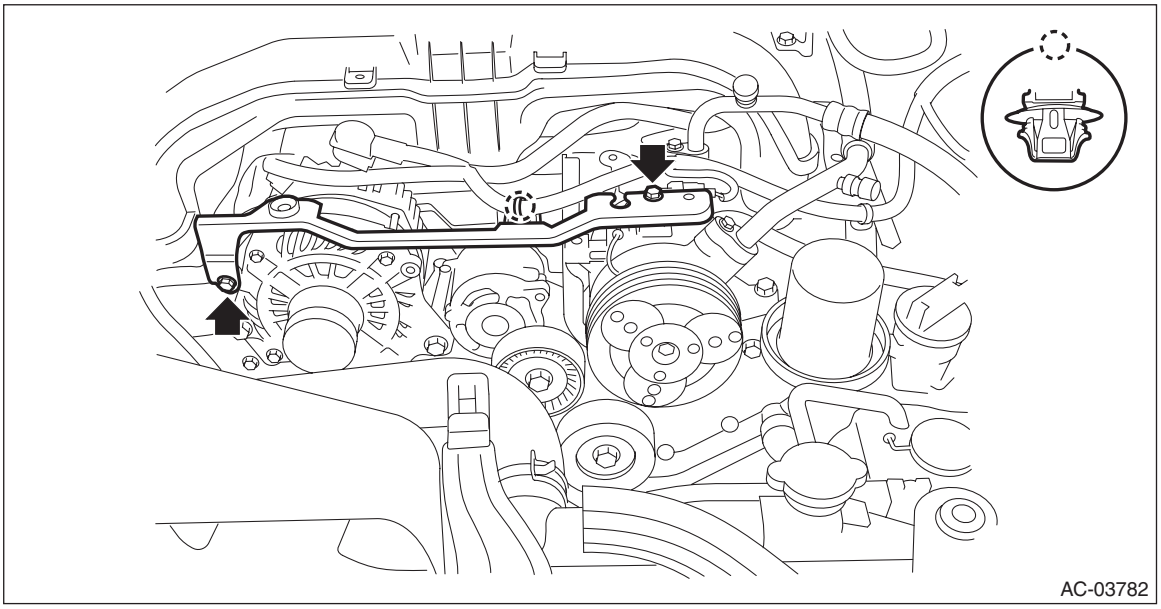
2) Replace the heater control assembly if the inspection result is not within the standard.

15.Compressor

A: REMOVAL

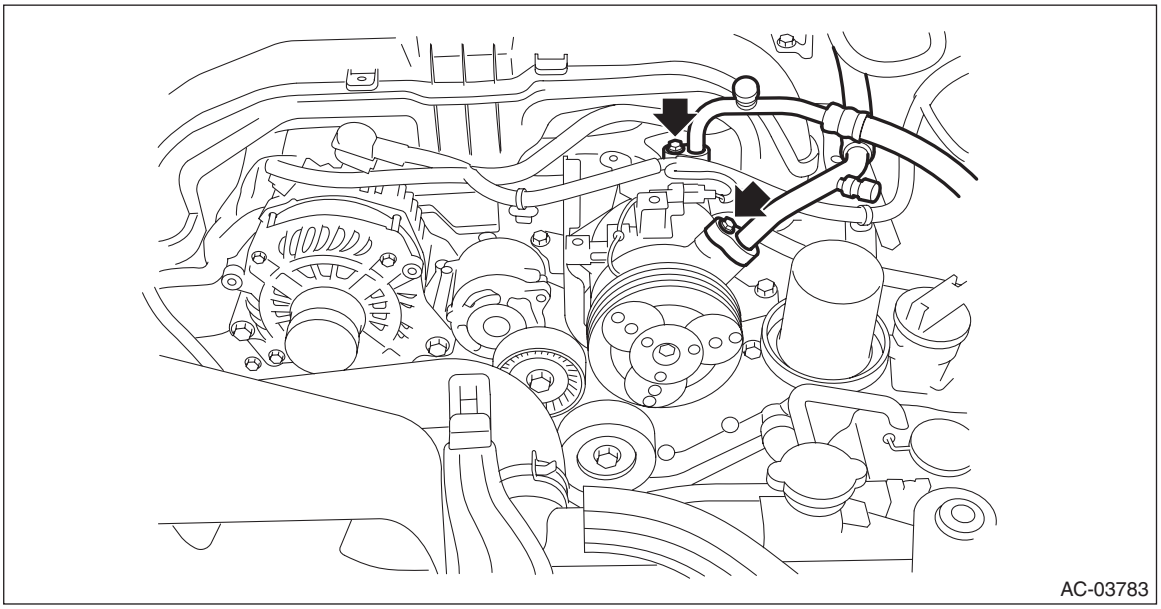
1. GASOLINE ENGINE MODEL

1) Perform compressor oil return operation. <Ref. to AC-37, 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-28, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from battery.
5) Remove the V-belts. <Ref. to ME(H4DO(w/o HEV))-122, REMOVAL, V-belt.>
6) Remove the harness clips and bolts, and remove the V-belt cover bracket.


AC-03782

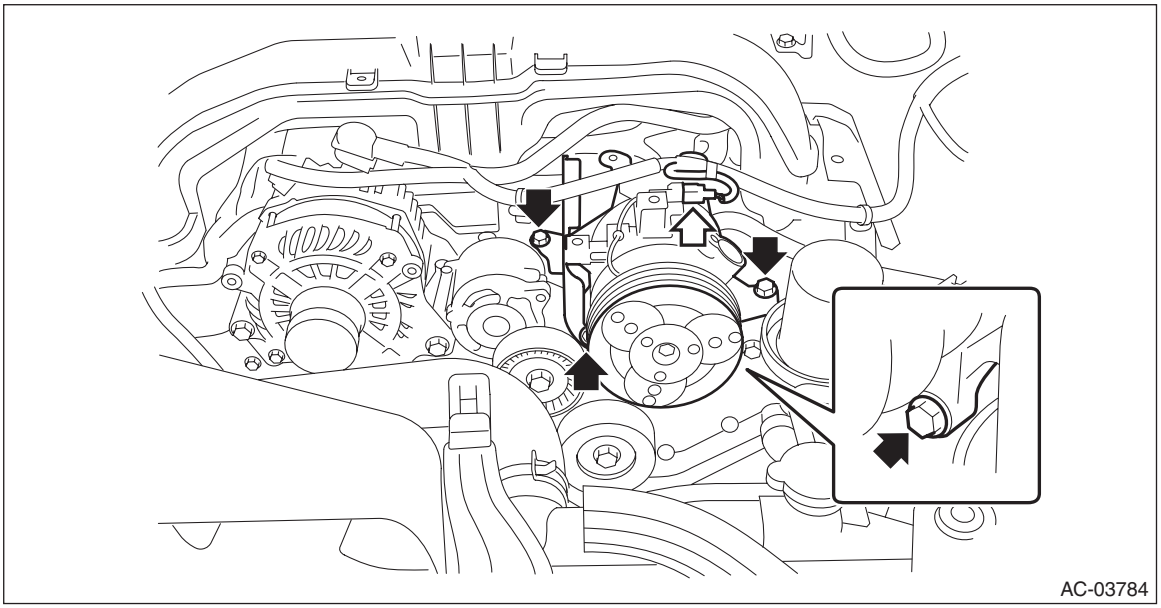
7) Remove the bolt, and detach the hose - pressure suction and the hose - pressure discharge.

CAUTION:
Seal the disconnected hose and engaging part of compressor with a plug or vinyl tape to prevent foreign matter from entering.


AC-03783

8) Remove the compressor assembly.
(1) Disconnect the connector.
(2) Remove the bolts and remove the compressor assembly.

NOTE:
Tighten the engine hanger together with the compressor assembly.



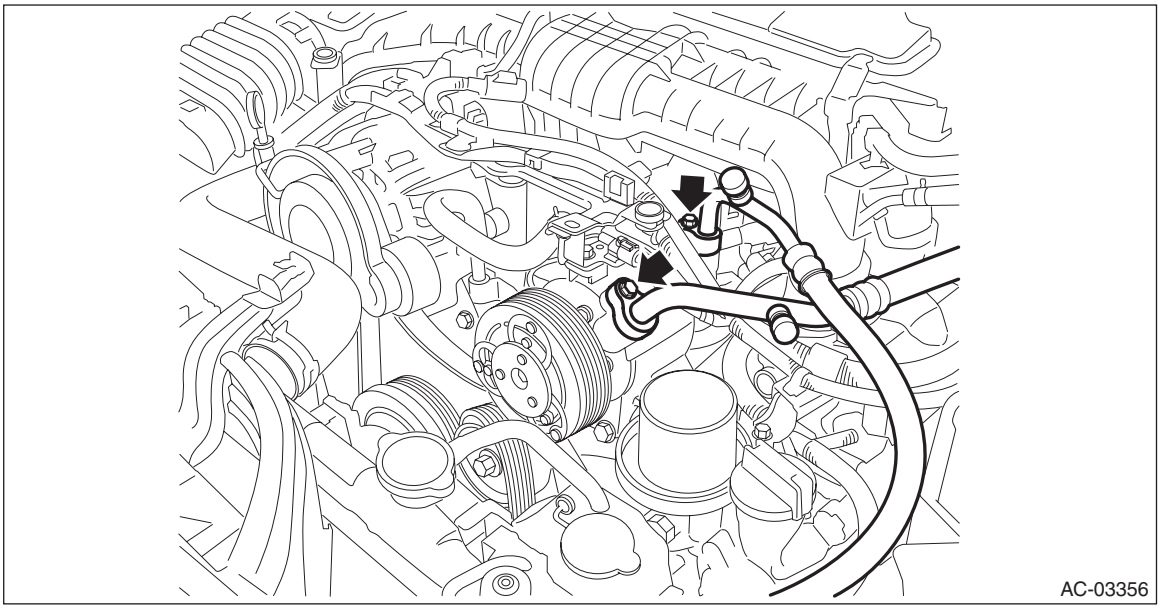
2. HEV MODEL

1) Perform compressor oil return operation. <Ref. to AC-37, PROCEDURE, Compressor Oil.>
2) Turn the A/C switch to OFF, and turn the ignition switch to OFF.
3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

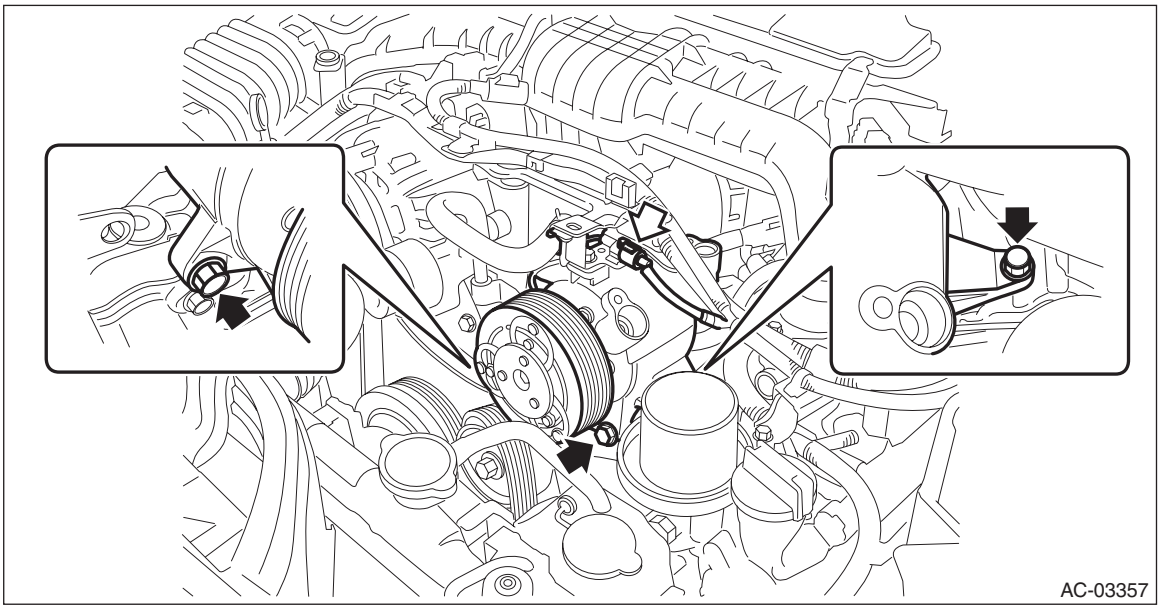
NOTE:
For the 12 volt engine restart battery, disconnect the ground terminal from 12V engine restart battery sensor.
5) Remove the brake vacuum pump and bracket. <Ref. to BR-80, REMOVAL, Brake Vacuum Pump.>
6) Loosen the V-belt, and remove the V-belt from the compressor pulley. <Ref. to ME(H4DO(w/o HEV))-124, HEV MODEL, REMOVAL, V-belt.>

7) Remove the bolt, and detach the hose - pressure suction and the hose - pressure discharge.

CAUTION:
Seal the disconnected hose and engaging part of compressor assembly with a plug or vinyl tape to prevent foreign matter from entering.



8) Remove the compressor assembly.
(1) Disconnect the connector.
(2) Remove the bolts and remove the compressor assembly.



B: INSTALLATION

CAUTION:
• Replace the O-rings on the hose - pressure suction and discharge with new parts, and then apply compressor oil.
• After replacing the compressor assembly, adjust the amount of the compressor oil. <Ref. to AC-37, ADJUSTMENT, Compressor Oil.>
1) Install each part in the reverse order of removal.

Tightening torque:
Air conditioning unit: <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Compressor: <Ref. to AC-14, COMPRESSOR, COMPONENT, General Description.>
V-belt cover bracket and generator bracket: <Ref. to SC(H4DO(w/o HEV))-5, GENERATOR BRACKET, COMPONENT, General Description.>
2) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

C: INSPECTION

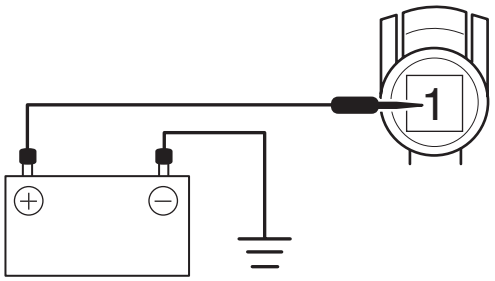
1. MAGNET CLUTCH CLEARANCE INSPECTION

1) Check the clearance of entire circumference around the drive plate and pulley.

Specification:
0.3 — 0.6 mm (0.0118 — 0.0236 in)
2) Replace the compressor assembly if the inspection result is not within the standard.

2. MAGNET CLUTCH OPERATION INSPECTION

UNIT INSPECTION
1) Check the magnet clutch operation when battery voltage is applied to the compressor terminal.

Terminal No.	Inspection conditions	Specification	Connection diagram
1 (+) — chassis ground (–)	Battery connection between compressor terminal and chassis ground	Engagement of magnet clutch	 AC-02772

2) If it does not operate normally, replace the compressor assembly.

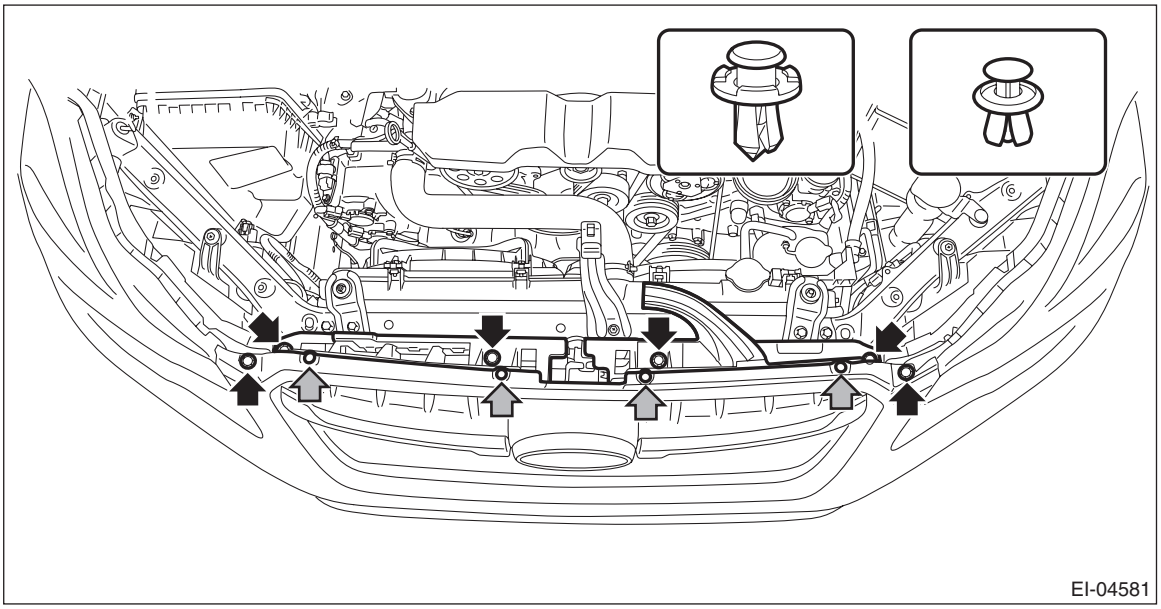
16.Condenser

A: REMOVAL

1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
2) Remove the air intake duct.
- Gasoline engine model: <Ref. to IN(H4DO(w/o HEV))-13, REMOVAL, Air Intake Duct.>
- HEV model: <Ref. to IN(H4DO(HEV))-15, REMOVAL, Air Intake Duct.>

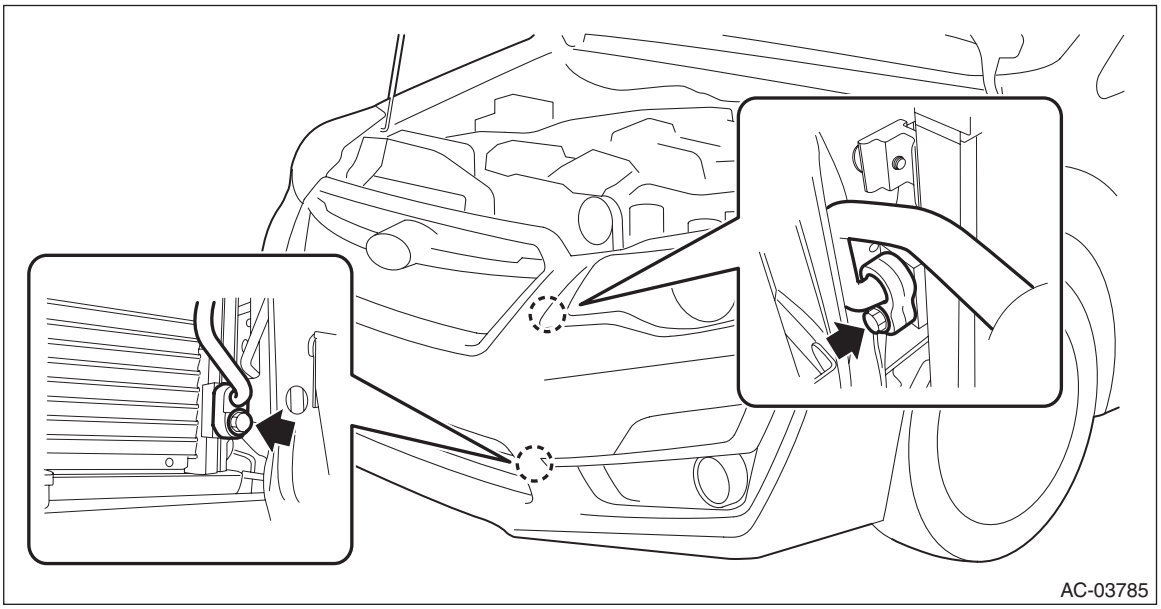
3) Remove the clip, and remove the bracket - grille.

NOTE:
To prevent damage to the bracket - grille, make sure to remove all clips.

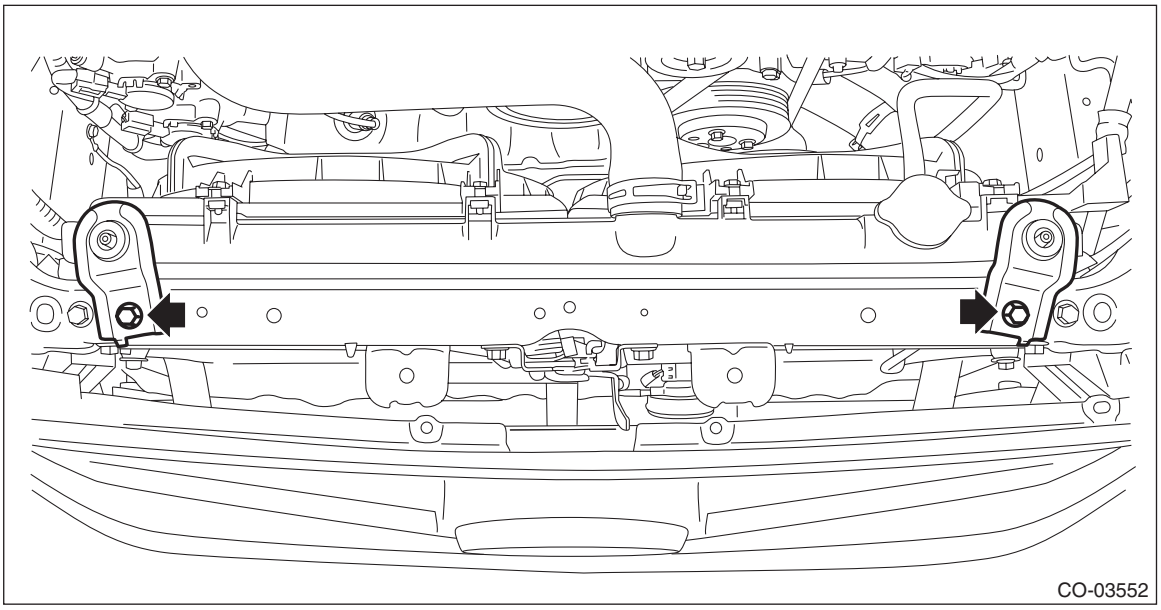

EI-04581

4) Remove the bolt, and disconnect the hose - pressure discharge and the pipe - evaporator cooling from the condenser assembly - air conditioner.

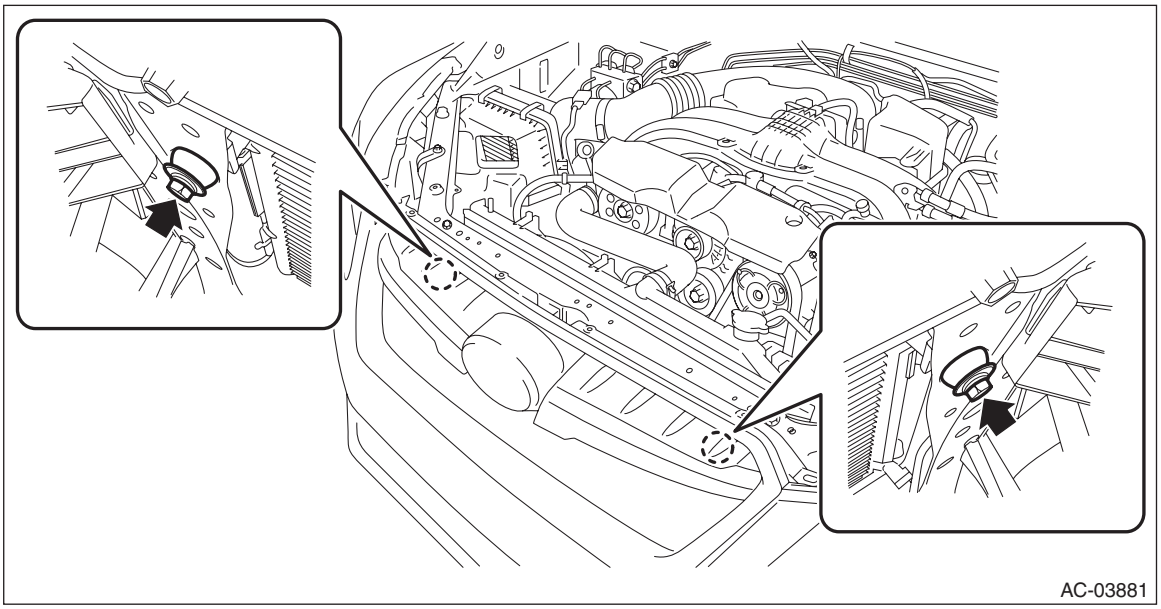
CAUTION:
Seal the disconnected hose, pipe and engaging part of condenser assembly with a plug or vinyl tape to prevent foreign matter from entering.


AC-03785

5) Remove the bolts and remove the radiator upper bracket.

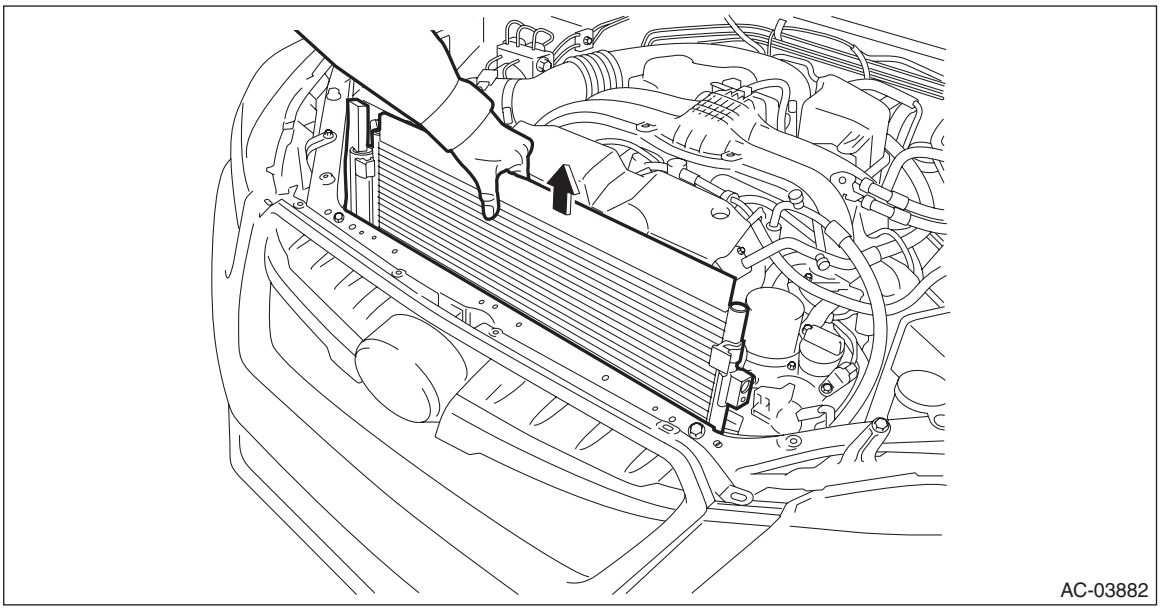


6) Remove the condenser assembly - air conditioner.
(1) Remove the bolt.



(2) By lifting the condenser assembly - air conditioner, pull it out through the space between the radiator and the radiator panel.

CAUTION:
Be careful not to damage the condenser and radiator fin. If a damaged fin is found, repair it using a thin screwdriver.



B: INSTALLATION

CAUTION:
• If the condenser assembly - air conditioner has been replaced, add an appropriate amount of compressor oil. <Ref. to AC-37, ADJUSTMENT, Compressor Oil.>
• Replace the O-rings with new parts, and then apply compressor oil.
• Confirm that the lower guide of condenser assembly - air conditioner fits into the holes on radiator panel.

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

Tightening torque:
Air conditioning unit: <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Radiator upper bracket: <Ref. to CO(H4DO(w/o HEV))-7, RADIATOR & RADIATOR FAN, COMPONENT, General Description.>

2) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

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, replace the condenser assembly - air conditioner.

17.Heater and Cooling Unit

A: REMOVAL

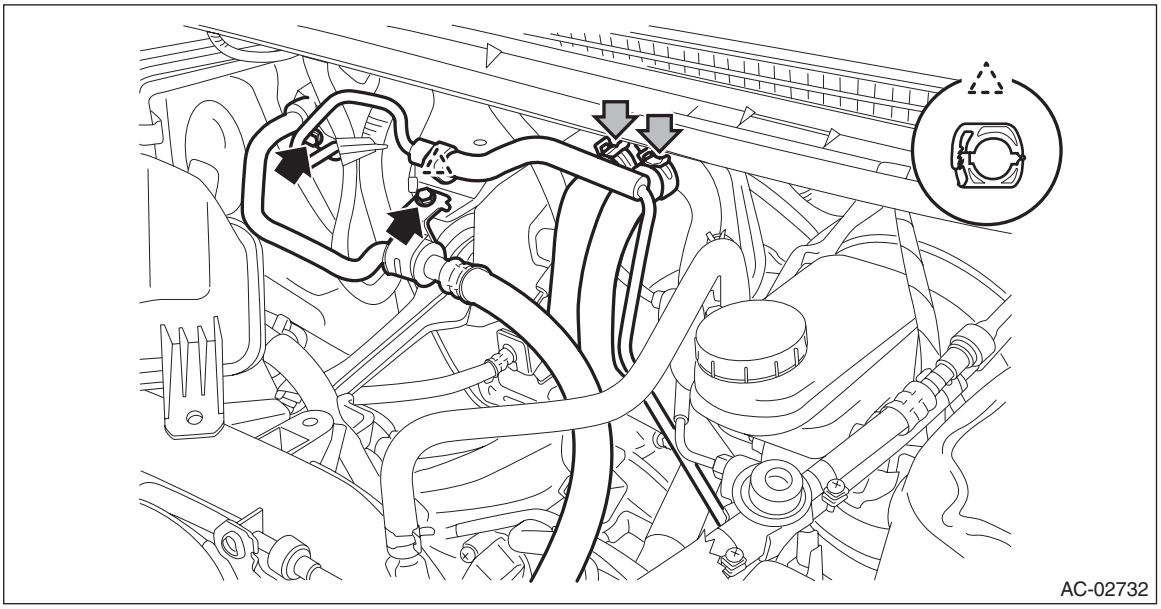
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain the coolant from the radiator. <Ref. to CO(H4DO(w/o HEV))-16, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
4) Remove the intake boot. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-12, REMOVAL, Air Intake Boot.>

CAUTION:
Move aside the intake boot to perform the operation without disconnecting the PCV hose.
5) Remove the air cleaner case. (HEV model) <Ref. to IN(H4DO(HEV))-6, REMOVAL, Air Cleaner Case.>
6) Remove the clips and bolts, and remove the hose - pressure suction and the pipe - evaporator cooling from the expansion valve - cooling.

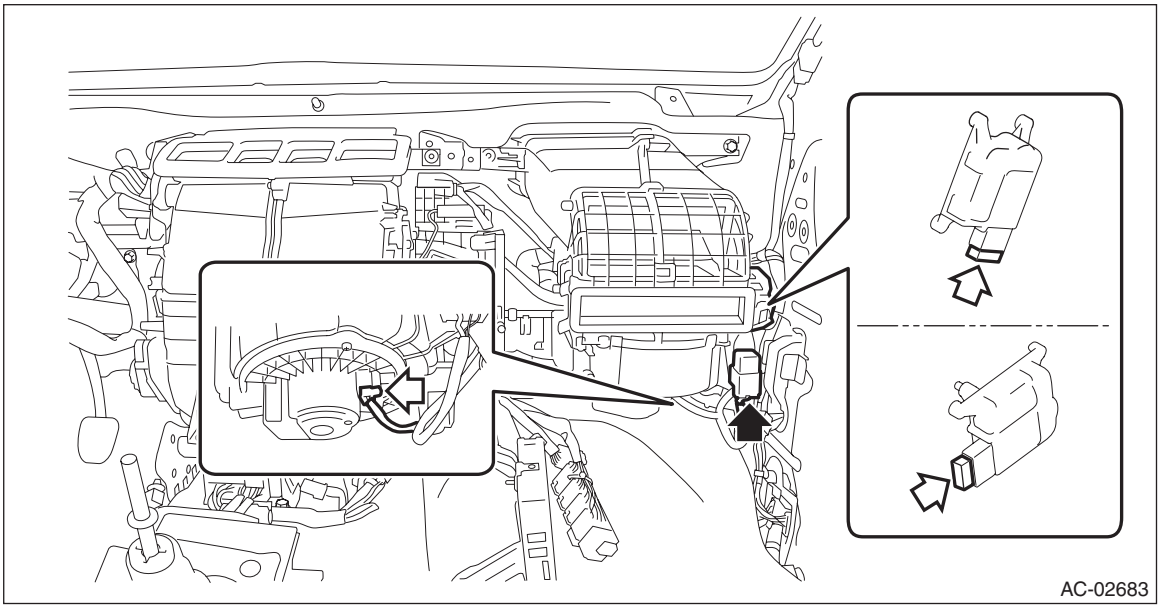
CAUTION:
Seal the disconnected hose and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.
7) Loosen the heater hose clamps and remove the hoses.

NOTE:
Put alignment marks to hoses, clamps, etc. and remove them.

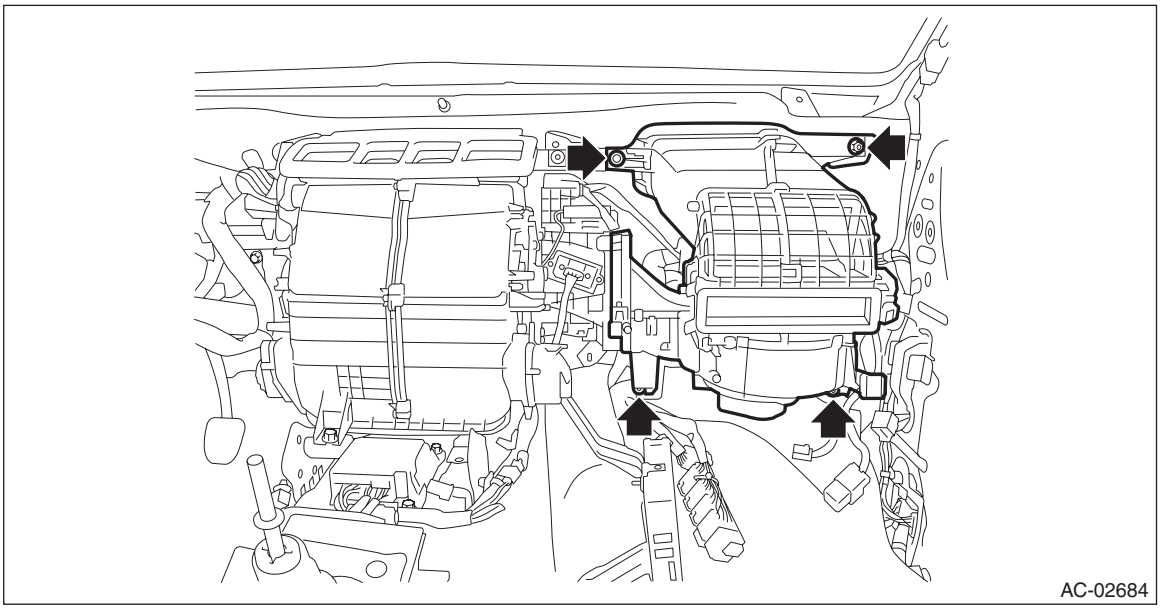


8) Remove the instrument panel assembly. <Ref. to EI-83, REMOVAL, Instrument Panel Assembly.>
9) Remove the engine control module (ECM).
- Gasoline engine model: <Ref. to FU(H4DO(w/o HEV))-100, REMOVAL, Engine Control Module (ECM).>
- HEV model: <Ref. to FU(H4DO(HEV))-85, REMOVAL, Engine Control Module (ECM).>

10) Remove the blower motor unit assembly.
(1) Disconnect the blower motor relay and each connector.

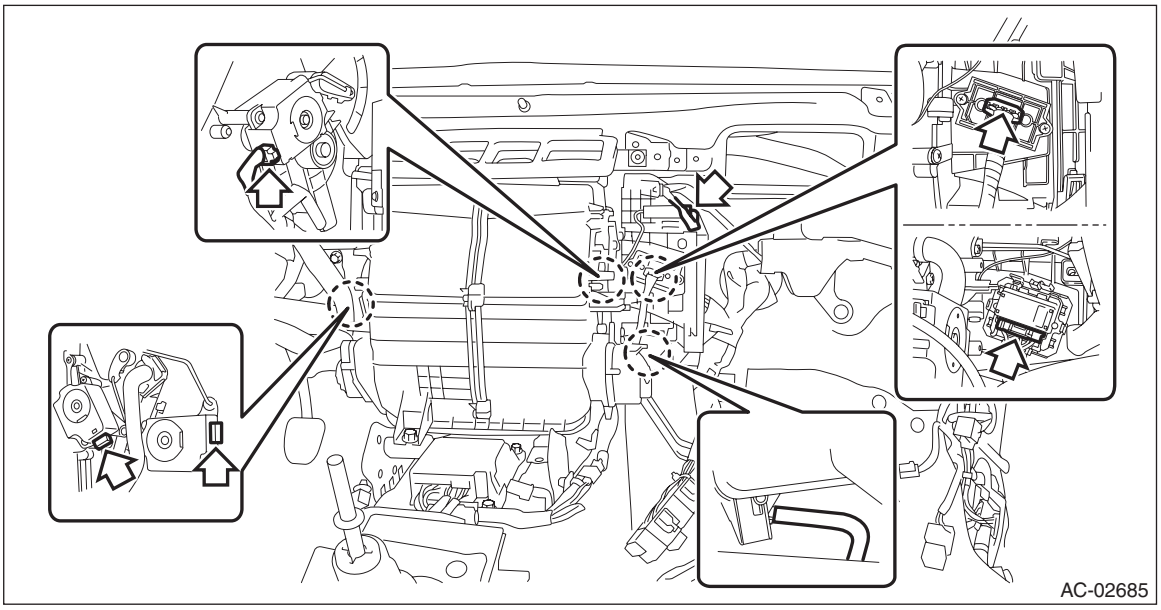

AC-02683

(2) Remove the bolts and nuts to remove blower motor unit assembly.

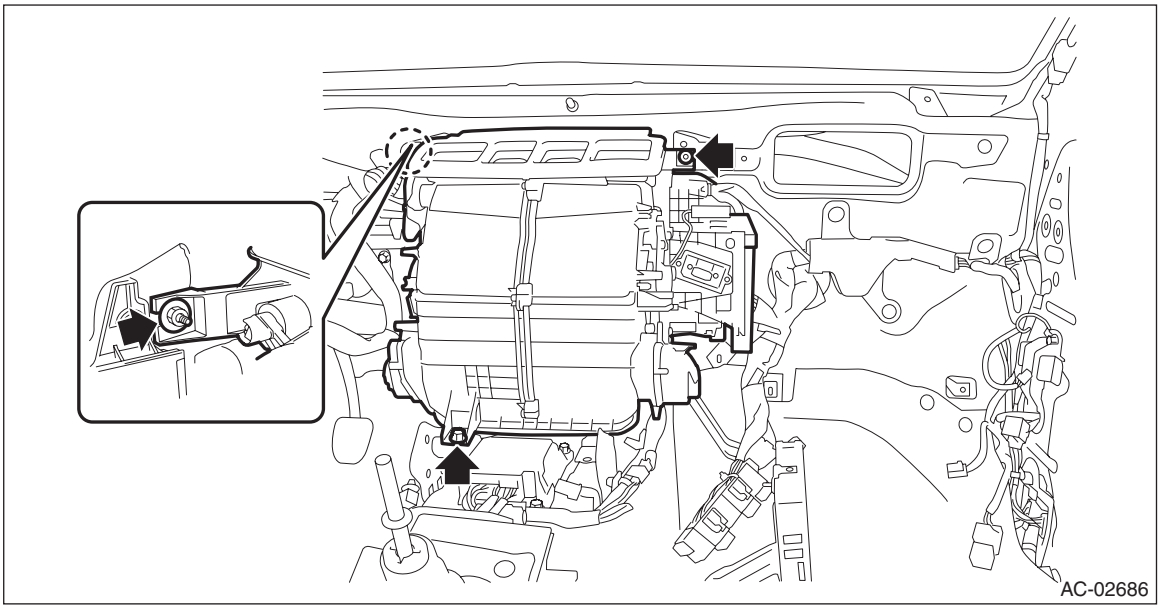

AC-02684

11) Remove the heater and cooling unit assembly.
(1) Disconnect each connector and the hose - drain.

NOTE:
For HEV model, disconnect the heater core sensor connector.



(2) Remove the bolt and nuts, and remove the heater & cooling unit assembly.



B: INSTALLATION

CAUTION:
Replace the O-rings with new parts, and then apply compressor oil.
1) Install each part in the reverse order of removal.

Tightening torque:
Heater and cooling unit: <Ref. to AC-6, HEATER AND COOLING UNIT, COMPONENT, General Description.>
Blower motor unit: <Ref. to AC-10, BLOWER MOTOR UNIT, COMPONENT, General Description.>
Air conditioning unit: <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>
2) Fill engine coolant. <Ref. to CO(H4DO(w/o HEV))-16, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
3) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

18.Evaporator

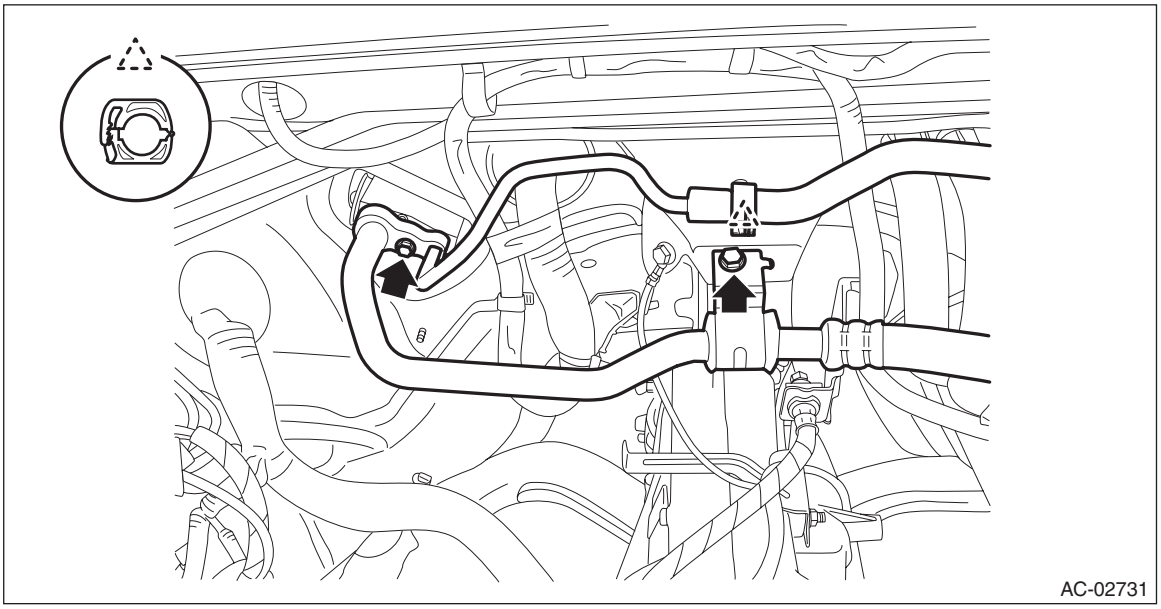
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the intake boot. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-12, REMOVAL, Air Intake Boot.>

CAUTION:
Move aside the intake boot to perform the operation without disconnecting the PCV hose.
4) Remove the air cleaner case. (HEV model) <Ref. to IN(H4DO(HEV))-6, REMOVAL, Air Cleaner Case.>
5) Remove the expansion valve - cooling.
(1) Remove the clips and bolts, and detach the hose - pressure suction and the pipe - evaporator cooling.

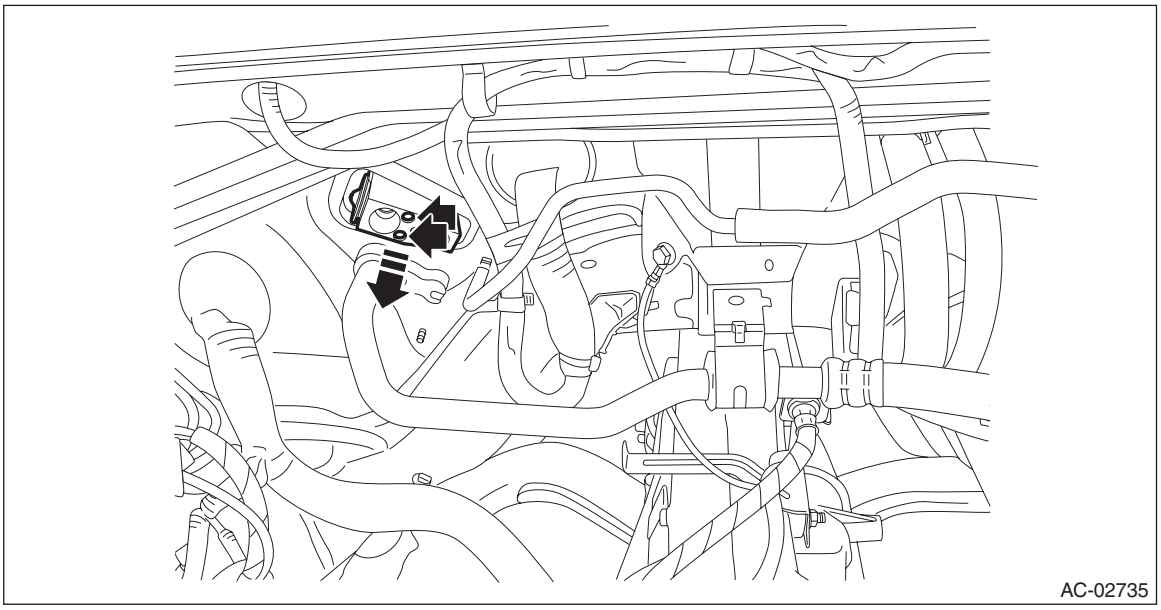
CAUTION:
Seal the disconnected hose, pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.



(2) Remove the bolt, and remove the expansion valve - cooling.

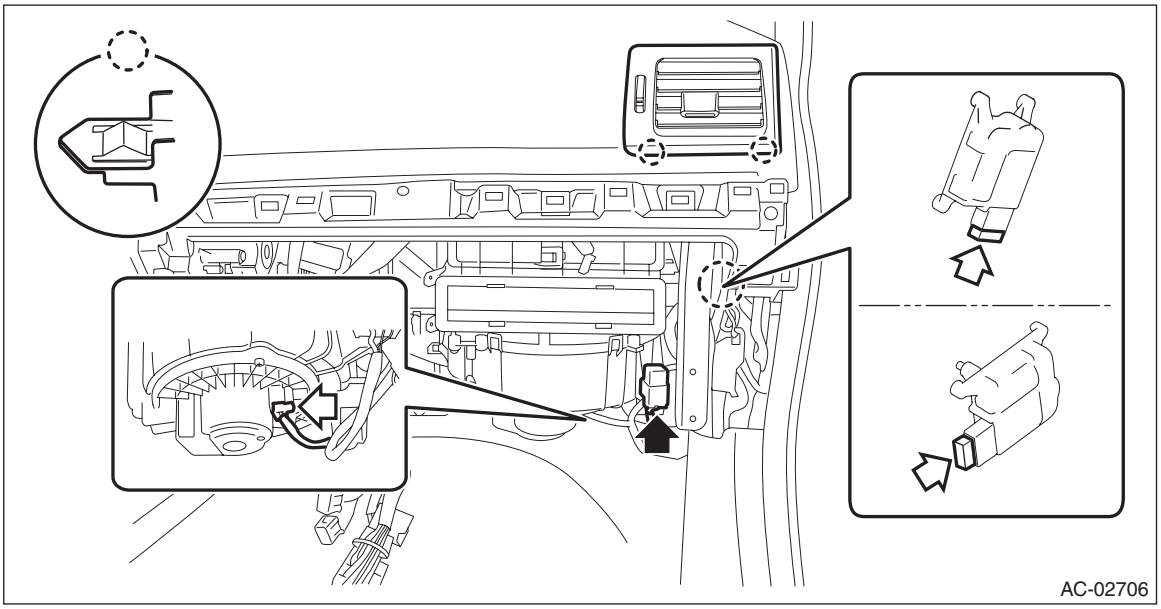
CAUTION:
Seal the pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.

Preparation tool:
Hexagon wrench: 4 mm (0.16 in)



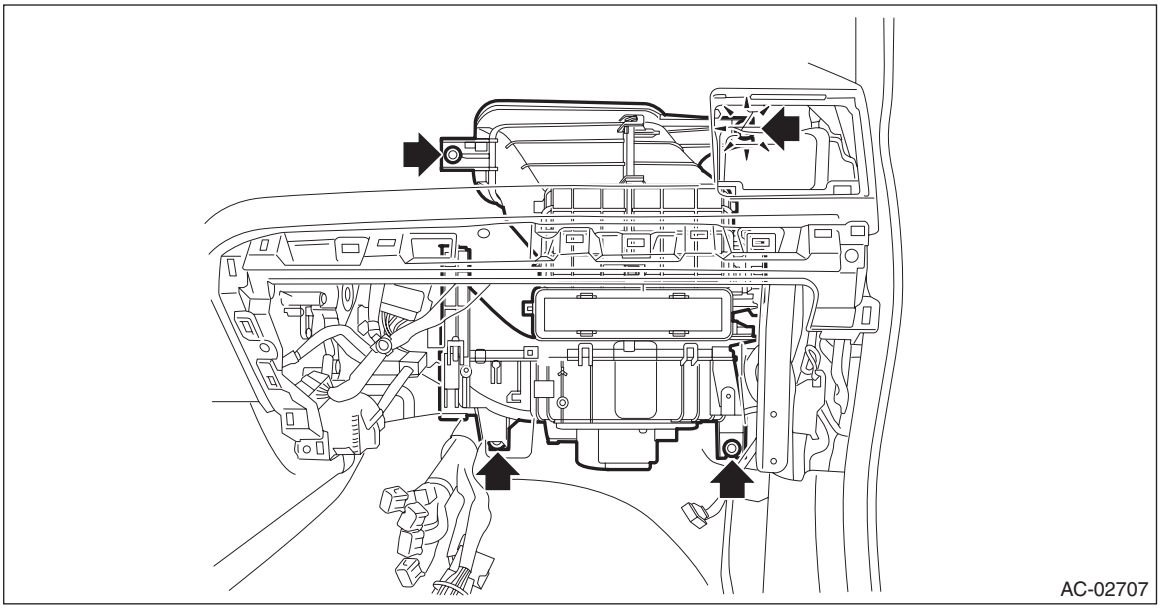
6) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
7) Remove the engine control module (ECM).
- Gasoline engine model: <Ref. to FU(H4DO(w/o HEV))-100, REMOVAL, Engine Control Module (ECM).>
- HEV model: <Ref. to FU(H4DO(HEV))-85, REMOVAL, Engine Control Module (ECM).>

8) Remove the blower motor unit assembly.
(1) Release the claws, and then remove the grille assembly - ventilation RH.
(2) Disconnect the blower motor relay and each connector.

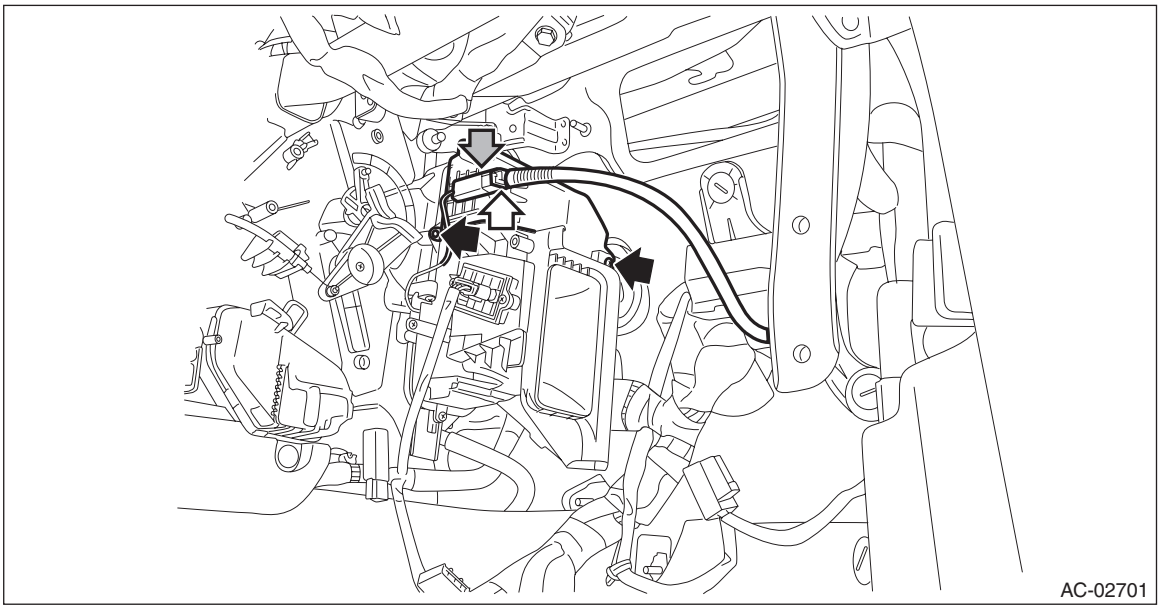


(3) Remove the bolts and nuts to remove blower motor unit assembly.

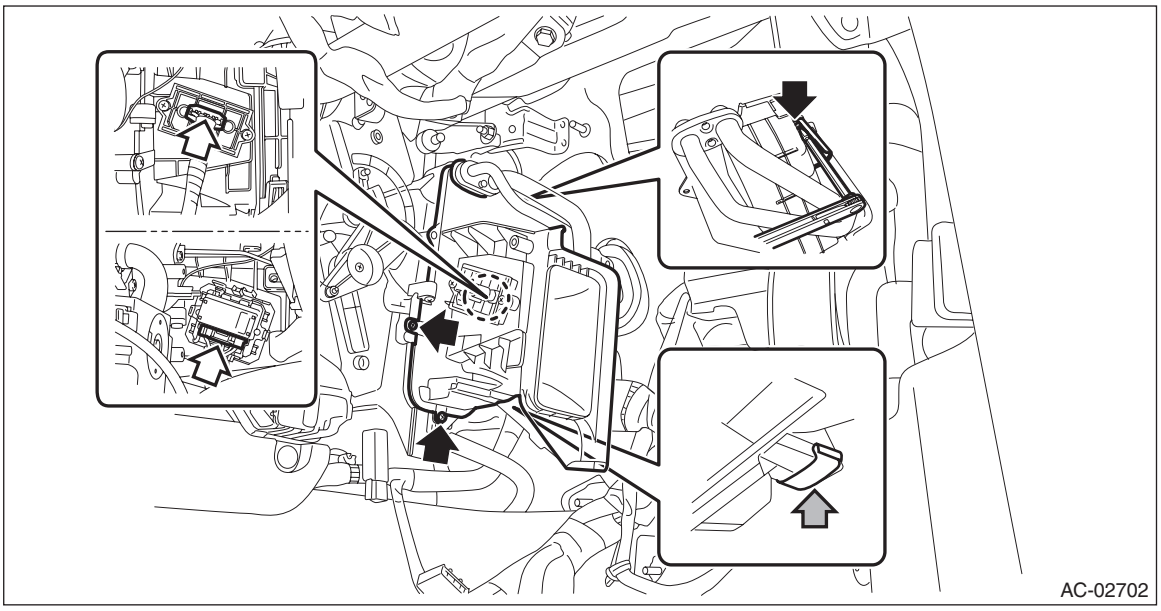
NOTE:
Remove the RH upper nut from the mounting portion of the grille assembly - ventilation RH.



9) Remove the evaporator assembly - cooling.
(1) Disconnect the connector and lock of the thermostat - cooling.
(2) Remove the screws and detach the cover.



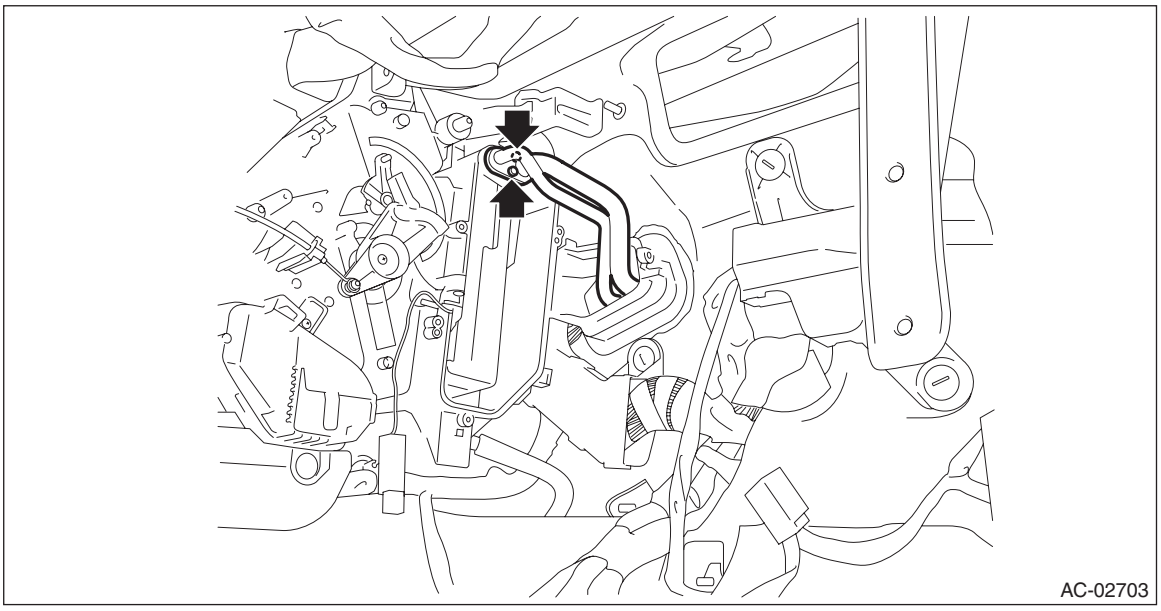
(3) Remove the cover - heater unit.
1. Disconnect the connector for the power transistor or resistor.
2. Remove the screws and clips to remove the cover - heater unit.



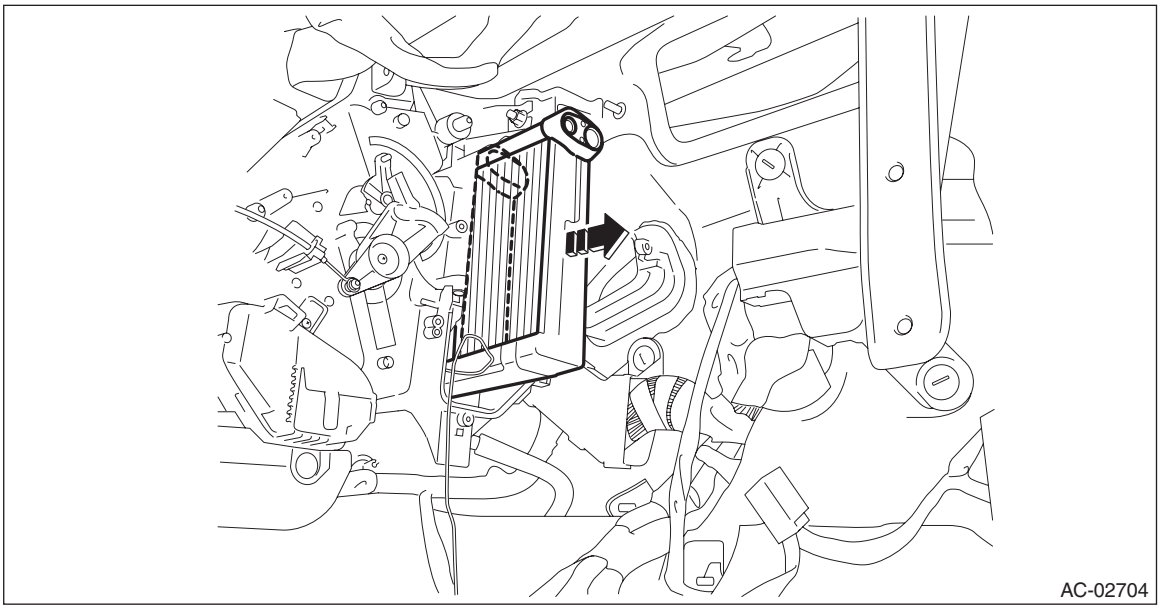
(4) Remove the bolt, and detach the pipe - evaporator core.

CAUTION:
Seal the disconnected pipe and engaging part of evaporator assembly with a plug or vinyl tape to prevent foreign matter from entering.

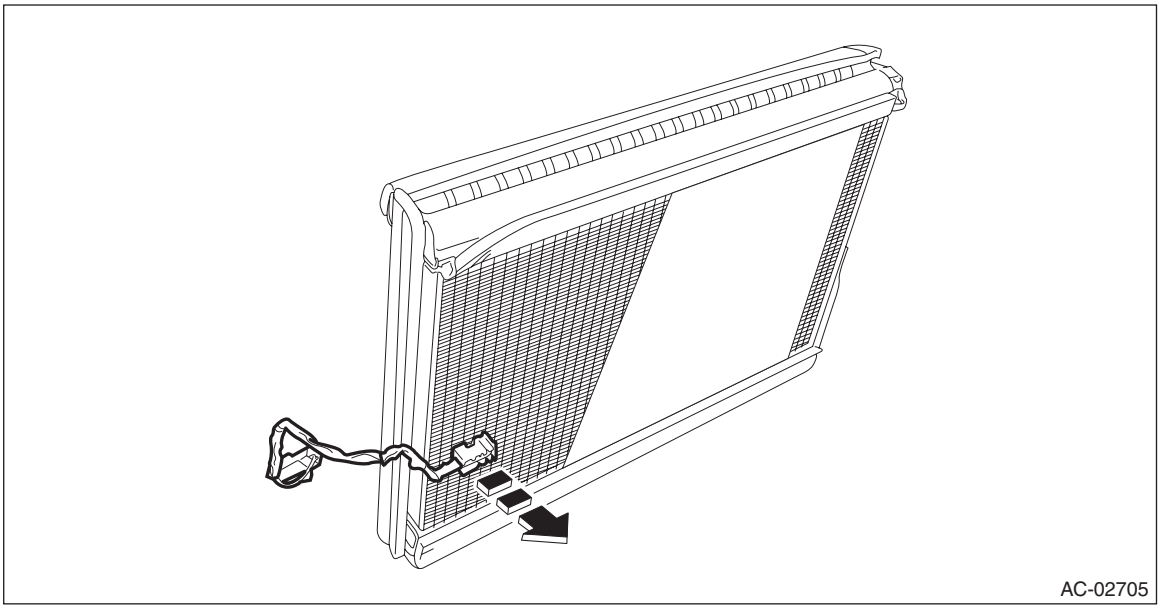
Preparation tool:
Hexagon wrench: 4 mm (0.16 in)



(5) Pull out the evaporator assembly - cooling from the case - heater unit.



(6) Remove the thermostat - cooling from the evaporator assembly - cooling.



B: INSTALLATION

CAUTION:
• If the evaporator assembly - cooling has been replaced, add an appropriate amount of compressor oil. <Ref. to AC-37, ADJUSTMENT, Compressor Oil.>
• When the evaporator assembly - cooling has been replaced, replace the packing of the expansion valve - cooling with a new one, and then apply compressor oil.
• 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.
• After installing the grille assembly - ventilation RH, check that the air vent grille of the grille assembly - ventilation RH is inserted correctly into the air vent duct.
1) Install the thermostat - cooling to the specified position. <Ref. to AC-89, INSTALLATION, Evaporator Sensor.>
2) Install each part in the reverse order of removal.

Tightening torque:
Heater and cooling unit: <Ref. to AC-6, HEATER AND COOLING UNIT, COMPONENT, General Description.>
Blower motor unit: <Ref. to AC-10, BLOWER MOTOR UNIT, COMPONENT, General Description.>
Air conditioning unit: <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>
3) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

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, replace the evaporator assembly - cooling.

19.Expansion Valve

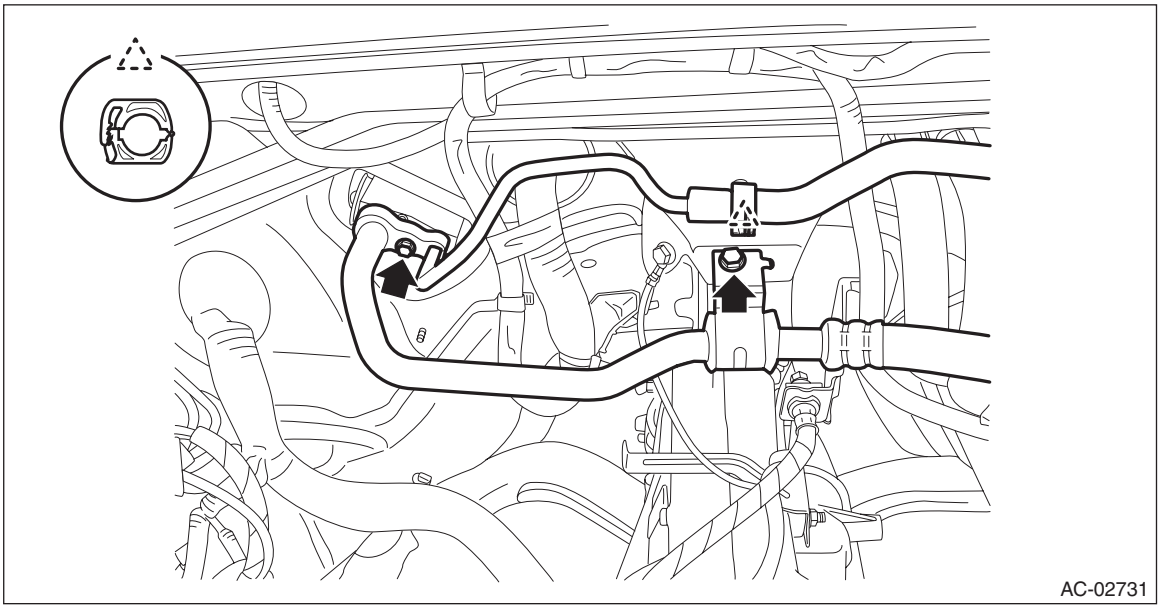
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the intake boot. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-12, REMOVAL, Air Intake Boot.>

CAUTION:
Move aside the intake boot to perform the operation without disconnecting the PCV hose.
4) Remove the air cleaner case. (HEV model) <Ref. to IN(H4DO(HEV))-6, REMOVAL, Air Cleaner Case.>
5) Remove the expansion valve - cooling.
(1) Remove the clips and bolts, and detach the hose - pressure suction and the pipe - evaporator cooling.

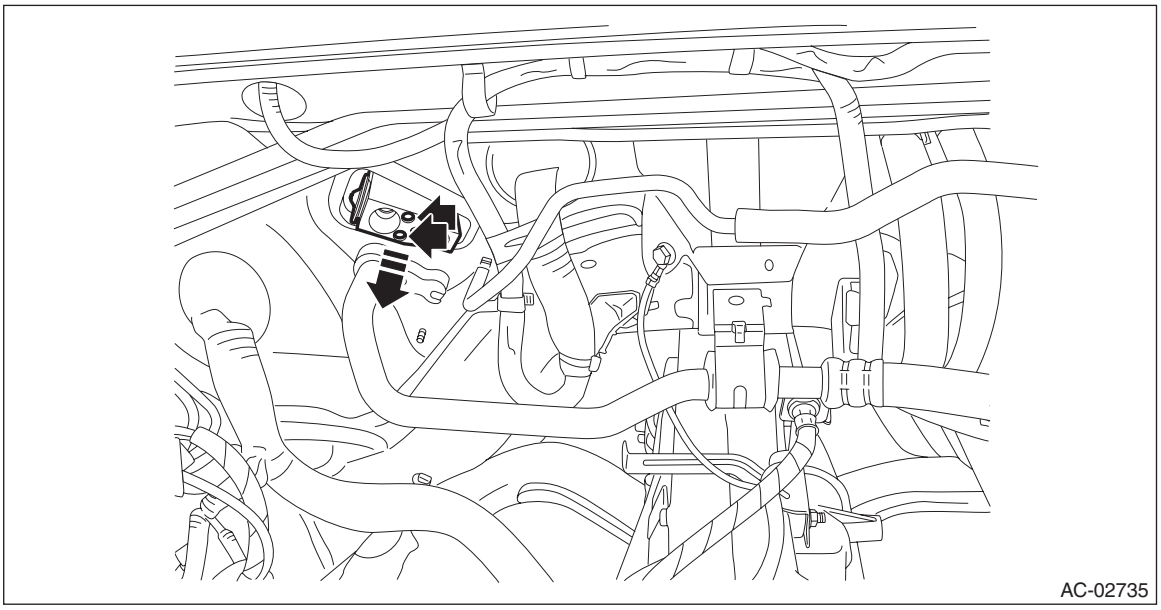
CAUTION:
Seal the disconnected hose, pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.



(2) Remove the bolt, and remove the expansion valve - cooling.

CAUTION:
Seal the pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.

Preparation tool:
Hexagon wrench: 4 mm (0.16 in)



B: INSTALLATION

CAUTION:
Replace the O-rings with new parts, and then apply compressor oil.
1) Install each part in the reverse order of removal.

Tightening torque:
Heater and cooling unit: <Ref. to AC-6, HEATER AND COOLING UNIT, COMPONENT, General Description.>
Air conditioning unit: <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>
2) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

20.Hose and Pipe

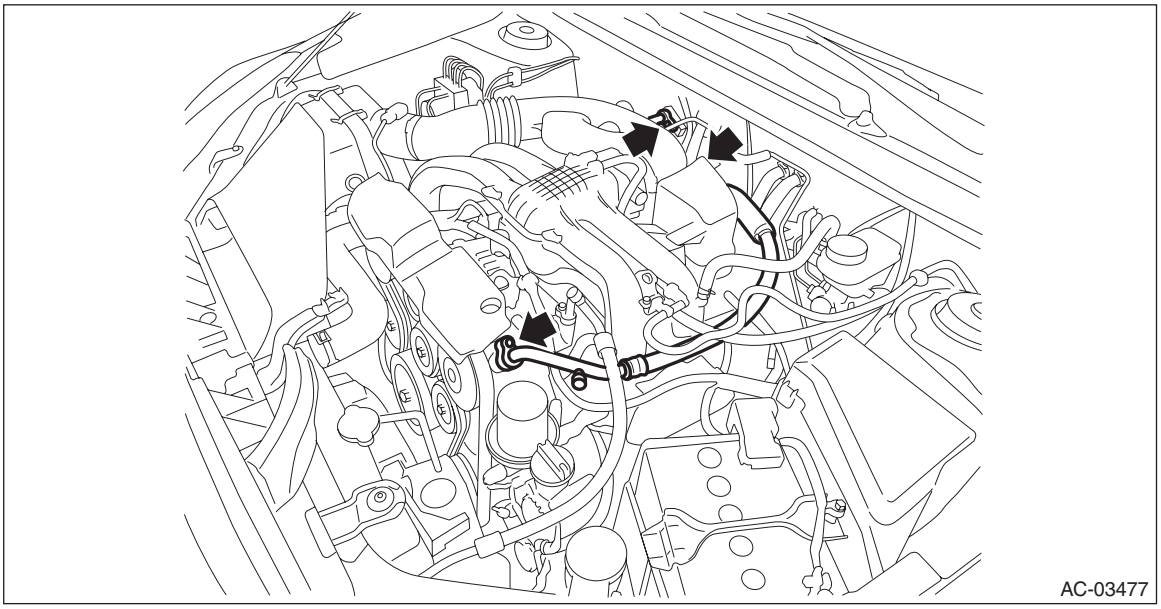
A: REMOVAL

1. LOW-PRESSURE HOSE

1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
2) Remove the intake boot. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-12, REMOVAL, Air Intake Boot.>

CAUTION:
Move aside the intake boot to perform the operation without disconnecting the PCV hose.
3) Remove the air cleaner case. (HEV model) <Ref. to IN(H4DO(HEV))-6, REMOVAL, Air Cleaner Case.>
4) Remove the bolts and remove the hose - pressure suction.

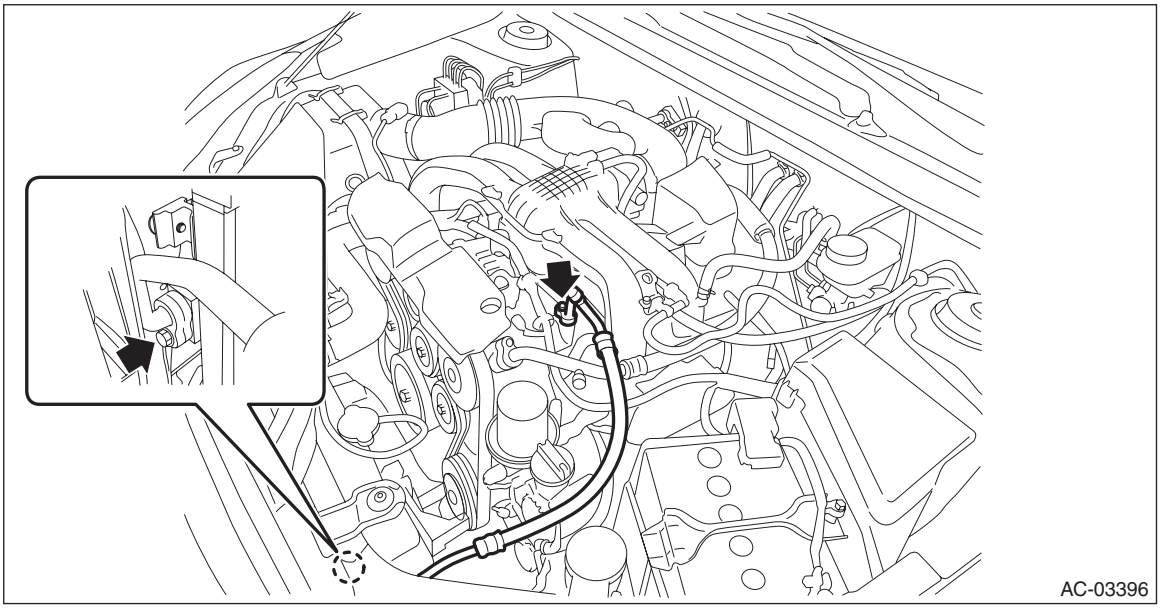
CAUTION:
- **Do not apply excessive force to the hose.**
- **Seal the disconnected hose, compressor and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.**



2. HIGH-PRESSURE HOSE

1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
2) Remove the reservoir tank. <Ref. to CO(H4DO(w/o HEV))-97, REMOVAL, Reservoir Tank.>
3) Remove the bolts and remove the hose - pressure discharge.

CAUTION:
• Do not apply excessive force to the hose.
• Seal the disconnected hose, compressor and engaging part of compressor with a plug or vinyl tape to prevent foreign matter from entering.



3. A/C PIPE

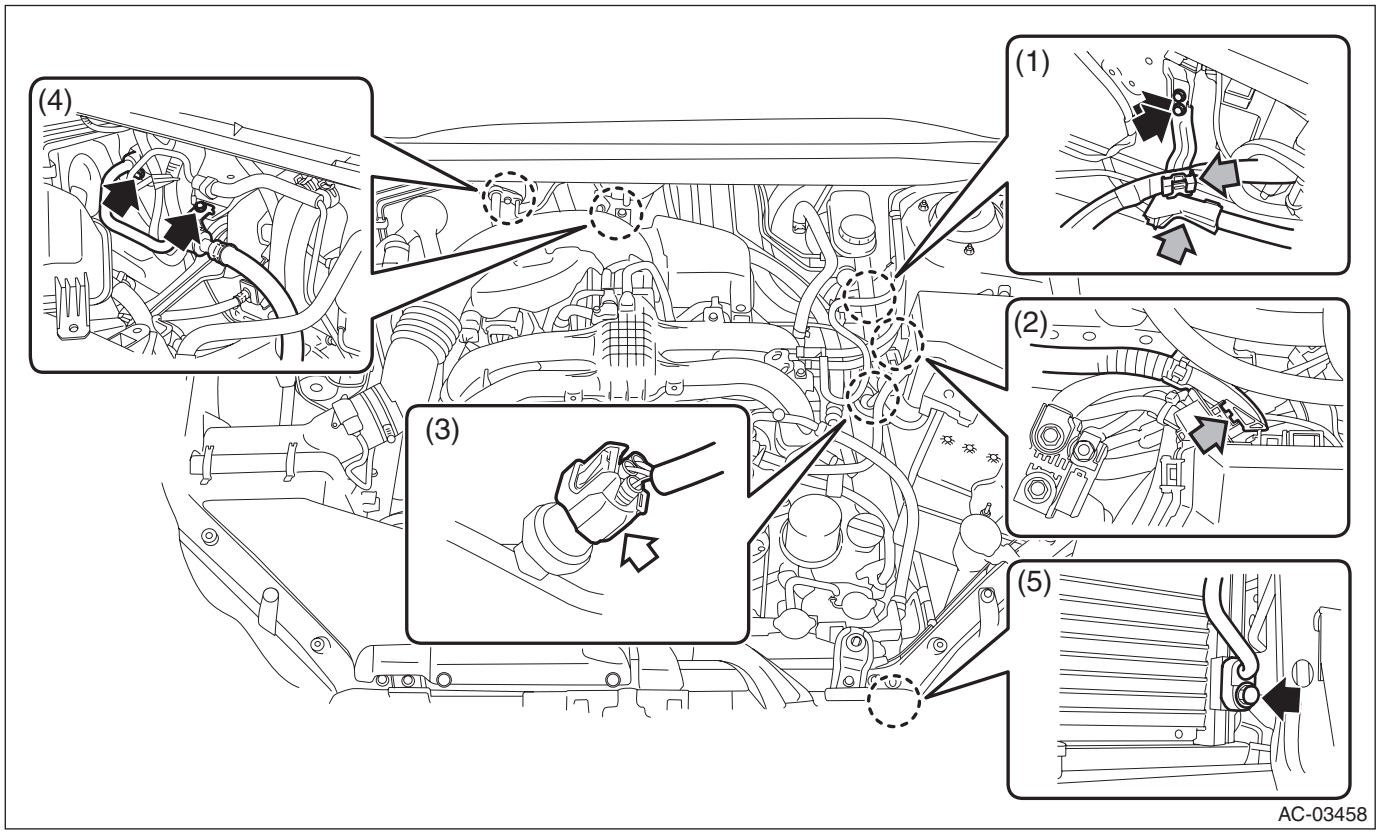
1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-28, PROCEDURE, Refrigerant Recovery Procedure.>
2) Remove the battery. (Gasoline engine model) <Ref. to SC(H4DO(w/o HEV))-52, REMOVAL, Battery.>
3) Remove the 12 volt auxiliary battery. (HEV model) <Ref. to SC(H4DO(HEV))-39, 12 VOLT AUXILIARY BATTERY, REMOVAL, Battery.>
4) Remove the reservoir tank. <Ref. to CO(H4DO(w/o HEV))-97, REMOVAL, Reservoir Tank.>
5) Remove the intake boot. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-12, REMOVAL, Air Intake Boot.>

CAUTION:
Move aside the intake boot to perform the operation without disconnecting the PCV hose.
6) Remove the air cleaner case. (HEV model) <Ref. to IN(H4DO(HEV))-6, REMOVAL, Air Cleaner Case.>
7) Remove the pipe - evaporator cooling.
(1) Remove the cable clamps and bolts, and remove the battery cable stay.
(2) Remove the battery cable clamp. (HEV model)
(3) Disconnect the pressure switch connector.
(4) Remove the bolts, and detach the hose - pressure suction from the expansion valve - cooling.

CAUTION:
• Do not apply excessive force to the hose.
• Seal the disconnected hose and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.
(5) Remove the bolts, and detach the pipe - evaporator cooling from the condenser assembly - air conditioner.

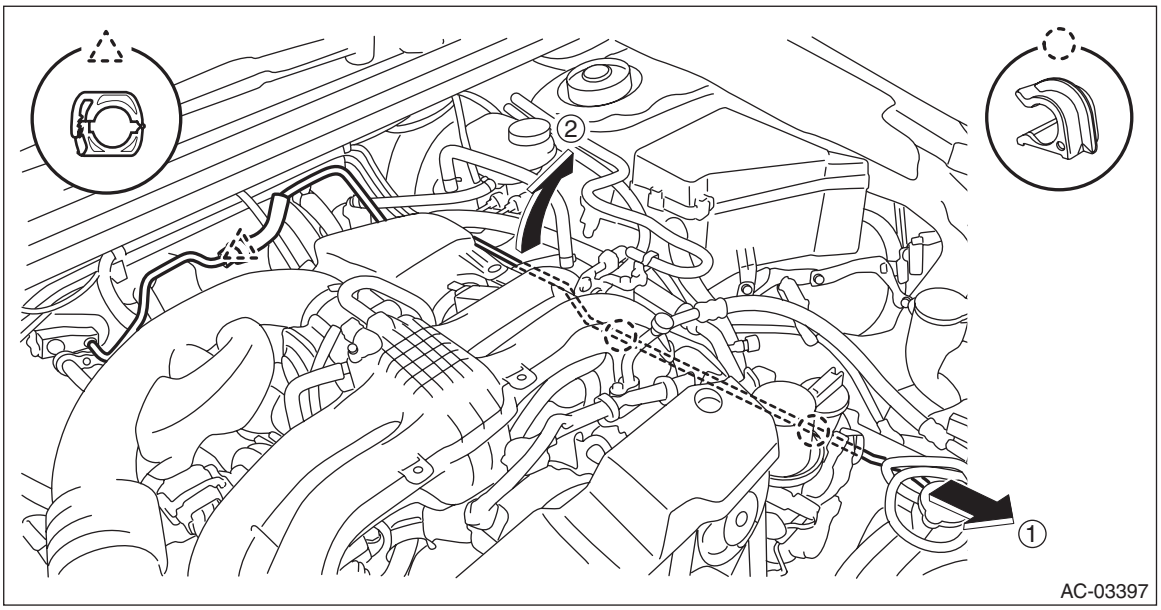
CAUTION:
• Do not apply excessive force to the pipe.

• Seal the disconnected pipe and engaging part of condenser with a plug or vinyl tape to prevent foreign matter from entering.



(6) Remove the pipe - evaporator cooling from the clip and expansion valve, and remove the pipe - evaporator cooling in numerical order as shown in the figure.

CAUTION:
• Do not apply excessive force to the pipe.
• Seal the disconnected pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.
• Do not pull the harness and cable forcibly.



B: INSTALLATION

CAUTION:
• If the hose and pipe have been replaced, add an appropriate amount of compressor oil to the compressor. <Ref. to AC-37, ADJUSTMENT, Compressor Oil.>
• Replace the O-rings with new parts, and then apply compressor oil.
• When connecting hoses and pipes, do not apply excessive force. After installing, check that no torsion or excessive tension applied to the hoses.
1) Install each part in the reverse order of removal.

Tightening torque:
Air conditioning unit: <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>
Battery cable stay: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
2) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

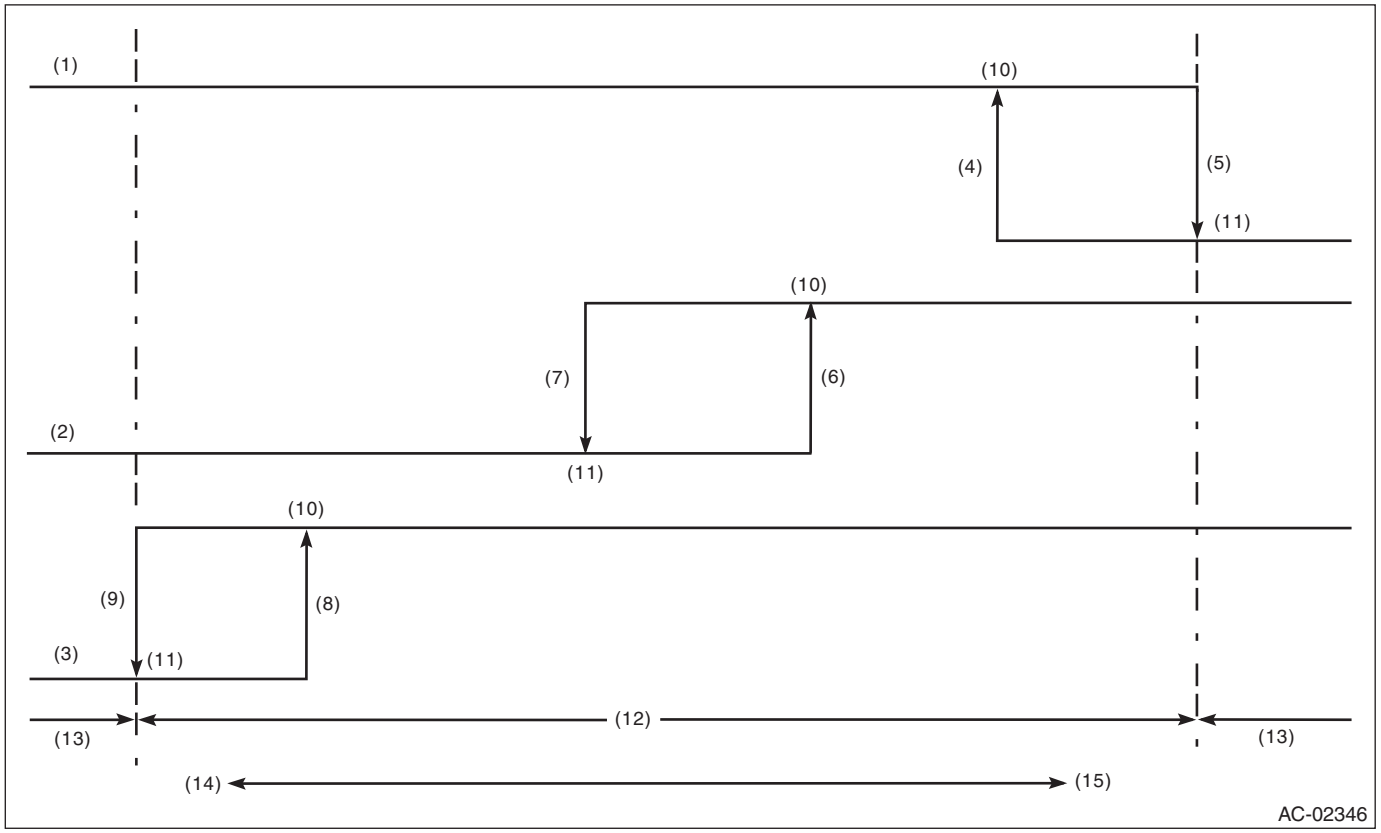
C: INSPECTION

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.

21.Pressure Switch (Triple Pressure Switch)

A: INSPECTION

1) Connect the manifold gauge to the service valve on the high-pressure side.
2) Disconnect the connector.
3) Start the air conditioner, and check the operating pressure of switch by turning the compressor assembly (magnet clutch) to ON/OFF. Operation of each switch is as follows.



(1)	High pressure switch	(6)	1,770±100 kPa (18.05±1.02 kg/cm^2, 256.65±14.5 psi)	(11)	OFF
(2)	Middle pressure switch	(7)	1,470±120 kPa (14.99±1.22 kg/cm^2, 213.15±17.4 psi)	(12)	Operative range of compressor assembly
(3)	Low pressure switch	(8)	225±30 kPa (2.29±0.31 kg/cm^2, 32.6±4.3 psi)	(13)	Inoperative range of compressor assembly
(4)	2,350±200 kPa (24.00±2.04 kg/cm^2, 340.7±29.0 psi)	(9)	196±25 kPa (2.00±0.25 kg/cm^2, 28.4±3.6 psi)	(14)	Low pressure
(5)	2940±200 kPa (29.98±2.04 kg/cm^2, 426.3±29.0 psi)	(10)	ON	(15)	High pressure

NOTE:
- High pressure switch turns the compressor assembly (magnet clutch) to OFF when the refrigerant pressure becomes extremely high to prevent the evaporator, air conditioner piping and expansion valve from getting damaged or frozen, etc.
- The middle pressure switch is used to effectively control the radiator fan output by judging high load/low load in normal pressure range.
- The low pressure switch detects a refrigerant shortage and deactivates the compressor assembly (magnet clutch) if the refrigerant pressure is abnormally low. (Because any further compressor assembly operation in such a state may lead to compressor seizure)

22.Ambient Sensor

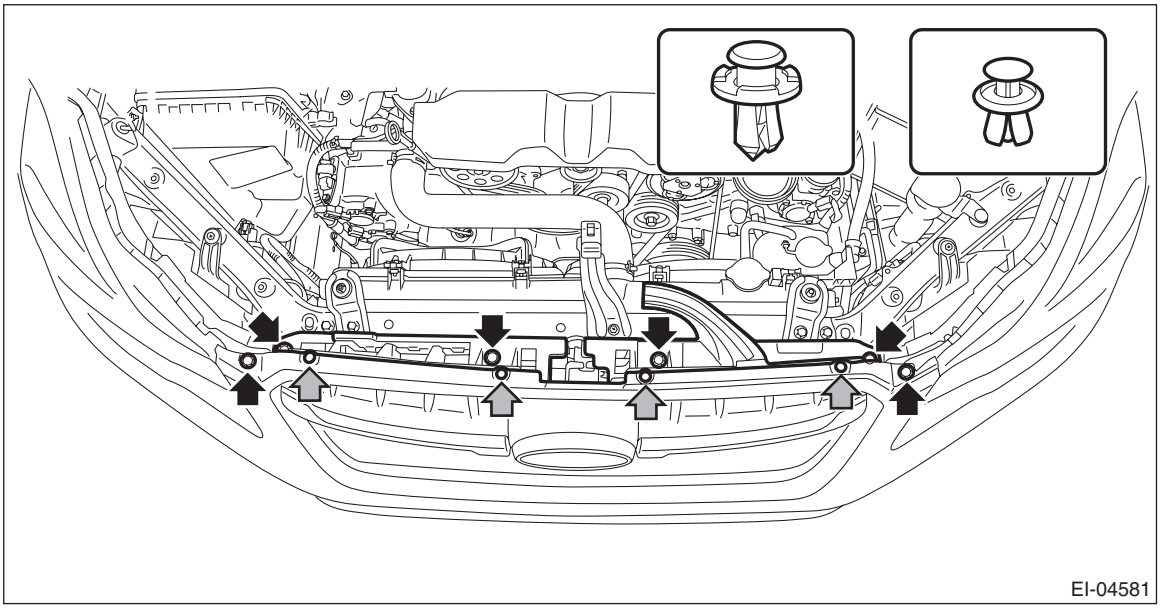
A: REMOVAL

1. GASOLINE ENGINE MODEL

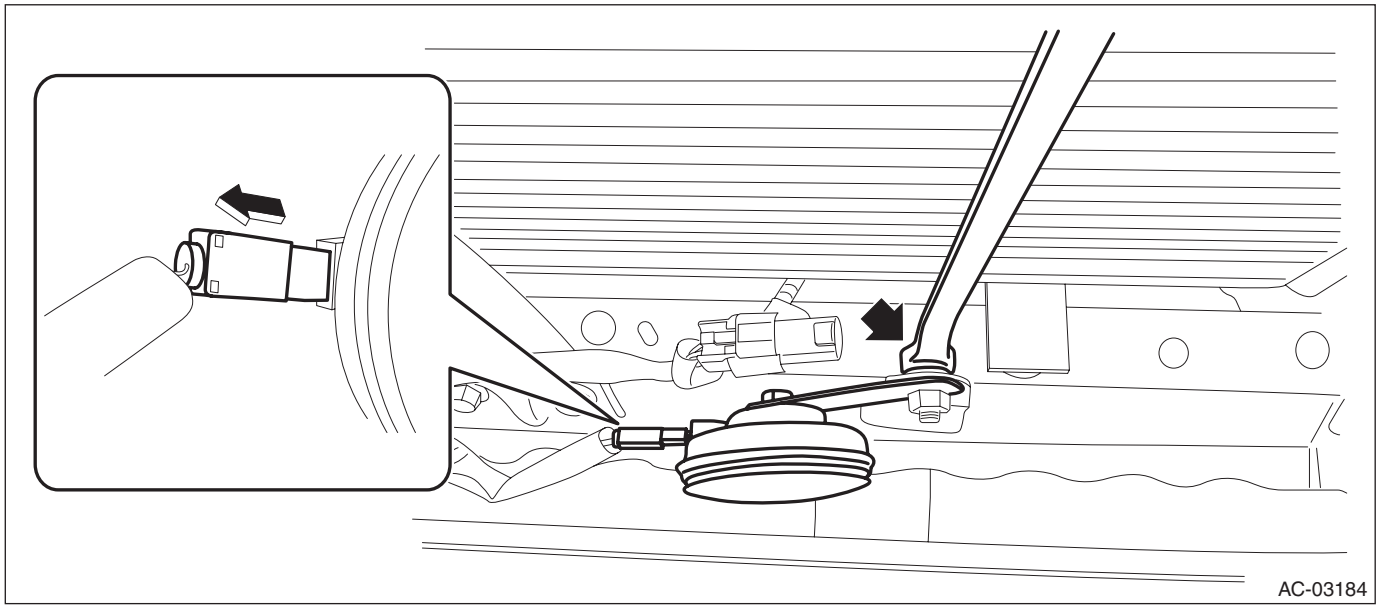
Except for XV model

1) Disconnect the ground cable from battery.
2) Remove the clip, and remove the bracket - grille.

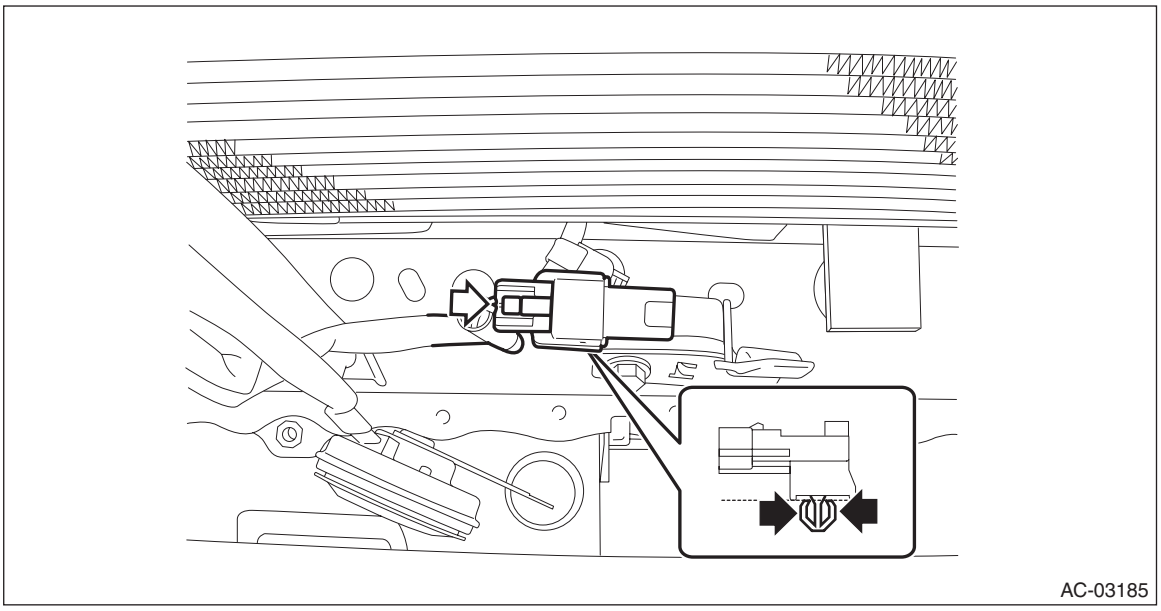
NOTE:
To prevent damage to the bracket - grille, make sure to remove all clips.



3) Remove the horn assembly - Lo.
   (1) Disconnect the connector.
   (2) Remove the horn bracket mounting bolt, and remove the horn assembly - Lo.

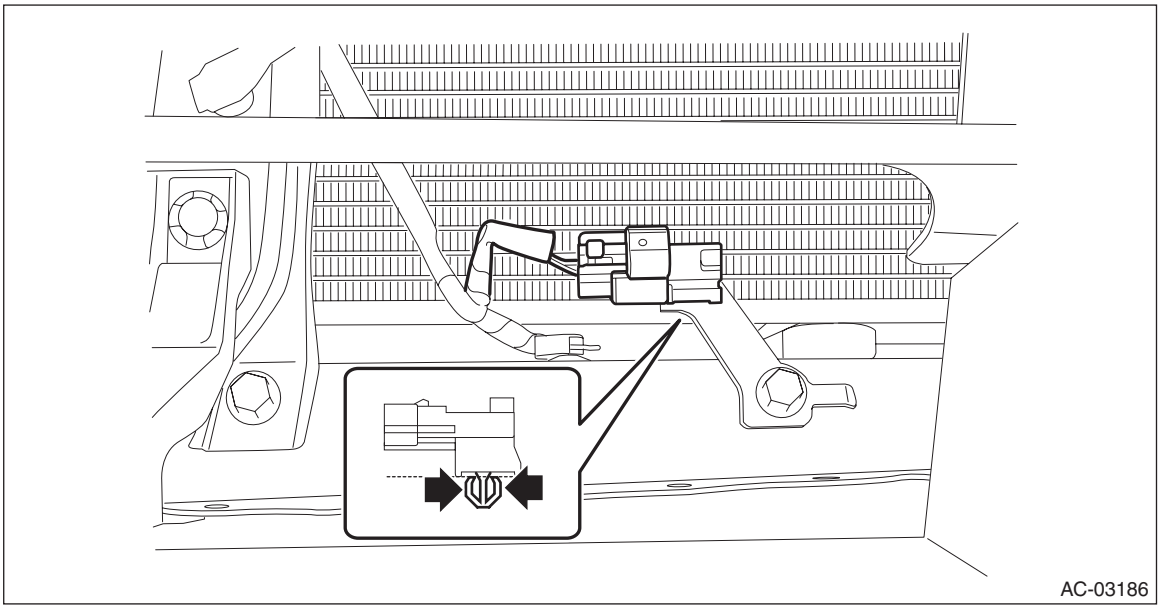


4) Remove the ambient sensor.
   (1) Disconnect the connector.
   (2) Release the claws, and then remove the ambient sensor from the bracket.



XV model

1) Disconnect the ground cable from battery.
2) Remove the ambient sensor.
   (1) Disconnect the connector.
   (2) Release the claws, and then remove the ambient sensor from the bracket.

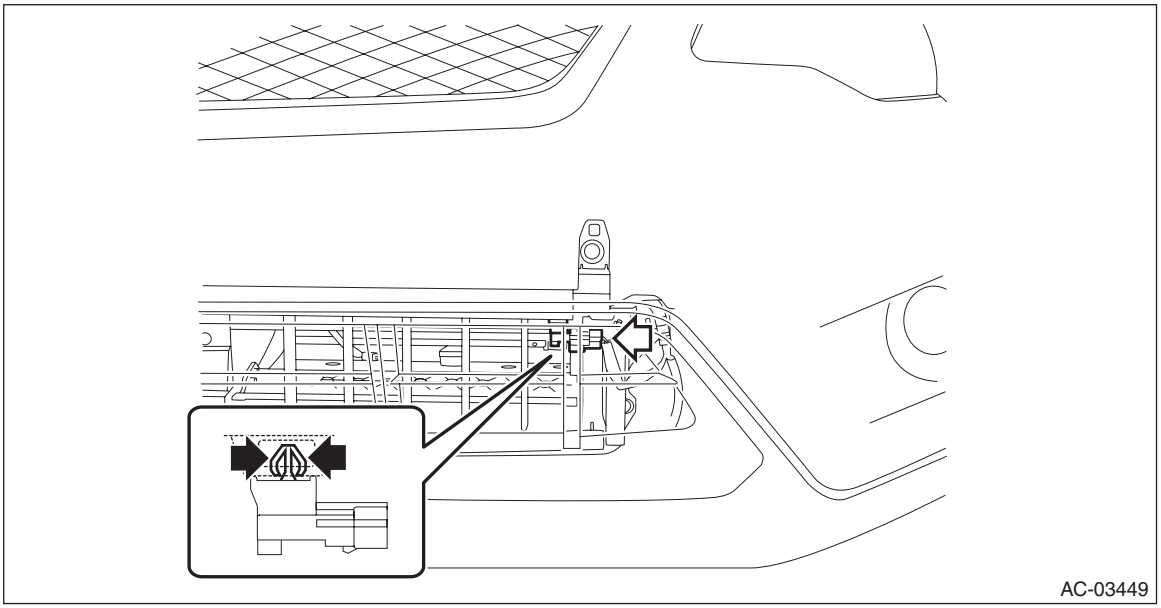


2. HEV MODEL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the ambient sensor.
   (1) Release the claws and pull out the ambient sensor.
   (2) Disconnect the connector and remove the ambient sensor.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Horn assembly - Lo (gasoline engine, except for XV model): 18 N·m (1.84 kgf-m, 13.3 ft-lb)

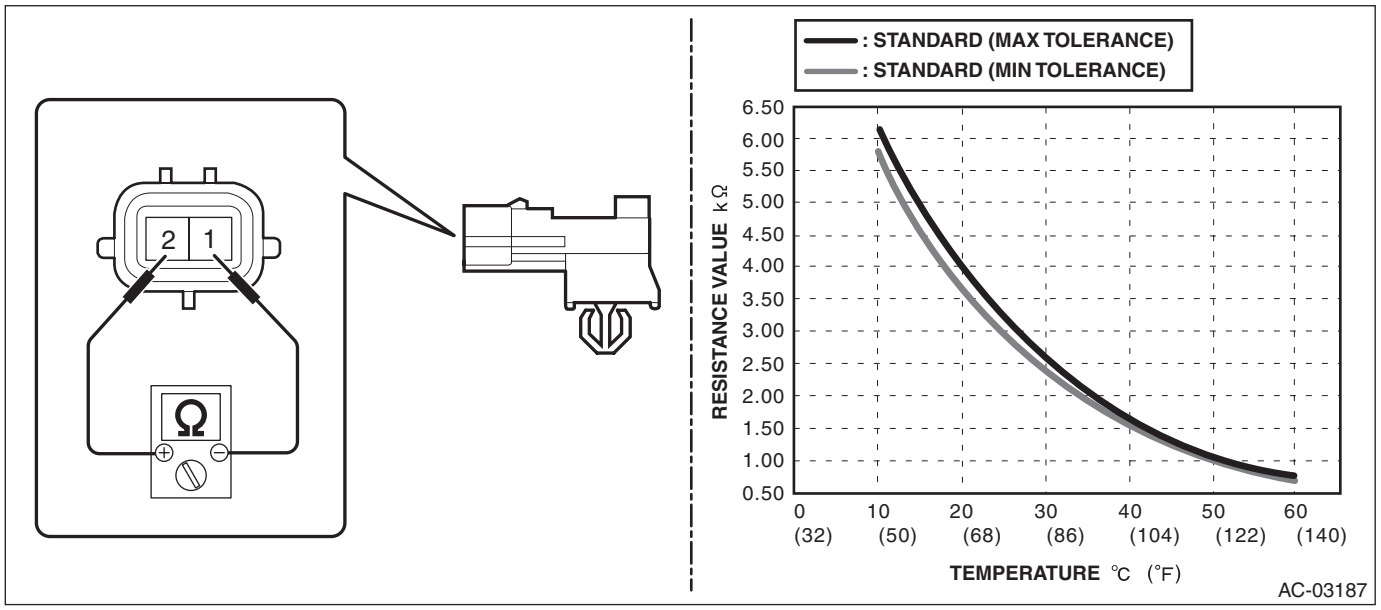
C: INSPECTION

UNIT 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	5.82 — 6.18 kΩ
	15°C	4.58 — 4.87 kΩ
	20°C	3.64 — 3.86 kΩ
	25°C	2.91 — 3.09 kΩ
	30°C	2.35 — 2.49 kΩ
	35°C	1.9 — 2.02 kΩ
	40°C	1.56 — 1.65 kΩ
	45°C	1.28 — 1.36 kΩ
	50°C	1.06 — 1.12 kΩ
	55°C	0.88 — 0.93 kΩ
	60°C	0.74 — 0.78 kΩ

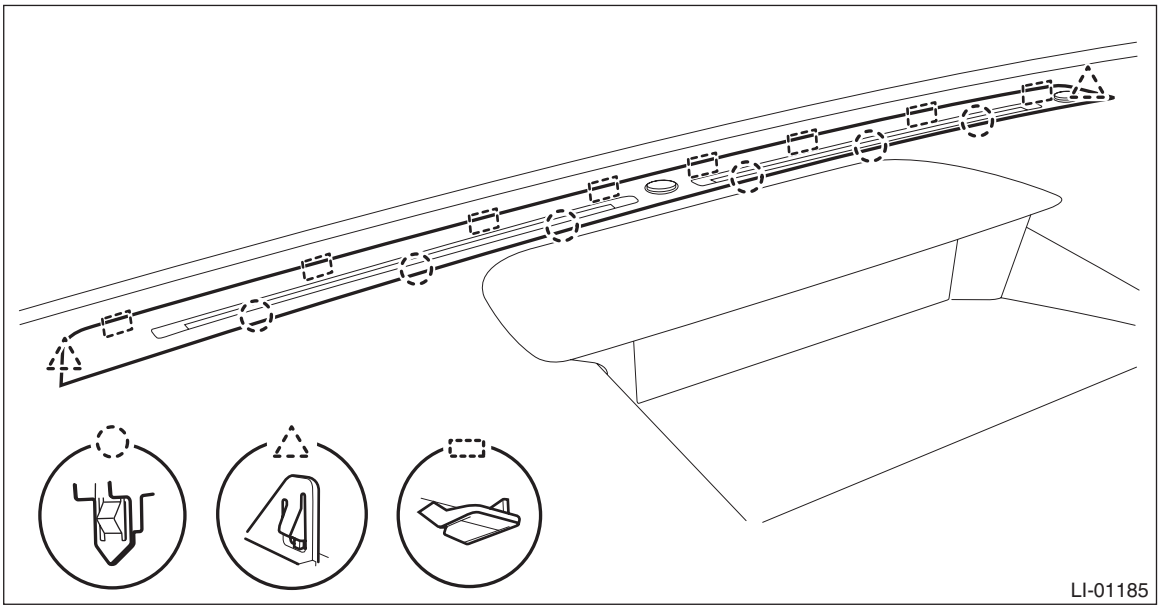
3) Replace the ambient sensor if the inspection result is not within the standard value.

23.Sunload Sensor (Auto A/C Model)

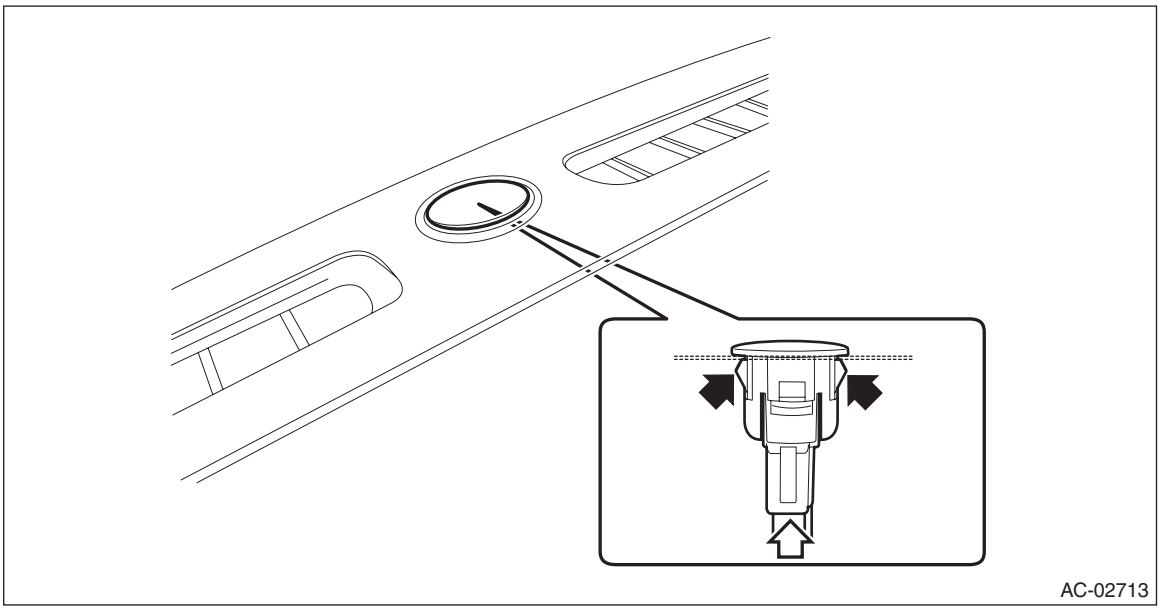
A: REMOVAL

CAUTION:
Be careful not to damage the sensors and interior trims when removing.
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the sensor - sunload.
(1) Release the connector and claws, and remove the panel COMPL - instrument UPR.



(2) Press the left and right claws to remove the sensor - sunload from the panel COMPL - instrument UPR.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

On the vehicle inspection

PREPARATION TOOL:
SUBARU SELECT MONITOR III KIT

1) Check if there is anything that affects sensing, around the sensor - sunload.
   (1) Is there anything placed on the sensor - sunload 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) Using the Subaru Select Monitor, check «Quantity of Sunload».

NOTE:
For detailed procedures, refer to “PC application help for Subaru Select Monitor”.
   (1) Cover the sensor - sunload with cloth.
   (2) Does the «Quantity of Sunload» indicate 0 W/m^2 when the direct sunlight is shielded?
   - **Yes** → Go to step 3).
   - **No** → Replace the sensor - sunload.

3) From the condition in step 2), expose the sensor - sunload to light.
   (1) Place intense light such as incandescent light at 30 cm or less from the sunload sensor.
   (2) Does «Quantity of Sunload» indicate 2000 W/m^2 or less?

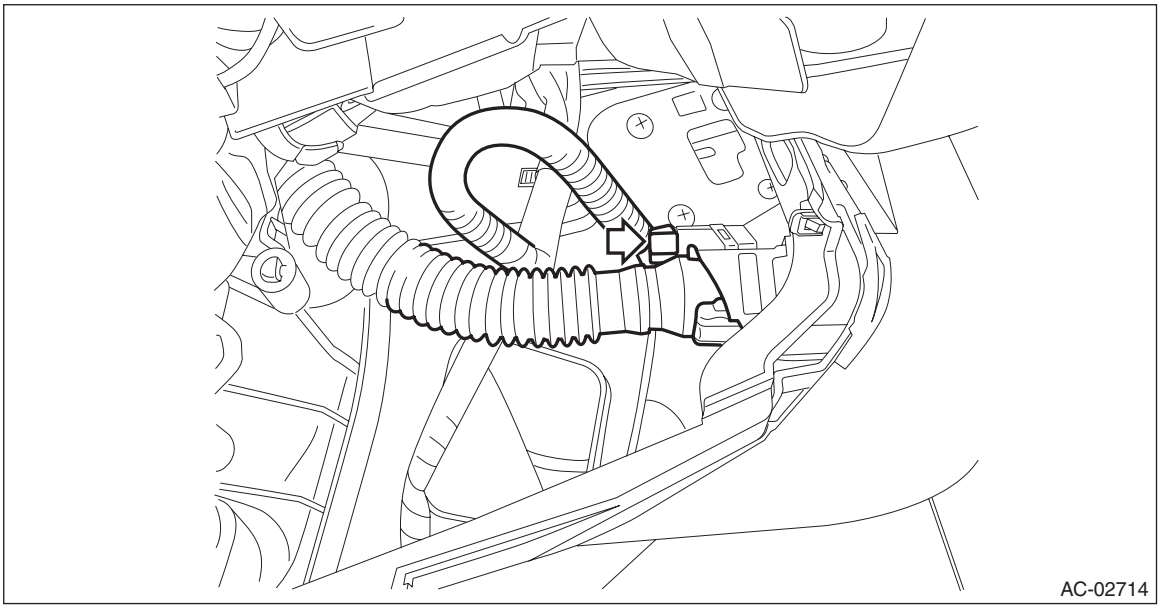
CAUTION:
The value changes depending on the angle of light.
   - **Yes** → The sensor - sunload is normal.
   - **No** → Replace the sensor - sunload.

24.In-Vehicle Sensor (Auto A/C Model)

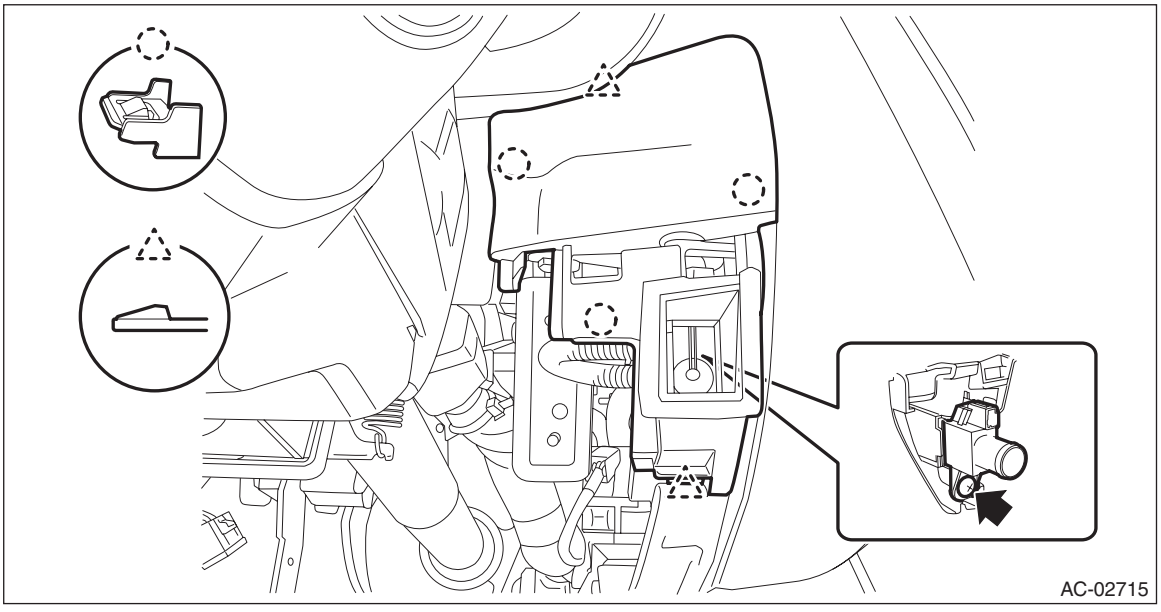
A: REMOVAL

CAUTION:
Be careful not to damage the sensors and interior trims when removing.

1) Remove the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
2) Remove the in-vehicle sensor.
   (1) Disconnect the connector, and remove the aspirator hose.



   (2) Release the claws and remove the cover switch - starter.
   (3) Remove the screw and remove the in-vehicle sensor from the cover switch - starter.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

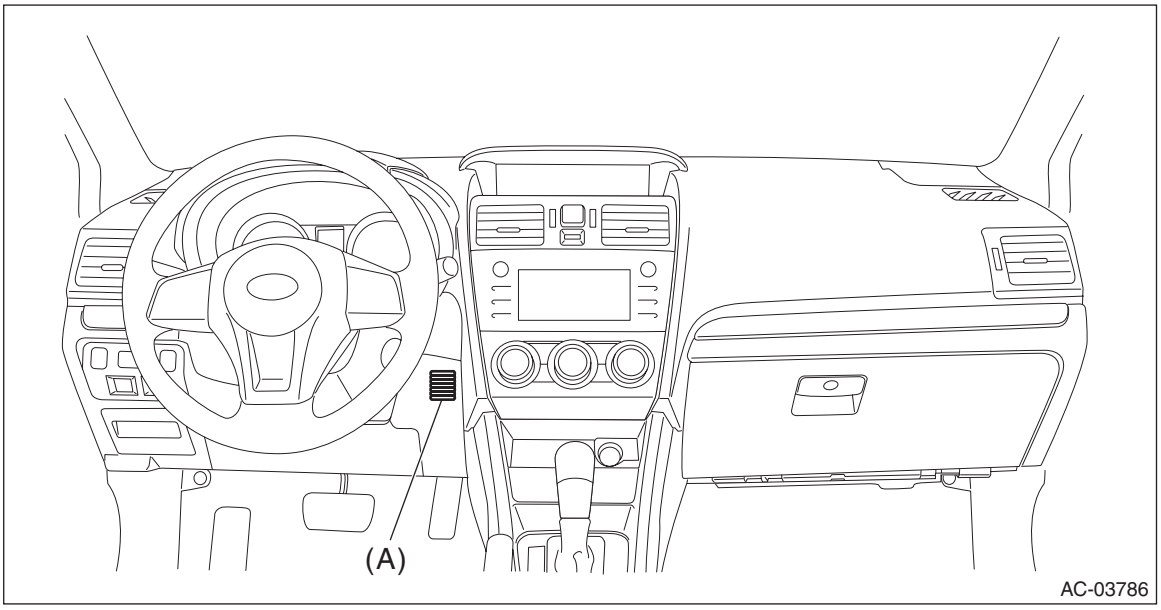
On the vehicle inspection

Preparation tool:
Circuit tester

1) Set the vehicle to the following conditions.

Item	Condition
Ignition switch	ON
A/C switch	ON
Temperature adjustment dial	HI (MAX HOT)
Air flow control dial or switch	DEF
Fan dial	HI (MAX)

2) Check the suction port (A) for in-vehicle sensor of the cover assembly - instrument panel LWR driver INN.

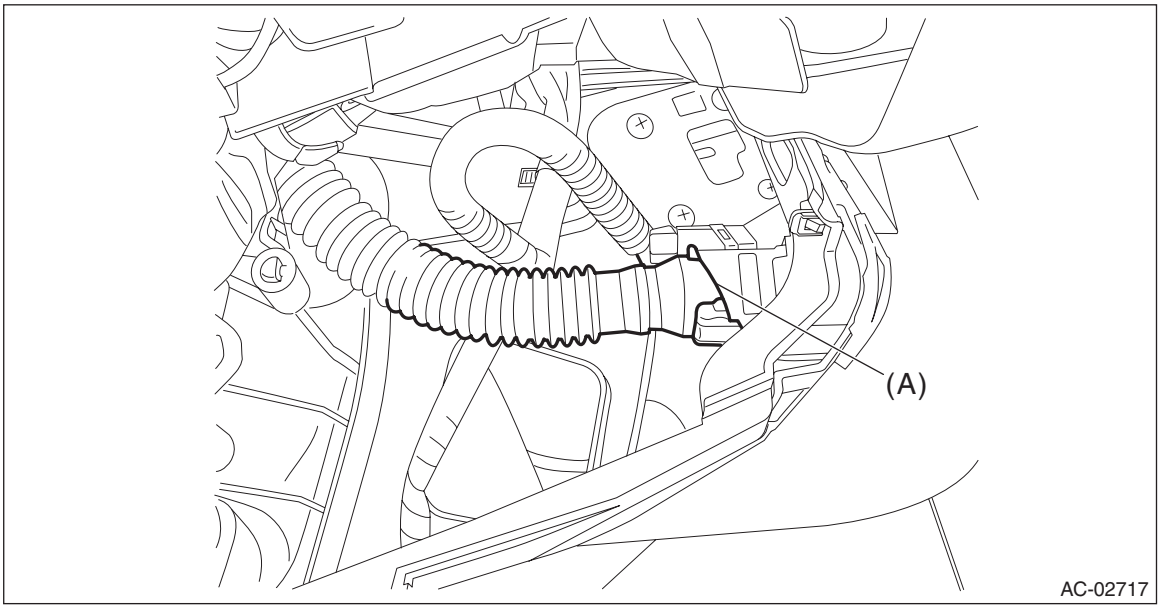


(1) Put a strip of paper close to the front side of the suction port (A).
(2) Can you see the paper moving towards the port and the air being sucked into the port?

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 cover assembly - instrument panel LWR driver INN, and check the aspirator hose (A).



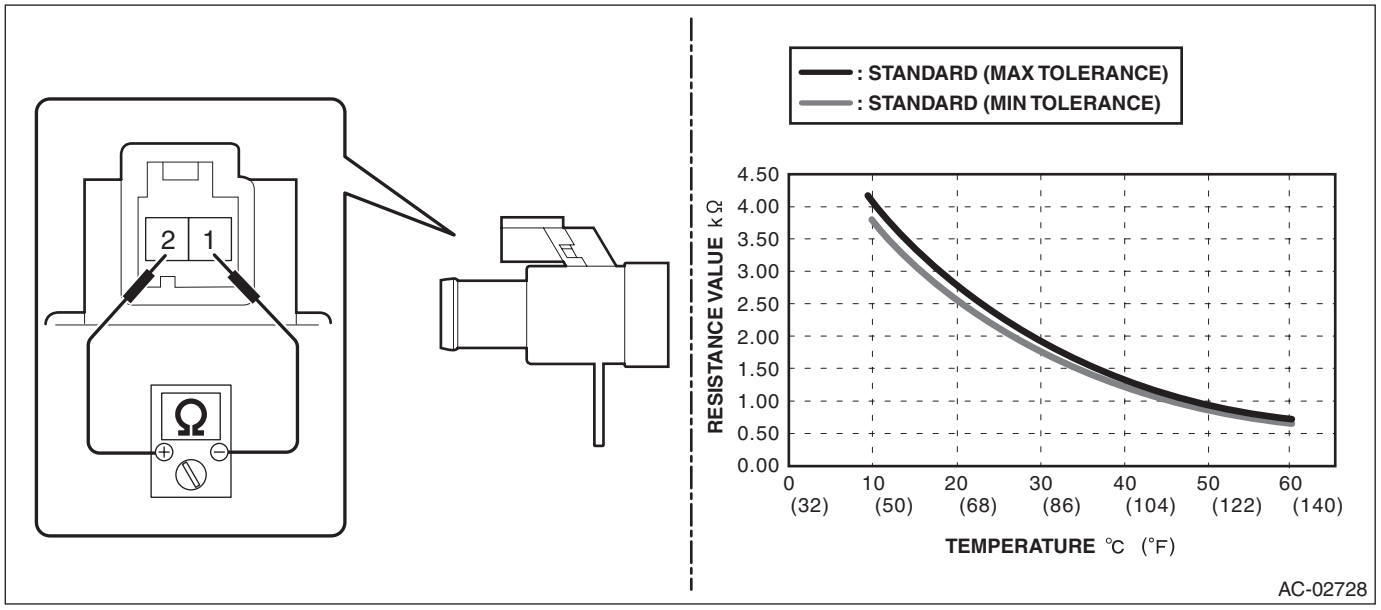
(1) Are the aspirator hoses on both sides of the case and sensor connected securely?

(2) Is the aspirator hose free from any kinks or cracks?
- **Yes** → Go to step 4).
- **No** → 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 free from clogging?
(2) Is the peripheral area of in-vehicle sensor free from any heat-producing parts (such as audio, navigation system etc.)?
- **Yes** → Go to step 5).
- **No** → 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	3.772 — 4.101 kΩ
	15°C	3.096 — 3.338 kΩ
	20°C	2.556 — 2.734 kΩ
	25°C	2.121 — 2.251 kΩ
	30°C	1.756 — 1.878 kΩ
	35°C	1.462 — 1.574 kΩ
	40°C	1.223 — 1.326 kΩ
	45°C	1.028 — 1.122 kΩ
	50°C	0.868 — 0.9542 kΩ
	55°C	0.7363 — 0.8147 kΩ
	60°C	0.6273 — 0.6984 kΩ

- **Yes** → The in-vehicle sensor is normal.
- **No** → Replace the in-vehicle sensor.

25.Temperature and Humidity Sensor

A: REMOVAL

For operation procedures, refer to “In-vehicle Sensor” section. <Ref. to AC-83, REMOVAL, In-Vehicle Sensor (Auto A/C Model).>

B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

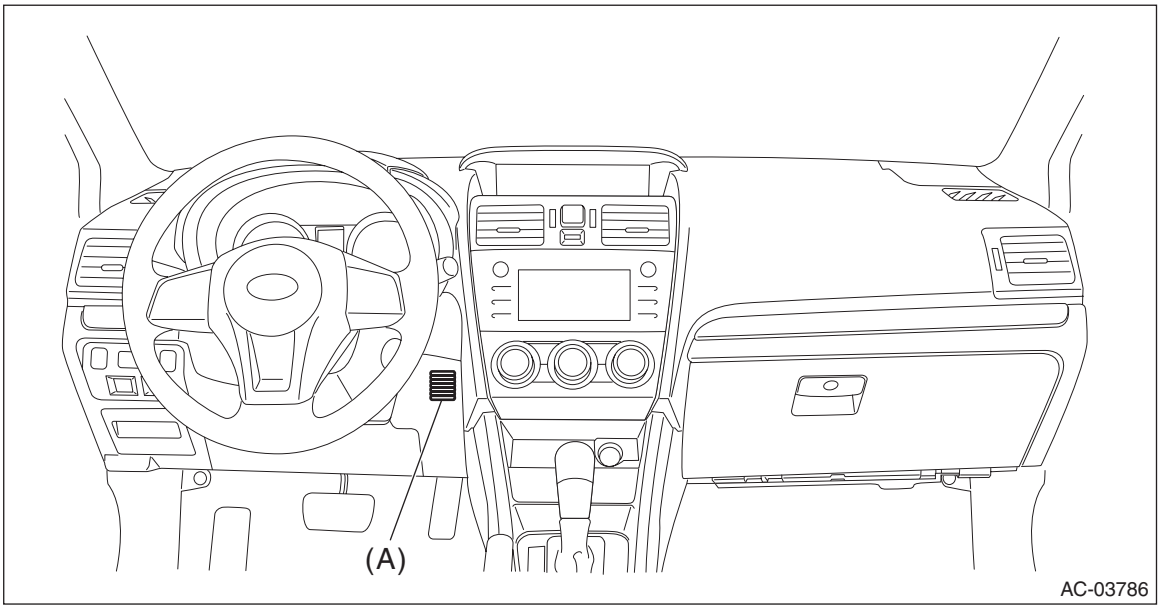
On the vehicle inspection

Preparation tool:
Circuit tester

1) Set the vehicle to the following conditions.

Item	Condition
Ambient temperature	Approx. 25°C (77°F)
Ignition switch	ON
A/C switch	ON
Temperature adjustment dial	HI (MAX HOT)
Mode change switch	DEF
Fan dial	HI (MAX)

2) Check the suction port (A) for the temperature and humidity sensor of the cover assembly - instrument panel LWR driver.

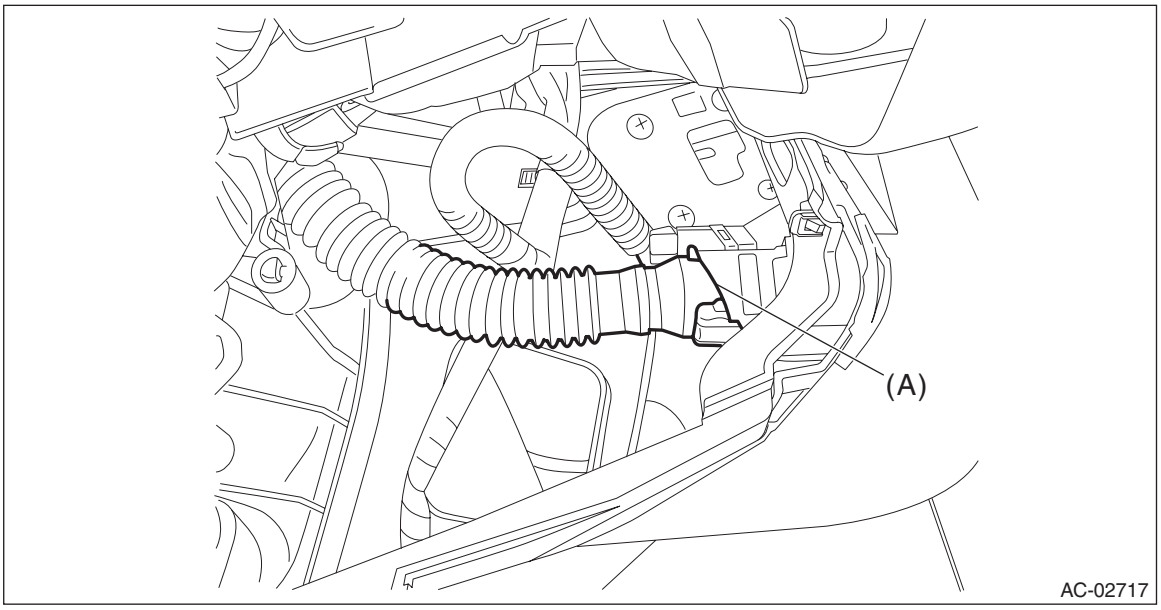


(1) Put a strip of paper close to the front side of the suction port (A).
(2) Can you see the paper moving towards the port and the air being sucked into the port?

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 cover assembly - instrument panel LWR driver, and check the aspirator hose (A).



(1) Are the aspirator hoses on both sides of the case and sensor connected securely?
(2) Is the aspirator hose free from any kinks or cracks?

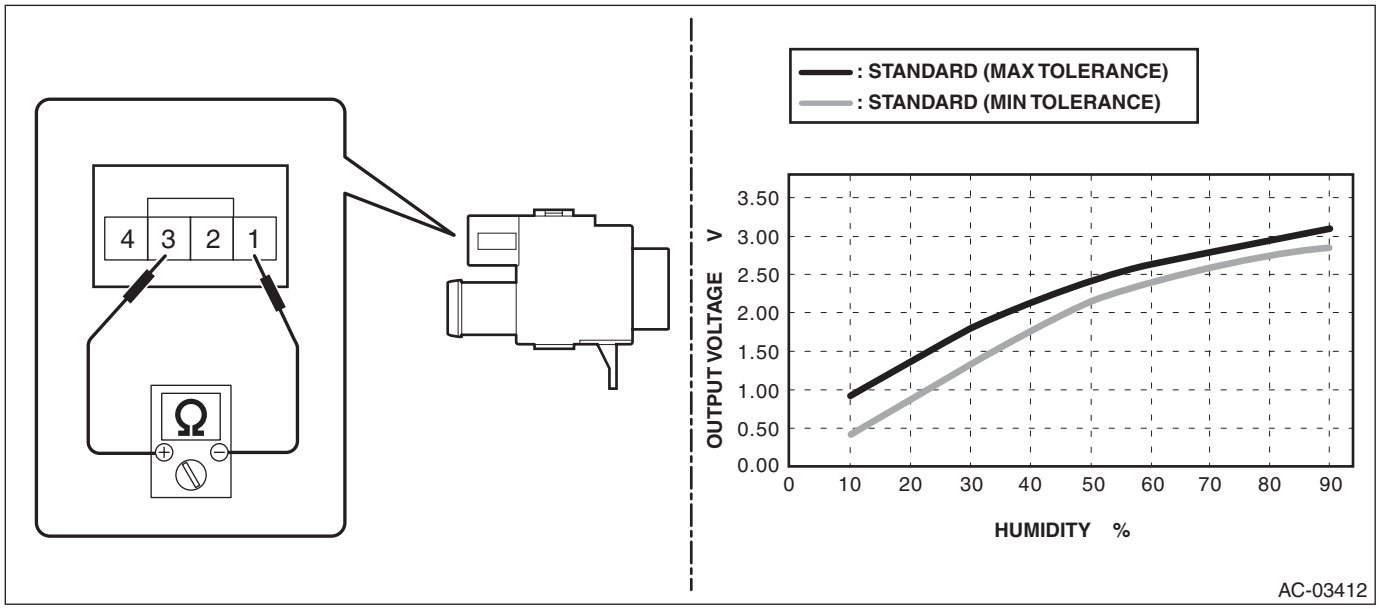
- **Yes** → Go to step 4).
- **No** → Repair or replace the aspirator hose if necessary.

4) Check if there is anything that affects sensing around the temperature and humidity sensor.
(1) Is the temperature and humidity sensor hole free from clogging?
(2) Is the peripheral area of the temperature and humidity sensor free from any heat-producing parts (such as audio, navigation system etc.)?

- **Yes** → Go to step 5).
- **No** → Remove everything that affects sensing.

5) Perform the inspection of temperature and humidity sensor unit.
(1) Disconnect the temperature and humidity sensor connector.
(2) Is the voltage between terminals of temperature and humidity sensor within standard value?

CAUTION:
During inspection, be careful not to touch the sensor end in order to avoid misjudgment due to body temperature.



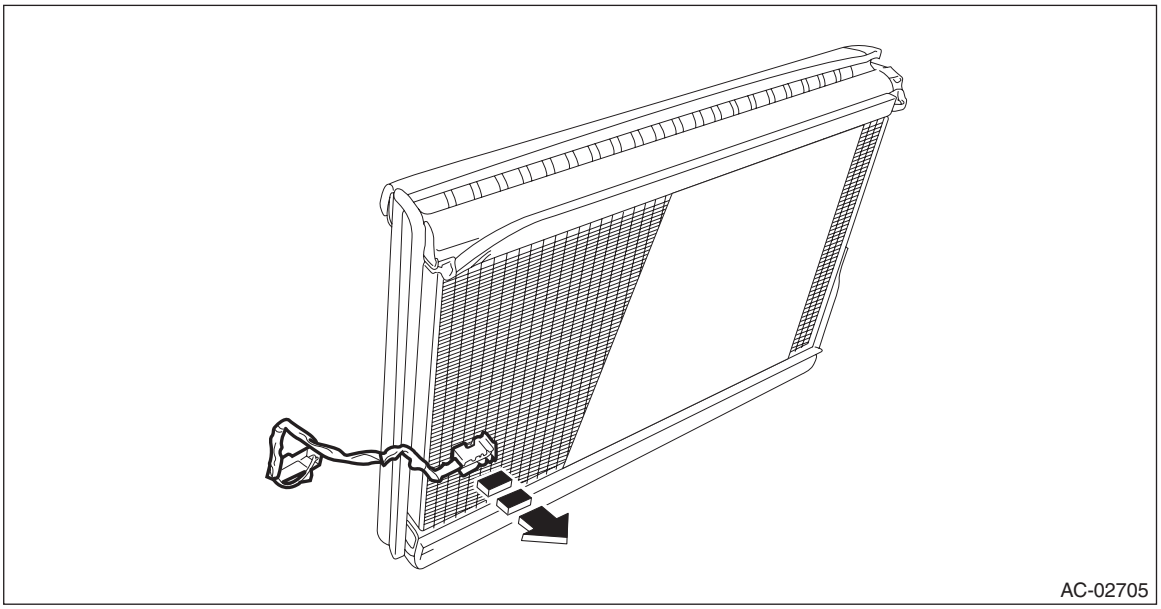
Terminal No.	Inspection conditions	Standard
1 — 3	10%	0.46 — 0.94 V
	20%	0.90 — 1.35 V
	30%	1.35 — 1.78 V
	40%	1.78 — 2.11 V
	50%	2.11 — 2.36 V
	60%	2.34 — 2.59 V
	70%	2.55 — 2.78 V
	80%	2.73 — 2.96 V
	90%	2.90 — 3.15 V

- **Yes** → The temperature and humidity sensor is normal.
- **No** → Replace the temperature and humidity sensor.

26.Evaporator Sensor

A: REMOVAL

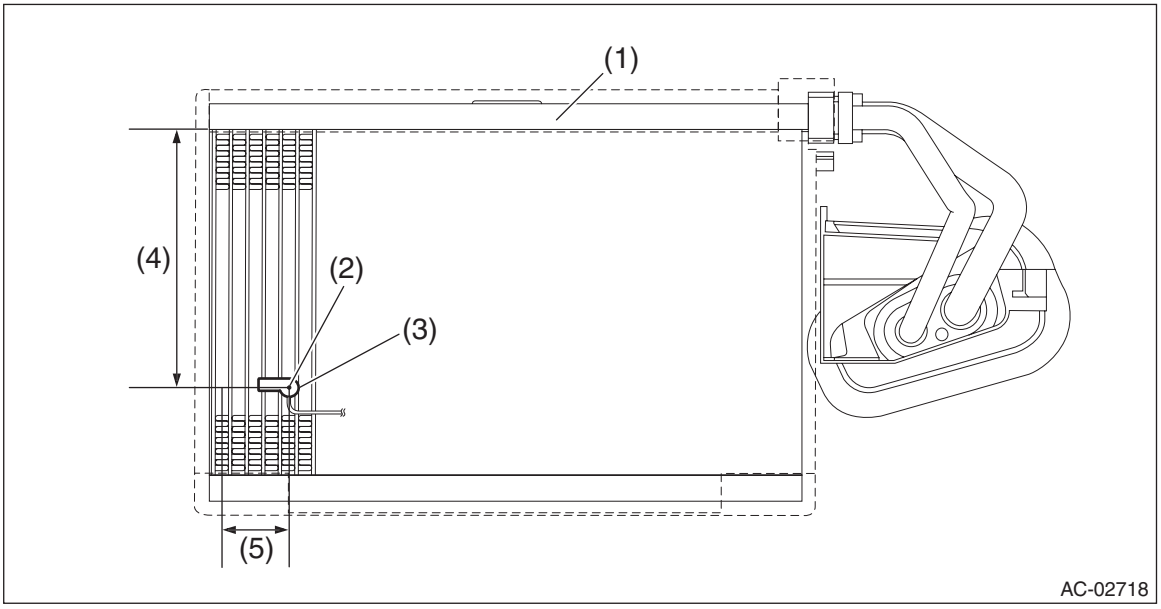
1) Remove the evaporator assembly - cooling. <Ref. to AC-63, REMOVAL, Evaporator.>
2) Remove the thermostat - cooling from the evaporator assembly - cooling.



B: INSTALLATION

CAUTION:
- **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 thermostat - cooling at the position shown in the figure below.



(1) Evaporator ASSY - cooling
(2) Center
(3) Thermostat - cooling
(4) 130 mm (5.12 in) from the upper end of the fins
(5) Fifth row fin from the left end

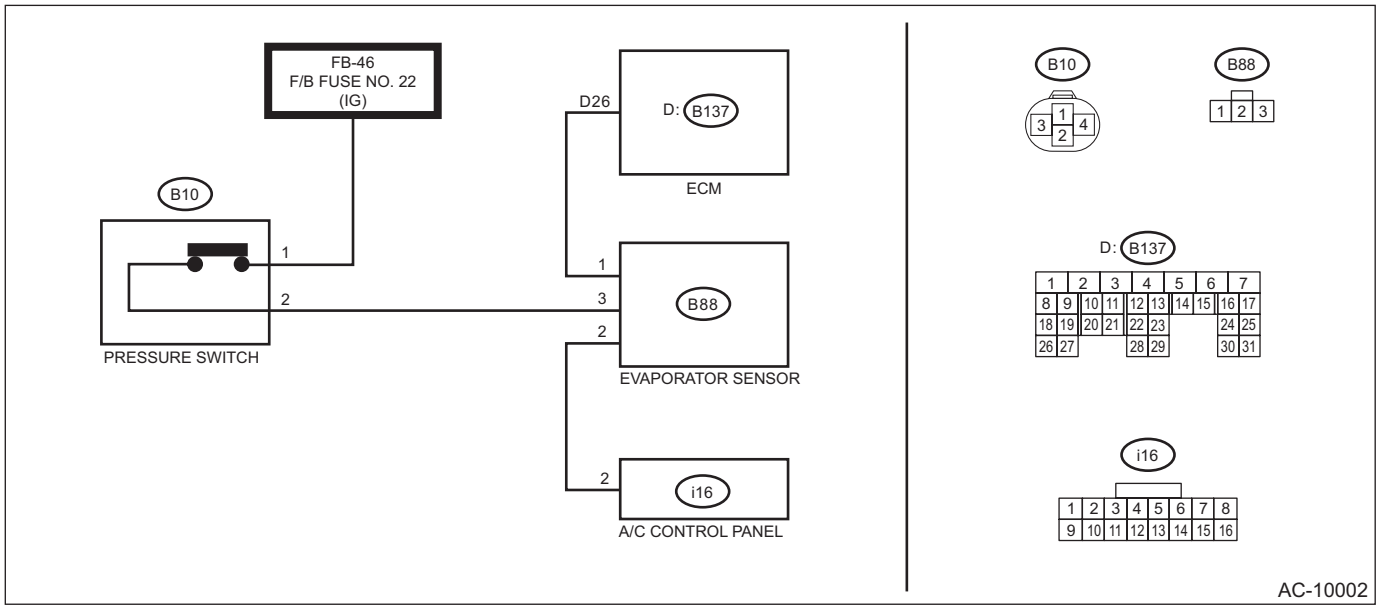
2) Install each part in the reverse order of removal.
3) Charge refrigerant. <Ref. to AC-30, PROCEDURE, Refrigerant Charging Procedure.>

C: INSPECTION

1. MANUAL A/C MODEL

Preparation tool:
Circuit tester
Thermometer and hygrometer

WIRING DIAGRAM:



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 and idle the engine for 15 minutes.

Item	Condition
Engine	Idling
Air vent grille	Shutter is fully open.
A/C switch	OFF
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial	VENT
Fan dial	3/4 level

3) Check evaporator sensor power supply input
(1) Turn the ignition to OFF.
(2) Disconnect the evaporator sensor connector.
(3) Turn the ignition to ON.
(4) Measure the voltage between evaporator sensor connector and chassis ground.

Connector & terminal
(B88) No. 3 (+) — Chassis ground (–):
(5) Is the voltage approx. 12 V?
- **Yes** → Go to step 4).
- **No** → Repair or replace the harness.

4) Check evaporator sensor ground circuit
   (1) Turn the ignition to OFF.
   (2) Check continuity between evaporator sensor connector and chassis ground.

Connector & terminal
(B88) No. 2 — Chassis ground:
   (3) Is there continuity?
   - **Yes** → Go to step 6).
   - **No** → Go to step 5).

5) Check open circuit in evaporator sensor ground circuit
   (1) Disconnect the control panel connector.
   (2) Check continuity between evaporator sensor connector and control panel connector.

Connector & terminal
(B88) No. 2 — (i16) No. 2:
   (3) Is there continuity?
   - **Yes** → Replace the control panel.
   - **No** → Repair or replace the harness.

6) Check evaporator sensor signal output
   (1) Connect the evaporator sensor connector and the control panel connector.
   (2) Disconnect the engine control module (ECM) connector.
   (3) Turn the ignition to ON.
   (4) Turn the A/C switch to ON.
   (5) Measure the voltage between engine control module (ECM) connector and chassis ground.

Connector & terminal
(B137) No. 26 — Chassis ground (–):
   (6) Is the voltage approx. 8 V or more?
   - **Yes** → Evaporator sensor is normal.
   - **No** → Go to step 7).

7) Check open circuit in evaporator sensor signal output circuit
   (1) Turn the ignition to OFF.
   (2) Disconnect the evaporator sensor connector.
   (3) Check continuity between evaporator sensor connector and engine control module (ECM) connector.

Connector & terminal
(B88) No. 1 — (B137) No. 26:
   (4) Is there continuity?
   - **Yes** → Replace the evaporator sensor.
   - **No** → Repair or replace the harness.

2. AUTO A/C MODEL

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.
A/C switch	OFF
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial or switch	VENT
Fan dial	5/7 level

3) Using the Subaru Select Monitor, check «Evaporator Temperature».

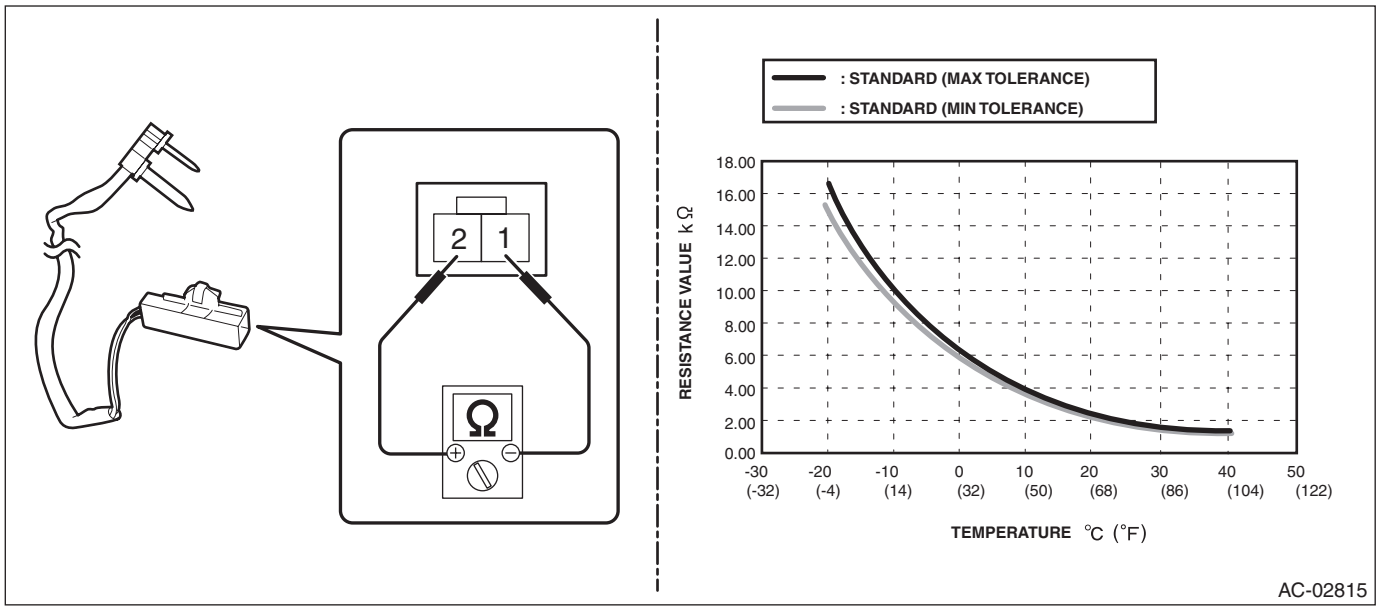
NOTE:
For detailed procedures, refer to “PC application help for Subaru Select Monitor”.

(1) Idle the engine for 15 minutes, and then compare the air flow outlet temperature with «Evaporator Temperature».

NOTE:
For outlet opening temperature, measure the average temperature of center grille assembly and side grille assembly.

(2) Do the air flow outlet temperature and «Evaporator Temperature» differ by 3°C (5.4°F) or more?
- **Yes** → Go to step 4).
- **No** → Evaporator sensor is normal.

4) Check the evaporator sensor.
(1) Disconnect the evaporator sensor connector.
(2) Is the resistance between terminals of evaporator sensor within standard value?



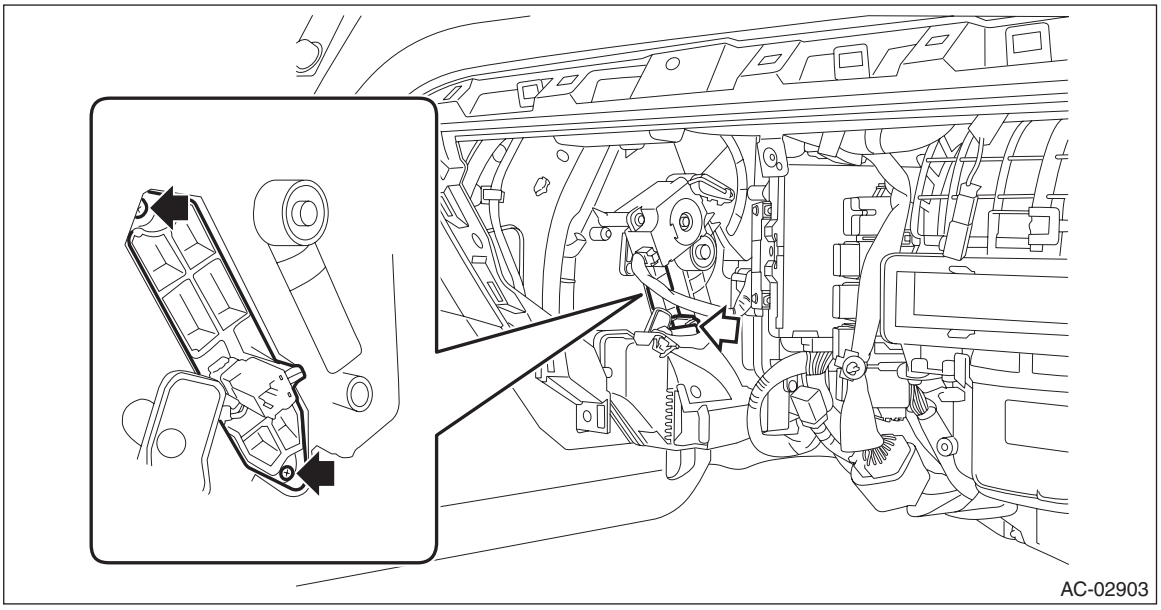
Terminal No.	Inspection conditions	Standard
1 — 2	-20°C	15.37 — 16.62 kΩ
	-15°C	12.09 — 12.87 kΩ
	-10°C	9.576 — 10.05 kΩ
	-5°C	7.636 — 7.899 kΩ
	0°C	6.132 — 6.256 kΩ
	5°C	4.891 — 5.057 kΩ
	10°C	3.928 — 4.113 kΩ
	15°C	3.174 — 3.366 kΩ
	20°C	2.581 — 2.77 kΩ
	25°C	2.111 — 2.292 kΩ
	30°C	1.737 — 1.907 kΩ
	35°C	1.437 — 1.595 kΩ
	40°C	1.195 — 1.34 kΩ

- **Yes** → Evaporator sensor is normal.
- **No** → Replace the evaporator sensor.

27.Heater Core Sensor

A: REMOVAL

NOTE:
Heater core sensor is installed only to HEV model.
1) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
2) Remove the heater core sensor.
   (1) Disconnect the connector.
   (2) Remove the screw and remove the heater core sensor.



B: INSTALLATION

Install each part in the reverse order of removal.

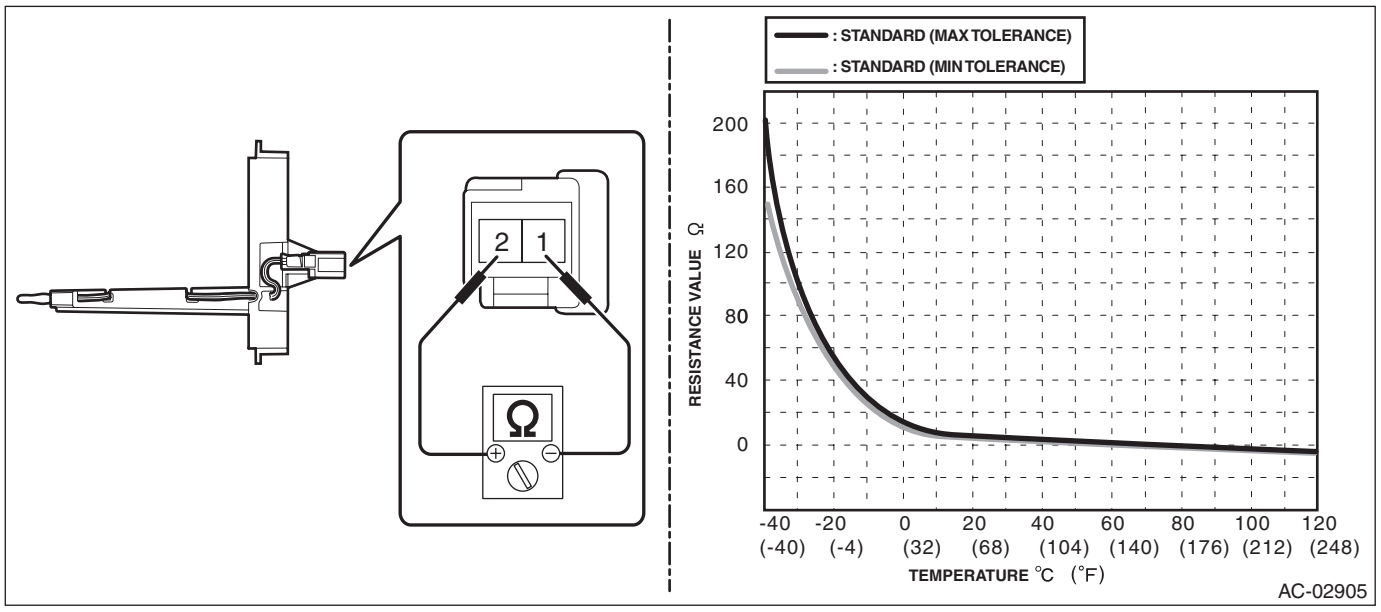
C: INSPECTION

UNIT INSPECTION

Preparation tool:
Circuit tester

1) Measure the resistance between heater core 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	-40°C	151.6 — 201.1 Ω
	-35°C	109.9 — 142.7 Ω
	-30°C	80.55 — 102.4 Ω
	-25°C	59.69 — 74.44 Ω
	-20°C	44.69 — 54.69 Ω
	-15°C	33.79 — 40.61 Ω
	-10°C	25.79 — 30.45 Ω
	-5°C	19.86 — 23.06 Ω
	0°C	15.42 — 17.61 Ω
	5°C	12.05 — 13.55 Ω
	10°C	9.497 — 10.52 Ω
	15°C	7.538 — 8.229 Ω
	20°C	6.026 — 6.487 Ω
	25°C	4.85 — 5.15 Ω
	30°C	3.877 — 4.172 Ω
	35°C	3.12 — 3.4 Ω
	40°C	2.527 — 2.788 Ω
	45°C	2.059 — 2.299 Ω
	50°C	1.687 — 1.905 Ω
	55°C	1.39 — 1.588 Ω
	60°C	1.152 — 1.33 Ω
	65°C	0.9587 — 1.119 Ω
	70°C	0.8021 — 0.9457 Ω
	75°C	0.6743 — 0.8029 Ω
	80°C	0.5693 — 0.6846 Ω
	85°C	0.4828 — 0.586 Ω
	90°C	0.4112 — 0.5036 Ω
	95°C	0.3516 — 0.4345 Ω
	100°C	0.3017 — 0.3761 Ω
	105°C	0.26 — 0.3268 Ω
	110°C	0.2248 — 0.2849 Ω
	115°C	0.195 — 0.2491 Ω
	120°C	0.1697 — 0.2186 Ω

2) Replace the heater core sensor if the inspection result is not within the standard value.

28.FRESH/RECIRC Door Actuator

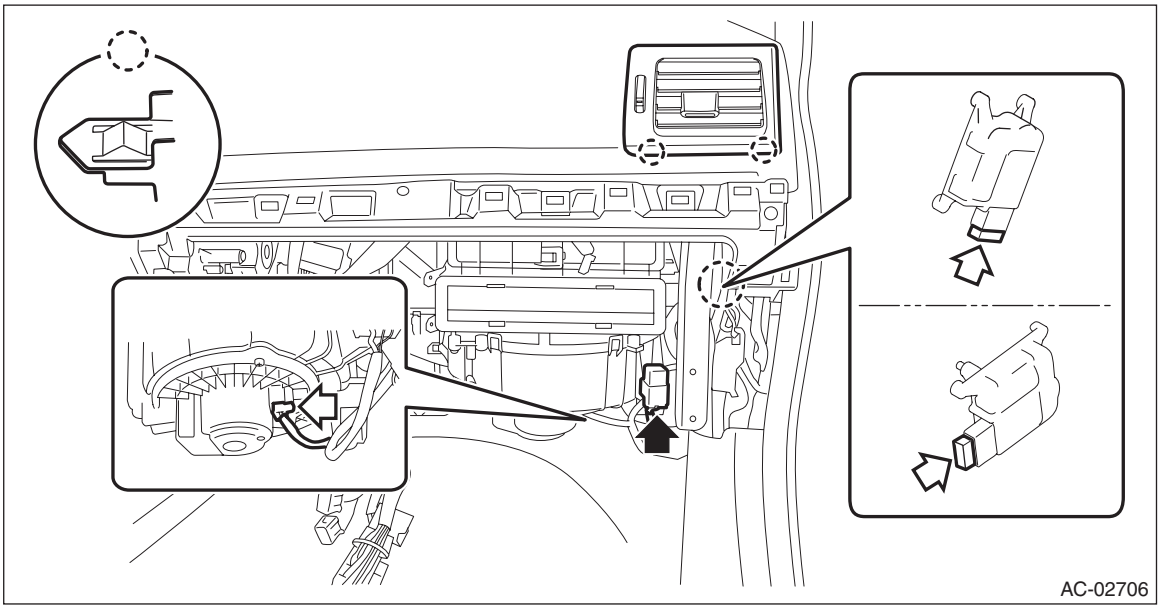
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

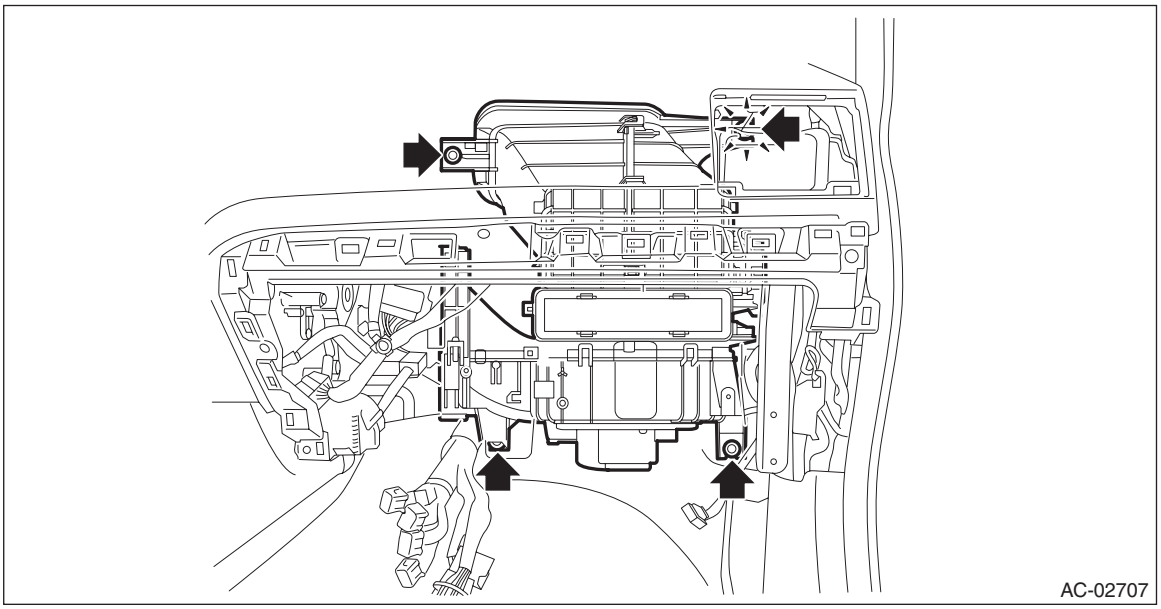
2) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
3) Remove the engine control module (ECM).
- Gasoline engine model: <Ref. to FU(H4DO(w/o HEV))-100, REMOVAL, Engine Control Module (ECM).>
- HEV model: <Ref. to FU(H4DO(HEV))-85, REMOVAL, Engine Control Module (ECM).>

4) Remove the blower motor unit assembly.
   (1) Release the claws, and then remove the grille assembly - ventilation RH.
   (2) Disconnect the blower motor relay and each connector.

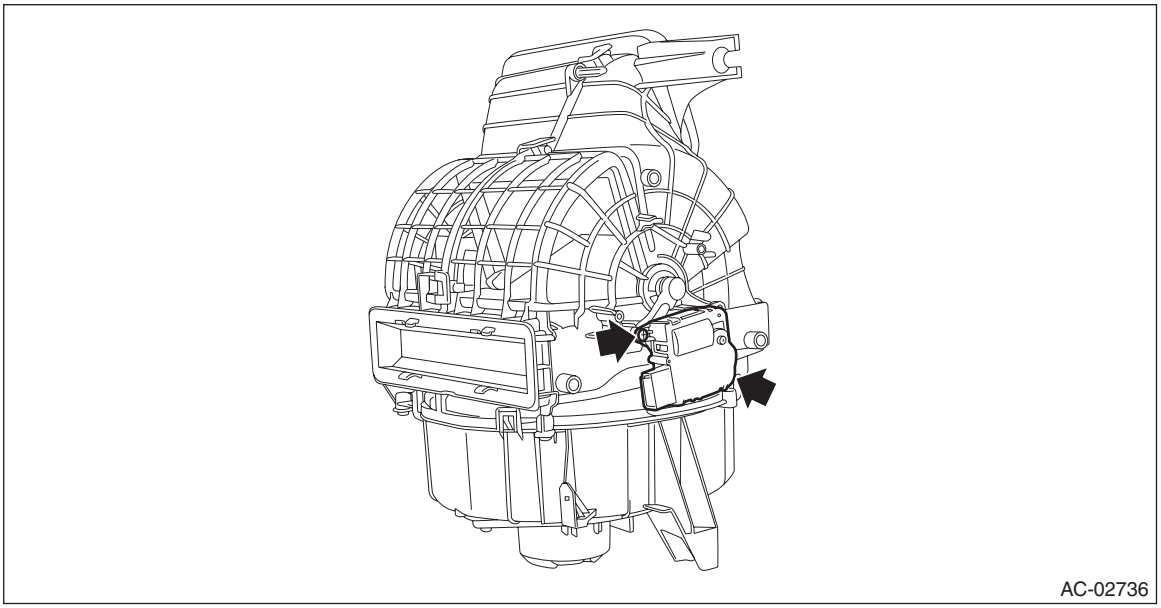


   (3) Remove the bolts and nuts to remove blower motor unit assembly.

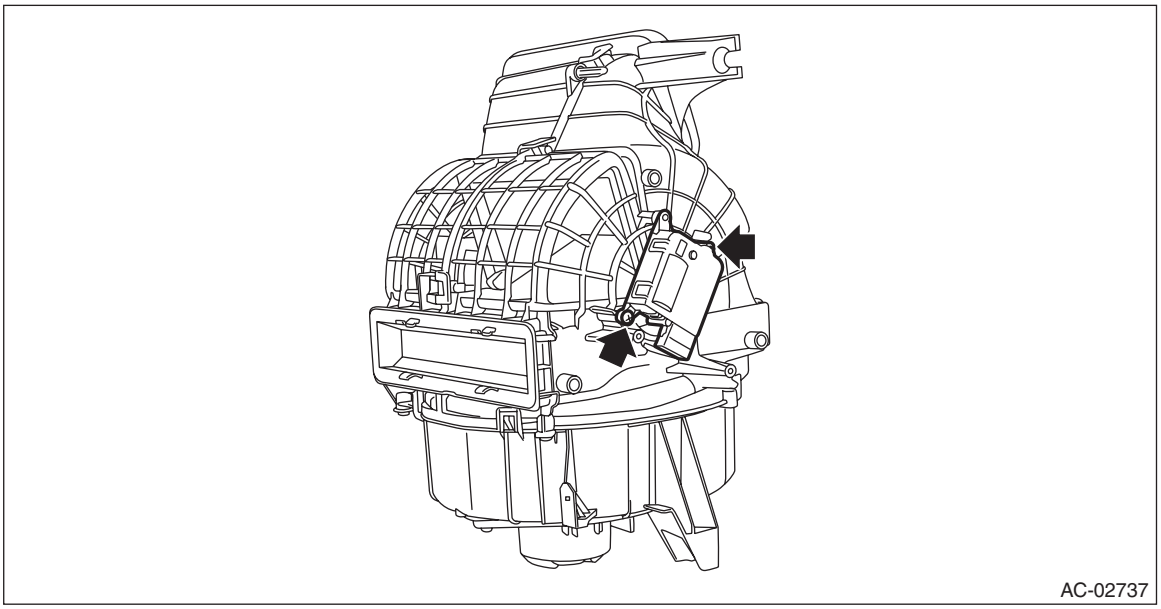
NOTE:
Remove the RH upper nut from the mounting portion of the grille assembly - ventilation RH.



5) Remove the screws and detach the motor - actuator blower.
- Manual A/C model


AC-02736

- Auto A/C model


AC-02737

B: INSTALLATION

CAUTION:
After installing the grille assembly - ventilation RH, check that the air vent grille of the grille assembly - ventilation RH is inserted correctly into the air vent duct.
Install each part in the reverse order of removal.

Tightening torque:
Blower motor unit: <Ref. to AC-10, BLOWER MOTOR UNIT, COMPONENT, General Description.>

C: INSPECTION

1. CHECK LINK

1) Visually check the operation range of the link, and remove the foreign material if any.
2) Operate the FRESH/RECIRC switch to check that the link operates normally.
3) If it does not operate normally as the result of inspection, check the motor - actuator blower.

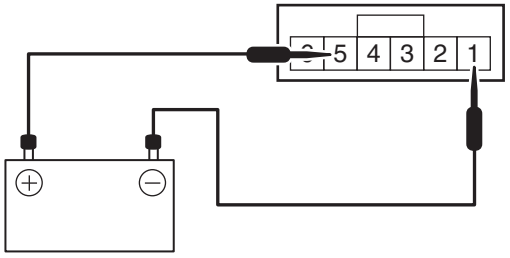
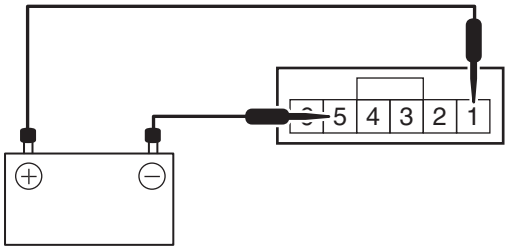
2. CHECK ACTUATOR

UNIT INSPECTION

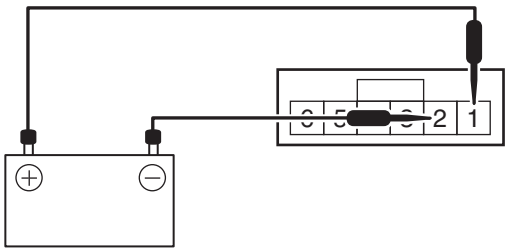
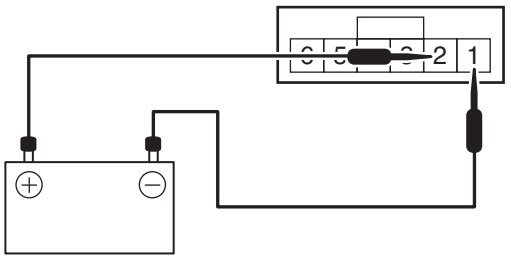
1) Check the actuator operation when battery voltage is applied between the terminals of actuator.

CAUTION:
Remove the battery immediately once the actuator stops operating. Otherwise, damage to the motor can occur.

- Manual A/C model

Terminal No.	Inspection conditions	Position	Connection diagram
5 (+) — 1 (–)	Connect battery to the terminals	RECIRC	 AC-02738
1 (+) — 5 (–)		FRESH	 AC-02739

- Auto A/C model

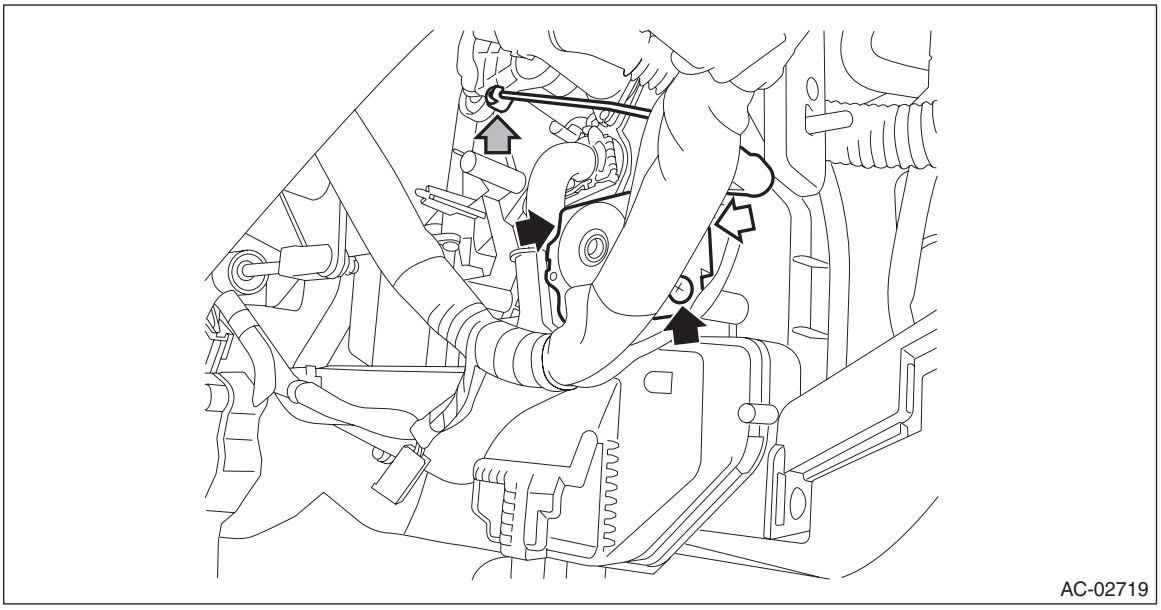
Terminal No.	Inspection conditions	Position	Connection diagram
1 (+) — 2 (–)	Connect battery to the terminals	RECIRC	 AC-02742
2 (+) — 1 (–)		FRESH	 AC-02741

2) If it does not operate normally as the result of inspection, replace the motor - actuator blower.

29.Mode Door Actuator

A: REMOVAL

1) Remove the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
2) Remove the motor - actuator mode.
   (1) Disconnect the connector, and remove the rod from the rod clamp.
   (2) Remove the screws and detach the motor - actuator mode.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1. CHECK LINK

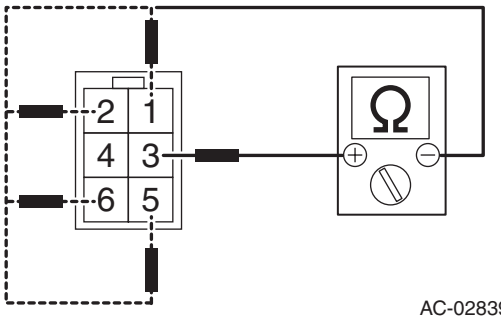
1) Visually check the operation range of the link, and remove the foreign material if any.
2) Operate the air flow control dial or switch to check that the link operates normally.
3) If it does not operate normally as the result of inspection, check the motor - actuator mode.

2. CHECK ACTUATOR

UNIT INSPECTION

PREPARATION TOOL:
Circuit tester

1) Check the resistance between actuator terminals.

Terminal No.	Inspection conditions	Standard	Connector sketch
3 — 1	Always	80 — 100 Ω	
3 — 2			
3 — 5			
3 — 6			

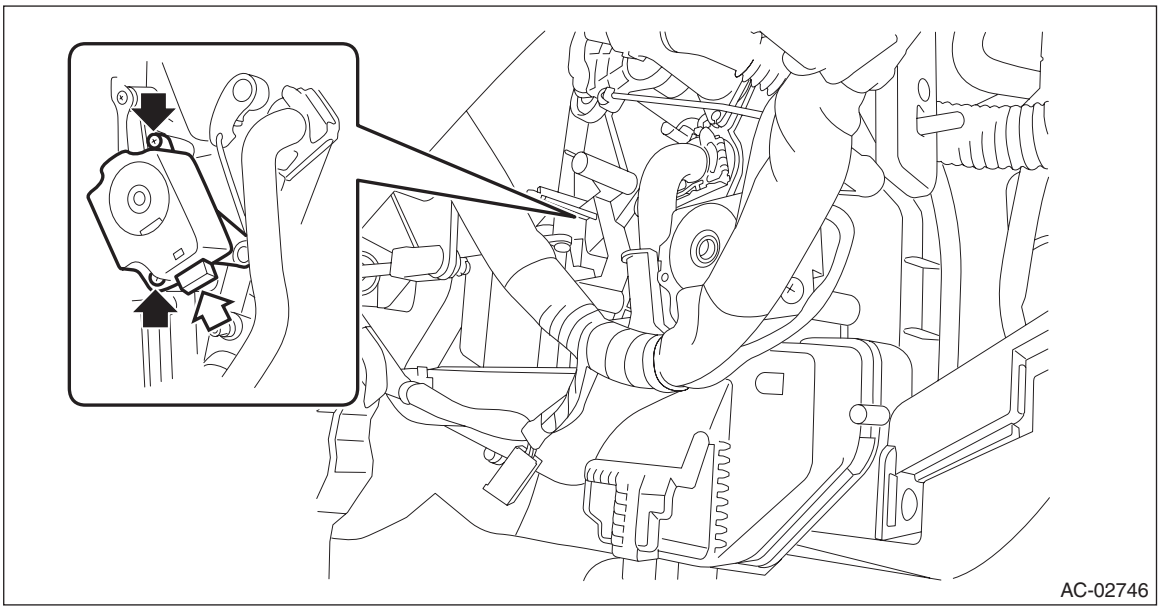
2) Replace the motor - actuator mode if it is found defective as a result of inspection.

30.Air Mix Door Actuator

A: REMOVAL

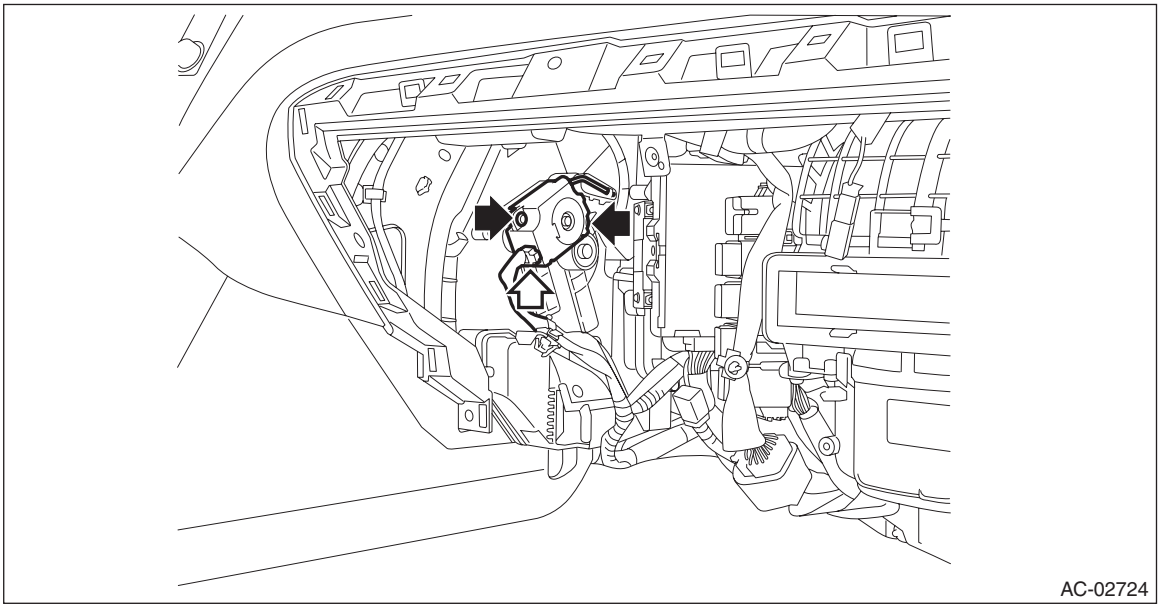
1. LH

1) Remove the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
2) Remove the motor - actuator mix.
   (1) Disconnect the connector, and remove the rod from the rod clamp.
   (2) Remove the screws and detach the motor - actuator mix.


AC-02746

2. RH

1) Remove the glove box. <Ref. to EI-78, REMOVAL, Glove Box.>
2) Remove the motor - actuator mix.
   (1) Disconnect the connector, and remove the rod from the rod clamp.
   (2) Remove the screws and detach the motor - actuator mix.


AC-02724

B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1. CHECK LINK

1) Visually check the operation range of the link, and remove the foreign material if any.
2) Operate the temperature control dial to check that the link operates normally.
3) If it does not operate normally as the result of inspection, check the motor - actuator mix.

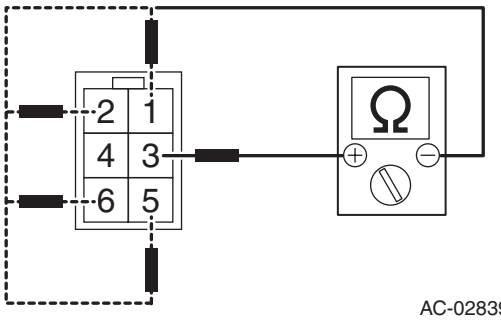
2. CHECK ACTUATOR

UNIT INSPECTION

PREPARATION TOOL:

Circuit tester

1) Check the resistance between actuator terminals.

Terminal No.	Inspection conditions	Standard	Connector sketch
3 — 1	Always	80 — 100 Ω	
3 — 2			
3 — 5			
3 — 6			

2) Replace the motor - actuator mix if it is found defective as a result of inspection.

31.Air Vent Grille

A: REMOVAL

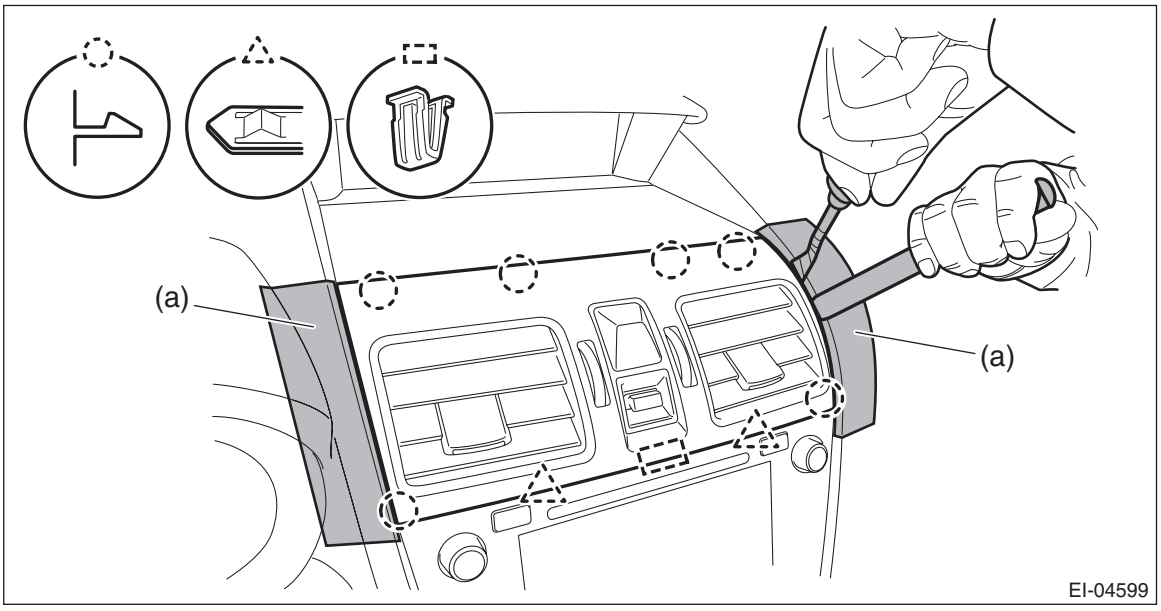
1. CENTER GRILLE ASSEMBLY

CAUTION:
- **Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.**
- **Pull the center grille assembly slowly. Pulling with excessive force may damage the connector.**

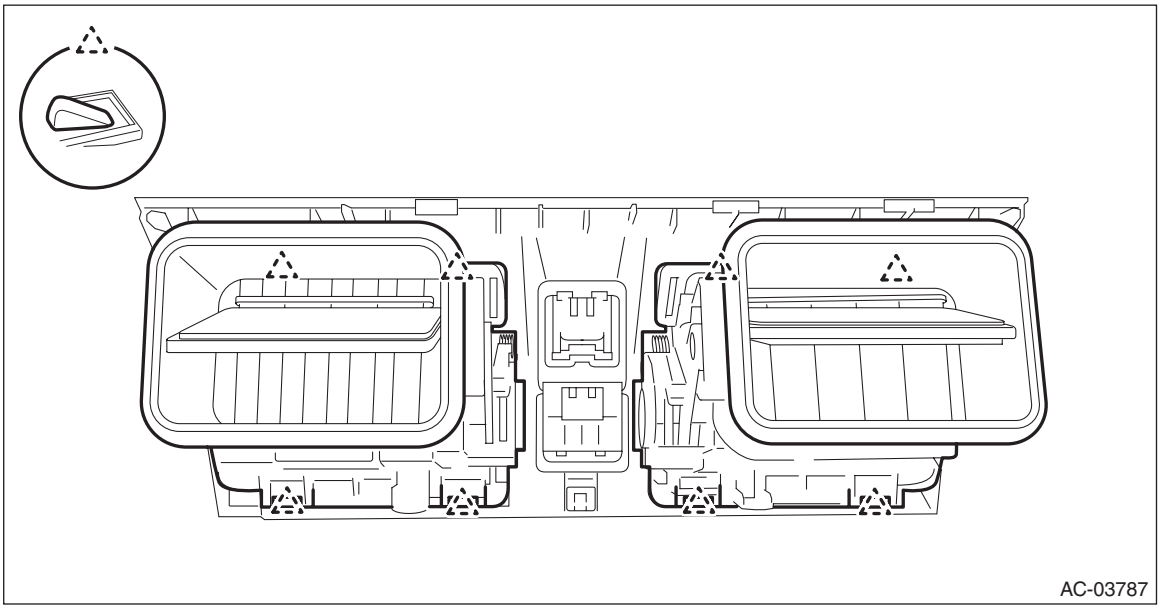
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the center grille assembly.
   (1) Apply protective tape (a) to the instrument panel assembly.
   (2) Release the claws by using a clip remover wrapped with protective tape.
   (3) Disconnect the connector, and remove the center grille assembly.



3) Release the claws, and then remove the grille assembly - CTR ventilation from the center grille assembly.



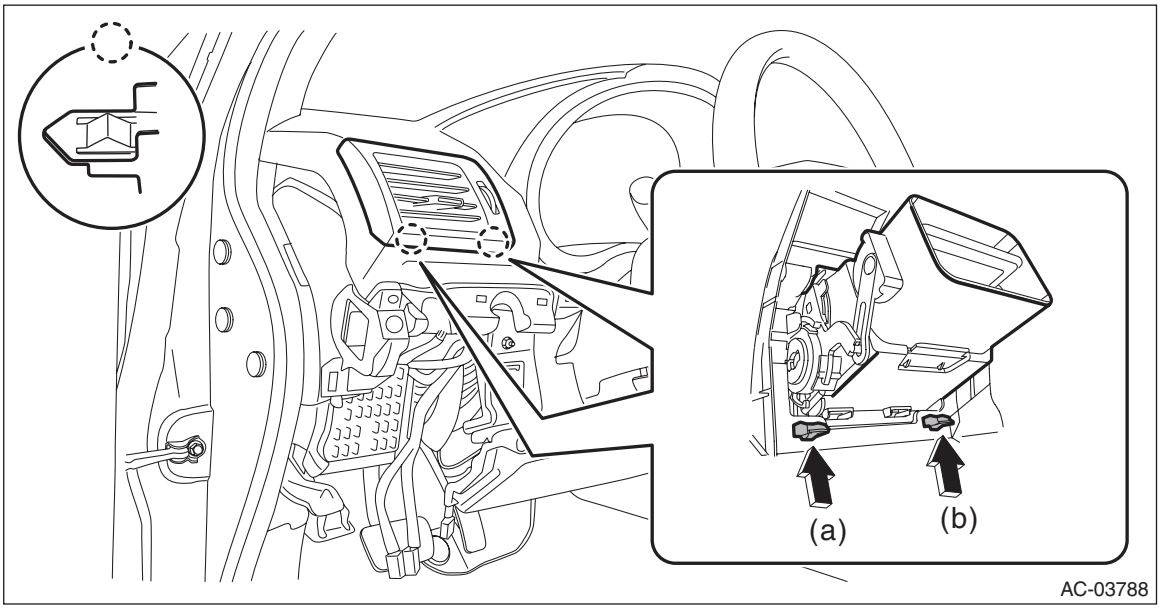
2. SIDE GRILLE ASSEMBLY

LH side

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the cover assembly - instrument panel LWR driver OUT. <Ref. to EI-76, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the grille assembly - ventilation LH.

CAUTION:
• When using a flat tip screwdriver, apply protective tape or cloth and be careful not to cause damage.
• Do not pull the grille assembly - ventilation forcibly. Otherwise it may deform or break.
(1) From the reverse side of the instrument panel assembly, press up the claw (a) of the outlet dial side.
(2) While pressing, release the claw by pulling the grille assembly - ventilation toward you.
(3) Release the other side claw (b) in the same way, then detach the grille assembly - ventilation LH.

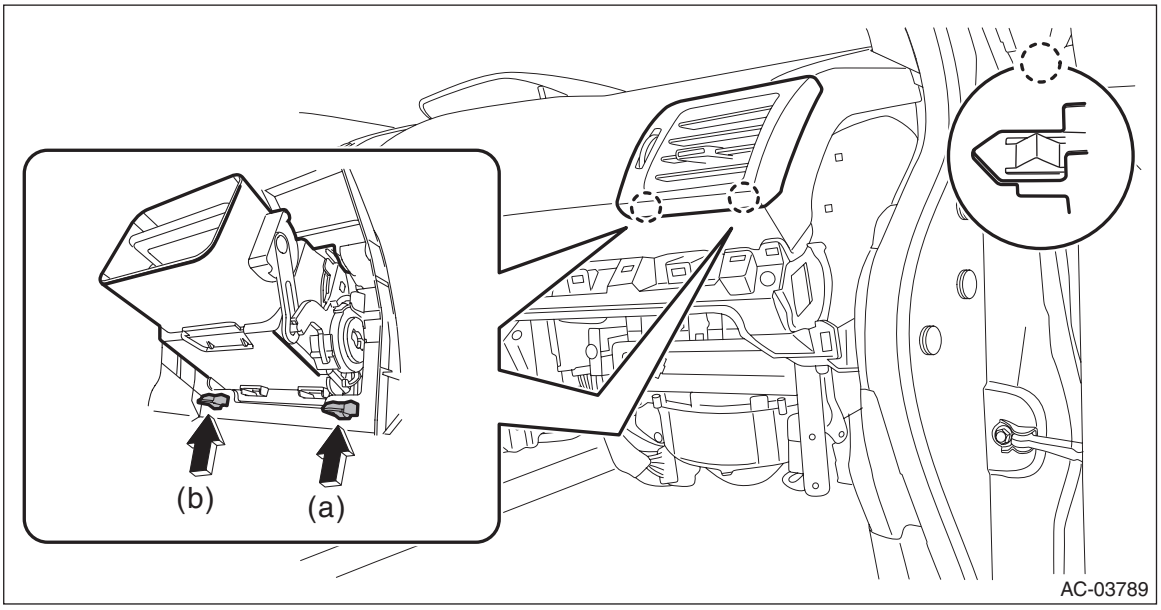


RH side

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the pocket assembly and the back panel - pocket. <Ref. to EI-78, REMOVAL, Glove Box.>
3) Remove the grille assembly - ventilation RH.

CAUTION:
• When using a flat tip screwdriver, apply protective tape or cloth and be careful not to cause damage.
• Do not pull the grille assembly - ventilation forcibly. Otherwise it may deform or break.
(1) From the reverse side of the instrument panel assembly, press up the claw (a) of the outlet dial side.
(2) While pressing, release the claw by pulling the grille assembly - ventilation toward you.
(3) Release the other side claw (b) in the same way, then detach the grille assembly - ventilation LH.



B: INSTALLATION

CAUTION:
After installing the center grille assembly or grille assembly - ventilation, check that the air vent grille is inserted correctly into the air vent duct.
Install each part in the reverse order of removal.

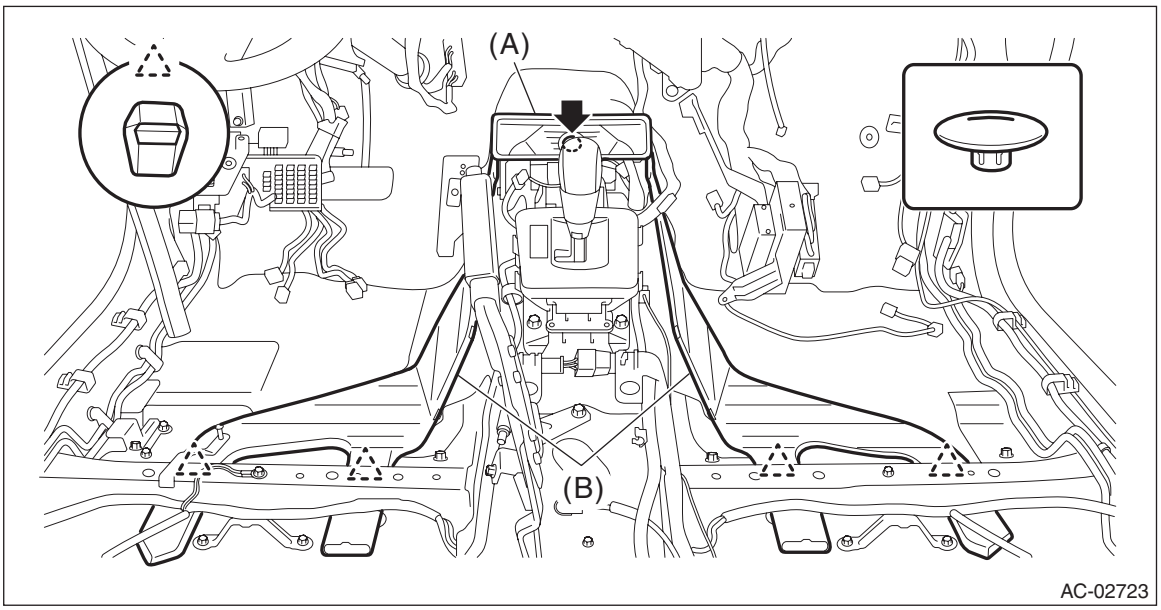
C: INSPECTION

1) Check that the direction and amount of air can be adjusted smoothly. Replace the grille assembly - ventilation if faulty.
2) Check that the adjustment can be maintained in each position. Replace the grille assembly - ventilation if faulty.

32.Heater Duct

A: REMOVAL

1) Remove the heater and cooling unit assembly. <Ref. to AC-60, REMOVAL, Heater and Cooling Unit.>
2) Turn over the floor mat. <Ref. to EI-160, REMOVAL, Floor Mat.>.
3) Remove the duct - rear heater.
   (1) Remove the clips, and remove the duct - rear heater CTR (A).
   (2) Release the claws, and remove the duct - rear heater (B) on LH and RH sides.



NOTE:
For HEV model, remove the duct - extension.

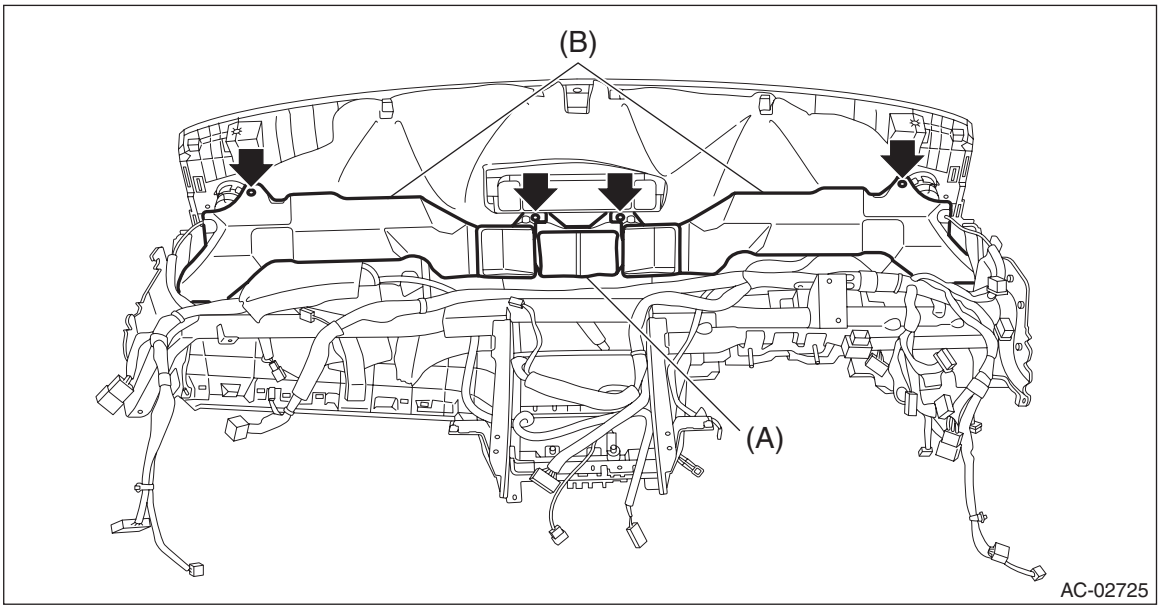
B: INSTALLATION

Install each part in the reverse order of removal.

33.Heater Vent Duct

A: REMOVAL

1) Remove the instrument panel assembly. <Ref. to EI-83, REMOVAL, Instrument Panel Assembly.>
2) Remove the screws and remove the duct - center vent (A) and the duct - side ventilation (B) on LH and RH sides.



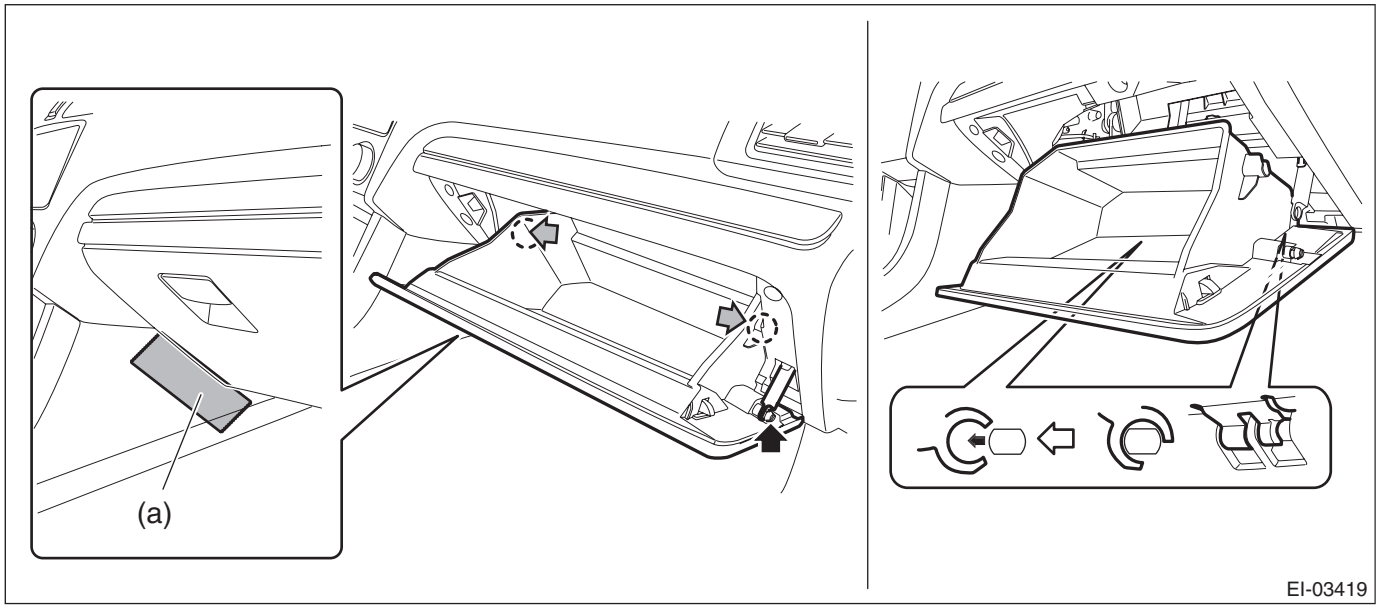
B: INSTALLATION

Install each part in the reverse order of removal.

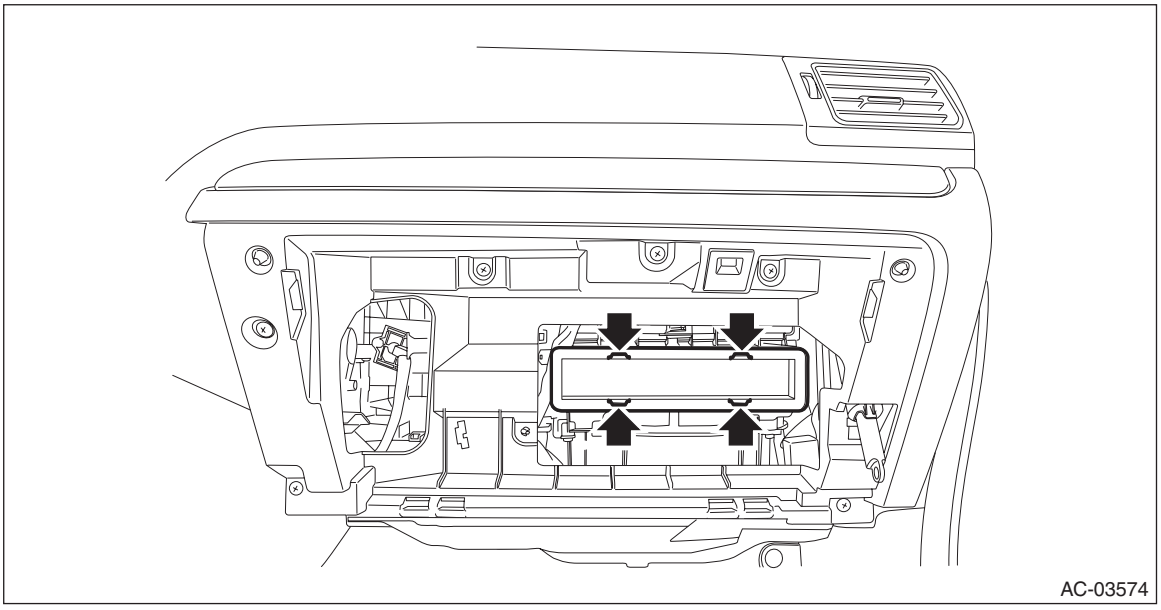
34.A/C Filter

A: REPLACEMENT

1) Remove the pocket assembly.
   (1) Attach the protective tape (a) to the panel center LWR.
   (2) Remove the damper COMPL - pocket.
   (3) Release the stoppers and remove the pocket assembly by pulling it toward you.



2) Pinch the tabs to release the lock, and remove the filter kit.



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

35.Diagnostics with Phenomenon

A: INSPECTION

Refer to “Diagnostics with Phenomenon” for “HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)” section. <Ref. to AC(diag)-16, Diagnostics with Phenomenon.>

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

AC(diag)

		Page
1.	Basic Diagnostic Procedure	2
2.	General Description	3
3.	Electrical Component Location	4
4.	Auto A/C Control Module I/O Signal	6
5.	Diagnostic Chart for Self-Diagnosis	8
6.	Diagnostics with Phenomenon	16
7.	Subaru Select Monitor	40
8.	Read Diagnostic Trouble Code (DTC)	41
9.	Clear Memory Mode	42
10.	Read Current Data	43
11.	Diagnostic Procedure for Subaru Select Monitor Communication	45
12.	List of Diagnostic Trouble Code (DTC)	47
13.	Diagnostic Procedure with Diagnostic Trouble Code (DTC)	50

1. Basic Diagnostic Procedure

A: PROCEDURE

1. COMBINATION METER

	Step	Check	Yes	No
1	**PERFORM CUSTOMER INTERVIEW.** Using the Check List for Interview, ask the customer the condition of how trouble occurs. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>
2	**CHECK CAN COMMUNICATION.** Read the DTC of the CAN system using the Subaru Select Monitor. <Ref. to LAN(w/o HEV)(diag)-25, OPERATION, Read Diagnostic Trouble Code (DTC).> <Ref. to LAN(HEV)(diag)-27, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the inspection according to the basic diagnostic procedure for LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step **3**.
3	**CHECK COMBINATION METER.** Using the Subaru Select Monitor, read DTC of combination meter. <Ref. to IDI(diag)-15, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Record DTC and time stamp, and perform the diagnosis according to DTC. <Ref. to IDI(diag)-27, LIST, List of Diagnostic Trouble Code (DTC).> For time stamp, refer to “LAN SYSTEM”. <Ref. to LAN(w/o HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.>	Go to step **4**.
4	**CHECK COMBINATION METER.** Check the operation of combination meter. <Ref. to IDI(diag)-21, System Operation Check Mode.>	Is it operating normally?	System is normal.	Replace the combination meter. <Ref. to IDI-20, Combination Meter.>

2. MFD

	Step	Check	Yes	No
1	**PERFORM CUSTOMER INTERVIEW.** Using the Check List for Interview, ask the customer the condition of how trouble occurs. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer. <Ref. to IDI(diag)-4, CHECK, Check List for Interview.>
2	**CHECK CAN COMMUNICATION.** Read the DTC of the CAN system using the Subaru Select Monitor. <Ref. to LAN(w/o HEV)(diag)-25, OPERATION, Read Diagnostic Trouble Code (DTC).> <Ref. to LAN(HEV)(diag)-27, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the inspection according to the basic diagnostic procedure for LAN system. <Ref. to LAN(w/o HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> <Ref. to LAN(HEV)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step **3**.
3	**CHECK MFD.** Read the DTC relating the MFD using the Subaru Select Monitor. <Ref. to IDI(diag)-15, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Record DTC and time stamp, and perform the diagnosis according to DTC. <Ref. to IDI(diag)-27, LIST, List of Diagnostic Trouble Code (DTC).> For time stamp, refer to “LAN SYSTEM”. <Ref. to LAN(w/o HEV)(diag)-6, TIME STAMP, CAUTION, General Description.> <Ref. to LAN(HEV)(diag)-6, TIME STAMP, CAUTION, General Description.>	Go to step **4**.
4	**CHECK MFD.** Check the MFD display using the system operation check mode of combination meter. <Ref. to IDI(diag)-21, System Operation Check Mode.>	Is the display normal?	System is normal.	Replace the MFD. <Ref. to IDI-27, Multi-function Display (MFD).>

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">Combination Meter / MFD 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 and time when the trouble occurred</td><td></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 colspan="4">Confirmation of trouble condition</td></tr>
<tr><td rowspan="3">❑ Combination meter</td><td colspan="3"></td></tr>
<tr><td colspan="3"></td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="3">❑ MFD</td><td colspan="3"></td></tr>
<tr><td colspan="3"></td></tr>
<tr><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.

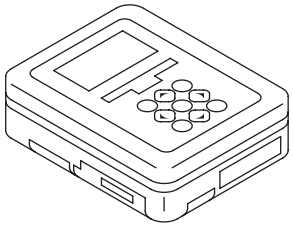
B: INSPECTION

Before performing the diagnosis, check the following items which may cause problems relating the wiper or light.
1) Check the battery. <Ref. to SC(H4DO(w/o HEV))-52, Battery.>

NOTE:
For HEV model, check the 12 volt auxiliary battery. <Ref. to SC(H4DO(HEV))-39, Battery.>
2) Check the fuse condition.
3) Check the connecting condition of harness and harness connector.

C: PREPARATION TOOL

1. SPECIAL TOOL

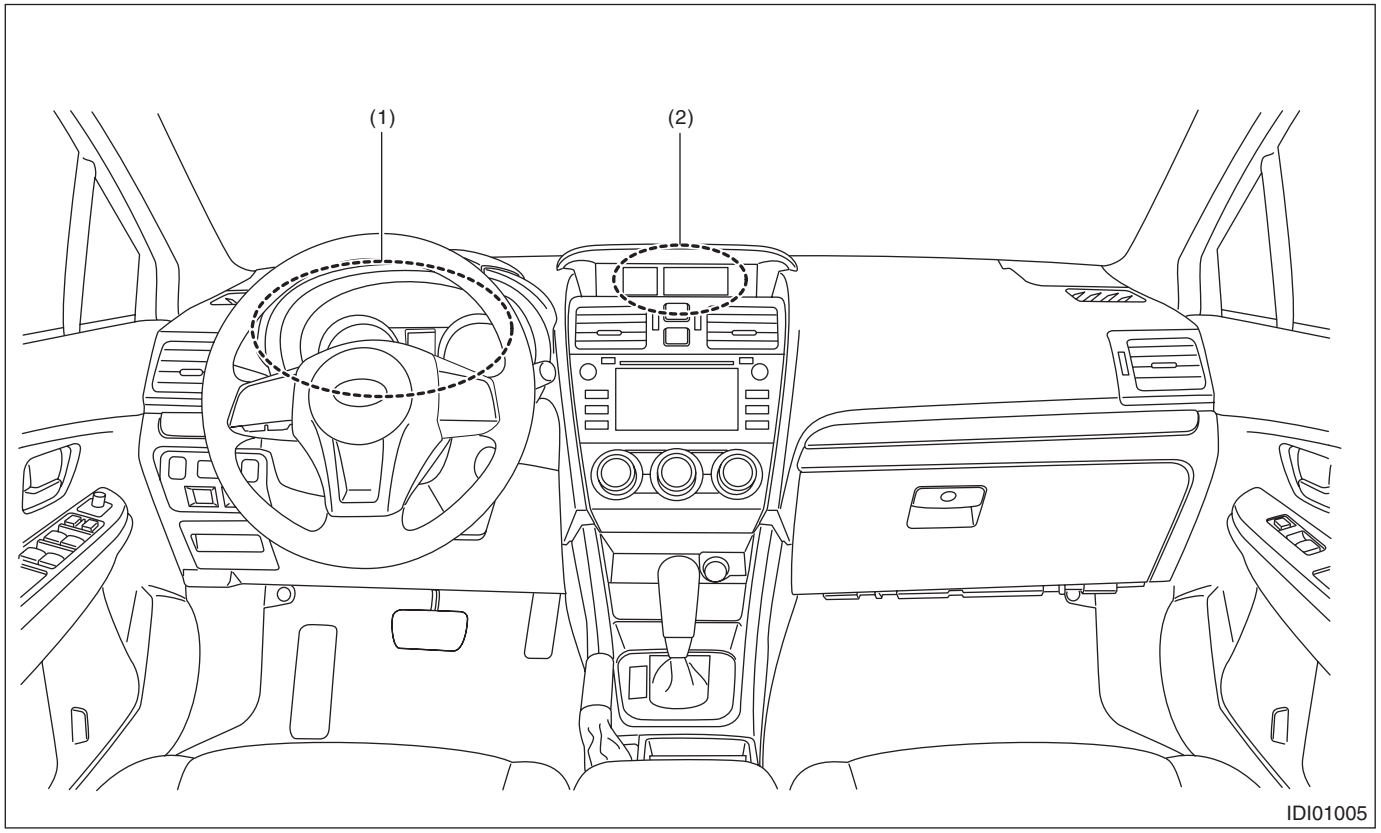
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of Subaru Select Monitor III, refer to “PC application help for Subaru Select Monitor”.

2. GENERAL TOOL

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

4. Electrical Component Location

A: LOCATION

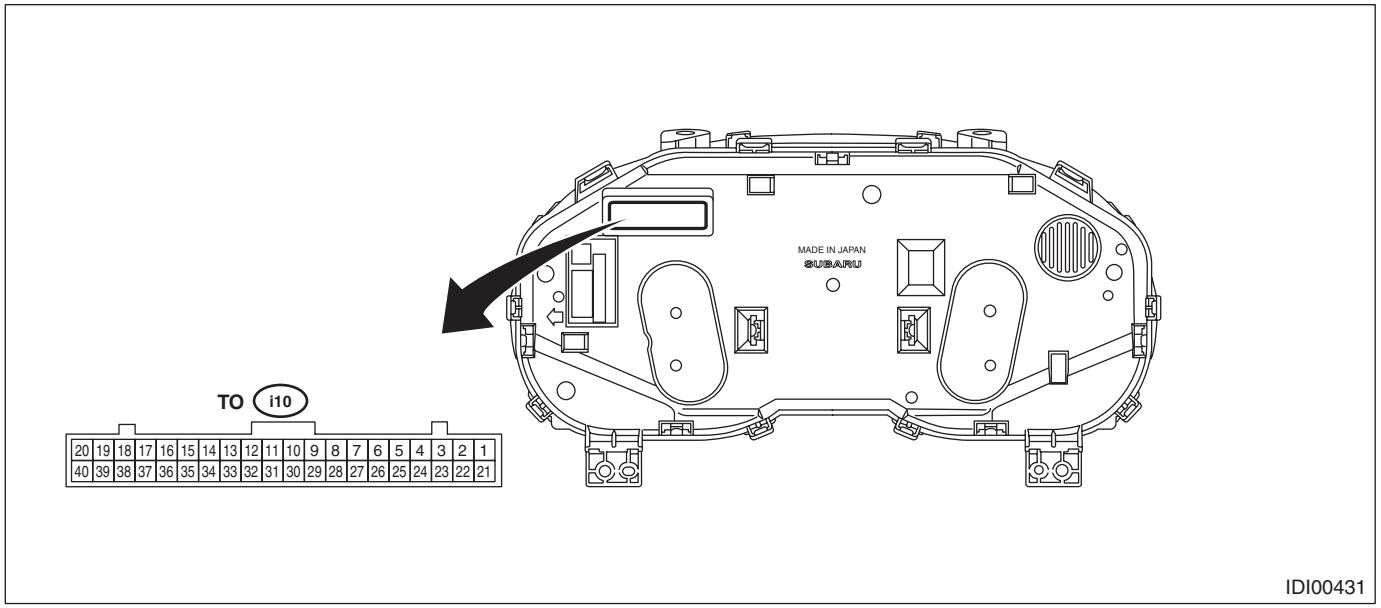


(1) Combination meter
(2) MFD

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

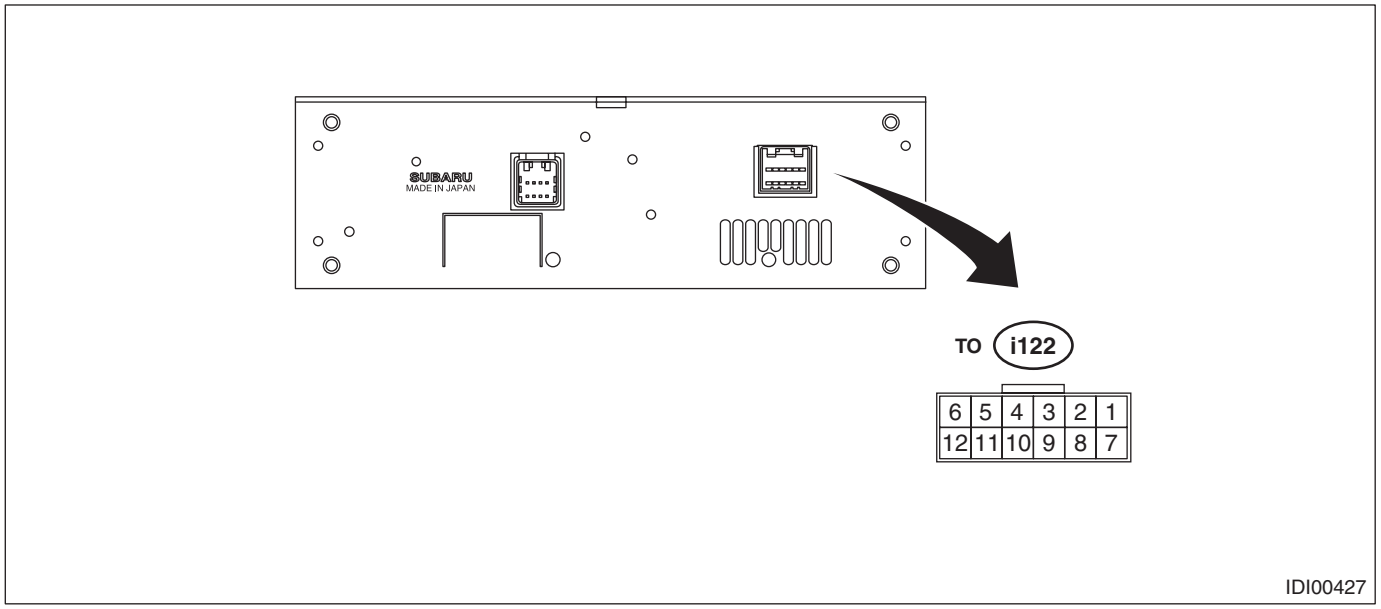
- Combination meter



Terminal No.	Description	Terminal No.	Description
1	Immobilizer/security indicator	27	Ambient sensor
2	Charge warning light	28	UART (MFD)
3	Oil pressure warning light	29	Steering switch (+)
4	RH turn signal indicator	30	Pedestrian alert system
6	LH turn signal indicator	32	CAN communication line (–)
8	Auto headlight beam leveler warning light	33	CAN communication line (+)
15	Driver's seat belt switch	36	Ambient sensor GND
16	Passenger's seat belt switch	37	Fuel level sensor GND
20	Ignition power supply	38	GND
21	Washer fluid level sensor	39	Back-up ignition power supply
23	Brake fluid level switch	40	Battery power supply
25	Fuel level sensor	—	—

Terminal No.	Item	Measuring condition	Standard
1 ←→ Chassis ground	Voltage	Security/immobilizer indicator light off → on	0 V → 10 — 14 V
2 ←→ Chassis ground	Voltage	Charge warning light off → on	0 V → 10 — 14 V
3 ←→ Chassis ground	Voltage	Oil pressure warning light off → on	0 V → 10 — 14 V
4 ←→ Chassis ground	Voltage	RH turn indicator off → on	0 V → 10 — 14 V
6 ←→ Chassis ground	Voltage	LH turn indicator off → on	0 V → 10 — 14 V
8 ←→ Chassis ground	Voltage	Auto headlight beam leveler warning light off → on	0 V → 10 — 14 V
15 ←→ Chassis ground	Resistance	Driver's seat belt switch ON	Less than 1 Ω
16 ←→ Chassis ground	Resistance	Passenger's seat belt switch ON	Less than 1 Ω
20 ←→ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
21 ←→ Chassis ground	—	Washer fluid level sensor	—
23 ←→ Chassis ground	—	Brake fluid level switch	—
25 ←→ 37	Resistance	Fuel level sensor	10 — 600 Ω
27 ←→ 36	Resistance	Ambient sensor	1 — 35 kΩ
28 (UART) ←→ Chassis ground	—	Cannot be measured	—
32 (CAN–) ←→ Chassis ground	—	Cannot be measured	—
33 (CAN+) ←→ Chassis ground	—	Cannot be measured	—
34 ←→ Chassis ground	Resistance	Always	Less than 1 Ω
35 ←→ Chassis ground	Resistance	Always	Less than 1 Ω
36 ←→ Chassis ground	Resistance	Always	Less than 1 Ω
37 ←→ Chassis ground	Resistance	Always	Less than 1 Ω
38 ←→ Chassis ground	Resistance	Always	Less than 1 Ω
39 ←→ Chassis ground	Resistance	Always	Less than 1 Ω
40 ←→ Chassis ground	Voltage	Always	10 — 14 V

- MFD



Terminal No.	Description	Terminal No.	Description
1	Battery power supply	7	—
2	GND	8	—
3	Ignition power supply	9	UART (Meter)
4	Switch communication line (–)	10	Passenger's airbag ON
5	CAN communication line (–)	11	Passenger's airbag OFF
6	CAN communication line (+)	12	Switch communication line (+)

Terminal No.	Item	Measuring condition	Standard
1(+B) ←→ Chassis ground	Voltage	Always	10 — 14 V
2 (GND) ←→ Chassis ground	Resistance	Always	Less than 1 Ω
3 (IGN) ←→ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
4 (STR-) ←→ Chassis ground	—	Cannot be measured (switch communication line)	—
5 (CAN-) ←→ Chassis ground	—	Cannot be measured (CAN communication line)	—
6 (CAN+) ←→ Chassis ground	—	Cannot be measured (CAN communication line)	—
9 (UART) ←→ Chassis ground	—	Cannot be measured (meter communication line)	—
10 ←→ Chassis ground	Voltage	Passenger's airbag ON indicator (when illuminating)	Less than 1 V
11 ←→ Chassis ground	Voltage	Passenger's airbag OFF indicator (when illuminating)	Less than 1 V
12 (STR+) ←→ Chassis ground	—	Cannot be measured (switch communication line)	—

6. Subaru Select Monitor

A: OPERATION

- For operation procedures, refer to the “PC application help for Subaru Select Monitor”.
- If the combination meter or MFD can not communicate with Subaru Select Monitor, perform the “Communication for Initializing Impossible”. <Ref. to IDI(diag)-11, INSPECTION, Subaru Select Monitor.>

If the DTCs related to the LAN system are not displayed, perform the inspection by connecting the Subaru Select Monitor to another vehicle which is operating properly and by establishing the communication.

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE (COMBINATION METER)

DETECTING CONDITION:

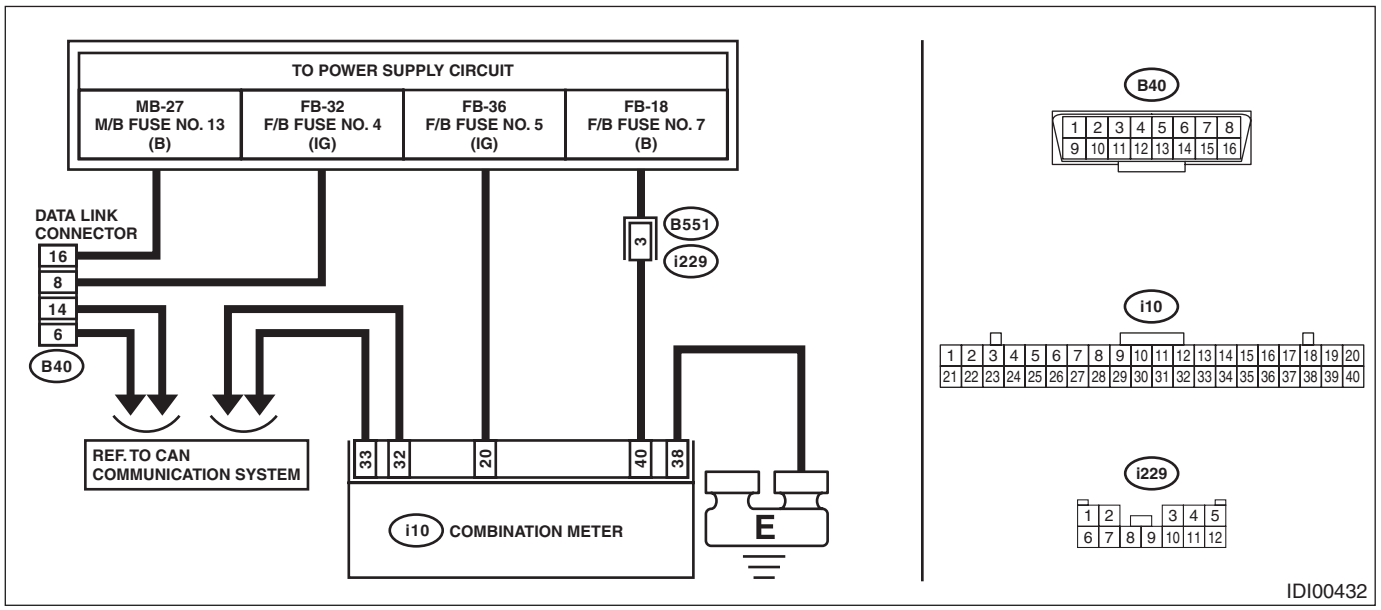
- Defective harness connector
- Power supply circuit malfunction
- Defective combination meter
- Defective CAN communication circuit
- Defective Subaru Select Monitor

TROUBLE SYMPTOM:

Communication is impossible between combination meter and Subaru Select Monitor.

WIRING DIAGRAM:

- Combination meter system <Ref. to WI(w/o HEV)-73, WIRING DIAGRAM, Combination Meter System.> <Ref. to WI(HEV)-75, WIRING DIAGRAM, Combination Meter System.>
- CAN communication system <Ref. to WI(w/o HEV)-65, WIRING DIAGRAM, CAN Communication System.> <Ref. to WI(HEV)-65, WIRING DIAGRAM, CAN Communication System.>



Step		Check	Yes	No
1	**CHECK OTHER COMMUNICATION.** Communicate with the system other than the combination meter 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(w/o HEV)(diag)-10, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.> <Ref. to LAN(HEV)(diag)-10, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.>

	Step	Check	Yes	No
2	**CHECK DTC.** Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(w/o HEV)(diag)-25, OPERATION, Read Diagnostic Trouble Code (DTC).> <Ref. to LAN(HEV)(diag)-27, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC detected?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of combination meter. 3) Connect the disconnected connectors. 4) Communicate with the combination meter using the Subaru Select Monitor.	Is communication possible?	It is possible that temporary poor communication occurs.	Replace the combination meter. <Ref. to IDI-20, Combination Meter.>

2. COMMUNICATION FOR INITIALIZING IMPOSSIBLE (MFD)

DETECTING CONDITION:

- Defective harness connector
- Power supply circuit malfunction
- Defective MFD
- Defective CAN communication circuit
- Defective Subaru Select Monitor

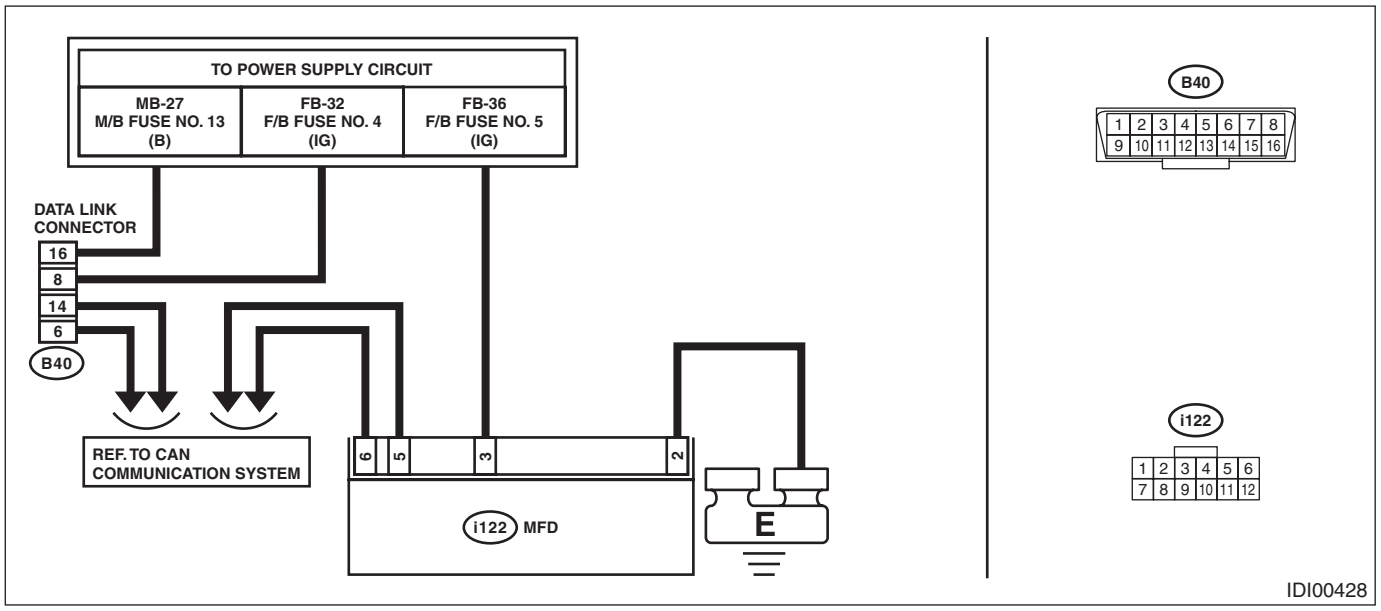
TROUBLE SYMPTOM:

Communication is impossible between MFD and Subaru Select Monitor.

WIRING DIAGRAM:

• Multi-function display (MFD) system <Ref. to WI(w/o HEV)-164, WIRING DIAGRAM, Multi-function Display (MFD) System.> <Ref. to WI(HEV)-169, WIRING DIAGRAM, Multi-function Display (MFD) System.>

• CAN communication system <Ref. to WI(w/o HEV)-65, WIRING DIAGRAM, CAN Communication System.> <Ref. to WI(HEV)-65, WIRING DIAGRAM, CAN Communication System.>



Step		Check	Yes	No
1	**CHECK OTHER COMMUNICATION.** Communicate with the system other than the MFD 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(w/o HEV)(diag)-10, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.> <Ref. to LAN(HEV)(diag)-10, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.>

Step		Check	Yes	No
2	**CHECK DTC.** Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(w/o HEV)(diag)-25, OPERATION, Read Diagnostic Trouble Code (DTC).> <Ref. to LAN(HEV)(diag)-27, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC detected?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK MFD.** 1) Turn the ignition switch to OFF. 2) Disconnect the MFD connector. 3) Connect the disconnected connectors. 4) Communicate with the MFD using the Subaru Select Monitor.	Is communication possible?	It is possible that temporary poor communication occurs.	Replace the MFD. <Ref. to IDI-27, Multi-function Display (MFD).>

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

- For operation procedures, refer to the “PC application help for Subaru Select Monitor”.
- For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IDI(diag)-27, LIST, List of Diagnostic Trouble Code (DTC).>

8. Clear Memory Mode

A: OPERATION

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

9. Read Current Data

A: OPERATION

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

B: LIST

- Combination meter (models with normal meter)

Items to be displayed	Unit of measure	Contents	Note
Power on trip number	times	Time stamp information	—
Power on supply system	—	Time stamp information	—
past time after Power on	ms	Time stamp information	—
Fuel sensing value	Ω	Fuel sensor value display	—
External air temperature sensing value	°C	External temperature sensor value display	—
External air temperature indication value	°C	Calculated value of external temperature for indication	—
Vehicle speed data	km/h	Vehicle speed value detected by meter	—
Engine revolution data	rpm	Engine speed value detected by meter	—
Driver side seat belt state	—	Displays ON/OFF	—
Passenger side seat belt state	—	Displays ON/OFF	—
Rear side (right) seat belt state	—	Displays ON/OFF	—
Rear side (center) seatbelt state	—	Displays ON/OFF	—
Rear side (left) seat belt state	—	Displays ON/OFF	—

- Combination meter (models with color TFT)

Items to be displayed	Unit of measure	Contents	Note
IG on trip number	times	Time stamp information	—
IG on supply system	—	Time stamp information	—
past time after IG on	ms	Time stamp information	—
Fuel sensing value	Ω	Fuel sensor value display	—
External air temperature sensing value	°C	External temperature sensor value display	—
Air temperature correction	°C	Correction value for displaying ambient temperature	—
Mean fuel efficiency correction	%	Correction value for displaying average fuel economy	—
Second level belt warning customize	2-stage warning implemented/2-stage warning not implemented	Implementation status of seat belt second stage warning	—
External air temperature indication value	°C	Calculated value of external temperature for indication	—
Vehicle speed data	km/h	Vehicle speed value detected by meter	—
Engine revolution data	rpm	Engine speed value detected by meter	—
Driver side seat belt state	Drivers seat seat-belt sitting state/Drivers seat seat-belt non-wearing state	Seat belt fastening status	—
Passenger side seat belt state	Passenger seat seat-belt sitting state/Passenger seat seat-belt non-wearing state	Seat belt fastening status	—
Rear side (right) seat belt state	Rear seat right seat-belt sitting state/Rear seat right seat-belt non-wearing state	Seat belt fastening status	—
Rear side (center) seatbelt state	Rear seat center seat-belt sitting state/Rear seat center seat-belt non-wearing state	Seat belt fastening status	—
Rear side (left) seat belt state	Rear seat left seat-belt sitting state/Rear seat left seat-belt non-wearing state	Seat belt fastening status	—
EPS setting presence state	Electric power steering/No Electric power steering	Electric power steering equipment status	—
R.DIFF oil temperature sensing level	°C	Rear differential oil temperature sensor value	—
Outside temperature for diagnosis	°C	External temperature sensor value display	—
Demonstration mode permission / fault permission	Demonstration mode permission / fault permission	Demonstration mode permission status	—

- MFD

Items to be displayed	Unit of measure	Contents	Note
MFD hardware fail flag	Normal/MFD Fail	MFD abnormal status	—
MFD U-ART communication error flag	Normal/MFD U-ART Fail		—
MFD CAN communication error flag	Normal/MFD CAN Fail		—
MFD destination abnormal flag	Normal/MFD destination error		—
MFD failure information	No error High-speed CAN error counter abnormal High-speed CAN bus OFF detection High-speed CAN data abnormal High-speed CAN data not received UART data abnormal UART data not received IGN line wire break System Microcomputer fail GERDA fail		—
Birthday1 setting M	—	Birthday setting value	—
Birthday1 setting D	—		—
Birthday2 setting M	—	Birthday setting value	—
Birthday2 setting D	—		—
Anniversary1 setting M	—	Anniversary setting value	—
Anniversary1 setting D	—		—
Anniversary2 setting M	—	Anniversary setting value	—
Anniversary2setting D	—		—
Driving record1 setting Yard	—	Driving record 1 setting value	—
Driving record1 setting Time	—		—
Driving record1setting fuel cons. Ave.	—		—
Driving record1 setting M	—		—
Driving record1 setting D	—		—
Driving record2 setting DIS	—	Driving record 2 setting value	—
Driving record2 setting Time	—		—
Driving record2setting fuel cons. Ave.	—		—
Driving record2 setting M	—		—
Driving record2 setting D	—		—
Clock/OFF setting	OFF External air temperature + analog clock External air temperature + digital clock	Clock display setting	—
Engine oil maintenance setting Y	—	Oil maintenance setting value	—
Engine oil maintenance setting M	—		—
Engine oil maintenance setting D	—		—
Engine oil maintenance setting meter	—		—
Oil filter maintenance setting Y	—	Oil filter maintenance setting value	—
Oil filter maintenance setting M	—		—
Oil filter maintenance setting D	—		—
Oil filter maintenance setting meter	—		—
Tire maintenance setting Y	—	Tire maintenance setting value	—
Tire maintenance setting M	—		—
Tire maintenance setting D	—		—
Tire maintenance setting meter	—		—

Items to be displayed	Unit of measure	Contents	Note
Engine oil maintenance setting Y	—	Periodic inspection setting value	—
Engine oil maintenance setting M	—		—
Engine oil maintenance setting D	—		—
Engine oil maintenance setting meter	—		—
Sub-meter(left) setting NO1	Indication OFF AVG speed ODO fuel efficiency ECVT Fluid Temp. Accel opening angle Section time Section distance Section fuel efficiency	Meter display setting	—
Sub-meter(left) setting NO2	Analog display Digital display	Meter display setting	—
Sub-meter(center) setting NO1	Indication OFF AVG speed ODO fuel efficiency ECVT Fluid Temp. Accel opening angle Section time Section distance Section fuel efficiency	Meter display setting	—
Sub-meter(center) setting NO2	Analog display Digital display	Meter display setting	—
Sub-meter(right) setting NO1	Indication OFF AVG speed ODO fuel efficiency ECVT Fluid Temp. Accel opening angle Section time Section distance Section fuel efficiency	Meter display setting	—
Sub-meter(right) setting NO2	Analog display Digital display	Meter display setting	—
MFD brightness setting NO1	—	MFD setting	—
MFD brightness setting NO2	—	MFD setting	—
MFD contrast setting NO1	-5 — +5	MFD setting	—
MFD contrast setting NO2	-5 — +5	MFD setting	—
ECO evaluation ON-OFF setting	OFF/ON	MFD setting	—
Info area setting	OFF AVG CONS FUEL CONS Range	MFD setting	—
Menu language setting	(Corresponding languages)	MFD setting	—
Buzzer volume setting	OFF Low Loud	MFD setting	—
Fuel cons. Setting	00/OFF	MFD setting	—
Auto Start Stop interrupt display setting	OFF/ON	MFD setting	Not applicable
Welcome display ON-OFF setting	OFF/ON	MFD setting	—
Self check ON-OFF setting	OFF/ON	MFD setting	—

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

10.System Operation Check Mode

A: OPERATION

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

NOTE:
If not equipped (based on area or condition), process will not go on.

CAUTION:
After executing the system operation check mode, execute the Clear Memory Mode. <Ref. to IDI(diag)-16, OPERATION, Clear Memory Mode.>

B: LIST

- Combination meter (models with normal meter)

Check item	Item 1	Item 2	Note
Pointer operation check	Speedometer	Speedometer 0 km/h (MPH) indication	—
		Speedometer 40 km/h (MPH) indication	—
		Speedometer 80 km/h (MPH) indication	—
		Speedometer 120 km/h (MPH) indication	—
		Speedometer 160 km/h (MPH) indication	—
		Speedometer 200 km/h (MPH) indication	—
		Speedometer 240 km/h (MPH) indication	—
		Speedometer 280 km/h (MPH) indication	—
	Tacho meter	Tachometer 0 rpm indication	—
		Tachometer 1000 rpm indication	—
		Tachometer 2000 rpm indication	—
		Tachometer 3000 rpm indication	—
		Tachometer 4000 rpm indication	—
		Tachometer 5000 rpm indication	—
		Tachometer 6000 rpm indication	—
		Tachometer 7000 rpm indication	—
	Economy gauge	Fuel efficiency gauge (ECO gauge) MIN scale command	—
		Fuel efficiency gauge (ECO gauge) 1/4 scale command	—
		Fuel efficiency gauge (ECO gauge) 1/2 scale command	—
		Fuel efficiency gauge (ECO gauge) 3/4 scale command	—
		Fuel efficiency gauge (ECO gauge) MAX scale command	—
Segment of liquid crystal display check	LCD display all lighted		—
	AT shift (For CVT only)	P range display	—
		R range display	—
		N range display	—
		L range display	—
		△ display	—
		▽ display	—
		8 range display	—
		7 range display	—
		6 range display	—
		5 range display	—
		4 range display	—
		3 range display	—
		2 range display	—
		1 range display	—

Check item	Item 1	Item 2	Note
Segment of liquid crystal display check	Odometer	Odometer numerical device display 0	—
		Odometer numerical device display 1	—
		Odometer numerical device display 2	—
		Odometer numerical device display 3	—
		Odometer numerical device display 4	—
		Odometer numerical device display 5	—
		Odometer numerical device display 6	—
		Odometer numerical device display 7	—
		Odometer numerical device display 8	—
		Odometer numerical device display 9	—
	Trip meter	Trip meter numerical device display 0	—
		Trip meter numerical device display 1	—
		Trip meter numerical device display 2	—
		Trip meter numerical device display 3	—
		Trip meter numerical device display 4	—
		Trip meter numerical device display 5	—
		Trip meter numerical device display 6	—
		Trip meter numerical device display 7	—
		Trip meter numerical device display 8	—
		Trip meter numerical device display 9	—
	Fuel gauge bar display	Fuel sender E-point command	—
		Meter E scale command	—
		Fuel warning lit position command (fuel warning also lights)	—
		Meter 1/4 scale command	—
		Meter 1/2 scale command	—
		Meter 3/4 scale command	—
		Meter F-scale command	—
		Fuel sender F-point command	—
	Shift-up indicator		MT model only
	CRUISE indicator		—
	SET indicator		—
	READY indicator		HEV model only

Check item	Item 1	Item 2	Note
Lamp check	All lamps lit		—
	Indicator drive	High-beam indicator	—
		Position light indicator	High-class meter only
		Front fog light indicator	—
		Water temperature (COOL) indicator	—
		VDC OFF indicator	—
		VDC operation/failure indicator	—
		Hill start assist OFF/failure indicator	—
		EV mode indicator	—
		HEV READY indicator	—
	Warning drive	Driver side seat belt warning	—
		Airbag warning	—
		TPMS warning	US only
		All seats door warning	—
		Water temperature (HOT) warning	—
		E/G remaining oil warning	—
		AT (CVT) oil temperature warning	CVT only
		ABS warning	—
		BRAKE warning	—
		AWD warning	CVT only
		Remaining washer fluid washer	—
		Remaining fuel warning	—
		EPS warning	—
		Check E/G warning	—
		HEV fail warning	—
		Charge warning	—
		Oil pressure warning	—
		Vacuum pump warning	—
MFD output check	Passenger side seat belt warning		—
	Momentary fuel efficiency display value		—
	Mean fuel efficiency A display value		—
	Mean fuel efficiency B display value		—
	Remaining fuel cruising distance display value		—
	External air temperature indication value		—
	Mean vehicle speed display value		—
Buzzer output	Sounding output ON/OFF		—
Illumination check	Brightness check		—

- Combination meter (models with color TFT)

Check item	Item 1	Item 2	Note
Pointer operation check	Speedometer	—	—
	Tacho meter	—	—
	Fuel Meter Operation	—	—
	Water thermometer	—	—
Lamp check	All lamps lit	—	—
	Indicator drive	High-beam indicator	—
		Position light indicator	—
		Front fog light indicator	—
		Rear fog light indicator	—
		VDC OFF indicator	—
		VDC operation/failure indicator	—
		Hill start assist OFF/failure indicator	—
	Warning drive	Driver side seat belt warning	—
		Airbag warning	—
		TPMS warning	—
		E/G remaining oil warning	—
		AT (CVT) oil temperature warning	—
		ABS warning	—
		BRAKE warning	—
		AWD warning	—
		Remaining fuel warning	—
		EPS warning	—
		Check E/G warning	—
		Charge warning	—
		Oil pressure warning	—
		HID auto leveler warning	—
MFD output check	Passenger side seat belt warning	—	—
	Rear seat (right) seat belt warning	—	—
	Rear seat (center) seat belt warning	—	—
	Rear seat (left) seat belt warning	—	—
	Momentary fuel efficiency display value	—	—
	Mean fuel efficiency A display value	—	—
	Mean fuel efficiency B display value	—	—
	Remaining fuel cruising distance display value	—	—
	External air temperature indication value	—	—
	Mean vehicle speed display value	—	—
Illumination check	Brightness check	—	—
Buzzer output	Sounding output ON/OFF	—	—
Display Operation Check Mode	White indication	—	—
	Black indication	—	—
	Red indication	—	—
	Green indication	—	—
	Blue indication	—	—
	Gradation indication	—	—
	Flicker indication	—	—
	Cross talking indication	—	—

11.User Customizing

A: OPERATION

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

B: LIST

- Combination meter (models with normal meter)

Items to be displayed	Initial setting value	Customize setting	Note
Air temperature correction	±0°C	-5°C — +5°C	Temperature compensation can only be performed by 1°C (1°C change = 1.8°F) interval.
Mean fuel efficiency correction	±0°%	+10% — -10%	—

- Combination meter (models with color TFT)

Items to be displayed	Initial setting value	Customize setting	Note
Air temperature correction	±0°C	-5°C — +5°C	Temperature compensation can only be performed by 1°C (1°C change = 1.8°F) interval.
Mean fuel efficiency correction	±0°%	+10% — -10%	—
Seat belt 2-stage warning implementation YES/NO	2-stage warning implemented	2-stage warning implemented/2-stage warning not implemented	—
Demonstration mode permission / fault permission	OFF	fault permission / Demonstration mode permission	Demonstration mode must not be permitted when used by a customer.

12.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Reference
U0073	Control Module Communication Bus Off	Detected when CAN line abnormality is detected.	<Ref. to IDI(diag)-29, DTC U0073 CONTROL MODULE COMMUNICATION BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0100	Lost Communication With ECM/PCM “A”	Detected when CAN data from the engine control module (ECM) does not arrive.	<Ref. to IDI(diag)-29, 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 does not arrive.	<Ref. to IDI(diag)-29, 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 does not arrive.	<Ref. to IDI(diag)-29, DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0131	Lost Communication With Power Steering Control Module	Detected when CAN data from electric power steering CM does not arrive.	<Ref. to IDI(diag)-29, DTC U0131 LOST COMMUNICATION WITH POWER STEERING CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	Detected when CAN data from body integrated unit does not arrive.	<Ref. to IDI(diag)-29, DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0151	Lost Communication With Restraints Control Module	Detected when CAN data from airbag CM does not arrive.	<Ref. to IDI(diag)-29, DTC U0151 LOST COMMUNICATION WITH RESTRAINTS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0164	Lost Communication With HVAC Control Module	Detected when CAN data from A/C CM does not arrive.	<Ref. to IDI(diag)-30, DTC U0164 LOST COMMUNICATION WITH HVAC CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0293	Lost Communication With Hybrid Powertrain Control Module	Detected when CAN data from HPCM does not arrive.	<Ref. to IDI(diag)-30, DTC U0293 LOST COMMUNICATION WITH HYBRID POWERTRAIN CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0327	Software Incompatibility With Vehicle Security Control Module	Detected when CAN data from keyless access CM does not arrive.	<Ref. to IDI(diag)-30, DTC U0327 SOFTWARE INCOMPATIBILITY WITH VEHICLE SECURITY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1201	CAN-HS Counter Abnormal	Detected when CAN data is abnormal.	<Ref. to IDI(diag)-30, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1650	Invalid Data Received From Meter (UART)	UART data from the combination meter is abnormal.	<Ref. to IDI(diag)-31, DTC U1650 INVALID DATA RECEIVED FROM METER (UART), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1651	Lost Communication With Meter (UART)	UART data from the combination meter has not arrived.	<Ref. to IDI(diag)-33, DTC U1651 LOST COMMUNICATION WITH METER (UART), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2220	Break The Wire of IGN	Voltage malfunction caused by poor contact of IGN power supply circuits.	<Ref. to IDI(diag)-35, DTC B2220 BREAK THE WIRE OF IGN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2222	System Microcomputer Fail	When microcomputer froze.	<Ref. to IDI(diag)-36, DTC B2222 SYSTEM MICROCOMPUTER FAIL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Reference
B2223	GERDA Fail	When transmitting and receiving of data cannot be done normally between system microcomputer and image microcomputer.	<Ref. to IDI(diag)-36, DTC B2223 GERDA FAIL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1500	Fuel Sender Open/ Short-Circuit Detection	Fuel gauge circuit is open or shorted.	<Ref. to IDI(diag)-37, DTC B1500 FUEL SENDER OPEN/SHORT-CIRCUIT DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1501	Power Supply System Error Detection	Combination meter power supply circuit is open or shorted.	<Ref. to IDI(diag)-39, DTC B1501 POWER SUPPLY SYSTEM ERROR DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1507	External Air Temperature Open/Short-Circuit Detection	External air temperature sensor circuit is open or shorted.	<Ref. to IDI(diag)-40, DTC B1507 EXTERNAL AIR TEMPERATURE OPEN/SHORT-CIRCUIT DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

13.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS OFF

Detected when CAN line abnormality is detected.

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

B: DTC U0100 LOST COMMUNICATION WITH ECM/PCM “A”

Detected when CAN data from the engine control module (ECM) does not arrive.

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

C: DTC U0101 LOST COMMUNICATION WITH TCM

Detected when CAN data from TCM does not arrive.

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

D: DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

Detected when CAN data from VDC does not arrive.

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

E: DTC U0131 LOST COMMUNICATION WITH POWER STEERING CONTROL MODULE

Detected when CAN data is not received from electric power steering CM.

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

F: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

Detected when CAN data is not received from body integrated unit.

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

G: DTC U0151 LOST COMMUNICATION WITH RESTRAINTS CONTROL MODULE

Detected when CAN data is not received from airbag CM.

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

H: DTC U0164 LOST COMMUNICATION WITH HVAC CONTROL MODULE

Detected when CAN data is not received from A/C CM.

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

I: DTC U0293 LOST COMMUNICATION WITH HYBRID POWERTRAIN CONTROL MODULE

Detected when CAN data from HPCM does not arrive.

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

J: DTC U0327 SOFTWARE INCOMPATIBILITY WITH VEHICLE SECURITY CONTROL MODULE

Detected when CAN data is not received from keyless access CM.

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

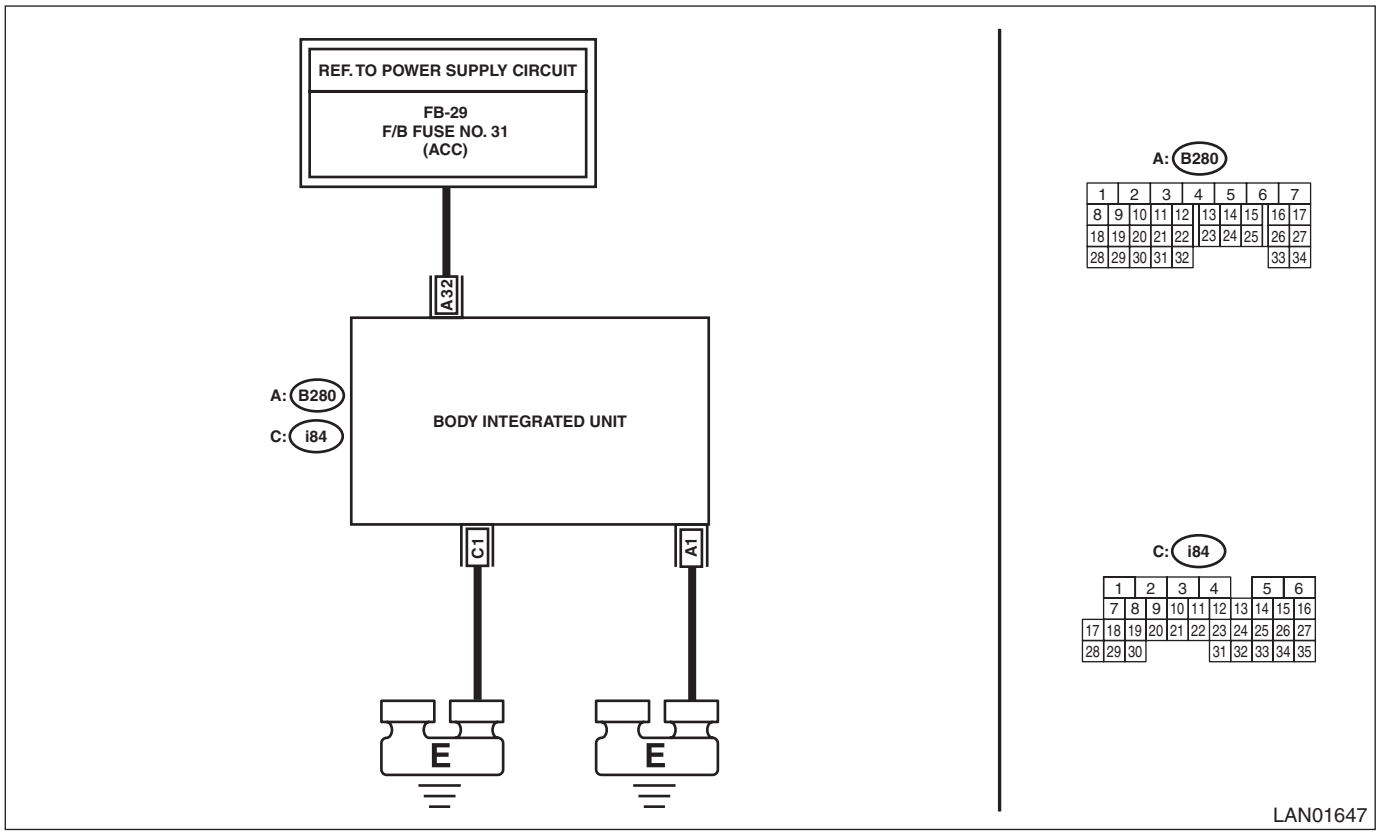
K: DTC U1201 CAN-HS COUNTER ABNORMAL

Detected when CAN data is abnormal.

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

L: DTC U1650 INVALID DATA RECEIVED FROM METER (UART)

DTC DETECTING CONDITION:
There is an abnormality in UART data from combination meter.
TROUBLE SYMPTOM:
LCD is not displayed.
WIRING DIAGRAM:
Clearance Light and Illumination Light System <Ref. to WI(w/o HEV)-68, Clearance Light and Illumination Light System.>

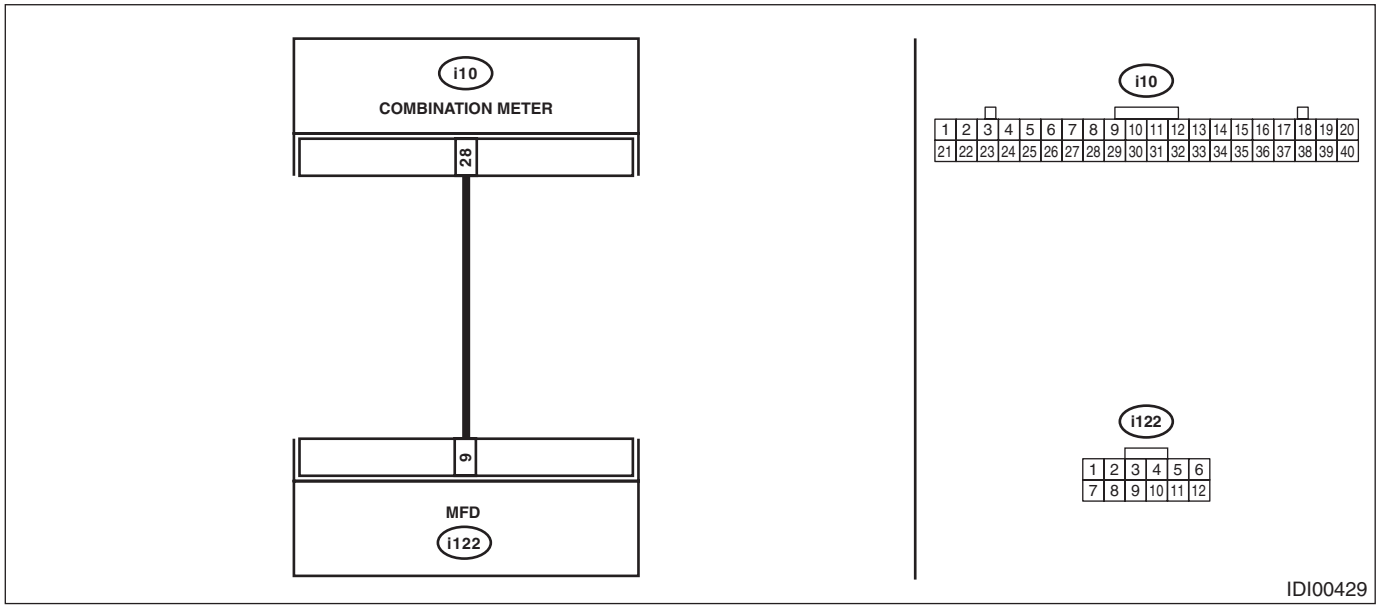


	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Read the DTC of body integrated unit and LAN system using Subaru Select Monitor. <Ref. to BC(diag)-10, Read Diagnostic Trouble Code (DTC).> <Ref. to LAN(w/o HEV)(diag)-25, Read Diagnostic Trouble Code (DTC).>	Is any DTC other than U1650 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK FUSE.** Check the fuse No. 31 in the fuse & relay box.	Is the fuse OK?	Go to step **3**.	Replace the fuse. When the fuse is blown easily, check the wiring.
3	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Turn the ignition switch OFF → ACC. 3) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 32 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Repair the ACC power supply circuit of the body integrated unit.

	Step	Check	Yes	No
4	**CHECK CURRENT DATA OF INTEGRATED UNIT.** 1) Connect the Subaru Select Monitor. 2) Turn the ignition switch to ON. 3) Check the current data «ACC voltage» of the body integrated unit. <Ref. to BC(diag)-12, Read Current Data.>	Is the voltage 10 V or more?	Go to step **5**.	Inspect and correct the body integrated unit connector. If there is no abnormality, replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.> (There may be a poor contact in the body integrated unit connector ((B280) terminal No. 32), or an internal malfunction of the integrated unit.) (If the current data indicates ACC voltage value ≈ Battery voltage, there will be no malfunction up to inside of the integrated unit. If U1650 is still detected in this condition as current malfunction, perform step 5 and subsequent procedures.)
5	**CHECK CONNECTOR.** 1) Disconnect the MFD connector and the combination meter connector. 2) Connect the disconnected connectors. 3) Read the DTC of the MFD using the Subaru Select Monitor. <Ref. to IDI(diag)-15, Read Diagnostic Trouble Code (DTC).>	Is DTC U1650 a current malfunction?	Go to step **6**.	There was poor contact of connector. Repair the poor contact of connector. (Poor contact in combination connector (i10) terminal No. 20 or MFD connector (i122) terminal No. 9)
6	**CHECK COMBINATION METER.** 1) Replace the combination meter. <Ref. to IDI-20, Combination Meter.> 2) Read the DTC of the MFD using the Subaru Select Monitor. <Ref. to IDI(diag)-15, Read Diagnostic Trouble Code (DTC).>	Is DTC U1650 a current malfunction?	Replace the MFD. <Ref. to IDI-27, Multi-function Display (MFD).>	There was something wrong with the combination meter.

M: DTC U1651 LOST COMMUNICATION WITH METER (UART)

DTC DETECTING CONDITION:
UART data from combination meter is not received.
TROUBLE SYMPTOM:
LCD is not displayed.
WIRING DIAGRAM:
Multi-function display (MFD) system <Ref. to WI(w/o HEV)-164, WIRING DIAGRAM, Multi-function Display (MFD) System.> <Ref. to WI(HEV)-169, WIRING DIAGRAM, Multi-function Display (MFD) System.>

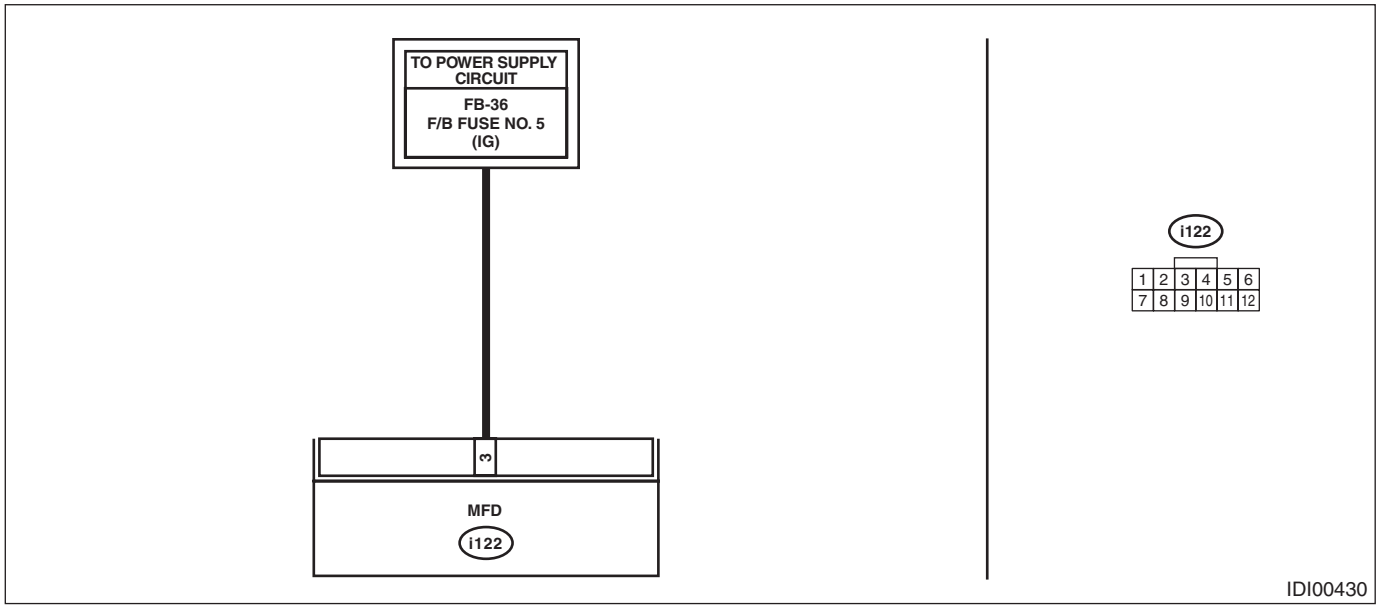


	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(w/o HEV)(diag)-25, OPERATION, Read Diagnostic Trouble Code (DTC).> <Ref. to LAN(HEV)(diag)-27, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK CONNECTOR.** 1) Disconnect the MFD connector and meter connector. 2) Connect the disconnected connectors. 3) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1651 a current malfunction?	Go to step **3**.	There was poor contact of connector.
3	**CHECK HARNESS.** 1) Disconnect the MFD connector and meter connector. 2) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 28 — (i122) No. 9:***	Is the resistance 10 Ω or less?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i122) No. 9 — Chassis ground:***	Is the resistance 10 Ω or less?	Repair the short circuit of harness or replace harness.	Go to step **5**.

	Step	Check	Yes	No
5	**CHECK COMBINATION METER.** 1) Replace the combination meter. <Ref. to IDI-20, Combination Meter.> 2) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1651 a current malfunction?	Go to step **6**.	There was something wrong with the meter.
6	**CHECK COMBINATION METER.** 1) Replace the current combination meter with the original combination meter. 2) Replace the MFD. <Ref. to IDI-27, Multi-function Display (MFD).> 3) Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC U1651 a current malfunction?	Replace the meter. <Ref. to IDI-20, Combination Meter.>	There was an abnormality in MFD.

N: DTC B2220 BREAK THE WIRE OF IGN

DTC DETECTING CONDITION:
There was voltage malfunction caused by poor contact of IGN power supply circuits.
TROUBLE SYMPTOM:
Airbag indicator does not illuminate.
WIRING DIAGRAM:
Multi-function display (MFD) system <Ref. to WI(w/o HEV)-164, WIRING DIAGRAM, Multi-function Display (MFD) System.> <Ref. to WI(HEV)-169, WIRING DIAGRAM, Multi-function Display (MFD) System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the MFD using the Subaru Select Monitor.	Is DTC B2220 a current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the MFD connector and reconnect it. 3) Turn the ignition switch to ON. 4) Read the DTC relating the MFD using the Subaru Select Monitor.	Is DTC B2220 a 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 MFD connector. 2) Turn the ignition switch to ON. 3) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i122) No. 3 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the MFD. <Ref. to IDI-27, Multi-function Display (MFD).>	Repair the harness between MFD and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the MFD connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

O: DTC B2222 SYSTEM MICROCOMPUTER FAIL

DTC DETECTING CONDITION:
When the microcomputer froze.
TROUBLE SYMPTOM:
MFD does not operate.

NOTE:
Reset the MFD. If it does not return to the normal operation, replace the MFD. <Ref. to IDI-27, Multi-function Display (MFD).>

P: DTC B2223 GERDA FAIL

DTC DETECTING CONDITION:
When the system microcomputer can not send/receive the data with the image microcomputer normally.
TROUBLE SYMPTOM:
There is no display on the TFT. Operation is normal.

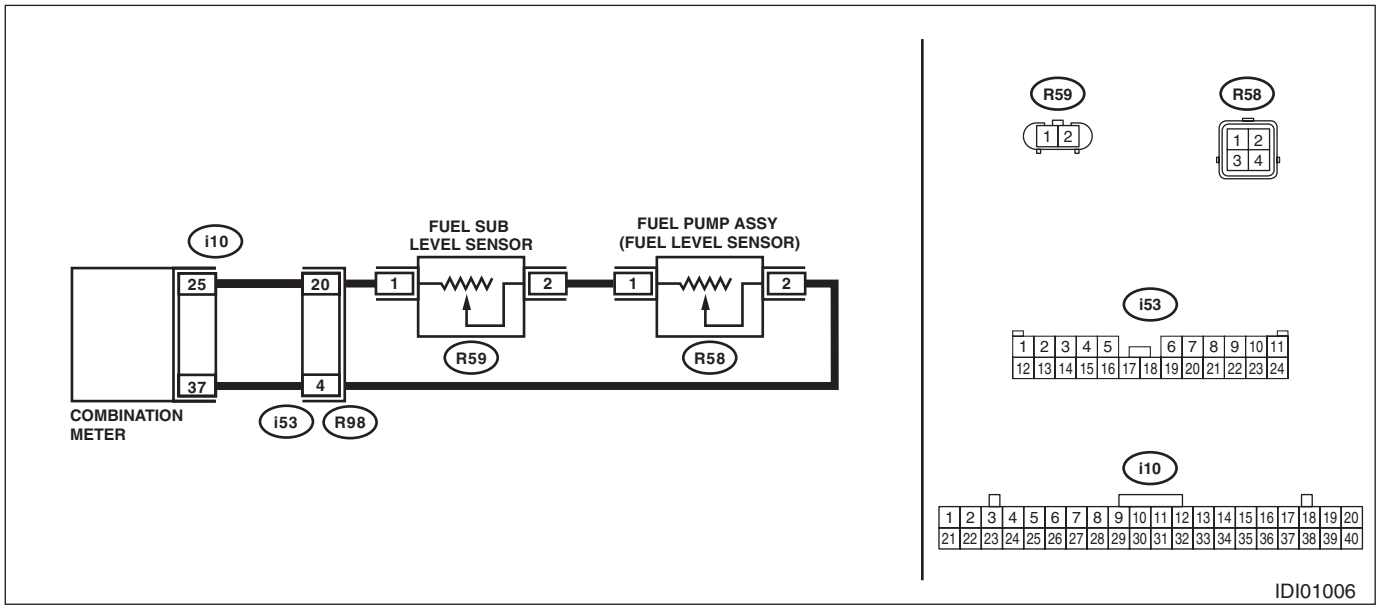
NOTE:
Replace the MFD. <Ref. to IDI-27, Multi-function Display (MFD).>

Q: DTC B1500 FUEL SENDER OPEN/SHORT-CIRCUIT DETECTION

DTC DETECTING CONDITION:
The fuel gauge circuit is open or shorted.
TROUBLE SYMPTOM:
- Defective fuel gauge.
- Fuel level warning light blinks.

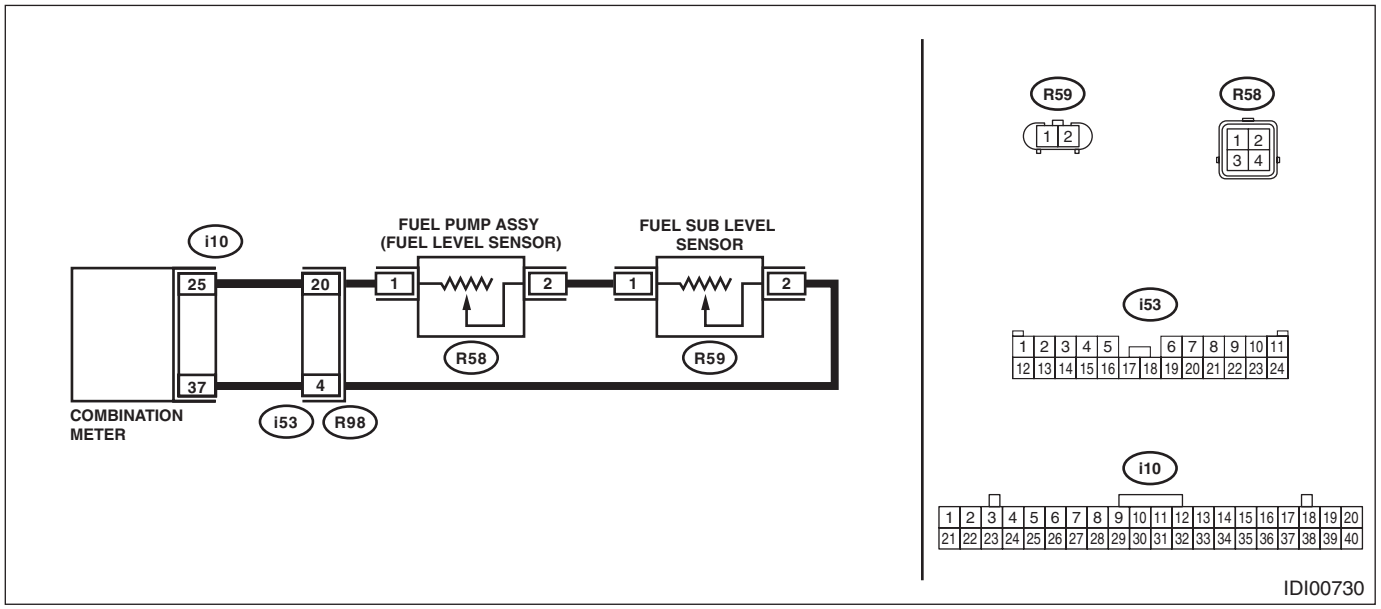
WIRING DIAGRAM:
- Gasoline engine model

Fuel gauge system <Ref. to WI(w/o HEV)-135, WIRING DIAGRAM, Fuel Gauge System.>



- HEV model

Fuel gauge system <Ref. to WI(HEV)-133, WIRING DIAGRAM, Fuel Gauge System.>

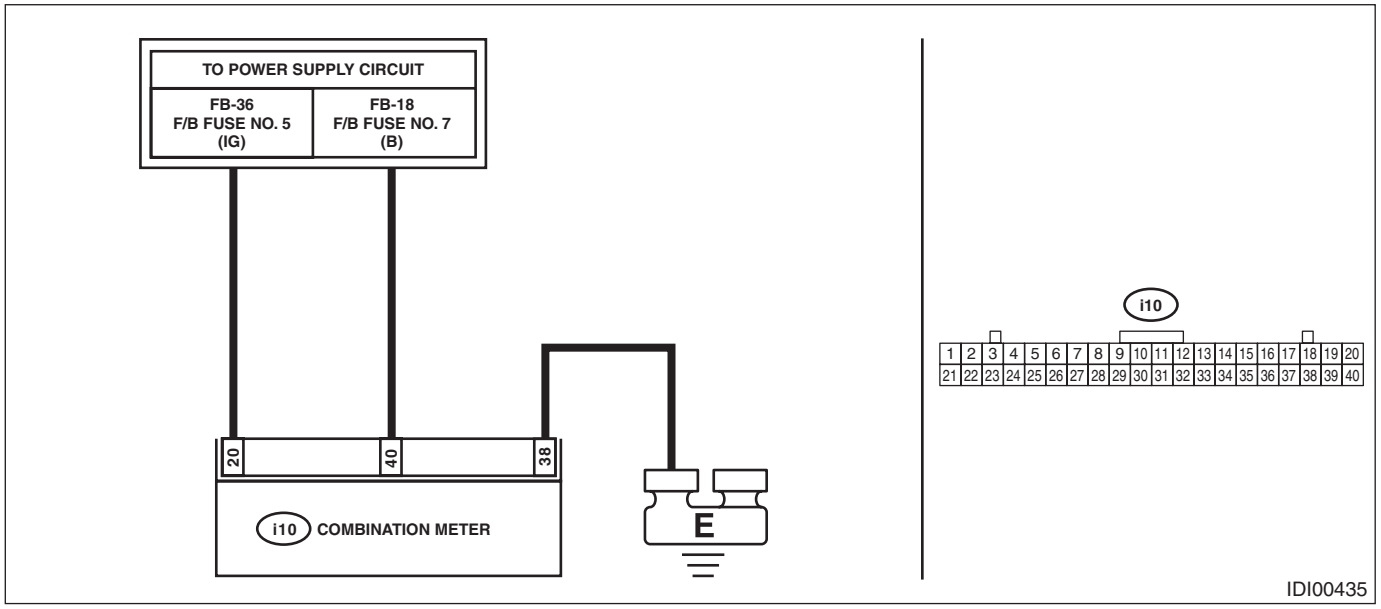


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the meter using the Subaru Select Monitor.	Is DTC B1500 a current malfunction?	Go to step **2**.	Go to step **7**.

	Step	Check	Yes	No
2	**CHECK COMBINATION METER.** 1) Check the operation of combination meter using Subaru Select Monitor. 2) From the {System Operation Check Mode}, select the «Fuel Meter Operation» and «Remaining fuel warning».	Is the operation of combination meter OK?	Go to step **3**.	Replace the combination meter. <Ref. to IDI-20, Combination Meter.>
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the meter connector and the fuel sub level sensor connector and the fuel level sensor connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***Gasoline engine model*** ***(i10) No. 25 — (R59) No. 1:*** ***(i10) No. 37 — (R58) No. 2:*** ***HEV model*** ***(i10) No. 25 — (R58) No. 1:*** ***(i10) No. 37 — (R59) No. 2:***	Is the resistance 10 Ω or less?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 25 — Chassis ground:*** ***(i10) No. 37 — Chassis ground:***	Is the resistance 10 Ω or less?	Repair the short circuit of harness or replace harness.	Go to step **5**.
5	**CHECK FUEL SUB LEVEL SENSOR.** Check the fuel sub level sensor as a single part. <Ref. to FU(H4DO(w/o HEV))-152, INSPECTION, Fuel Sub Level Sensor.>	Is the sensor normal?	Go to step **6**.	Replace the sensor.
6	**CHECK FUEL LEVEL SENSOR.** Check the fuel level sensor as a single part. <Ref. to FU(H4DO(w/o HEV))-145, INSPECTION, Fuel Level Sensor.>	Is the sensor normal?	Go to step **7**.	Replace the sensor.
7	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect connectors.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	Go to step **8**.
8	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, display the «Fuel sensing value» from {Current Data Display & Save}.	Does the data display 10 — 570 Ω?	System is normal.	Replace the combination meter. <Ref. to IDI-20, Combination Meter.>

R: DTC B1501 POWER SUPPLY SYSTEM ERROR DETECTION

DTC DETECTING CONDITION:
Open or short in combination meter power supply circuit
TROUBLE SYMPTOM:
Defective operation of combination meter
WIRING DIAGRAM:
Combination meter system <Ref. to WI(w/o HEV)-73, WIRING DIAGRAM, Combination Meter System.> <Ref. to WI(HEV)-75, WIRING DIAGRAM, Combination Meter System.>



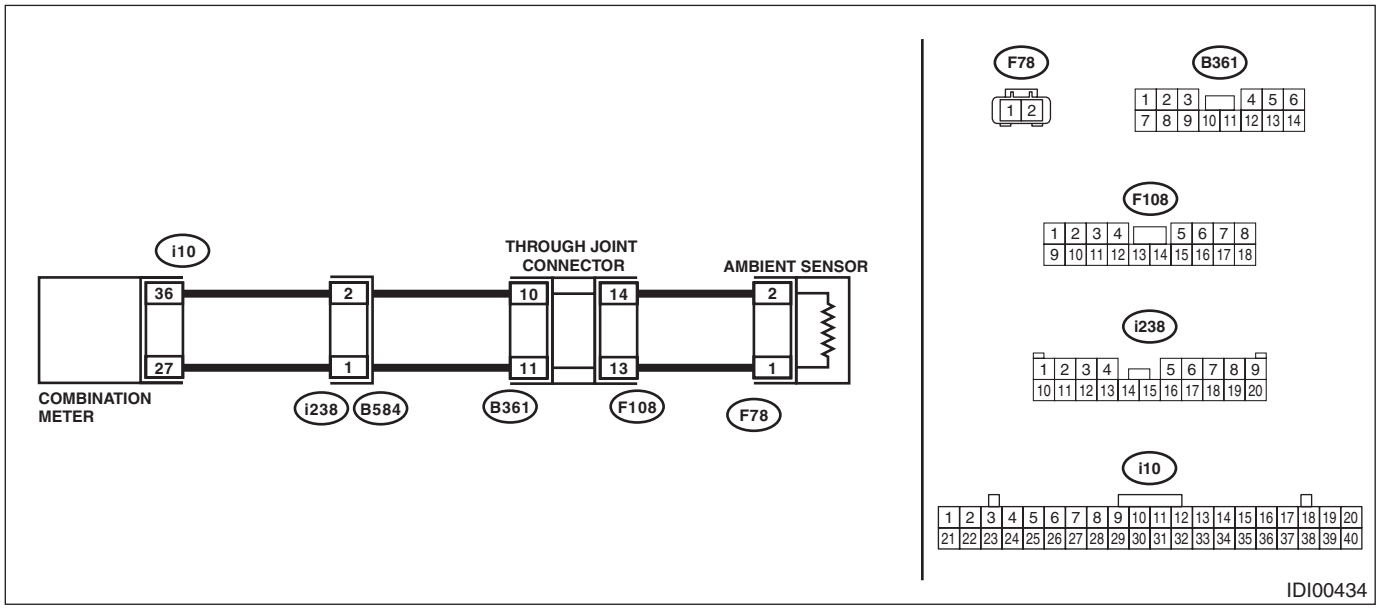
Step		Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** Turn the ignition switch to ON, and confirm that the illumination of combination meter lights.	Does the illumination light?	Go to step **2**.	Go to step **3**.
2	**CHECK DTC.** Read the DTC of the meter using the Subaru Select Monitor.	Is DTC B1501 a 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) Turn the ignition switch to OFF. 2) Disconnect the meter connector. 3) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i10) No. 20 (+) — Chassis ground (–):*** ***(i10) No. 40 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Go to step **5**.	Repair the open circuit of harness or replace harness.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect connectors.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

S: DTC B1507 EXTERNAL AIR TEMPERATURE OPEN/SHORT-CIRCUIT DETECTION

DTC DETECTING CONDITION:
Open or short circuit in ambient sensor
TROUBLE SYMPTOM:
- Defective ambient temperature display
- Defective air conditioner operation

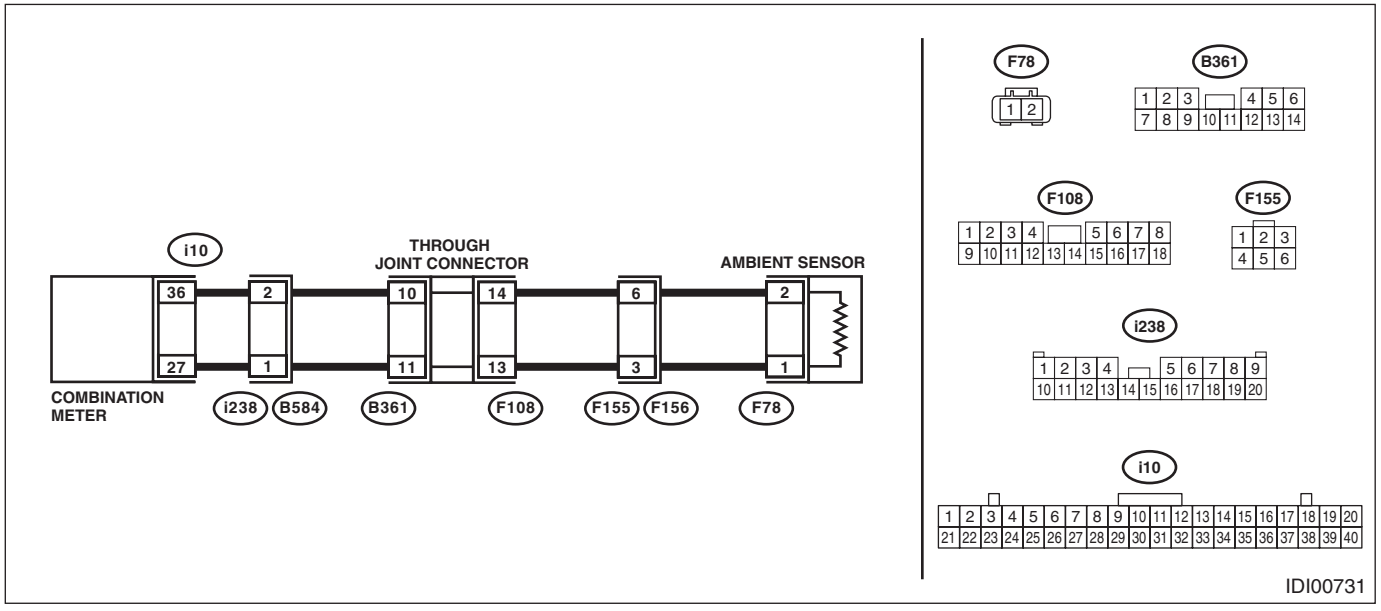
WIRING DIAGRAM:
- Gasoline engine model

Air conditioning system <Ref. to WI(w/o HEV)-45, WIRING DIAGRAM, Air Conditioning System.>



- HEV model

Air conditioning system <Ref. to WI(HEV)-56, WIRING DIAGRAM, Air Conditioning System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the meter using the Subaru Select Monitor.	Is DTC B1507 a current malfunction?	Go to step **2**.	Go to step **6**.

	Step	Check	Yes	No
2	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, display the «External air temperature sensing value» from {Current Data Display & Save}.	Is data displayed?	System is normal.	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the meter connector and ambient sensor connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 36 — (F78) No. 2:*** ***(i10) No. 27 — (F78) No. 1:***	Is the resistance 10 Ω or less?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i10) No. 36 — Chassis ground:*** ***(i10) No. 27 — Chassis ground:***	Is the resistance 10 Ω or less?	Repair the short circuit of harness or replace harness.	Go to step **5**.
5	**CHECK AMBIENT SENSOR.** Perform the inspection of ambient sensor unit. <Ref. to AC-80, INSPECTION, Ambient Sensor.>	Is the sensor normal?	Go to step **6**.	Replace the sensor.
6	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect connectors.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

14.Charge Warning Light

A: INSPECTION

Illuminated when the ignition switch is turned ON, and goes off after the engine has been started.

NOTE:
For HEV model, when the charge warning light stays lit after the engine has been started, perform inspection for the charge warning light. <Ref. to SC(H4DO(HEV))-38, CHECK CHARGE WARNING LIGHT, INSPECTION, Integrated Starter Generator (ISG).>

SEATS

SE

Page

1. General Description 2
2. Front Seat 7
3. Rear Seat 23
4. Seat Heater System 36

1. General Description

A: SPECIFICATION

1. COMBINATION METER ASSEMBLY

NOTE:
Specifications of the combination meter vary depending on the market and the grade.

- Gasoline engine model

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			
ABS warning light	LED	Combination meter	On/Off
STEERING warning light			
AT oil temperature warning light			
Driver's seat belt warning light			
Door warning light			
Tire pressure warning light			
AWD warning light			
Hill start assist OFF indicator light / Hill start assist warning light			
VDC warning light / VDC indicator light			
VDC OFF indicator light			
High beam indicator light			
Front fog light indicator light			
Lighting indicator light			
Fuel level warning light			
Malfunction indicator light			
Airbag warning light			
Engine oil level warning light			
Washer fluid level warning light			
Lane departure warning OFF indicator light			
Pre-collision brake OFF indicator light			
Meter illumination back light			Light ON
LCD/TFT back-up light			Light ON
Engine coolant temperature warning light (red)			On (red)/Off
Engine coolant temperature indicator light (blue)			Off/On (blue)
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	
Auto leveler warning light		Auto headlight beam leveler CM	
Parking brake/brake fluid level 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 indicator	LCD/TFT	Combination meter	—
Trip indicator			
Select lever / shift position indicator			
Information (intervention) display & indicator			
FUEL meter			
Cruise control system indicator • Constant speed cruise • SET • Set speed			
EyeSight system indicator • Adaptive cruise • SET • READY • EyeSight warning • EyeSight temporary stop • OFF • Preceding vehicle • Following distance setting • Set speed			

- HEV model

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			
ABS warning light	LED	Combination meter	On/Off
STEERING warning light			
AT oil temperature warning light			
Driver's seat belt warning light			
Door warning light			
Access key warning light			
Tire pressure warning light			
AWD warning light			
Hill start assist warning light			
VDC warning light / VDC indicator light			
VDC OFF indicator light			
High beam indicator light			
Front fog light indicator light			
Lighting indicator light			
Fuel level warning light			
Malfunction indicator light			
Airbag warning light			
Engine oil level warning light			
Washer fluid level warning light			
Oil pressure warning light			
Vacuum pump warning light			
Hybrid fail lamp			
EV mode lamp			
Hybrid READY indicator light			
Charge warning light			
Meter illumination back light			Light ON
LCD back light			Light ON
Engine coolant temperature warning light (red)			On (red)/Off
Engine coolant temperature indicator light (blue)			Off/On (blue)
Turn signal indicator light		Turn signal and hazard unit	Turns on or off according to module control
Security/immobilizer indicator light		Body integrated unit	
Auto leveler warning light		Auto headlight beam leveler CM	
Pedestrian alert warning light		Pedestrian alert control unit	On/Turns on or off according to module control
Parking brake/brake fluid level warning light		Combination meter/ brake fluid level switch	

Meter, display	Operation method, display method	Drive control	When checking the indicator needle operation/needle reading operation
Odo indicator	LCD	Combination meter	—
Trip indicator			
Select lever / shift position indicator			
FUEL meter			
Cruise control system indicator • Constant speed cruise • SET • Set speed			

2. MULTI-FUNCTION DISPLAY

NOTE:
Specifications of the multi-function display vary depending on the market and the grade.

- Standard type

Display	Display method
Average/instantaneous fuel economy, cruising distance, ambient temperature, current time, continuous driving time, average vehicle speed	LCD
Passenger's seat airbag indicator light	LED
Passenger's airbag ON indicator light	
Passenger's airbag OFF indicator light	
Passenger's seat belt warning light	

- High grade type

Display	Display method
Fuel economy screen, economy gauge (history) screen, EyeSight screen, preventive safety screen, triple meter screen, clock screen, setting screen, self-check screen, information screen, energy flow screen (HEV model), FUEL SAVE screen (HEV model)	TFT
Air conditioner display	LCD
Passenger's seat airbag indicator light	LED
Passenger's airbag ON indicator light	
Passenger's airbag OFF indicator light	
Passenger's seat belt warning light	

B: LOCATION

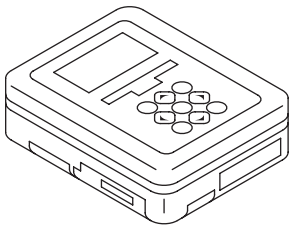
Refer to “LOCATION” of “INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)” section. <Ref. to IDI(diag)-6, LOCATION, Electrical Component Location.>

C: 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 each component operates normally.
- When the combination meter assembly has been replaced, be sure to perform the following operations.
  – For models without the keyless access with push button start except for C0 and C5, be sure to perform the registration of immobilizer. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.
  – Be sure to reset the ODO fuel economy value of the multi-function display (MFD). <Ref. to IDI-15, ODO FUEL ECONOMY VALUE RESET (HIGH GRADE TYPE ONLY), OPERATION, Multi-function Display (MFD) System.>
- 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 of “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, perform the VDC setting mode. <Ref. to VDC-26, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

D: PREPARATION TOOL

1. SPECIAL TOOL

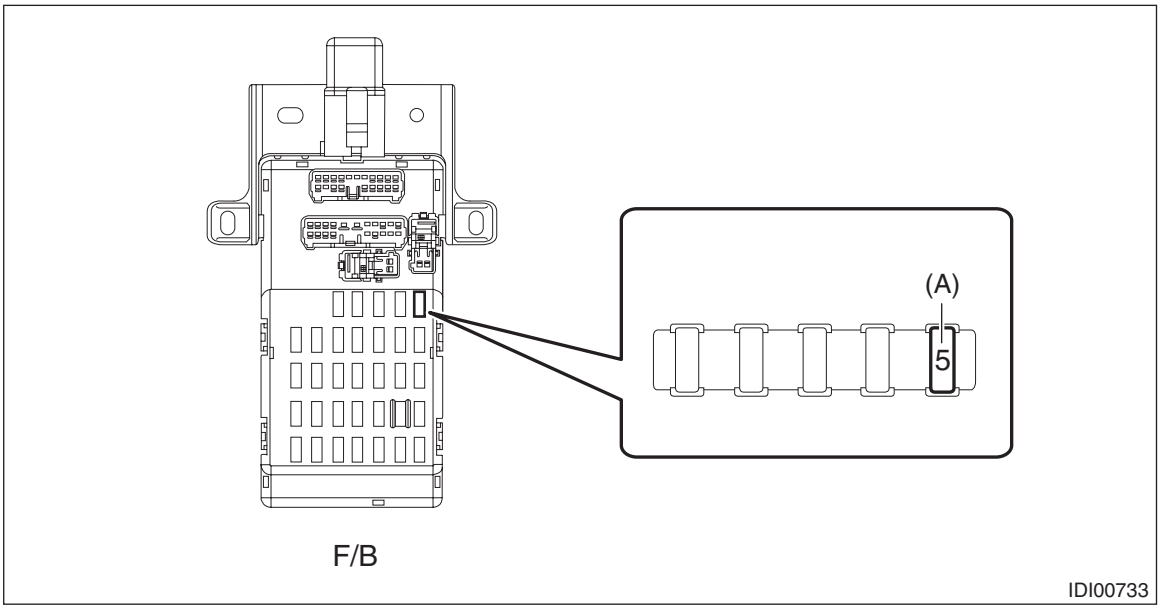
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

2. GENERAL TOOL

TOOL NAME	Remarks
Circuit tester	Used for measuring resistance and voltage.

2. Relay and Fuse

A: LOCATION



Relay & fuse box	Fuse 10 A (combination meter, MFD)	(A)

NOTE:
For other related fuses, refer to the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model: <Ref. to WI(HEV)-21, 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.

- Gasoline engine model
  Models with normal meters: <Ref. to WI(w/o HEV)-73, MODEL WITH NORMAL METER, WIRING DIAGRAM, Combination Meter System.>
  Model with color TFT meter: <Ref. to WI(w/o HEV)-78, MODEL WITH COLOR TFT METER, WIRING DIAGRAM, Combination Meter System.>
- HEV model: <Ref. to WI(HEV)-75, WIRING DIAGRAM, Combination Meter System.>

B: ELECTRICAL SPECIFICATION

1. COMBINATION METER ASSEMBLY

Refer to “Control Module I/O Signal” of “INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)” section. <Ref. to IDI(diag)-7, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: OPERATION

1. SELF-DIAGNOSIS DISPLAY MODE

The self-diagnosis (checking of each meter, warning light, indicator light, illumination, LCD/TFT) of combination meter can be performed in the following procedure.
1) Procedure

CAUTION:
Perform the steps described in (1) through (4) within 10 seconds.

(1) Unfasten → fasten the driver’s seat belt within 3 seconds after the ignition switch is turned to ON.
(2) With the driver’s seat belt fastened, press the trip meter knob three times.
(3) Unfasten the driver’s seat belt, and then press the trip meter knob three times.
(4) Fasten the driver’s seat belt again, and then press the trip meter knob three times.

NOTE:

- When the self-diagnosis function operates, the warning light, indicator light, and LCD/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/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.

2) Go to “Check meter indicator operation”.
Check meter operation, warning light, indicator light, illumination and LCD/TFT.

NOTE:

- After “_S_1” is displayed on the LCD/TFT, the meter indicator operation check mode is initiated.
- Each of the meter indicator operation display and LCD/TFT display switches every 6 seconds.

Meter indicator	LCD/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.
*4: Display for one second for each level.

3) Press the trip meter knob once.
4) Go to “Meter Indicator Needle Indication Check”.
Check meter operation, warning light, indicator light, and LCD/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/TFT trip display.

Speedometer (km/h)	Tachometer (rpm)	ECO gauge	Warning light/ indicator light
0	0	Lowest point	*1, *2, *3
0	0	–Max	
40	1000	0	
100	4000	+Max	
40	1000	0	
0	0	–Max	

*1: Warning lights and indicator lights controlled by the meter drive circuit go 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.
5) Press the trip meter knob once.
6) Go to “Check LCD/TFT display”.
Check the LCD/TFT display.

NOTE:
• After “_S_3” is displayed on the LCD/TFT, the LCD/TFT display check mode is initiated.
• LCD/TFT display switches every 1 second.
• Warning lights and indicator lights controlled by the meter drive circuit go 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. (Except for color TFT type)
• After No. 8 is displayed in the illumination order, display is repeated from No. 1 again. (Color TFT type)
• The version display contents of the illumination order No. 1 varies depending on the vehicle. (Color TFT type)

Except for color TFT type

ORDER	AT/SS	SHIFT UP	CRUISE/SET	MODE X/S/I/S#	TRIP/ODO	FUEL METER	LFW
1	▲ ▼	▲	SET	[S] [I] S#	A B 8 8 8 . 8 8 8 8 8 8 km	E F	OFF
2			OFF	OFF	1 1 1 . 1 1 1 1 1 1	E F	ON
3	▲		OFF	OFF	A 2 2 2 . 2 2 2 2 2 2 km	E F	ON
4			OFF		3 3 3 . 3 3 3 3 3 3	E F	OFF
5	▼	▲	OFF	OFF	B 4 4 4 . 4 4 4 4 4 4 km	E F	OFF
6			OFF	OFF	5 5 5 . 5 5 5 5 5 5	E F	OFF
7	▲			[S]	A 6 6 6 . 6 6 6 6 6 6 km	E F	OFF
8			OFF	OFF	7 7 7 . 7 7 7 7 7 7	E F	OFF
9	▼		SET	OFF	B 8 8 8 . 8 8 8 8 8 8 km	E F	OFF
10			OFF	[I]	9 9 9 . 9 9 9 9 9 9	E F	OFF
11	▲	▲	OFF	OFF	A 0 0 0 . 0 0 0 0 0 0 km	E F	OFF
12			OFF	OFF	8 8 8 . 8 8 8 8 8 8	E F	OFF
13	▼		SET	S#	B 8 8 8 . 8 8 8 8 8 8 km	E F	ON
14			OFF	OFF	8 8 8 . 8 8 8 8 8 8		OFF

IDI00712

Color TFT type

Order	TFT display
1	Version display & color gradation
2	Black
3	Red
4	Green
5	Blue
6	White
7	Color gradation
8	Cross talking

2. DEMONSTRATION MODE (EXCEPT FOR COLOR TFT TYPE)

The demonstration mode screen of the combination meter can be displayed according to the following procedure.

CAUTION:
- **Perform the steps while the ignition is OFF (ACC OFF) and the odo/trip meter is not displayed.**
- **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.**
- **To display the demonstration mode, set the "Demonstration mode permission / fault permission" of the user customize mode to "permission". For operation procedures, refer to the "PC application help for Subaru Select Monitor".**
- **When the demonstration mode display is completed, make sure to set "Demonstration mode permission / fault permission" of the user customize mode to "fault permission". Do not deliver the vehicle to the customer with "Demonstration mode permission / fault permission" set to "permission".**
- **Even if the backup fuse is removed, the demonstration mode can be initiated.**

1) Procedure

CAUTION:
Perform the steps described in (1) through (4) within 10 seconds.

(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 i/SET switch three times within three seconds after the operation 1) above is performed.
(3) Press the trip meter knob once, and press the i/SET switch three times.
(4) Press the trip meter knob once, and press the i/SET switch three times.

2) The “demonstration mode” is initiated.

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 4) again after confirming that the display disappeared.

NOTE:
The demonstration mode will be cancelled in the following condition.
When resuming the operation after cancellation, the demonstration mode is displayed, however, for the model with keyless access with push button start, the resuming can only be accepted after approx. 1 minute.
- At the completion of the “goodbye screen” display that is shown 60 minutes after the demonstration mode is initiated
- When the ignition is turned to ON
- When the i/SET 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 with push button start)
- When any request switch is pressed with the access key in the passenger room (model with keyless access with push button start).

D: INSPECTION

Refer to “Basic Diagnostic Procedure” of “INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)” section. <Ref. to IDI(diag)-2, Basic Diagnostic Procedure.>

E: NOTE

For procedure of each component in the combination meter system, refer to the respective section.
- Combination meter assembly: <Ref. to IDI-20, Combination Meter.>
- Speedometer: <Ref. to IDI-23, Speedometer.>
- Tachometer: <Ref. to IDI-24, Tachometer.>
- FUEL meter: <Ref. to IDI-25, Fuel Gauge.>
- ECO gauge: <Ref. to IDI-26, ECO Gauge.>

4. Multi-function Display (MFD) System

A: WIRING DIAGRAM

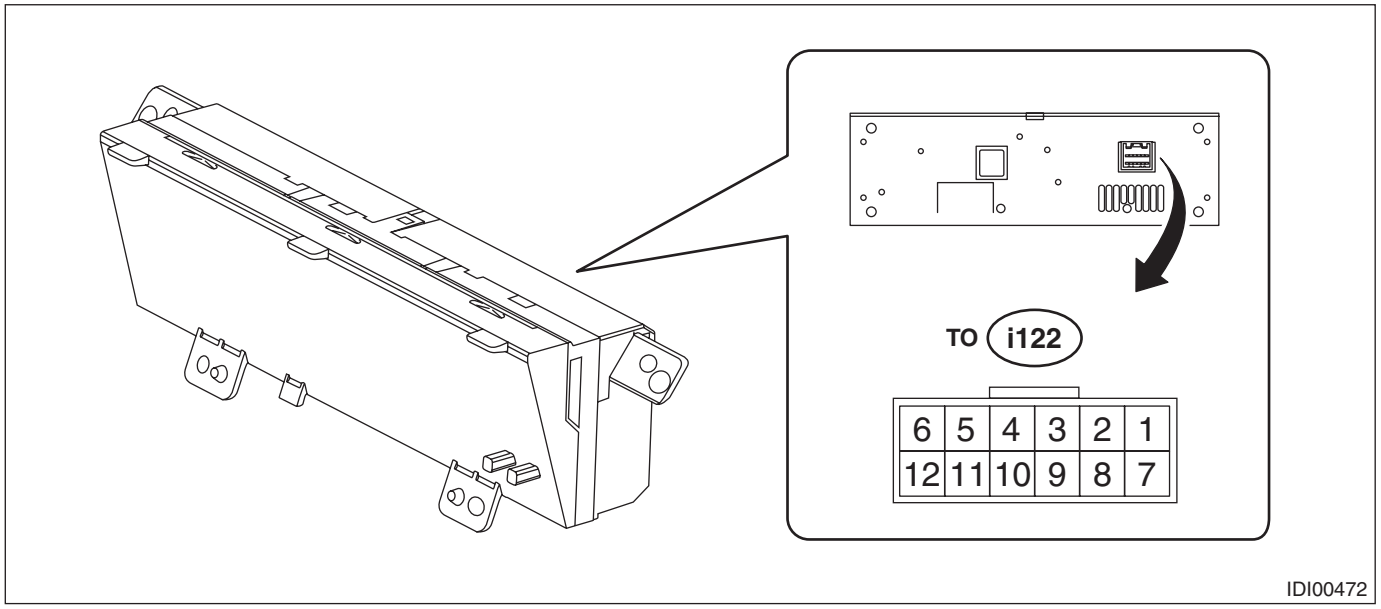
Refer to “Multi-function Display (MFD) System” in WI section.

- Gasoline engine model: <Ref. to WI(w/o HEV)-164, WIRING DIAGRAM, Multi-function Display (MFD) System.>
- HEV model: <Ref. to WI(HEV)-169, WIRING DIAGRAM, Multi-function Display (MFD) System.>

B: ELECTRICAL SPECIFICATION

1. MULTI FUNCTION DISPLAY

- Standard type



Terminal No.	Item	Measuring condition	Standard
1 (+B) ←→ Chassis ground	Voltage	Always	10 — 14 V
2 (GND) ←→ Chassis ground	Resistance	Always	Less than 1 Ω
3 (IG) ←→ Chassis ground	Voltage	IG OFF → ON	0 V → 10 — 14 V
9 (U-ART com.)	—	Cannot be measured	—
10 ←→ Chassis ground	Voltage	Passenger’s airbag ON indicator light OFF → ON	0 V → 1.5 V
11 ←→ Chassis ground	Voltage	Passenger’s airbag OFF indicator light OFF → ON	0 V → 1.5 V

- High grade type

Refer to “Control Module I/O Signal” of “INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)” section. <Ref. to IDI(diag)-7, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: OPERATION

1. DIAGNOSTIC MODE (HIGH GRADE TYPE ONLY)

The settings of the multi-function display can be changed by performing the following procedures to display the diagnostic mode.

CAUTION:
- **Perform the work with IG-ON while charging the battery.**
- **While performing the work, close the front hood and all doors, and do not operate any electrical parts.**
- **Display can not be switched to diagnostic mode if the illumination control dial is set to the position for the dimming cancel function (maximum brightness).**

1) Procedure

CAUTION:
Perform the steps described in (2) through (4) within 10 seconds.

(1) Within 3 seconds after turning the IG-ON, turn the lighting switch to Switch 1 (TAIL) or Switch 2 (HEAD).
(2) While keeping the lighting switch to Switch 1 (TAIL) or Switch 2 (HEAD) position, press the i/SET switch three times.
(3) Turn the lighting switch to OFF, and press the i/SET switch three times.
(4) Turn the lighting switch to Switch 1 (TAIL) or Switch 2 (HEAD) position again, press the i/SET switch three times.

NOTE:
- Except for the demonstration display setting of the diagnostic mode, the display will terminate with IG-OFF or by selecting “Back” from the menu screen.
- The demonstration display setting of the diagnostic mode will terminate by starting the engine or removing the battery. Even if it becomes IG-OFF then IG-ON again, the diagnostic mode will not terminate.
- To select other menus from the demonstration display setting, terminate the diagnostic mode by starting the engine or removing the battery, then access to the diagnostic mode again.

2) Display menu

Change the display and settings from each menu.

Menu	Item	Content
Demonstration display setting	—	Shows demonstration display.
Vehicle status confirmation	• CAN communication	Displays the connection status of input signals.
	• U-ART communication	
	• Camera connection	
Rear camera settings	• Guide line adjustment	The image of the rearview camera is displayed in the audio system or the navigation system. Refer to “Rearview Camera System” for adjustment.
	• Guide line display	
	• Guide line reset	
Customize	• Key operation sound	Select “ON” or “OFF”, then select “Set” to determine.
	• Correction of lifetime fuel economy value*	Adjust the fuel economy value within the range of -10 — +10 km/l, then determine the value with i/SET switch.
Back	—	Finish the diagnostic mode.

*: Correction of lifetime fuel economy value is used only when the multi-function display has been replaced. This function is provided as a compensation feature to bring the current lifetime fuel economy value to the one before the replacement of multi-function display.

2. DEMONSTRATION SCREEN DISPLAY (HIGH GRADE TYPE ONLY)

The demonstration screen can be displayed according to the following procedure.

CAUTION:
- **Perform the procedure while the ignition switch is OFF (ACC OFF).**
- **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, do not operate any electrical parts.**

1) Procedure

CAUTION:
Perform the steps described in (2) through (5) within 10 seconds.

(1) Sit in the driver's seat and close the door.
(2) Open the driver's door, and within 5 seconds, press the ENTER switch three times.
(3) Close the driver's door, and press the ENTER switch three times.
(4) Open the driver's door, and press the ENTER switch three times.
(5) Close the driver's door, and press the ENTER switch three times.

2) Go to "Demonstration screen display".

NOTE:
The demonstration display will be cancelled in any of the following conditions.
- When 60 minutes elapsed since the demonstration mode started
- When the ignition is turned to ON
- When the ENTER switch is turned to ON for two seconds
- When the battery voltage is low

3. ODO FUEL ECONOMY VALUE RESET (HIGH GRADE TYPE ONLY)

Follow the procedure below to initialize the ODO setting value.
1) Turn the ignition to ON, and press the ENTER switch for two seconds.
2) Select "Factory delivery setting" from "Setting screen".
3) Select "ODO setting reset" and determine with "Yes".
4) The screen that indicates the completion of the setting is displayed for three seconds. This is the end of operation.

NOTE:
- The resetting operation is confirmed twice. Select confirmation according to the screen.
- The display will terminate by turning the ignition to OFF (ACC OFF) or by selecting "Back" from the menu screen.

D: INSPECTION

- Standard type

Refer to the following inspection steps. <Ref. to IDI-16, SYMPTOM CHART, INSPECTION, Multi-function Display (MFD) System.>

- High grade type

Refer to “Basic Diagnostic Procedure” of “INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)” section. <Ref. to IDI(diag)-2, Basic Diagnostic Procedure.>

1. SYMPTOM CHART

Symptoms	Repair order	Note
No display is shown.	1. Power supply 2. Ground circuit 3. Communication circuit harness 4. MFD	<Ref. to IDI-16, CHECK POWER SUPPLY AND GROUND CIRCUIT AND COMMUNICATION CIRCUIT, INSPECTION, Multi-function Display (MFD) System.>
Ambient air temperature/fuel economy displays do not appear.	1. Power supply 2. Ground circuit 3. MFD	<Ref. to IDI-17, CHECK CLOCK SYSTEM COMMUNICATION CIRCUIT, INSPECTION, Multi-function Display (MFD) System.>
Only ambient air temperature display is not displayed.	1. Power supply 2. Harness 3. Ambient sensor 4. Communication circuit 5. MFD	<Ref. to IDI-18, CHECK AMBIENT TEMPERATURE METER SYSTEM COMMUNICATION CIRCUIT, INSPECTION, Multi-function Display (MFD) System.>
Only fuel economy display is not displayed.	1. Setting 2. MFD	<Ref. to IDI-19, CHECK COMMUNICATION CIRCUIT OF FUEL ECONOMY SYSTEM, INSPECTION, Multi-function Display (MFD) System.>

2. CHECK POWER SUPPLY AND GROUND CIRCUIT AND COMMUNICATION CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the MFD connector. 2) Measure the voltage between MFD connector and chassis ground. ***Connector & terminal*** ***(i122) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short between the fuse and MFD.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between MFD connector and chassis ground. ***Connector & terminal*** ***(i122) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair or replace the harness.
3	**CHECK HARNESS BETWEEN MFD AND COMBINATION METER ASSEMBLY.** 1) Disconnect the connector of combination meter assembly. 2) Check the harness between MFD and combination meter assembly. ***Connector & terminal*** ***(i122) No. 9 — (i10) No. 28:***	Is harness normal?	Go to step **4**.	Repair or replace the harness.
4	**CHECK MFD.** 1) Remove the MFD. 2) Attach the clock to another vehicle on which the clock display operates normally, and check its operation.	Is MFD normal?	Replace the meter - main assembly. <Ref. to IDI-20, Combination Meter.>	Replace the MFD.

3. CHECK CLOCK SYSTEM COMMUNICATION CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the MFD connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between MFD connector and chassis ground. ***Connector & terminal*** ***(i122) No. 3 (+) — 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 MFD connector and chassis ground. ***Connector & terminal*** ***(i122) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair or replace the harness.
3	**CHECK MFD.** 1) Remove the MFD. 2) Attach the clock to another vehicle on which the clock display operates normally, and check its operation.	Is the MFD normal?	Repair the poor contact of connector.	Replace the MFD.

4. CHECK AMBIENT TEMPERATURE METER 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*** ***(F78) No. 1 (+) — Chassis ground (–):***	Is the voltage 4 V or more?	Go to step **2**.	Check the harness for open or short between the fuse and MFD.
2	**CHECK HARNESS BETWEEN AMBIENT SENSOR AND COMBINATION METER ASSEMBLY.** 1) Disconnect the connector of combination meter assembly. 2) Check harness between ambient sensor and combination meter assembly. ***Connector & terminal*** ***(F78) No. 1 — (i10) No. 27:*** ***(F78) No. 2 — (i10) No. 36:***	Is harness normal?	Go to step **3**.	Repair or replace the harness.
3	**CHECK AMBIENT SENSOR.** Check the ambient sensor. <Ref. to AC-80, 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 assembly connector. 2) Install the 3 kΩ resistance between connector terminals of the ambient sensor. 3) Turn the ignition switch to ON. ***Connector & terminal*** ***(F78) 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 CURRENT DATA.** Using the Subaru Select Monitor, display the data of «Ambient Air Temperature». NOTE: For detailed procedures, refer to “PC application help for Subaru Select Monitor”.	Is the ambient temperature of 25°C (77°F) output?	Go to step **6**.	Replace the meter - main assembly. <Ref. to IDI-20, Combination Meter.>
6	**CHECK MFD.** 1) Remove the MFD. 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 MFD.	Replace the meter - main assembly. <Ref. to IDI-20, Combination Meter.>

5. CHECK COMMUNICATION CIRCUIT OF FUEL ECONOMY SYSTEM

	Step	Check	Yes	No
1	**CHECK FUEL ECONOMY DISPLAY OFF MODE.** Check that the mode display changes when the MFD changeover knob is operated. (Display changes in the following order: cruising distance → average fuel economy → instantaneous fuel economy → continuous driving time → average vehicle speed → blank display)	Is fuel economy displayed?	MFD is normal.	Go to step **2**.
2	**CHECK MFD.** 1) Remove the MFD. 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 meter - main assembly. <Ref. to IDI-20, Combination Meter.>	Replace the MFD.

E: NOTE

For procedure of each component in the Multi-Function Display (MFD) system, refer to the respective section.

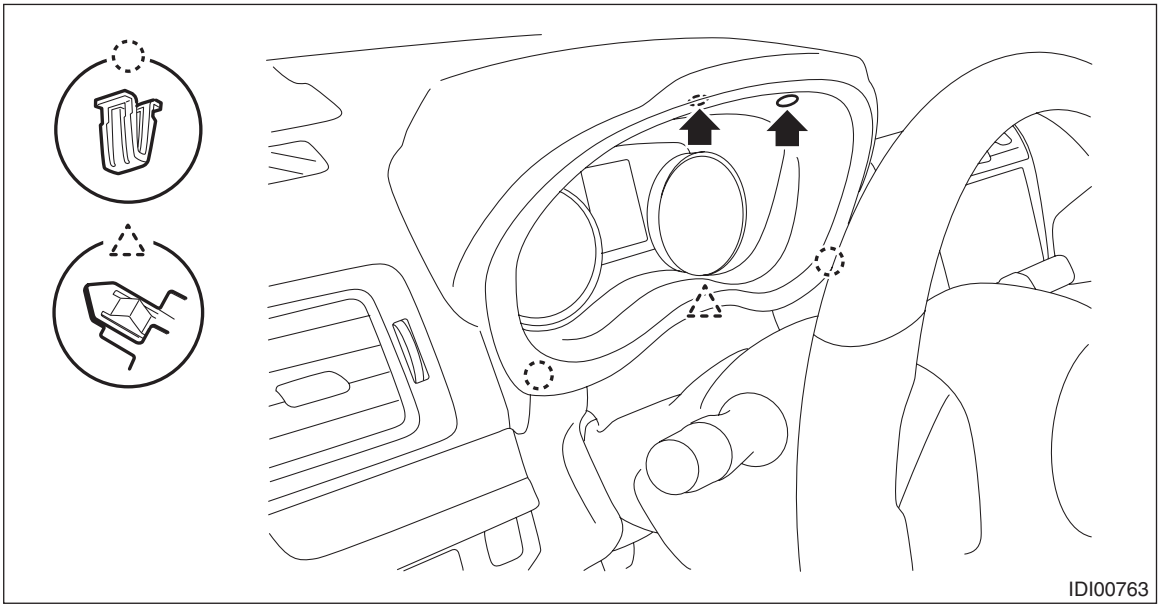
- Multi-function display: <Ref. to IDI-27, Multi-function Display (MFD).>

5. Combination Meter

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

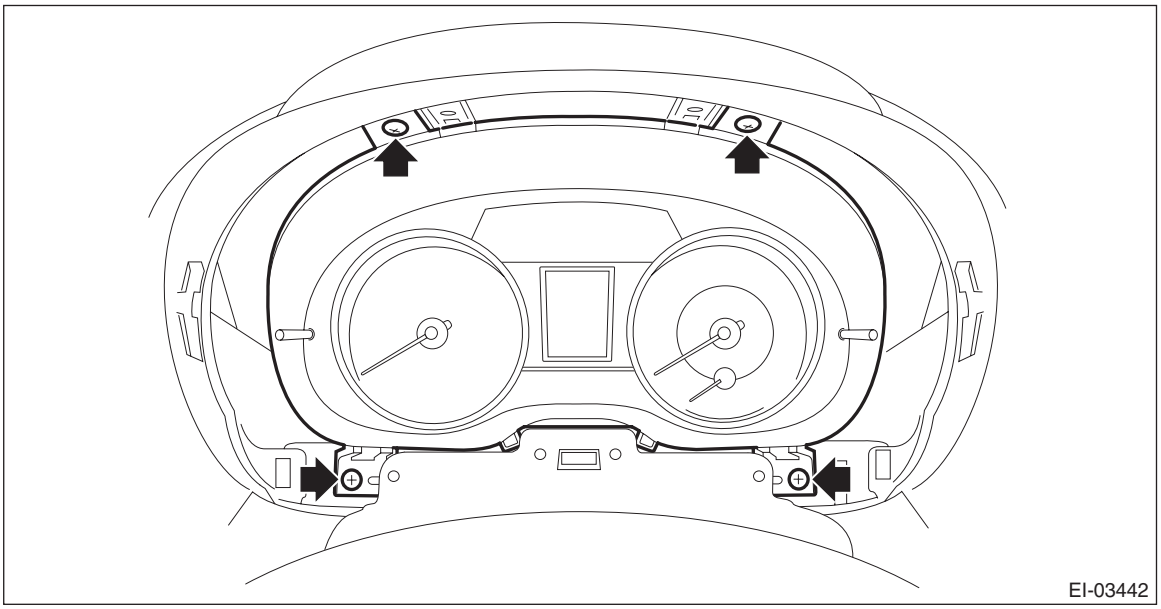
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Release the lock, tilt the steering column to the lowest end and fully extend the column by the telescopic system.
3) Release the screws, clips and claws, and remove the visor - combination meter.



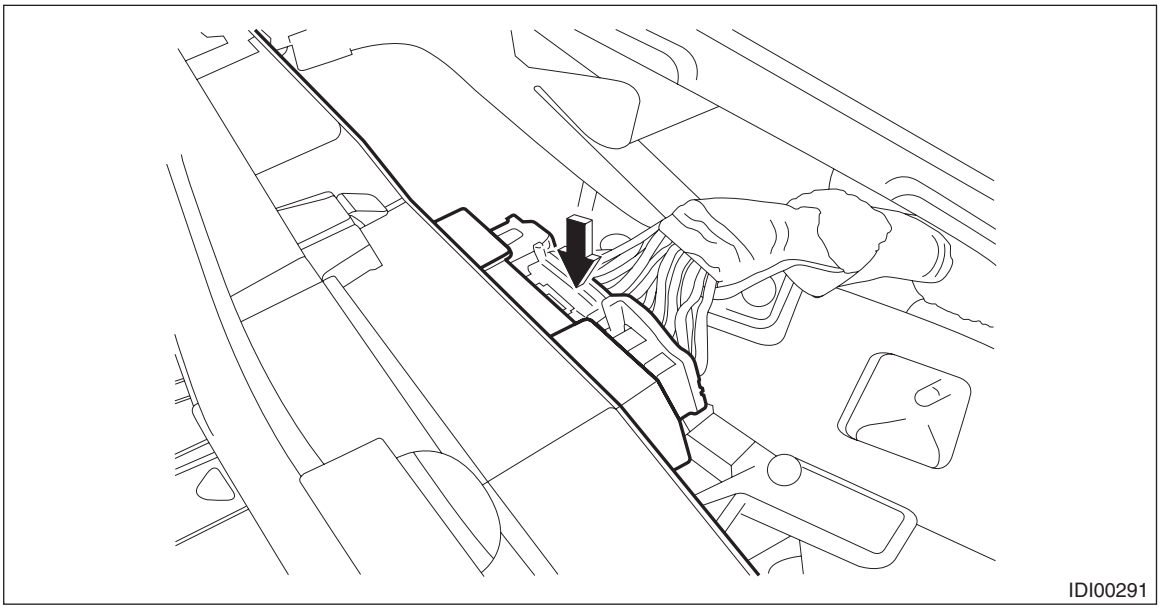
4) Remove the combination meter assembly.

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

(1) Remove the screws.



(2) Pull the combination meter assembly toward you and disconnect the connector.



B: INSTALLATION

CAUTION:

- **Make sure the electrical connector is connected securely.**
- **Make sure that each meter operates normally.**
- **When the combination meter assembly has been replaced, be sure to perform the following operations.**
  - **For models without the keyless access with push button start except for C0 and C5, be sure to perform the registration of immobilizer. For the relevant procedures, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**
  - **Be sure to reset the ODO fuel economy value of the multi-function display (MFD). <Ref. to IDI-15, ODO FUEL ECONOMY VALUE RESET (HIGH GRADE TYPE ONLY), OPERATION, Multi-function Display (MFD) System.>**

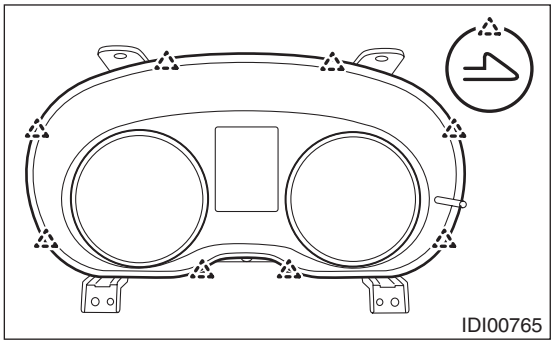
Install each part in the reverse order of removal.

C: DISASSEMBLY

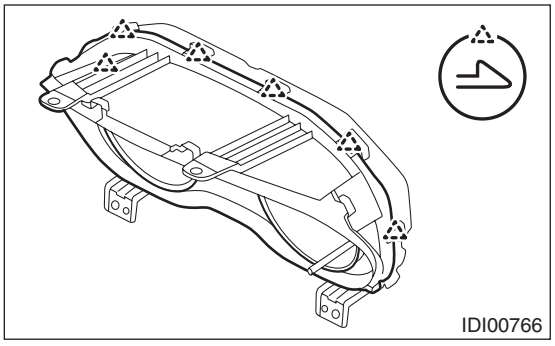
1. DISASSEMBLY OF COMBINATION METER ASSEMBLY

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.**
- **Because LEDs are used for all of warning lights and indicator lights, they are not removable from the meter - main assembly.**

1) Release the claws, and then remove the glass - combination meter.



2) Release the claws, and then remove the visor - combination meter.



D: ASSEMBLY

Assemble each part in the reverse order of disassembly.

6. Speedometer

A: SPECIFICATION

Since the meter - main 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 - main 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 - main 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 - main assembly cannot be disassembled, do not remove or inspect the ECO gauge alone. (Do not remove the cover on the back surface.)

10.Multi-function Display (MFD)

A: REMOVAL

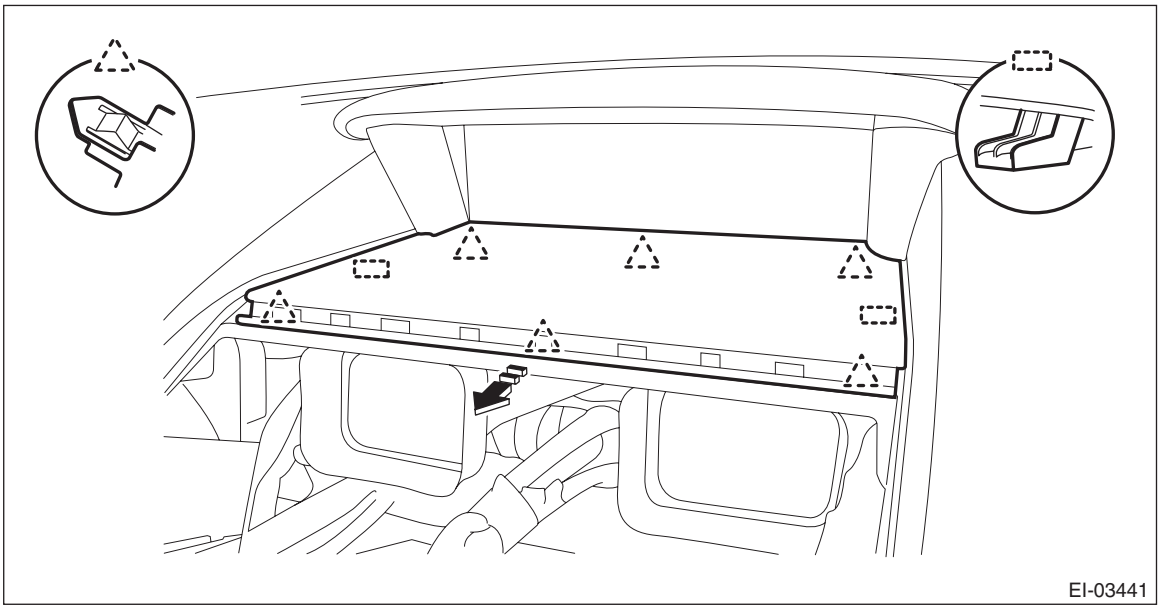
1. MULTI FUNCTION DISPLAY

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the center grille assembly. <Ref. to AC-104, CENTER GRILLE ASSEMBLY, REMOVAL, Air Vent Grille.>

3) Release the claw and hook, and then remove the cover center UPR.

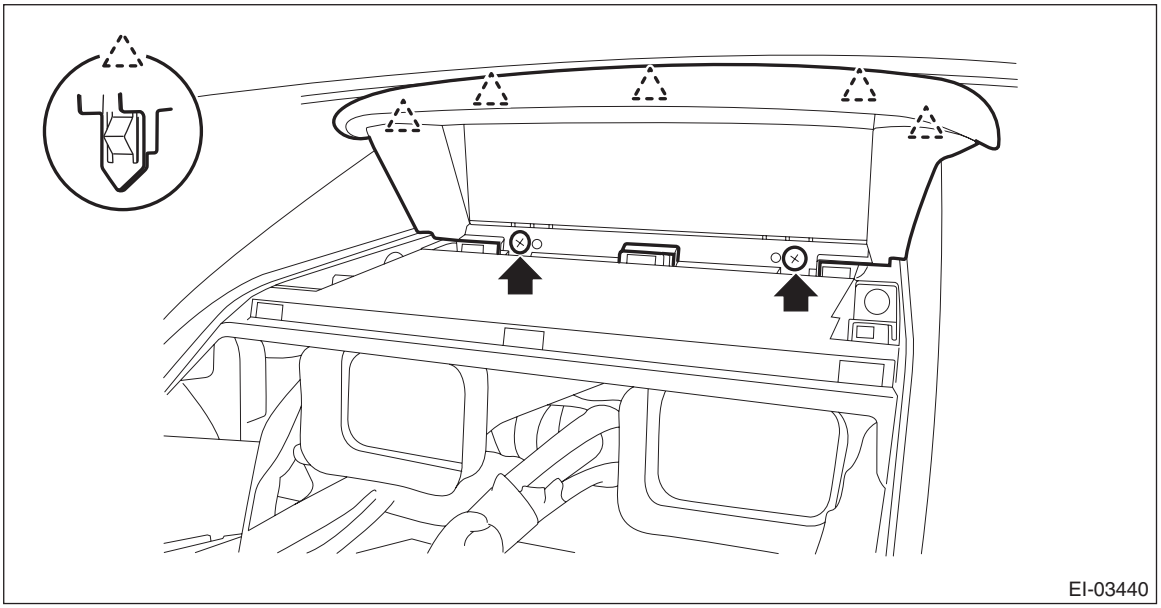


NOTE:
Lightly push up the back of the cover center UPR, hook the finger to the end portion and pull it toward you to remove it.

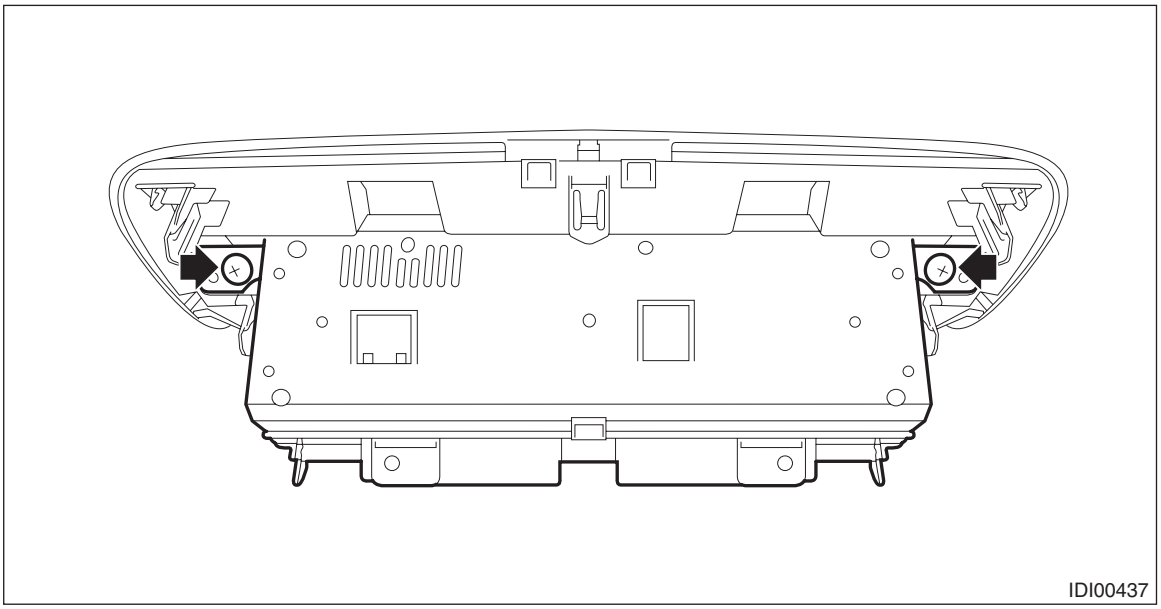
4) Remove the multi-function display.

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

(1) Release the screws and claws.
(2) Pull the multi-function display assembly toward you, and disconnect the connector.



(3) Remove the screw, and remove the multi-function display from the panel - display.



2. MULTI-FUNCTION DISPLAY SWITCH

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the center grille assembly. <Ref. to AC-104, CENTER GRILLE ASSEMBLY, REMOVAL, Air Vent Grille.>
3) Release the claw, and remove the switch - multi-function display.

B: INSTALLATION

CAUTION:
- **Make sure the electrical connector is connected securely.**
- **Make sure that the multi-function display operates normally.**
- **After installing the center grille assembly, check that the air vent grille of the center grille assembly is inserted correctly into the air vent duct.**
- **When the multi-function display has been replaced, perform the following operations.**
  – Be sure to reset the ODO fuel economy value of the multi-function display (MFD). <Ref. to IDI-15, ODO FUEL ECONOMY VALUE RESET (HIGH GRADE TYPE ONLY), OPERATION, Multi-function Display (MFD) System.>
  – Be sure to correction the lifetime fuel economy value of the multi-function display (MFD). <Ref. to IDI-14, DIAGNOSTIC MODE (HIGH GRADE TYPE ONLY), OPERATION, Multi-function Display (MFD) System.>

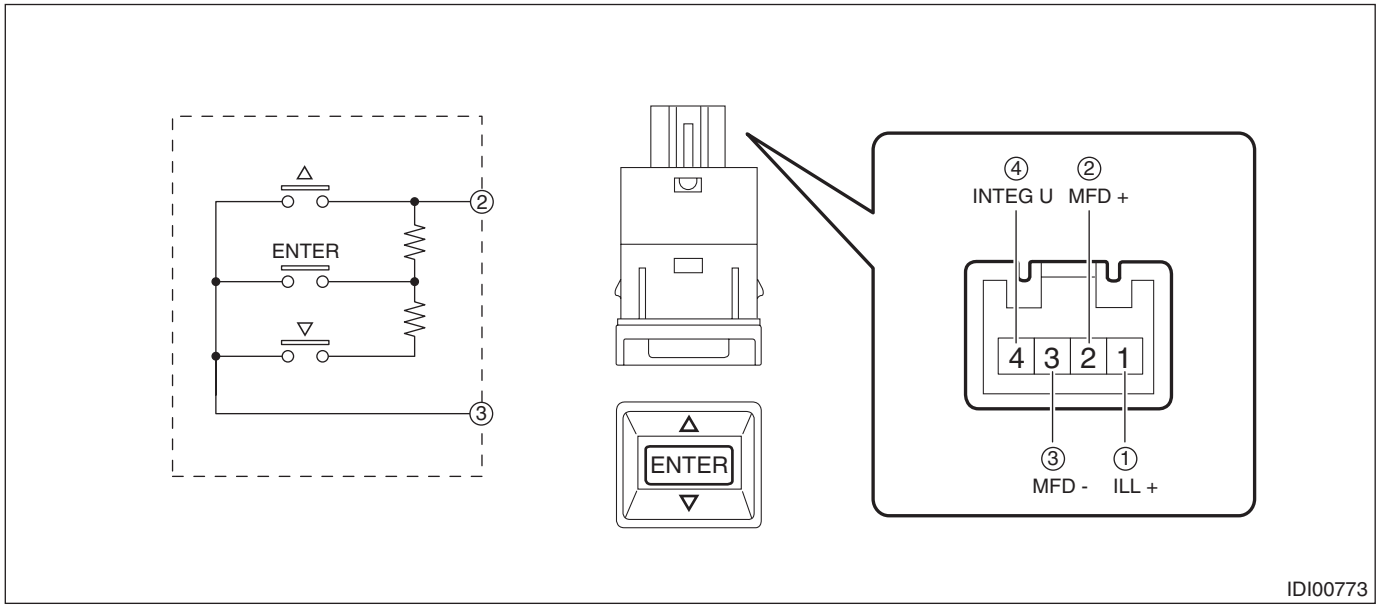
Install each part in the reverse order of removal.

C: INSPECTION

1. MULTI-FUNCTION DISPLAY SWITCH

1) Measure the resistance between connector terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions		Standard
2 — 3	△ (UP) ENTER ▽ (DOWN)	All OFF	1 MΩ or more
	△ (UP)	ON	Less than 1 Ω
	ENTER	ON	Approx. 1000 Ω
	▽ (DOWN)	ON	Approx. 3670 Ω

2) If the inspection result is not within the standard, replace the switch - multi-function display.

11.Steering Switch

A: REMOVAL

CAUTION:
Before handling the airbag module, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". <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. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
4) Remove the driver's airbag module. <Ref. to AB-32, REMOVAL, Driver's Airbag Module.>
5) Remove the steering wheel. <Ref. to PS-8, REMOVAL, Steering Wheel.>
6) Remove the switch assembly - steering. <Ref. to PS-10, DISASSEMBLY, Steering Wheel.>

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 has been removed, make sure that the steering roll connector is not turned from the original position.
• If the steering wheel and steering angle sensor (steering roll connector) are removed, perform the VDC setting mode. <Ref. to VDC-26, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
1) Align the center position of the steering roll connector. <Ref. to AB-98, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and the column assembly - steering.

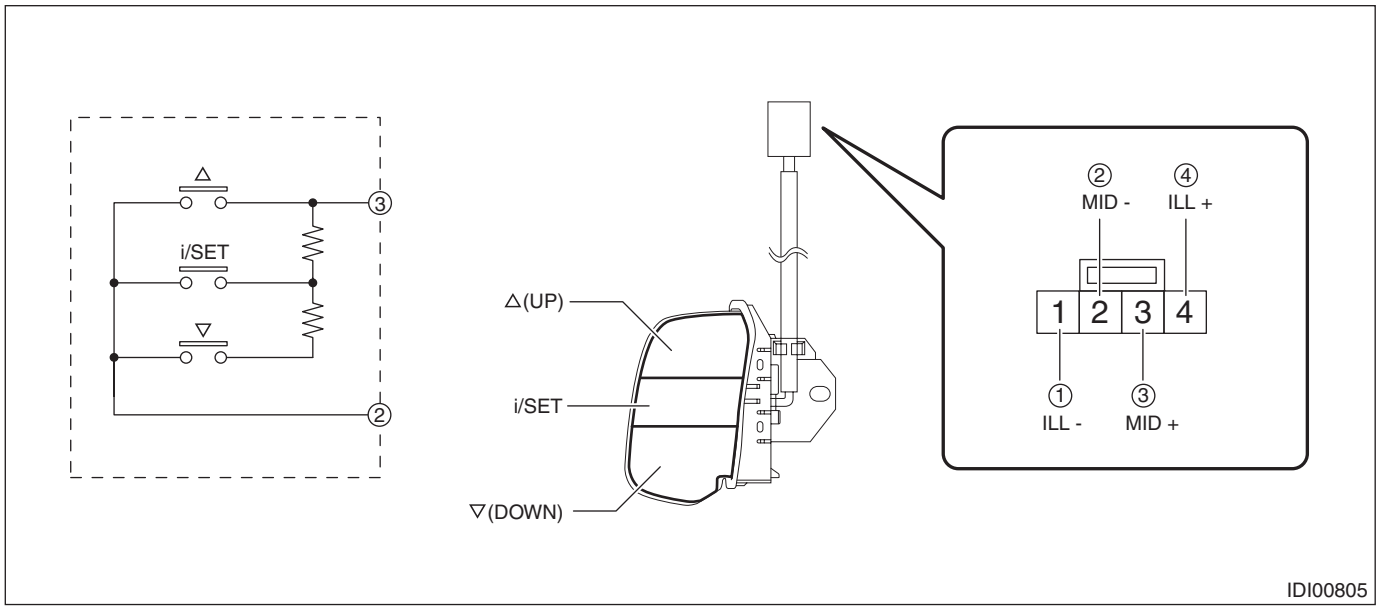
Tightening torque:
Steering wheel: 39 N·m (3.98 kgf-m, 28.8 ft-lb)

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

C: INSPECTION

Preparation tool:
Circuit tester

1) Check the resistance between switch terminals.



Terminal No.	Inspection conditions		Standard
3 — 2	△ (UP) i/SET ▽ (DOWN)	All OFF	Approx. 3670 Ω
	△ (UP)	ON	Less than 1 Ω
	i/SET	ON	Approx. 1000 Ω
	▽ (DOWN)	ON	Approx. 2670 Ω

2) Replace the switch assembly - steering if the inspection result is not within the standard.

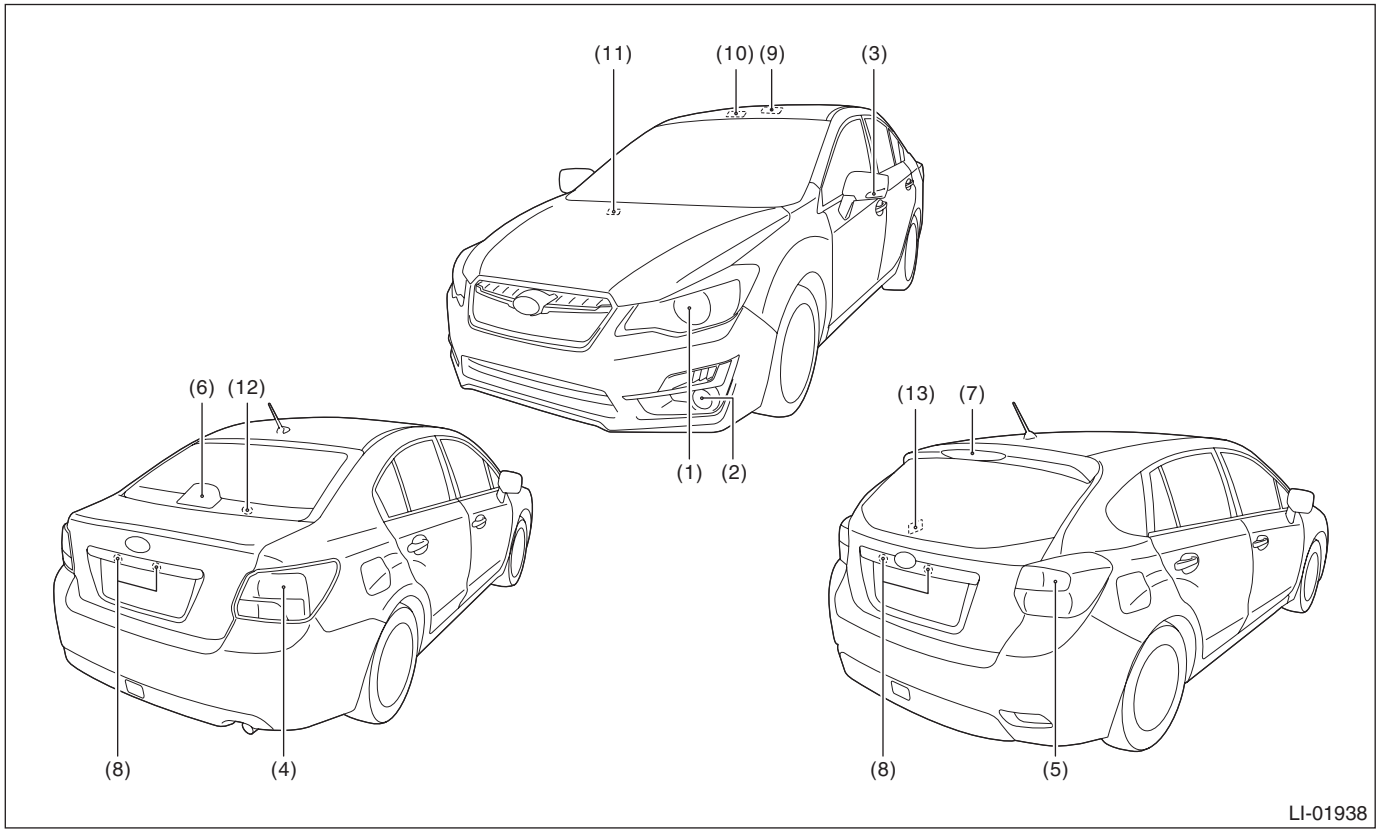
INSTRUMENTATION/DRIVER INFO (DIAGNOSTICS)

IDI(diag)

		Page
1.	Basic Diagnostic Procedure	2
2.	Check List for Interview	4
3.	General Description	5
4.	Electrical Component Location	6
5.	Control Module I/O Signal	7
6.	Subaru Select Monitor	10
7.	Read Diagnostic Trouble Code (DTC)	15
8.	Clear Memory Mode	16
9.	Read Current Data	17
10.	System Operation Check Mode	21
11.	User Customizing	26
12.	List of Diagnostic Trouble Code (DTC)	27
13.	Diagnostic Procedure with Diagnostic Trouble Code (DTC)	29
14.	Charge Warning Light	42

1. General Description

A: SPECIFICATION



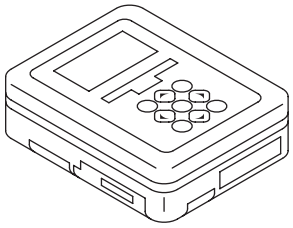
(1)	Headlight	Low beam (halogen type)	12 V — 55 W
		Low beam (HID type)	12 V — 35 W
		High beam	12 V — 60 W
		Front turn signal light	12 V — 21 W
		Parking light	12 V — 5 W
		Side marker light	12 V — 5 W
(2)	Front fog light	Model without SRF	12 V — 24 W
		Model with SRF	12 V — 55 W
(3)	Side turn signal light		12 V — 1.1 W (LED)
(4)	Rear combination light (4 door model)	Tail & side marker/stop light	12 V — 5 / 21 W
		Turn signal light	12 V — 21 W
		Back-up light	12 V — 16 W
(5)	Rear combination light (5 door model/XV model)	Tail/stop light	12 V — 5 / 21 W
		Back-up light	12 V — 16 W
		Turn signal light	12 V — 21 W
		Side marker light	12 V — 5 W
	Rear combination light (HEV model)	Tail light	12 V — 5 W
		Stop light	12 V — 2.0 W (LED)
		Back-up light	12 V — 16 W
		Turn signal light	12 V — 21 W
		Side marker light	12 V — 5 W
(6)	High-mounted stop light (4 door model)		12 V — 0.7 W (LED)
(7)	High-mounted stop light	5 door model/XV model	12 V — 2.1 W (LED)
		HEV model	12 V — 1.1 W (LED)
(8)	License plate light		12 V — 5 W
(9)	Room light		12 V — 8 W
(10)	Spot map light		12 V — 8 W
(11)	Glove box light		12 V — 1.4 W
(12)	Trunk room light (4 door model)		12 V — 5 W
(13)	Luggage room light (5 door model/XV model)		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 each component operates 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 of “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, perform the VDC setting mode. <Ref. to VDC-26, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

C: PREPARATION TOOL

1. SPECIAL TOOL

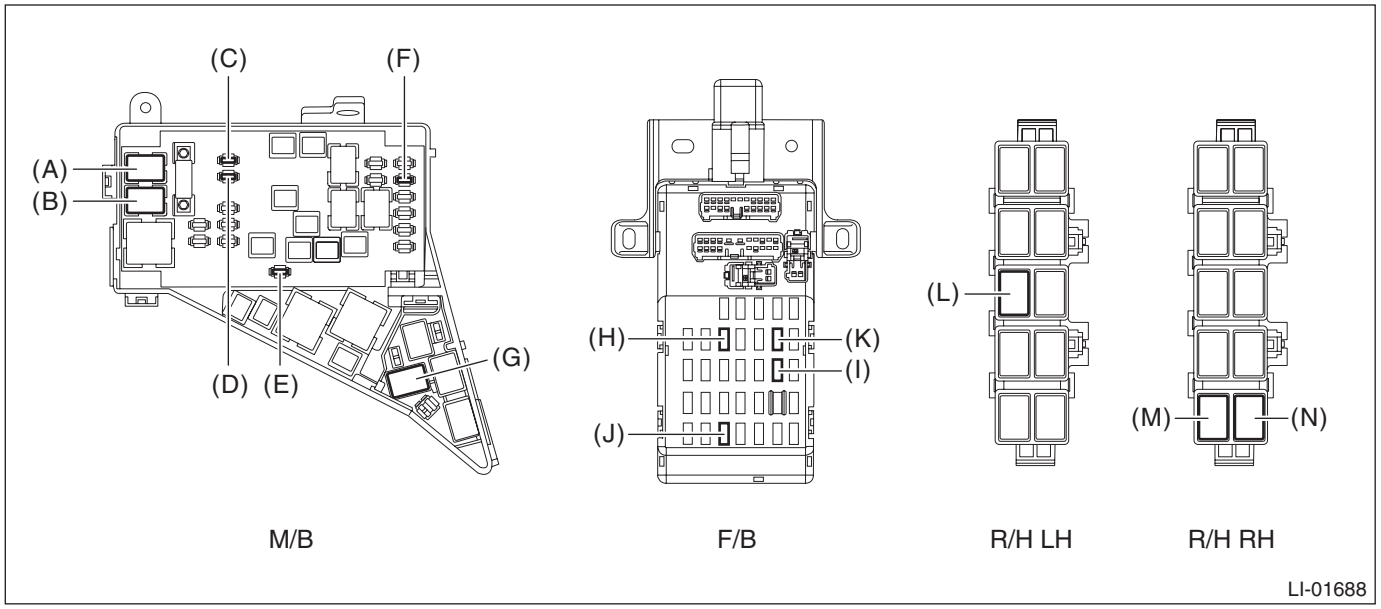
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.

2. Relay and Fuse

A: LOCATION



Main fuse box	Headlight relay (HI)	(A)
	Headlight relay (LO)	(B)
	Fuse 15A (daytime running light relay)	(C)
	Fuse 30 A (combination light LH/RH)	(D)
	Fuse 20A (spot map light, room light, ignition switch illumination (immobilizer antenna))	(E)
	Fuse 15A (tail and illumination relay, daytime running light relay) (gasoline engine model)	(F)
	Fuse 15A (tail relay, daytime running light relay) (HEV model)	
	Daytime running light relay	(G)
Relay & fuse box	Fuse 15A (stop light and brake switch, brake relay)	(H)
	Fuse 10A (inhibitor switch, back-up light switch, auto headlight beam leveler CM) (gasoline engine model)	(I)
	Fuse 10A (R range relay, auto headlight beam leveler CM) (HEV model)	
	Fuse 15 A (front fog light relay LH/RH)	(J)
	Fuse 7.5A (turn signal & hazard unit)	(K)
Relay holder LH	Tail & illumination relay (gasoline engine model)	(L)
	Tail relay (HEV model)	
Relay holder RH	R range relay (HEV model)	(M)
	Front fog light relay	(N)

NOTE:
For other related fuses, refer to the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>
- HEV model: <Ref. to WI(HEV)-21, Power Supply Circuit.>

B: INSPECTION

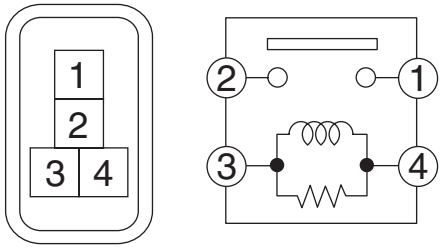
1. CHECK FUSE

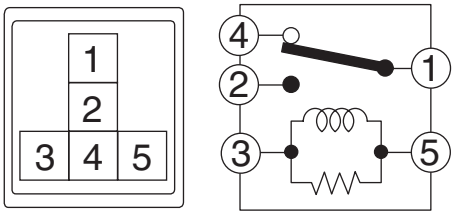
1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

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	 LI-01273
1 — 2	Apply battery voltage between terminals 4 and 3.	Less than 1 Ω	

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Always	1 MΩ or more	 LI-01274
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. Headlight System

A: WIRING DIAGRAM

Refer to “Headlight System” in the wiring diagram.

- Gasoline engine model: <Ref. to WI(w/o HEV)-138, WIRING DIAGRAM, Headlight System.>
- HEV model: <Ref. to WI(HEV)-136, WIRING DIAGRAM, Headlight System.>

B: INSPECTION

1. AUTO HEADLIGHT SYSTEM CHECK

	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 CURRENT DATA.** Using the Subaru Select Monitor, display the data of «Lighting AUTO input». NOTE: For detailed procedures, refer to “PC application help for Subaru Select Monitor”.	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 CURRENT DATA.** 1) Using the Subaru Select Monitor, display the data of «Illumination Sensor Output». 2) Measure the voltage when the area around the light control sensor, which was dark, becomes bright. ***Illumination sensor output*** ***Dark condition: Approx. 0.6 V or less*** ***Bright condition: Approx. 3.0 V or more***	Is the voltage output according to the brightness?	Check and replace the body integrated unit. • Inspection: <Ref. to BC(diag)-2, Basic Diagnostic Procedure.> • Replacement: <Ref. to SL-87, Body Integrated Unit.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the connectors from body integrated unit and light control sensor. 2) Check the harness between body integrated unit and light control sensor. ***Connector & terminal*** ***(B280) No. 19 — (i226) No. 2:*** ***(B280) No. 29 — (i226) No. 1:*** ***(B281) No. 1 — (i226) No. 3:***	Is harness normal?	Go to step **5**.	Repair or replace the harness.
5	**CHECK HARNESS.** 1) Connect the connector of body integrated unit. 2) Turn the ignition switch to ON. 3) Measure the voltage between light control sensor connector and chassis ground. ***Connector & terminal*** ***(i226) No. 3 (+) — Chassis ground (–):***	Is the voltage 4.5 — 5.5 V?	Go to step **6**.	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>
6	**CHECK BODY INTEGRATED UNIT.** Measure the resistance between the body integrated unit 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-87, Body Integrated Unit.>
7	**CHECK LIGHT CONTROL SENSOR.** 1) Connect the light control sensor connector. 2) Check the light control sensor. <Ref. to LI-28, INSPECTION, Light Control Sensor.>	Is the light control sensor normal?	Go to step **8**.	Replace the light control sensor.

	Step	Check	Yes	No
8	**CHECK COMBINATION SWITCH (LIGHT).** Check the combination switch (light). <Ref. to LI-24, 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 connectors of body integrated unit and combination switch (light). 2) Check the harness between body integrated unit and combination switch (light). ***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-87, Body Integrated Unit.>	Repair or replace the harness.

2. CHECK OF WELCOME LIGHTING SYSTEM (WELCOME LIGHT DOES NOT ILLUMINATE)

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT SETTING.** Display the data of «Welcome Light Off Delay Time(Approaching)» or «Welcome Light Off Delay Time(Exiting)» using the Subaru Select Monitor. NOTE: For detailed procedures, refer to “PC application help for Subaru Select Monitor”.	Is the setting ON?	Go to step **2**.	Turn the setting to ON.
2	**CHECK BODY INTEGRATED UNIT SETTING.** Display the data of «Illumination Sensor Setting» using Subaru Select Monitor.	Is the setting “ON”?	Go to step **3**.	Turn the setting to “ON”.
3	**CHECK AUTO HEADLIGHT.** 1) Set the lighting switch to AUTO position. 2) Make the light control sensor vicinity dark. 3) Turn the ignition to ON.	Do the parking light, tail and headlight illuminate?	Go to step **4**.	Check the auto headlight system. <Ref. to LI-7, AUTO HEADLIGHT SYSTEM CHECK, INSPECTION, Headlight System.>
4	**CHECK DOOR LOCK.** Operate the door lock using the keyless transmitter or the access key.	Do the lock and unlock operate properly?	Go to step **5**.	• Check keyless entry system. <Ref. to SL-22, INSPECTION, Keyless Entry System.> • Check the keyless access with push button start system. <Ref. to KPS(diag)-2, Basic Diagnostic Procedure.>
5	**CHECK BODY INTEGRATED UNIT.** 1) Display the data of «IG power supply voltage» using Subaru Select Monitor. 2) Turn the ignition to ON.	Is the voltage 10 — 15 V?	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>	Repair or replace the harness.

3. CHECK OF WELCOME LIGHTING SYSTEM (WELCOME LIGHT REMAINS ON)

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT SETTING.** Display the data of «Welcome Light Off Delay Time(Approaching)» or «Welcome Light Off Delay Time(Exiting)» using the Subaru Select Monitor. NOTE: For detailed procedures, refer to "PC application help for Subaru Select Monitor".	Is the illumination time setting correct?	Go to step **2**.	Set the illumination time.
2	**CHECK THE LIGHTS.** Set the lighting switch to the switch 1 (TAIL) and switch 2 (HEAD).	Do the parking light, tail light and headlight illuminate?	Go to step **3**.	Check the combination switch (light) and each light circuit.
3	**CHECK BODY INTEGRATED UNIT.** Using the Subaru Select Monitor, display the data of «Driver's door SW input».	Does the display switch between OFF ←→ ON when driver's door is opened/closed?	Go to step **4**.	Check the door switch. <Ref. to SL-25, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
4	**CHECK DOOR LOCK.** Operate the door lock using the keyless transmitter or the access key.	Do the lock and unlock operate properly?	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>	• Check keyless entry system. <Ref. to SL-22, INSPECTION, Keyless Entry System.> • Check the keyless access with push button start system. <Ref. to KPS(diag)-2, Basic Diagnostic Procedure.>

4. CHECK LIGHTING SWITCH

Refer to the "INSPECTION" of the "Combination Switch (Light)". <Ref. to LI-24, INSPECTION, Combination Switch (Light).>

5. CHECK DIMMER & PASSING SWITCH

Refer to the "INSPECTION" of the "Combination Switch (Light)". <Ref. to LI-24, 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-29, Headlight Assembly.>
- Headlight bulb: <Ref. to LI-36, Headlight Bulb.>
- Combination switch (light): <Ref. to LI-21, Combination Switch (Light).>
- Light control sensor: <Ref. to LI-27, Light Control Sensor.>

4. Day Time Running Light System

A: WIRING DIAGRAM

Refer to “Headlight System” in the wiring diagram.
- Gasoline engine model: <Ref. to WI(w/o HEV)-138, WIRING DIAGRAM, Headlight System.>
- HEV model: <Ref. to WI(HEV)-136, WIRING DIAGRAM, Headlight System.>

B: INSPECTION

1. DAYTIME RUNNING LIGHT SYSTEM CHECK

	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition to OFF. 2) Check the headlight HI fuse.	Is the fuse OK?	Go to step **2**.	Replace the fuse.
2	**CHECK RELAY.** Check the daytime running light relay and headlight HI relay.	Is the relay OK?	Go to step **3**.	Replace the relay.
3	**CHECK BODY INTEGRATED UNIT.** Read the DTC of body integrated unit using Subaru Select Monitor. NOTE: For detailed procedures, refer to “PC application help for Subaru Select Monitor”.	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **4**.
4	**CHECK CURRENT DATA.** Display the following items using Subaru Select Monitor. • «Parking Brake Switch Input» • «Shift position» • «Lighting II Switch Input»	Is the input signal normal?	Go to step **5**.	Check the defective part.
5	**CHECK HEADLIGHT ILLUMINATION.** 1) Turn the ignition to ON. 2) Turn the lighting switch to the switch II (HEAD) position. 3) Turn the dimmer & passing switch to the switch UP position.	Does the headlight (high beam) illuminate?	Go to step **6**.	Check the combination switch (light) and headlight bulb.
6	**CHECK DAYTIME RUNNING LIGHT RESISTOR.** 1) Turn the ignition to OFF. 2) Check the daytime running light resistor. <Ref. to LI-97, INSPECTION, Day Time Running Resistor.>	Does the daytime running light resistor normal?	Go to step **7**.	Replace the daytime running light resistor.
7	**CHECK HARNESS.** 1) Disconnect the connectors of body integrated unit, daytime running light relay, daytime running light resistor, and headlight. 2) Check each harness.	Is harness normal?	Replace the body integrated unit. <Ref. to SL-87, 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-29, Headlight Assembly.>
- Headlight bulb: <Ref. to LI-36, Headlight Bulb.>
- Combination switch (light): <Ref. to LI-21, Combination Switch (Light).>
- Daytime running resistor: <Ref. to LI-96, 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.

- Gasoline engine model: <Ref. to WI(w/o HEV)-68, WIRING DIAGRAM, Clearance Light and Illumination Light System.>
- HEV model: <Ref. to WI(HEV)-70, WIRING DIAGRAM, Clearance Light and Illumination Light System.>

B: INSPECTION

1. CHECK LIGHTING SWITCH

Refer to the “INSPECTION” of the “Combination Switch (Light)”. <Ref. to LI-24, 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-21, Combination Switch (Light).>
- Parking light bulb: <Ref. to LI-49, Clearance/Parking Light Bulb.>
- Front side marker light bulb: <Ref. to LI-51, Front Side Marker Light Bulb.>
- Rear combination light assembly: <Ref. to LI-60, Rear Combination Light Assembly.>
- Tail light/stop light bulb: <Ref. to LI-63, Tail/Stop Light Bulb.>
- Rear side marker light bulb: <Ref. to LI-69, Rear Side Marker Light Bulb.>
- License plate light: <Ref. to LI-74, License Plate Light.>
- Ignition switch illumination: <Ref. to LI-90, Ignition Switch Illumination.>

6. Front Fog Light System

A: WIRING DIAGRAM

Refer to “Front Fog Light System” in the wiring diagram.

- Gasoline engine model
  Model without SRF: <Ref. to WI(w/o HEV)-131, WITHOUT SRF, WIRING DIAGRAM, Front Fog Light System.>
  Model with SRF: <Ref. to WI(w/o HEV)-132, WITH SRF, WIRING DIAGRAM, Front Fog Light System.>
- HEV model: <Ref. to WI(HEV)-129, WIRING DIAGRAM, Front Fog Light System.>

B: INSPECTION

1. CHECK FRONT FOG LIGHT SWITCH

Refer to the “INSPECTION” of the “Combination Switch (Light)”. <Ref. to LI-24, 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-21, Combination Switch (Light).>
- Front fog light assembly: <Ref. to LI-53, Front Fog Light Assembly.>
- Front fog light bulb: <Ref. to LI-57, 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.

- Gasoline engine model: <Ref. to WI(w/o HEV)-219, WIRING DIAGRAM, Turn Signal Light and Hazard Light System.>
- HEV model: <Ref. to WI(HEV)-213, WIRING DIAGRAM, Turn Signal Light and Hazard Light System.>

B: INSPECTION

1. CHECK TURN SIGNAL SWITCH

Refer to the “INSPECTION” of the “Combination Switch (Light)”. <Ref. to LI-24, INSPECTION, Combination Switch (Light).>

2. CHECK HAZARD SWITCH

Refer to the “INSPECTION” of the “Hazard Switch”. <Ref. to LI-44, INSPECTION, Hazard Switch.>

3. CHECK TURN SIGNAL AND HAZARD MODULE

Refer to “INSPECTION” of the “Turn Signal Light and Hazard Light System”. <Ref. to LI-45, INSPECTION, Turn Signal Light & Hazard Light Module.>

4. CHECK ONE-TOUCH TURN SIGNAL SYSTEM

	Step	Check	Yes	No
1	**CHECK CUSTOMIZATION.** Display the data of «Lane change signal setting» and «One-touch Turn Signal System Setup» using Subaru Select Monitor. NOTE: For detailed procedures, refer to “PC application help for Subaru Select Monitor”.	Is the setting “Support” and “ON”?	Go to step **2**.	Change the setting to “Support” and “ON”.
2	**CHECK CURRENT DATA.** 1) Turn the ignition to ON. 2) Display the data of «Left turn signal input» and «Right turn signal input» using Subaru Select Monitor.	Does the display change to OFF ←→ ON, when the combination switch is operated?	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>	Go to step **3**.
3	**CHECK HARNESS.** 1) Turn the ignition to OFF. 2) Disconnect the connectors of the body integrated unit and turn signal & hazard unit. 3) Check the harness between body integrated unit and turn signal & hazard unit. ***Connector & terminal*** ***(B281) No. 21 — (B32) No. 5:*** ***(B281) No. 9 — (B32) No. 6:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK HARNESS.** Measure the resistance between the body integrated unit connector and chassis ground. ***Connector & terminal*** ***(B281) No. 21 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:*** NOTE: Check with the combination switch in the OFF position.	Is the resistance 1 MΩ or more?	Go to step **5**.	Repair or replace the harness.
5	**CHECK HARNESS.** 1) Disconnect the connector of the combination switch. 2) Measure the resistance between the combination switch connector and chassis ground. ***Connector & terminal*** ***(B71) No. 12 — Chassis ground:***	Is the resistance less than 1 Ω?	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>	Repair or replace the harness.

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-21, Combination Switch (Light).>
- Front turn signal light bulb: <Ref. to LI-47, Front Turn Signal Light Bulb.>
- Side turn signal light assembly: <Ref. to LI-59, Side Turn Signal Light Assembly.>
- Rear combination light assembly: <Ref. to LI-60, Rear Combination Light Assembly.>
- Rear turn signal light bulb: <Ref. to LI-66, Rear Turn Signal Light Bulb.>
- Hazard switch: <Ref. to LI-44, Hazard Switch.>
- Turn signal and hazard module: <Ref. to LI-45, Turn Signal Light & Hazard Light Module.>

8. Back-up Light System

A: WIRING DIAGRAM

Refer to “Back-up Light System” in the wiring diagram. <Ref. to WI(w/o HEV)-64, WIRING DIAGRAM, Back-up Light System.>

- Gasoline engine model: <Ref. to WI(w/o HEV)-64, WIRING DIAGRAM, Back-up Light System.>
- HEV model: <Ref. to WI(HEV)-64, WIRING DIAGRAM, Back-up Light System.>

B: INSPECTION

1. CHECK BACK-UP LIGHT SWITCH (MT MODEL)

Refer to “INSPECTION” of the “Switches and Harness” in “MANUAL TRANSMISSION AND DIFFERENTIAL” section. <Ref. to 5MT-36, BACK-UP LIGHT SWITCH, INSPECTION, Switches and Harness.>

2. CHECK INHIBITOR SWITCH (CVT MODEL)

Refer to “INSPECTION” of the “Inhibitor Switch” in “CONTINUOUSLY VARIABLE TRANSMISSION” section.

- Gasoline engine model: <Ref. to CVT(TR580)-96, INSPECTION, Inhibitor Switch.>
- HEV model: <Ref. to CVT(TH58A)-97, INSPECTION, Inhibitor Switch.>

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-60, Rear Combination Light Assembly.>
- Back-up light bulb: <Ref. to LI-71, Back-up Light Bulb.>

9. Stop Light System

A: WIRING DIAGRAM

Refer to “Stop Light System” in the wiring diagram.

- Gasoline engine model

4 door model (without EyeSight): <Ref. to WI(w/o HEV)-211, 4 DOOR MODEL (WITHOUT EyeSight), WIRING DIAGRAM, Stop Light System.>
4 door model (with EyeSight): <Ref. to WI(w/o HEV)-212, 4 DOOR MODEL (WITH EyeSight), WIRING DIAGRAM, Stop Light System.>
5 door model / XV model (without EyeSight): <Ref. to WI(w/o HEV)-214, 5 DOOR MODEL (WITHOUT EyeSight), WIRING DIAGRAM, Stop Light System.>
5 door model / XV model (with EyeSight): <Ref. to WI(w/o HEV)-215, 5 DOOR MODEL (WITH EyeSight), WIRING DIAGRAM, Stop Light System.>

- HEV model: <Ref. to WI(HEV)-210, WIRING DIAGRAM, Stop Light System.>

B: INSPECTION

1. CHECK STOP LIGHT SWITCH

Refer to “INSPECTION” of the “Stop Light Switch” in “BRAKE” section. <Ref. to BR-76, INSPECTION, Stop Light Switch.>

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-60, Rear Combination Light Assembly.>
- Tail light/stop light bulb: <Ref. to LI-63, Tail/Stop Light Bulb.>
- High-mounted stop light: <Ref. to LI-76, High-mounted Stop Light.>

10.Interior Light System

A: WIRING DIAGRAM

Refer to “Interior Light System” in the wiring diagram.

- Gasoline engine model

Model without EyeSight: <Ref. to WI(w/o HEV)-147, WITHOUT EyeSight, WIRING DIAGRAM, Interior Light System.>
Model with EyeSight: <Ref. to WI(w/o HEV)-150, WITH EyeSight, WIRING DIAGRAM, Interior Light System.>

- HEV model: <Ref. to WI(HEV)-155, WIRING DIAGRAM, Interior Light System.>

B: INSPECTION

1. CHECK DOOR SWITCH

Refer to the “INSPECTION” of the “Door Switch”. <Ref. to LI-99, INSPECTION, Door Switch.>

2. CHECK REAR GATE LATCH SWITCH

Refer to “INSPECTION” of the “Rear Gate Latch and Actuator Assembly” in “SECURITY AND LOCKS” section. <Ref. to SL-57, ACTUATOR, INSPECTION, Rear Gate Latch and Actuator Assembly.>

3. CHECK TRUNK LID LATCH SWITCH

Refer to “INSPECTION” of the “Trunk Lid Latch and Actuator Assembly” in “SECURITY AND LOCKS” section. <Ref. to SL-59, ACTUATOR, INSPECTION, 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-80, Spot Map Light.>
- Room light: <Ref. to LI-82, Room Light.>
- Luggage room light: <Ref. to LI-84, Luggage Room Light.>
- Trunk room light: <Ref. to LI-86, Trunk Room Light.>
- Glove box light: <Ref. to LI-88, Glove Box Light.>
- Door switch: <Ref. to LI-99, Door Switch.>

11.Auto Headlight Beam Leveler System

A: WIRING DIAGRAM

Refer to “Headlight Beam Leveler System” in the wiring diagram.

- Gasoline engine model: <Ref. to WI(w/o HEV)-136, WIRING DIAGRAM, Headlight Beam Leveler System.>
- HEV model: <Ref. to WI(HEV)-134, WIRING DIAGRAM, Headlight Beam Leveler System.>

B: SPECIFICATION

1. AUTO HEADLIGHT BEAM LEVELER CM

Refer to “Control Module I/O Signal” of “AUTO HEADLIGHT BEAM LEVELER SYSTEM (DIAGNOSTICS)” section. <Ref. to AL(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

C: INSPECTION

Refer to “Basic Diagnostic Procedure” of “AUTO HEADLIGHT BEAM LEVELER SYSTEM (DIAGNOSTICS)” section. <Ref. to AL(diag)-2, Basic Diagnostic Procedure.>

D: PROCEDURE

When parts related to the auto headlight beam leveler system are removed or replaced, perform the following procedures to initialize or reinitialize.

NOTE:
Before performing initialization or reinitialization, check the following:
- Vehicle is parked on a level surface.
- The inflation pressure of tires is correct.
- Unload any cargo from the vehicle.
- Vehicle's fuel tank is fully filled.
- Refer to the following chart to determine whether to initialize or reinitialize.

Initialization	When the auto headlight beam leveler CM was replaced with a new module.
Reinitialization	• When the auto headlight beam leveler CM was replaced with a part from another vehicle. • When suspension parts have been removed or replaced. (Crossmember, front arm, sub frame, lateral link, housing, strut etc.) • When the vehicle height sensor has been replaced or removed.

CAUTION:
If the indicator does not flash three times or the headlight beam does not operate, it can be assumed that there is an open circuit or faulty wiring in the harness of the auto headlight beam leveler CM, vehicle height sensors or headlight assembly. Perform inspection and repair according to the inspection results, then perform initialization/reinitialization again.
- **Initialization: <Ref. to LI-20, INITIALIZATION, PROCEDURE, Auto Headlight Beam Leveler System.>**
- **Reinitialization: <Ref. to LI-20, REINITIALIZATION, PROCEDURE, Auto Headlight Beam Leveler System.>**

1. INITIALIZATION

1) Check that the indicator in the meter is flashing twice repeatedly.
2) Bounce the vehicle several times to normalize the suspension.
3) Make certain that someone is seated in the driver's seat.
4) Turn the ignition switch to ON, and within 1.5 — 20 seconds, turn the headlight switch OFF → ON for three successive times.
5) Make sure that the indicator in the meter flashes three times and then turns OFF, indicating that initialization has been successfully completed. (At this time, the headlight beam drops once, and then returns to the original position.)
6) Perform beam adjustment for the headlight. <Ref. to LI-34, ADJUSTMENT, Headlight Assembly.>

2. REINITIALIZATION

1) Bounce the vehicle several times to normalize the suspension.
2) Make certain that someone is seated in the driver's seat.
3) Turn the ignition switch to ON, and, within 1.5 — 10 seconds, turn the headlight switch OFF → ON five or more successive times.
4) Check that the headlight beam drops once, then returns to normal.
5) After confirming 4), turn the ignition switch to OFF within 30 seconds.
6) Turn the ignition switch to ON again, and, within 1.5 — 10 seconds, turn the headlight switch OFF → ON five or more successive times.
7) Make sure that the indicator in the meter flashes three times and then turns OFF, indicating that reinitialization has been successfully completed. (At this time, the headlight beam drops once, and then returns to the original position.)
8) Perform beam adjustment for the headlight. <Ref. to LI-34, ADJUSTMENT, Headlight Assembly.>

E: NOTE

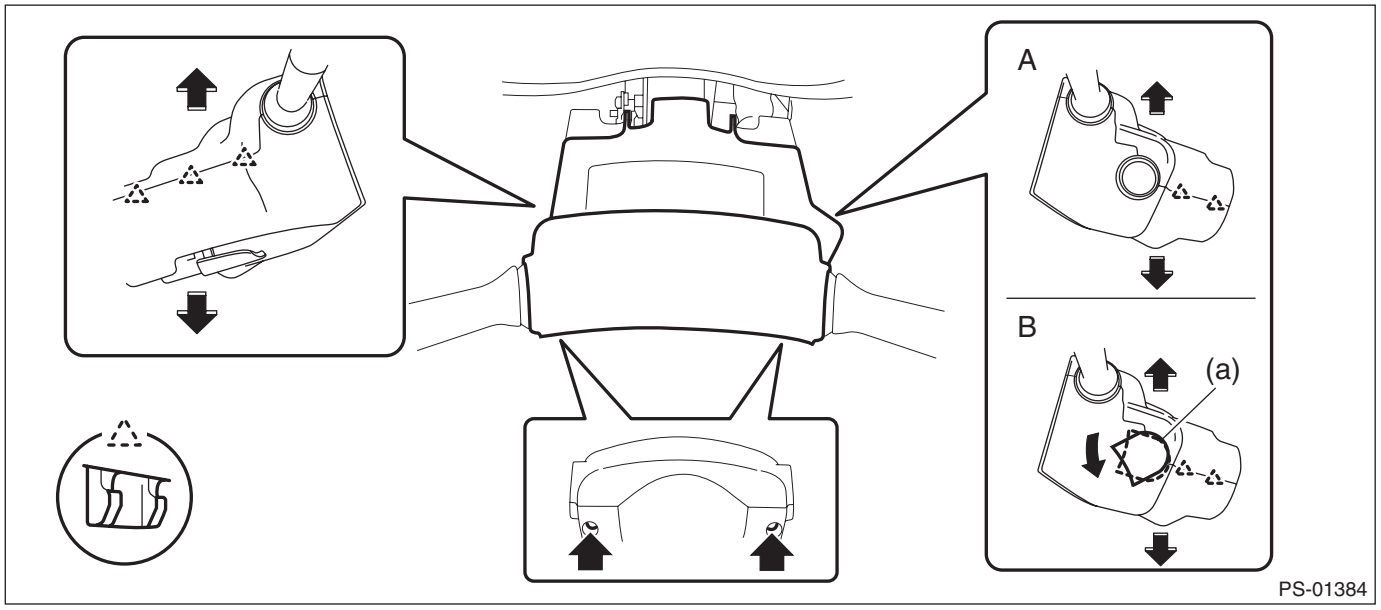
For operation procedures of each component of the auto headlight beam leveler system, refer to the respective section.
- Auto headlight beam leveler CM: <Ref. to LI-92, Auto Headlight Beam Leveler Control Module.>
- Vehicle height sensor: <Ref. to LI-94, Rear Height Sensor.>

12.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. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
4) Remove the driver's airbag module. <Ref. to AB-32, REMOVAL, Driver's Airbag Module.>
5) Remove the steering wheel. <Ref. to PS-8, REMOVAL, Steering Wheel.>
6) Remove the cover assembly - column.
   (1) Release the screws and claws.
   (2) Remove the cap - key cylinder (a). (Model with keyless access with push button start)
   (3) Release the claw, and remove the cover assembly - column UPR and the cover assembly - column LWR.

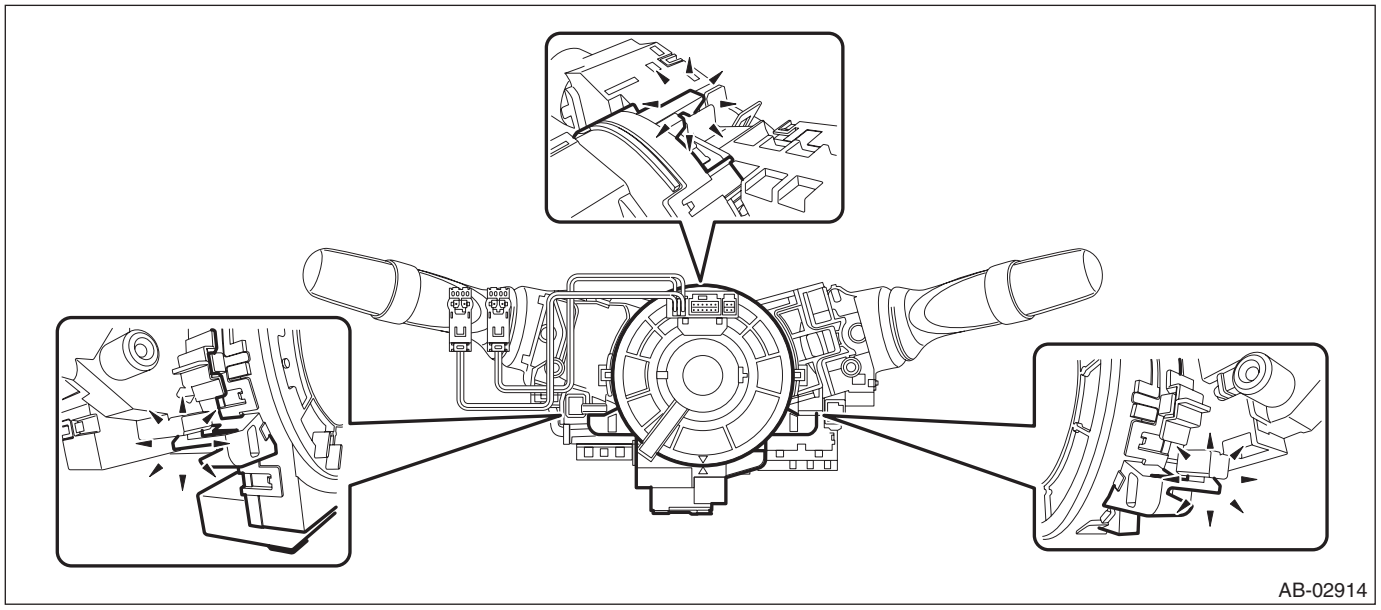


A Model without keyless access with push button start
B Model with keyless access with push button start

7) Remove the steering roll connector.

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

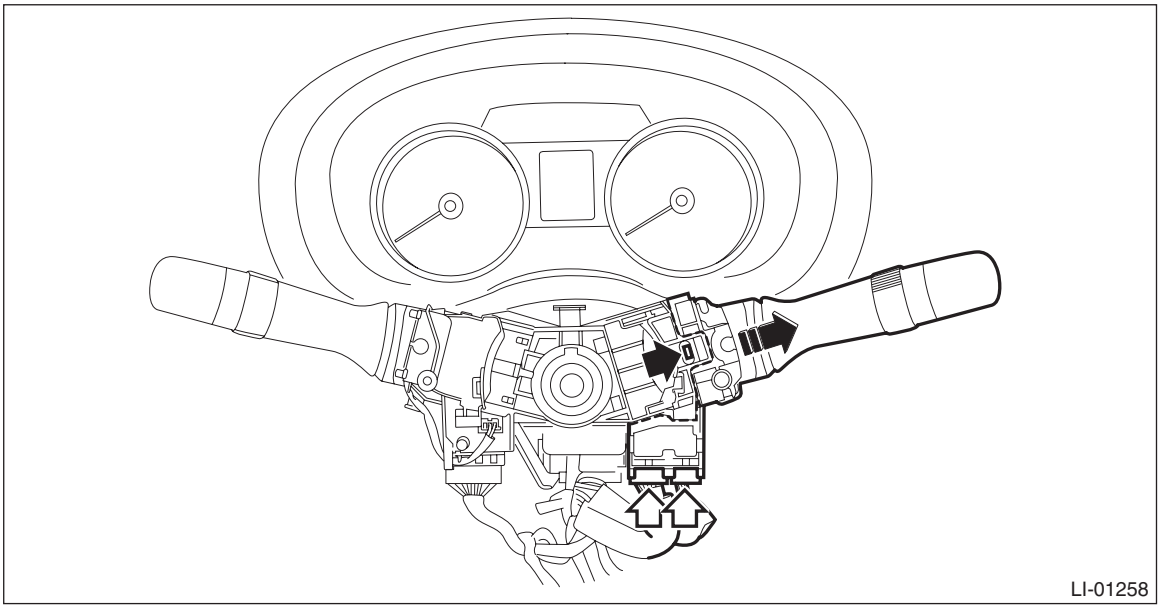
(1) Disconnect the connector under the steering roll connector.
(2) Release the claws and remove the steering roll connector.



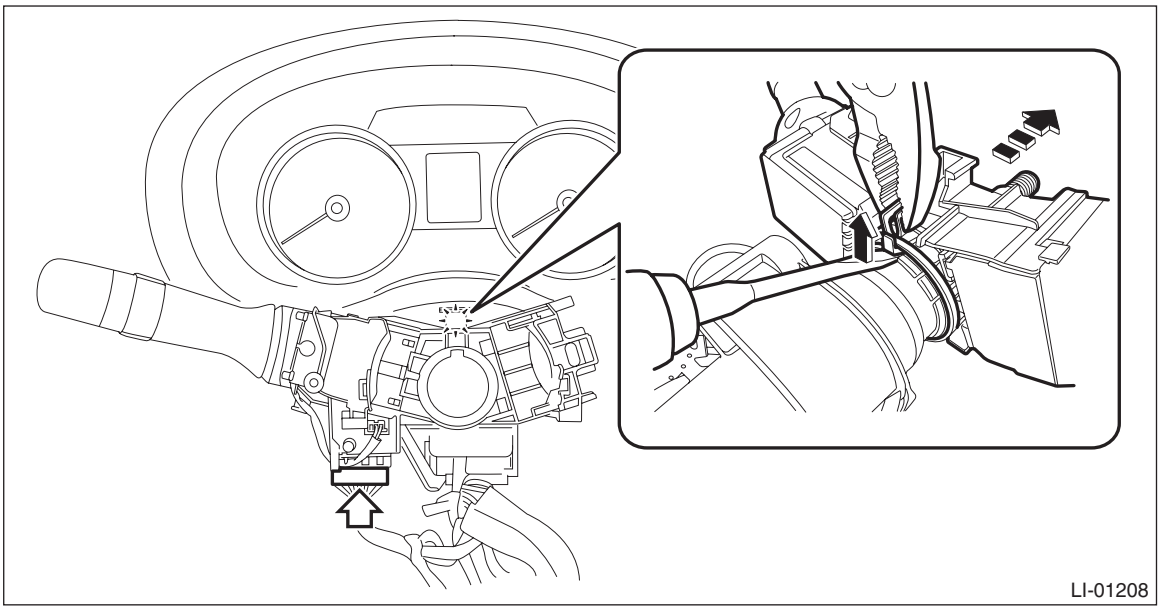
8) Remove the switch assembly - combination wiper select.

(1) Disconnect the connector.
(2) Release the claws, and pull out the switch assembly - combination wiper select.

CAUTION:
Do not press the claws with excessive force. They may be damaged.



9) Remove the switch assembly - combination turn dimmer.
(1) Disconnect the connector, and loosen the clamp to release the claws.
(2) Pull out the switch assembly - combination turn dimmer from the column assembly - steering.



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, perform the VDC setting mode. <Ref. to VDC-26, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>

1) Before installing steering wheel, be sure to adjust the direction of steering roll connector with steering wheel. <Ref. to AB-98, ADJUSTMENT, Roll Connector.>
2) Install each part in the reverse order of removal.

NOTE:
Align the alignment marks on the steering wheel and the column assembly - steering.

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

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

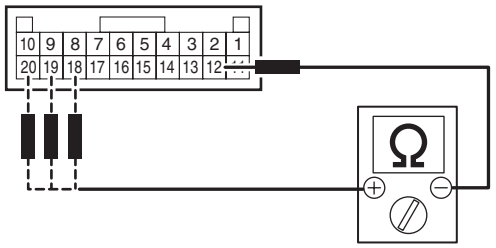
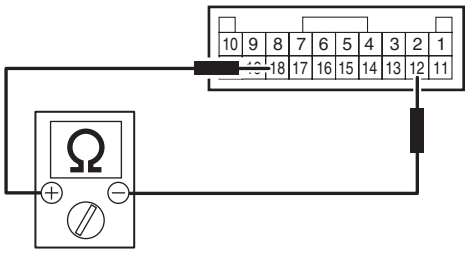
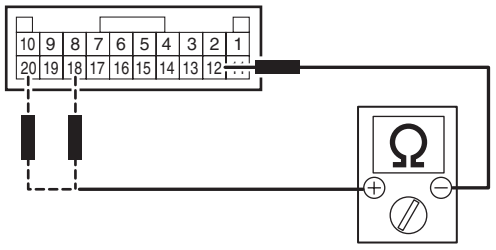
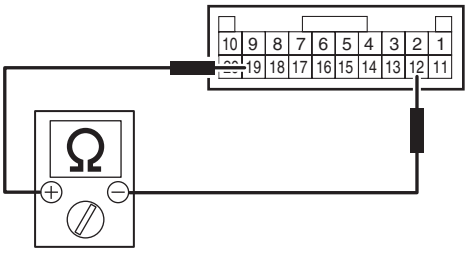
C: INSPECTION

UNIT INSPECTION

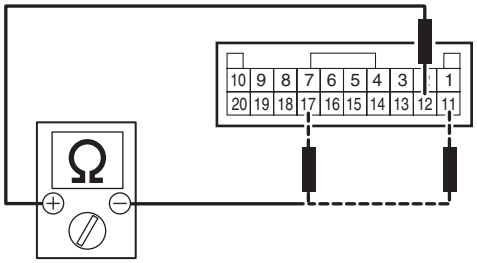
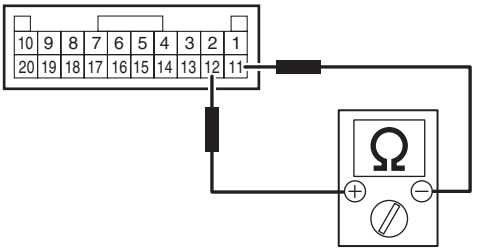
Preparation tool:
Circuit tester

1) Check the resistance between switch terminals.

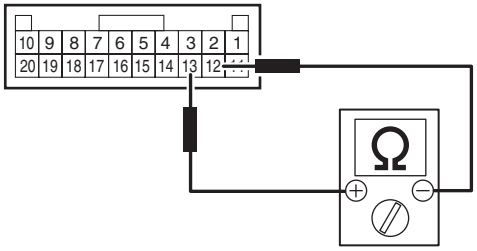
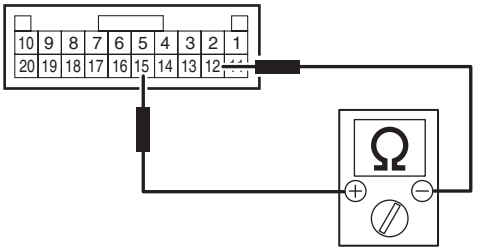
- Lighting switch

Terminal No.	Inspection conditions	Standard	Connection diagram
18, 19, 20 — 12	Switch OFF	1 MΩ or more	 LI-01685
18 — 12	Switch 1 (TAIL)	Less than 1 Ω	 LI-01244
20, 18 — 12	Switch 2 (HEAD)	Less than 1 Ω	 LI-01245
19 — 12	Switch AUTO	Less than 1 Ω	 LI-01246

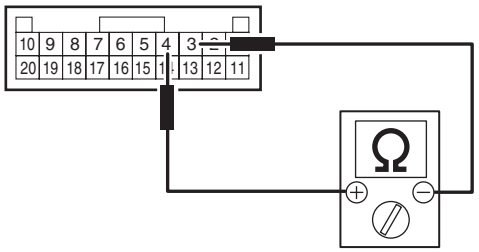
- Dimmer & passing switch

Terminal No.	Inspection conditions	Standard	Connection diagram
11, 17 — 12	Switch PASS	Less than 1 Ω	 LI-01247
11 — 12	Switch UP	Less than 1 Ω	 LI-01248

- Turn signal switch

Terminal No.	Inspection conditions	Standard	Connection diagram
13 — 12	Switch TURN (RH)	Less than 1 Ω	 LI-01249
15 — 12	Switch TURN (LH)	Less than 1 Ω	 LI-01250

- Front fog light switch

Terminal No.	Inspection conditions	Standard	Connection diagram
4 — 3	Switch OFF	1 MΩ or more	
	Switch ON	Less than 1 Ω	

2) Replace the switch assembly - combination turn dimmer if the inspection result is not within the standard value.

13.Light Control Sensor

A: REMOVAL

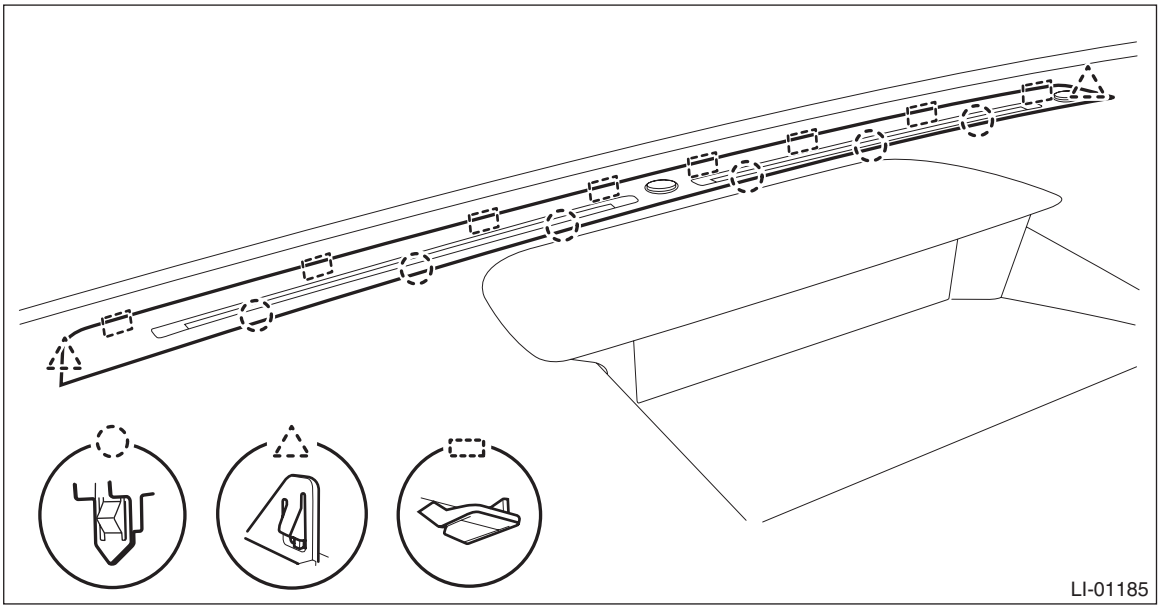
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

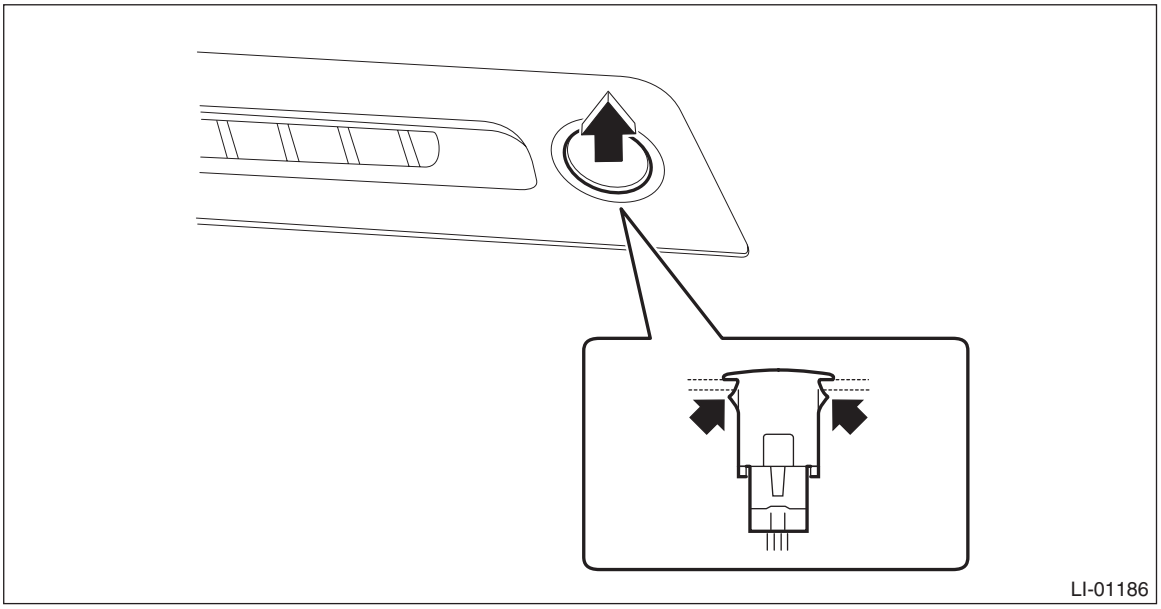
2) Remove the sensor - automatic light.

CAUTION:
Be careful not to damage the sensors and interior trims when removing.

(1) Release the connector and claws, and remove the panel COMPL - instrument UPR.



(2) Release the claws, and remove the sensor - automatic light from the panel COMPL - instrument UPR.



B: INSTALLATION

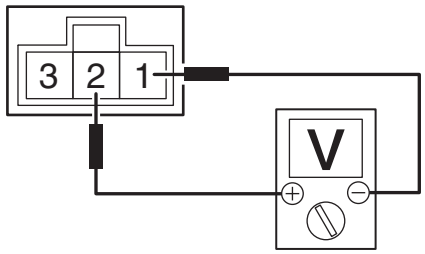
Install each part in the reverse order of removal.

C: INSPECTION

UNIT INSPECTION

Preparation tool:
Circuit tester

1) Turn the ignition switch to ON.
2) Set the lighting switch to AUTO position.
3) Check the voltage between the sensor terminals.

Terminal No.	Inspection conditions	Standard	Connection diagram
2 (+) — 1 (–)	Measure the voltage when the area around the sensor - automatic light, which was dark, becomes bright.	Dark condition: Approx. 0.6 V or less Bright condition: Approx. 3.0 V or more	 LI-01280

4) Replace the sensor - automatic light if the inspection result is not within the standard value.

14.Headlight Assembly

A: REMOVAL

CAUTION:
- **Do not perform work with wet hands, because there is a possibility of electrical shock.**
- **The HID type uses very high voltages for the lighting circuit. Make sure that the power supply is turned OFF before working.**

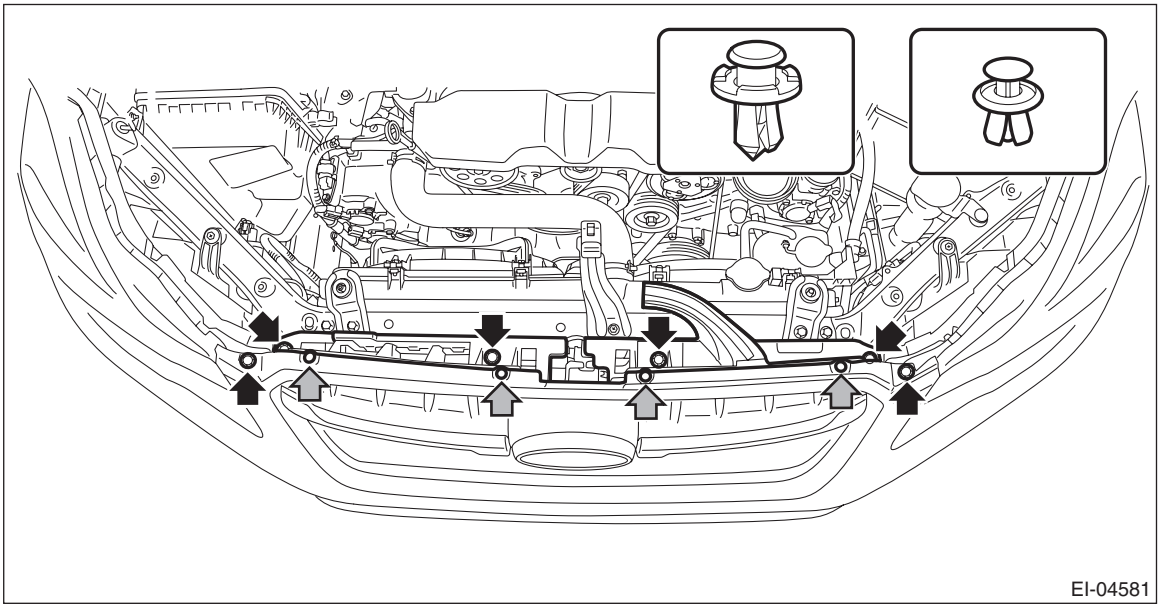
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the air intake duct. (When removing the right side of gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-13, REMOVAL, Air Intake Duct.>

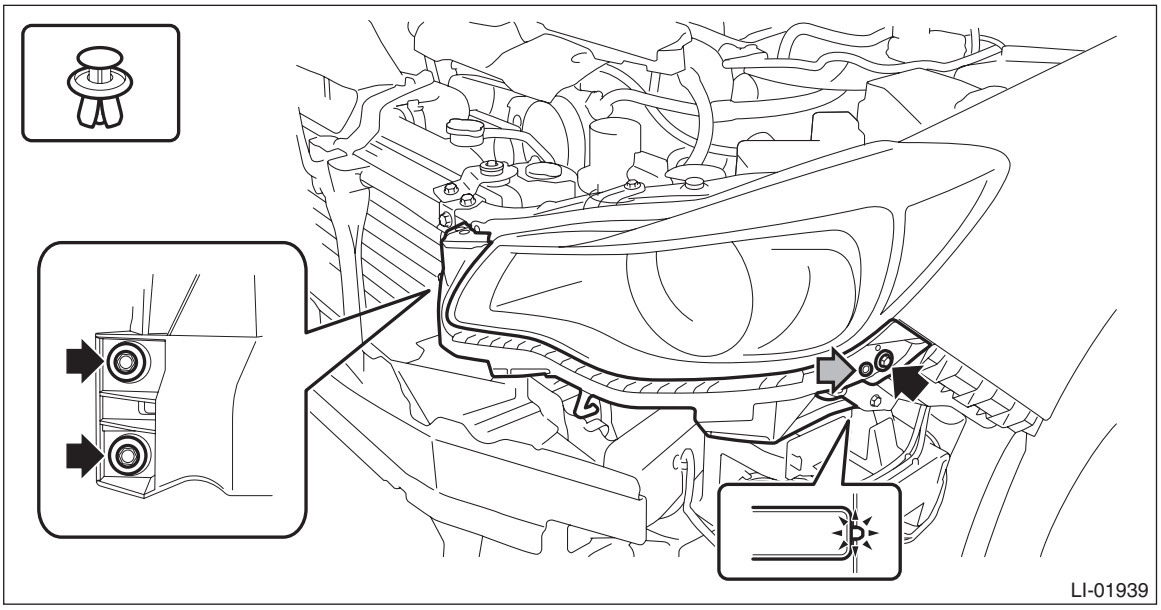
3) Remove the clip, and remove the bracket - grille.

CAUTION:
To prevent damage to the bracket - grille, make sure to remove all clips.

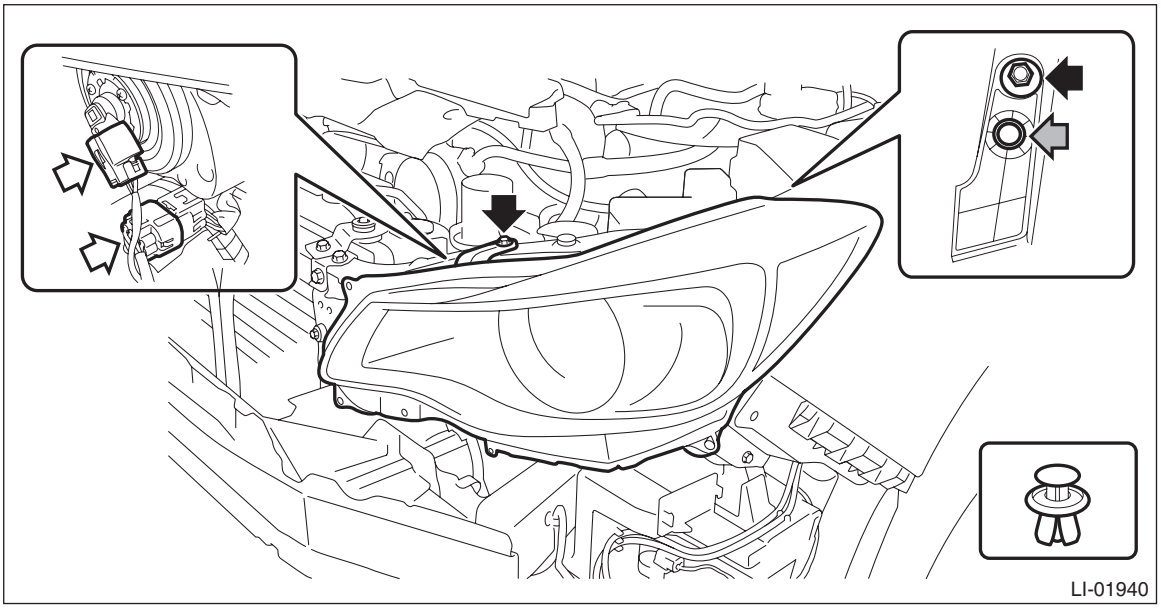


4) Remove the bumper face - front. <Ref. to EI-40, REMOVAL, Front Bumper.>

5) Remove the bolts and clips, and remove the bracket - front bumper corner.



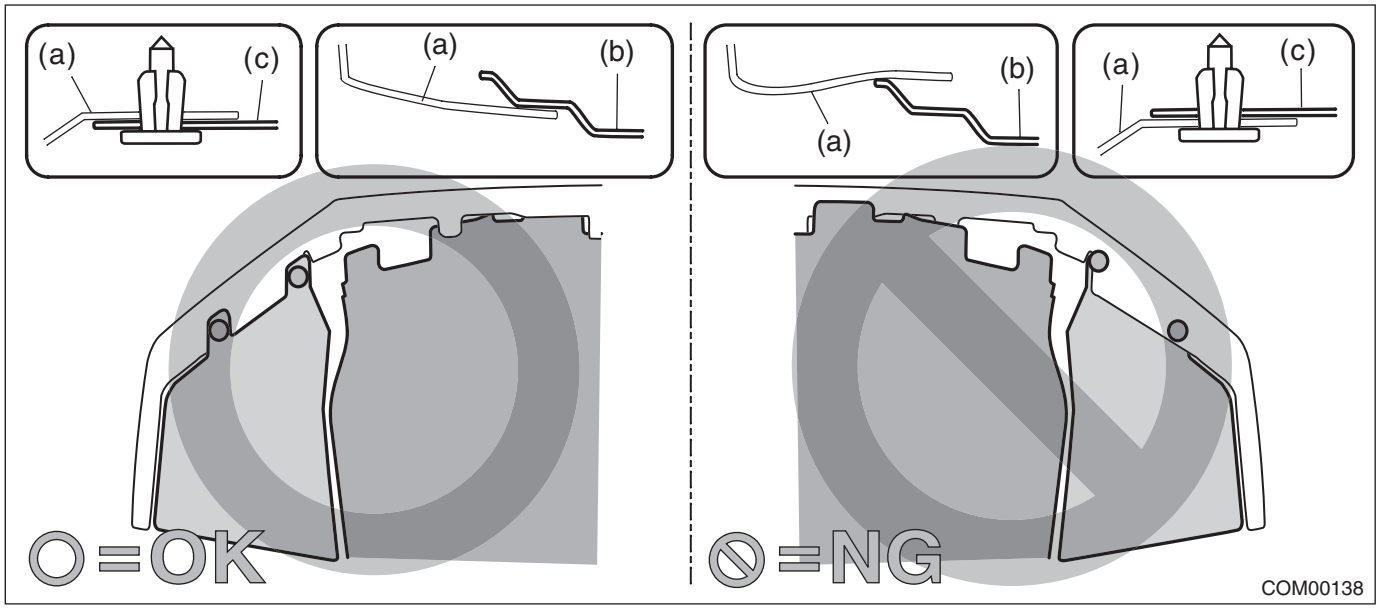
6) Remove the light assembly - head.
   (1) Disconnect the connector.
   (2) Remove the bolts and clips, and remove the light assembly - head.



B: INSTALLATION

1) Install each part in the reverse order of removal.
2) Secure the flange section of the bumper face - front to the bracket - front bumper side.

CAUTION:
Install so that the front end of the under cover (b) comes inside the bumper face - front (a), and the front end of the mud guard (c) comes outside the bumper face - front (a).



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

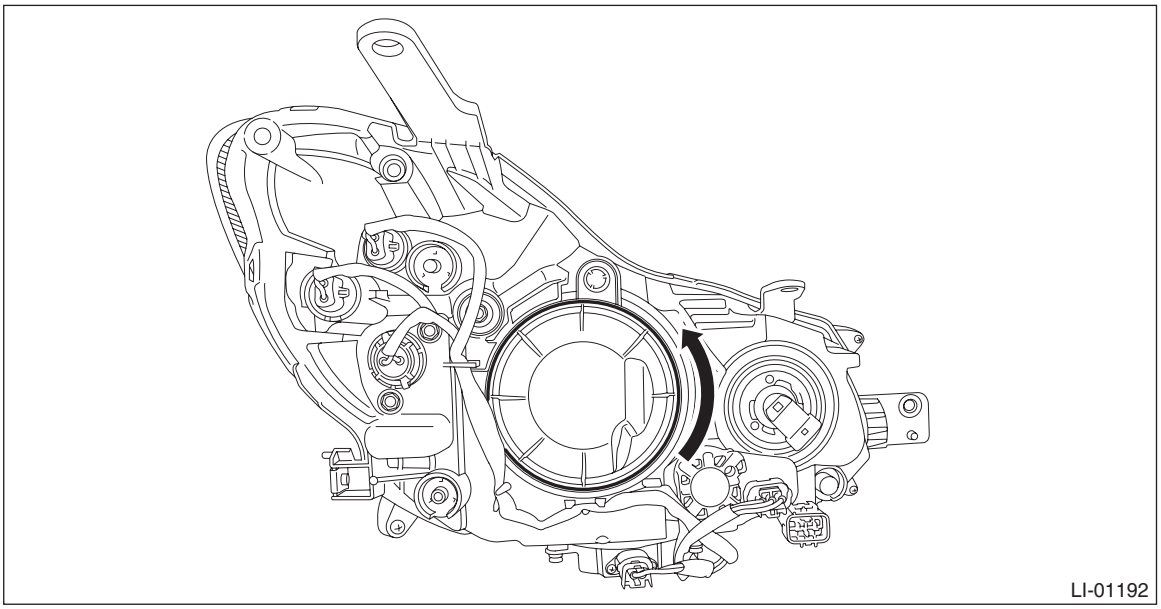
3) Adjust the headlight beam and fog light beam.
- Adjust the headlight beam. <Ref. to LI-34, HEADLIGHT BEAM ADJUSTMENT, ADJUSTMENT, Headlight Assembly.>
- Adjust the fog light beam. (Model with fog light) <Ref. to LI-55, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: DISASSEMBLY

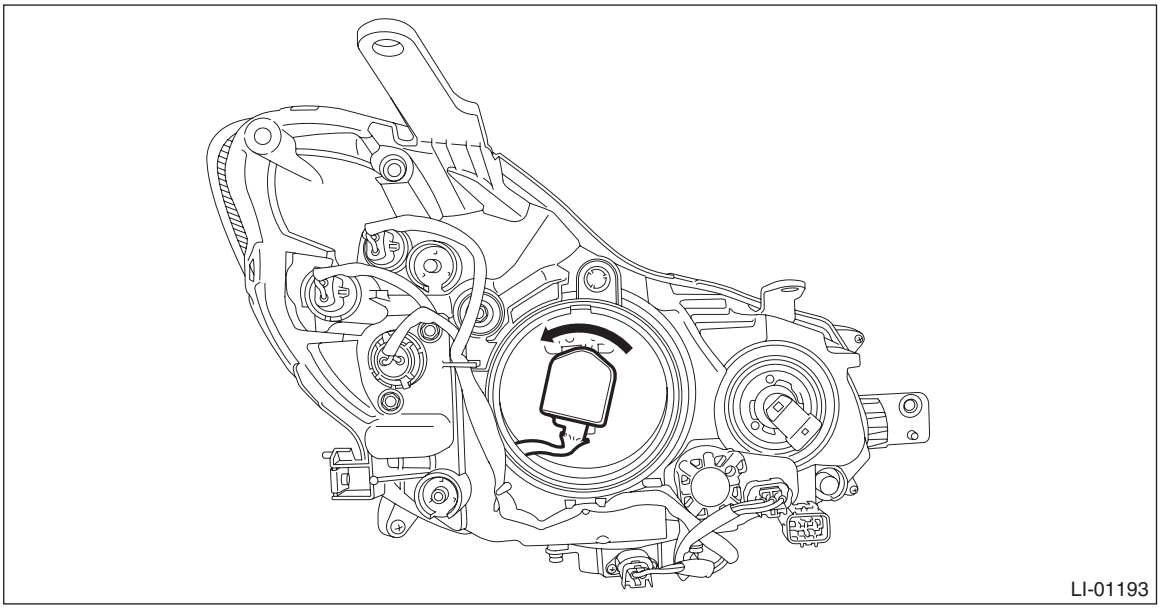
1. HID HEADLIGHT BALLAST

CAUTION:
Do not leave the light assembly - head without the ballast - headlight for a long time. Dust, moisture, etc. entering the light assembly - head may affect its performance.

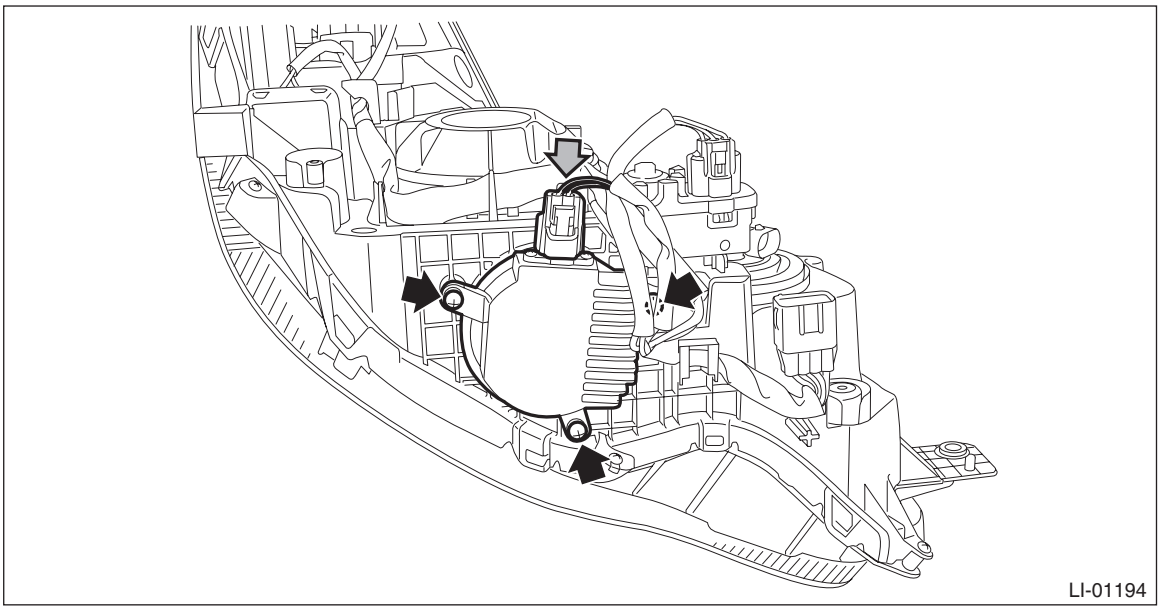
1) Remove the cover - headlight.



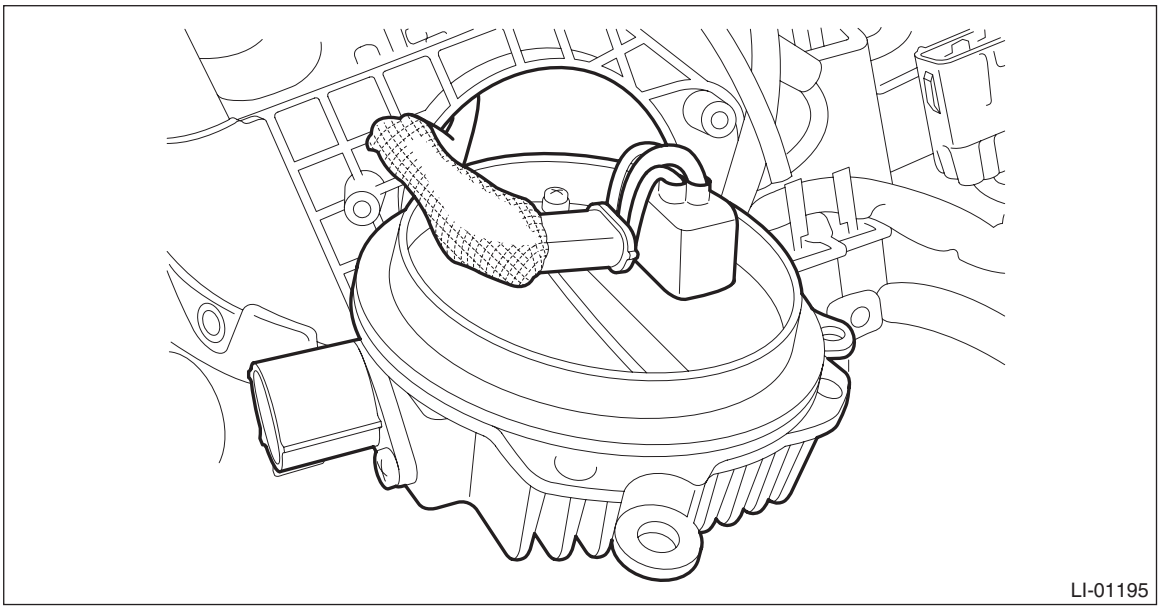
2) Disconnect the bulb socket.



3) Remove the ballast - headlight.
(1) Disconnect the connector.
(2) Remove the screws and remove the ballast - headlight.


LI-01194

(3) Guiding the bulb socket through the gap between housing and reflector, pull out the ballast - headlight.


LI-01195

D: ASSEMBLY

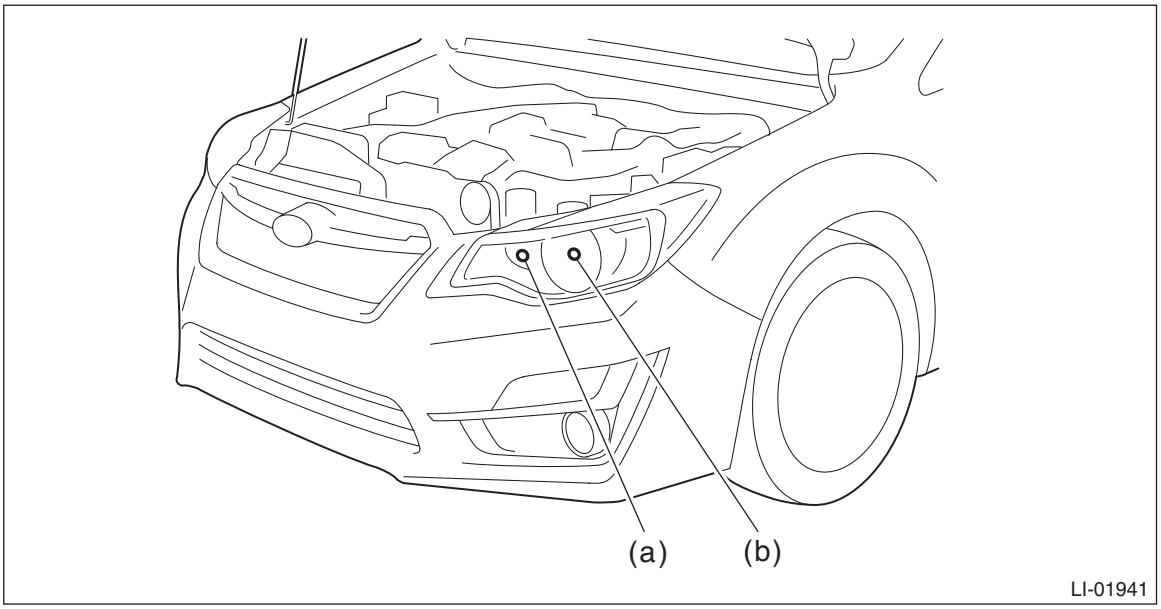
1. HID HEADLIGHT BALLAST

CAUTION:
When installing the ballast - headlight, be sure to install the gasket.
Assemble each part in the reverse order of disassembly.

E: ADJUSTMENT

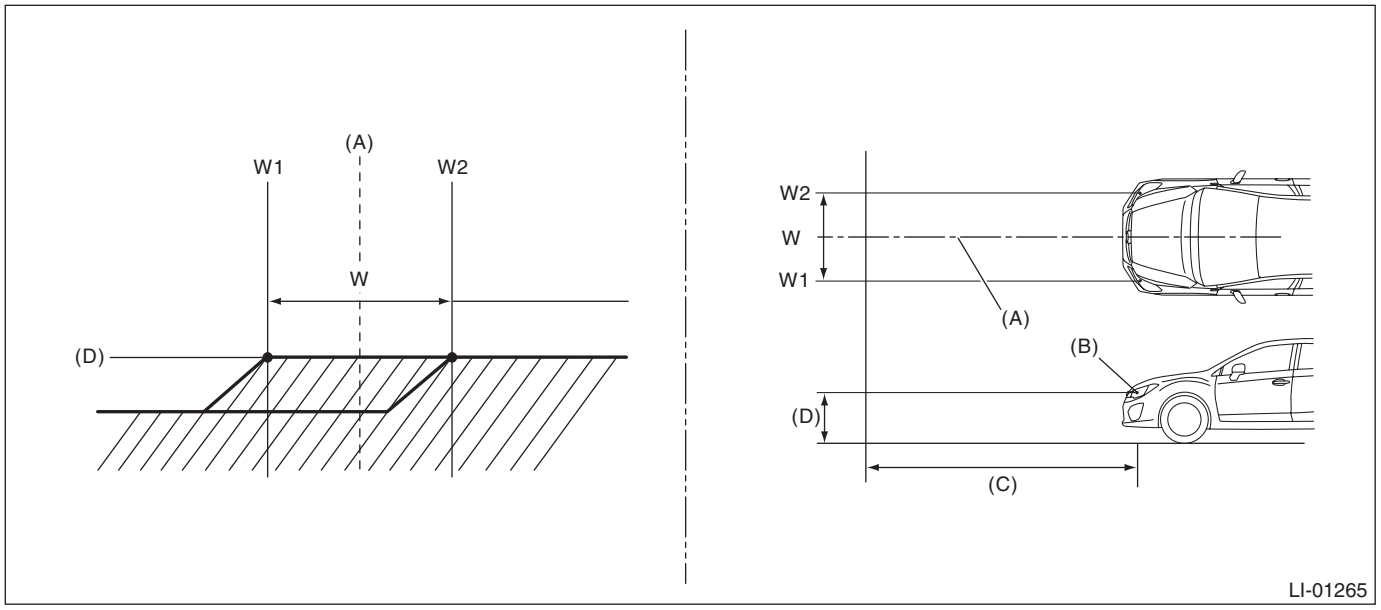
1. HEADLIGHT BEAM ADJUSTMENT

CAUTION:
• Turn off the light before adjusting the beam level of the light assembly - head. 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 beam level of the light assembly - head, be sure of the following:
• The area around the light assembly - head has not sustained any scratches, damage or other type of deformation.
• The vehicle is parked on a level surface.
• The inflation pressure of tires is correct.
• The vehicle does not have load.
• 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

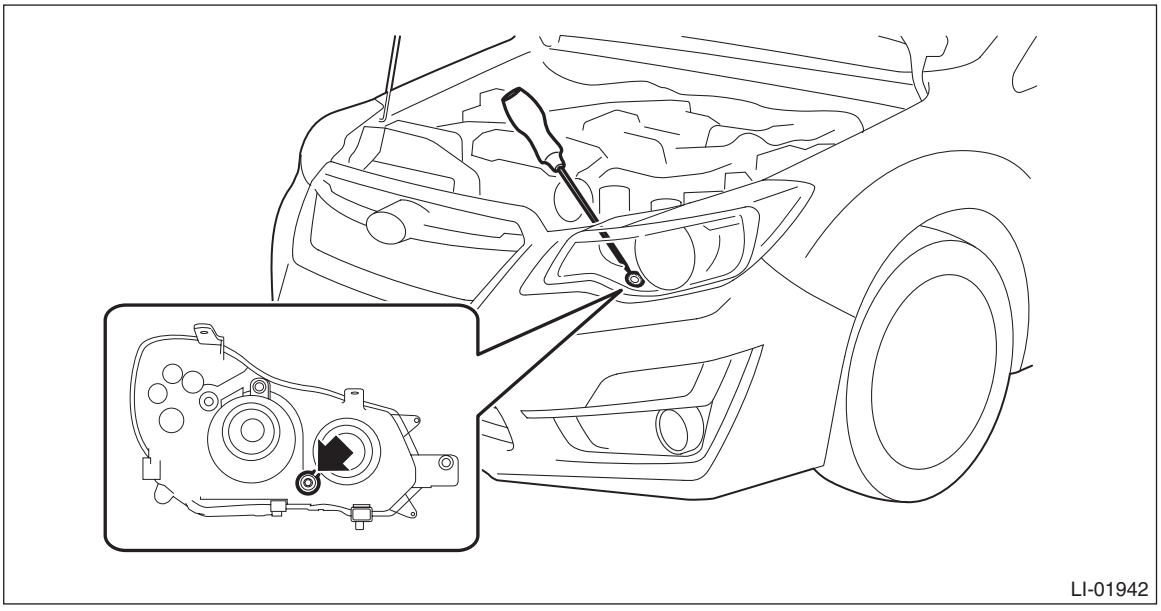
5) Adjust the beam level of the light assembly - head.
(1) Place the vehicle with the front end facing to the measurement panel, then illuminate the low beam.



(A) Vehicle center
(B) Bulb center marking
(C) 3 m (10 ft)
(D) Height of headlight center

W mm (in)
1,281 (50.44)

(2) Adjust the low beam by turning the aiming screw.



15.Headlight Bulb

A: REMOVAL

1. HIGH BEAM

CAUTION:
- **Do not perform work with wet hands, because there is a possibility of electrical shock.**
- **Do not leave the light assembly - head without the bulb for a long time. Dust, moisture, etc. entering the light may affect its performance.**

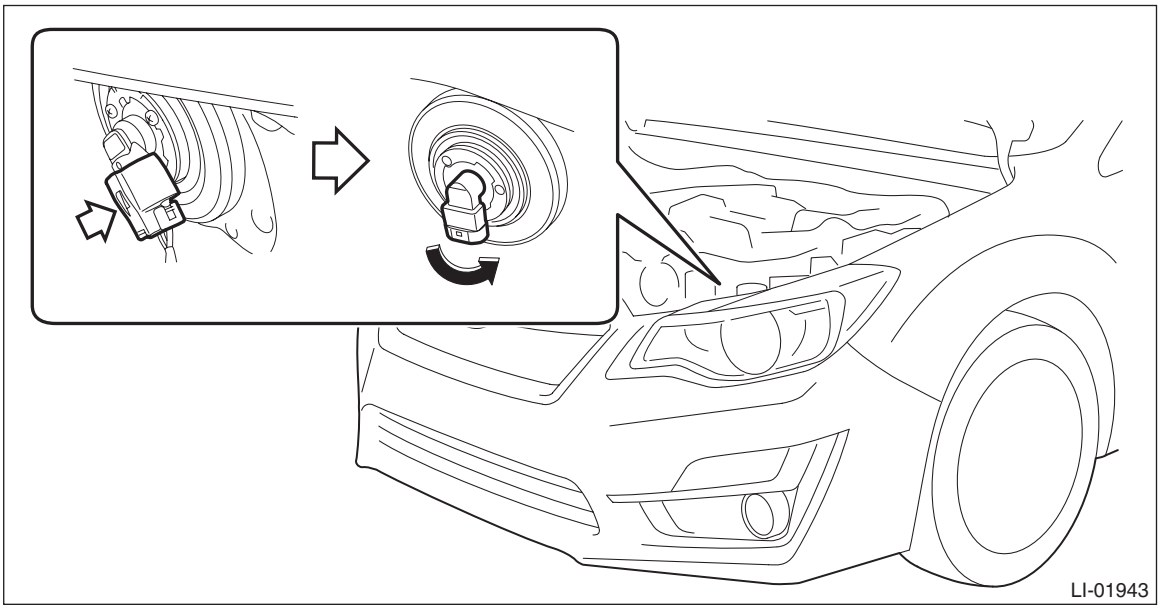
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the air intake duct. (When removing the right side of gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-13, REMOVAL, Air Intake Duct.>

3) Disconnect the connector and remove the high beam bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



2. HALOGEN TYPE LOW BEAM

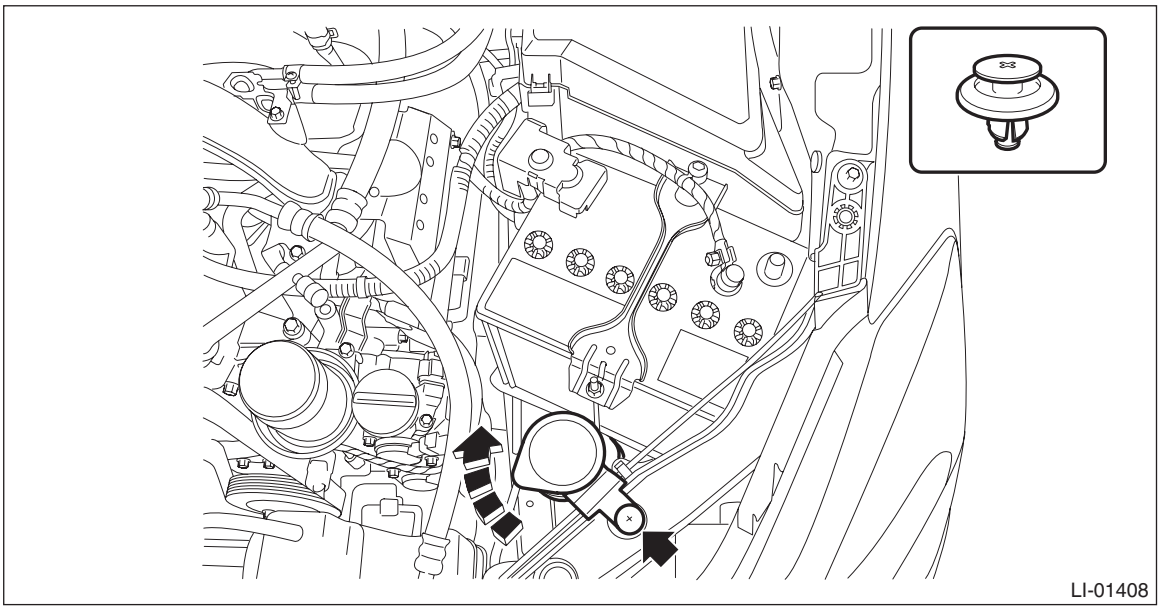
CAUTION:
- **Do not perform work with wet hands, because there is a possibility of electrical shock.**
- **Do not leave the light assembly - head without the bulb for a long time. Dust, moisture, etc. entering the light may affect its performance.**

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

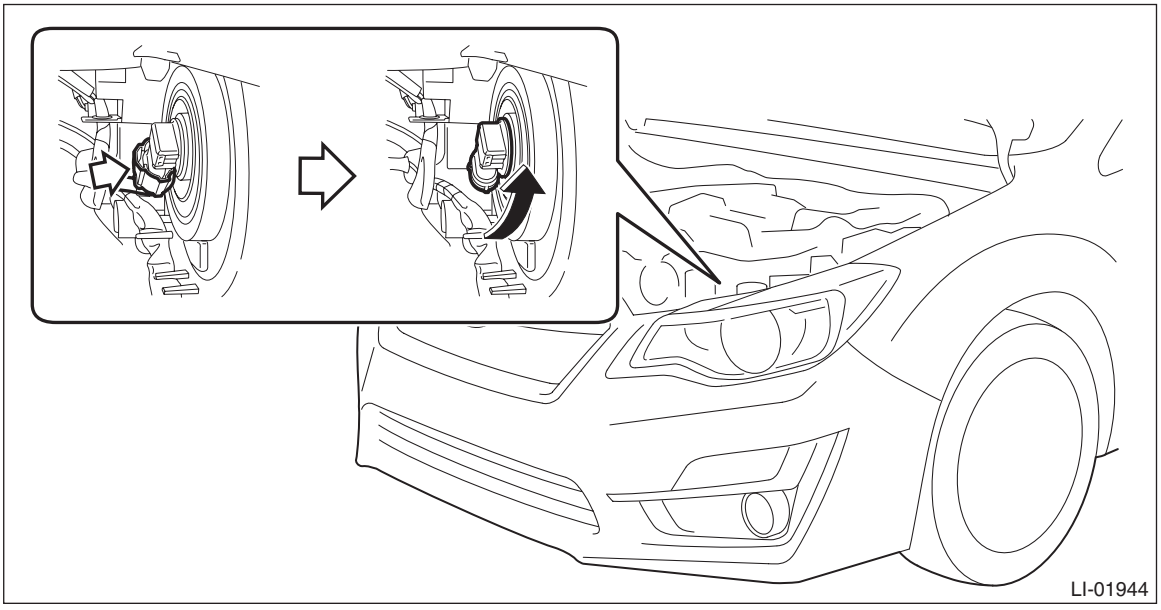
2) Remove the air intake duct. (When removing the right side of gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-13, REMOVAL, Air Intake Duct.>

3) Turn the filler neck of the tank - washer front clockwise. (When removing the low beam bulb LH)



4) Disconnect the connector and remove the low beam bulb.

CAUTION:
- **Make sure to check if any bulb O-ring is remained on the housing side as this may sometimes happen.**
- **Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.**



3. HID TYPE LOW BEAM

When removing RH side

CAUTION:
- **Do not perform work with wet hands, because there is a possibility of electrical shock.**
- **Do not leave the light assembly - head without the bulb for a long time. Dust, moisture, etc. entering the light may affect its performance.**

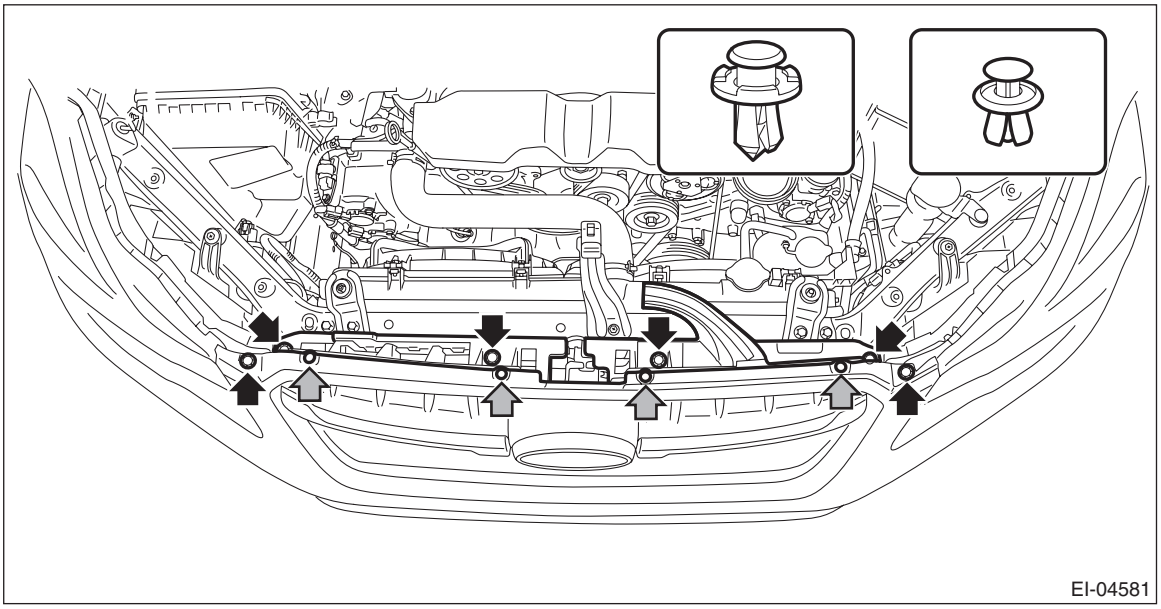
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the air intake duct. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-13, REMOVAL, Air Intake Duct.>

3) Remove the clip, and remove the bracket - grille.

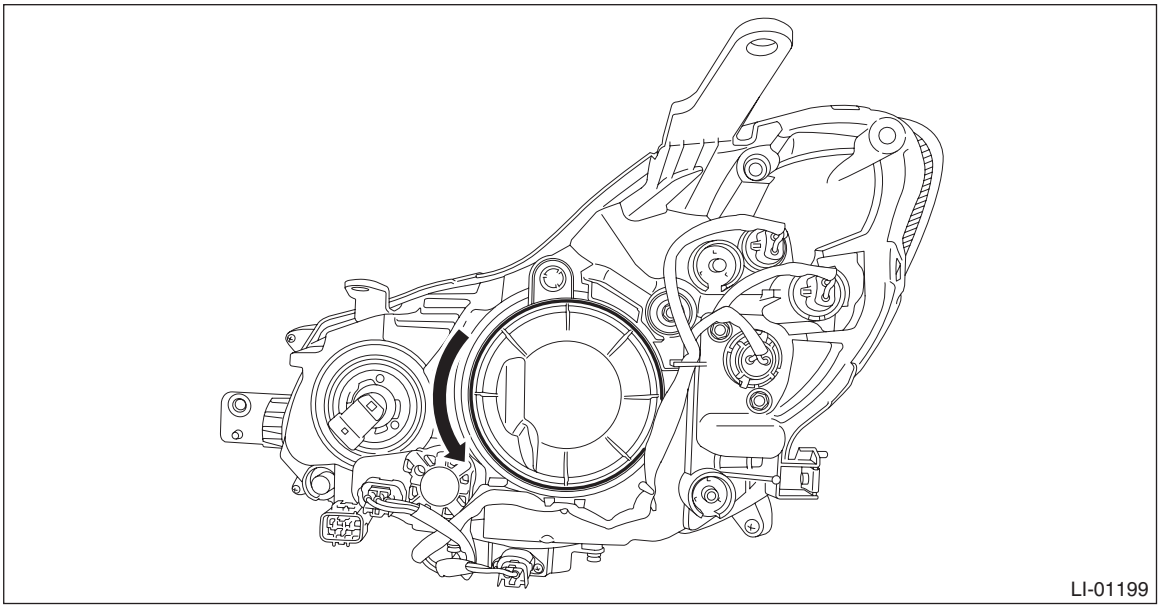
CAUTION:
To prevent damage to the bracket - grille, make sure to remove all clips.



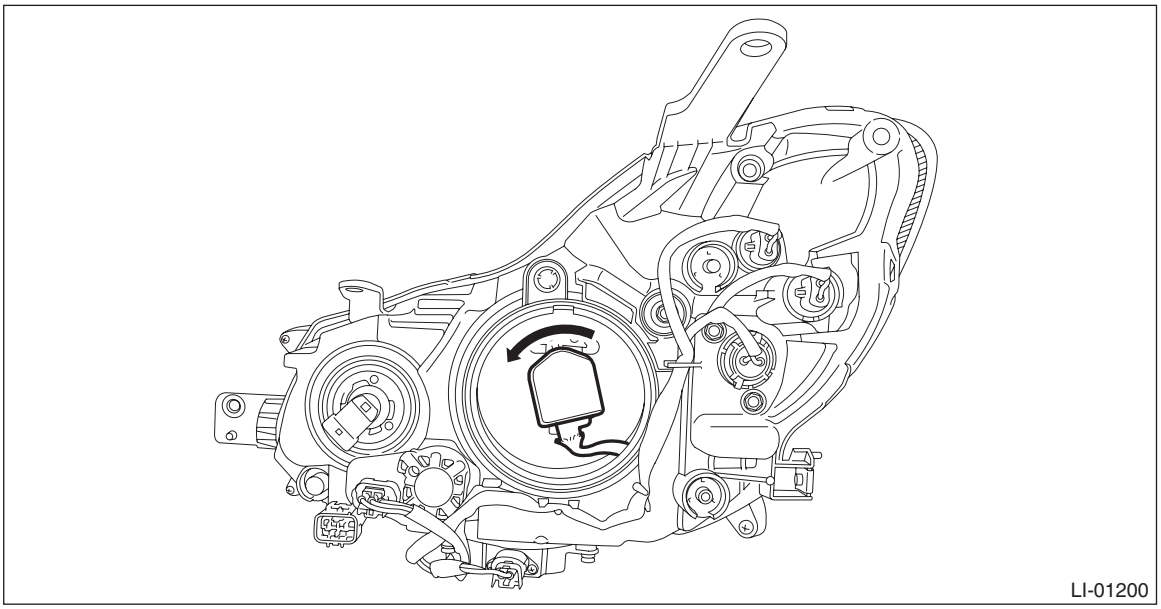
4) Remove the bumper face - front. <Ref. to EI-40, REMOVAL, Front Bumper.>

5) Remove the light assembly - head. <Ref. to LI-29, REMOVAL, Headlight Assembly.>

6) Remove the low beam bulb.
(1) Remove the cover - headlight.

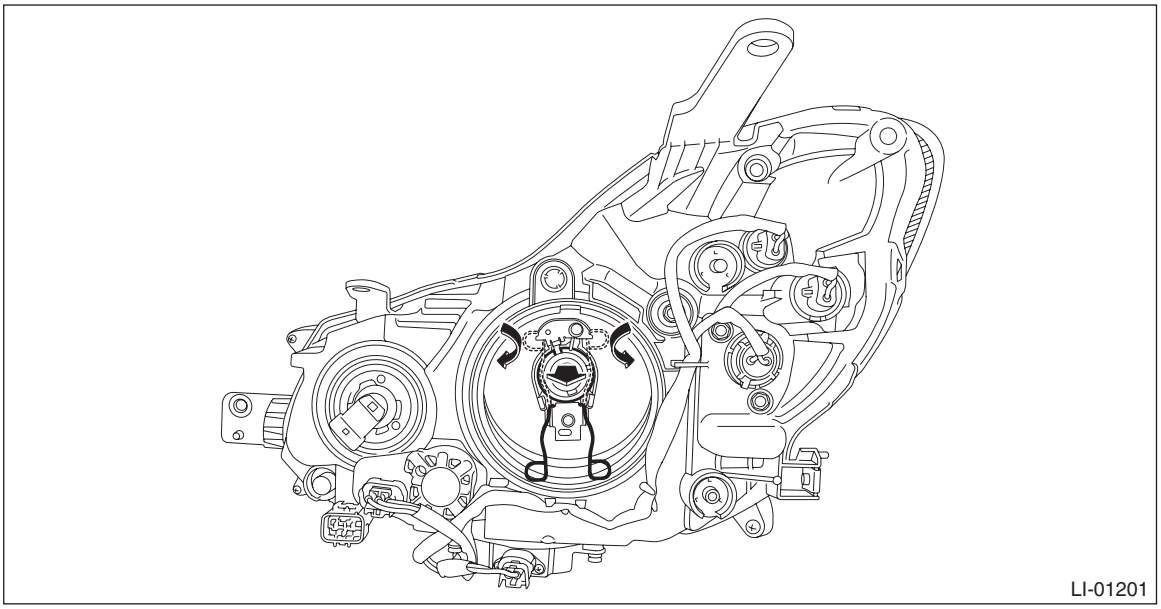


(2) Remove the valve socket.



(3) Unlock the bulb spring, and remove the low beam bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.

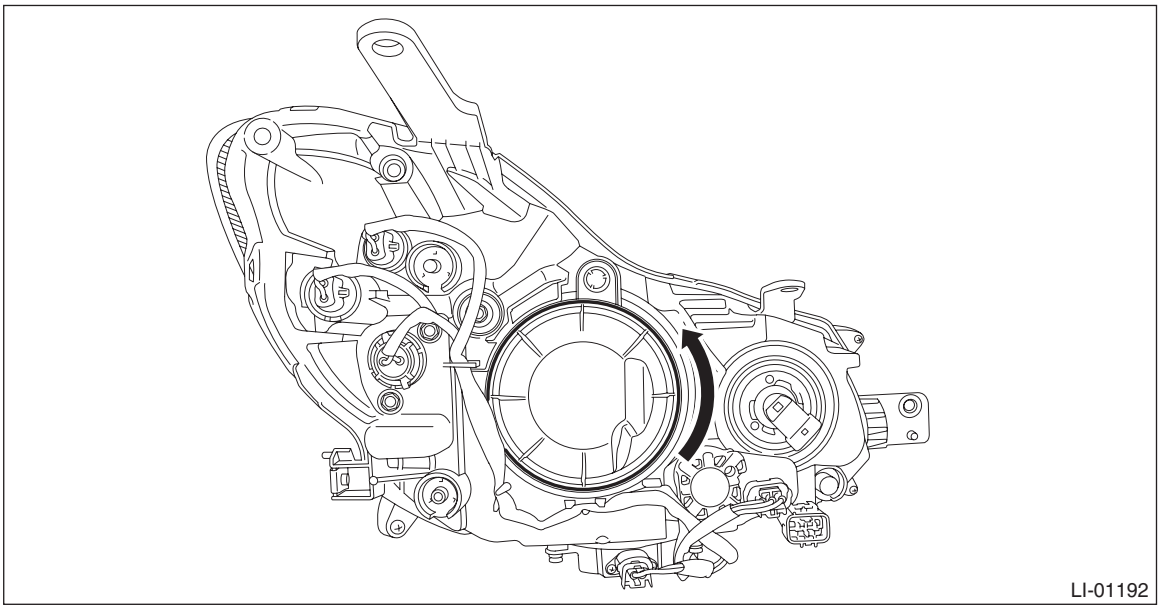


When removing LH side

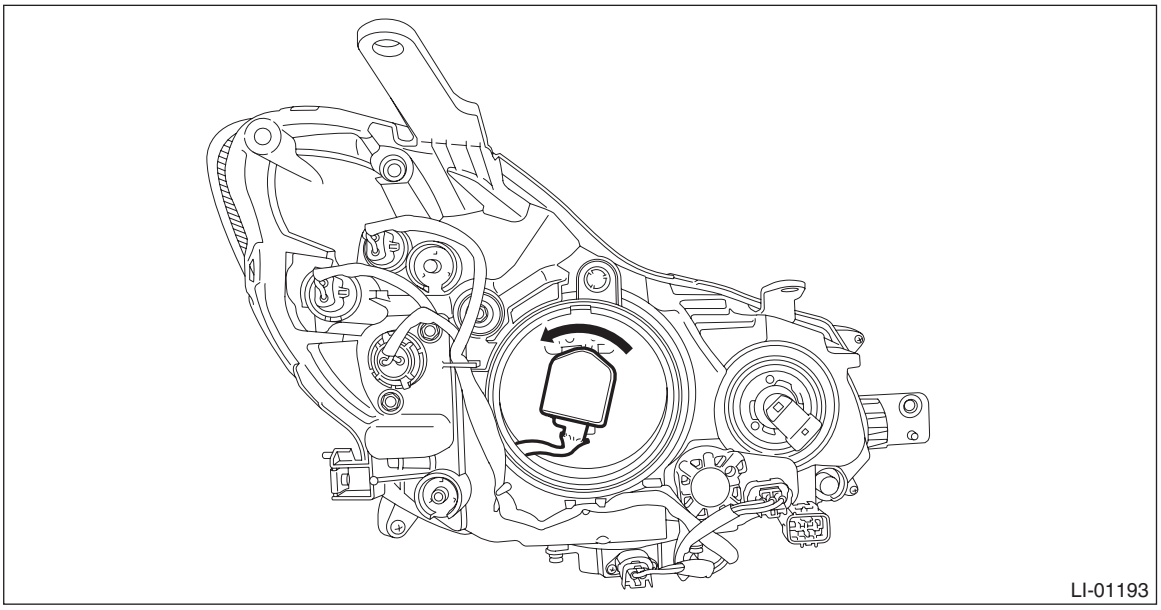
CAUTION:
- **Do not perform work with wet hands, because there is a possibility of electrical shock.**
- **Do not leave the light assembly - head without the bulb for a long time. Dust, moisture, etc. entering the light may affect its performance.**

1) Remove the battery.
- Gasoline engine model: <Ref. to SC(H4DO(w/o HEV))-52, REMOVAL, Battery.>
- HEV model: <Ref. to SC(H4DO(HEV))-39, REMOVAL, Battery.>

2) Remove the low beam bulb.
(1) Remove the cover - headlight.

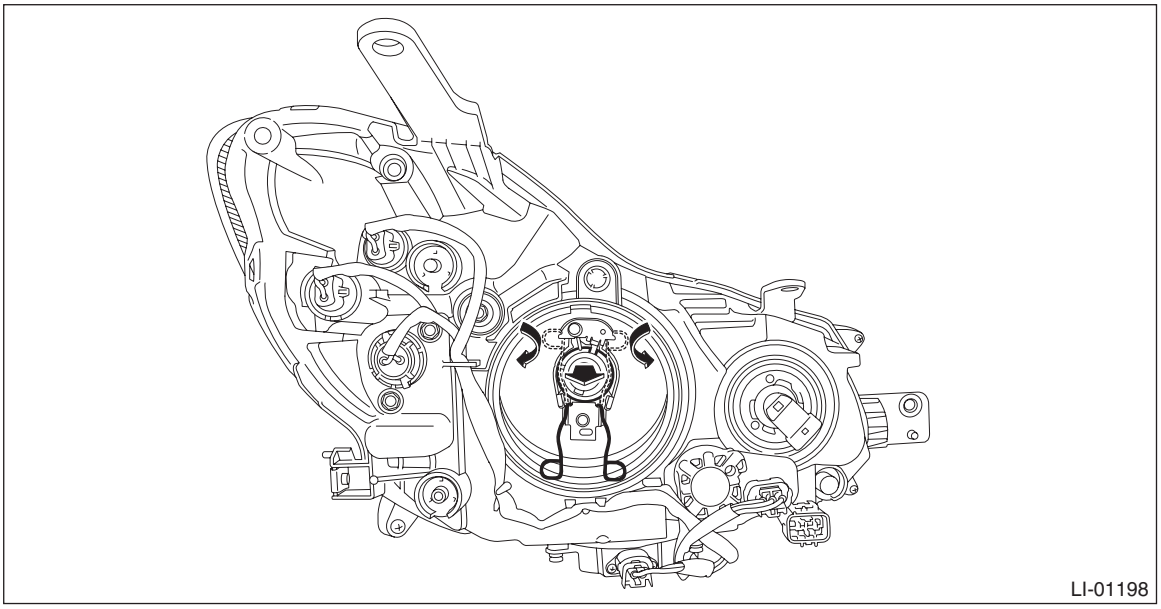


(2) Remove the valve socket.



(3) Unlock the bulb spring, and remove the low beam bulb.

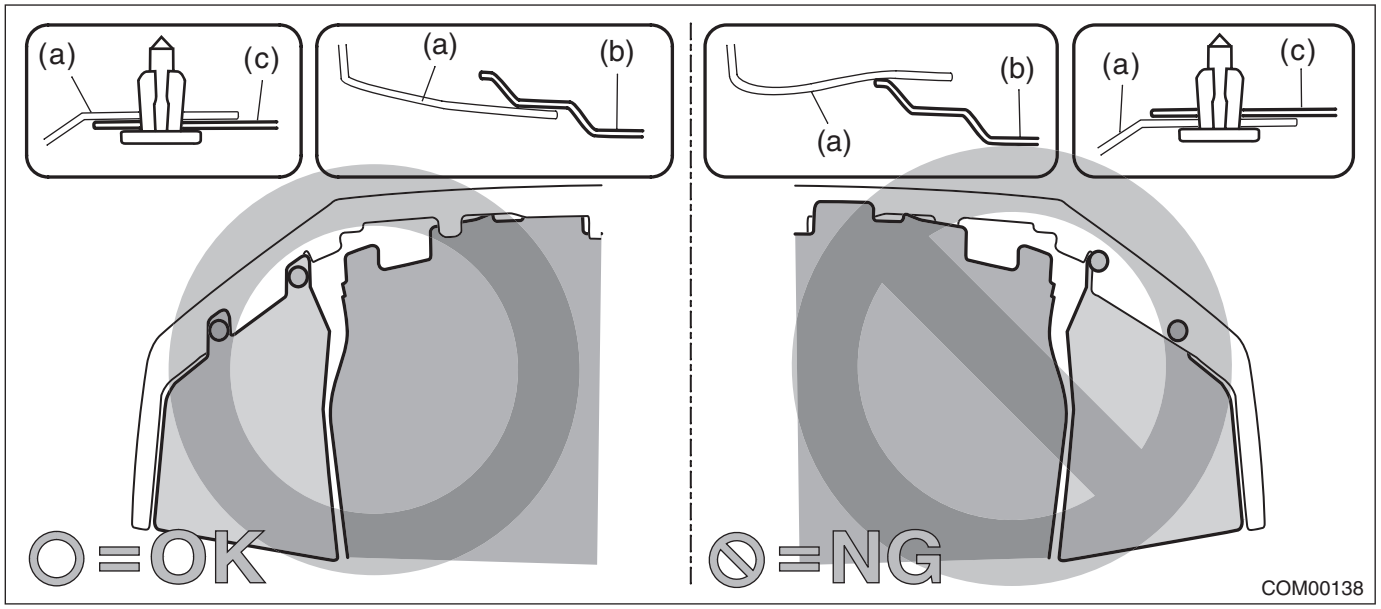
CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



B: INSTALLATION

1) Install each part in the reverse order of removal.
2) When performing the work of HID type low beam RH, secure the flange section of the bumper face - front to the bracket - front bumper side.

CAUTION:
Install so that the front end of the under cover (b) comes inside the bumper face - front (a), and the front end of the mud guard (c) comes outside the bumper face - front (a).



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

3) When performing the work of HID type low beam RH, adjust the fog light beam. (Model with fog light) <Ref. to LI-55, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: INSPECTION

1. HALOGEN TYPE

WARNING:
Because the headlight system uses high voltage, be careful not to perform work with wet hands. There is a possibility of electrical shock.

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 light assembly - head without the bulb and cover - headlight 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.

2. HID TYPE

WARNING:
Because the headlight system uses high voltage, be careful not to perform work with wet hands. There is a possibility of electrical shock.

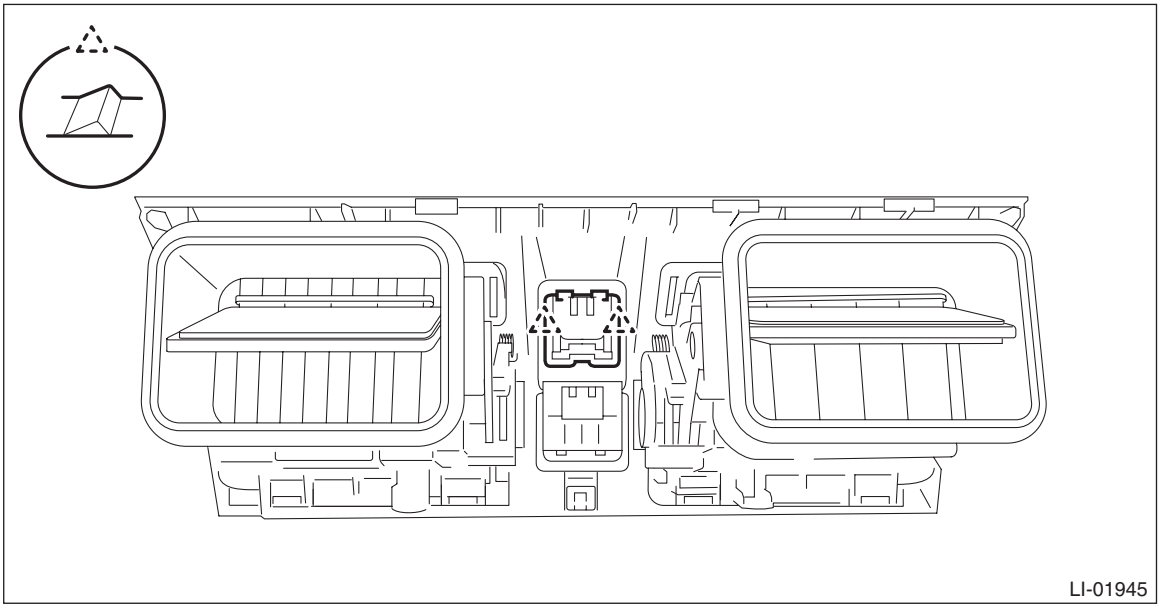
CAUTION:
• Do not leave the light assembly - head without the bulb and cover - headlight for a long time. Dust, moisture, etc. entering the headlight may affect its performance.
• When lit (lighting switch is ON), do not touch the harness, light internals, or metal parts of the light.
• When performing a lighting test, make sure that the headlight is mounted on the vehicle, and the power supply is connected to the connector on the vehicle's side.
1) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
2) Install the factory HID bulb to check whether it lights properly.
3) If it does not light properly, replace with a new bulb.
4) Inspect the HID ballast.
Inspect the ballast in the following manner, and determine whether or not to reuse.
   (1) Perform cold starts (light the headlight after turning off for 10 minutes or more), and hot starts (light the headlight for 15 minutes or more, then turn off for 1 minute and relight) several times, to make sure that the headlight lights properly.
   (2) Monitor the lighting condition right after a cold start up to a stable state (approx. 5 min.), to see if there are any unstable conditions such as flickering.
   (3) Install bulbs with the same number of operating hours on both headlights, and light for approximately 30 minutes. Check for whether there is a difference in brightness on the right and left sides.
5) Replace the ballast if it is found defective.

16.Hazard Switch

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the center grille assembly. <Ref. to AC-104, CENTER GRILLE ASSEMBLY, REMOVAL, Air Vent Grille.>
3) Release the claws, and remove the switch - hazard from the panel center assembly.



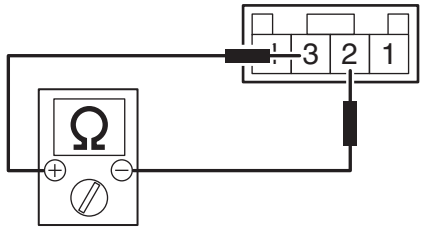
B: INSTALLATION

CAUTION:
After installing the center grille assembly, check that the air vent grille of the center grille assembly is inserted correctly into the air vent duct.
Install each part in the reverse order of removal.

C: INSPECTION

Unit inspection

Preparation tool:
Circuit tester
1) Check the resistance between switch terminals.

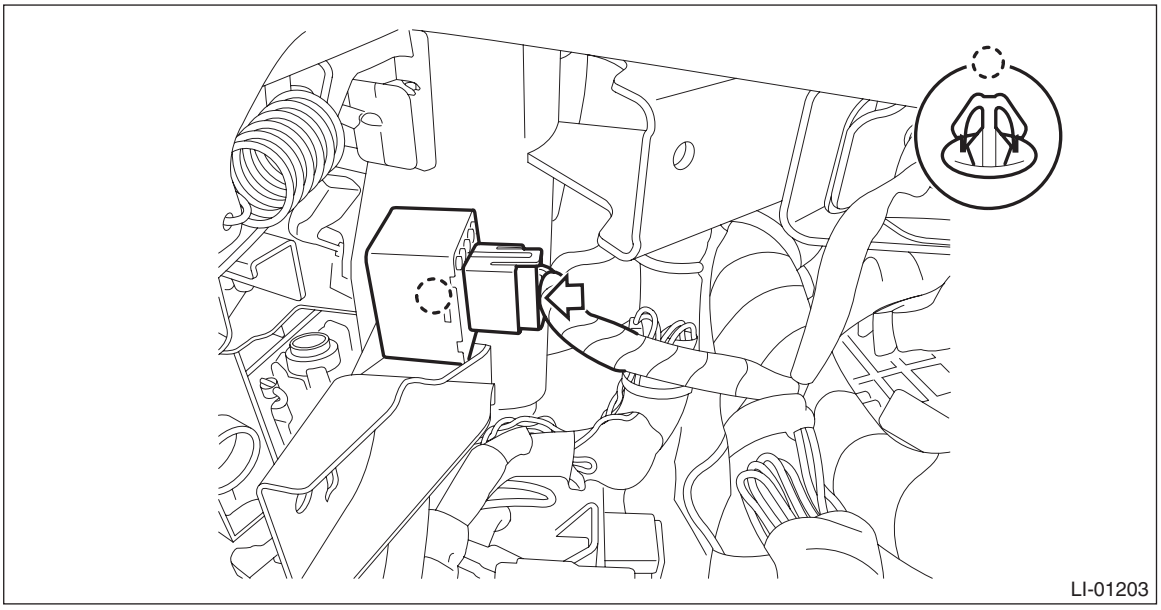
Terminal No.	Inspection conditions	Standard	Connection diagram
2 — 3	Switch OFF	1 MΩ or more	
	Switch ON	Less than 1 Ω	

2) Replace the switch - hazard if the inspection result is not within the standard value.

17.Turn Signal Light & Hazard Light Module

A: REMOVAL

1) Remove the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
2) Remove the turn signal and hazard module.
   (1) Disconnect the connector.
   (2) Release the claws and remove the turn signal & hazard module from the beam COMPL - steering.



B: INSTALLATION

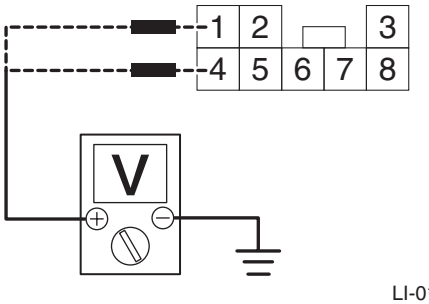
Install each part in the reverse order of removal.

C: INSPECTION

On the vehicle inspection

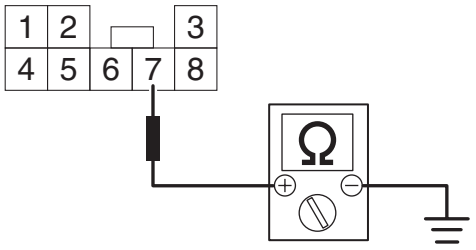
Preparation tool:
Circuit tester

1) Disconnect the turn signal and hazard module connector.
2) Measure the voltage between the turn signal & hazard module connector and the chassis ground.

Terminal No.	Inspection conditions	Standard	Connection diagram
4 (+) — Chassis ground (–)	Always	10 — 14 V	
1 (+) — Chassis ground (–)	IG OFF → ON	Less than 1 V → 10 — 14 V	

Repair or replace the harness if the inspection result is not within the standard value.

3) Measure the resistance between the turn signal & hazard module connector and the chassis ground.

Terminal No.	Inspection conditions	Standard	Connection diagram
7 — Chassis ground	Always	Less than 1 Ω	 LI-01282

Repair or replace the harness if the inspection result is not within the standard value.
4) Connect the turn signal and hazard module connector.
5) Measure the voltage between the turn signal & hazard module and the chassis ground.

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.

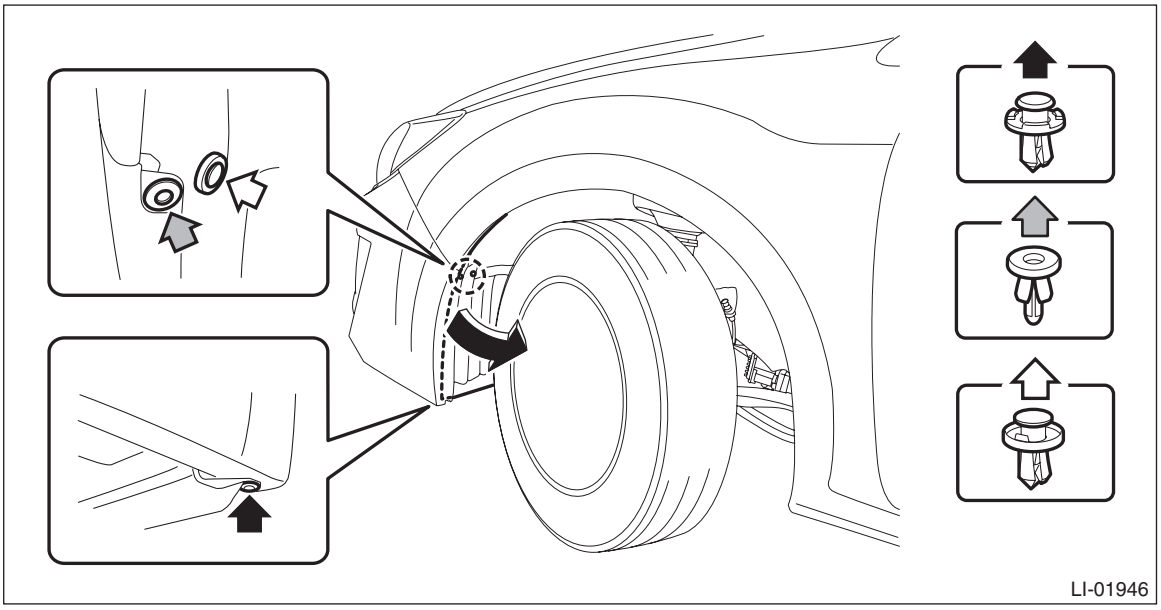
Replace the turn signal and hazard module if the inspection result is not within the standard value.

18.Front Turn Signal Light Bulb

A: REMOVAL

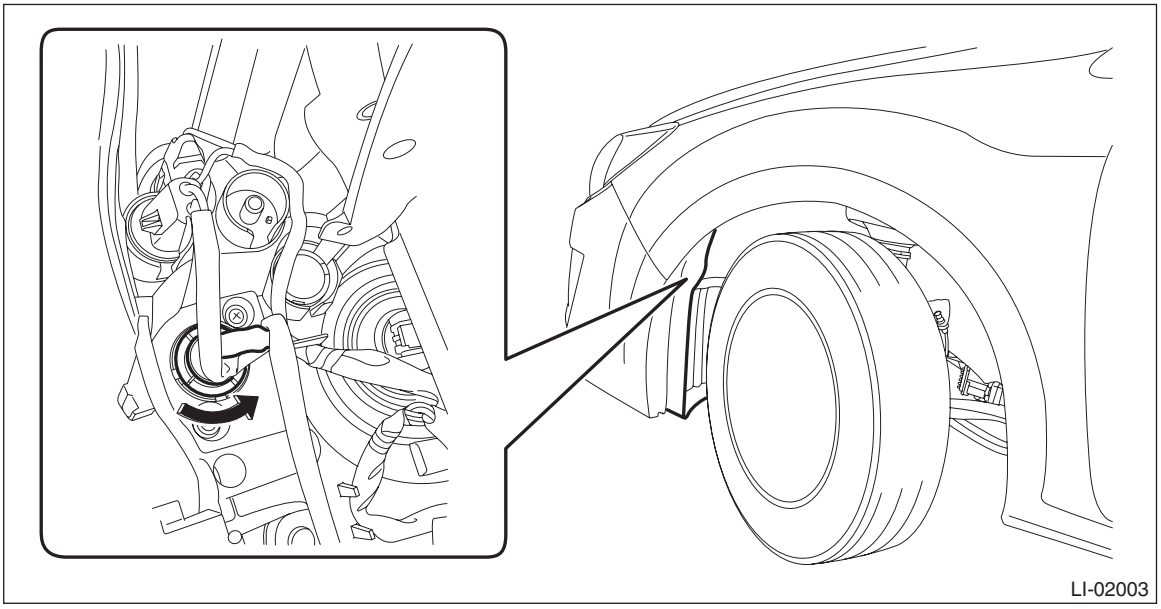
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
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 - front.



3) Remove the bulb socket and front turn signal light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

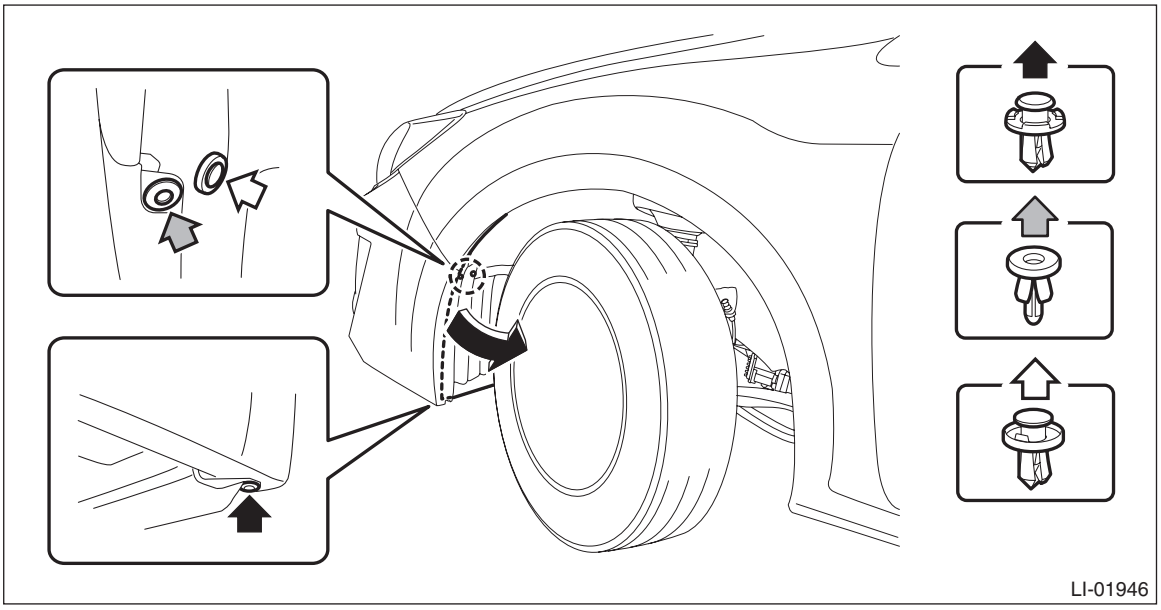
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

19.Clearance/Parking Light Bulb

A: REMOVAL

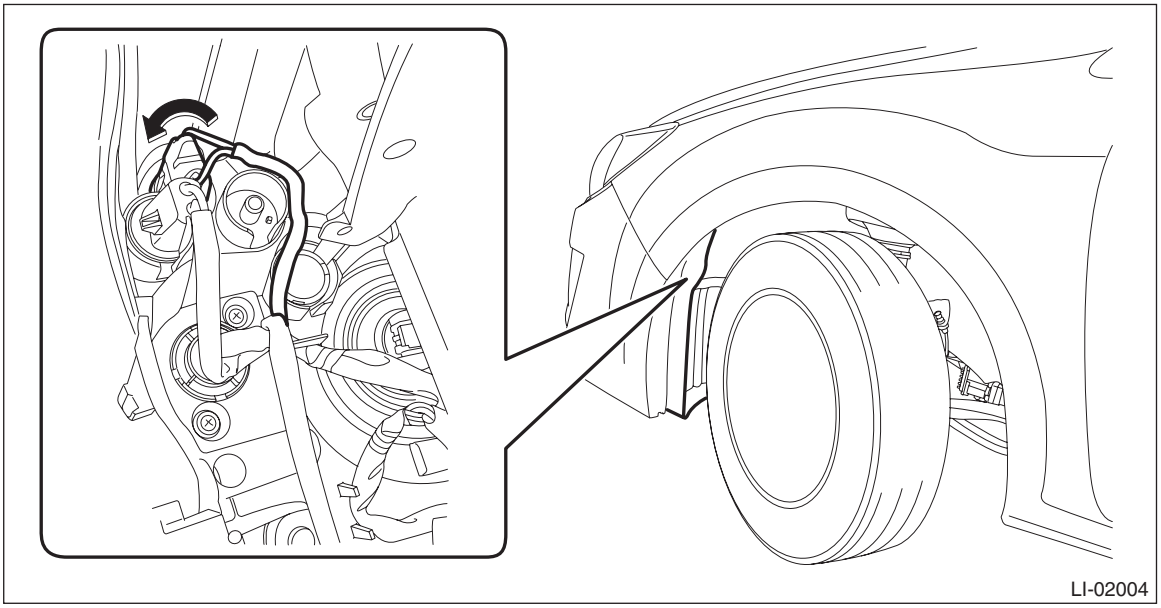
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
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 - front.



3) Remove the bulb socket and parking light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

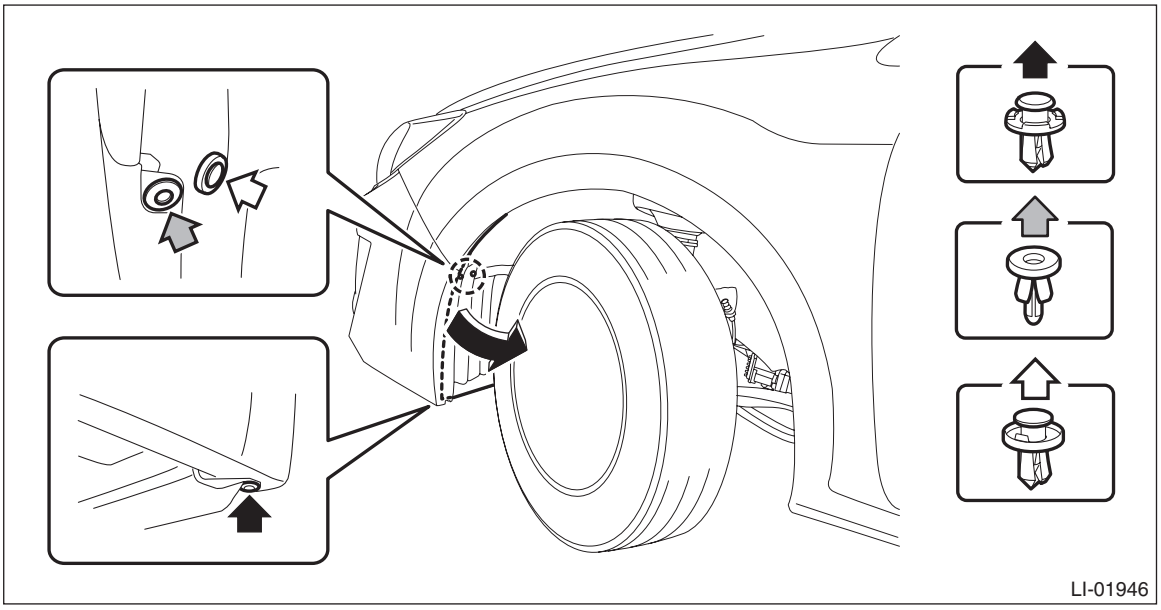
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

20.Front Side Marker Light Bulb

A: REMOVAL

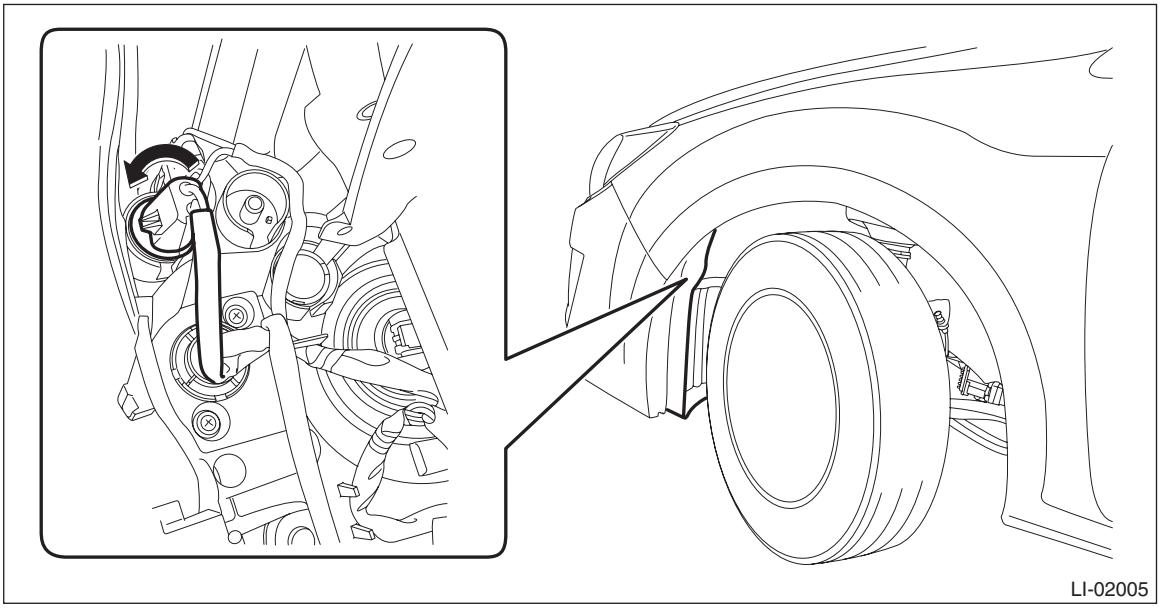
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
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 - front.



3) Remove the bulb socket and front side marker light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the 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.

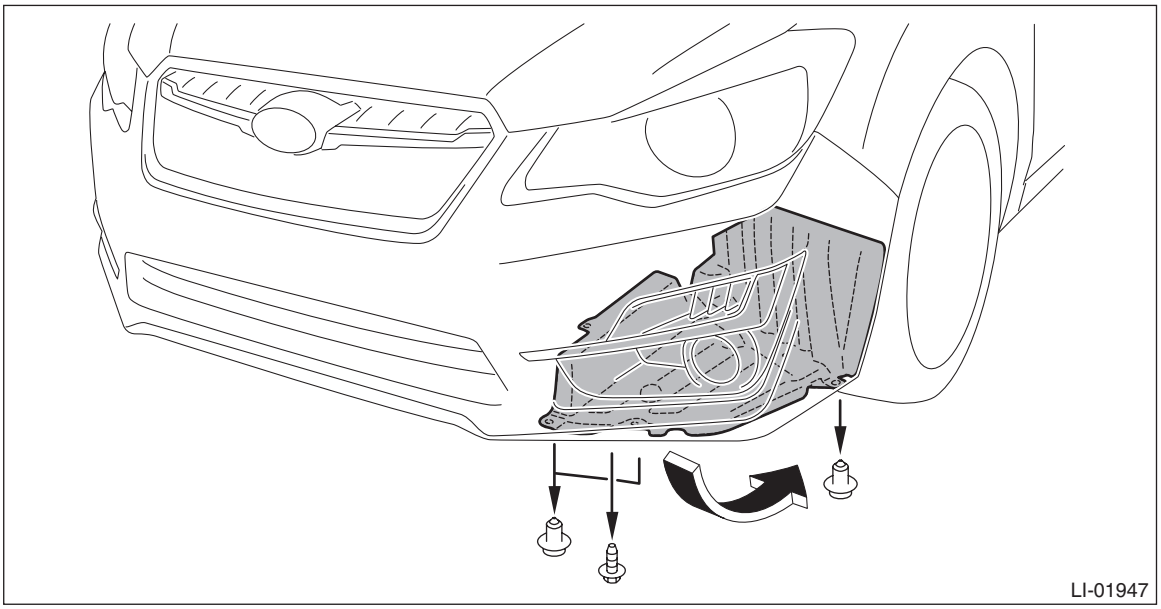
21.Front Fog Light Assembly

A: REMOVAL

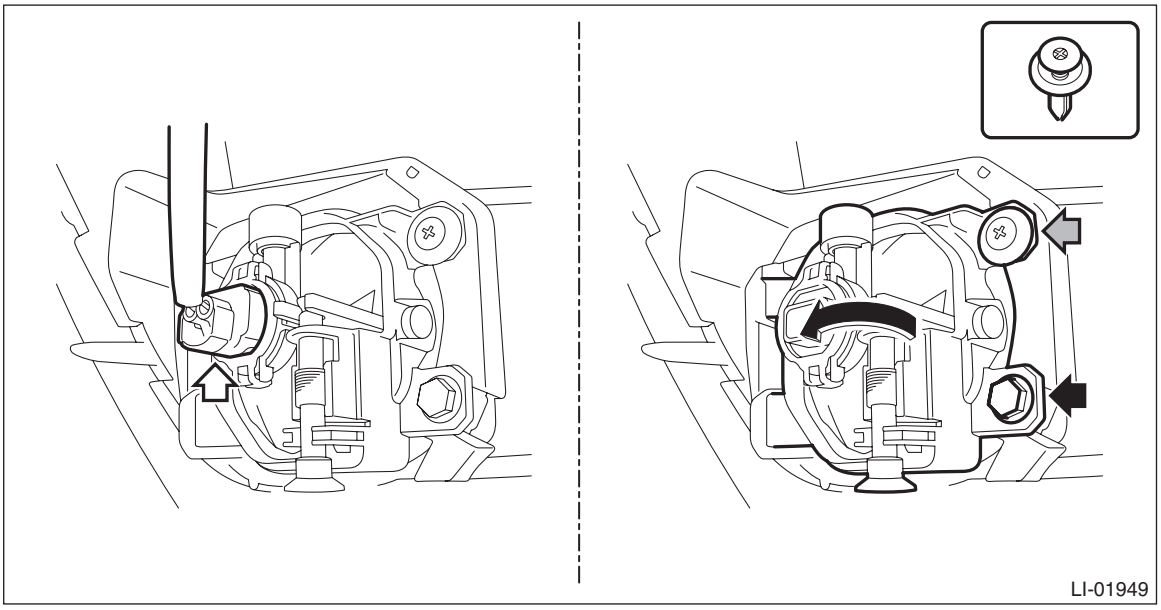
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

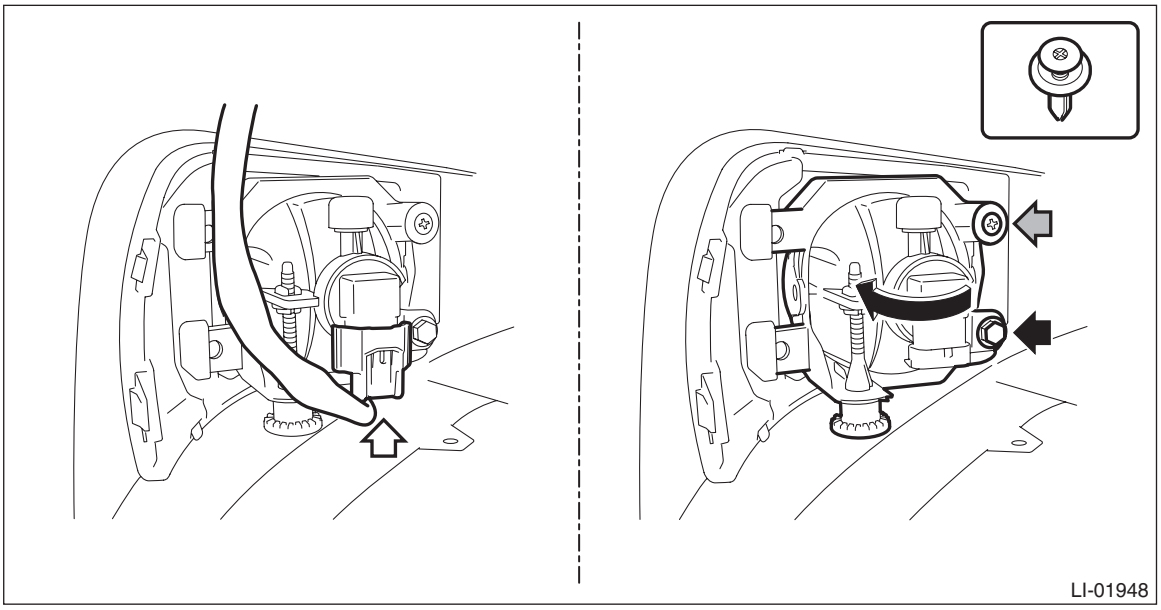
2) Lift up the vehicle.
3) Remove the screw and clips, and turn over the front side of the mud guard - front.



4) From the bottom of the bumper face - front, remove the fog light assembly - front.
   (1) Disconnect the connector.
   (2) Remove the bolts and clips, and remove the fog light assembly - front.
   • Model without SRF

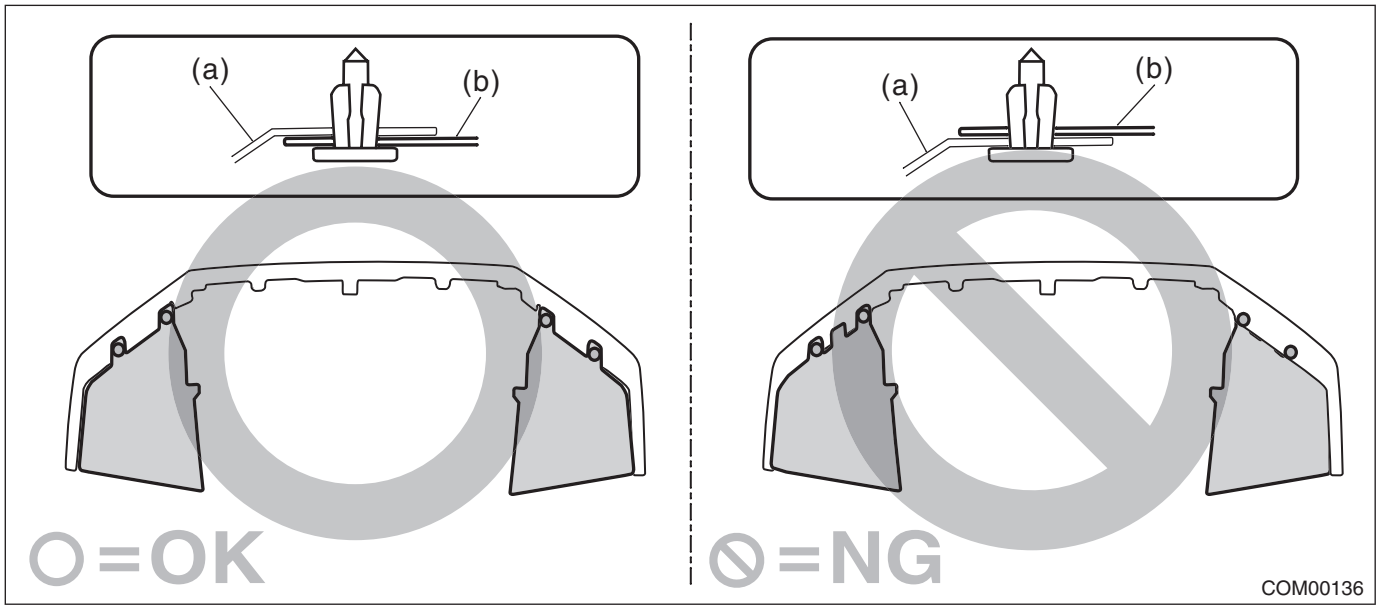


- Model with SRF



B: INSTALLATION

CAUTION:
Install the mud guard - front so that the front end of the mud guard (b) comes outside the bumper face - front (a).



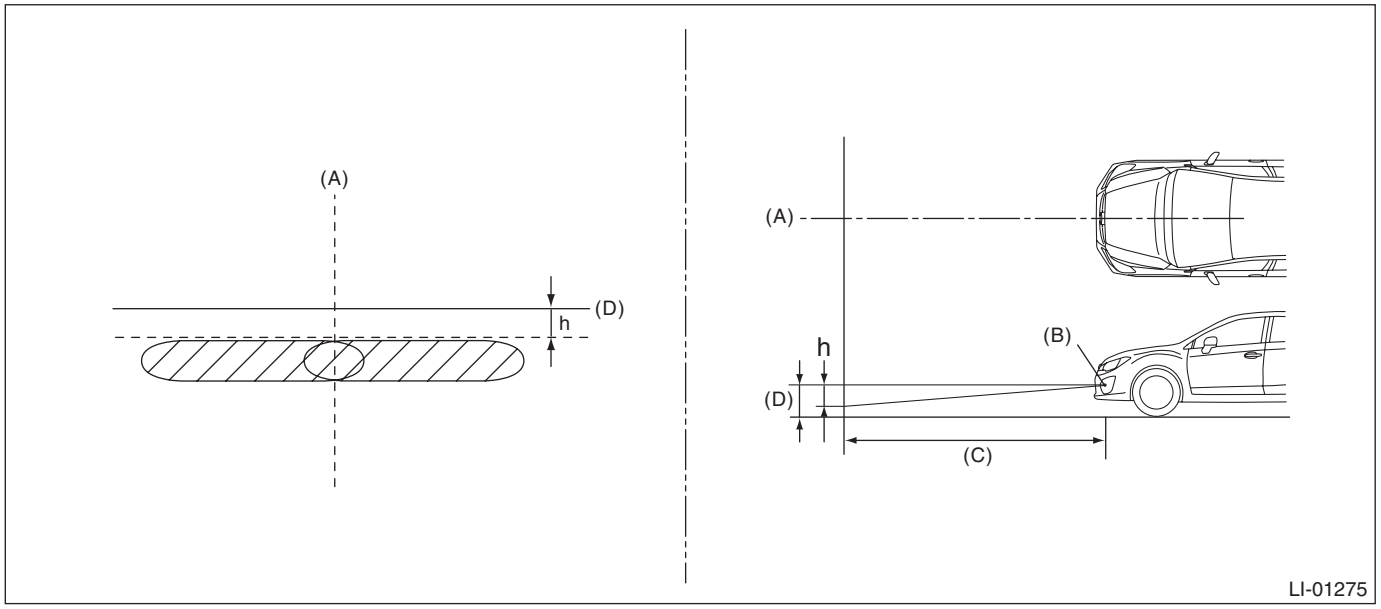
1) Install each part in the reverse order of removal.

Tightening torque:
Fog light assembly - front: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
2) Adjust the fog light beam. <Ref. to LI-55, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: ADJUSTMENT

1. FOG LIGHT AIMING

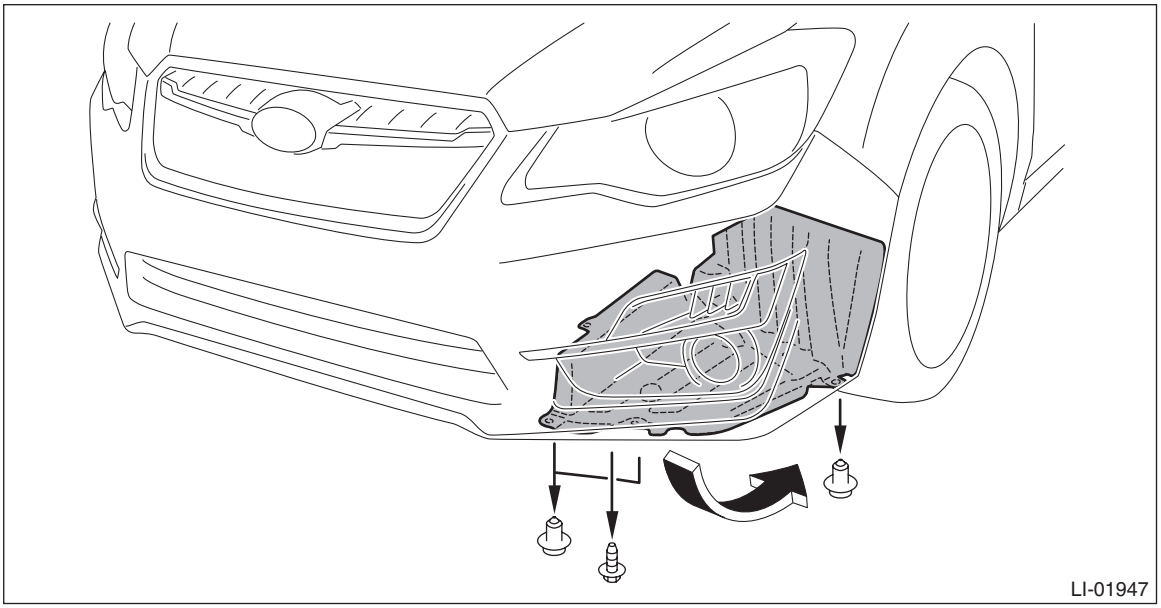
1) Before checking the fog light assembly - front beam level, be sure of the following:
• The area around the fog light assembly - front has not sustained any scratches, damage or other type of deformation.
• The vehicle is parked on a level surface.
• The inflation pressure of tires is correct.
• The vehicle does not have load.
• 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.



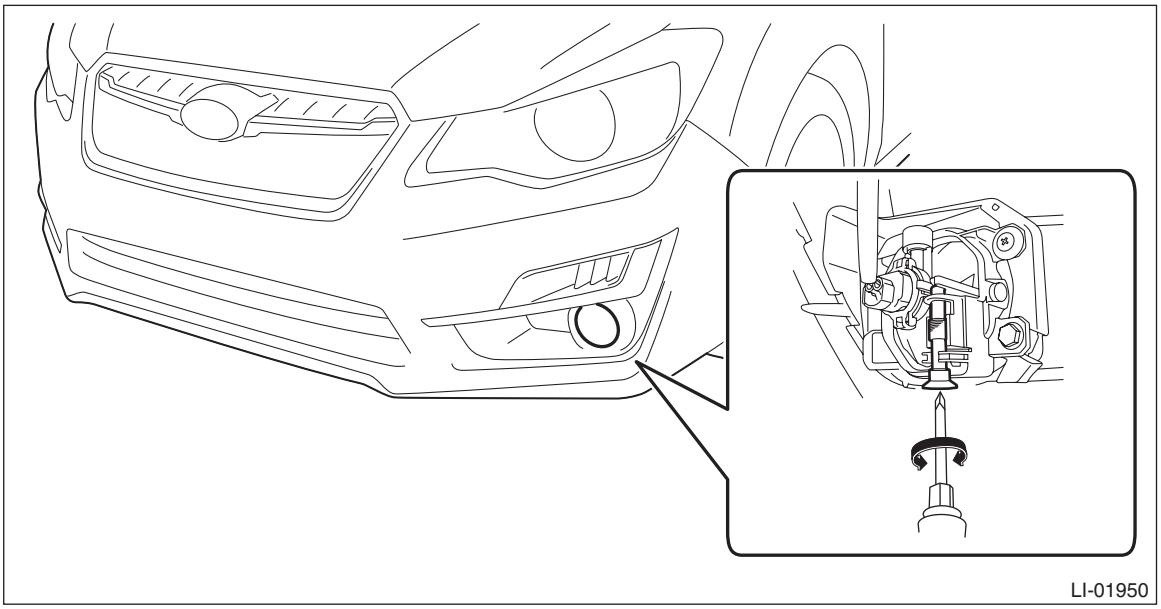
(A) Vehicle center
(B) Bulb center marking
(C) 3 m (10 ft)
(D) Height of fog light center

h mm (in) at 3 m (10 ft)
40 (1.58)

5) Adjust the fog light assembly - front beam.
(1) Remove the screw and clips, and turn over the front side of the mud guard - front.



(2) Adjust the beam direction by turning the aiming screw from the bottom of the bumper face - front.



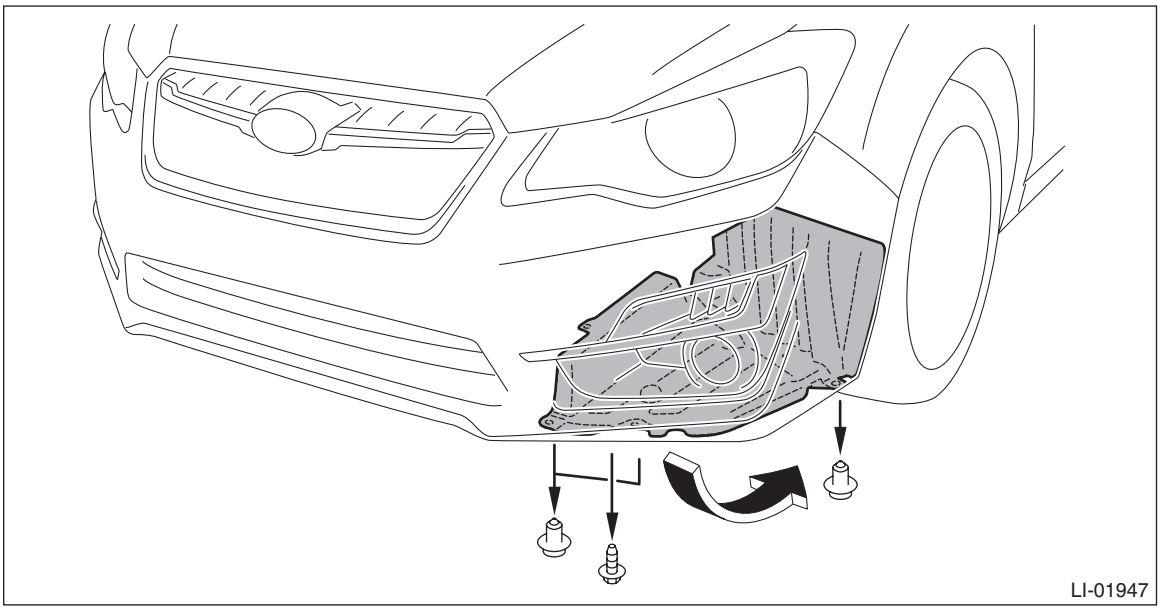
22.Front Fog Light Bulb

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the screw and clips, and turn over the front side of the mud guard - front.

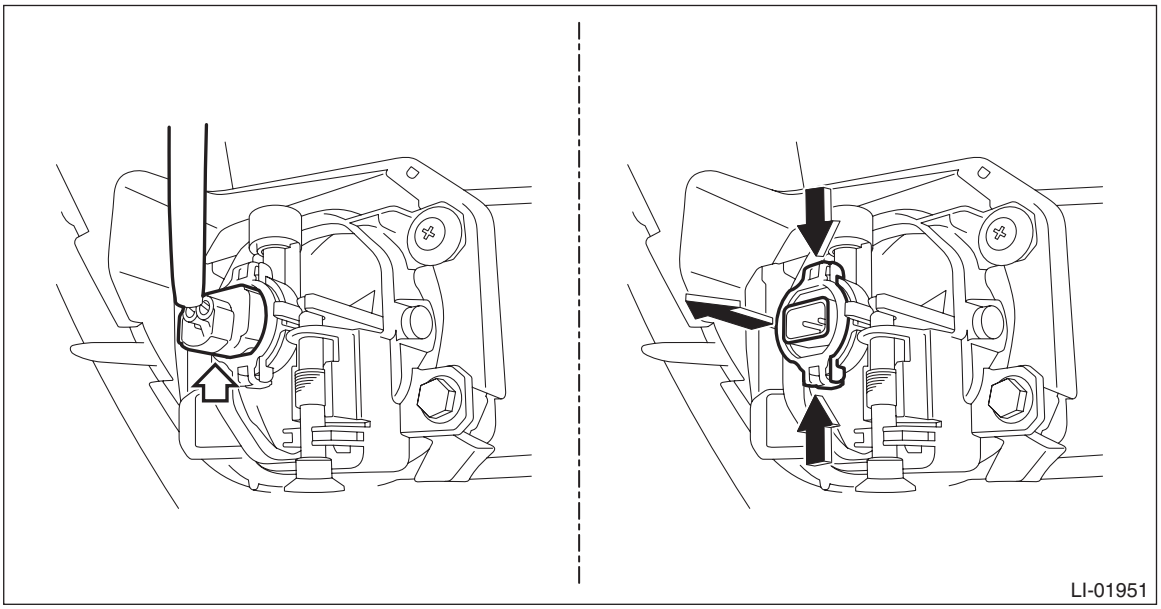


3) From the bottom of the bumper face - front, remove the front fog light bulb.

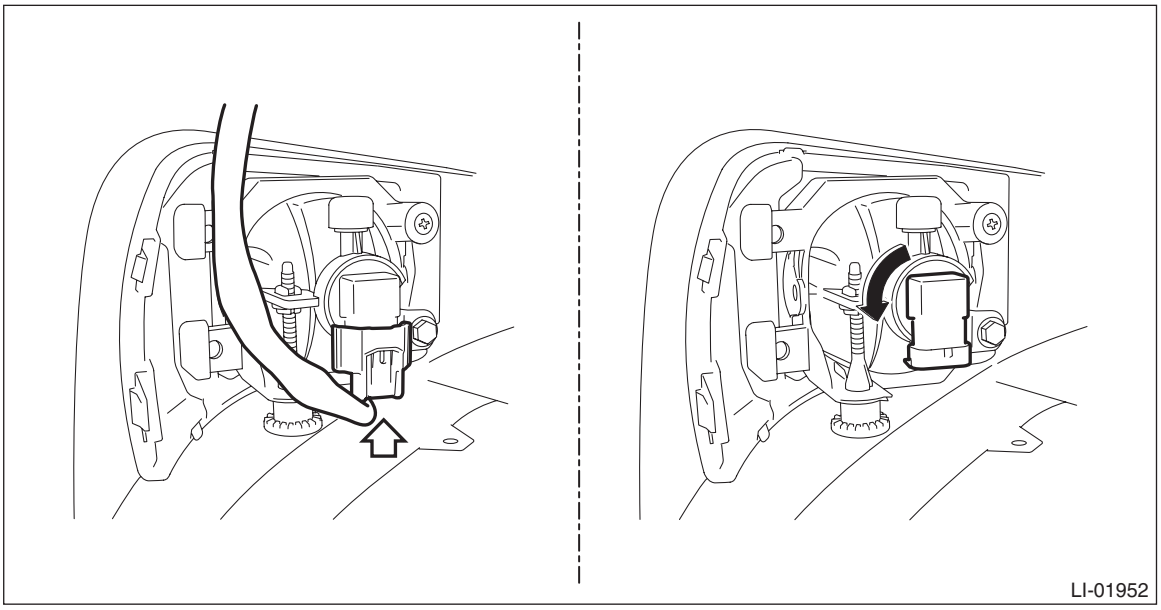
CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.

(1) Disconnect the connector.
(2) Remove the bulb.

- Model without SRF

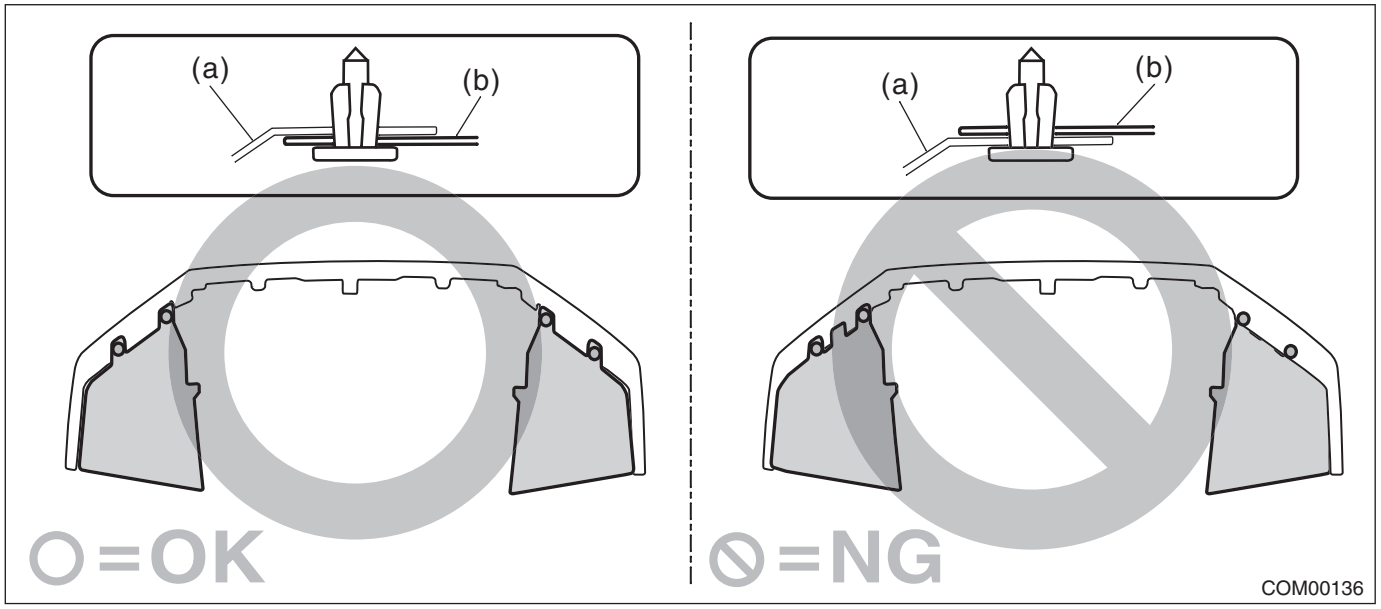


- Model with SRF



B: INSTALLATION

CAUTION:
- **After connecting the connector, make sure that the bulb is locked securely.**
- **Install the mud guard - front so that the front end of the mud guard (b) comes outside the bumper face - front (a).**



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.

23.Side Turn Signal Light Assembly

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the light assembly - side turn mirror. <Ref. to GW-25, DISASSEMBLY, Outer Mirror Assembly.>

B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Install the light to check if it blinks normally.
2) If it fails to blink normally, replace the light assembly - side turn mirror with a new part.

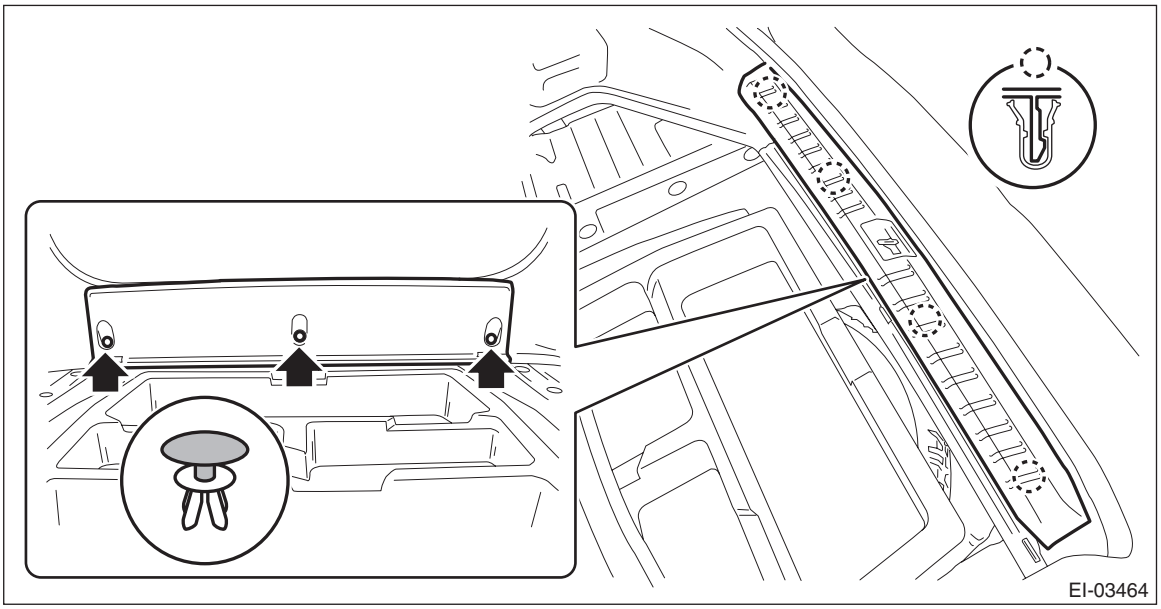
NOTE:
Since LED (Light Emitting Diode) is used for the light, replace the light assembly - side turn mirror if the LED burns out.

24.Rear Combination Light Assembly

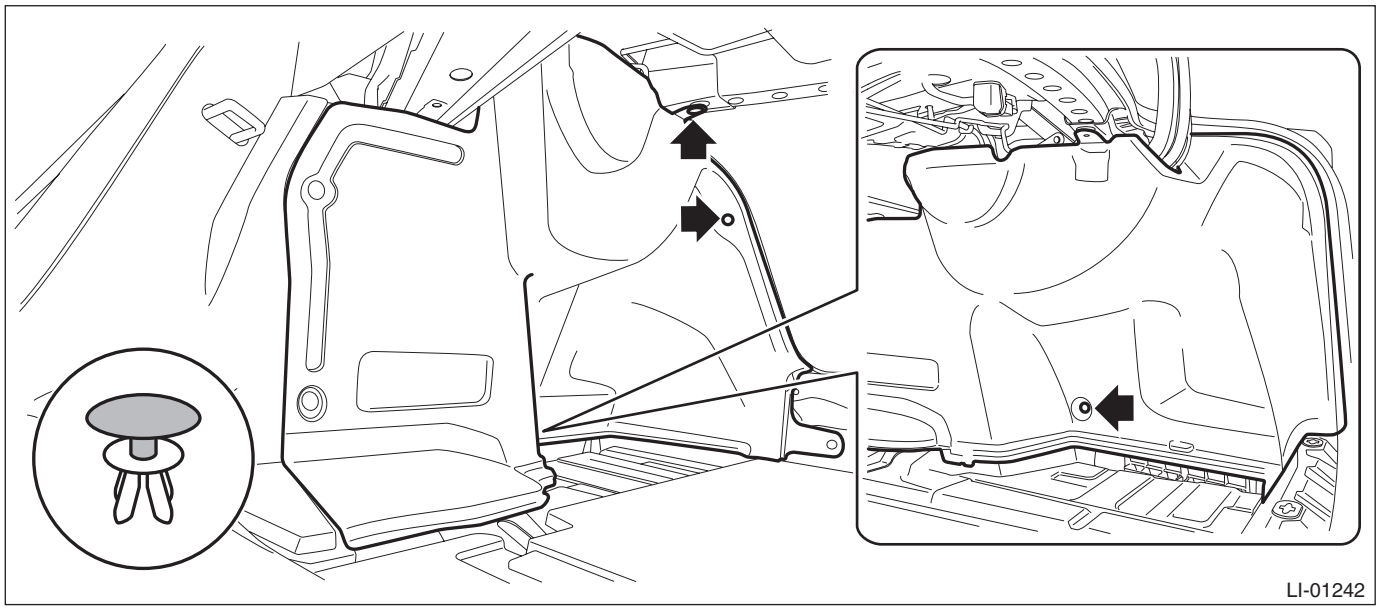
A: REMOVAL

1. 4 DOOR MODEL

1) Disconnect the ground cable from battery.
2) Remove the mat - trunk.
3) Remove the trim panel - trunk rear.
   (1) Remove the clip.
   (2) Release the claws, and remove the trim panel - trunk rear.

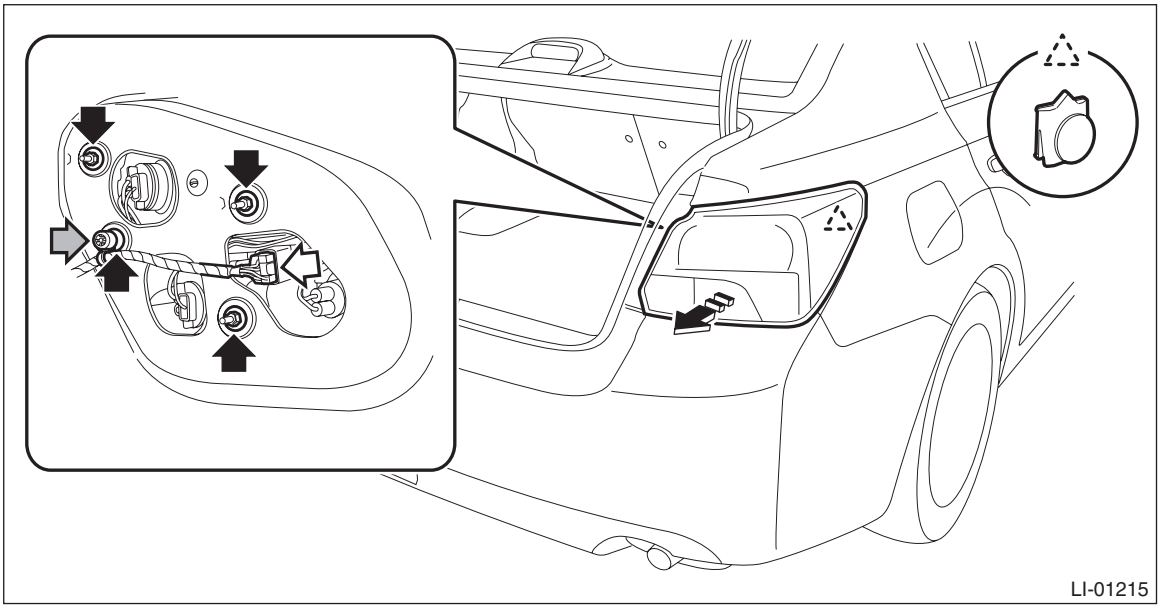


4) Remove the clips, and turn over the trim panel - trunk side.



5) Remove the light assembly - rear combination.
(1) Remove the harness clip and connector.
(2) Release the nuts and clips, then remove the light assembly - rear combination.

CAUTION:
Be careful not to damage the clips.

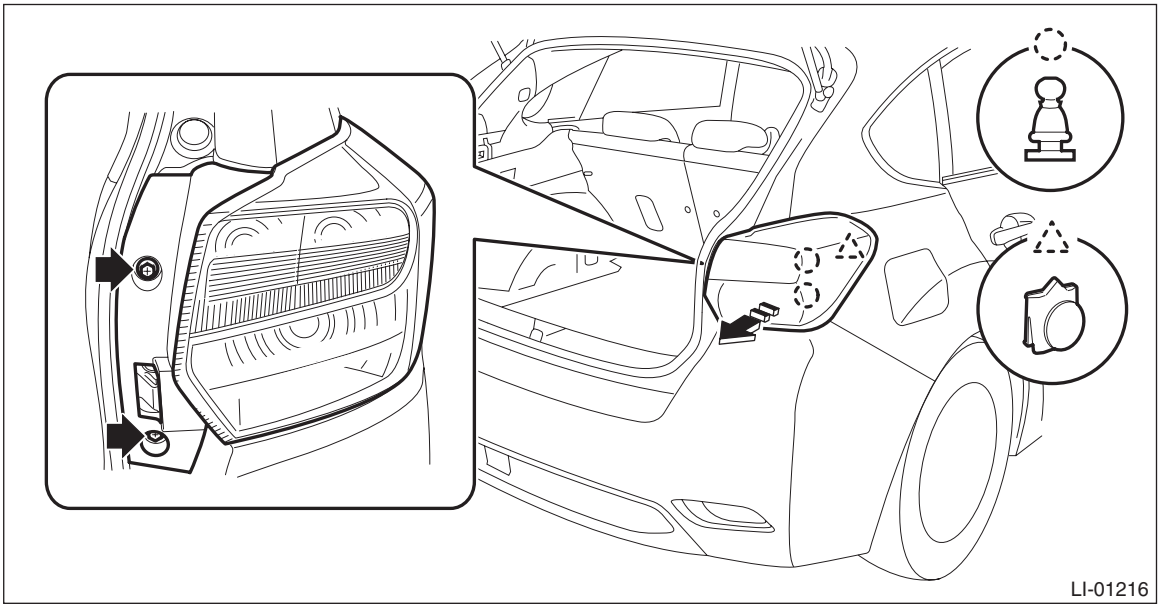


2. 5 DOOR MODEL/XV MODEL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

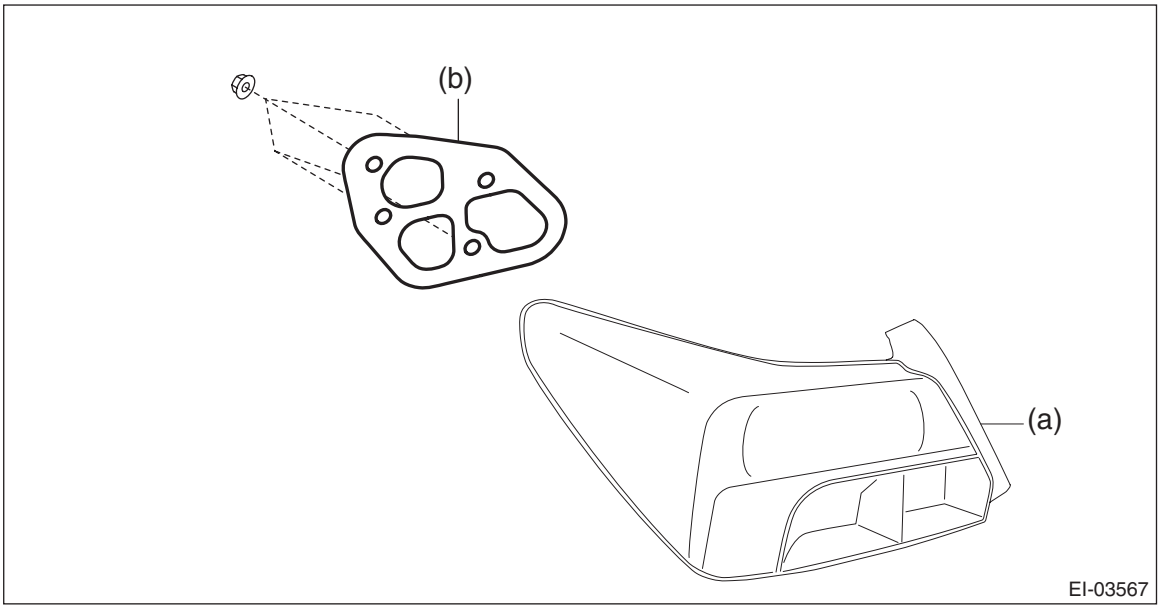
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the light assembly - rear combination.

CAUTION:
Be careful not to damage the clips.
(1) Release the bolts and clips, then pull out the light assembly - rear combination to the vehicle rear.
(2) Disconnect the connector and remove the light assembly - rear combination.



B: INSTALLATION

CAUTION:
For 4 door model, replace the gasket - rear combination (b) of the light assembly - rear combination (a) with a new part. If the gasket - rear combination is reused, water may come inside of the vehicle.



Install each part in the reverse order of removal.

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

C: INSPECTION

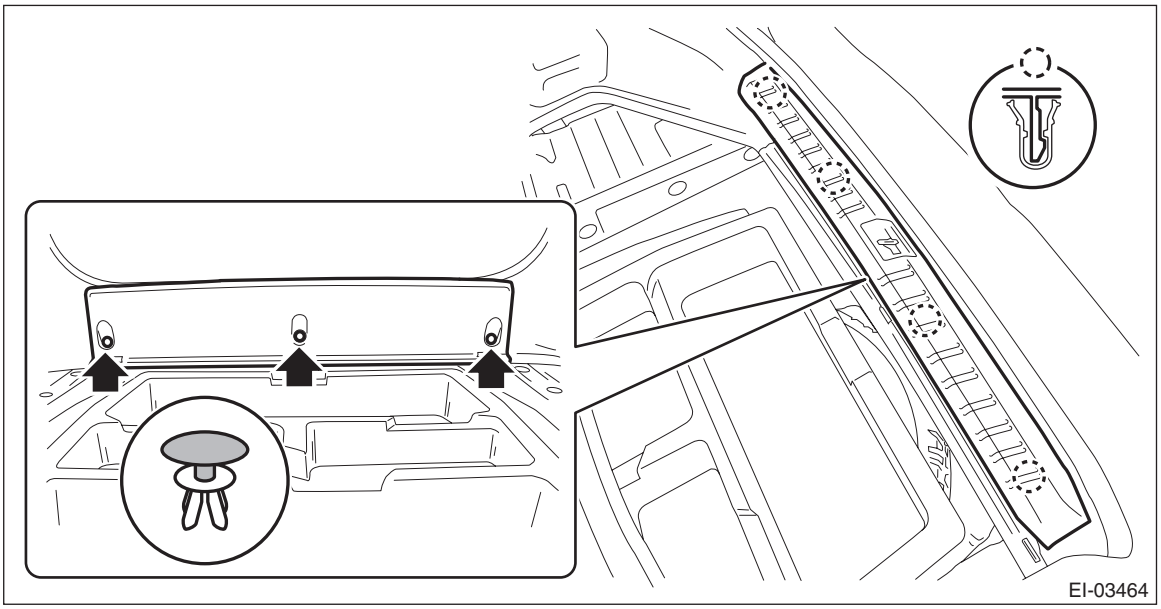
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

25.Tail/Stop Light Bulb

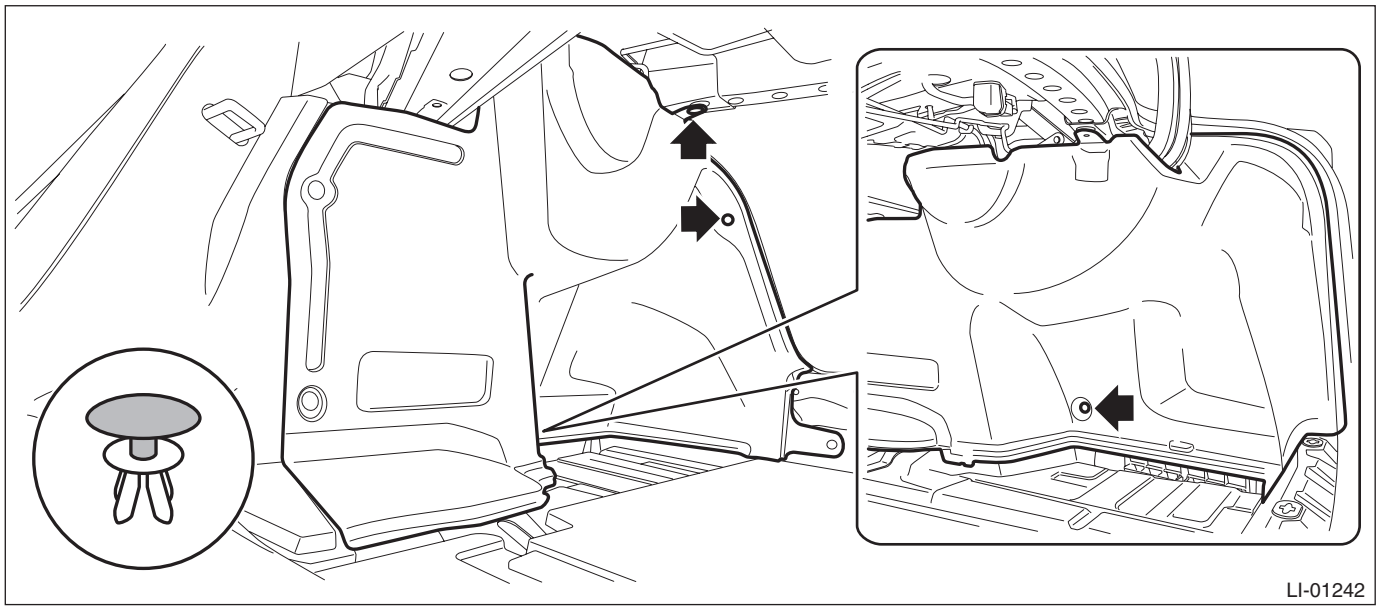
A: REMOVAL

1. 4 DOOR MODEL

1) Disconnect the ground cable from battery.
2) Remove the mat - trunk.
3) Remove the trim panel - trunk rear.
   (1) Remove the clip.
   (2) Release the claws, and remove the trim panel - trunk rear.

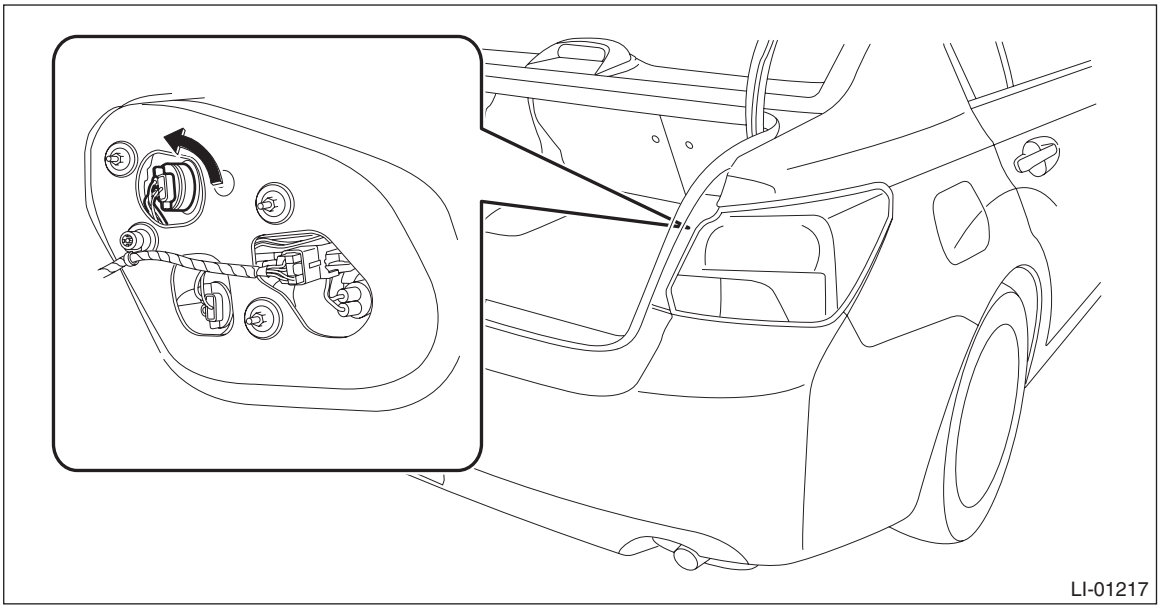


4) Remove the clips, and turn over the trim panel - trunk side.



5) Remove the bulb socket and tail light/stop light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



2. 5 DOOR MODEL/XV MODEL

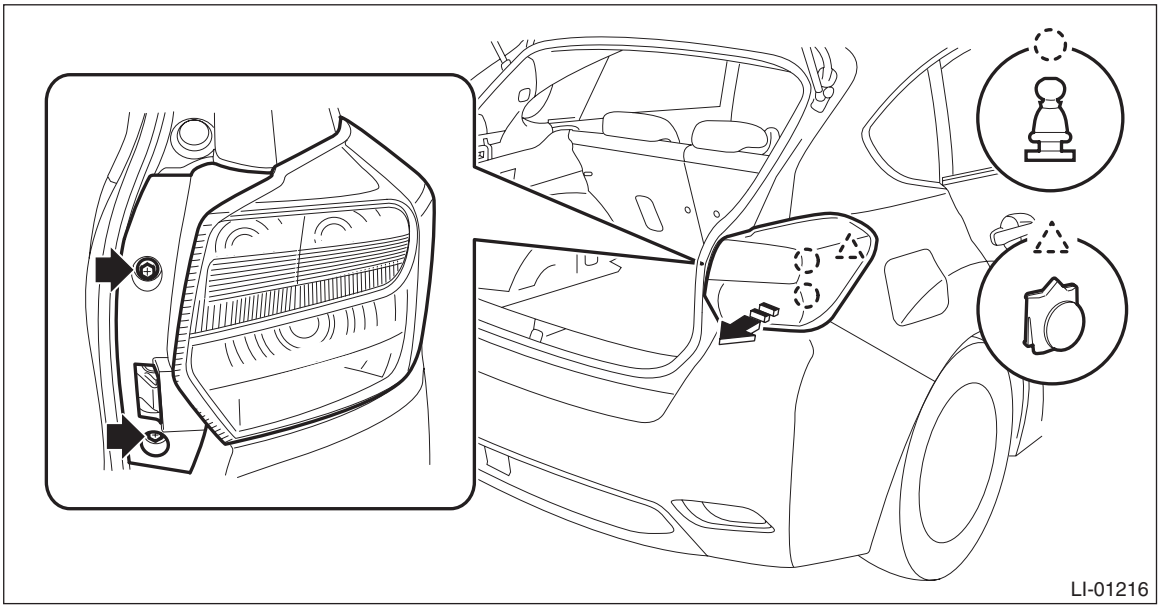
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - rear combination.

CAUTION:
Be careful not to damage the clips.

(1) Release the bolts and clips, then pull out the light assembly - rear combination to the vehicle rear.
(2) Disconnect the connector and remove the light assembly - rear combination.

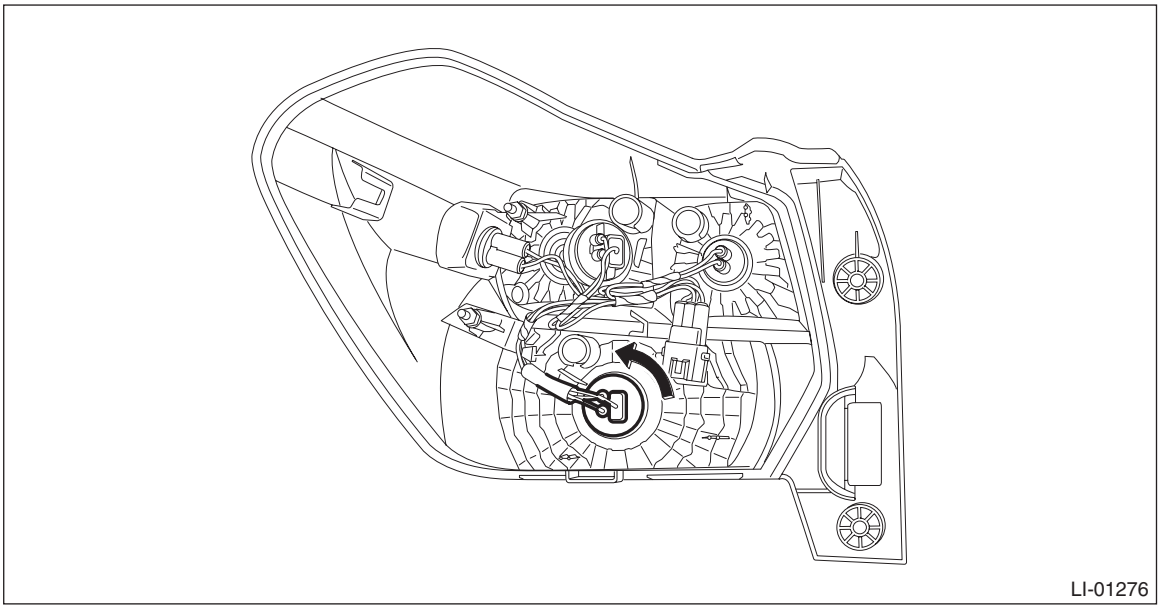


3) Remove the bulb socket and tail light/stop light bulb.

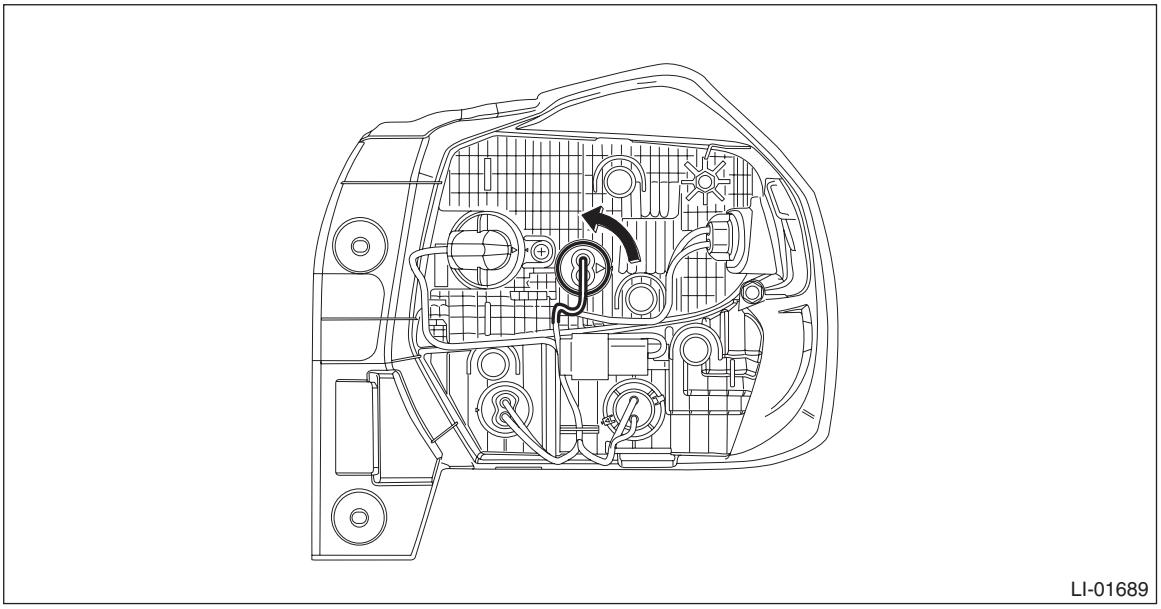
CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.

NOTE:
Only tail light bulb for HEV model

- Gasoline engine model



- HEV model



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Light assembly - rear combination (5 door model/XV model): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

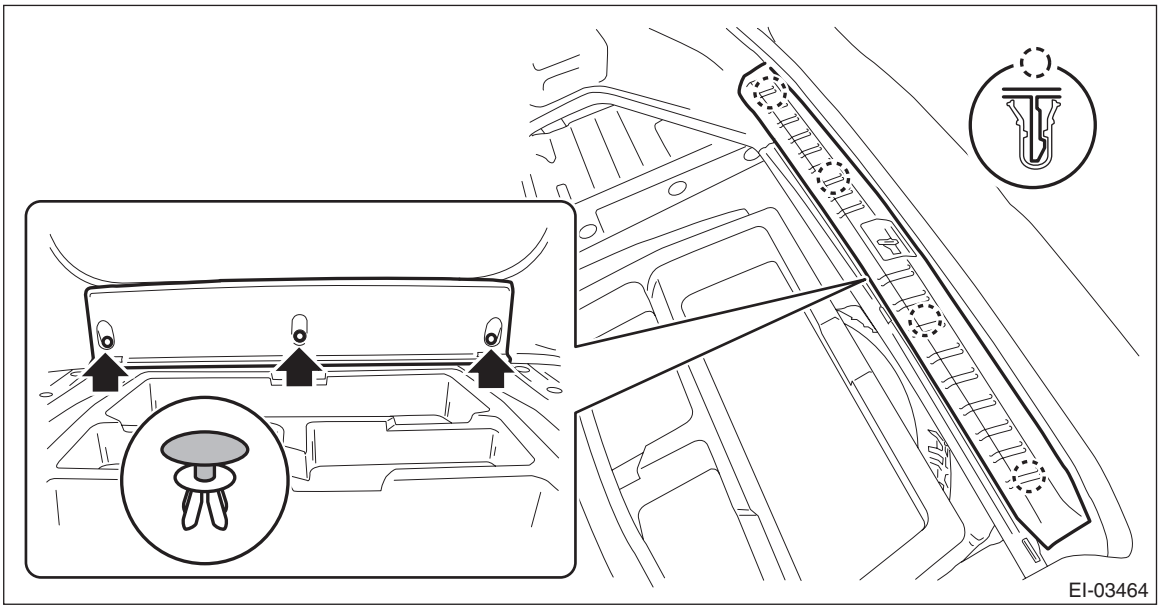
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

26.Rear Turn Signal Light Bulb

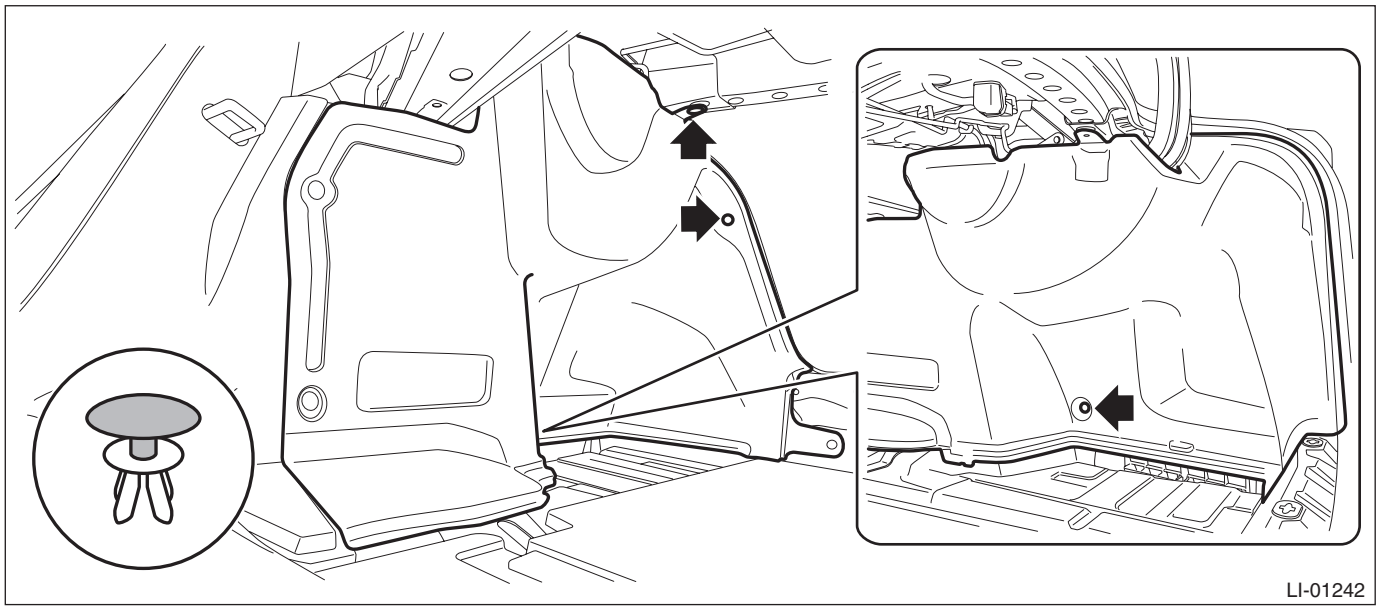
A: REMOVAL

1. 4 DOOR MODEL

1) Disconnect the ground cable from battery.
2) Remove the mat - trunk.
3) Remove the trim panel - trunk rear.
   (1) Remove the clip.
   (2) Release the claws, and remove the trim panel - trunk rear.

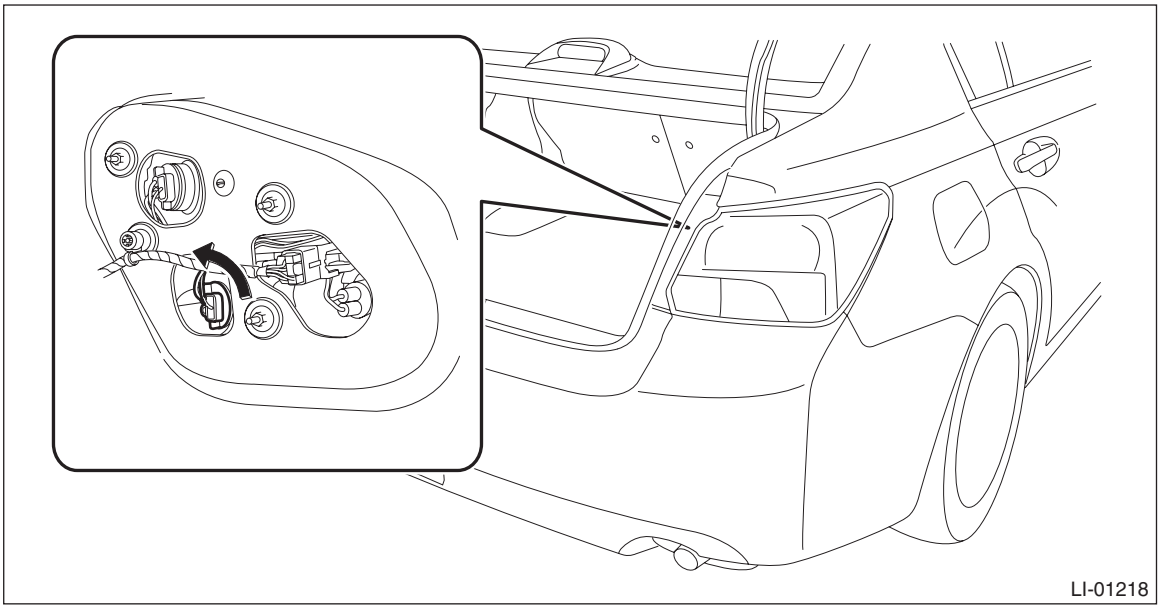


4) Remove the clips, and turn over the trim panel - trunk side.



5) Remove the bulb socket and rear turn signal light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



2. 5 DOOR MODEL/XV MODEL

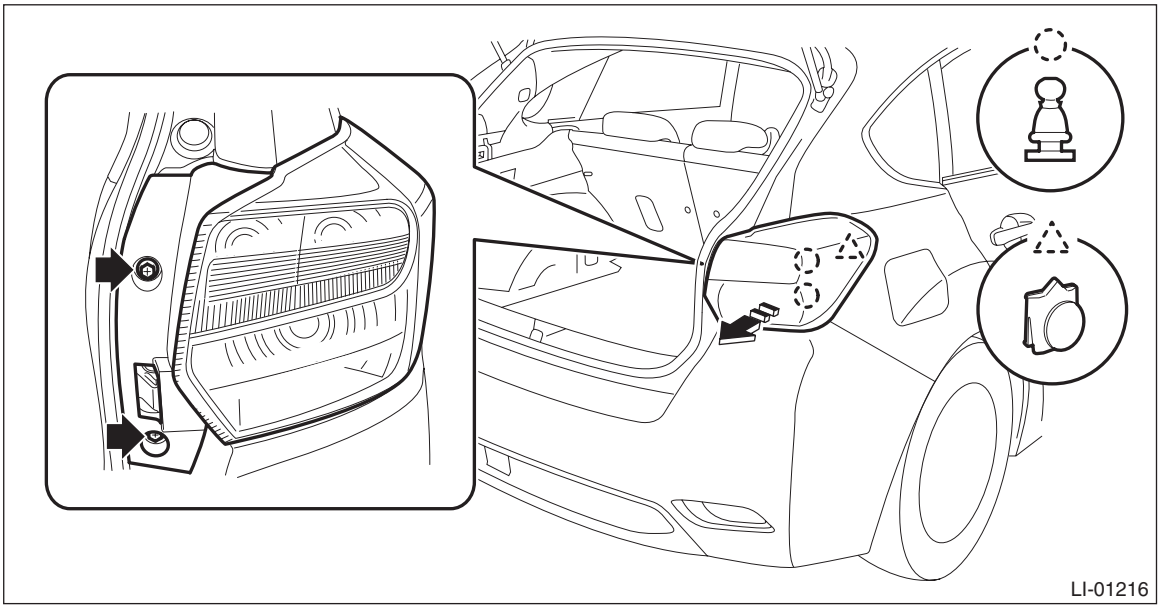
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - rear combination.

CAUTION:
Be careful not to damage the clips.

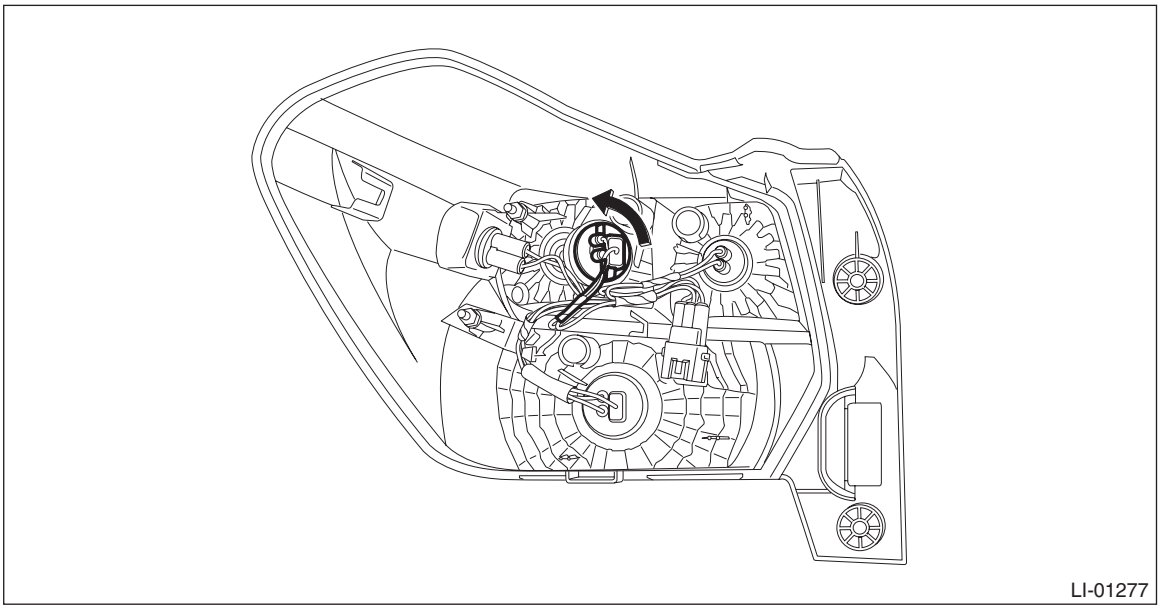
(1) Release the bolts and clips, then pull out the light assembly - rear combination to the vehicle rear.
(2) Disconnect the connector and remove the light assembly - rear combination.



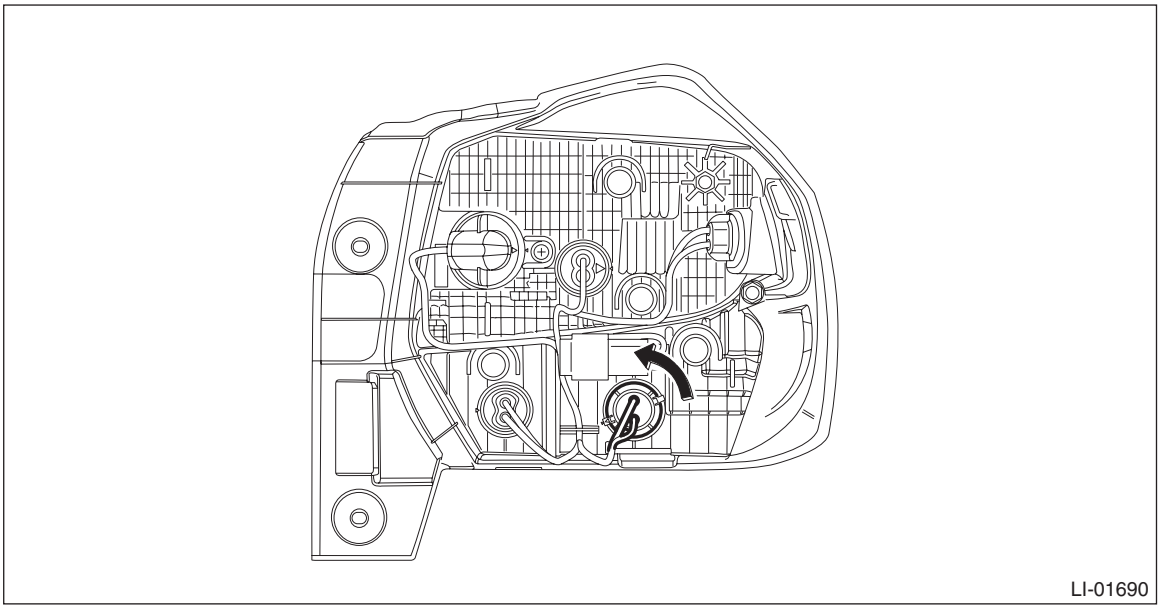
3) Remove the bulb socket and rear turn signal light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.

- Gasoline engine model



- HEV model



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Light assembly - rear combination (5 door model/XV 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.

27.Rear Side Marker Light Bulb

A: REMOVAL

1. 4 DOOR MODEL

It is integrated with the tail light bulb. For details concerning operation procedures, refer to “REMOVAL” of “Tail/Stop Light Bulb”. <Ref. to LI-63, REMOVAL, Tail/Stop Light Bulb.>

2. 5 DOOR MODEL/XV MODEL

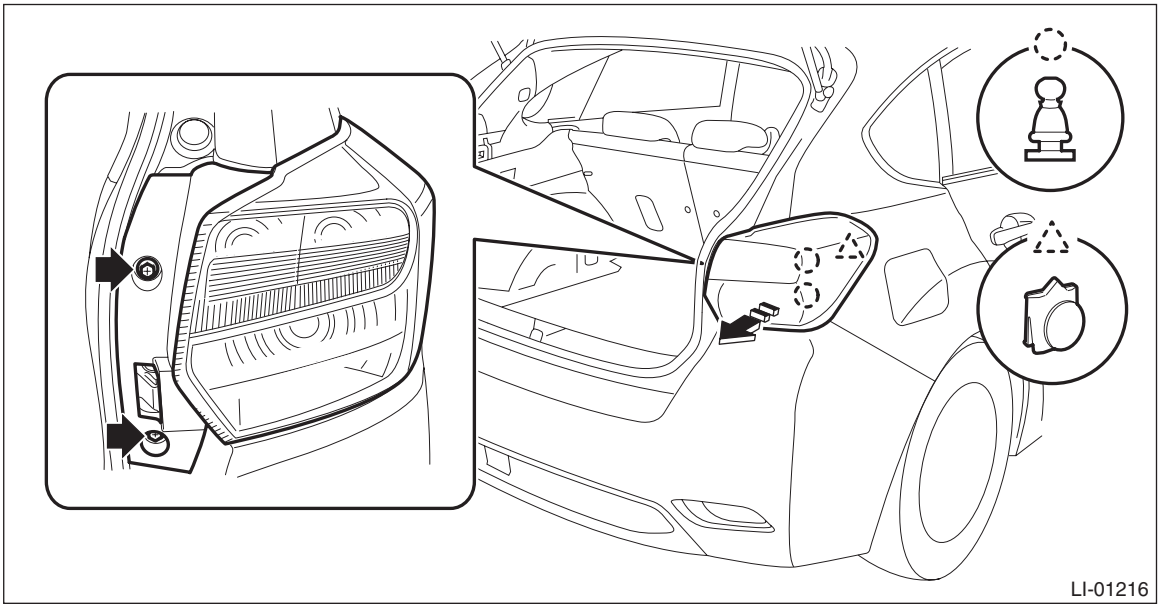
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - rear combination.

CAUTION:
Be careful not to damage the clips.

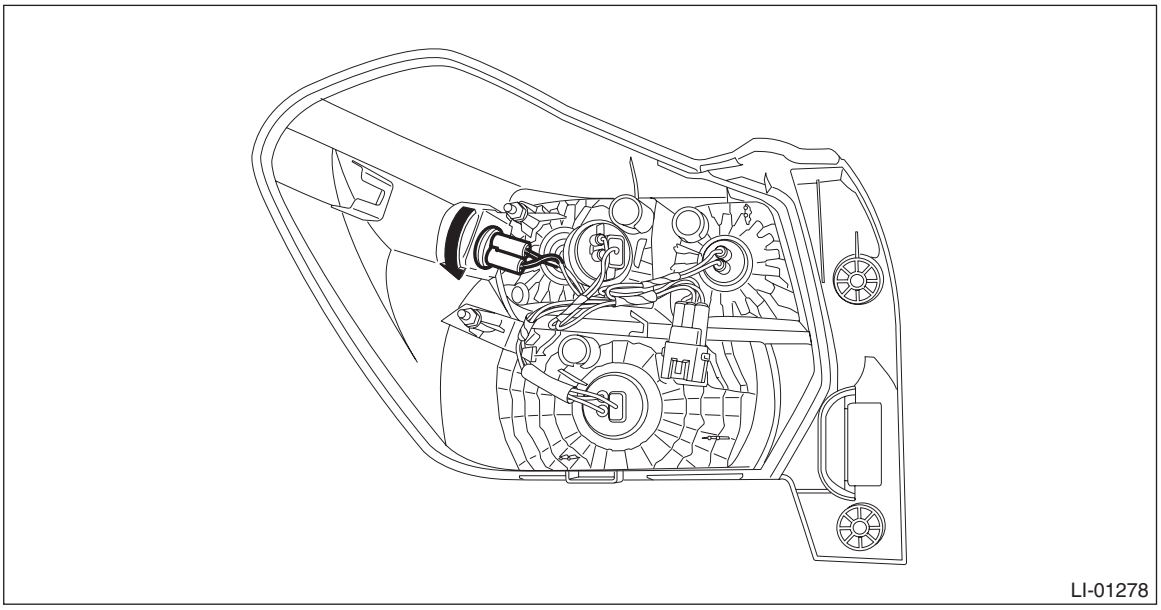
(1) Release the bolts and clips, then pull out the light assembly - rear combination to the vehicle rear.
(2) Disconnect the connector and remove the light assembly - rear combination.



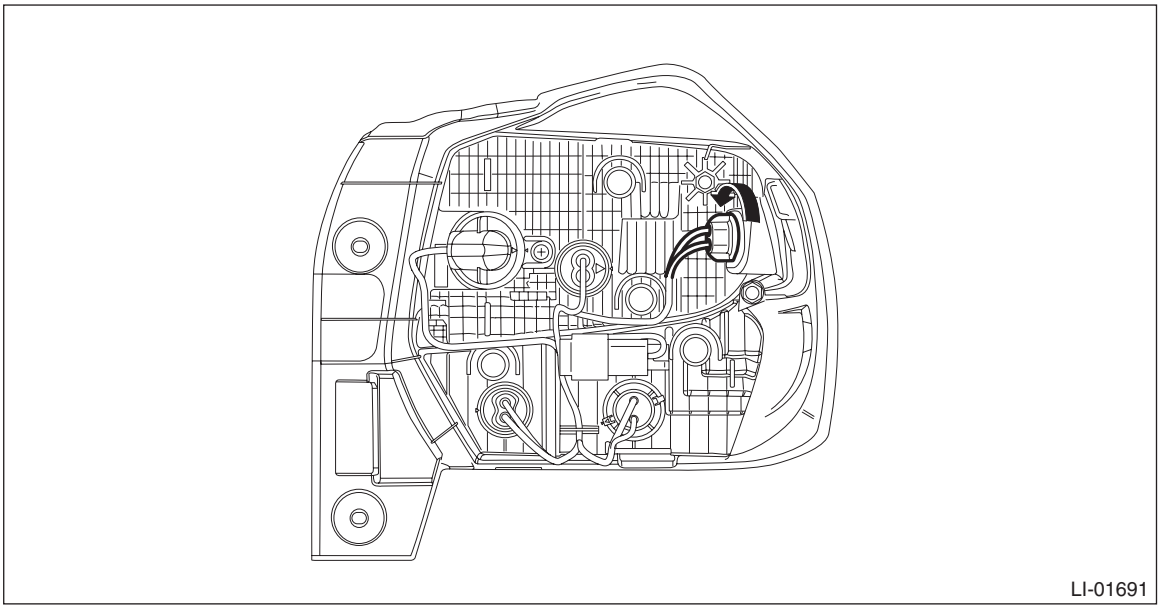
3) Remove the bulb socket, and remove the rear side marker light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.

- Gasoline engine model



- HEV model



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Light assembly - rear combination (5 door model/XV model): 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

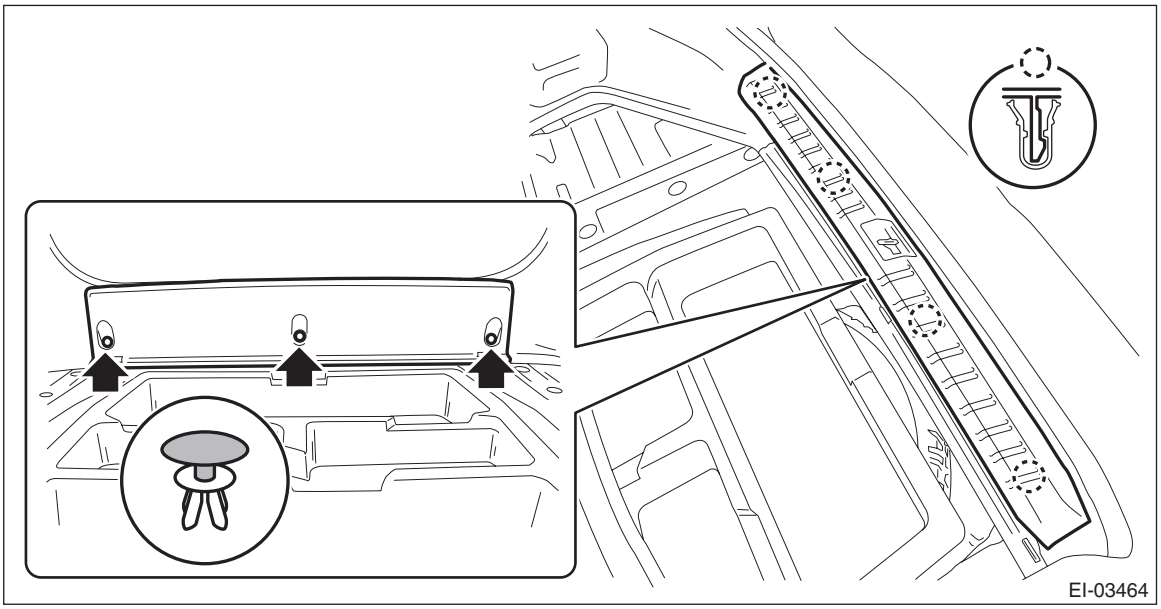
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

28.Back-up Light Bulb

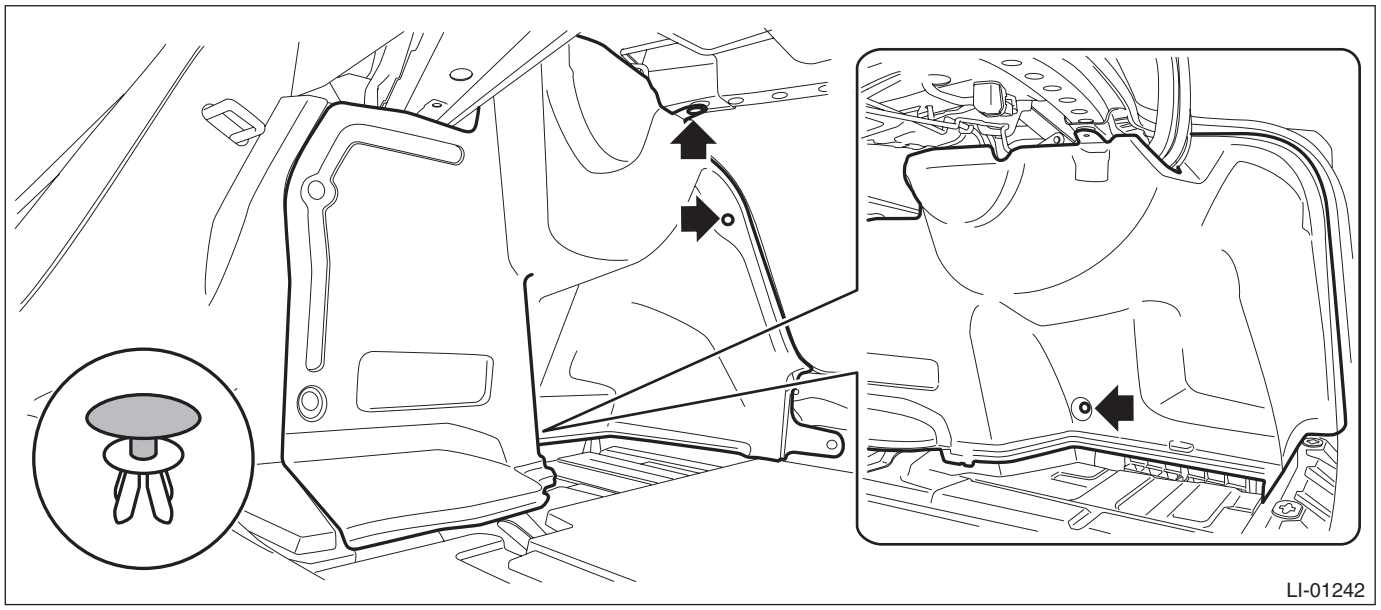
A: REMOVAL

1. 4 DOOR MODEL

1) Disconnect the ground cable from battery.
2) Remove the mat - trunk.
3) Remove the trim panel - trunk rear.
   (1) Remove the clip.
   (2) Release the claws, and remove the trim panel - trunk rear.

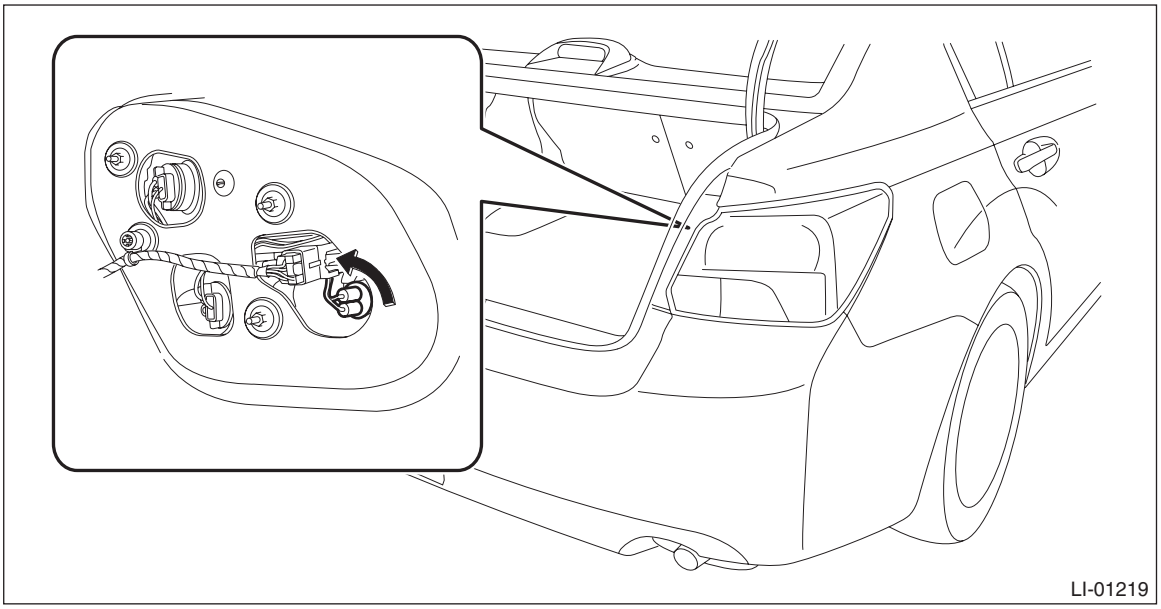


4) Remove the clips, and turn over the trim panel - trunk side.



5) Remove the bulb socket and back-up light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



2. 5 DOOR MODEL/XV MODEL

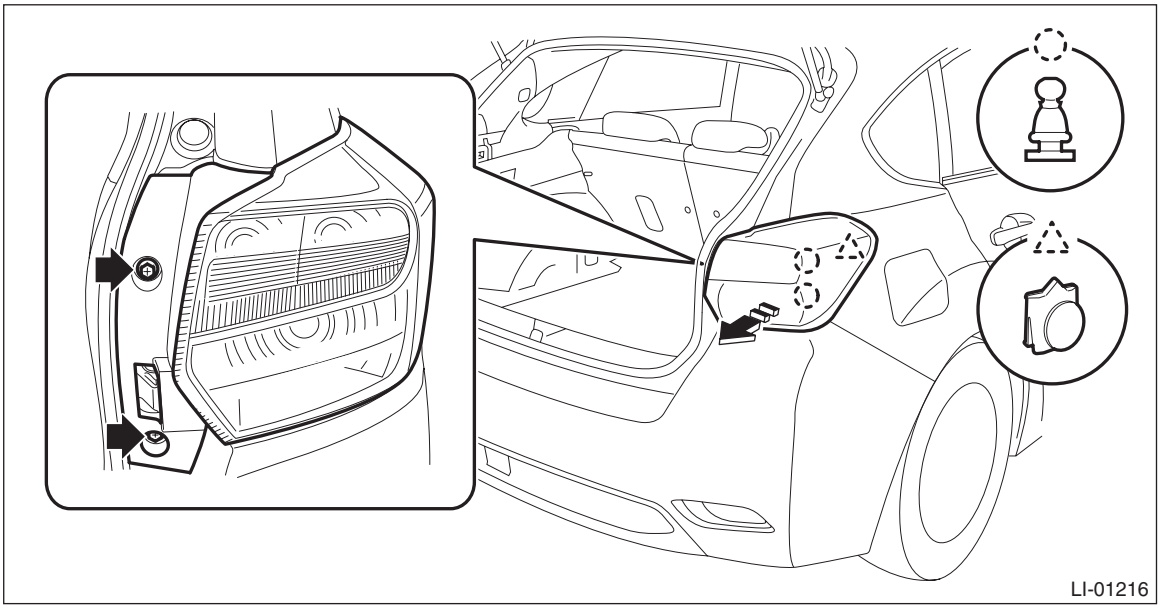
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - rear combination.

CAUTION:
Be careful not to damage the clips.

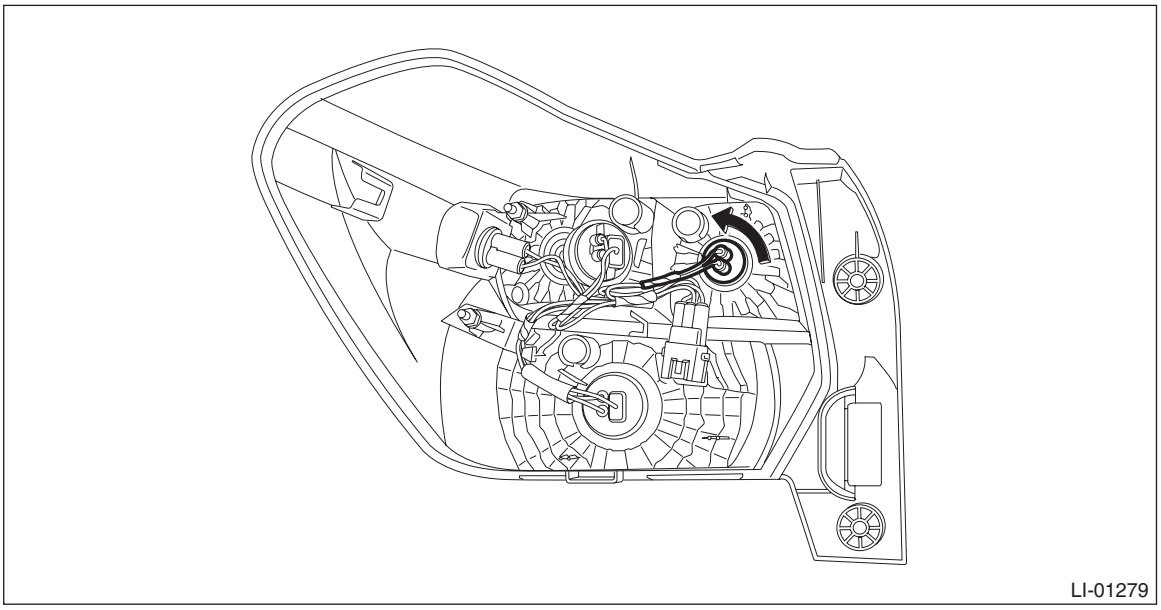
(1) Release the bolts and clips, then pull out the light assembly - rear combination to the vehicle rear.
(2) Disconnect the connector and remove the light assembly - rear combination.



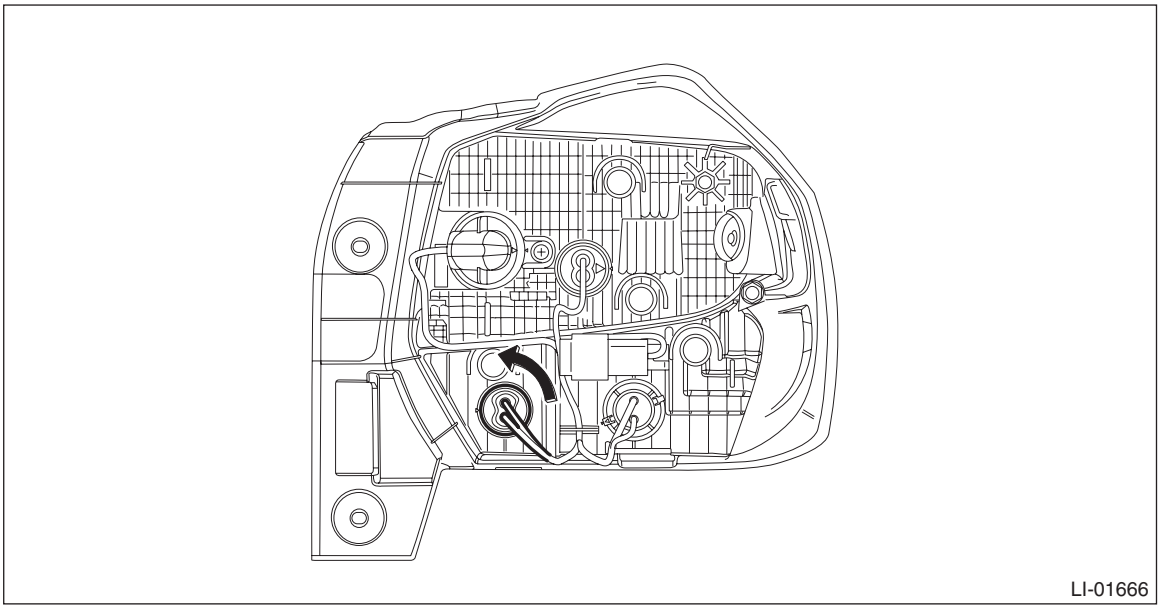
3) Remove the bulb socket and rear turn signal light bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.

- Gasoline engine model



- HEV model



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Light assembly - rear combination (5 door model/XV 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.

29.License Plate Light

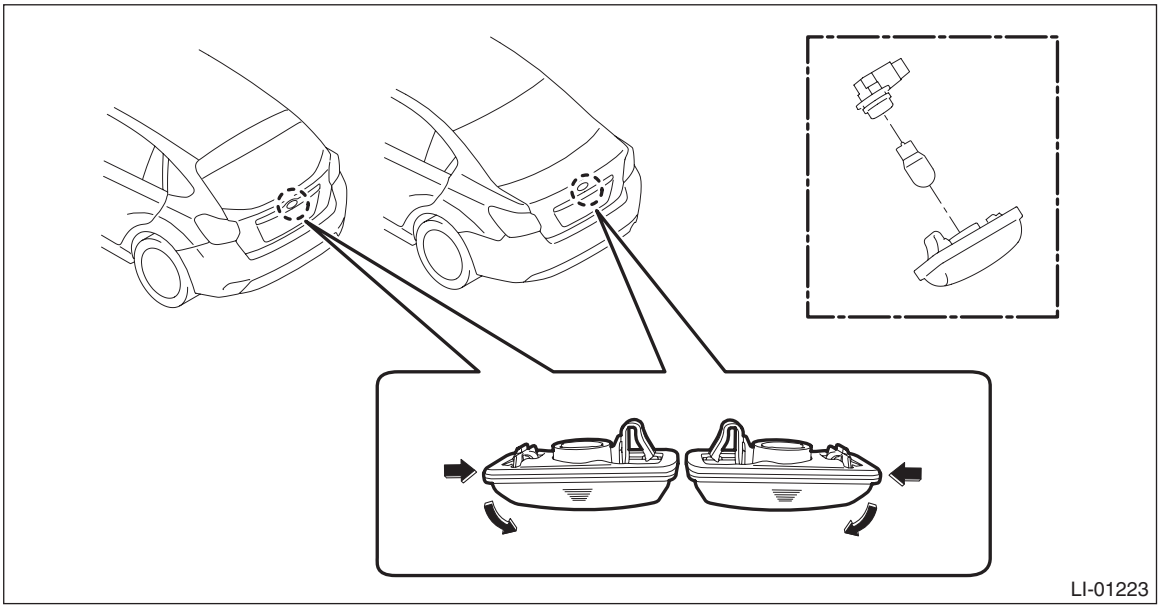
A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

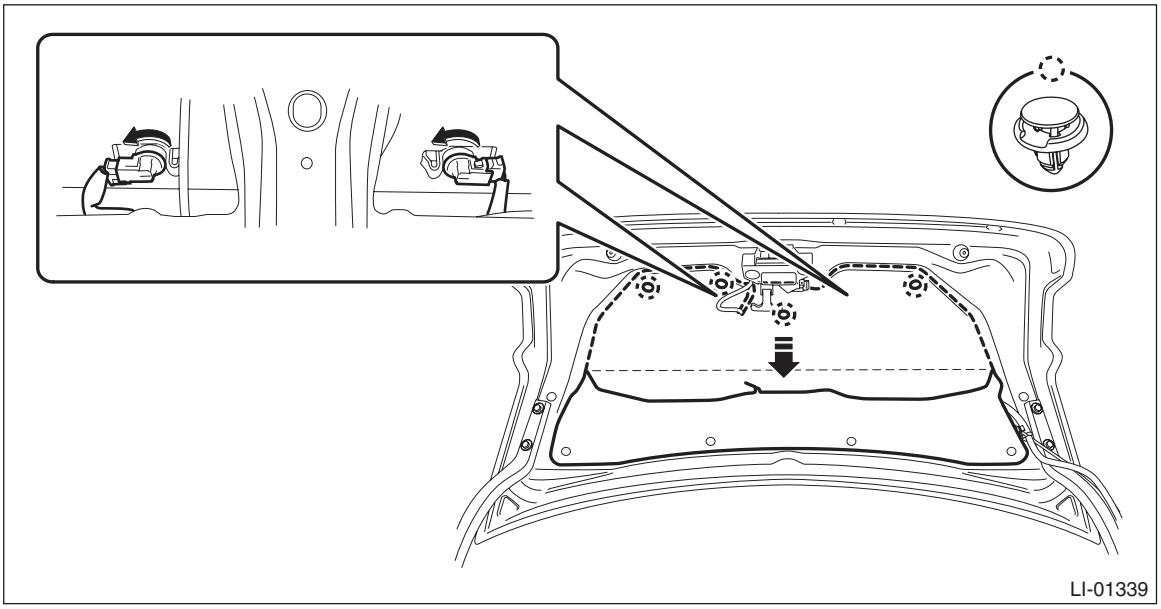
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the garnish - trunk. (4 door model) <Ref. to EI-162, REMOVAL, Trunk Lid Garnish.>
3) Remove the license plate light.
   (1) Release the claws and pull out the license plate light.
   (2) Disconnect the connector and remove the bulb socket and bulb from the license plate light.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



NOTE:
For 4 door model, when removing the bulb only, remove the trim panel - trunk lid halfway, then remove the bulb socket and the bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

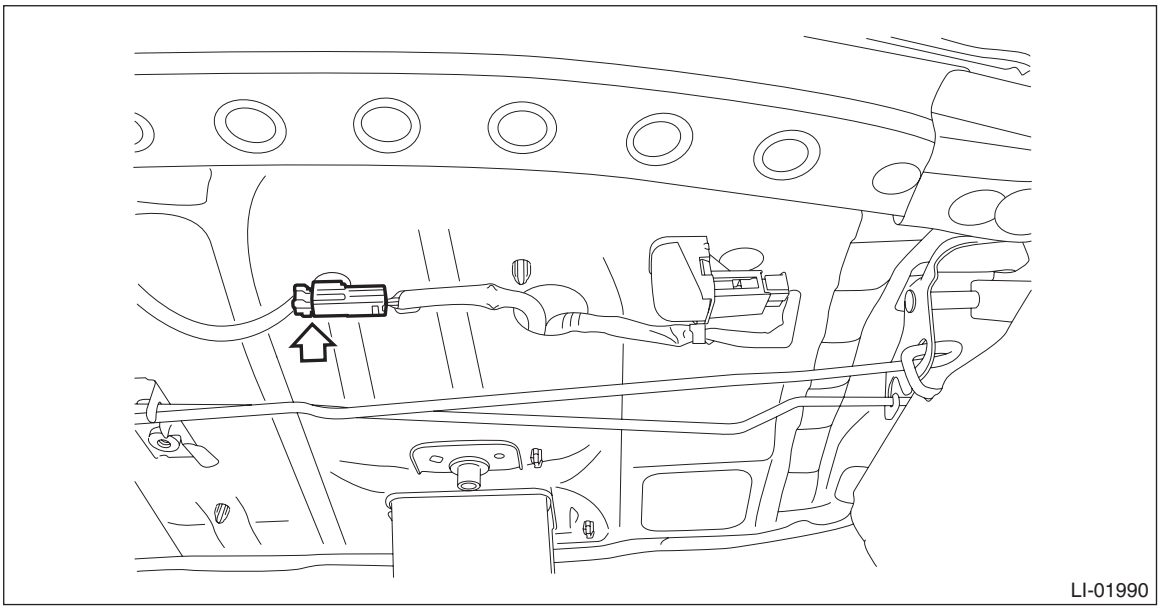
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

30.High-mounted Stop Light

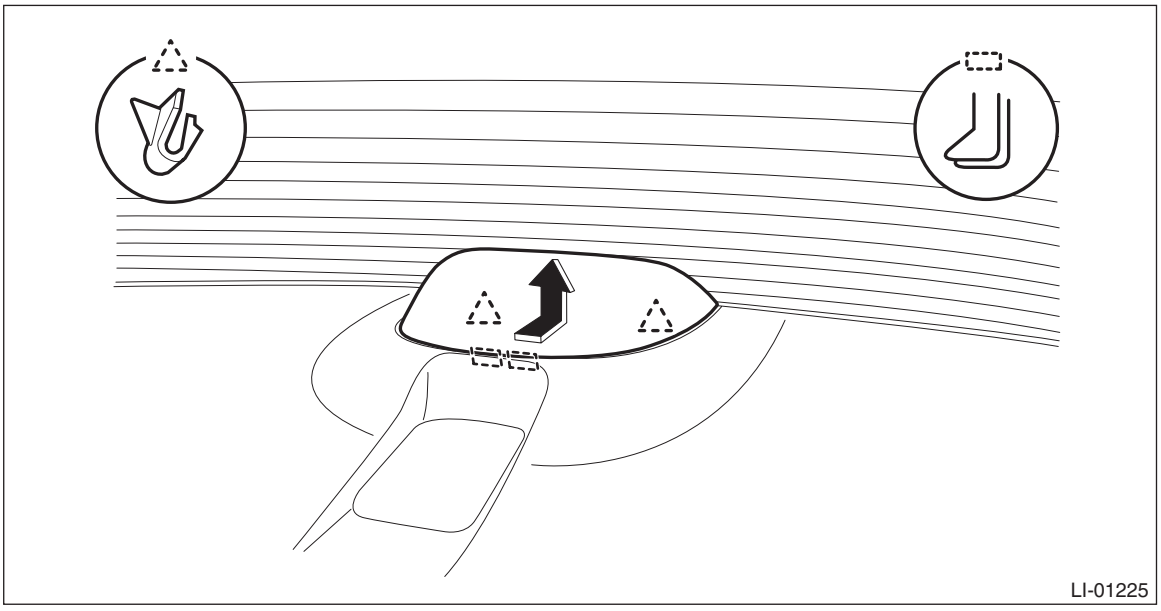
A: REMOVAL

1. 4 DOOR MODEL

1) Disconnect the ground cable from battery.
2) Remove the light assembly - high-mounted.
   (1) Disconnect the connector.

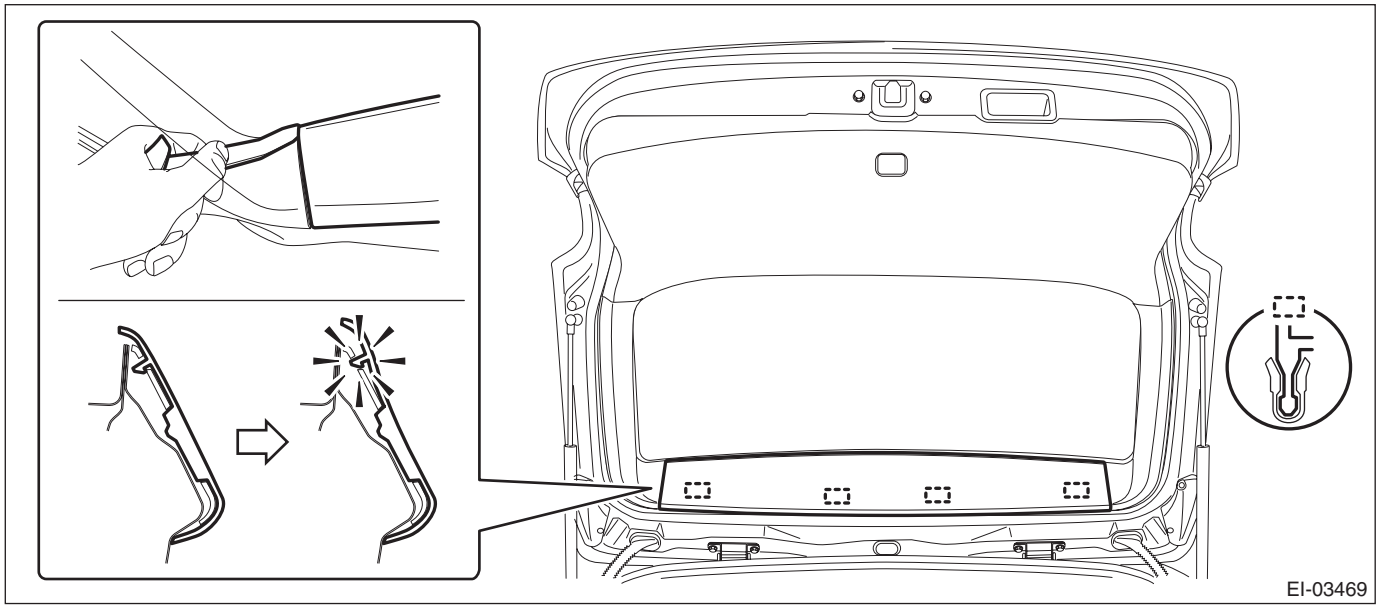


   (2) Release the claws, and remove the light assembly - high-mounted.

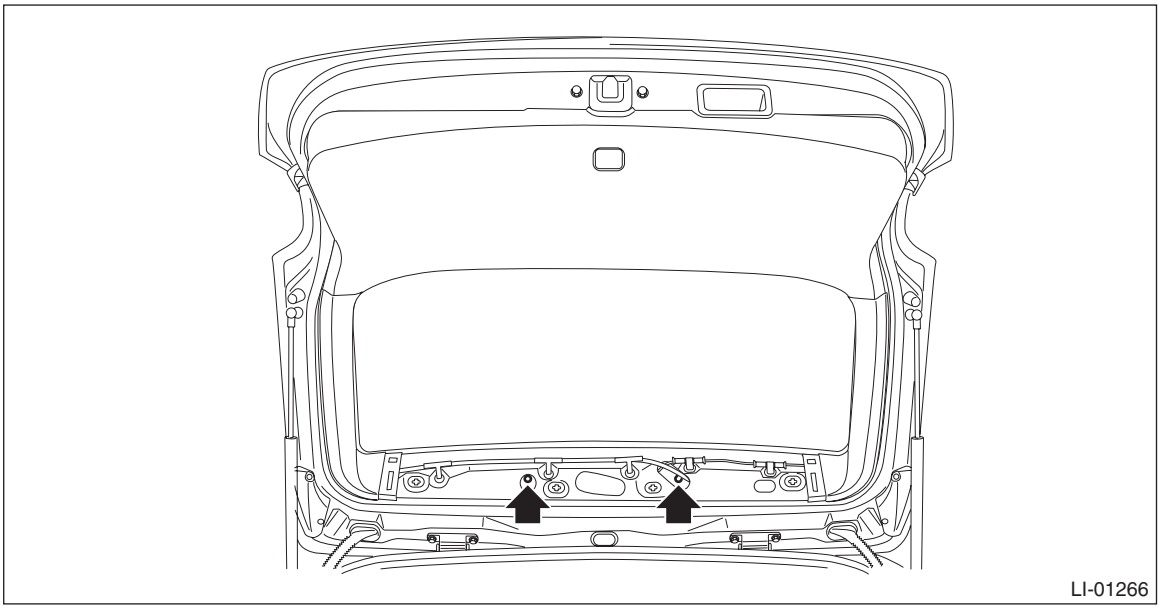


2. 5 DOOR/XV MODEL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>
2) Remove the trim panel - rear gate UPR.
   (1) Remove the claws on the trim edge.
   (2) Release the claws in the center of trim, and remove the trim panel - rear gate UPR.

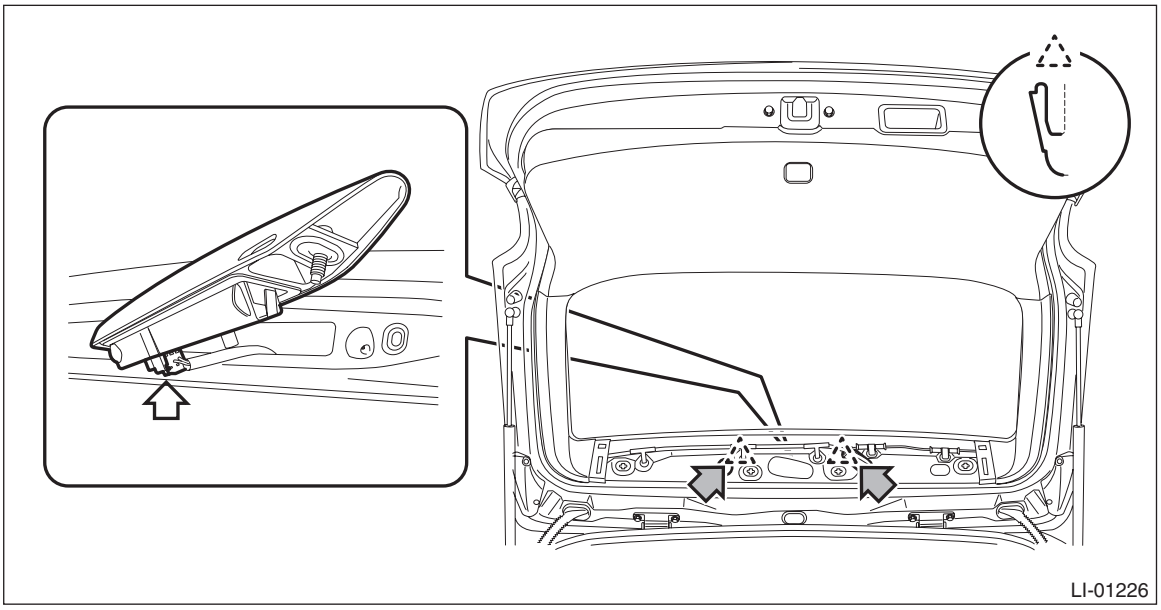


3) Remove the light assembly - high-mounted.
   (1) Remove the nut.



   (2) From the inside of the rear gate, push the claws on both side of the light assembly - high-mounted to take it out toward vehicle rear.

(3) Disconnect the connector and remove the light assembly - high-mounted.

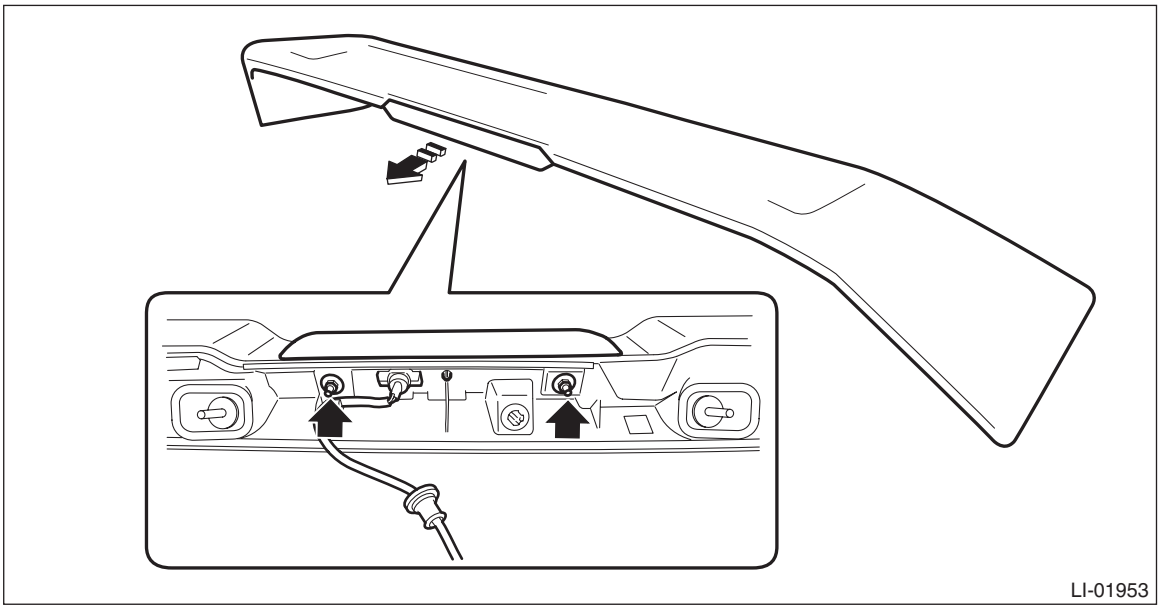


3. HEV MODEL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the trim panel - rear gate UPR. <Ref. to EI-158, REMOVAL, Rear Gate Trim.>
3) Remove the roof spoiler assembly. <Ref. to EI-71, REMOVAL, Roof Spoiler.>
4) Remove the nuts and remove the light assembly - high-mounted.



B: INSTALLATION

Install each part in the reverse order of removal.

Tightening torque:
Light assembly - high-mounted (5 door model/XV model and HEV model): 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

C: INSPECTION

1) Install the light to test if it illuminates normally.
2) If it fails to illuminate normally, replace the light assembly - high-mounted with a new part.

NOTE:
Since LED (Light Emitting Diode) is used for the light, replace the light assembly - high-mounted if the LED burns out.

31.Spot Map Light

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

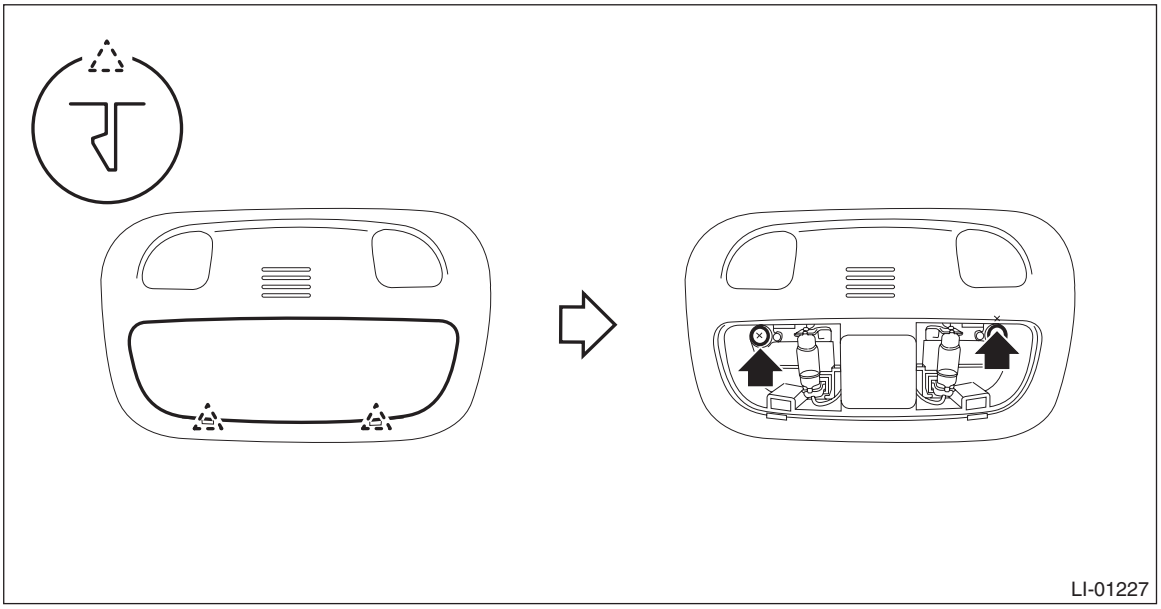
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - map.

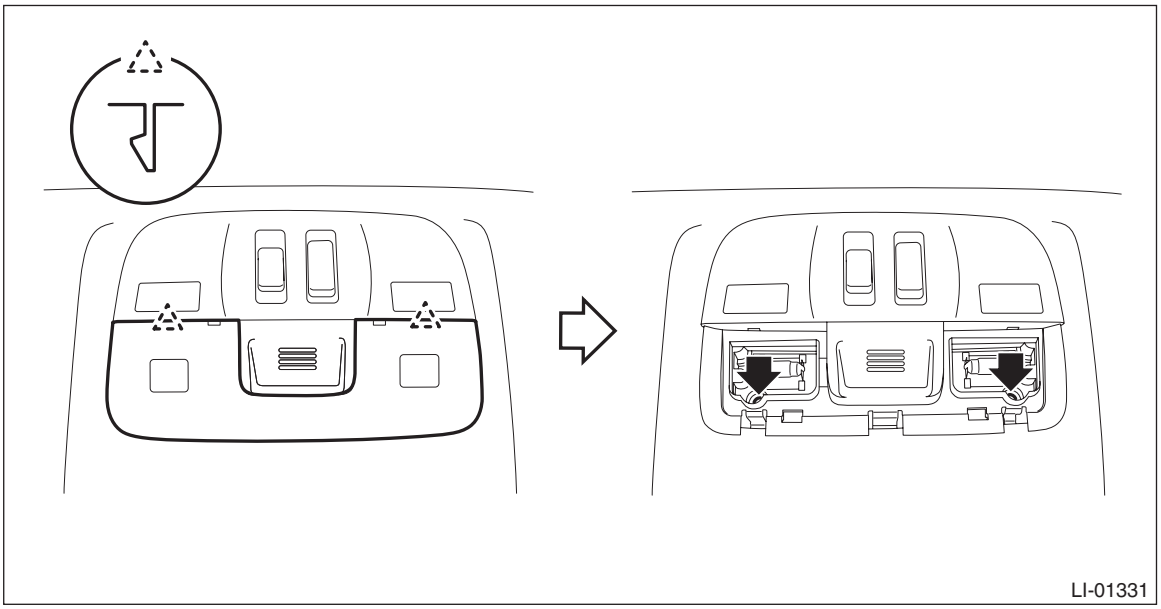
CAUTION:
When using a flat tip screwdriver, apply protective tape or cloth and be careful not to cause damage.

(1) Release the claws and remove the lens.
(2) Remove the screws and pull out the light assembly - map.

- Model without sunroof



- Model with sunroof



(3) Disconnect the connector and remove the light assembly - map and the bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the 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.

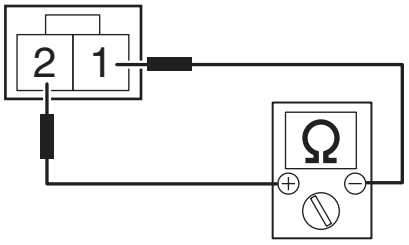
2. SPOT MAP LIGHT SWITCH

UNIT INSPECTION

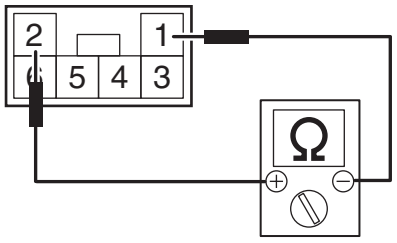
Preparation tool:
Circuit tester

1) Check the resistance between switch terminals.

- Model without sunroof

Terminal No.	Inspection conditions	Standard	Connection diagram
1 — 2	Switch OFF	1 MΩ or more	 LI-01253
	Switch ON	Approx. 18 Ω	

- Model with sunroof

Terminal No.	Inspection conditions	Standard	Connection diagram
1 — 2	Switch OFF	1 MΩ or more	 LI-01955
	Switch ON	Approx. 18 Ω	

2) Replace the light assembly - map if the inspection result is not within the standard value.

32.Room Light

A: REMOVAL

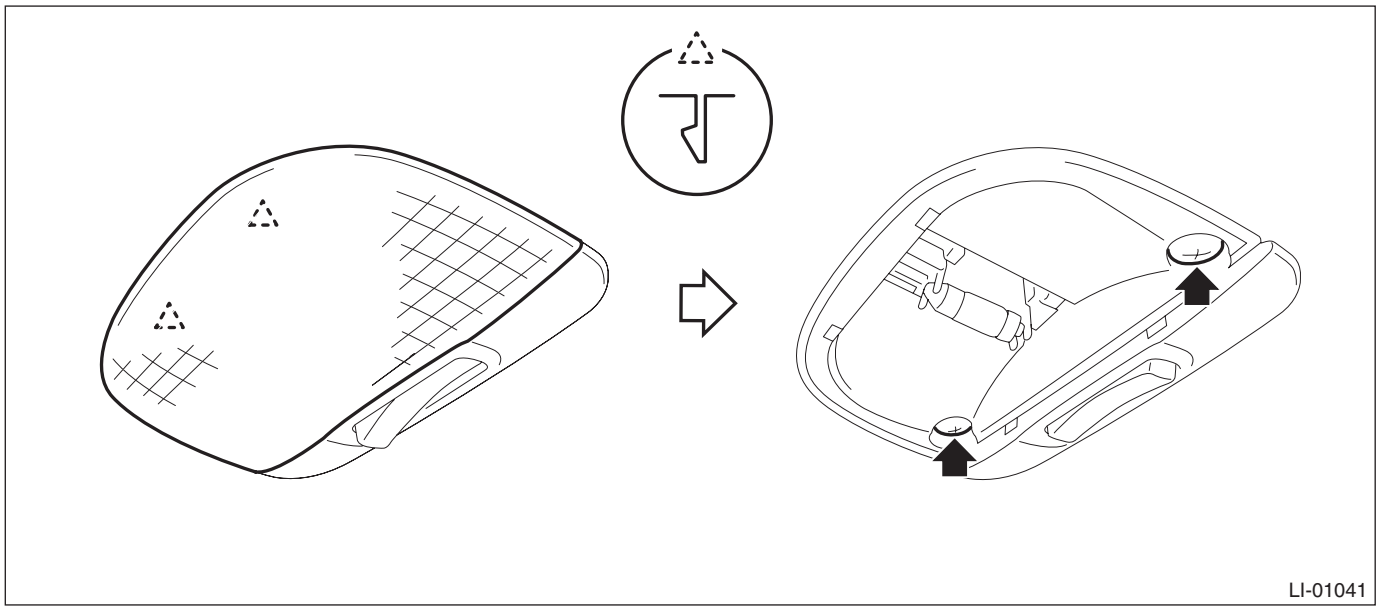
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - room.

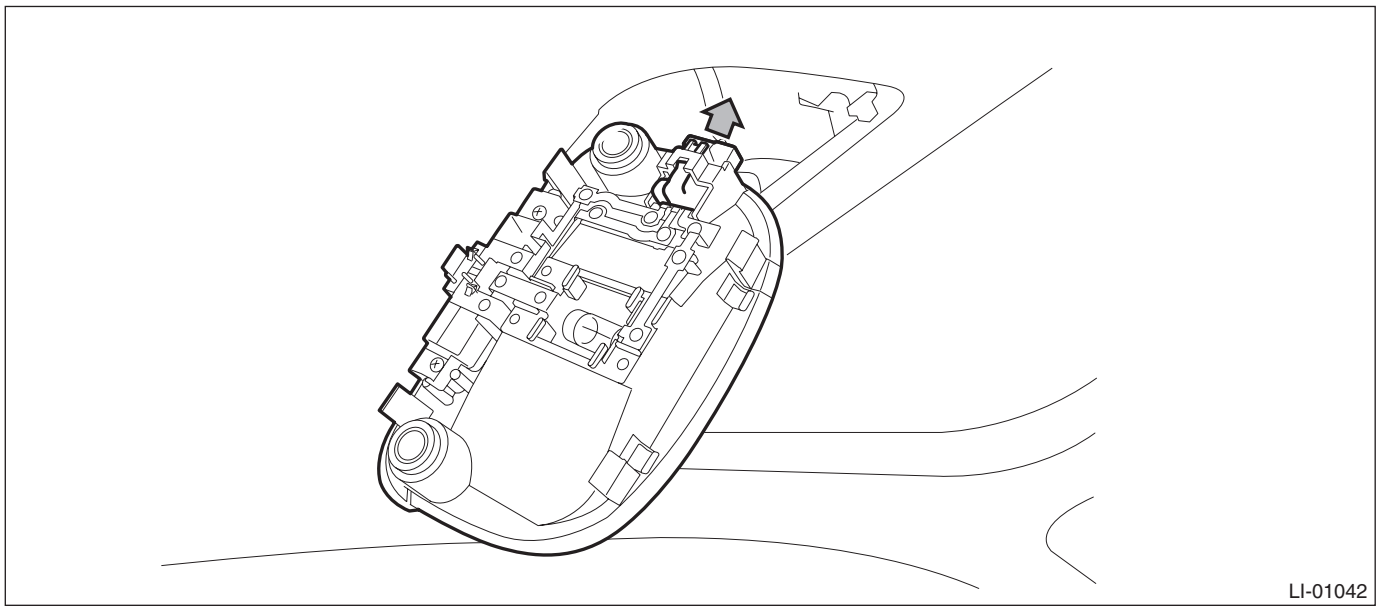
CAUTION:
When using a flat tip screwdriver, apply protective tape or cloth and be careful not to cause damage.

(1) Release the claws and remove the lens.
(2) Remove the screws and pull out the light assembly - room.



(3) Disconnect the connector and remove the light assembly - room and the bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1. ROOM LIGHT BULB

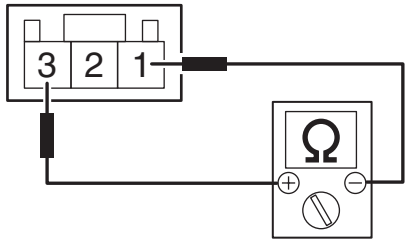
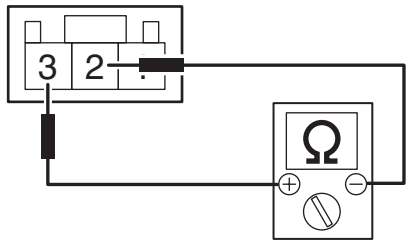
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

2. ROOM LIGHT SWITCH

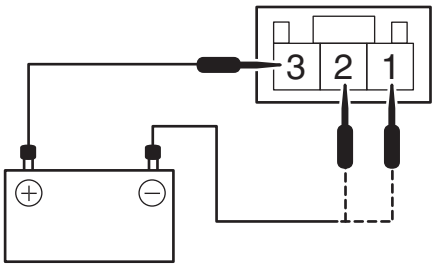
UNIT INSPECTION

Preparation tool:
Circuit tester

1) Check the resistance between switch terminals.

Terminal No.	Inspection conditions	Standard	Connection diagram
1 — 3	Switch OFF	1 MΩ or more	 LI-01254
	Switch ON	Less than 1 Ω	
2 — 3	Switch door	Less than 1 Ω	 LI-01255

2) Apply battery voltage to check the lighting condition of the light.

Terminal No.	Inspection conditions	Specification	Connection diagram
3 (+) — 1, 2 (–)	Switch OFF	Light OFF	 LI-01256
	Switch ON	Light ON	
	Switch door	Light ON	

3) Replace the light assembly - room if the inspection result is not within the standard value.

33.Luggage Room Light

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

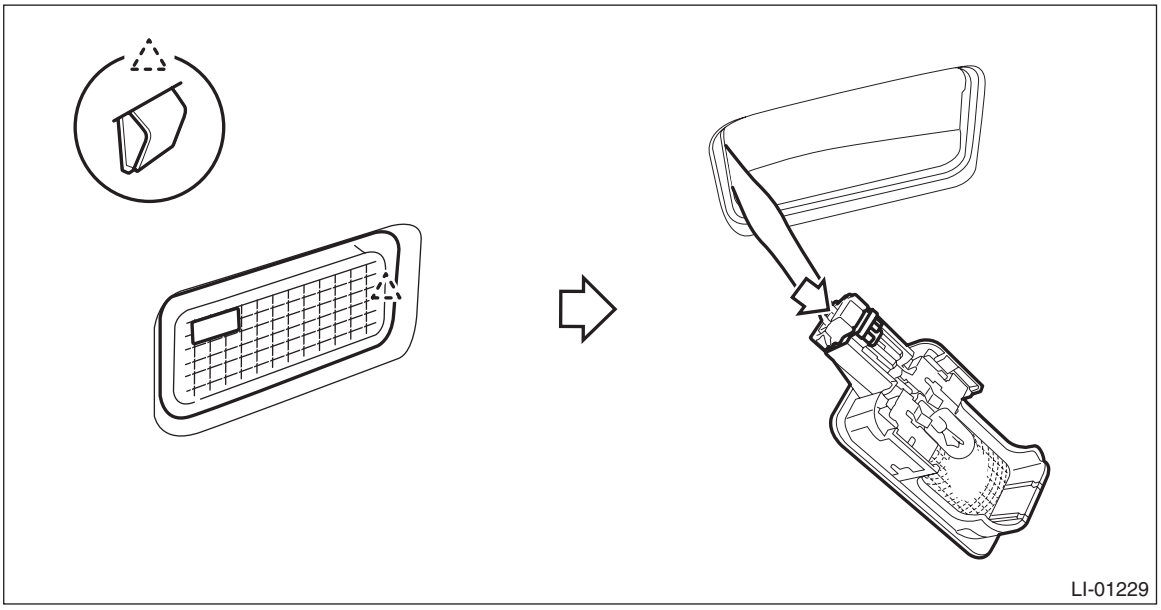
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - luggage room.

CAUTION:
When using a flat tip screwdriver, apply protective tape or cloth and be careful not to cause damage.

(1) Release the claws and remove the main body of the light assembly - luggage room.
(2) Disconnect the connector and remove the light assembly - luggage room and the bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1. LUGGAGE ROOM LIGHT BULB

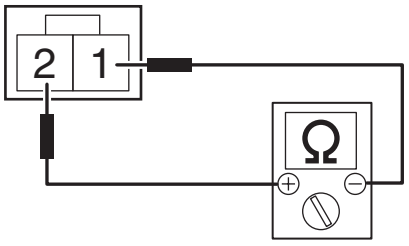
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) Replace the bulb if it is found defective.

2. LUGGAGE ROOM LIGHT SWITCH

Unit inspection

Preparation tool:
Circuit tester

1) Check the resistance between switch terminals.

Terminal No.	Inspection conditions	Specification	Connection diagram
1 — 2	Switch OFF	1 MΩ or more	 LI-01253
	Switch ON	Less than 1 Ω	

2) Replace the light assembly - luggage room if the inspection result is not within the standard value.

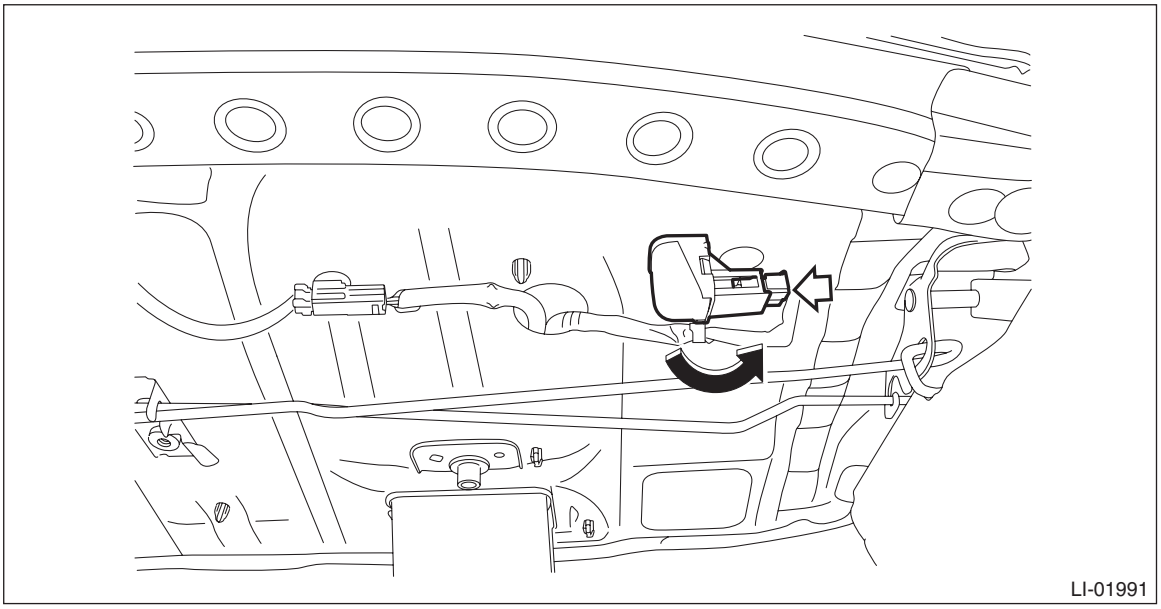
34.Trunk Room Light

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

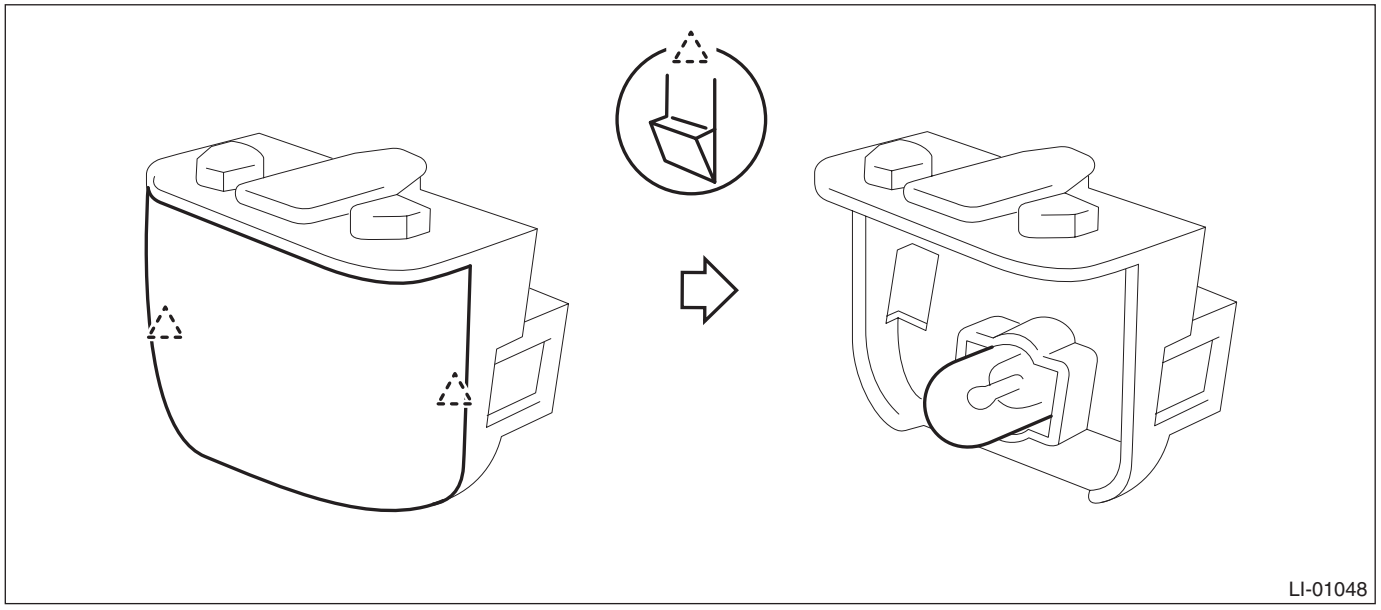
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the light assembly - trunk room.
   (1) Disconnect the connector.
   (2) Turn the light assembly - trunk room counterclockwise to 60° and remove the light.


LI-01991

3) Release the claws, and detach the lens and bulb.

CAUTION:
Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.


LI-01048

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.

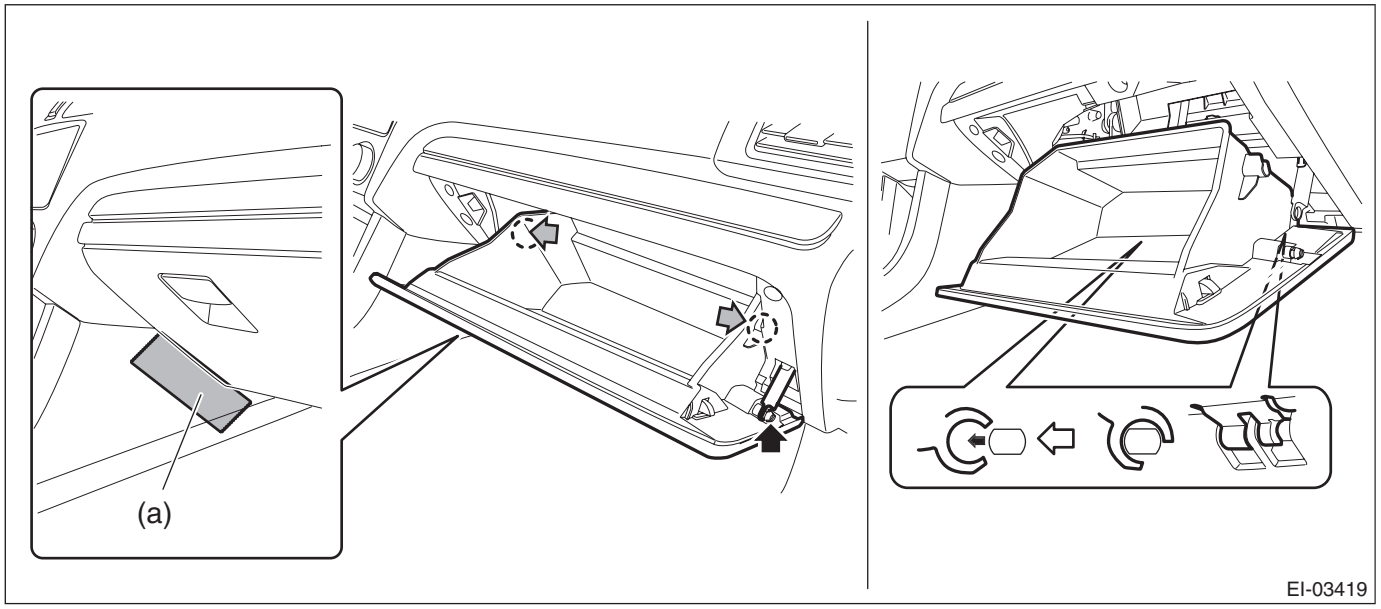
35.Glove Box Light

A: REMOVAL

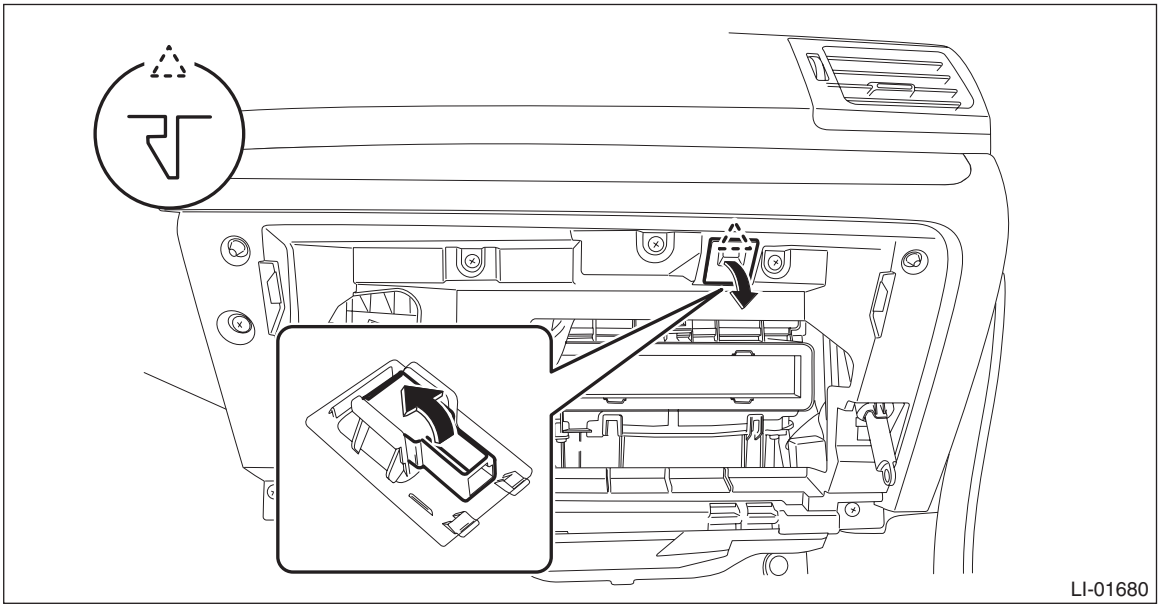
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the pocket assembly.
   (1) Attach the protective tape (a) to the panel center LWR.
   (2) Remove the damper COMPL - pocket.
   (3) Release the stoppers and remove the pocket assembly by pulling it toward you.



3) Remove the light - pocket.
   (1) Release the claws and remove the light - pocket cover from the back panel - pocket.
   (2) Disconnect the connector and remove the light - pocket from the cover.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Install the light to test if it illuminates normally.
2) If it fails to illuminate normally, replace the light - pocket with a new part.

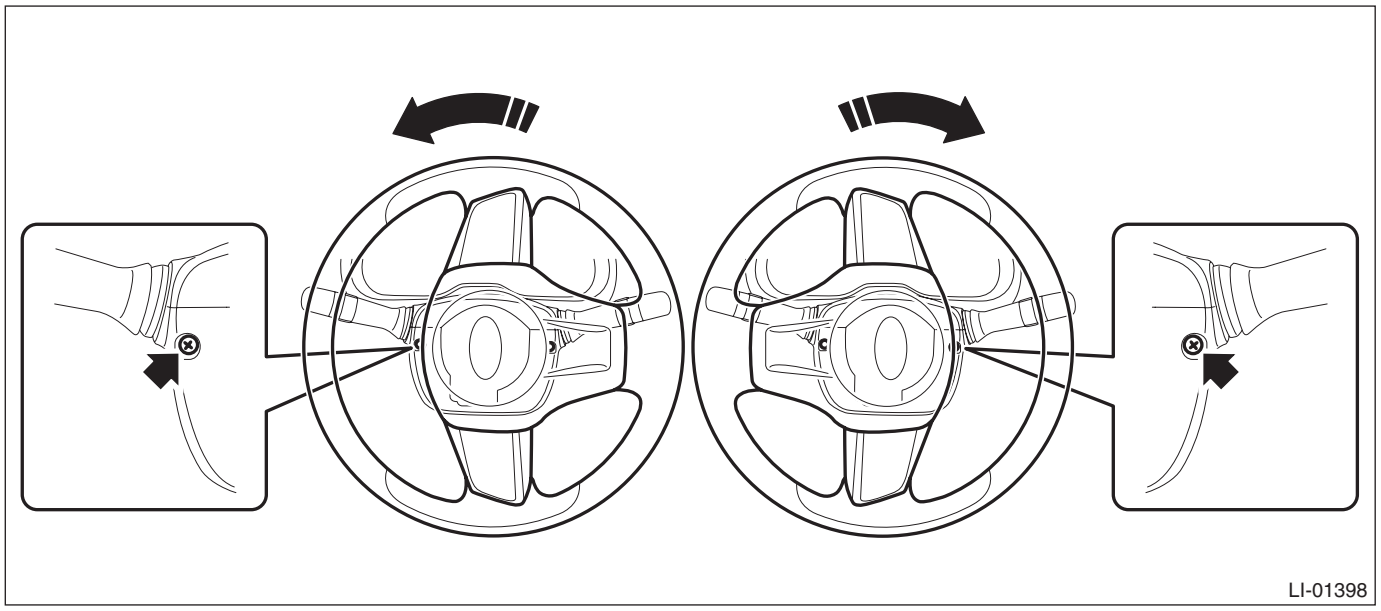
NOTE:
Since LED (Light Emitting Diode) is used for the light, replace the light - pocket if the LED burns out.

36.Ignition Switch Illumination

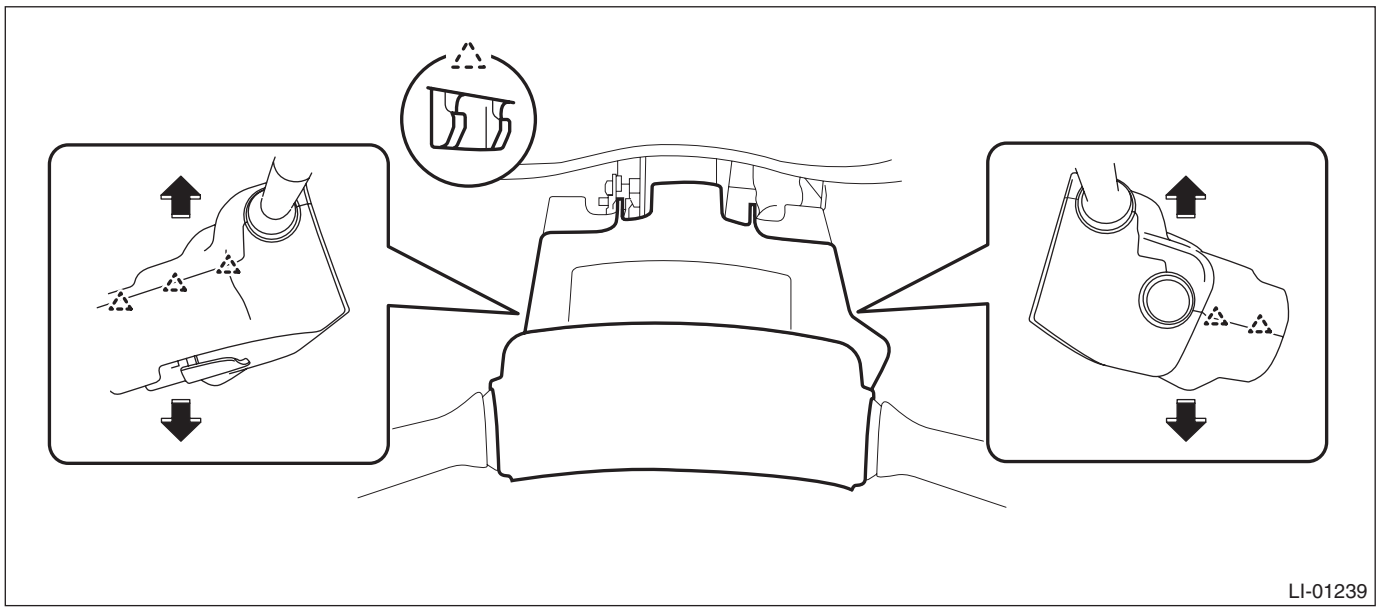
A: REMOVAL

NOTE:
The ignition switch illumination is integrated into the immobilizer antenna assembly.
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the cover assembly - column.
(1) Remove the screws by turning the steering wheel to right and left.

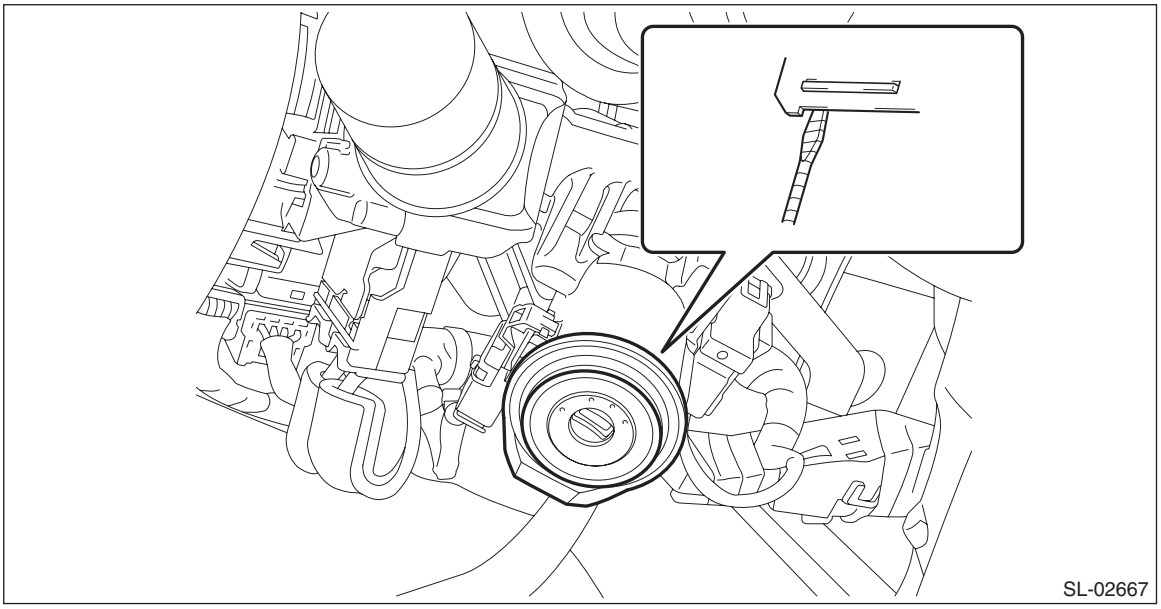

LI-01398

(2) Release the claw, and remove the cover assembly - column UPR and the cover assembly - column LWR.


LI-01239

3) Remove the ignition switch illumination.
   (1) Disconnect the connector.
   (2) Release the claw using a flat tip screwdriver or similar tool wrapped with a protection tape, and remove the ignition switch illumination.

CAUTION:
Do not apply excessive force to remove the ignition switch illumination lock. Otherwise they may be broken because those parts are the products made of a plastic.



B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

On the vehicle inspection

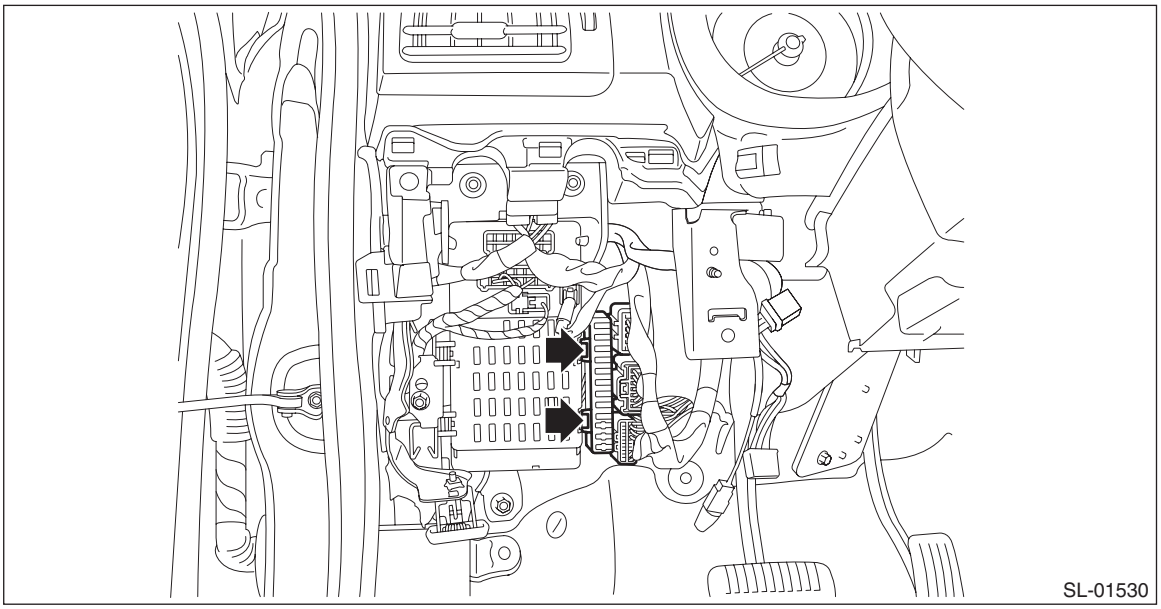
Preparation tool:
Circuit tester

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-31, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>

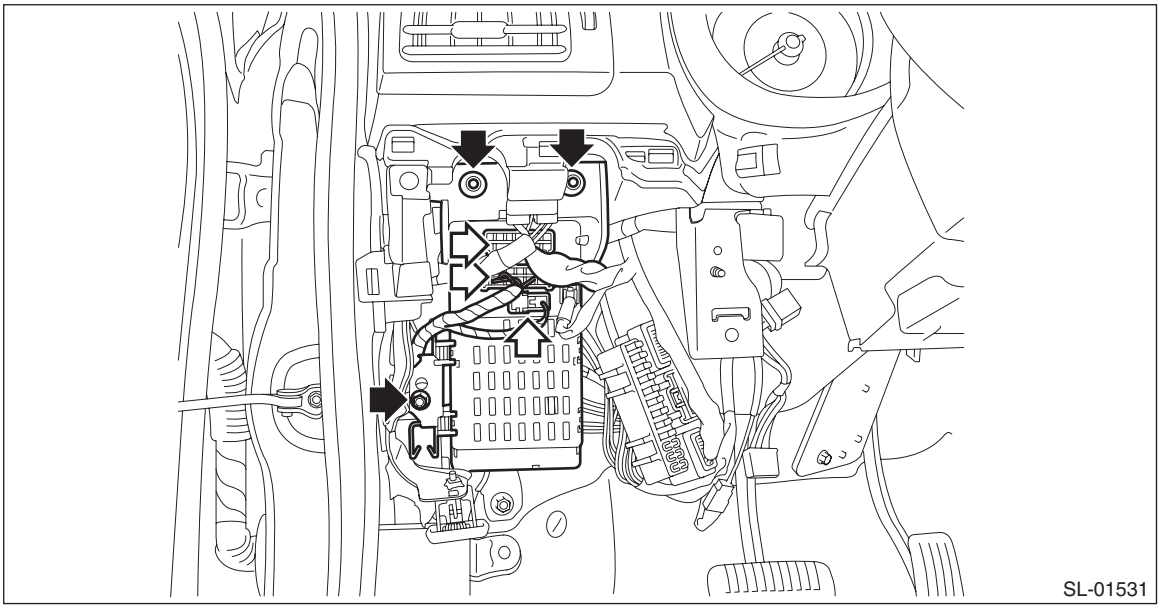
37.Auto Headlight Beam Leveler Control Module

A: REMOVAL

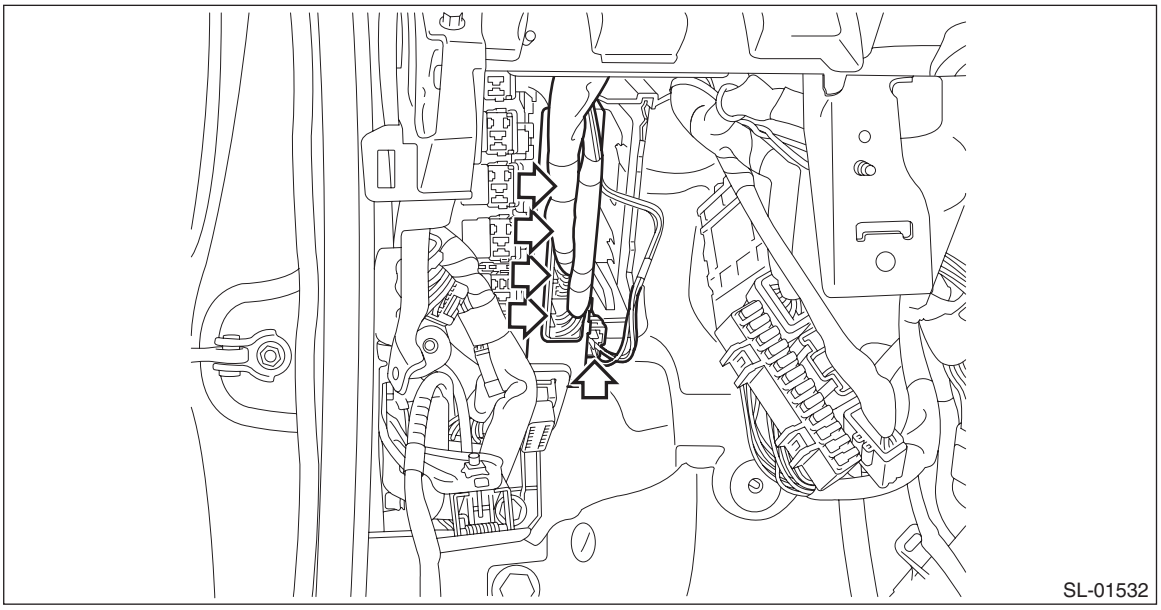
1) Remove the knee airbag module. <Ref. to AB-34, REMOVAL, Knee Airbag Module.>
2) Release the lock and remove the fuse holder.



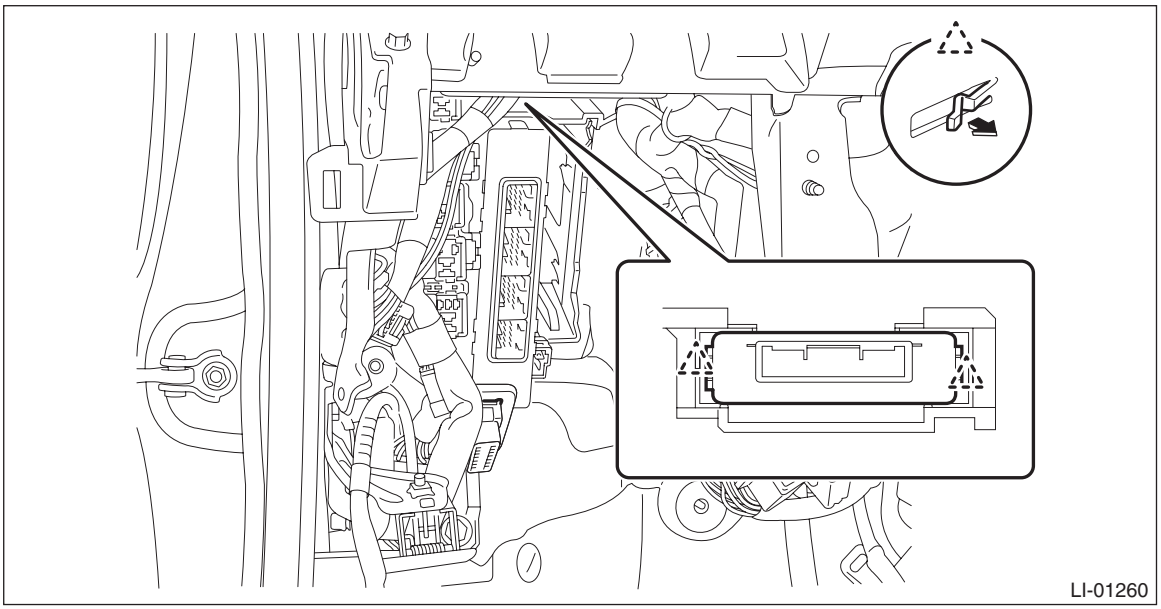
3) Remove the relay & fuse box.
   (1) Disconnect the connector.
   (2) Remove the bolts and nuts, and remove the relay & fuse box.



4) Disconnect the connector of body integrated unit.



5) Remove the auto headlight beam leveler CM.
   (1) Disconnect the connector.
   (2) Release the claws and pull out the auto headlight beam leveler CM.



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)

NOTE:
When the auto headlight beam leveler CM is removed, perform initialization or reinitialization. <Ref. to LI-20, PROCEDURE, Auto Headlight Beam Leveler System.>

38.Rear Height Sensor

A: REMOVAL

CAUTION:
Always remove the sensor assembly - headlight beam leveler before removing any parts related to the suspension.

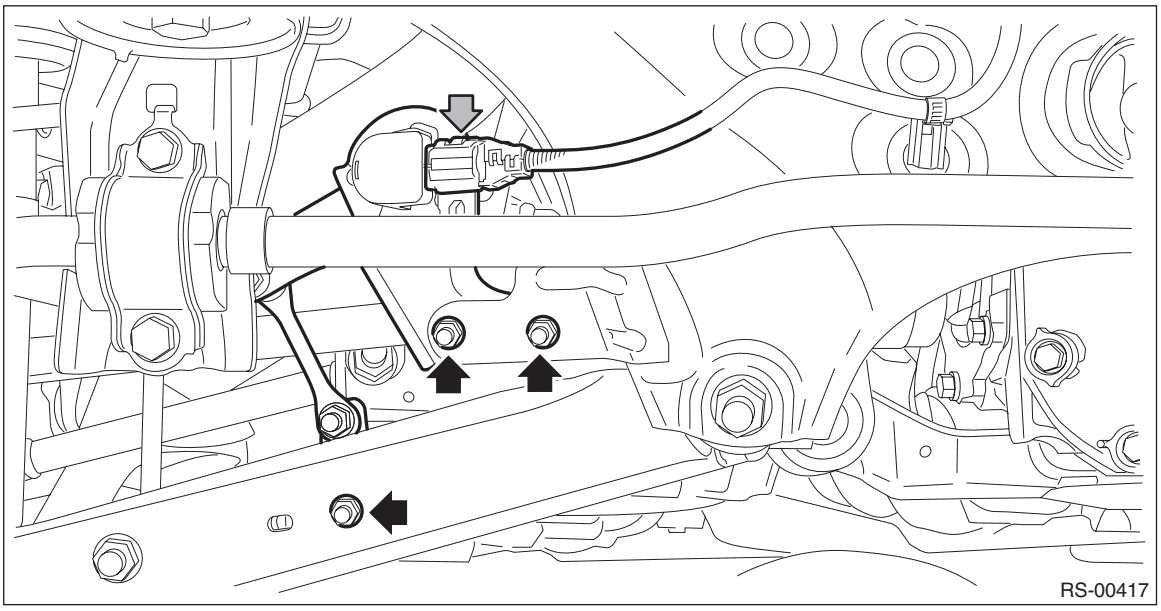
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Lift up the vehicle, and remove the left rear wheel.
3) Remove the sensor assembly - headlight beam leveler.

CAUTION:
Do not disassemble the sensor and lever.

(1) Disconnect the connector.
(2) Remove the nuts, and remove the sensor assembly - headlight beam leveler.



B: INSTALLATION

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

Tightening torque:
Sensor assembly - headlight beam leveler: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)
Rear wheel: Except for C4 model
120 N·m (12.24 kgf-m, 88.5 ft-lb)
Rear wheel: C4 model
100 N·m (10.20 kgf-m, 73.8 ft-lb)

2) Perform reinitialization of the sensor assembly - headlight beam leveler. <Ref. to LI-20, REINITIALIZATION, PROCEDURE, Auto Headlight Beam Leveler System.>

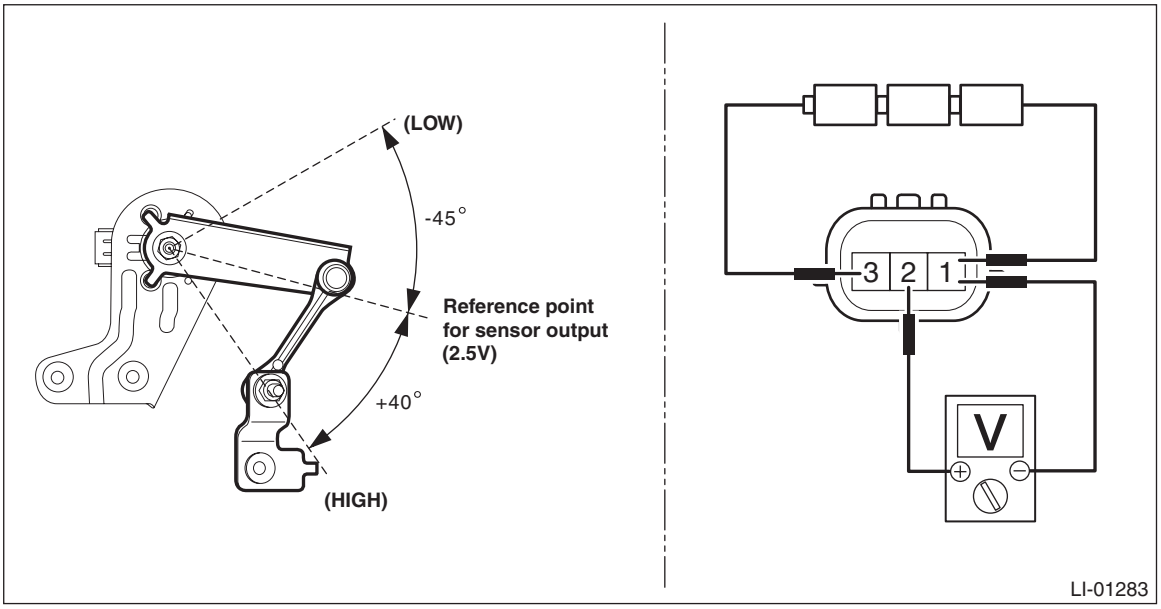
NOTE:
When replacing the sensor assembly - headlight beam leveler with a new part, perform the initialization. <Ref. to LI-20, INITIALIZATION, PROCEDURE, Auto Headlight Beam Leveler System.>

C: INSPECTION

UNIT INSPECTION

Preparation tool:
Circuit tester

1) Connect three dry cell batteries (1.5 V) in series.
2) Connect the (+) side of the battery to terminal No. 3 of the sensor, and the (–) side of the battery to terminal No. 1, and apply a voltage of 4.5 V between terminals No. 3 — No. 1.
3) With voltage applied, check the voltage between terminals when the sensor link is moved slowly up and down.



Terminal No.	Inspection conditions	Standard
2 (+) — 1 (–)	Move the link within the operation range.	0.5 — 4.1 V

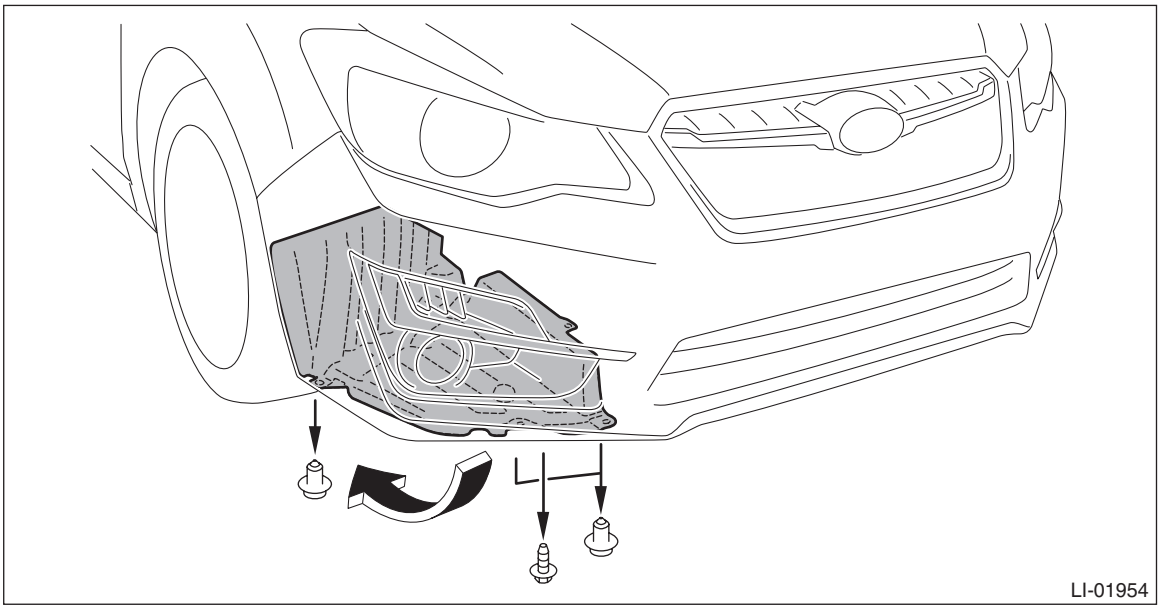
4) Replace the sensor assembly - headlight beam leveler if the inspection result is not within the standard value.

39.Day Time Running Resistor

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

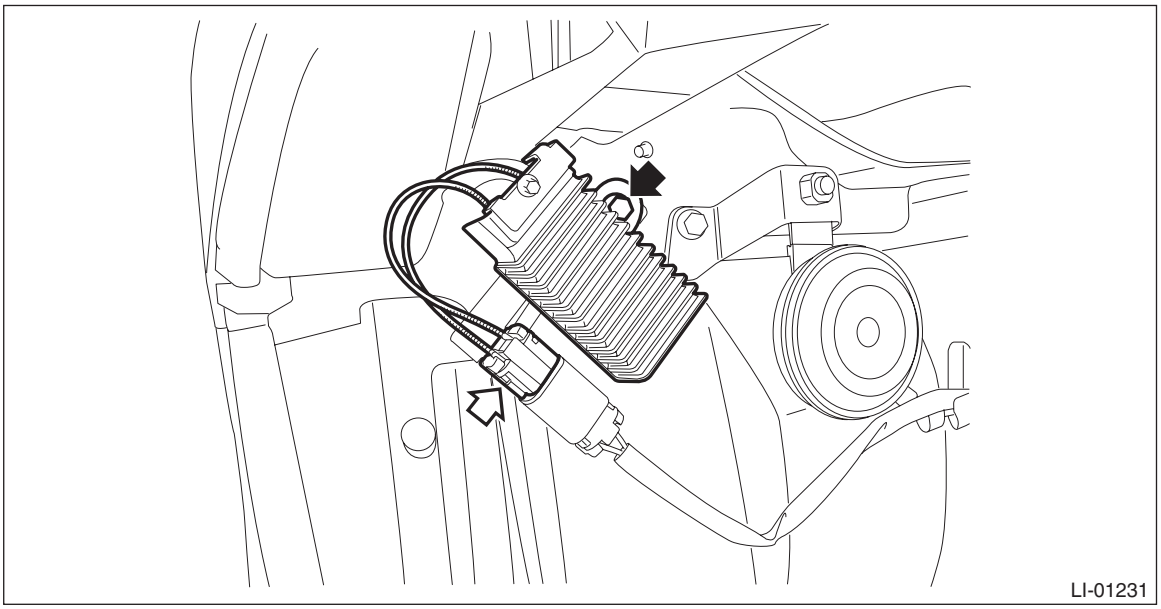
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Lift up the vehicle.
3) Remove the screw and clips, and turn over the front side of the mud guard - front.



4) Remove the resistor assembly - daytime running light.

CAUTION:
The resistor may become hot. Be careful not to burn yourself when removing it.

(1) Disconnect the connector.
(2) Remove the bolts, then remove the resistor assembly - daytime running light.



B: INSTALLATION

Install each part in the reverse order of removal.

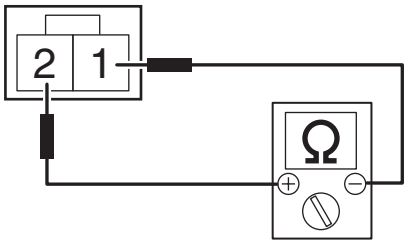
Tightening torque:
Resistor assembly - daytime running light: 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

UNIT INSPECTION

Preparation tool:
Circuit tester

1) Measure the resistance between connector terminals.

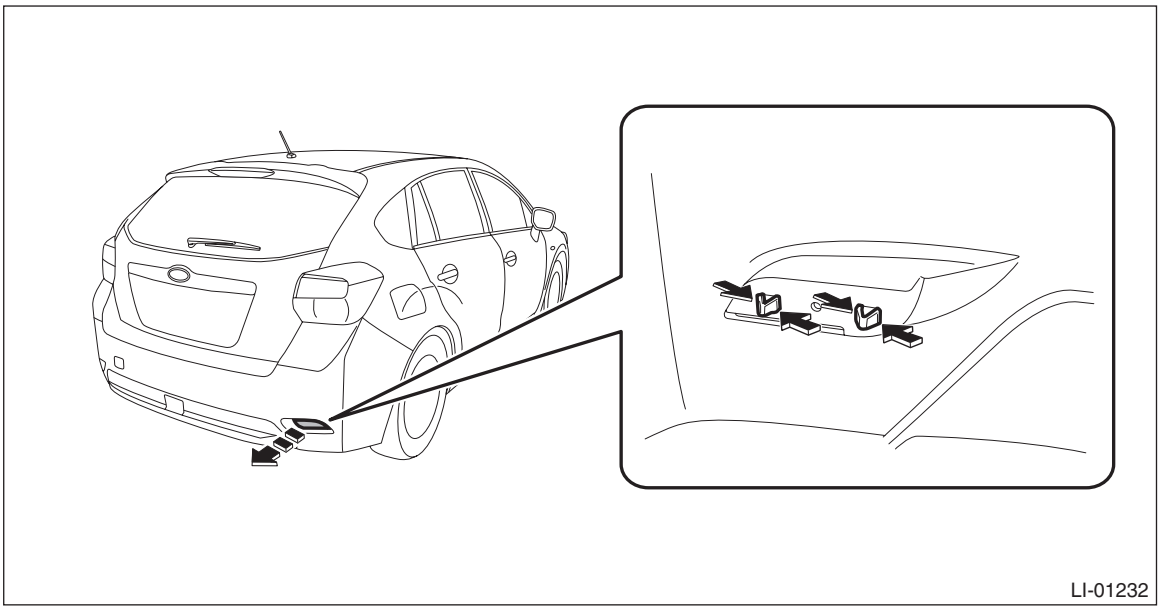
Terminal No.	Inspection conditions	Specification	Connection diagram
1 — 2	Always	1.13±0.05 Ω	 LI-01253

2) Replace the resistor assembly - daytime running light if the inspection result is not within the standard.

40.Reflex Reflector

A: REMOVAL

From behind the bumper face - rear, release the claws and remove the reflex reflector assembly.



B: INSTALLATION

Install each part in the reverse order of removal.

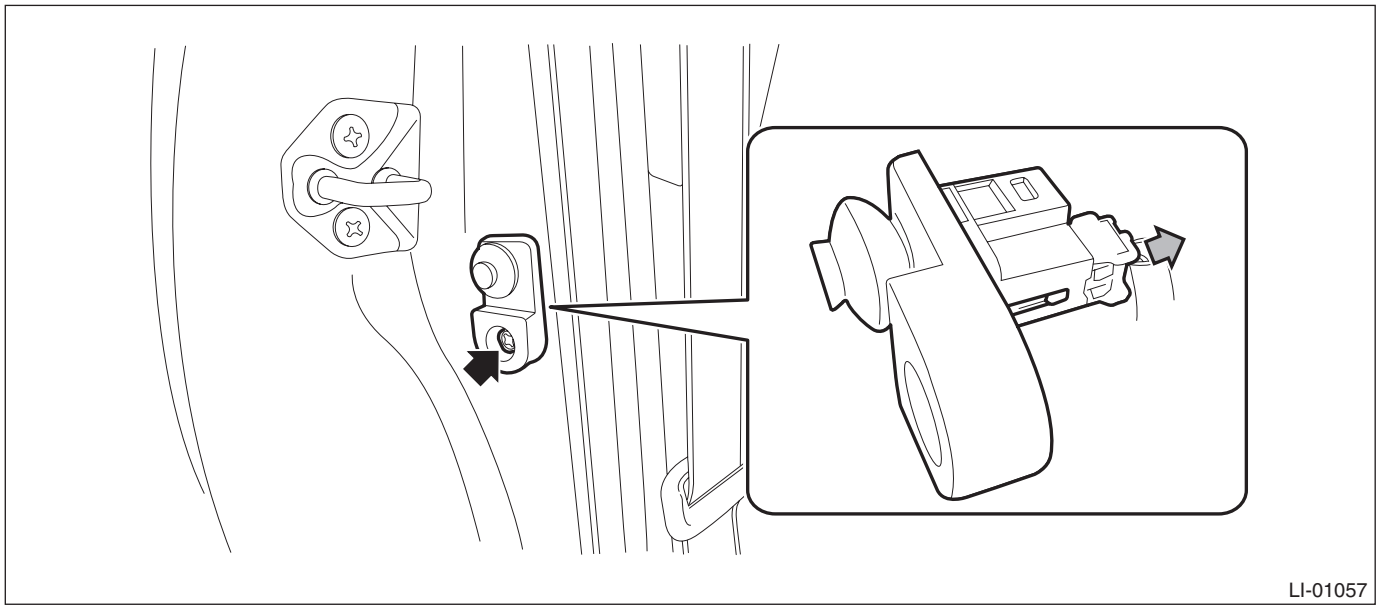
41.Door Switch

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the switch assembly - door.
   (1) Remove the screws, and pull out the switch assembly - door toward you.
   (2) Disconnect the connector and remove the switch assembly - door.



B: INSTALLATION

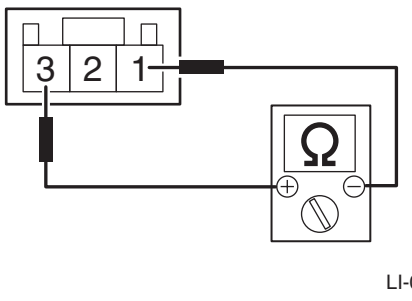
Install each part in the reverse order of removal.

C: INSPECTION

Unit inspection

Preparation tool:
Circuit tester

1) Check the resistance between switch terminals.

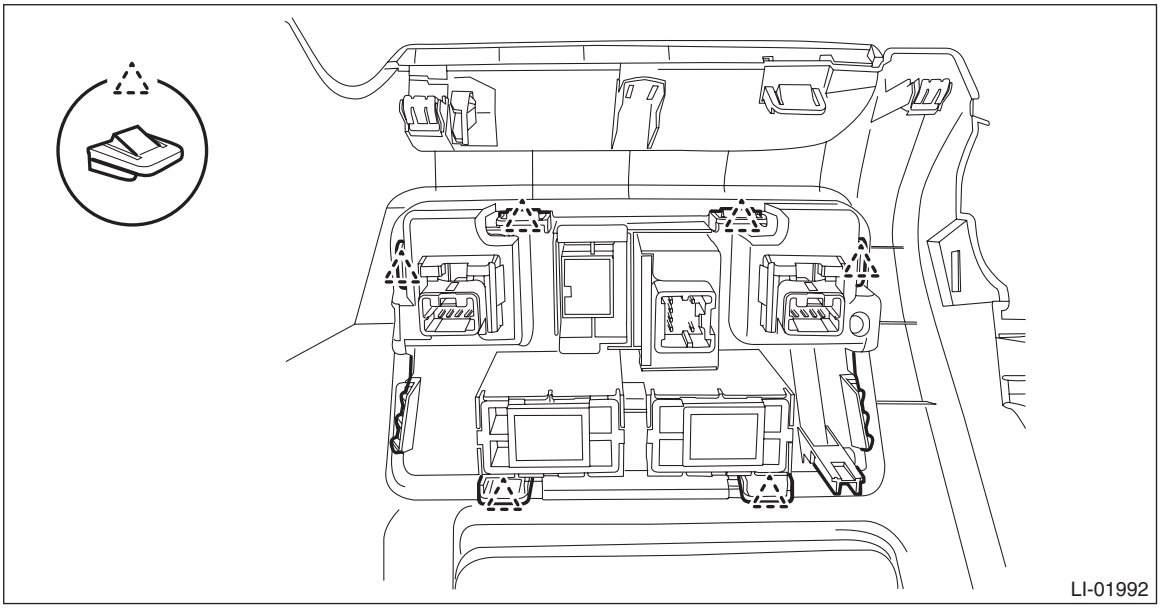
Terminal No.	Inspection conditions	Standard	Connection diagram
1 — 3	When door is opened	Less than 1 Ω	
	When door is closed	1 MΩ or more	

2) Replace the switch assembly - door if the inspection result is not within the standard value.

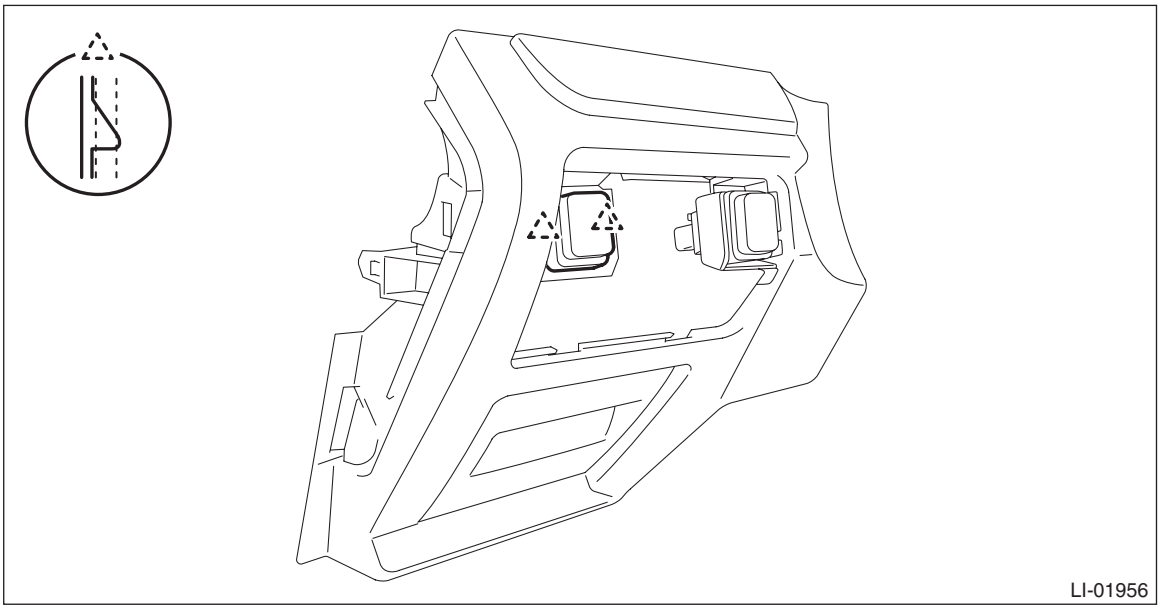
42.SRF OFF Switch

A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the cover assembly - instrument panel LWR driver. <Ref. to EI-76, REMOVAL, Instrument Panel Lower Cover.>
3) Release the claws, and then remove the cover.



4) Release the claws and remove the SRF OFF switch.



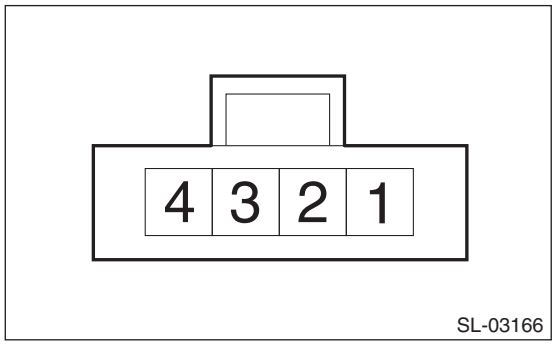
B: INSTALLATION

Install each part in the reverse order of removal.

C: INSPECTION

1) Measure the resistance between connector terminals.

Preparation tool:
Circuit tester



Terminal No.	Inspection conditions	Standard
2 — 3	OFF	1 MΩ or more
	ON	Less than 1 Ω

2) Apply battery voltage between the connector terminals to check lighting condition of illumination inside the switch.

Terminal No.	Inspection conditions	Specification
1 (+) — 4 (–)	Apply battery voltage.	Light ON

3) Replace the SRF OFF switch if the inspection result is not within the standard value.

AUTO HEADLIGHT BEAM LEVELER SYSTEM (DIAGNOSTICS)

AL(diag)

		Page
1.	Basic Diagnostic Procedure	2
2.	Check List for Interview	3
3.	General Description	4
4.	Electrical Component Location	5
5.	Control Module I/O Signal	6
6.	Subaru Select Monitor	7
7.	Read Diagnostic Trouble Code (DTC)	10
8.	Clear Memory Mode	11
9.	Read Current Data	12
10.	List of Diagnostic Trouble Code (DTC)	13
11.	Diagnostic Procedure with Diagnostic Trouble Code (DTC)	14
12.	Diagnostics with Phenomenon	18

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)-12, 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)-11, 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)-18, 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)-14, Clear Memory Mode.> 5) Perform the Inspection Mode. <Ref. to OD(diag)-13, 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) 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.
2) Do not replace the seat cushion pad by itself. Always replace the seat cushion pad and 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.
3) If the seat cushion cover is removed, make sure to replace the hang wire on the seat cushion side with a new wire.
4) Never connect the battery in reverse polarity. Occupant detection system may be destroyed instantly.
5) Do not disconnect the battery cables 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.
6) 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.
7) Every occupant detection system-related part is a precision part. Do not drop them.

CAUTION:
• Do not use electrical test equipment on wiring harness and connector circuits of the airbag system.
• Be careful not to damage the airbag system wiring harness when servicing the occupant detection system.
• Refer to CAUTION in Airbag System when repairing the occupant detection system. <Ref. to AB-10, CAUTION, General Description.>

B: INSPECTION

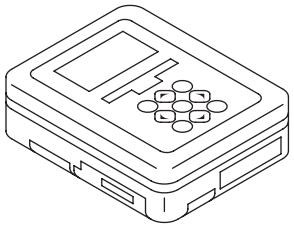
Check the battery. <Ref. to SC(H4DO(w/o HEV))-52, Battery.>

NOTE:
For HEV model, check the 12 volt auxiliary battery. <Ref. to SC(H4DO(HEV))-39, Battery.>

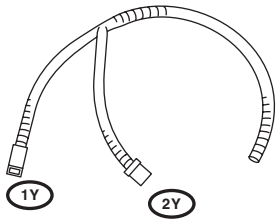
C: PREPARATION TOOL

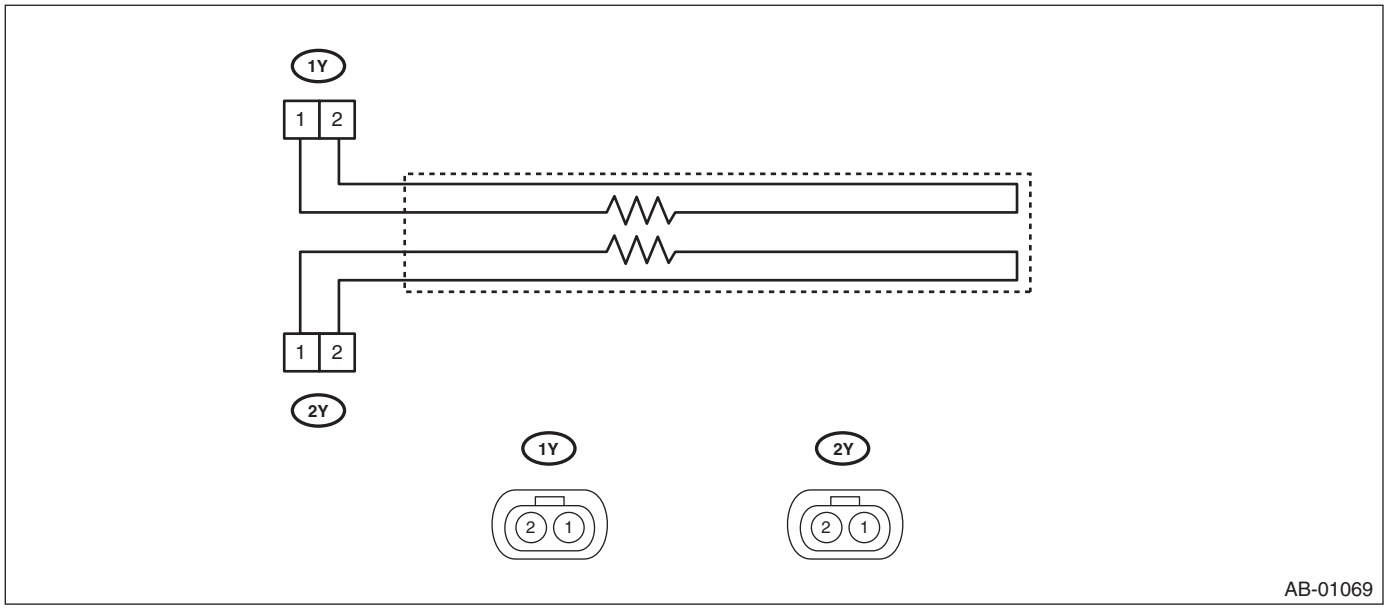
CAUTION:
To measure the voltage and resistance of airbag system and occupant detection system components, be sure to use the specified test harness.

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and troubleshooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

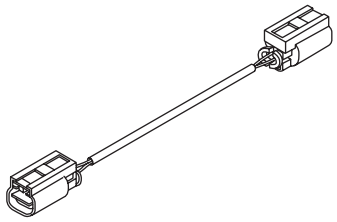
- TEST HARNESS Y

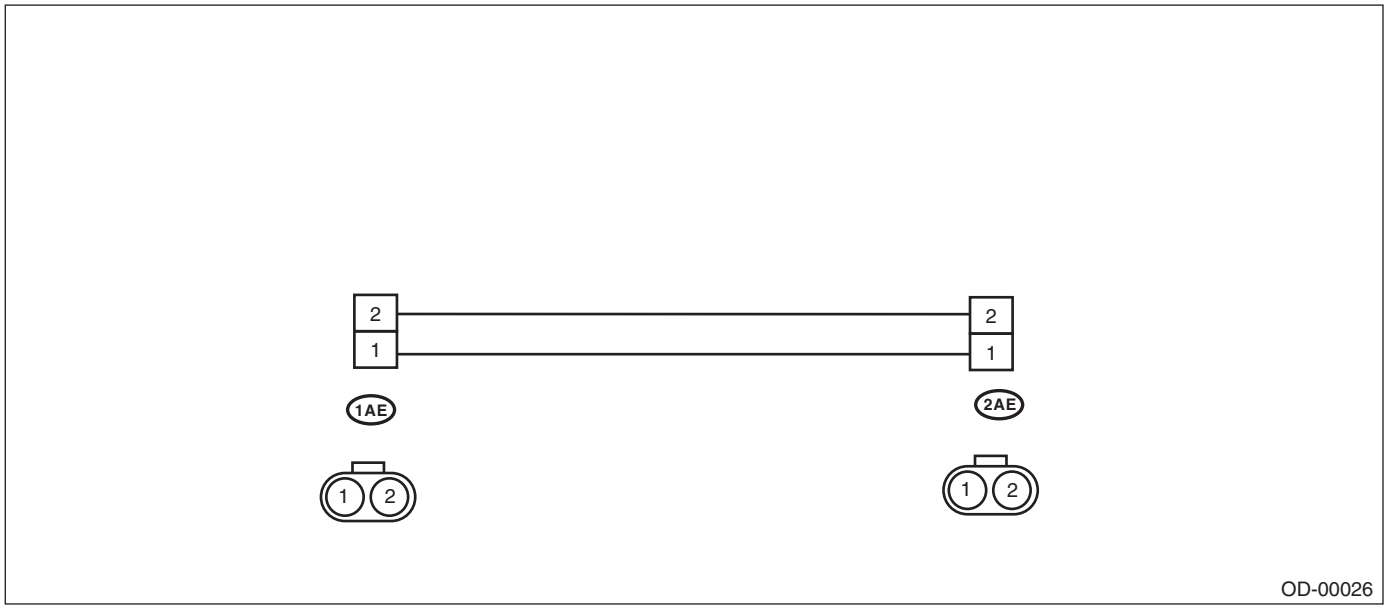
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for troubleshooting seat belt buckle switch.



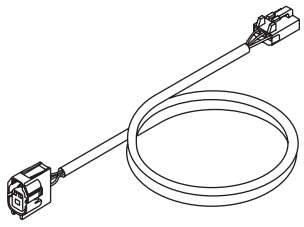
AB-01069

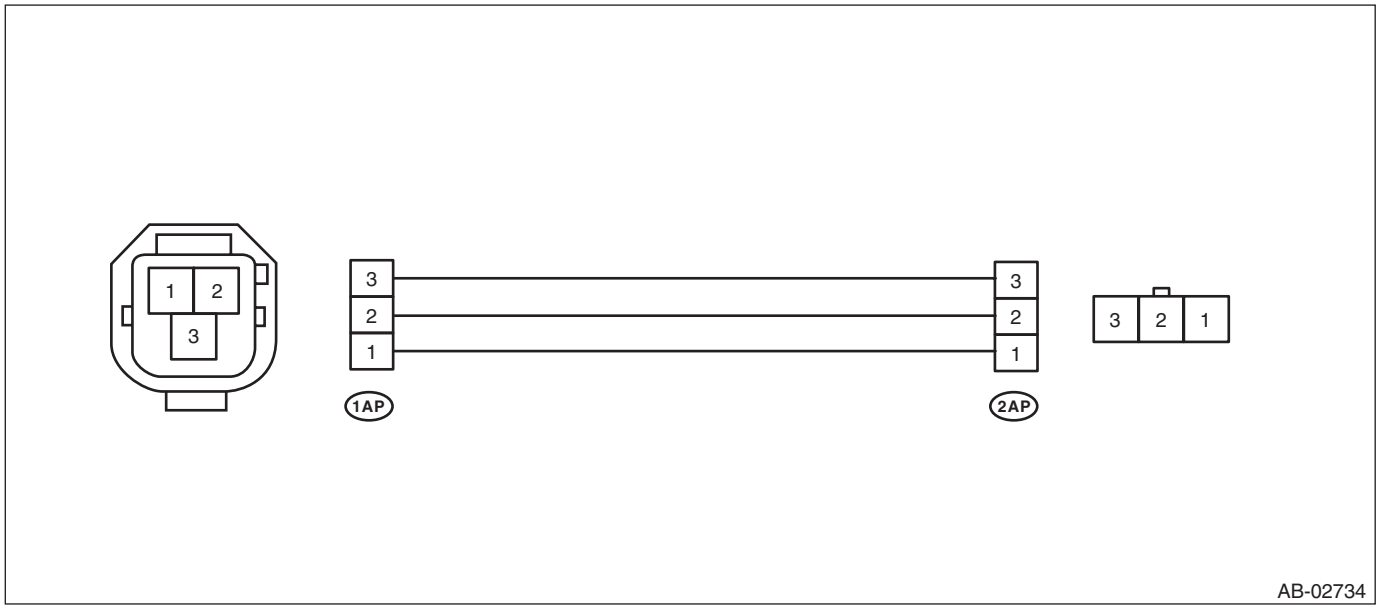
- TEST HARNESS AE

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA030	98299XA030	TEST HARNESS AE	TEST HARNESS Y adapter harness. Used for troubleshooting seat belt buckle switch.



- TEST HARNESS AP

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FJ030	98299FJ030	TEST HARNESS AP	Used when measuring voltage and resistance of occupant detection system.



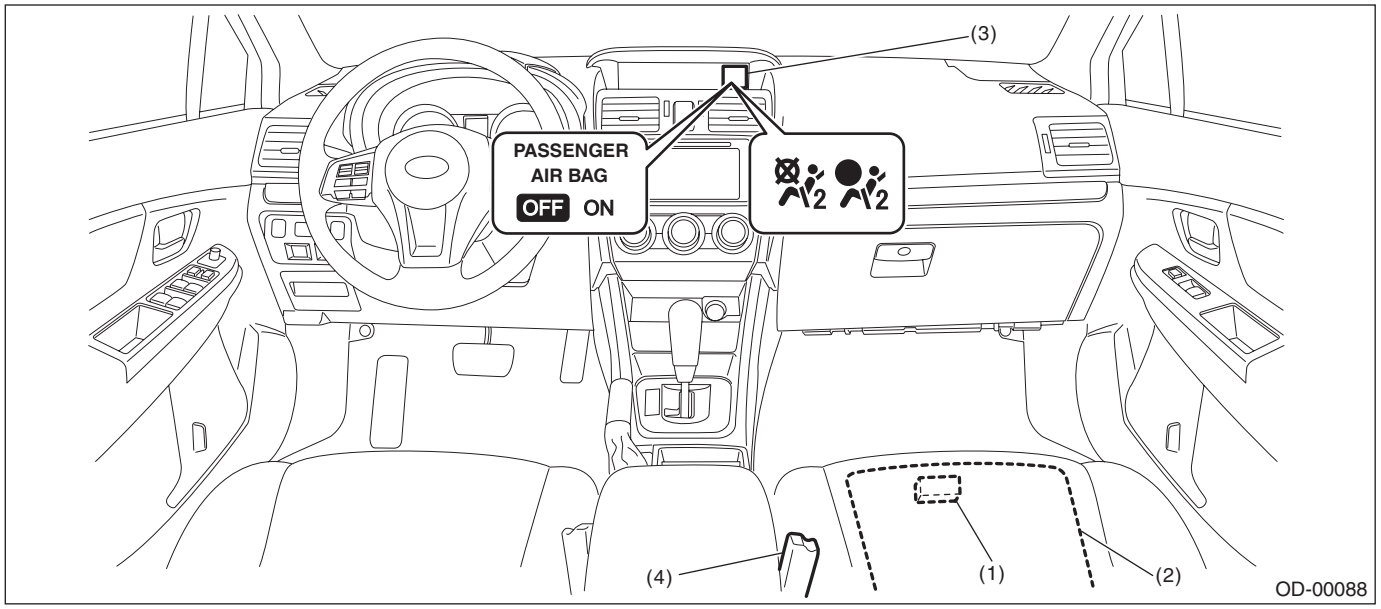
AB-02734

2. GENERAL TOOL

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

4. Electrical Component Location

A: LOCATION



(1) Occupant detection control module
(2) Occupant detection sensor
(3) Airbag ON/OFF indicator light
(4) Buckle switch (passenger's seat)

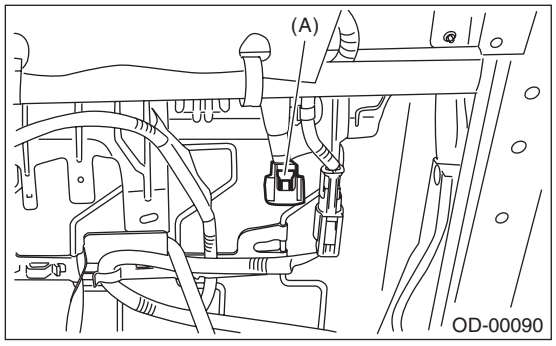
5. Airbag Connector

A: PROCEDURE

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

1) How to disconnect:
Press 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 the airbag system section. <Ref. to AB-18, AIRBAG CONTROL MODULE, PROCEDURE, Airbag Connector.>

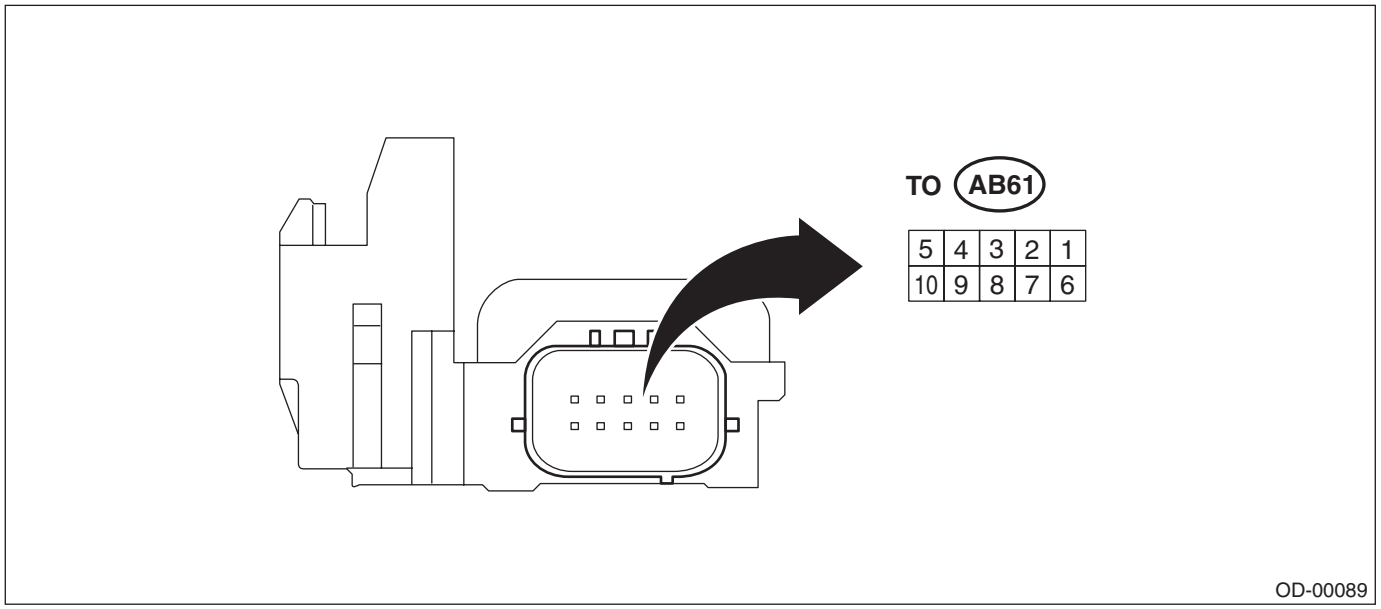
3. BUCKLE SWITCH RH

Refer to the airbag system section. <Ref. to AB-22, 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 No.	Terminal name	Input/Output value	Note
1	Airbag CM communication (FSR+)	—	Communication line
2	Not used	—	—
3	Not used	—	—
4	Buckle switch– (BER–)	0 V	Switch ground
5	Not used	—	—
6	IG power supply (IG)	8 — 16 V	When ignition SW is ON
7	Not used	—	—
8	Buckle switch+	0 — IG voltage	Ignition voltage when the switch is ON
9	Airbag CM communication (FSR–)	0V	GND
10	Not used	—	—

B: WIRING DIAGRAM

Refer to “Occupant Detection System” in the wiring diagram. <Ref. to WI(w/o HEV)-172, WIRING DIAGRAM, Occupant Detection System.> <Ref. to WI(HEV)-174, 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

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

NOTE:
Refer to “Communication for Initializing Impossible” in AIRBAG SYSTEM (DIAGNOSTICS). <Ref. to AB(diag)-24, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.>

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)-19, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

Read out DTCs stored in the airbag control module and the occupant detection control module. For operation procedures, refer to the “PC application help for Subaru Select Monitor”.

NOTE:
For details concerning DTCs, refer to the List of Diagnostic Trouble Code (Airbag system, Occupant detection system). <Ref. to AB(diag)-34, List of Diagnostic Trouble Code (DTC).> <Ref. to OD(diag)-18, 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:
After repairing the occupant detection system, clear the DTCs stored in the airbag control module and the occupant detection control module.

11.Read Current Data

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 {Occupant Detection System}.
3) On «Occupant Detection System» display, select {Current Data Display & Save}.
The following table is for support data.

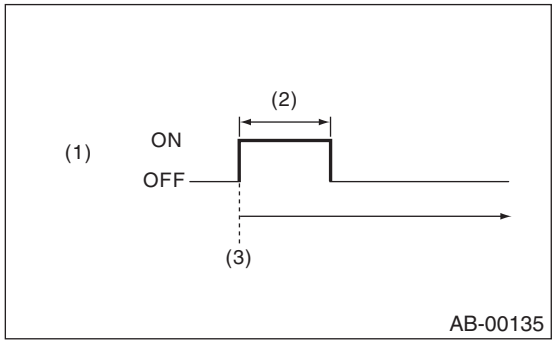
Item	Display	Note
Front Passenger Seat Status	Empty or Child/Adult or Child	“Adult or Child” when the seat is occupied “Empty or Child” when the seat is unoccupied or when child restraint seat is installed **CAUTION:** **When checking the operating status, be careful of the followings.** **• When the seat is unoccupied: Do not place anything on the seat.** **• Child restraint seat: Install the seat according to its instruction manual.** **• When the seat is occupied: Someone who weighs at least approx. 70 kg (155 lb) must be seated during the check.**

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

12.Airbag Warning Light Illumination Pattern

A: INSPECTION

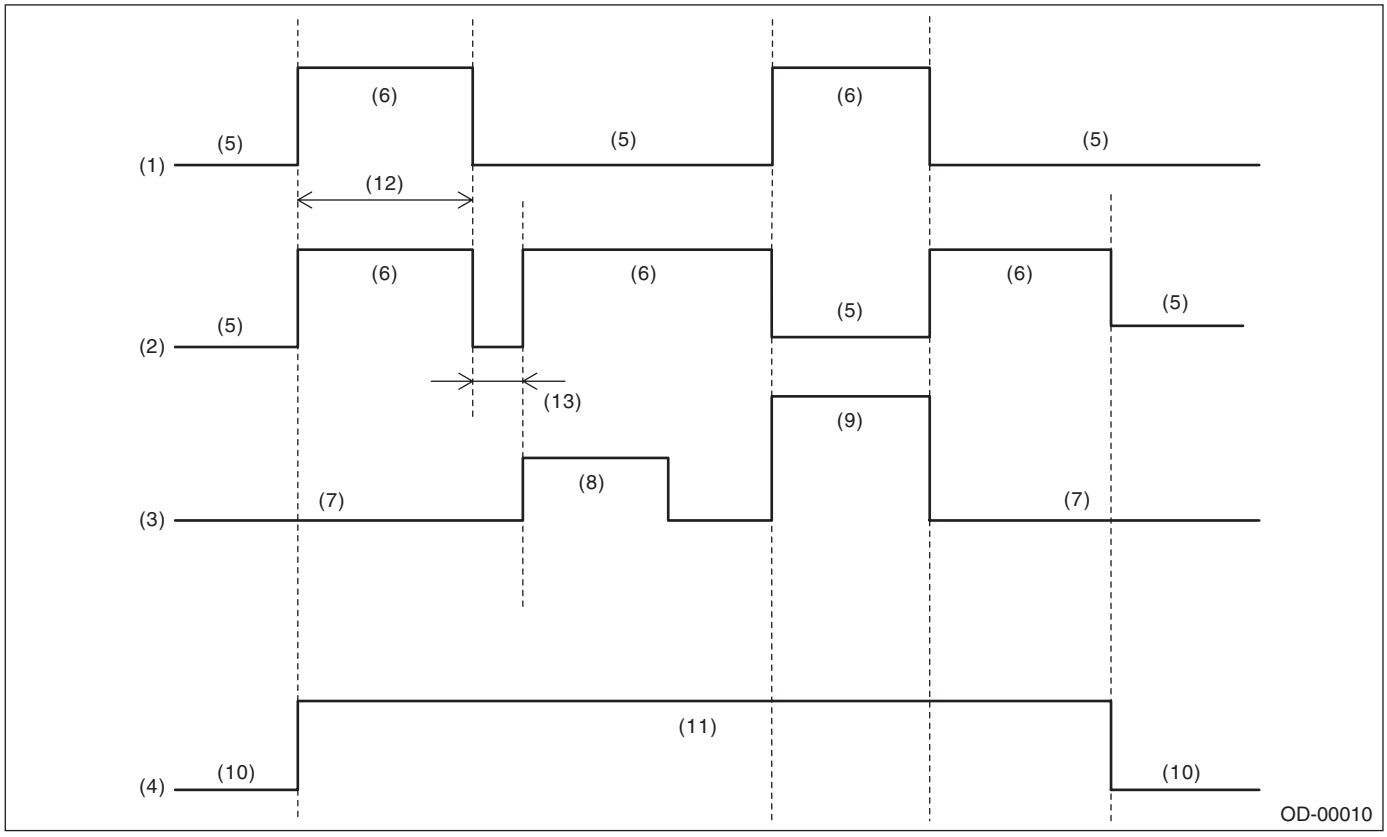
Turn the ignition switch to ON, and confirm that the airbag warning light remains on for approx. 6 seconds then turns off afterwards.



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

13.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				

14.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 No. 25 is blown. • Rear airbag harness is faulty.	<Ref. to OD(diag)-19, 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)-22, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1760	Sensor Mat Abnormal	• Occupant detection sensor is faulty. • Occupant detection sensor is open, shorted between terminals, shorted to power supply or shorted to ground. • Seat heater is open. • Occupant detection control module is faulty.	<Ref. to OD(diag)-24, DTC B1760 SENSOR MAT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1761	Sensor Mat Liquid Coating Abnormal	• Detected that the occupant detection sensor is spattered with fluid. • Occupant detection sensor is faulty. • Occupant detection control module is faulty.	<Ref. to OD(diag)-24, DTC B1761 SENSOR MAT LIQUID COATING ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1771	Buckle Switch Abnormal	• Passenger's buckle switch is faulty. • 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 B1771 BUCKLE SWITCH ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1795	ECU Internal Circuit Fault	Occupant detection control module is faulty.	<Ref. to OD(diag)-25, DTC B1795 ECU INTERNAL CIRCUIT FAULT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

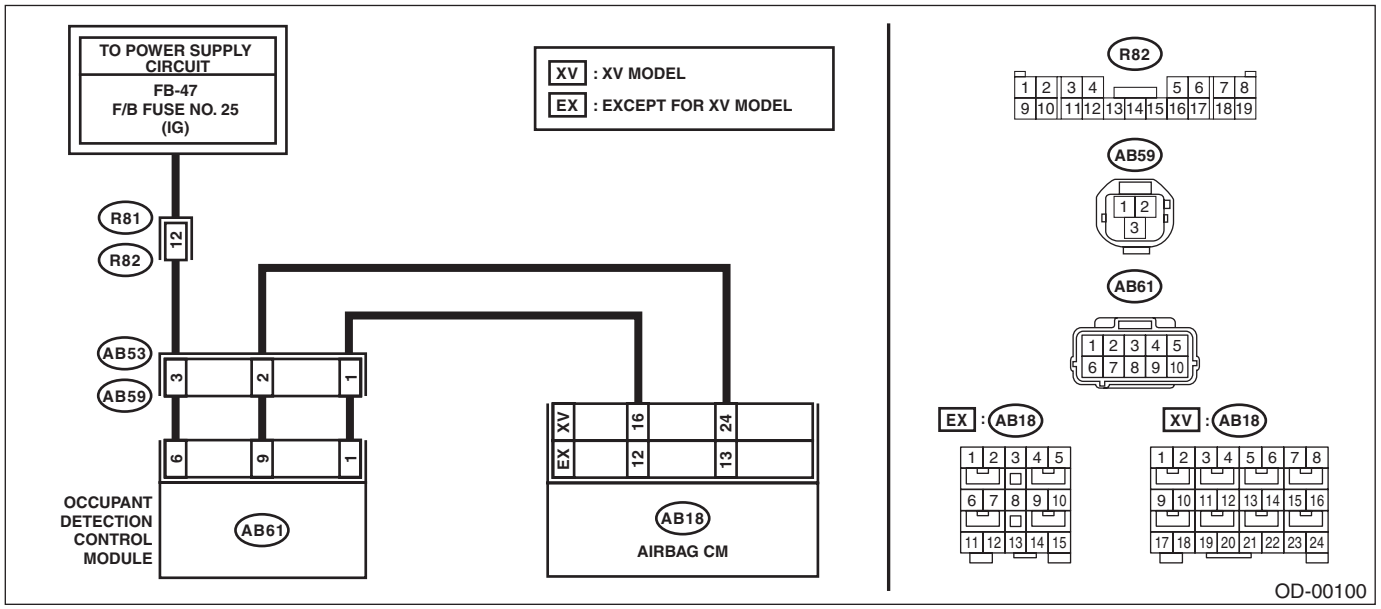
15.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION

DIAGNOSIS START CONDITION:
Ignition voltage is 8 V to 16 V.
DTC DETECTING CONDITION:

- Occupant detection sensor is faulty.
- Occupant detection control module is faulty.
- Occupant detection harness is faulty.
- Fuse No. 25 is blown out.
- Rear airbag harness 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(w/o HEV)-172, WIRING DIAGRAM, Occupant Detection System.> <Ref. to WI(HEV)-174, WIRING DIAGRAM, Occupant Detection System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of the occupant detection system.	Is any of DTC B1760, B1761, B1771 and B1795 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?	When the connector is not fully connected, reconnect the connector correctly. Replace the faulty harness if the connector is faulty. (Replace the airbag rear harness along with body harness. Or replace 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. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 2) Disconnect the connectors (AB59) and (AB53) under the passenger's seat. 3) Disconnect the connectors (AB6, AB17, AB18) from the airbag control module, and connect the connector (1AG) in the test harness AG to connectors (AB6, AB17, AB18). NOTE: Except for XV models, connect test harness AH between the connectors (AB6, AB17, AB18) and (1AG). 4) Connect the connector (1AP) in the test harness AP to the connector (AB53). 5) Measure the resistance between connector (5AG) in the test harness AG and connector (2AP) in the test harness AP. ***Connector & terminal*** ***XV model*** ***(6AG) No. 9 — (2AP) No. 2:*** ***(6AG) No. 11 — (2AP) No. 1:*** ***Except for XV model*** ***(5AG) No. 5 — (2AP) No. 1:*** ***(5AG) No. 16 — (2AP) 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 (5AG) in the test harness AG and chassis ground. ***Connector & terminal*** ***XV model*** ***(6AG) No. 9 — Chassis ground:*** ***(6AG) No. 11 — Chassis ground:*** ***(6AG) No. 9 — (6AG) No. 11:*** ***Except for XV model*** ***(5AG) No. 5 — Chassis ground:*** ***(5AG) No. 16 — Chassis ground:*** ***(5AG) No. 5 — (5AG) No. 16:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness along with body harness.

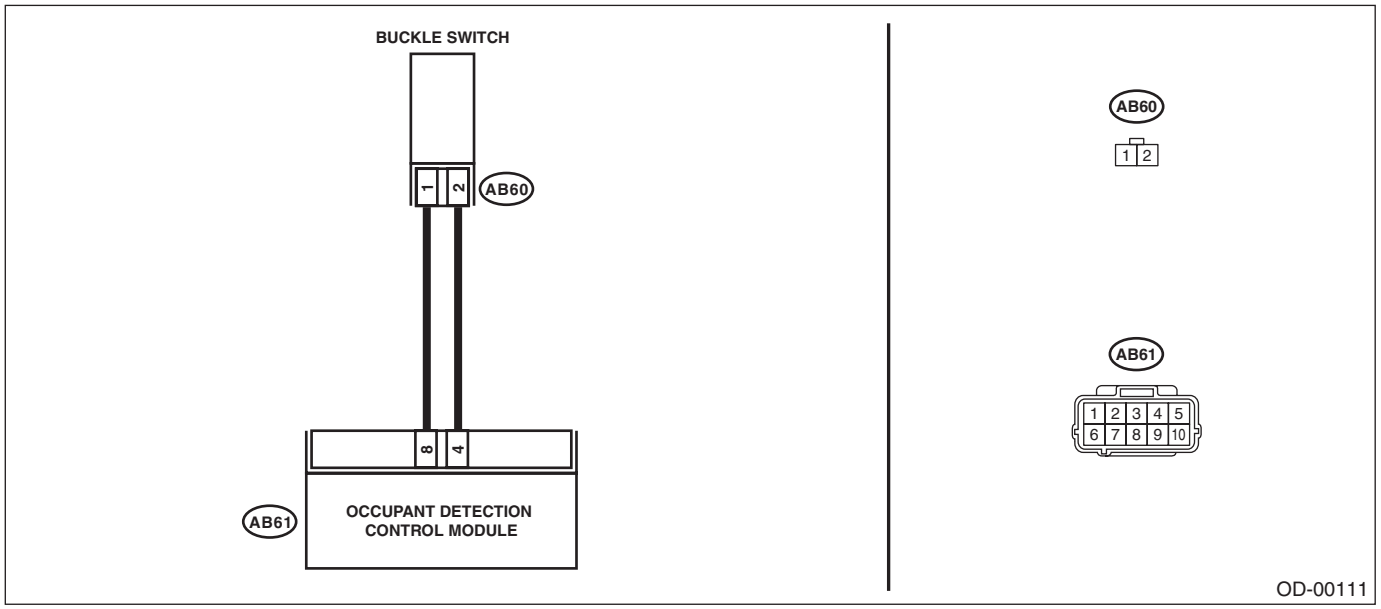
Step		Check	Yes	No
5	**CHECK OCCUPANT DETECTION HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2AP) in the test harness AP and chassis ground. ***Connector & terminal*** ***(2AP) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the occupant 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-16, 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

DIAGNOSIS START CONDITION:
Ignition voltage is 8 V to 16 V.
DTC DETECTING CONDITION:

- Passenger's buckle switch circuit is open, shorted or shorted to ground.
- Occupant detection system is faulty.
- Occupant detection harness is faulty.

WIRING DIAGRAM:
Occupant detection system <Ref. to WI(w/o HEV)-172, WIRING DIAGRAM, Occupant Detection System.> <Ref. to WI(HEV)-174, WIRING DIAGRAM, Occupant Detection System.>



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of the occupant detection system.	Is any of DTC B1760, B1761, B1771 and B1795 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?	When the connector is not fully connected, reconnect the connector correctly. Replace the airbag harness if the connector is faulty.	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK BUCKLE SWITCH.** 1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait for 60 seconds. NOTE: For HEV model, disconnect the negative terminal from 12 volt auxiliary battery, and disconnect the ground terminal from 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.> 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. NOTE: For HEV model, connect the negative terminal for 12 volt auxiliary battery, and connect the ground terminal to 12V engine restart battery sensor for 12 volt engine restart battery. <Ref. to NT-5, BATTERY, NOTE, Note.>	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the buckle switch. <Ref. to SB-16, SEAT BELT OUTER - FRONT, REMOVAL, Front Seat Belt.>	Check the seat harness, and if any fault is found, replace the seat harness. If the fault is not fixed, replace the occupant detection system. <Ref. to SE-16, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

C: DTC B1760 SENSOR MAT ABNORMAL

DIAGNOSIS START CONDITION:
Ignition voltage is 8 V to 16 V.
DTC DETECTING CONDITION:
- Occupant detection sensor is faulty.
- Occupant detection sensor circuit is open, shorted between terminals, shorted to power supply or shorted to ground.
- Seat heater circuit is open.
- Occupant detection control module is faulty.

	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of connectors between the occupant detection control module and the occupant detection sensor.	Is there poor contact of connector?	When the connector is not fully connected, reconnect the connector correctly. Replace the faulty harness if the connector is faulty. (Replace the occupant detection harness or replace the occupant detection system (passenger's & frame assembly)). <Ref. to SE-16, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>	Replace the occupant detection system (passenger's & frame assembly). <Ref. to SE-16, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

D: DTC B1761 SENSOR MAT LIQUID COATING ABNORMAL

DIAGNOSIS START CONDITION:
Ignition voltage is 8 V to 16 V.
DTC DETECTING CONDITION:
- Occupant detection sensor is spattered with fluid.
- Occupant detection sensor is faulty.
- Occupant detection control module is faulty.

	Step	Check	Yes	No
1	**DRY THE SEAT.** 1) Open the vehicle windows in a well-ventilated place indoors and dry the seat for 24 hours. 2) Check that the seat is not wet. If the seat is wet, extend the drying time to dry the seat well. 3) Read the DTC of the occupant detection system.	Is DTC detected?	When DTC B1761 is detected again, replace the occupant detection system (passenger's & frame assembly). <Ref. to SE-16, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.> When any other DTC is detected, perform the diagnosis according to the DTC.	Clear the memory.

E: DTC B1771 BUCKLE SWITCH ABNORMAL

DIAGNOSIS START CONDITION:
Ignition voltage is 8 V to 16 V.
DTC DETECTING CONDITION:
- Passenger's seat buckle switch is faulty.
- Passenger's buckle switch circuit is open, shorted or shorted to ground.
- Occupant detection system is faulty.
- Occupant detection harness is faulty.

Perform the diagnosis from step 2 in "DTC B1655 FRONT BUCKLE SWITCH RH FAILURE". <Ref. to OD(diag)-22, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

F: DTC B1795 ECU INTERNAL CIRCUIT FAULT

DIAGNOSIS START CONDITION:
Ignition voltage is 8 V to 16 V.
DTC DETECTING CONDITION:
Occupant detection control module is faulty.

When "DTC B1795 ECU INTERNAL CIRCUIT FAULT" is displayed, the occupant detection control module is faulty. Replace the occupant detection system (passenger's & frame assembly). <Ref. to SE-16, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

SEAT BELT SYSTEM

SB

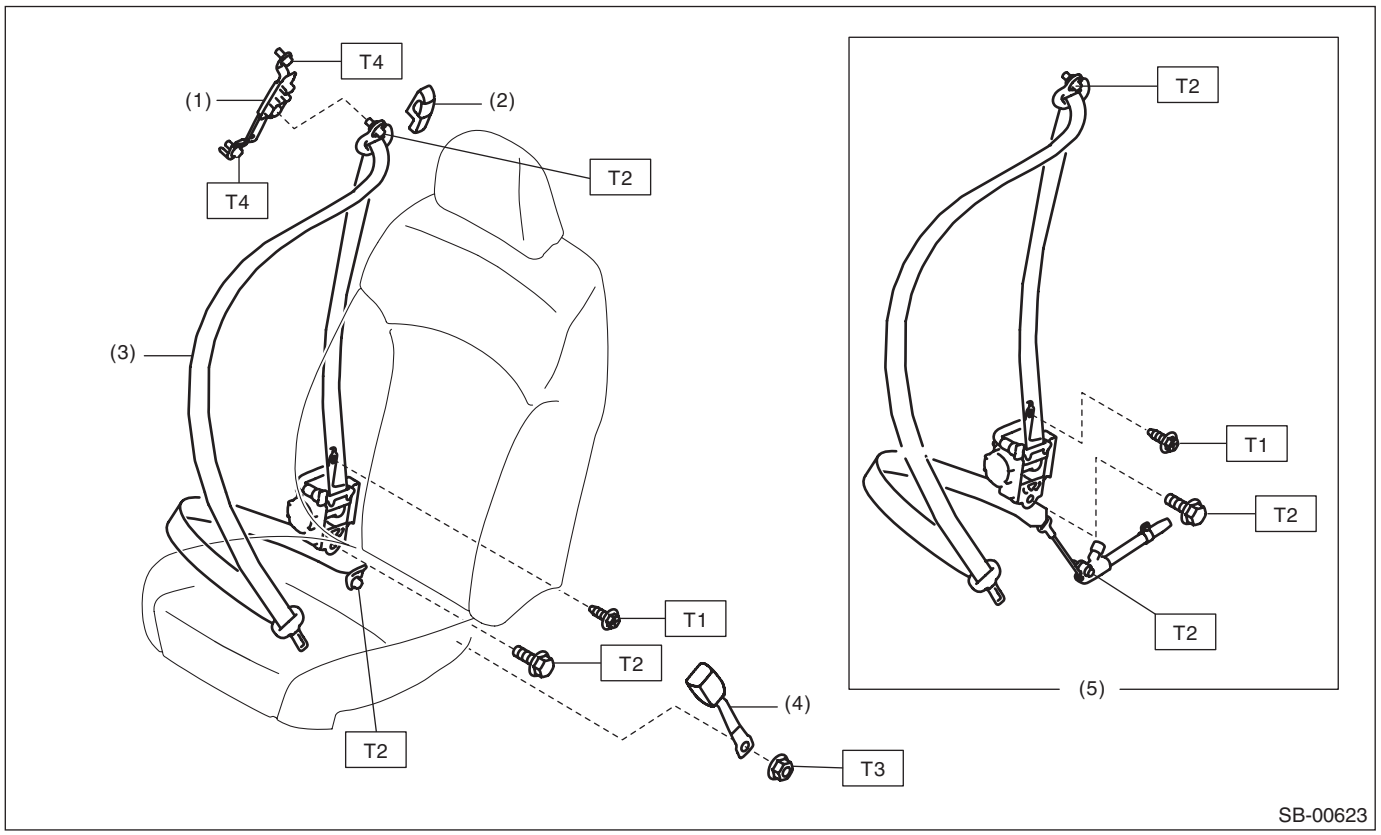
Page

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 16
6. Rear Seat Belt 30
7. Disposal of Pretensioner 49

1. General Description

A: COMPONENT

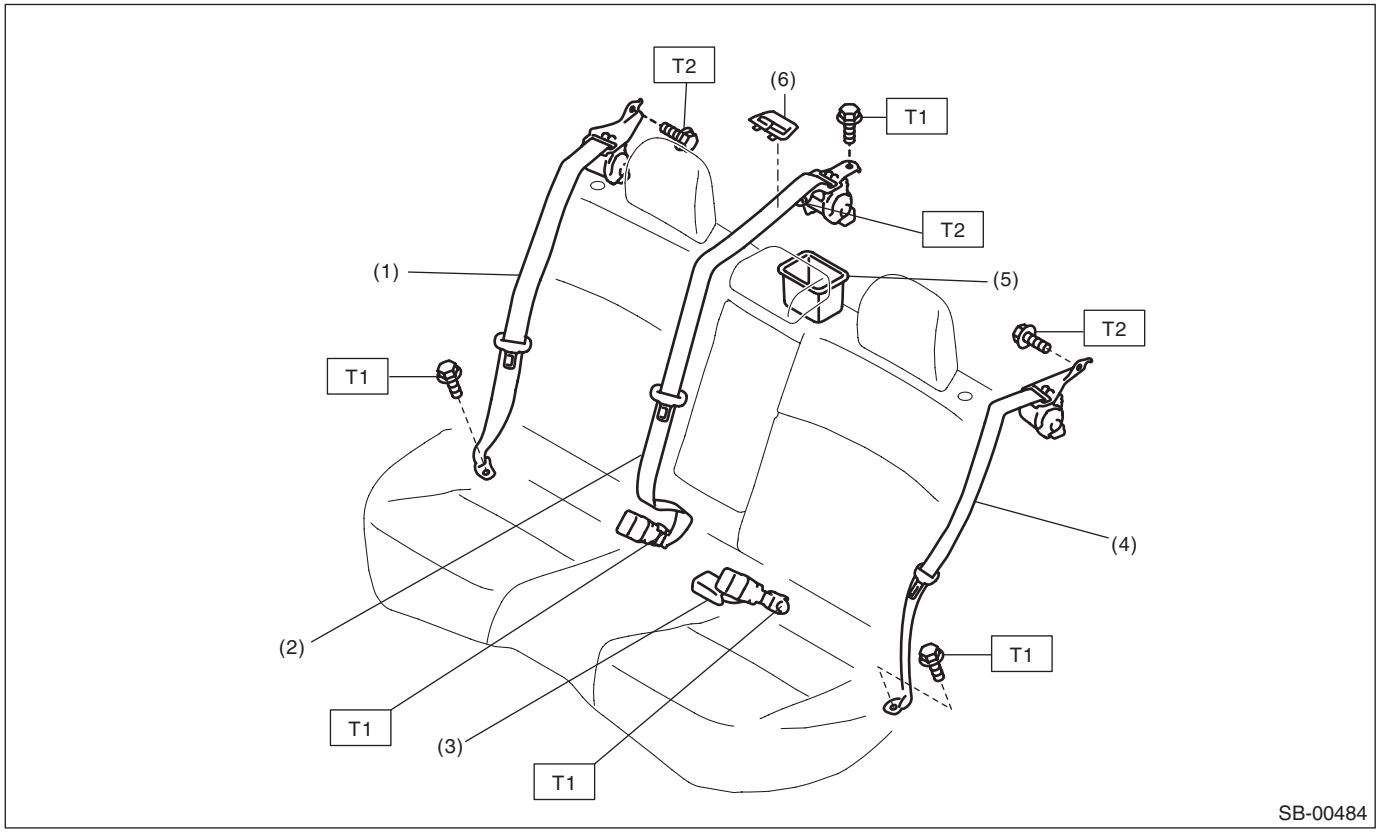
1. FRONT SEAT BELT



(1) Adjuster assembly - seat belt
(2) Cover through
(3) Seat belt outer - front
(4) Seat belt inner - front
(5) Seat belt outer - front (only on passenger's side for XV models with lap seat belt pretensioner)

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 (4 DOOR MODEL)



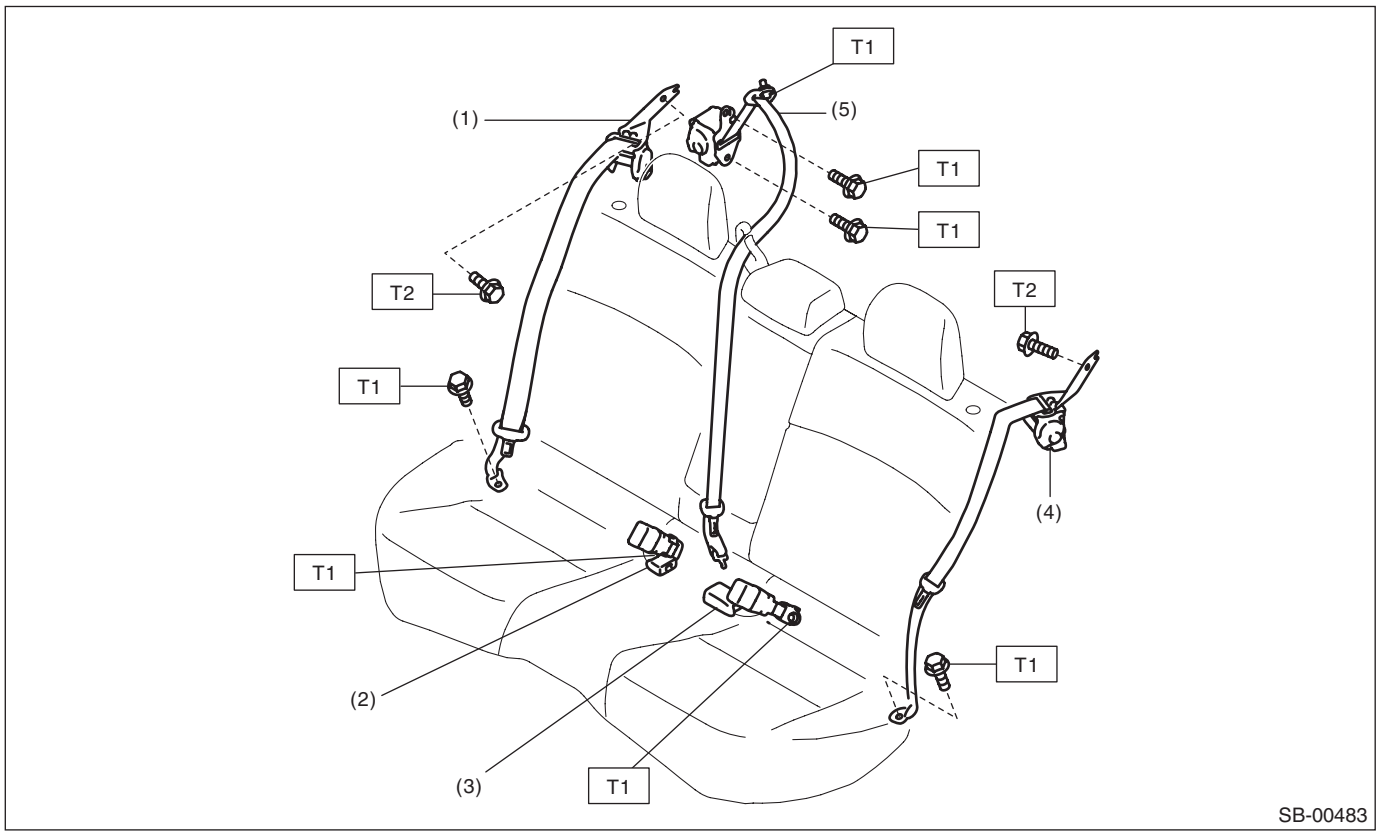
(1)	Seat belt outer - rear RH	(4)	Seat belt outer - rear LH
(2)	Seat belt - rear shoulder CTR	(5)	Cover - ELR
(3)	Seat belt - CTR LH	(6)	Cover - belt rear

Tightening torque: N·m (kgf-m, ft-lb)

T1: 30 (3.06, 22.1)

T2: 53 (5.40, 39.1)

3. REAR SEAT BELT (5 DOOR MODEL/XV MODEL)



(1) Seat belt outer - rear RH
(2) Seat belt - CTR RH
(3) Seat belt - CTR LH
(4) Seat belt outer - rear LH
(5) Seat belt - rear shoulder CTR

Tightening torque: N·m (kgf-m, ft-lb)
T1: 30 (3.06, 22.1)
T2: 53 (5.40, 39.1)

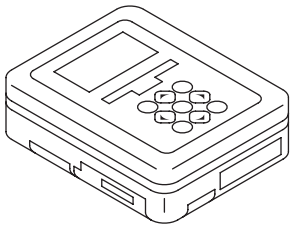
B: CAUTION

• Before starting the work, turn the ignition switch to OFF, disconnect the battery ground cable and wait for 60 seconds or more.
• For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
• The airbag system (including pretensioner) is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag system may operate if you do not wait for 60 seconds or more before starting the service of airbag system.
• 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.

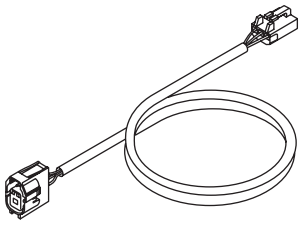
C: PREPARATION TOOL

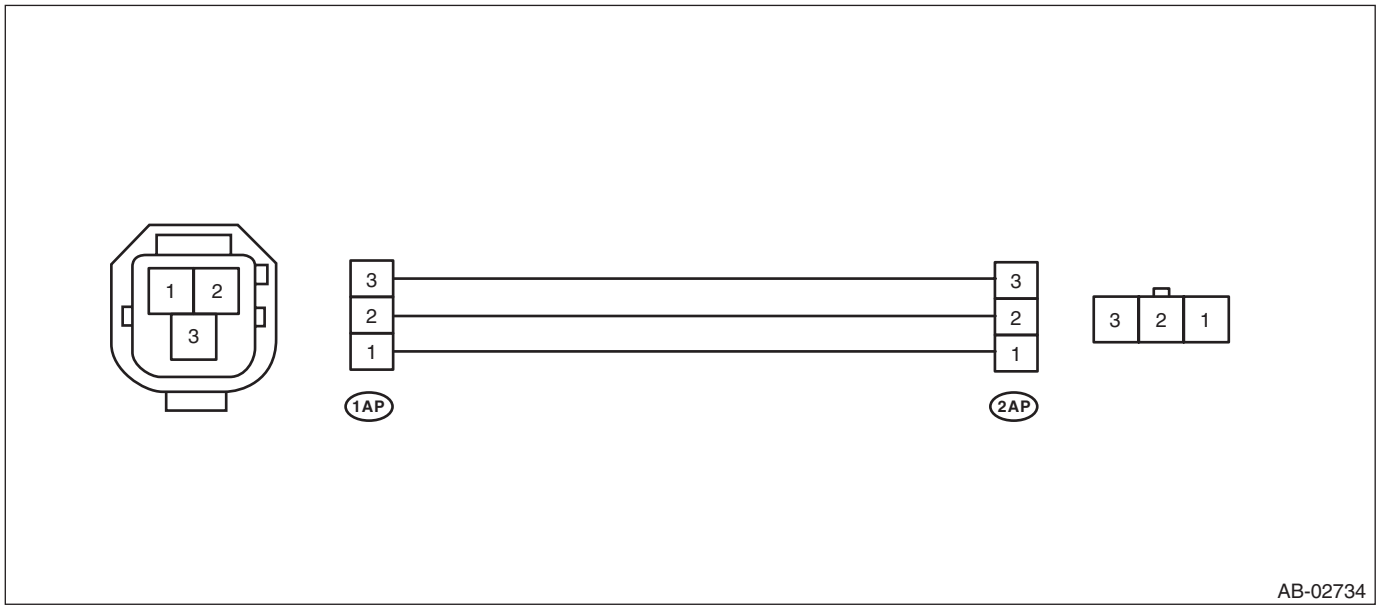
1. SPECIAL TOOL

- Subaru Select Monitor

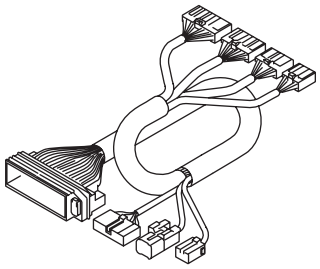
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of SUBARU SELECT MONITOR III, refer to “PC application help for Subaru Select Monitor”.

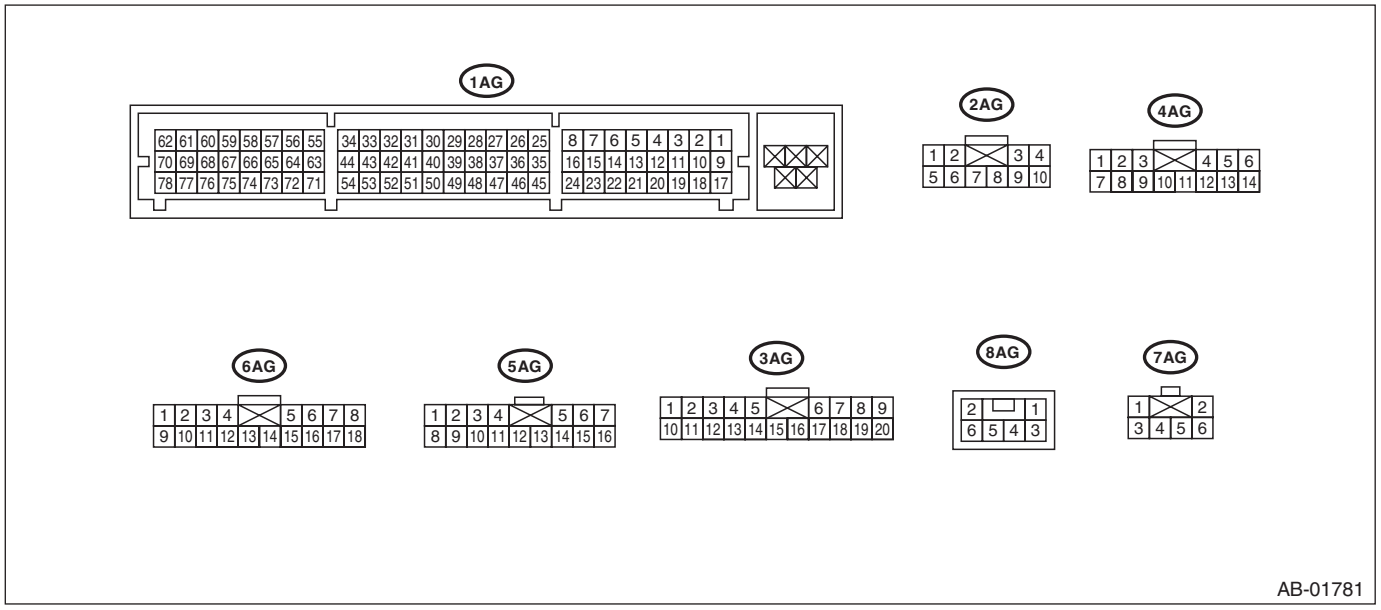
- TEST HARNESS AP

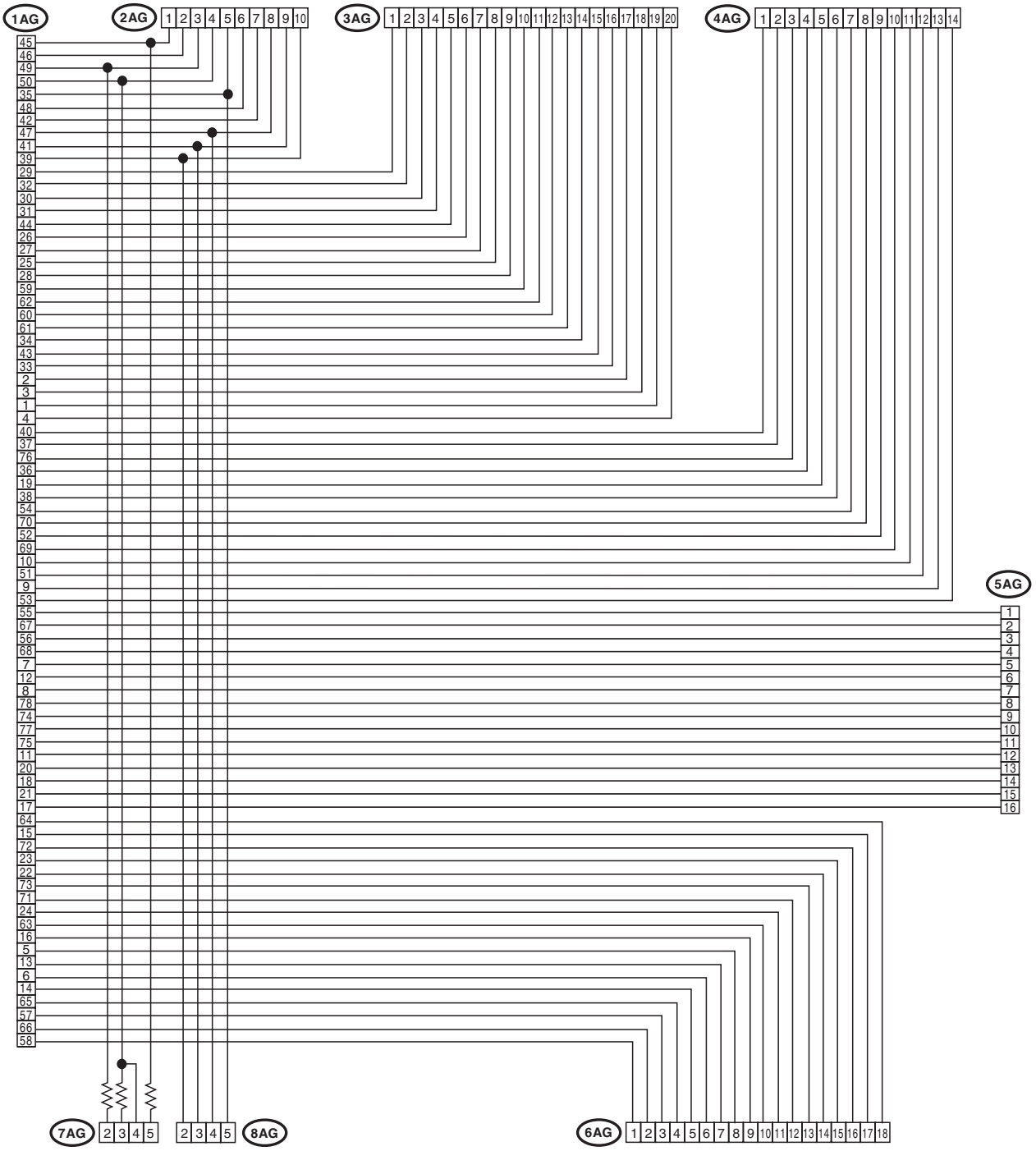
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FJ030	98299FJ030	TEST HARNESS AP	Used when measuring voltage and resistance of occupant detection system.



- TEST HARNESS AG

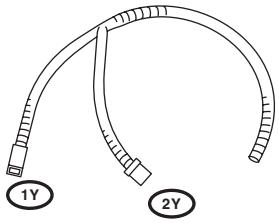
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG070	98299AG070	TEST HARNESS AG	Used when measuring voltage and resistance of airbag control module.

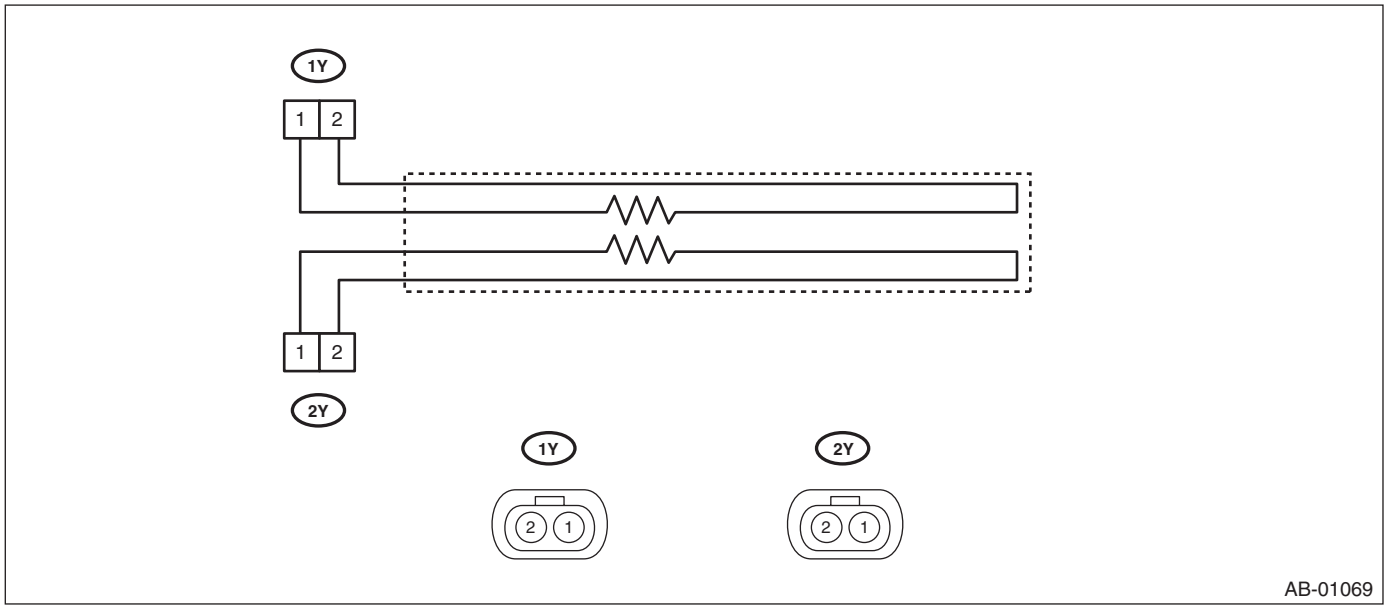




AB-01902

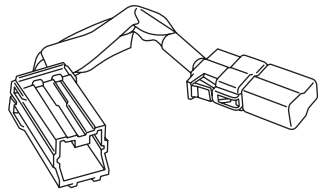
- TEST HARNESS Y

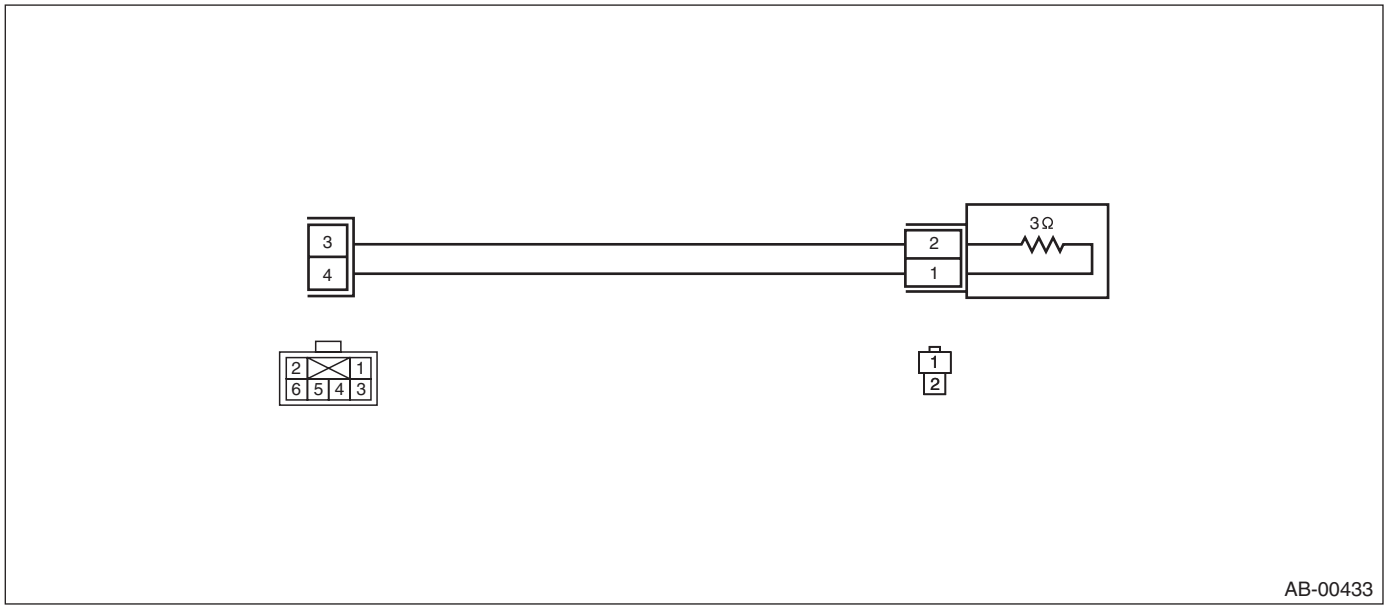
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for troubleshooting seat belt buckle switch.



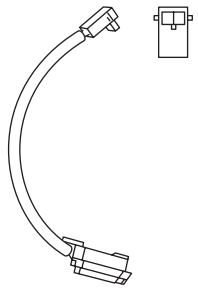
AB-01069

- 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.



- TEST HARNESS ADAPTER D

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA010	98299SA010	TEST HARNESS ADAPTER D	• Used for operation process of pretensioner. • Used together with AIRBAG DEPLOYMENT TOOL. (98299PA030)

- AIRBAG DEPLOYMENT TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
ST98299PA030	98299PA030	AIRBAG DEPLOYMENT TOOL	• Used for operation process of pretensioner. • Used together with each test harness adapter.

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, lap seat belt pretensioner and buckle switch RH, refer to “Airbag Connector” of “AIRBAG SYSTEM” section or “OCCUPANT DETECTION SYSTEM” section.

- Airbag system: <Ref. to AB-18, PROCEDURE, Airbag Connector.>
- Occupant detection system: <Ref. to OD(diag)-9, PROCEDURE, Airbag Connector.>

3. Inspection Locations after a Collision

A: INSPECTION

Refer to “Inspection Locations after a Collision” of “AIRBAG SYSTEM” section. <Ref. to AB-24, Inspection Locations after a Collision.>

4. Seat Belt Warning System

A: WIRING DIAGRAM

Refer to “Seat Belt Warning System” in the wiring diagram.
- Gasoline engine model <Ref. to WI(w/o HEV)-197, WIRING DIAGRAM, Seat Belt Warning System.>
- HEV model <Ref. to WI(HEV)-201, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

CAUTION:
• Before diagnosing the seat belt warning system and airbag system, always turn the ignition switch to OFF, disconnect the battery ground cable, and then wait for 60 seconds or more.
• When inspecting the airbag main harness, disconnect the connectors of the driver’s airbag module, passenger’s airbag module and knee airbag module for safety reasons.
• 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 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 MFD, 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 **2**.	Go to step **12**.
2	**CHECK FUNCTION.** 1) Wait until the buzzer sound stops in step 1. (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 MFD.	Do the seat belts warning light illuminate ←→ go off according to the operation?	Go to step **3**.	Go to step **8**.
3	**CHECK FUNCTION.** 1) Wait until the buzzer sound stops in step 2. (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?	Go to step **4**.	Go to step **14**.
4	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for 60 seconds or more. NOTE: For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor. 2) Disconnect the connectors of the combination meter and the seat belt buckle switch LH. 3) Check for short circuit to battery, open circuit and short circuit to ground between the combination meter and the seat belt buckle switch LH. ***Connector & terminal*** ***(i10) No. 15 — (R107) No. 2:***	Is the harness normal?	Go to step **5**.	Repair or replace the harness.

	Step	Check	Yes	No
5	**CHECK HARNESS.** Measure the resistance between the seat belt buckle switch LH and chassis ground. ***Connector & terminal*** ***(R107) No. 1 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the harness.
6	**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*** ***(R107) No. 2 — (R107) No. 1:***	Is the resistance when the belt is fastened 1 MΩ or more, and less than 10 Ω when the belt is detached?	Go to step **7**.	Replace the seat belt inner - front LH. <Ref. to SB-16, SEAT BELT OUTER - FRONT, REMOVAL, Front Seat Belt.>
7	**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 combination meter. There may be a reception failure of the combination meter.	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>
8	**CHECK CURRENT DATA.** 1) Sit in the passenger's seat. 2) Select "Current Data Display" and display the data of "Passenger seat seat-belt wearing state". 3) Fasten and detach the passenger's side seat belt buckle, and read the data of the seat belt switch. <Ref. to IDI(diag)-17, LIST, Read Current Data.>	Does the seat belt switch display turn ON ←→ OFF according to the operation of the seat belt buckle?	Go to step **12**.	Go to step **9**.
9	**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)-19, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is the inspection result normal?	Go to step **10**.	Repair or replace with new parts according to DTC B1650.
10	**CHECK BUCKLE SWITCH RH.** Perform the check in accordance with the diagnostic procedure DTC B1655 of the occupant detection system. <Ref. to OD(diag)-22, DTC B1655 FRONT BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is the inspection result normal?	Go to step **11**.	Repair or replace with new parts according to DTC B1655.
11	**CHECK AIRBAG CONTROL MODULE AND COMBINATION METER.** 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)-97, DTC B16F1 PASSENGER'S SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>	Is the inspection result normal?	Replace the combination meter. <Ref. to IDI-20, REMOVAL, Combination Meter.>	Repair or replace with new parts according to DTC B16F1.
12	**CHECK MFD POWER SUPPLY VOLTAGE.** 1) Disconnect the MFD connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the ignition power supply and the MFD. ***Connector & terminal*** ***(i122) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **13**.	Check the harness for open or short between the fuse and MFD.

	Step	Check	Yes	No
13	**CHECK MFD GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between MFD and chassis ground. ***Connector & terminal*** ***(i122) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **14**.	Repair or replace the harness.
14	**CHECK HARNESS BETWEEN MFD AND COMBINATION METER.** 1) Disconnect the harness of the MFD and the combination meter. 2) Measure the resistance between MFD and combination meter. ***Connector & terminal*** ***(i122) No. 9 — (i10) No. 28:***	Is the resistance less than 10 Ω?	Go to step **15**.	Repair or replace the harness.
15	**CHECK COMMUNICATION STATUS BETWEEN MFD AND COMBINATION METER.** 1) Remove the MFD, and install a properly operating MFD (new MFD). 2) Connect the connector and then turn the ignition switch to ON. ***Connector & terminal*** ***(i122) No. 9 — (i10) No. 28:***	Is the MFD properly displayed?	Replace the MFD.	Replace the combination meter case assembly.

5. Front Seat Belt

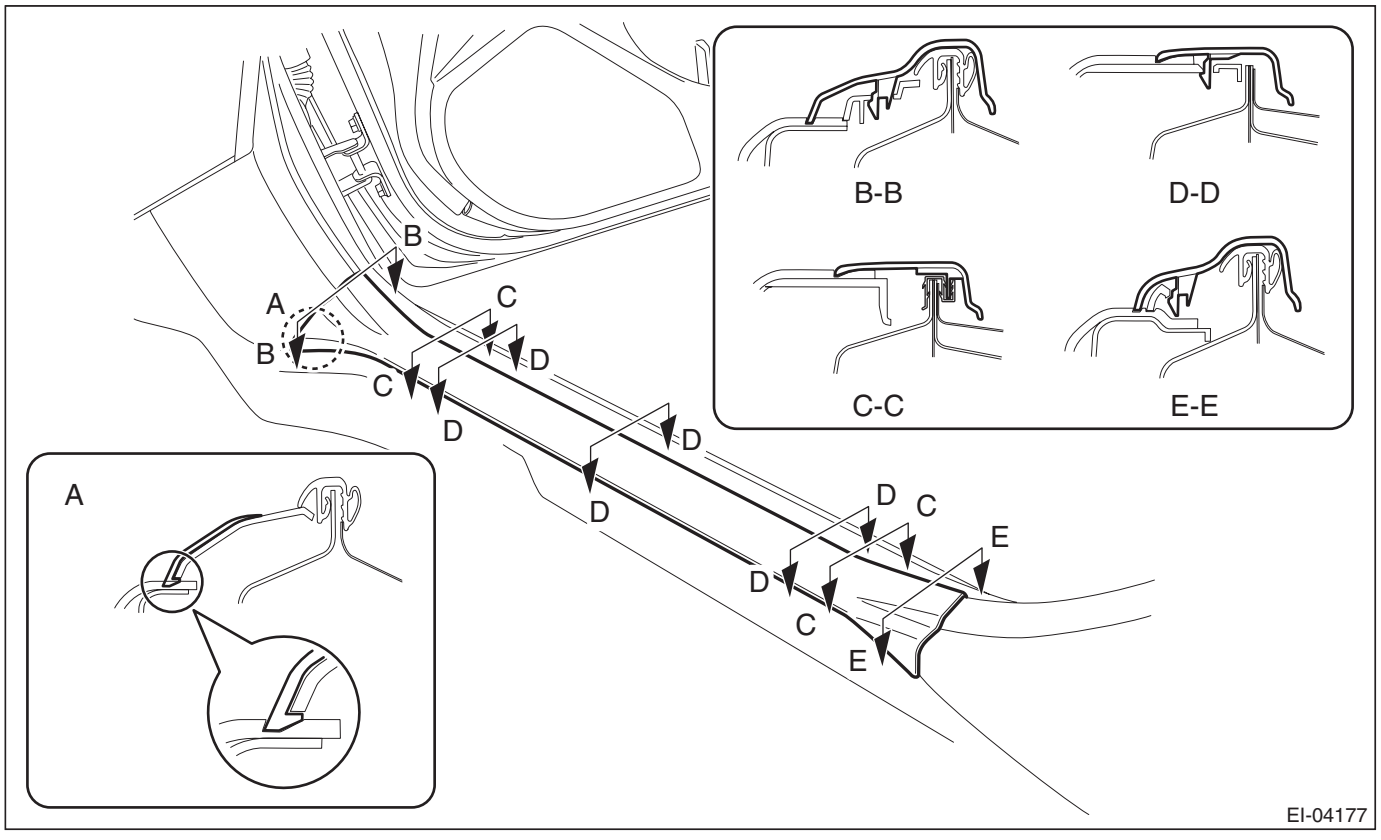
A: REMOVAL

1. SEAT BELT OUTER - FRONT

CAUTION:
• The airbag system (including pretensioner) 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. <Ref. to NT-5, BATTERY, NOTE, Note.>

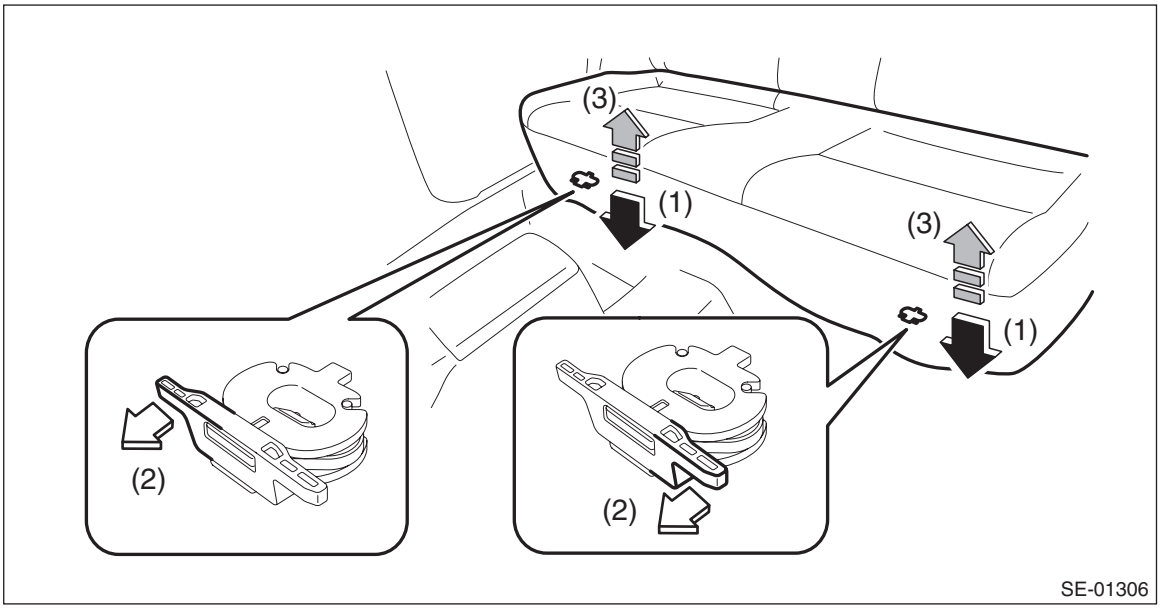
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Tilt the front seat backrest assembly forward, and move the front seat all the way forward.
3) Release the claws, and then remove the cover side sill - front INN. (On the side where seat belt assembly is removed)

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

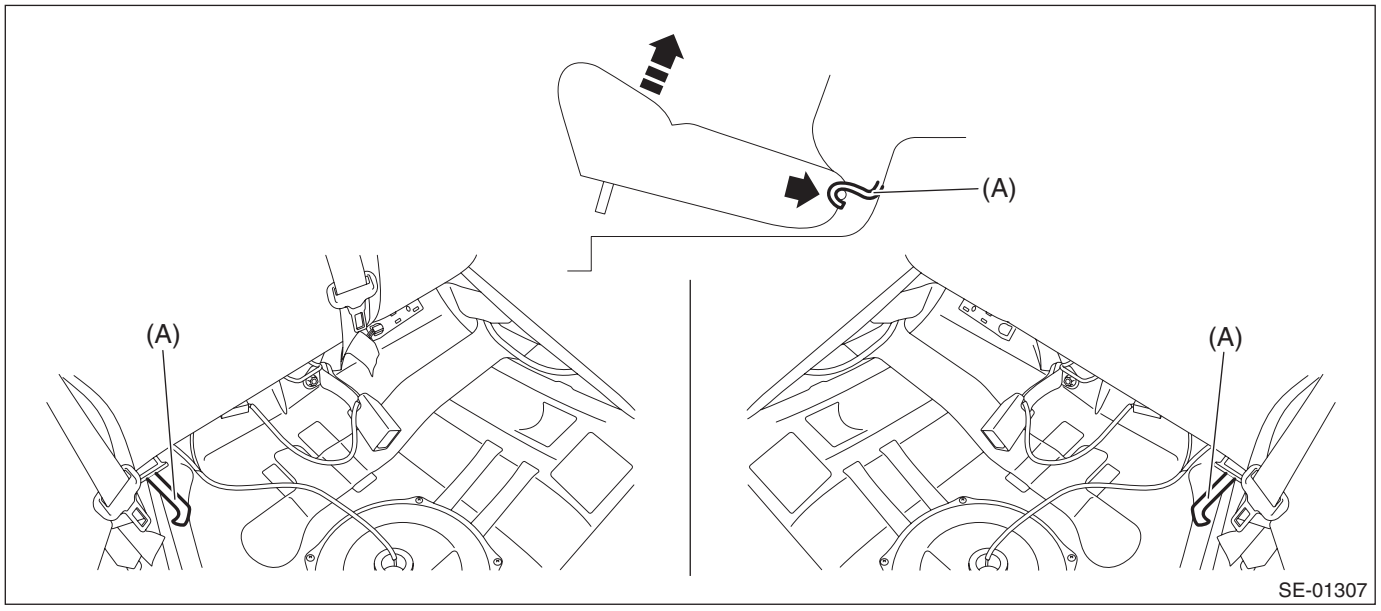


4) Remove the rear seat cushion assembly.
(1) Push the corners of the seat cushion from above.
(2) While pushing the corners of the seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

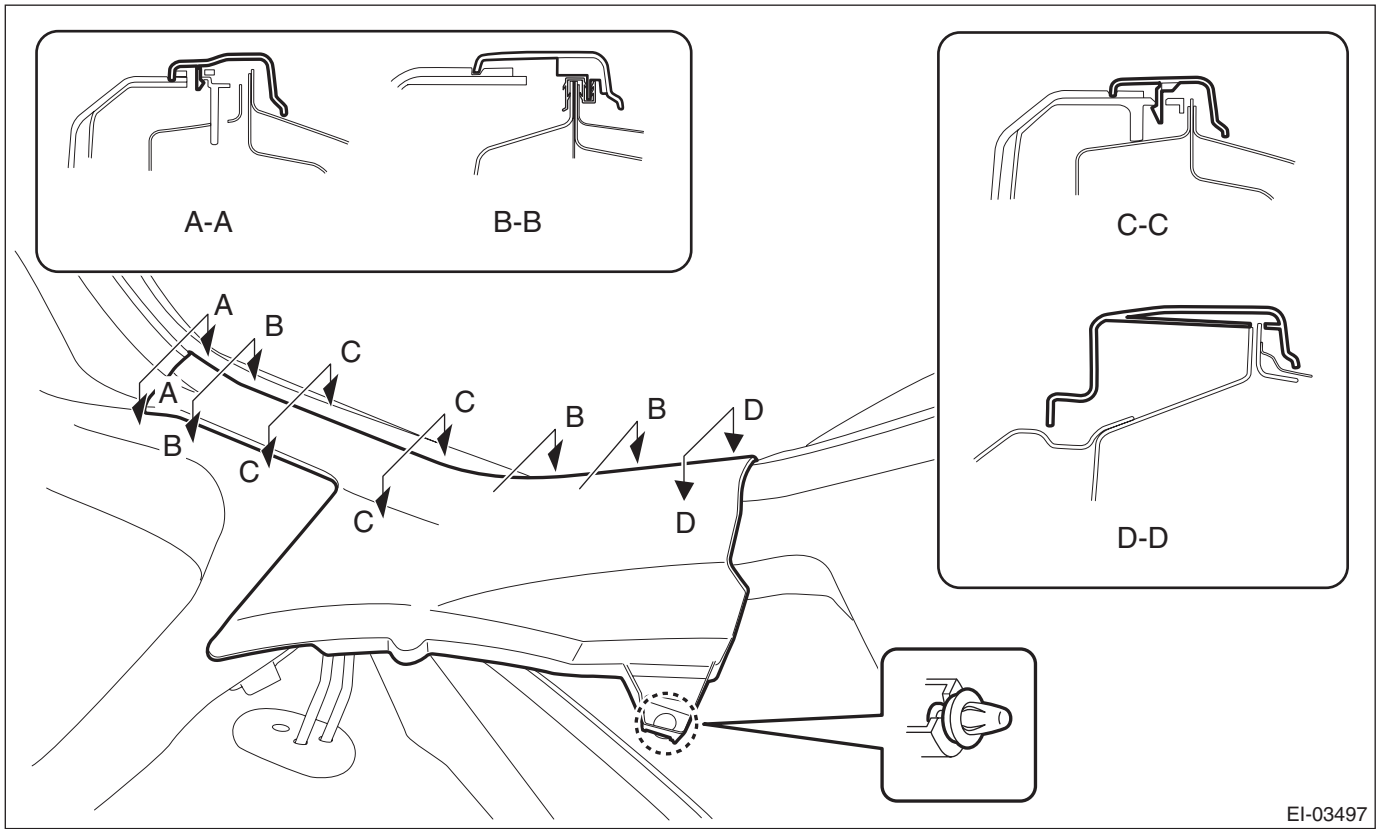


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.



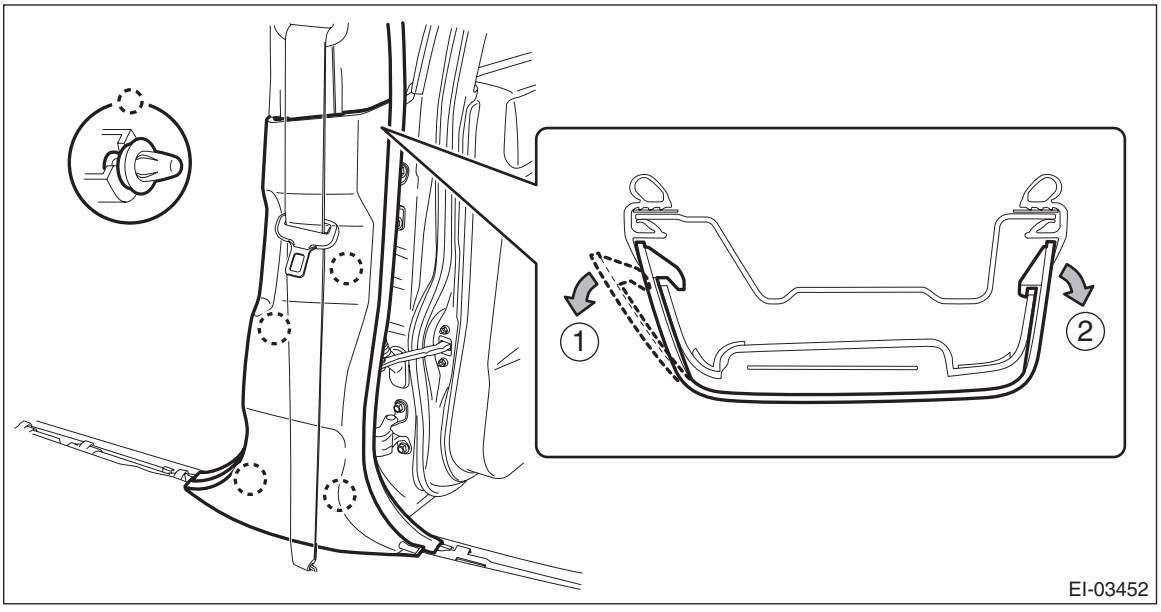
5) Release the clips and claws, and then remove the cover side sill - rear INN. (On the side where seat belt assembly is removed)

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



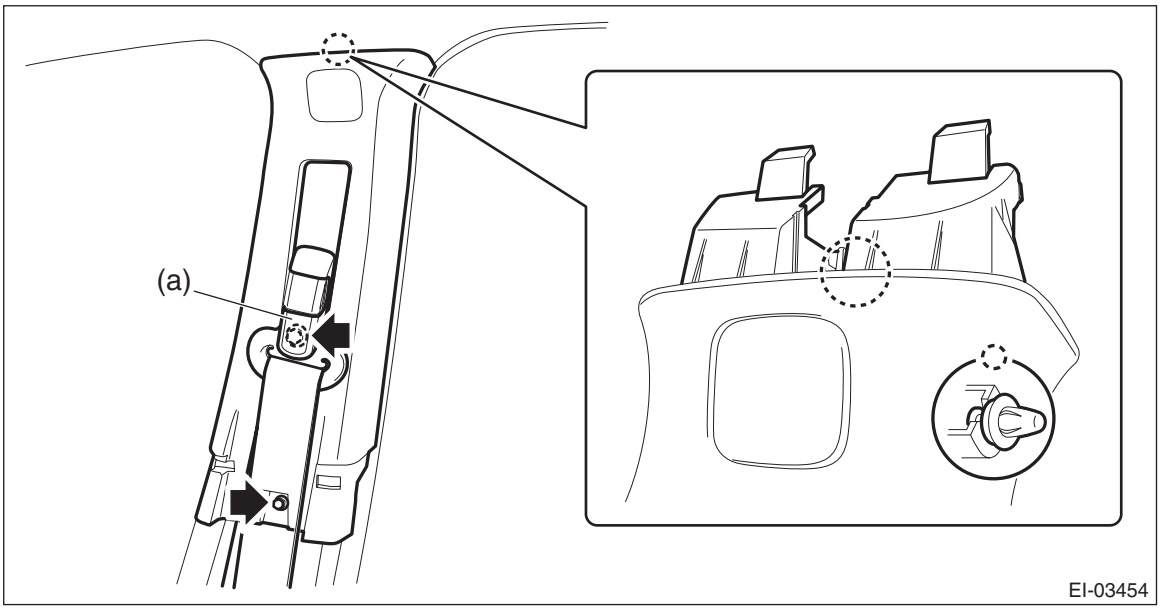
6) Remove the trim panel - center pillar LWR. (On the side where seat belt assembly is removed)
(1) Release the clip by pulling the trim panel - center pillar LWR toward you.
(2) Expand the claws of the trim panel - center pillar LWR outward, and remove it from the trim panel - center pillar UPR.

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



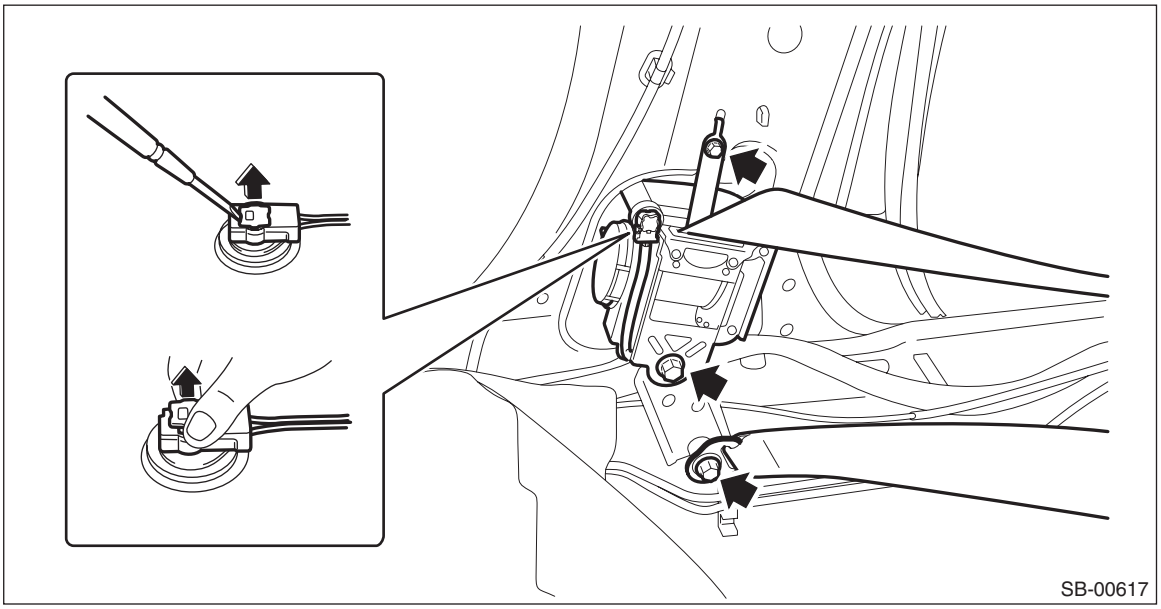
NOTE:
First release the claw located to the front of the vehicle.
7) Remove the trim panel - center pillar UPR. (On the side where seat belt assembly is removed)
(1) Remove the cover through (a), and remove the seat belt anchor bolt.
(2) Remove the bolt on the lower side of the trim panel - center pillar UPR.
(3) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the trim panel - center pillar UPR.

CAUTION:
Do not reuse the upper clips of the trim panel - center pillar UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.



8) Remove the seat belt outer - front.
(1) Turn over the floor mat to disconnect the belt tension sensor connector. <Ref. to AB-19, DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE & PRETENSIONER, PROCEDURE, Airbag Connector.>

NOTE:
For XV model, disconnect the connector of the passenger's lap seat belt pretensioner.
(2) Remove the bolt to remove the seat belt retractor.
(3) Remove the lower anchor bolt, and remove the seat belt outer - front.



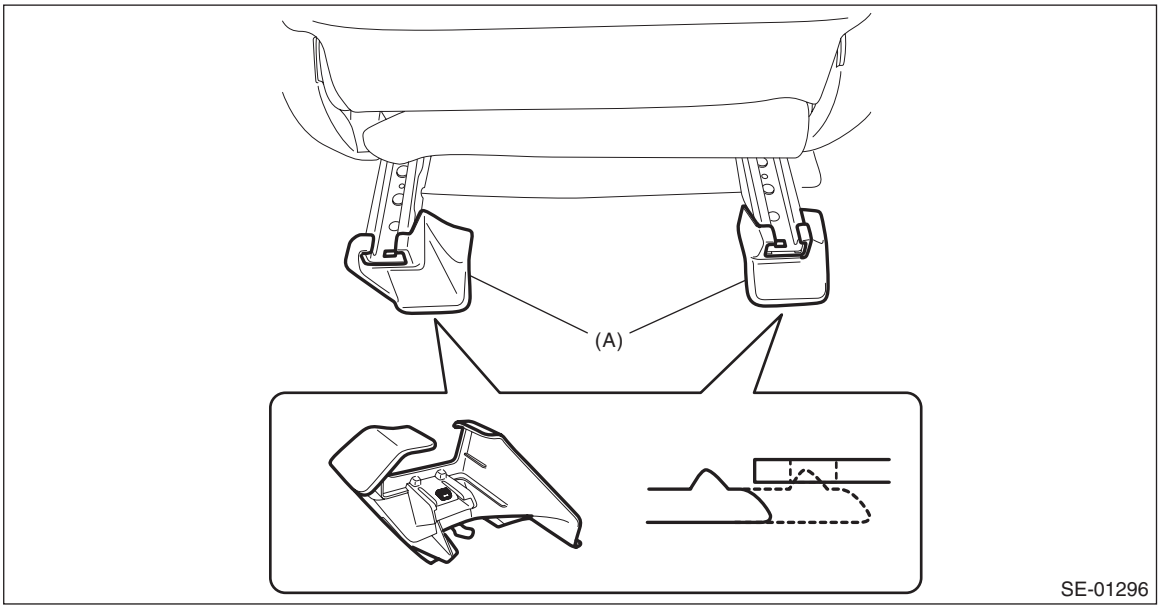
2. SEAT BELT INNER - FRONT

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. <Ref. to NT-5, BATTERY, NOTE, Note.>

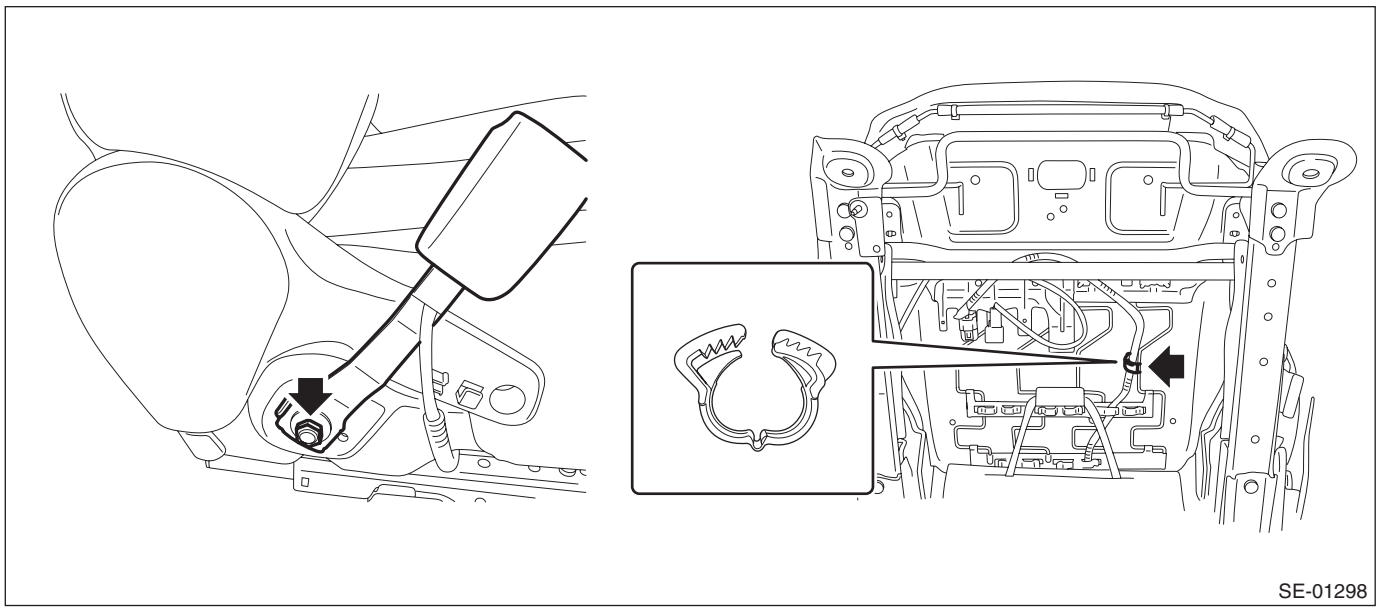
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

3) Remove the front seats.
   (1) Tilt the backrest assembly forward and move the front seat to the front most position.
   (2) Remove the cover - bolt rear (A) and remove the bolts.



   (3) Move the front seat to the rearmost position, and remove the bolts.
   (4) Disconnect the connector under the front seat.
   • Seat belt warning light connector (driver's seat)
   • Occupant detection system harness connector (passenger's seat) <Ref. to OD(diag)-9, OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS), PROCEDURE, Airbag Connector.>
   • Side airbag connector <Ref. to AB-22, SIDE AIRBAG MODULE, PROCEDURE, Airbag Connector.>
   • Seat heater connector (model with seat heater)
   • Buckle switch RH connector (passenger's seat) <Ref. to AB-22, BUCKLE SWITCH RH, PROCEDURE, Airbag Connector.>

4) Remove the seat belt inner - front.
(1) Remove the nut, and remove the seat belt inner - front.
(2) Remove the clip for the inner seat belt harness located under the seat cushion.



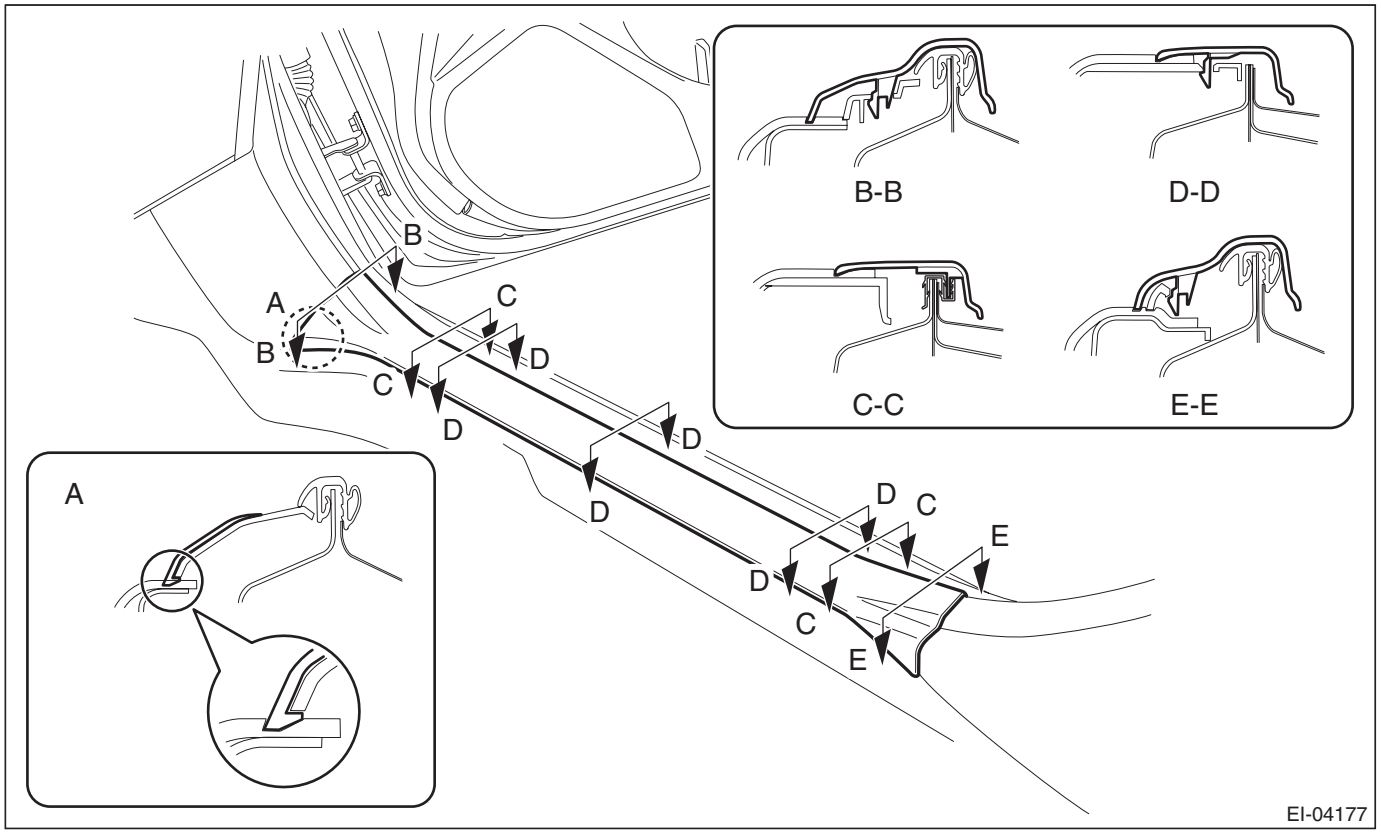
3. ADJUSTER ASSEMBLY - SEAT BELT

CAUTION:
• The airbag system (including pretensioner) 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.
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>
• 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. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Tilt the backrest assembly forward and move the front seat to the front most position.

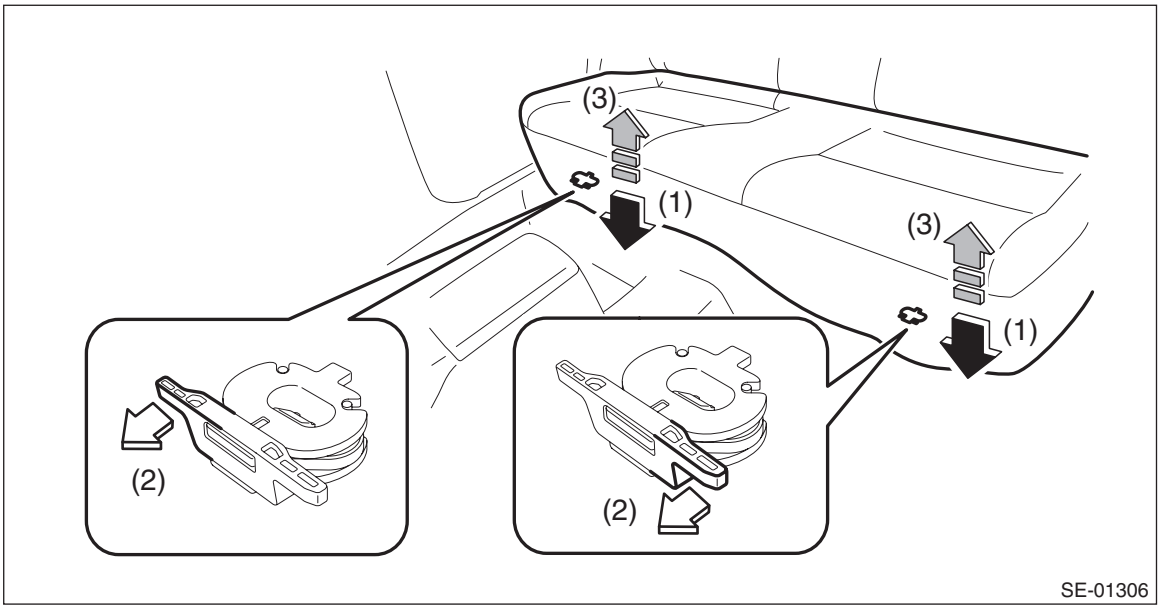
3) Release the claws, and then remove the cover side sill - front INN.

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

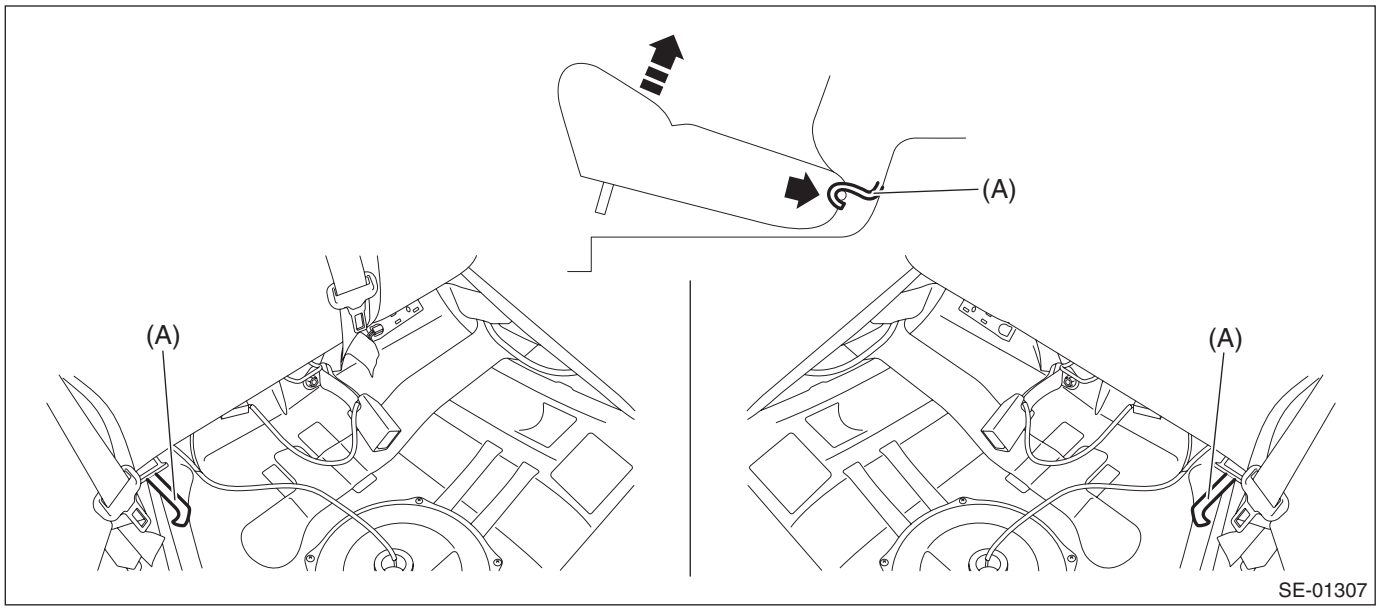


4) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

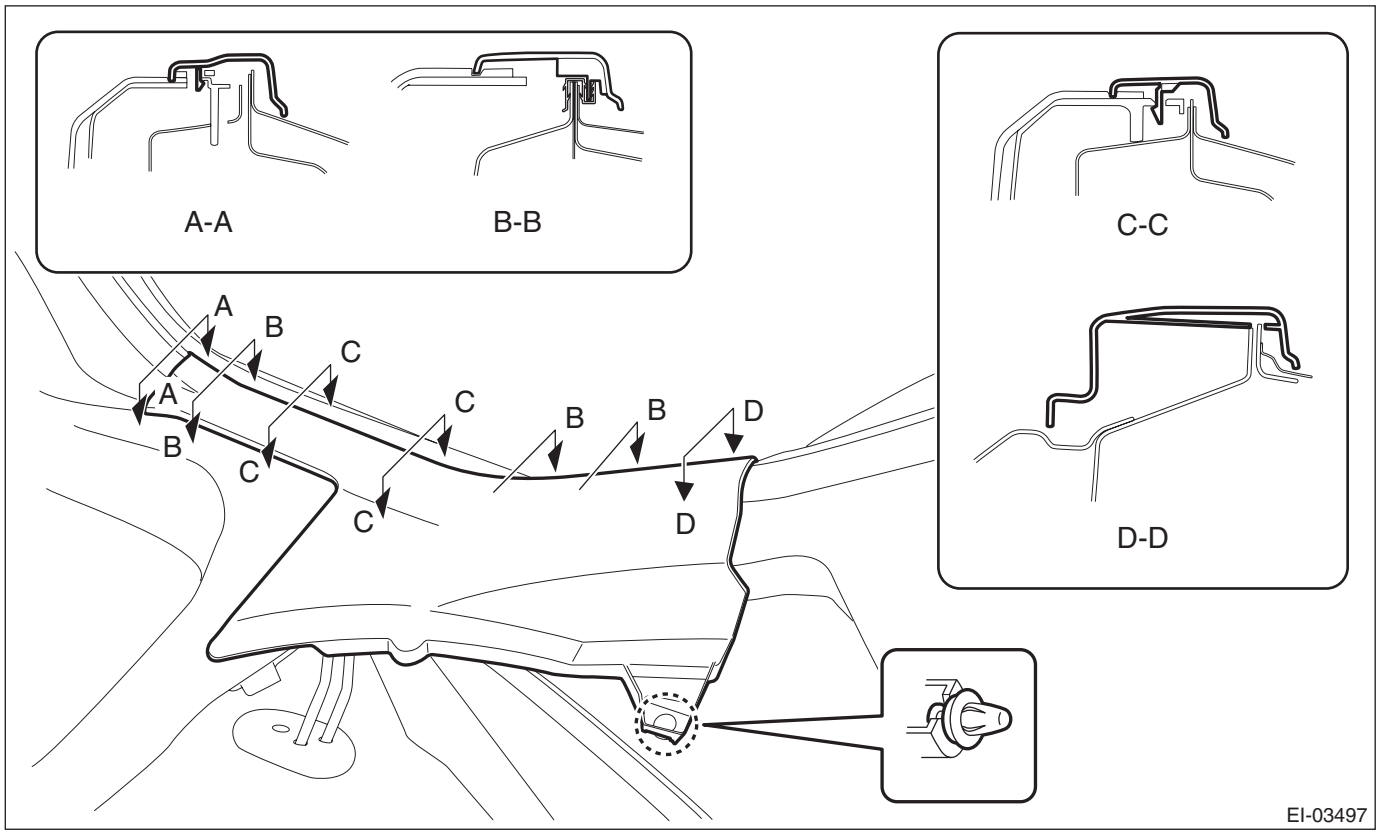


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.



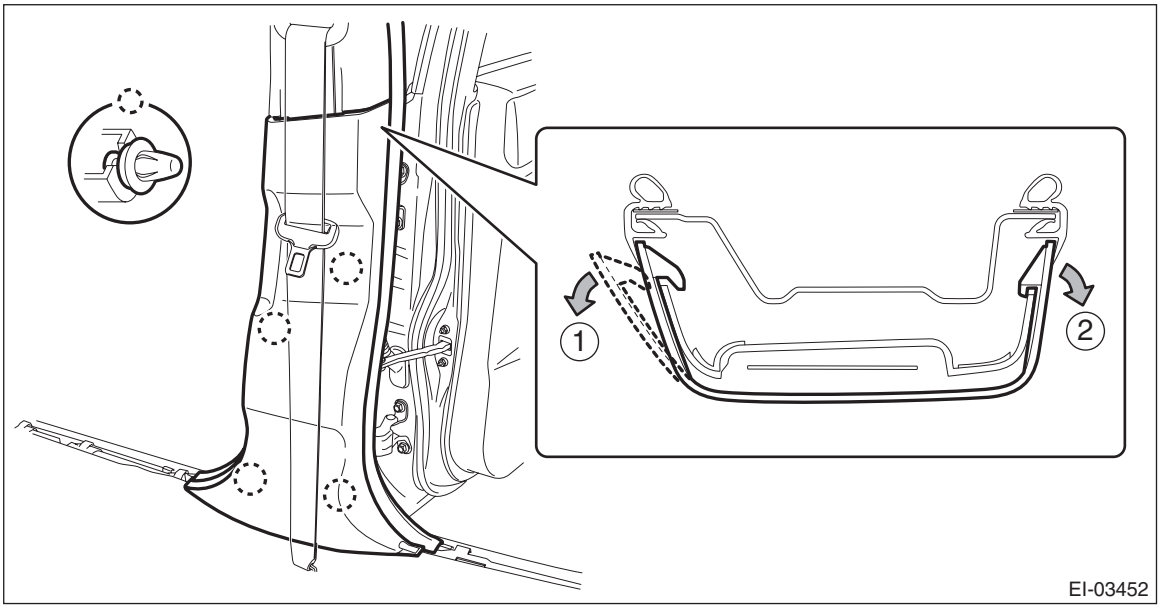
5) Release the clips and claws, and then remove the cover side sill - rear INN.

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



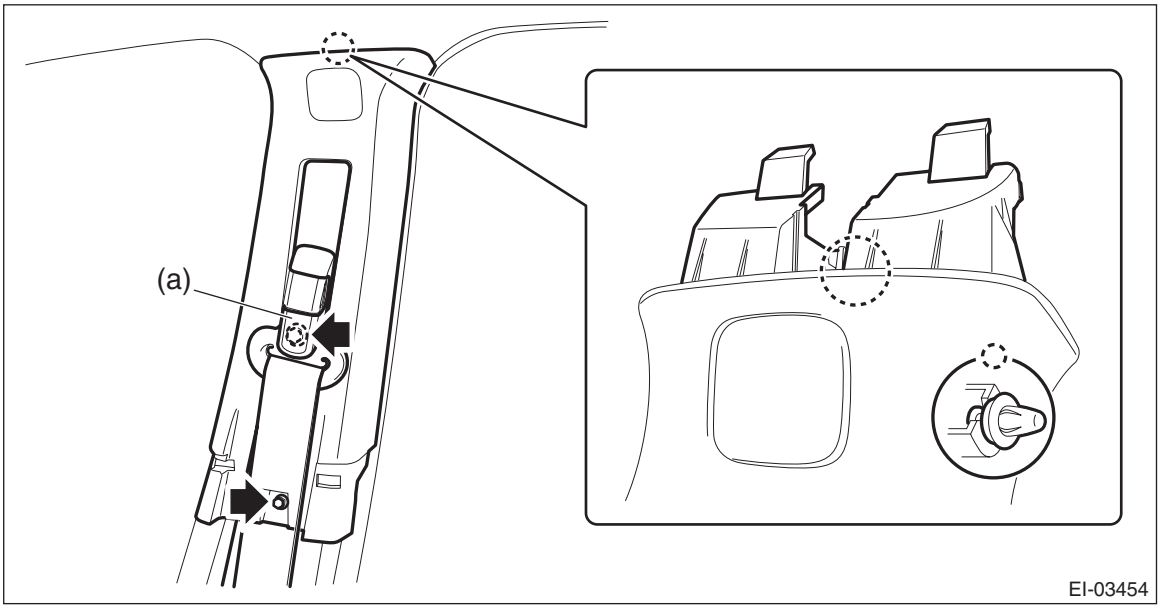
6) Remove the trim panel - center pillar LWR.
(1) Release the clip by pulling the trim panel - center pillar LWR toward you.
(2) Expand the claws of the trim panel - center pillar LWR outward, and remove it from the trim panel - center pillar UPR.

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

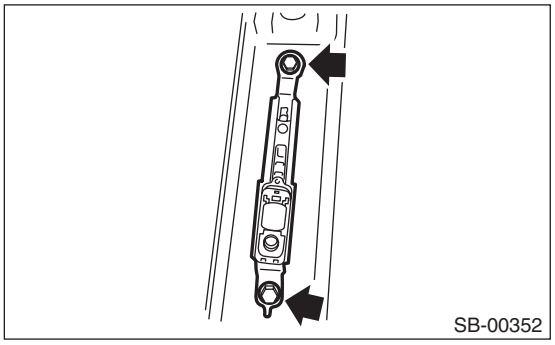


NOTE:
First release the claw located to the front of the vehicle.
7) Remove the trim panel - center pillar UPR.
(1) Remove the cover through (a), and remove the seat belt anchor bolt.
(2) Remove the bolt on the lower side of the trim panel - center pillar UPR.
(3) Remove the clip by pulling the upper part of the trim toward you, and while lowering the entire trim, remove the trim panel - center pillar UPR.

CAUTION:
Do not reuse the upper clips of the trim panel - center pillar UPR. Once the clip is removed, its holding force is reduced. Be sure to replace it with a new clip.



8) Remove the bolts, and then remove the adjuster assembly - seat belt.



B: INSTALLATION

1. SEAT BELT OUTER - FRONT

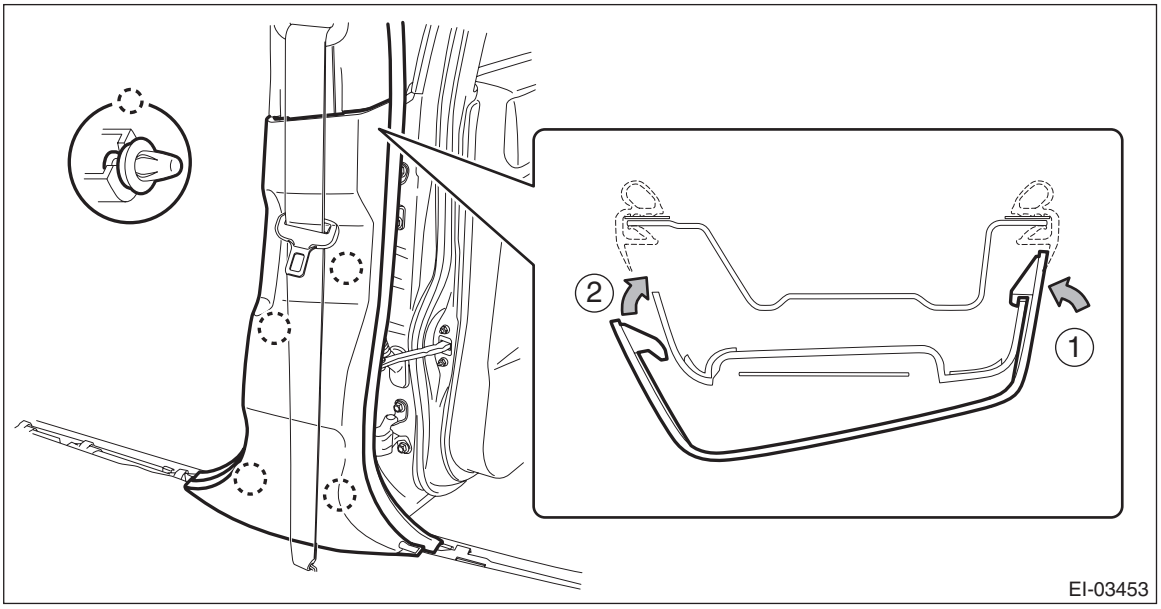
CAUTION:
• The parts of the driver and passenger sides are not the same. Before installation, make sure that the correct part is used.
• During installation, make sure that the seat belts are not twisted.
• After installation, make sure that the seat belt can be pulled out and retracted smoothly.
• Make 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 trim panel - center pillar 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 seat belt outer - front.

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

3) Install the remaining parts in the reverse order of removal.

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



4) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.
- The adjuster assembly - seat belt 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.

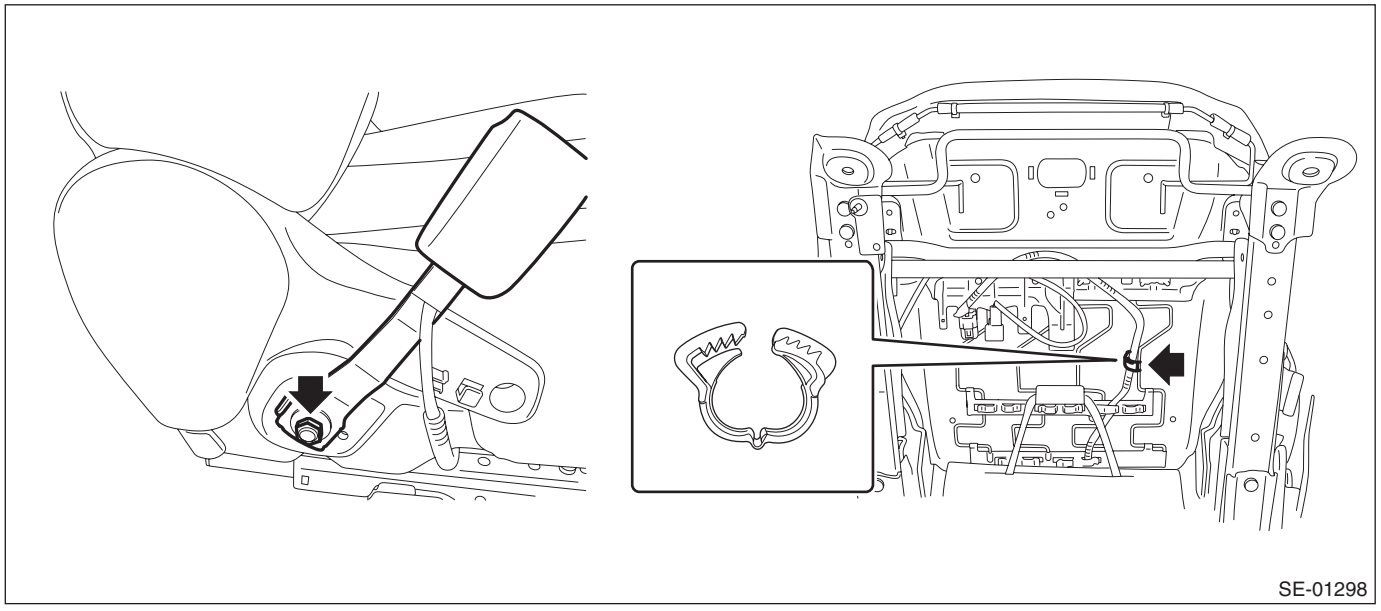
2. SEAT BELT INNER - FRONT

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 seat belt inner - front.

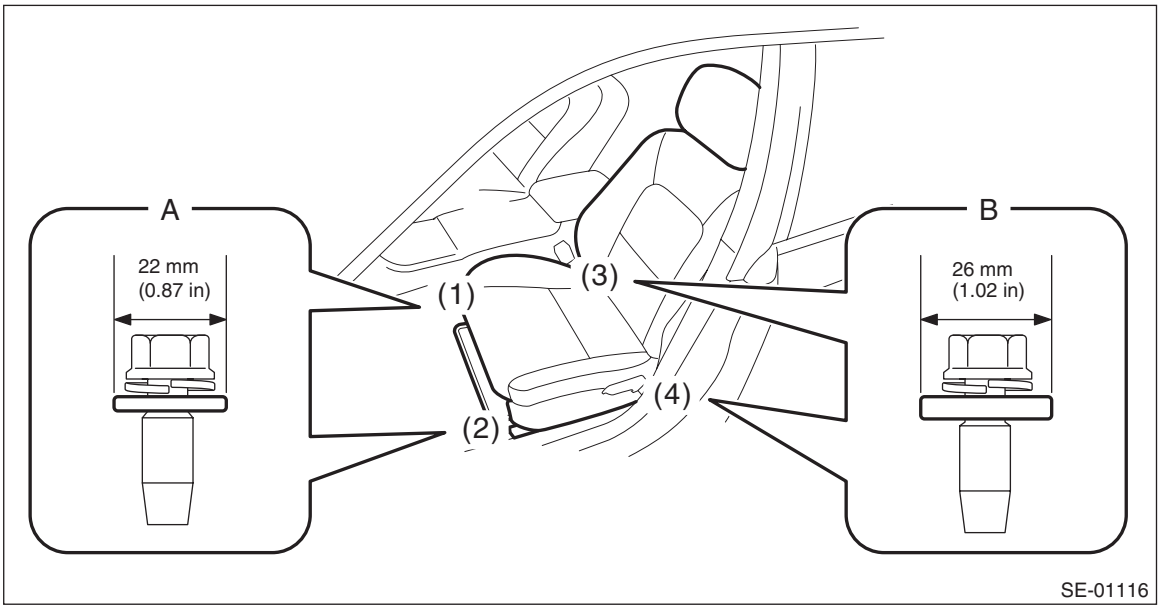
Tightening torque:
Front seat belt: <Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

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 seat belt outer - front, install the parts in the reverse order of removal.

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

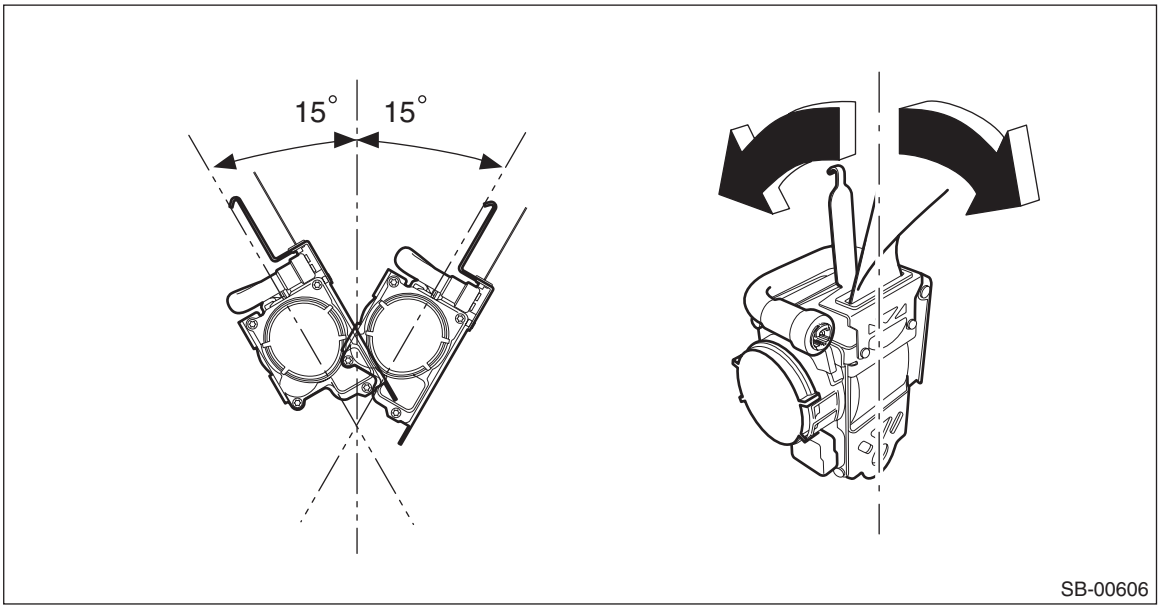
C: INSPECTION

1. VISUAL INSPECTION

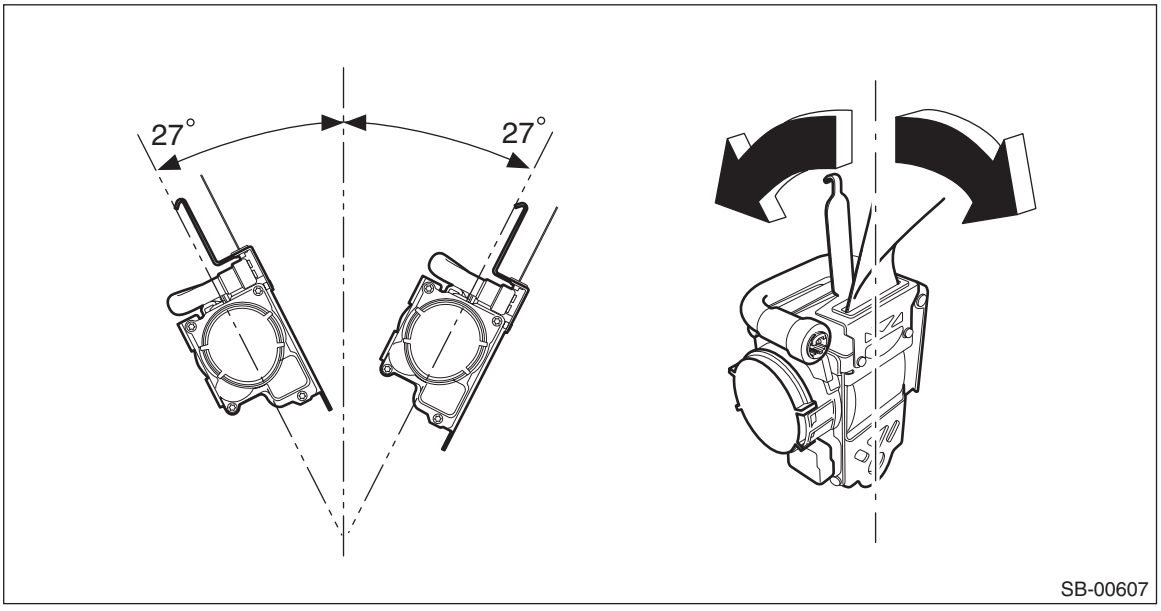
Check for the following, and replace with new parts if necessary.
- Pretensioner is cracked or deformed.
- Adjuster assembly - seat belt is cracked or deformed.
- Seat belt is slackened, bent or worn.
- Seat belt is abnormally wound or extended.
- Seat belt inner - front is deformed or damaged.
- Seat 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 15° or less.



- It remains locked if the inclination angle is 27° or more.



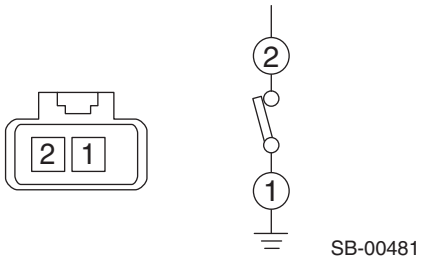
3) If the ELR lock mechanism does not operate properly, replace the seat belt outer - front with a new part.

3. SEAT BELT SWITCH INSPECTION

Preparation tool:
Circuit tester

- Driver's seat

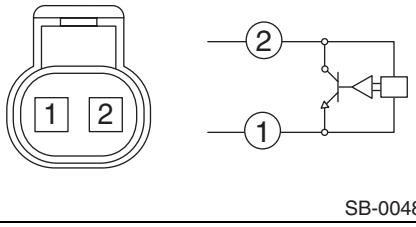
Check the resistance between the terminals when the seat belt inner - front is in each of the following operation conditions.

Terminal No.	Inspection conditions	Standard	Circuit
2 — 1	Tongue plate inserted	1 MΩ or more	 SB-00481
2 — 1	Tongue plate detached	1 Ω or less	

Replace the seat belt inner - front if the inspection result is not within the standard.

- Passenger's seat

Check the current between the terminals when the seat belt inner - front is in each of the following operation conditions.

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Tongue plate inserted	12 — 18 mA	 SB-00482
1 — 2	Tongue plate detached	4 — 7 mA	

Replace the seat belt inner - front if the inspection result is not within the standard.

6. Rear Seat Belt

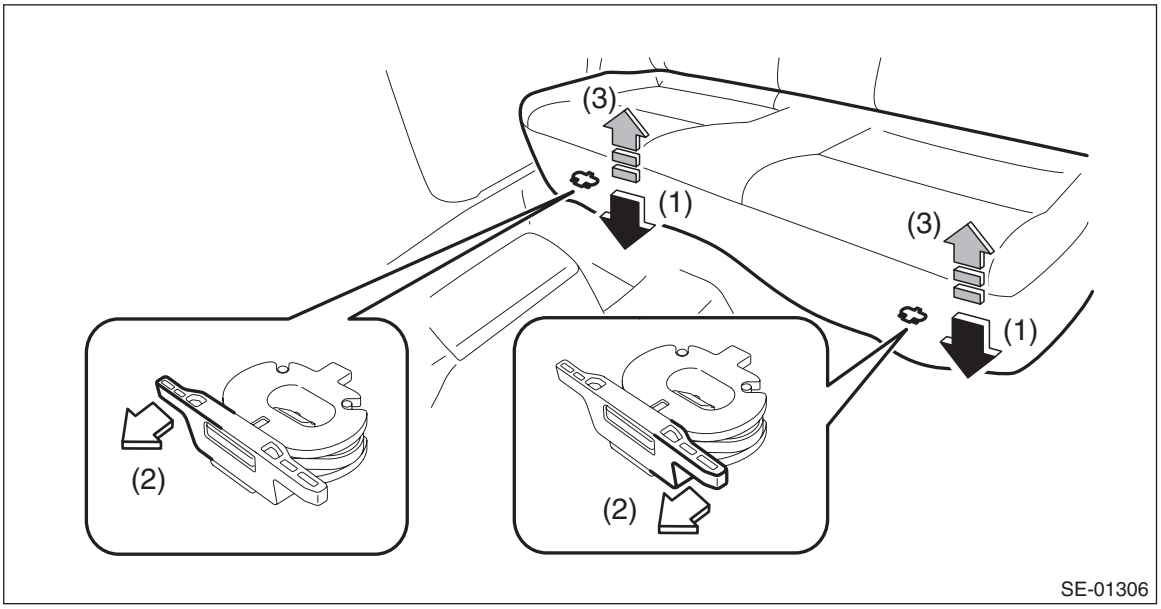
A: REMOVAL

1. SEAT BELT OUTER - REAR RH AND LH (4 DOOR MODEL)

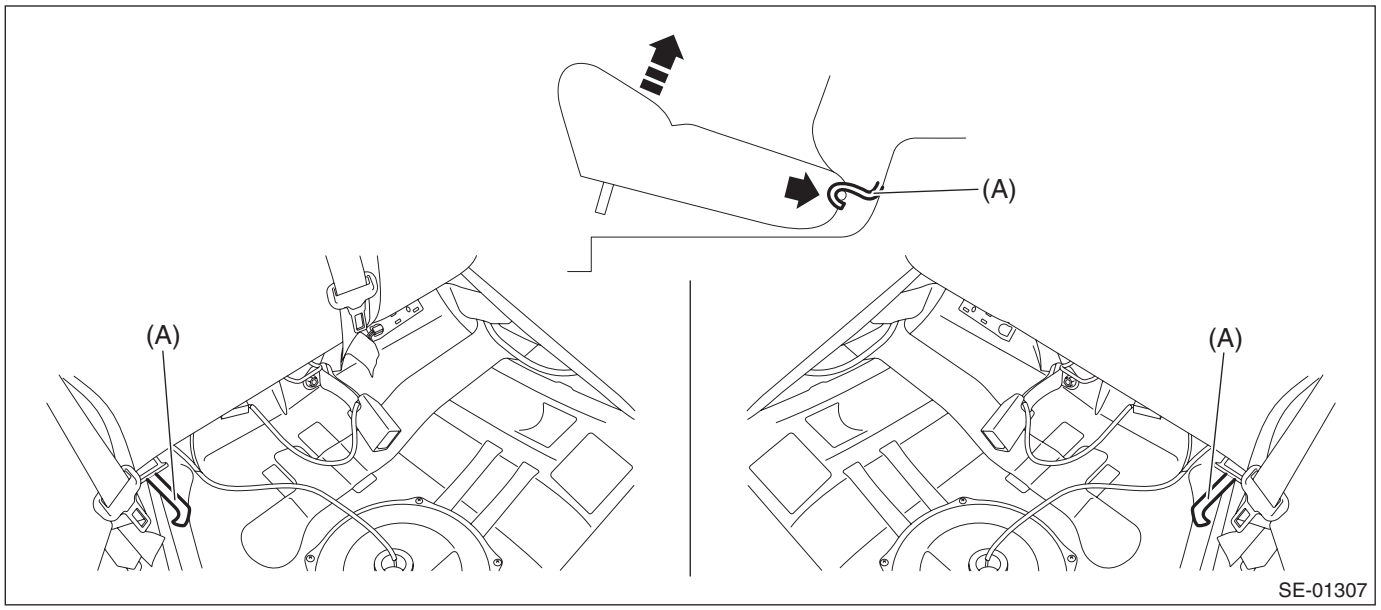
CAUTION:
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>
• The airbag system is fitted with a backup power 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.
3) Remove the rear seat cushion assembly.
   (1) Push the corners of the rear seat cushion from above.
   (2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
   (3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

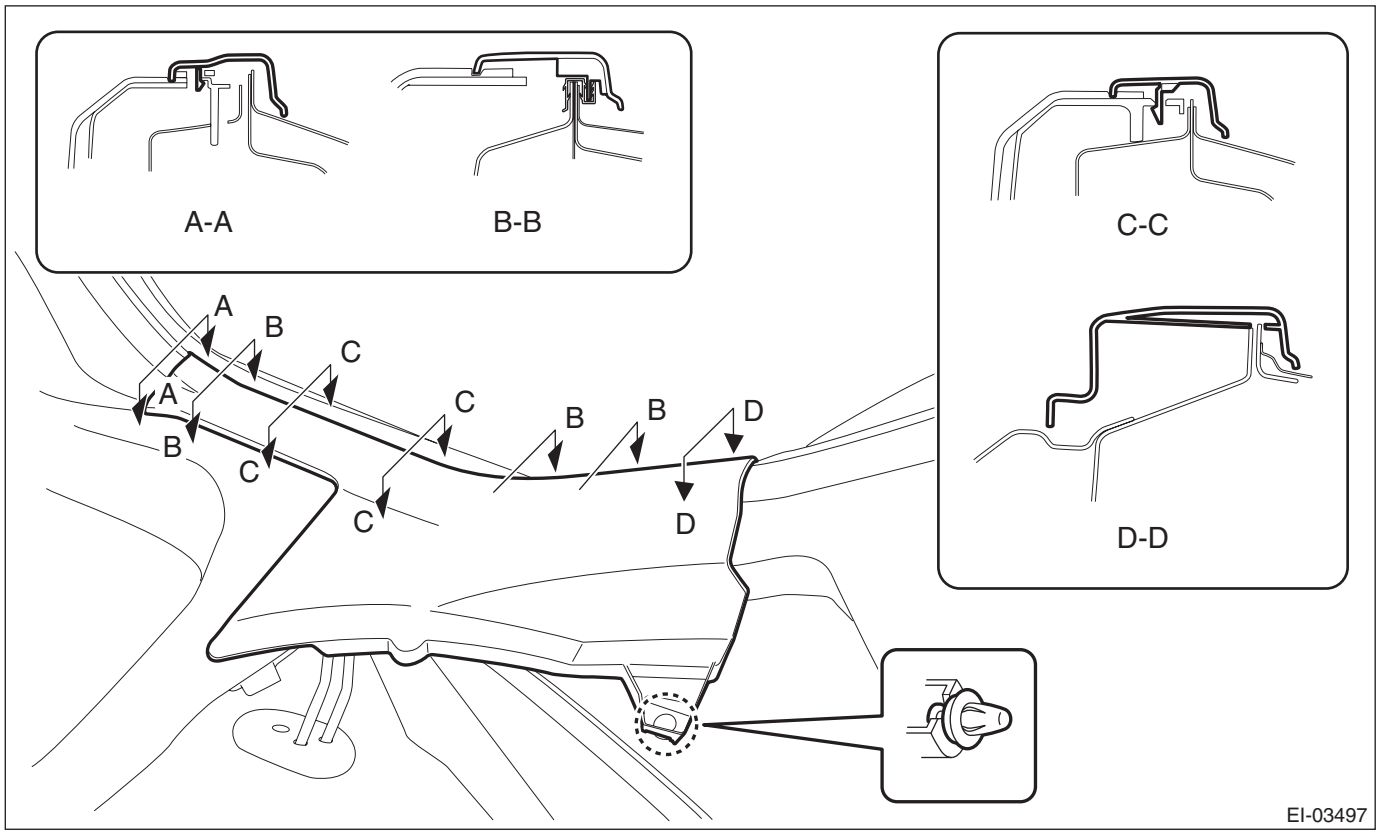


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.

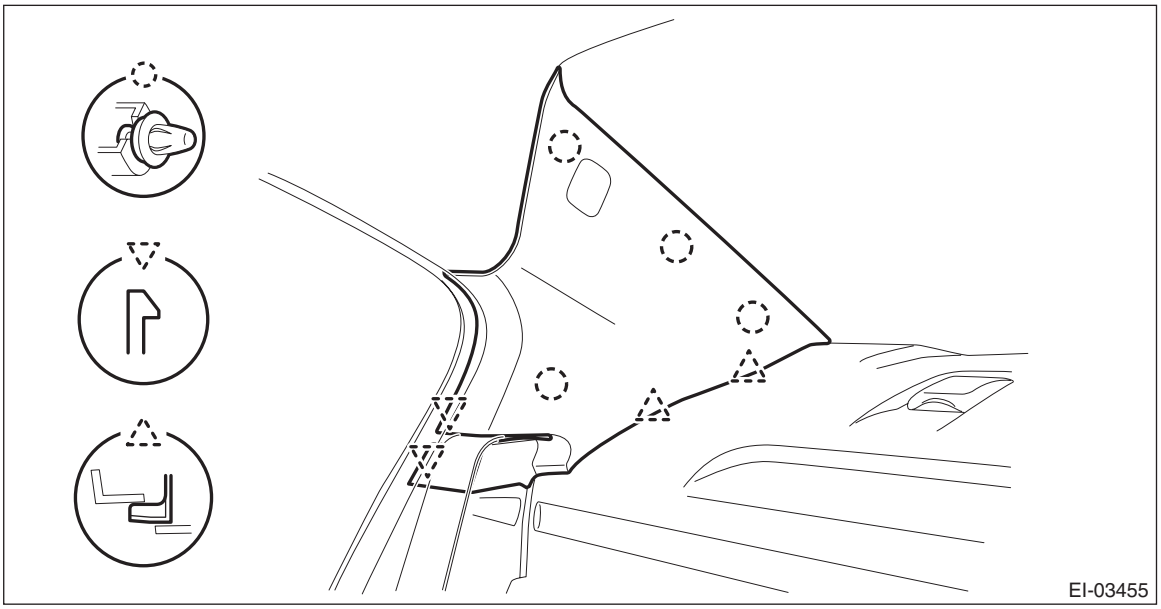


4) Release the clips and claws, and then remove the cover side sill - rear INN. (On the side where seat belt assembly is removed)

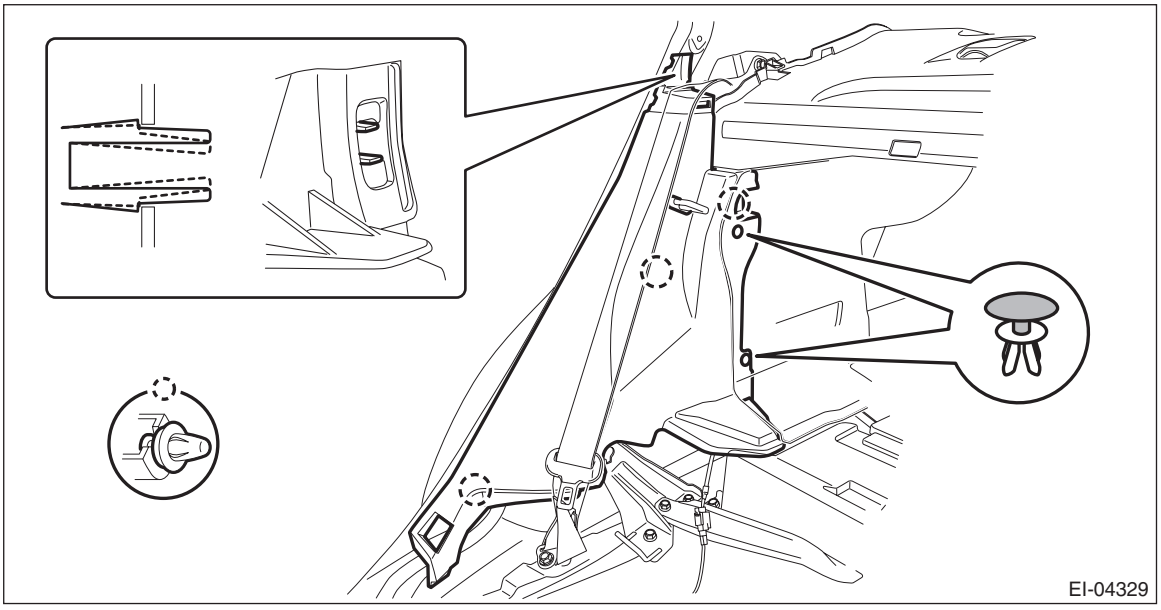
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the cover side sill - rear INN.



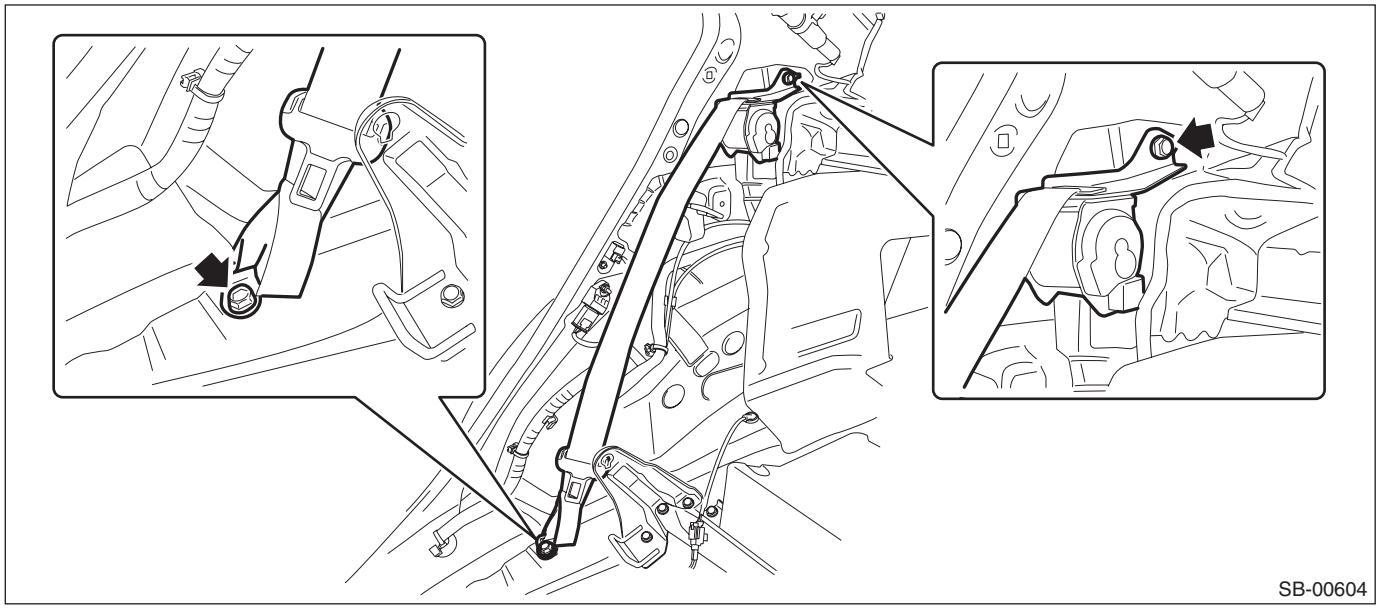
5) Remove the clips, and remove the trim panel - rear pillar UPR. (On the side where seat belt assembly is removed)



6) Remove the trim panel - rear pillar LWR. (On the side where seat belt assembly is removed)
   (1) Remove the clips, and turn over the trim panel - trunk side.
   (2) Remove the clips, and remove the trim panel - rear pillar LWR.



7) Remove the bolts, and remove the seat belt outer - rear.



2. SEAT BELT OUTER - REAR RH AND LH (5 DOOR MODEL/XV MODEL)

CAUTION:

- **Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>**
- **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.

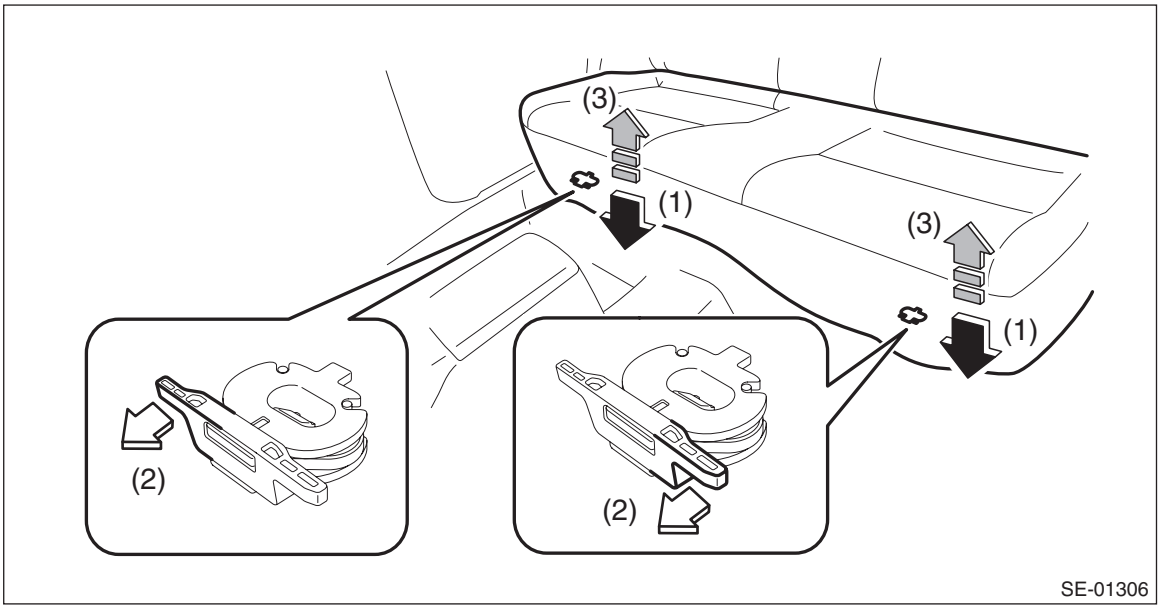
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:

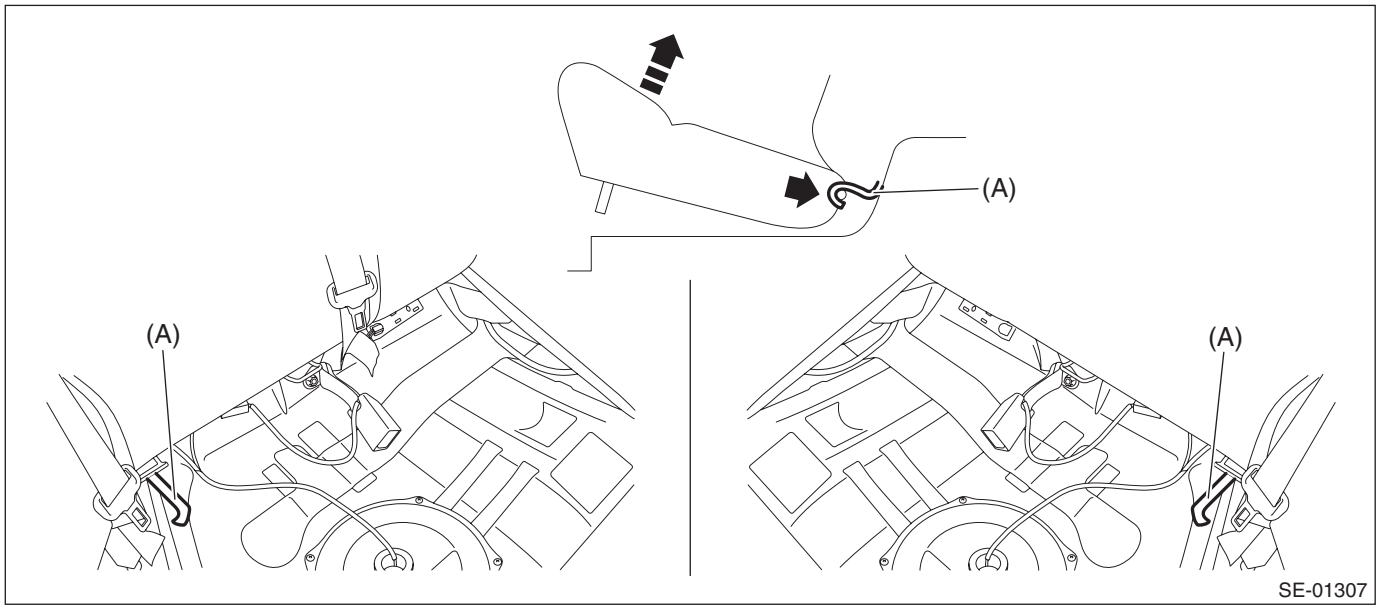
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

3) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

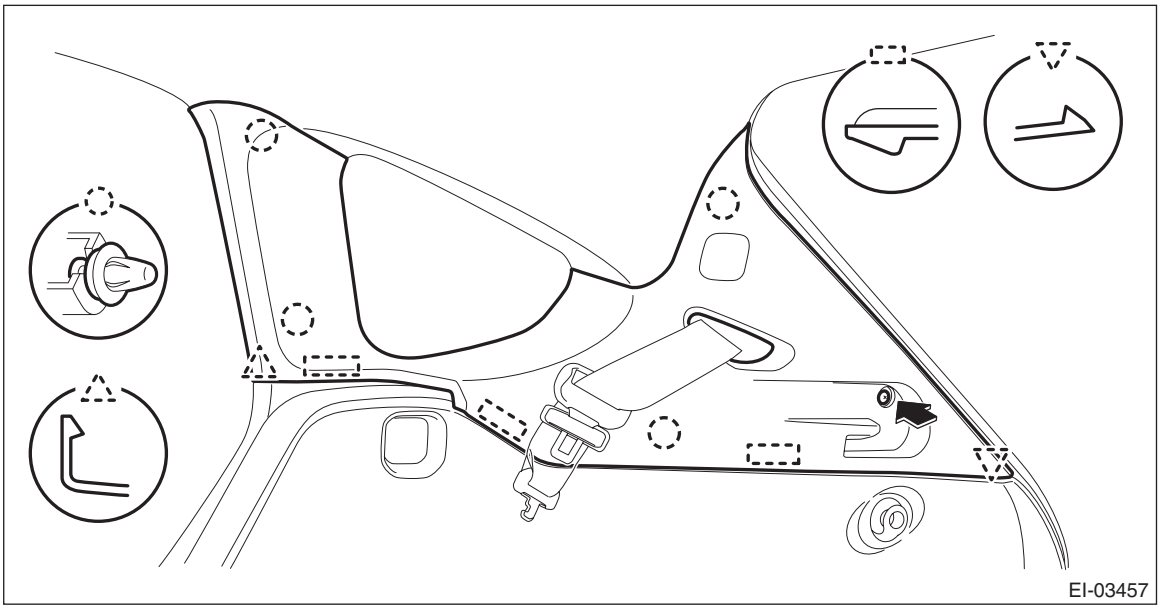
NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.



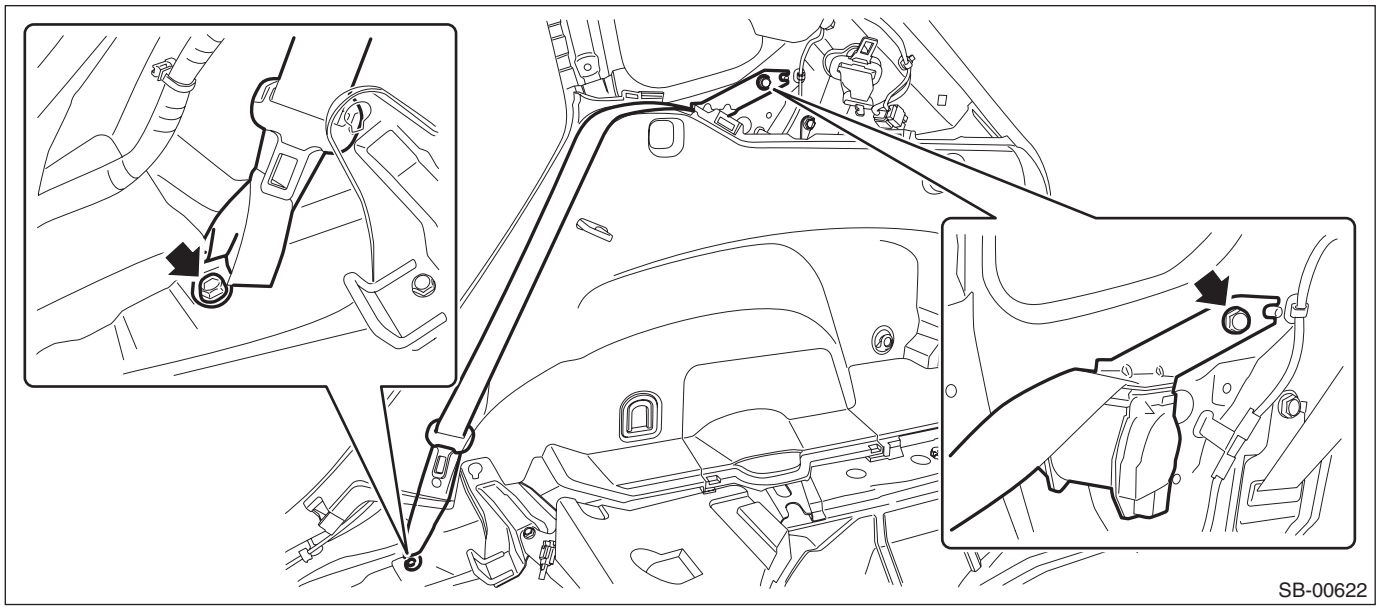
(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.



4) Remove the screws and clips, and remove the trim panel - rear quarter pillar UPR. (On the side where seat belt assembly is removed)



5) Remove the bolts, and remove the seat belt outer - rear.



3. SEAT BELT - REAR SHOULDER CTR (4 DOOR MODEL)

CAUTION:

• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>

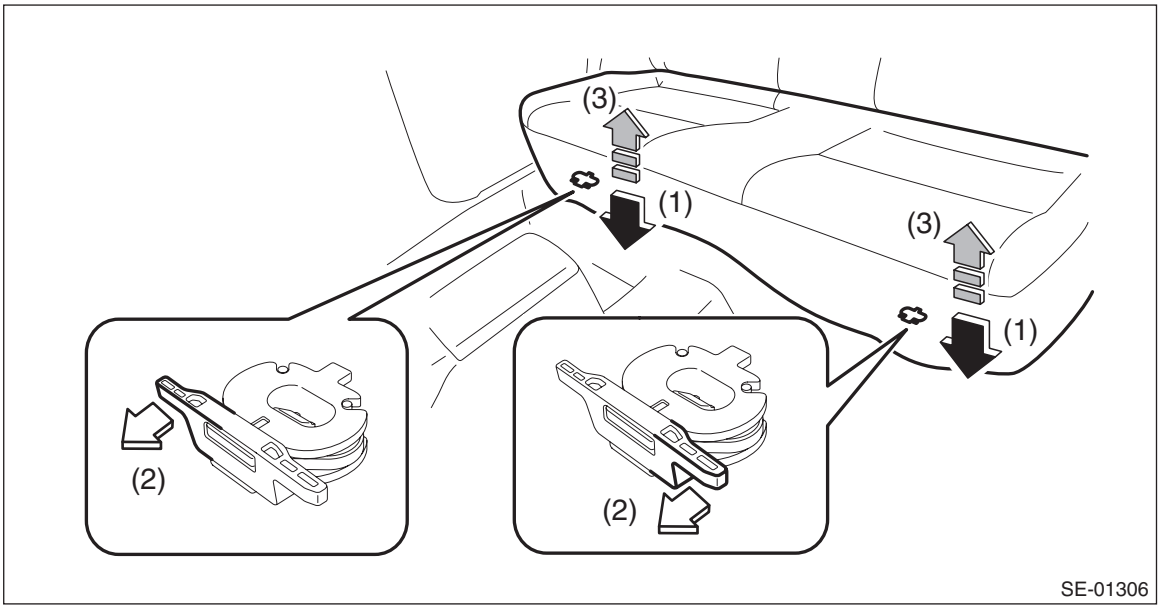
• The airbag system is fitted with a backup power supply. After disconnecting the battery ground cable, the airbag may operate if you do not wait for 60 seconds before starting the service of airbag system.

1) Turn the ignition switch to OFF.

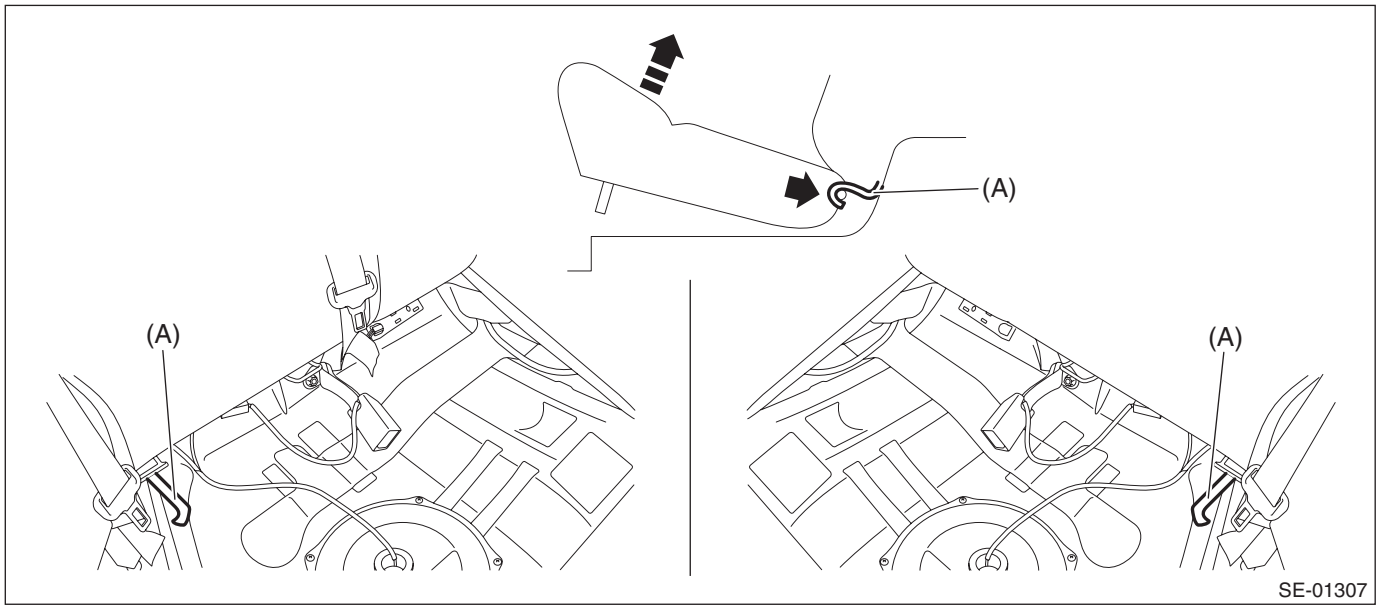
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work.

3) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

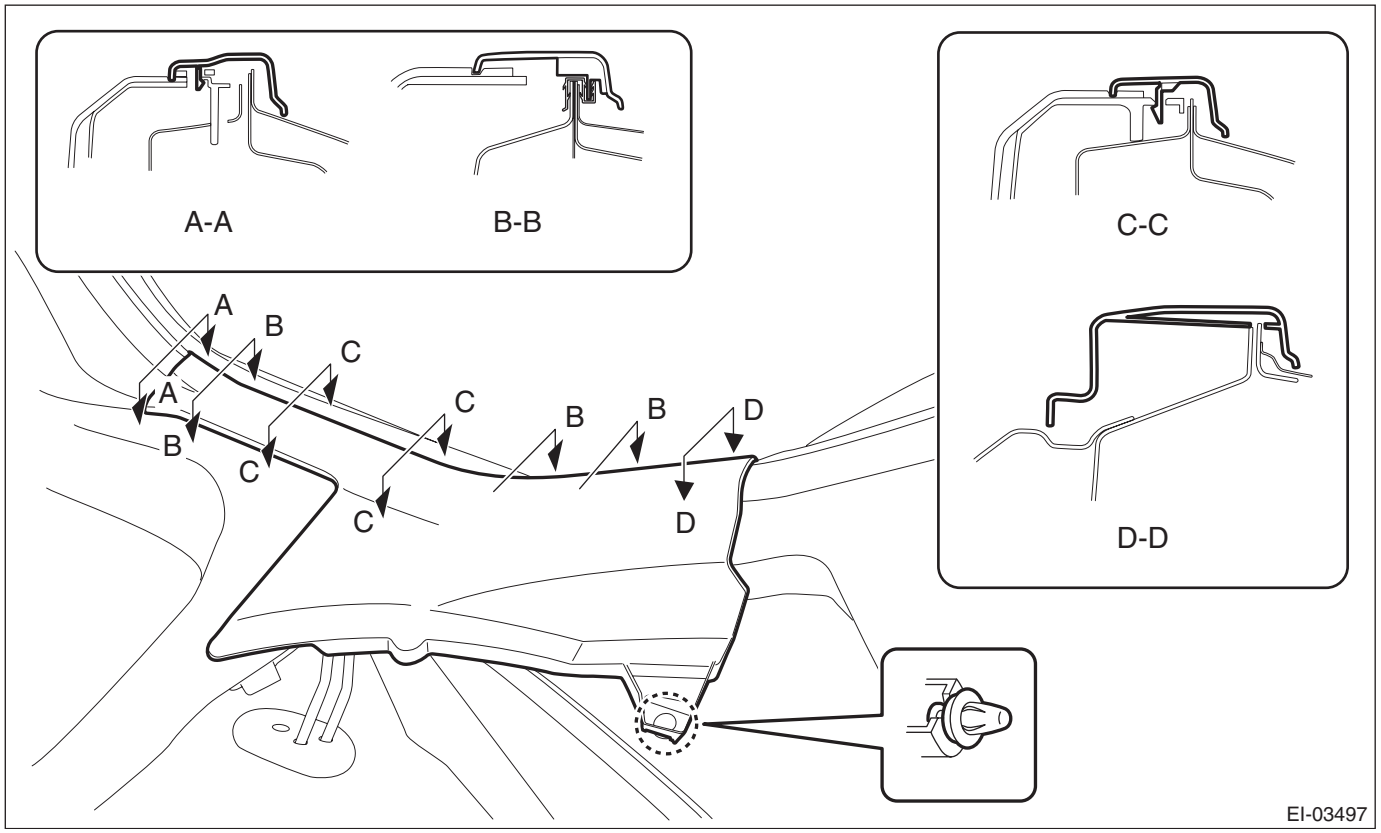


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.

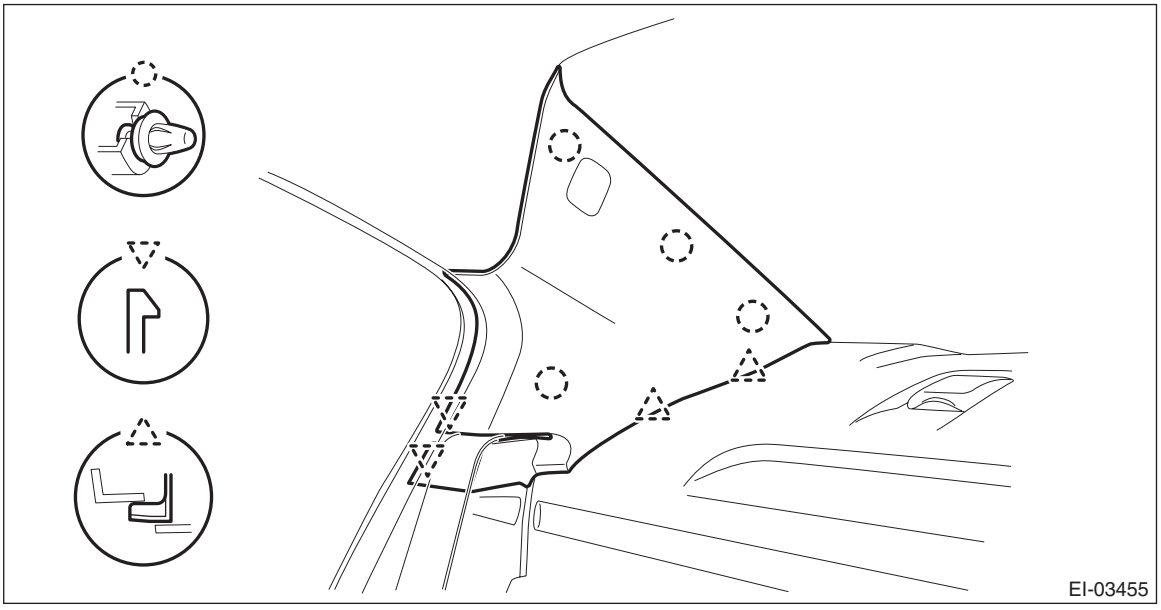


4) Release the clips and claws, and remove the side sill covers - rear INN on the left and right sides.

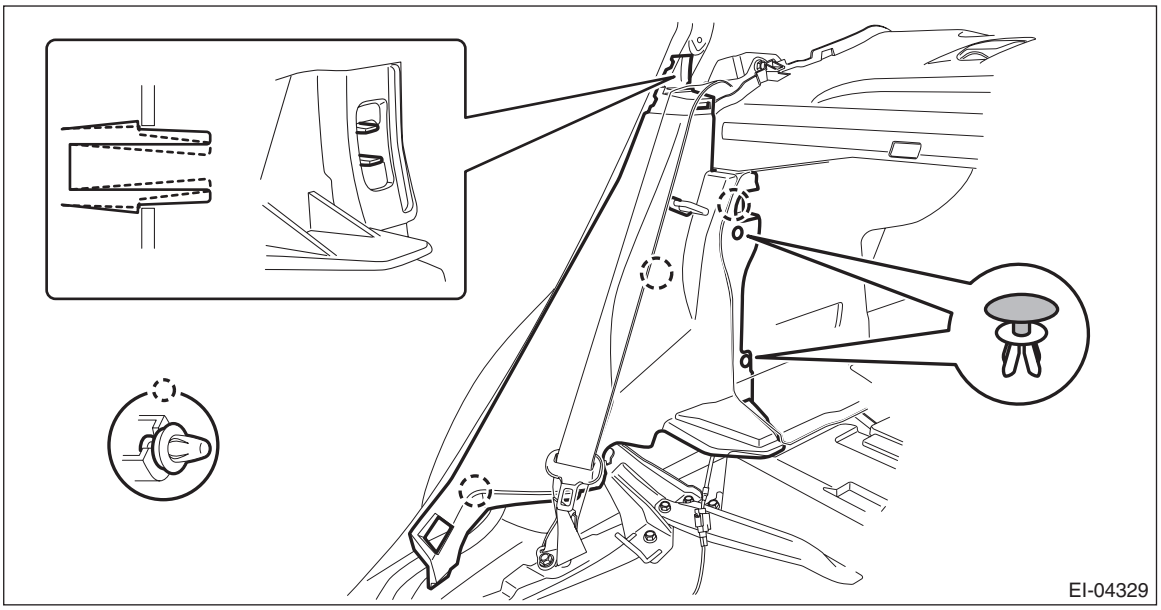
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the side sill cover - rear INN.



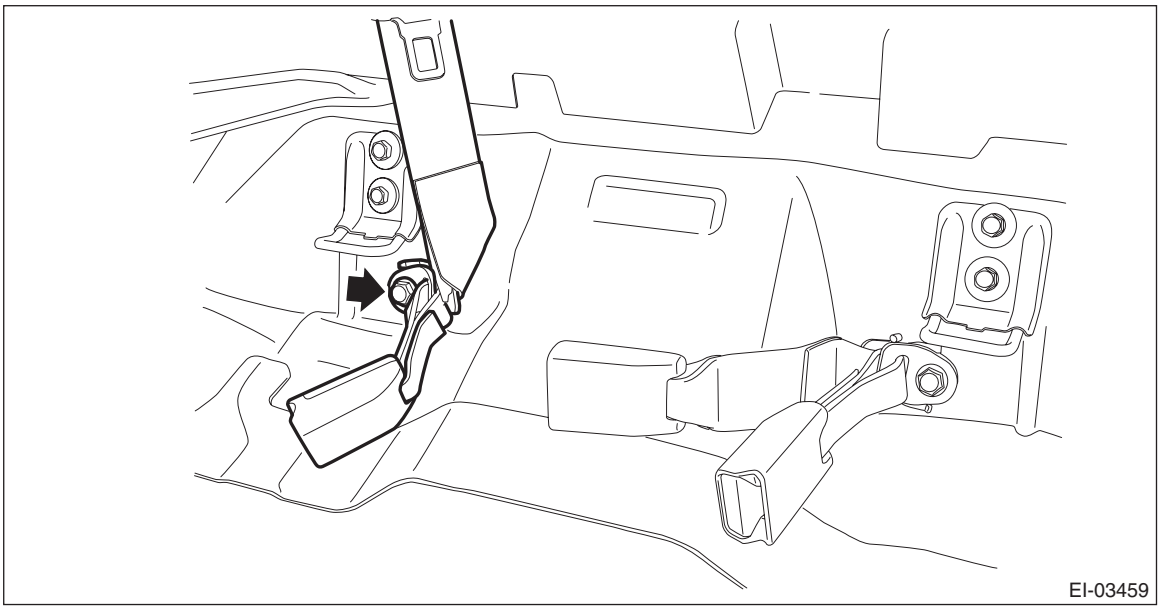
5) Remove the clips, and remove the trim panel - rear pillar UPR on the left and right sides.



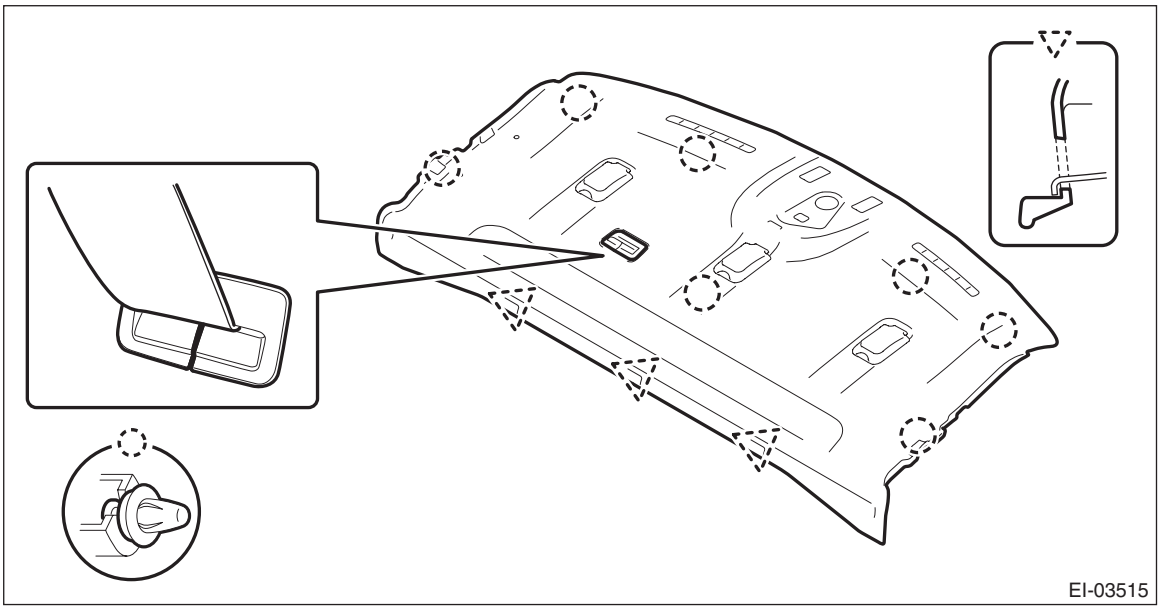
6) Remove the trim panel - rear pillar LWR on the left and right sides.
   (1) Remove the clips, and turn over the trim panel - trunk side.
   (2) Remove the clips, and remove the trim panel - rear pillar LWR.



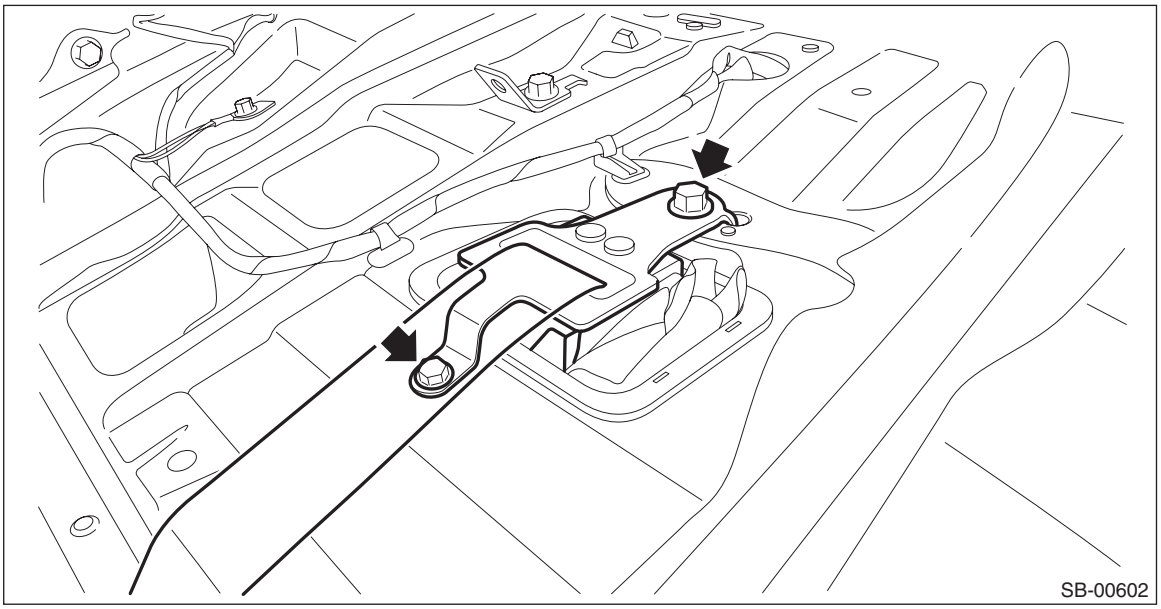
7) Remove the bolts, and remove the lower anchor of the seat belt - rear shoulder CTR.



8) Remove the trim panel - rear shelf assembly.
(1) Release the clips to float the trim panel assembly - rear shelf.
(2) Release the belt guide, and guide the anchor of the seat belt - rear shoulder CTR to behind the trim panel - rear shelf assembly.
(3) Disconnect the connector of high-mounted stop light.
(4) Remove the trim panel assembly - rear shelf.



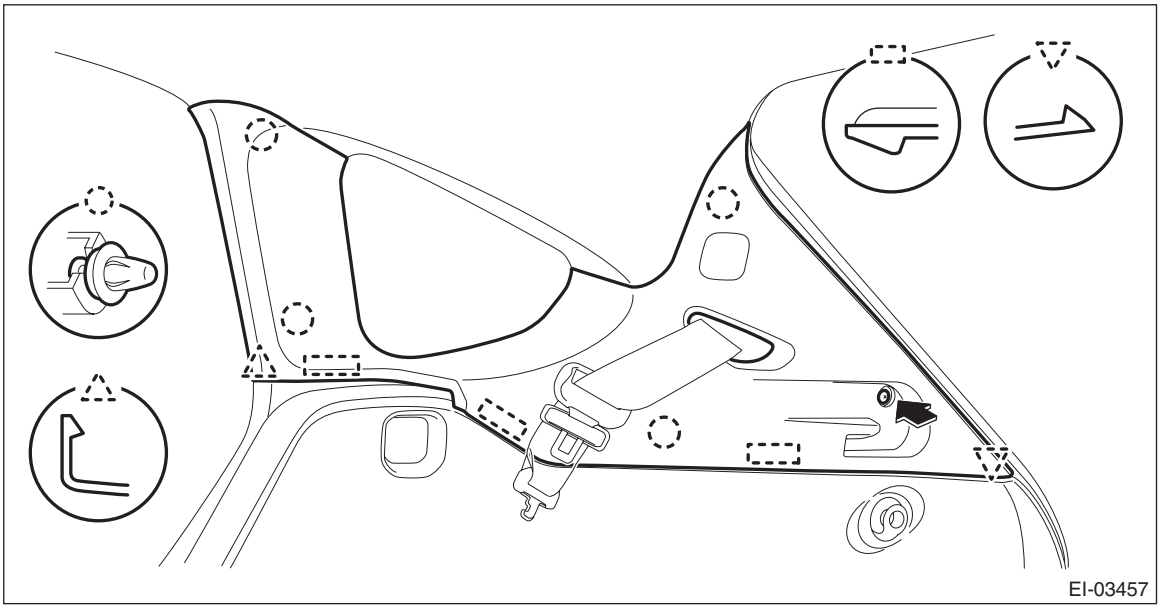
9) Remove the bolts, and remove the seat belt - rear shoulder CTR.



4. SEAT BELT - REAR SHOULDER CTR (5 DOOR MODEL/XV MODEL)

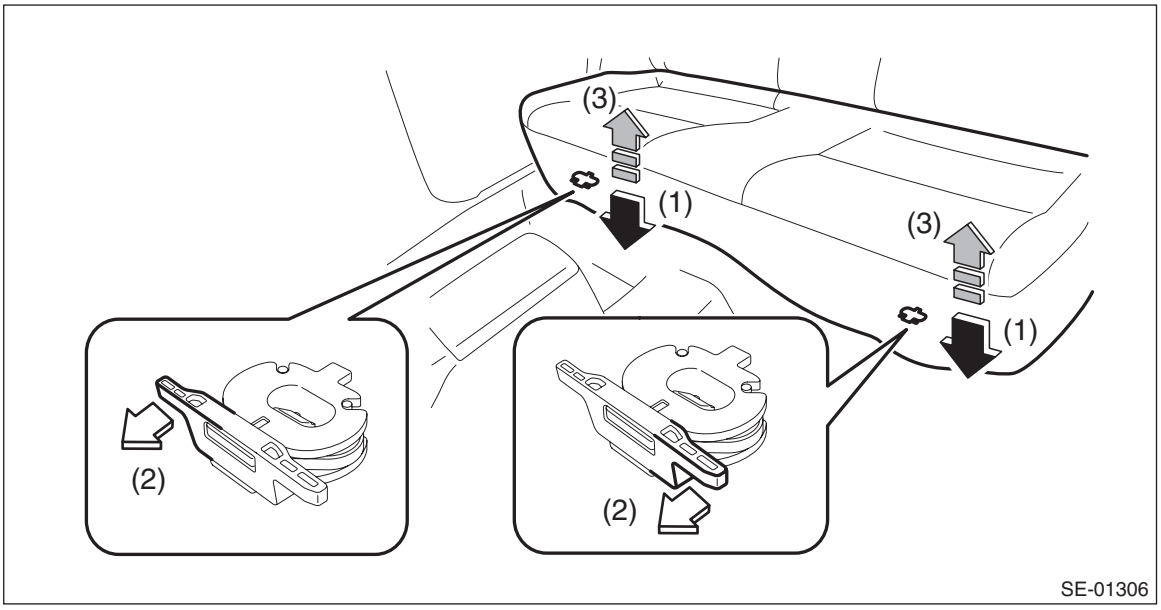
CAUTION:
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>
• The airbag system is fitted with a backup power 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. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the screws and clips, and remove the trim panel - rear quarter pillar UPR RH.

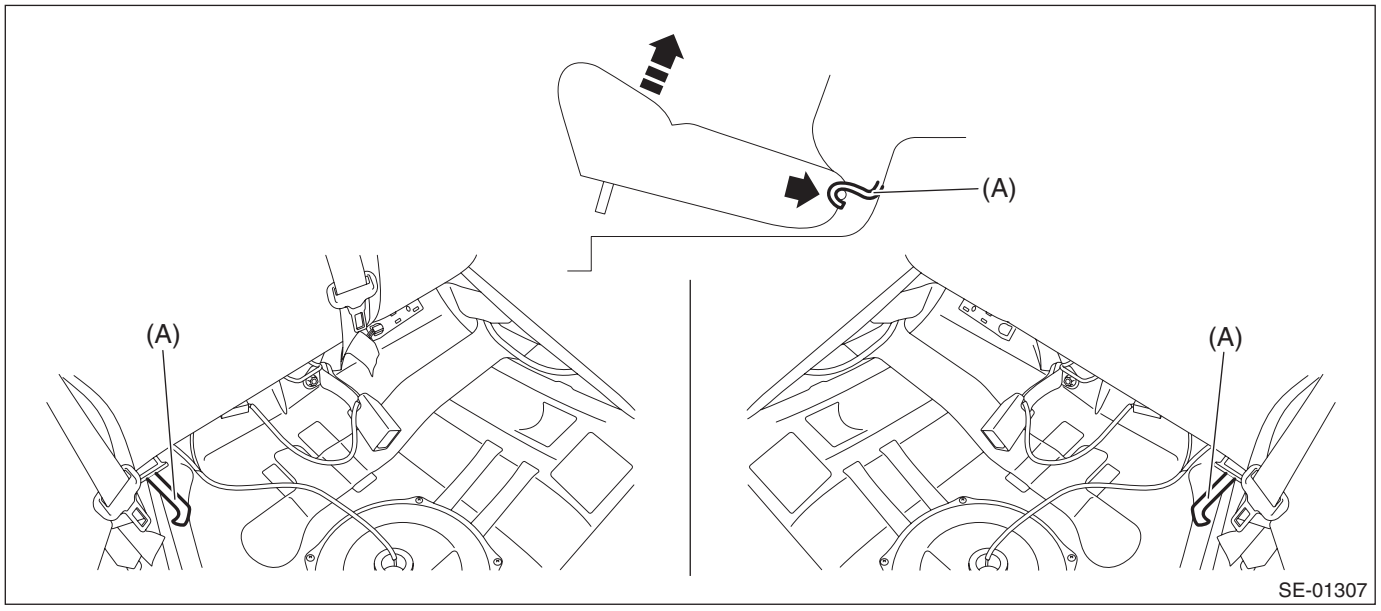


4) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

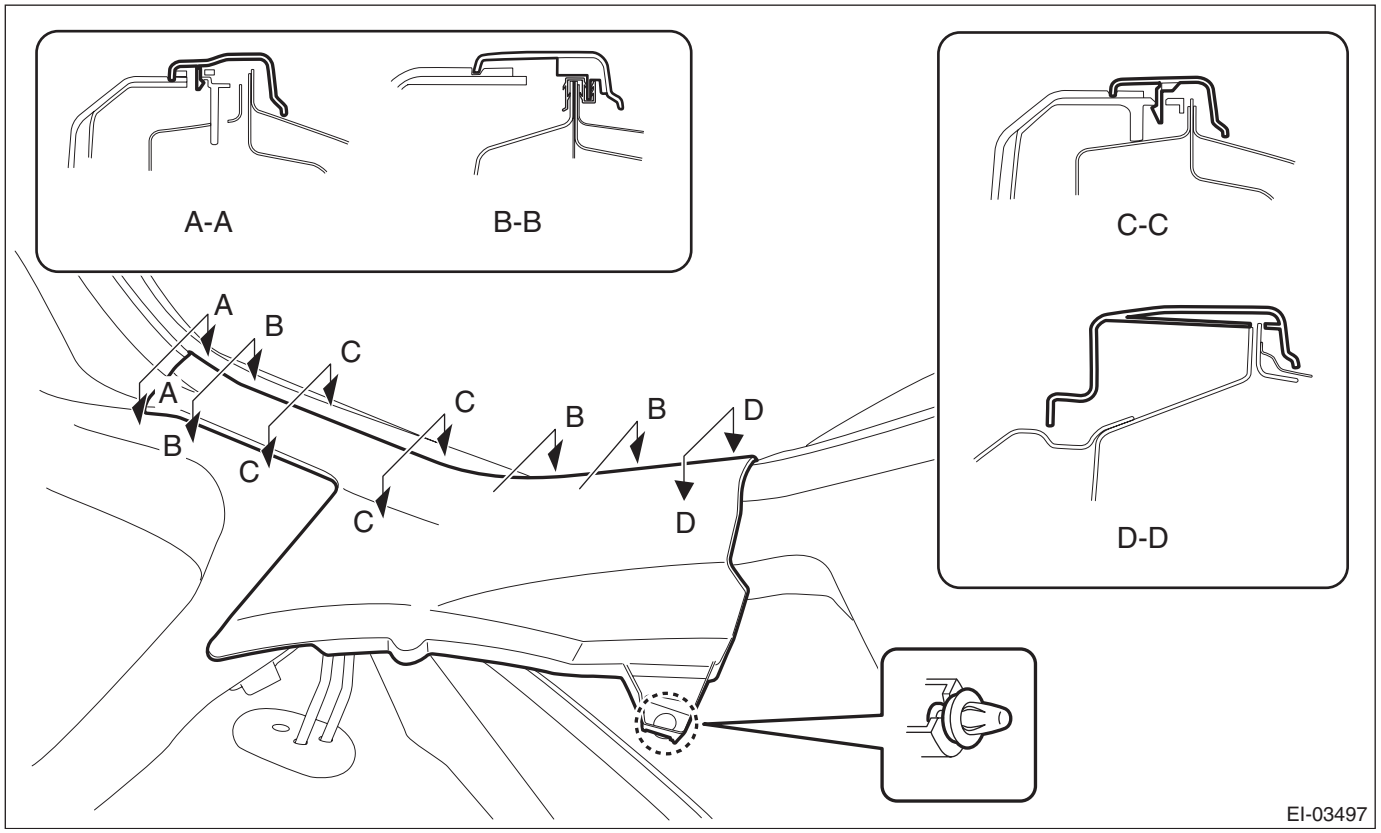


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.

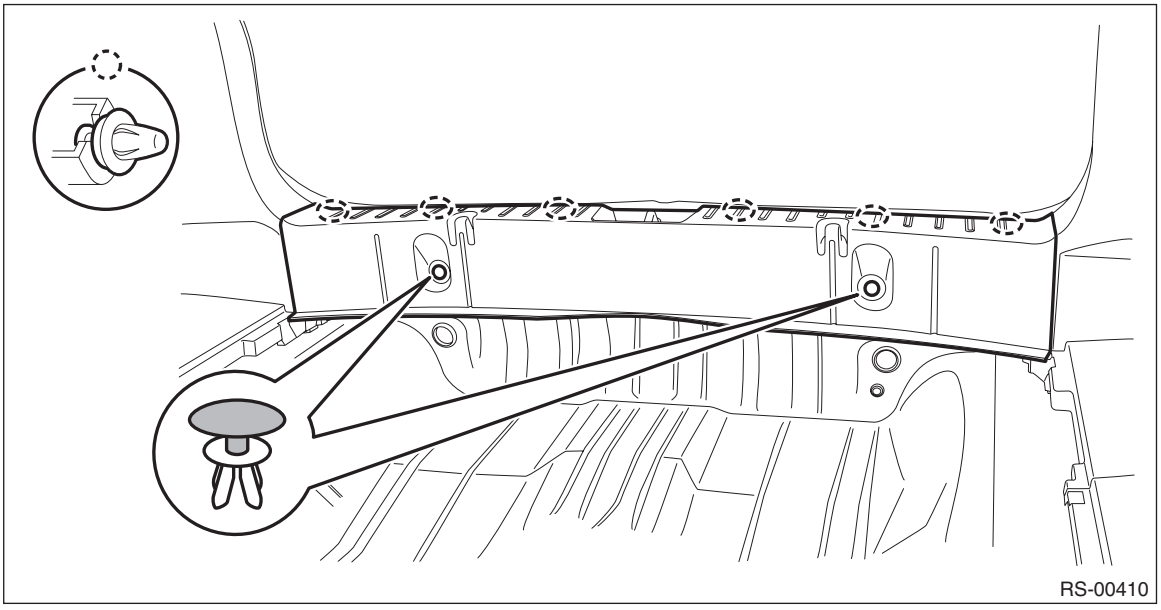


5) Release the clips and claws, and then remove the cover side sill - rear INN RH.

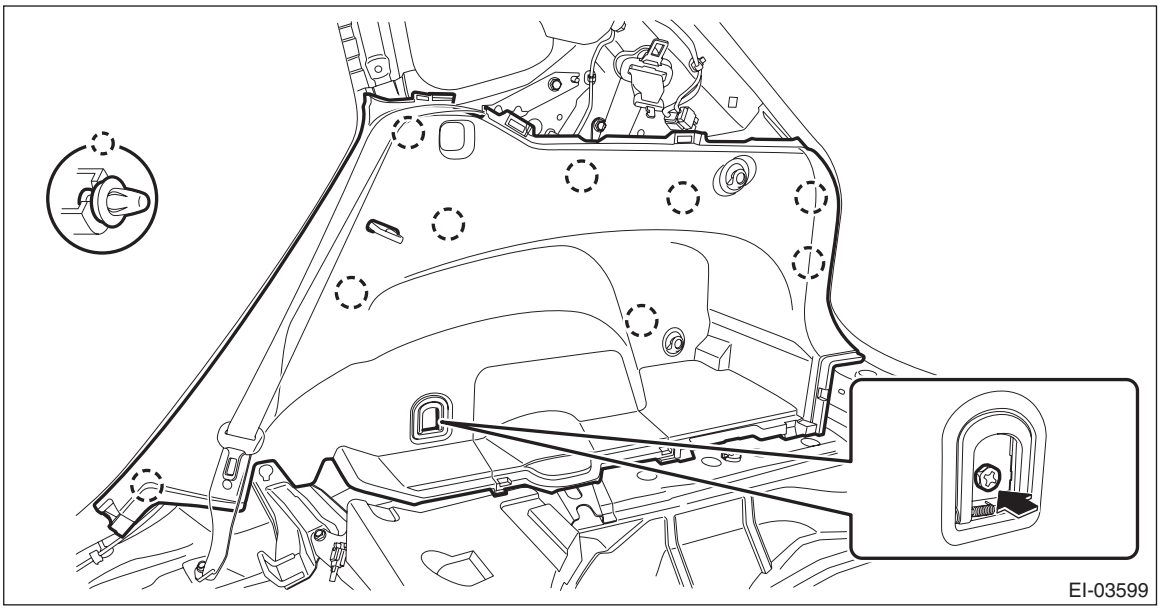
CAUTION:
Do not pull with excessive force. Doing so may damage the claws of the cover side sill - rear INN.



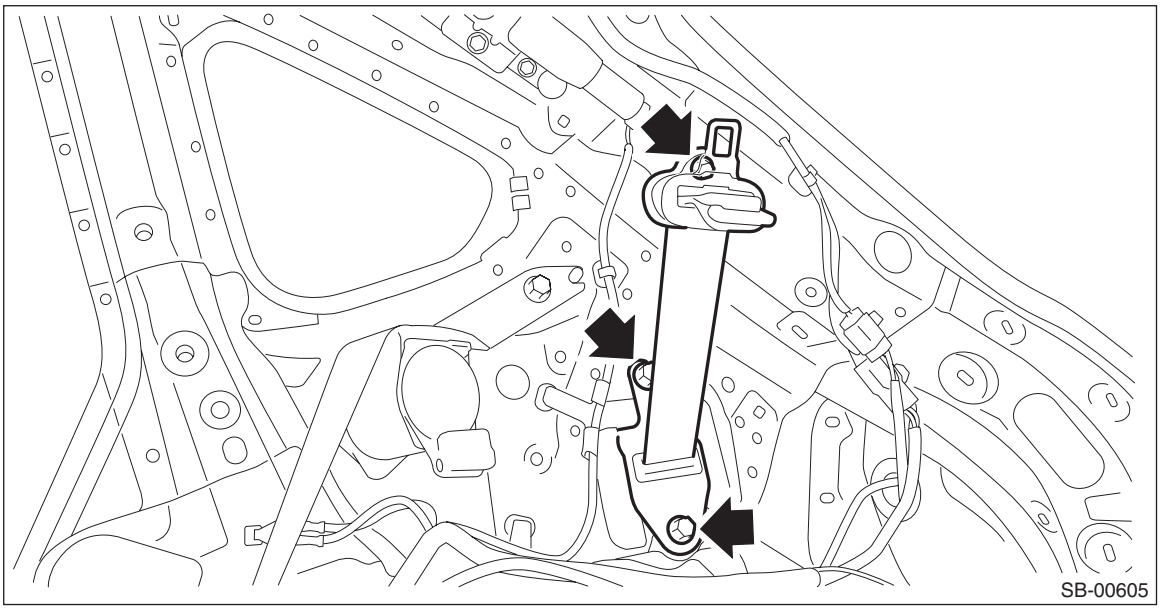
6) Remove the clips, and remove the trim panel - rear skirt.



7) Remove the trim panel - rear apron RH.
(1) Remove the caps, and then remove the screws.
(2) Remove the clips, and remove the trim panel - rear apron RH.



8) Remove the bolts, and remove the seat belt - rear shoulder CTR.

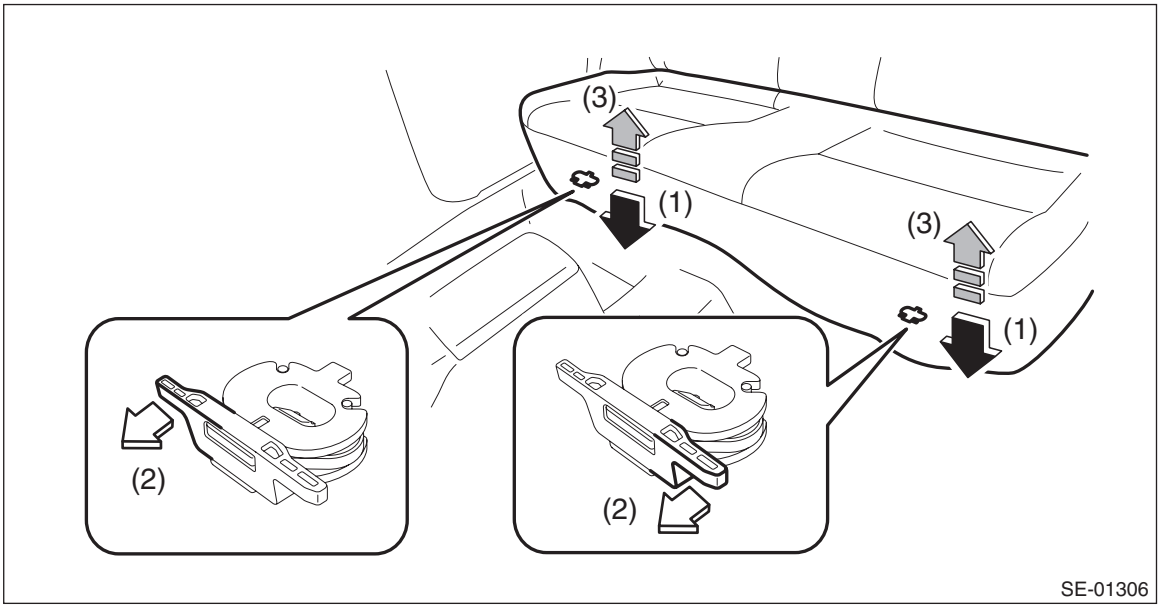


5. SEAT BELT - CTR RH AND LH

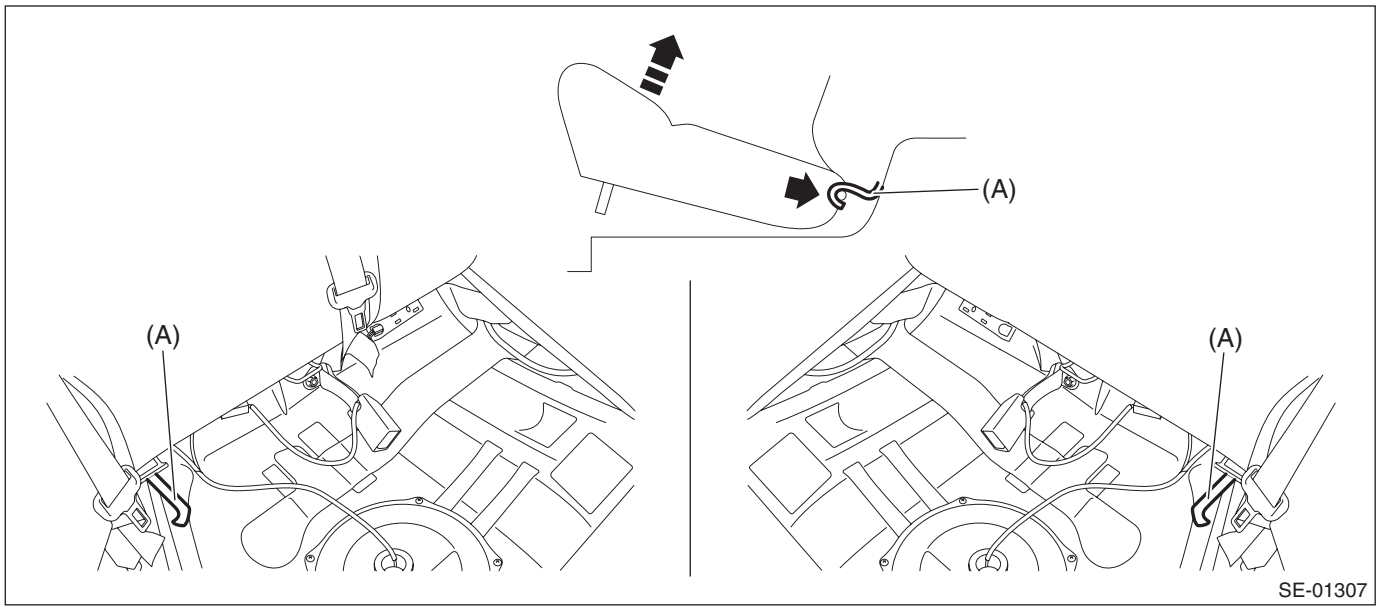
CAUTION:
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>
• The airbag system is fitted with a backup power 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. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.

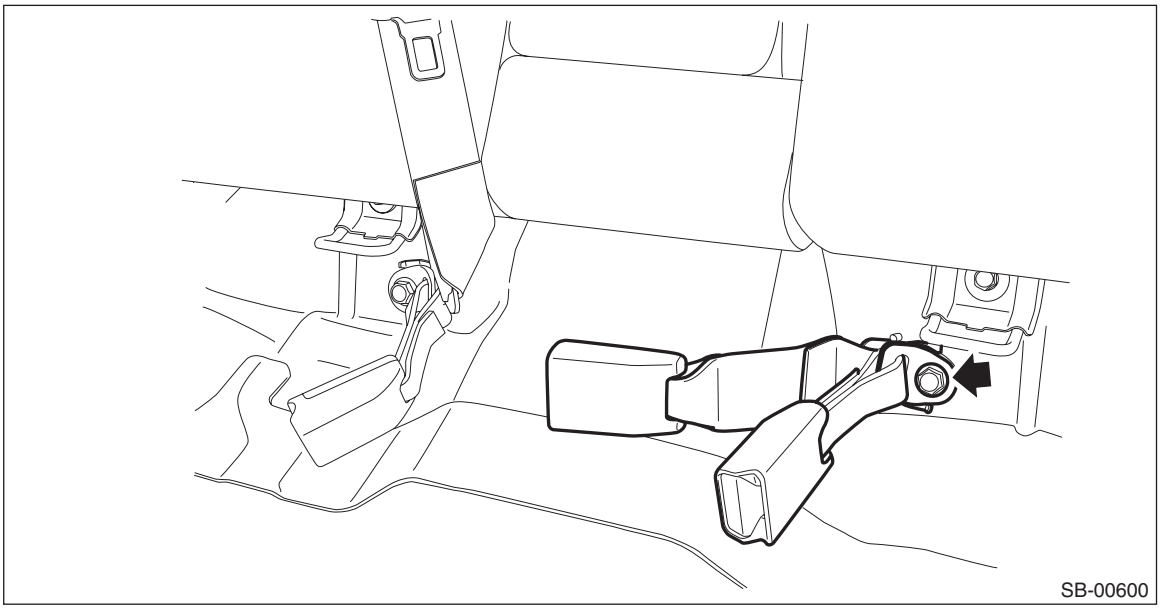


(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.

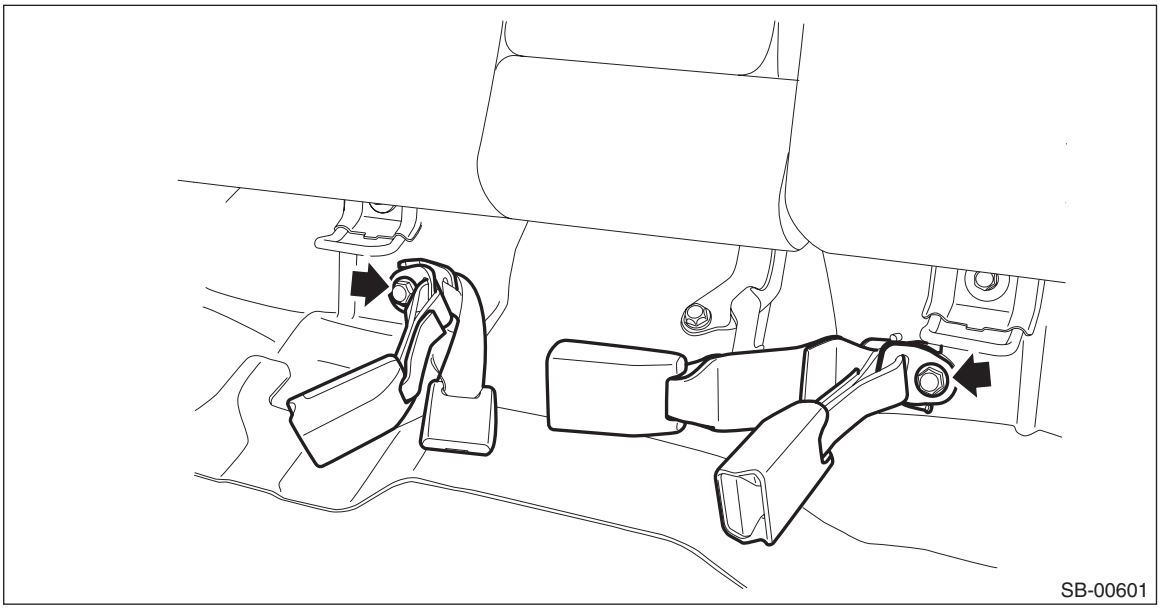


4) Remove the bolts, and remove the seat belt - CTR RH and LH.

- 4 door model: Seat belt - CTR LH



- 5 door model/XV model: Seat belt - CTR RH and LH



B: INSTALLATION

1. SEAT BELT OUTER - REAR RH AND LH (4 DOOR MODEL)

1) Before installation, perform a unit inspection of retractor. <Ref. to SB-47, INSPECTION, Rear Seat Belt.>
2) Install the seat belt outer - rear.

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 (4 door model): <Ref. to SB-3, REAR SEAT BELT (4 DOOR 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. SEAT BELT OUTER - REAR RH AND LH (5 DOOR MODEL/XV MODEL)

1) Before installation, perform a unit inspection of retractor. <Ref. to SB-47, INSPECTION, Rear Seat Belt.>
2) Install the seat belt outer - rear.

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 (5 door model/XV model): <Ref. to SB-4, REAR SEAT BELT (5 DOOR MODEL/XV MODEL), COMPONENT, General Description.>

3) Install the trim panel - rear quarter trim UPR.
4) Install the remaining parts in the reverse order of removal.
5) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.

3. SEAT BELT - REAR SHOULDER CTR (4 DOOR MODEL)

1) Install the retractor of seat belt - rear shoulder CTR.

Tightening torque:
Rear seat belt (4 door model): <Ref. to SB-3, REAR SEAT BELT (4 DOOR MODEL), COMPONENT, General Description.>

2) Install the trim panel assembly - rear shelf.
3) Install the lower anchor of seat belt - rear shoulder CTR.

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 (4 door model): <Ref. to SB-3, REAR SEAT BELT (4 DOOR MODEL), COMPONENT, General Description.>

4) Install the remaining parts in the reverse order of removal.
5) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.

4. SEAT BELT - REAR SHOULDER CTR (5 DOOR MODEL/XV MODEL)

1) Install the seat belt - rear shoulder CTR.

Tightening torque:
Rear seat belt (5 door model/XV model): <Ref. to SB-4, REAR SEAT BELT (5 DOOR MODEL/XV MODEL), COMPONENT, General Description.>

2) Install the remaining parts in the reverse order of removal.
3) After installation, check the following points.
- The seat belt is not twisted.
- The seat belt can be pulled out and retracted smoothly.

5. SEAT BELT - CTR RH AND LH

1) Install the seat belt - CTR RH/LH.

Tightening torque:
Rear seat belt (4 door model): <Ref. to SB-3, REAR SEAT BELT (4 DOOR MODEL), COMPONENT, General Description.>
Rear seat belt (5 door model/XV model): <Ref. to SB-4, REAR SEAT BELT (5 DOOR MODEL/XV MODEL), COMPONENT, General Description.>

2) Install the rear seat cushion.
3) Install the remaining parts in the reverse order of removal.
4) 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

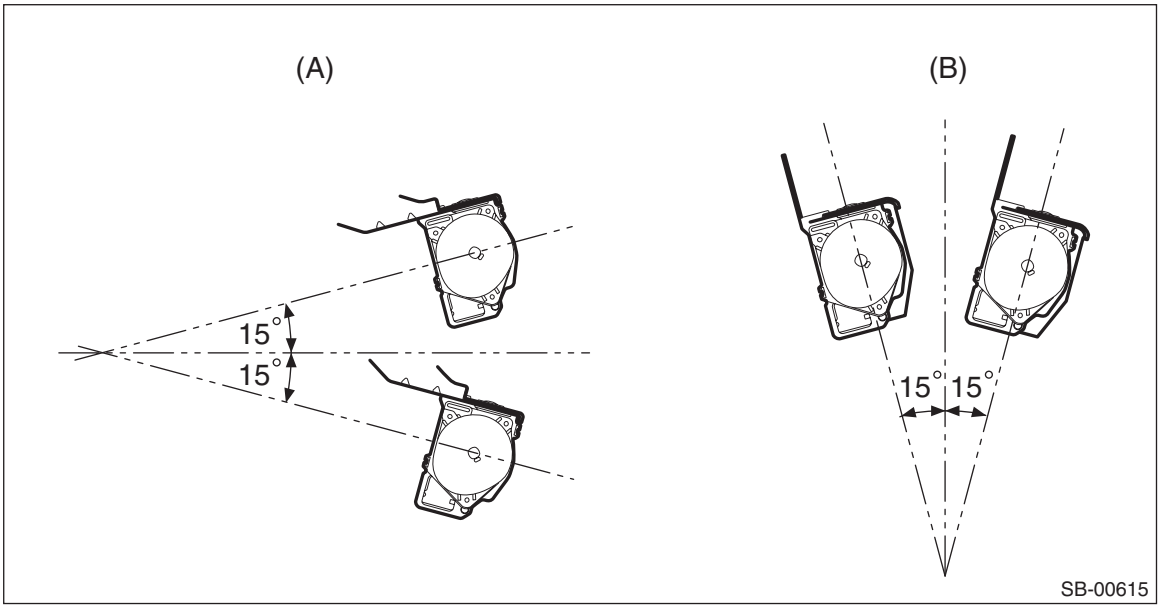
1. VISUAL INSPECTION

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.
- Seat belt inner - rear is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

2. ELR LOCK MECHANISM INSPECTION

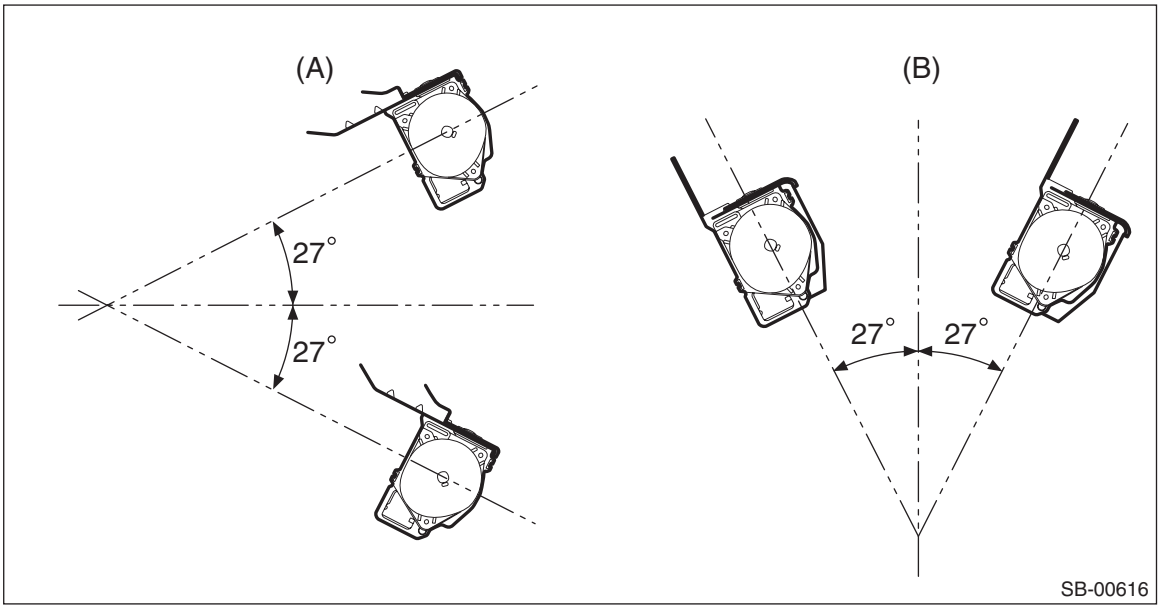
1) Hold the retractor upright (as installed in the vehicle) and check the ELR lock mechanism.
2) Tilt the retractor from the upright posture and check the following points.

- It does not lock if the inclination angle is 15° or less.



(A) Except for seat belt - rear shoulder CTR (5 door model/XV model)
(B) Seat belt - rear shoulder CTR (5 door model/XV model)

- It remains locked if the inclination angle is 27° or more.



(A) Except for seat belt - rear shoulder CTR (5 door model/XV model)
(B) Seat belt - rear shoulder CTR (5 door model/XV model)

3) If the ELR lock mechanism does not operate properly, replace the seat belt outer - rear with a new part.

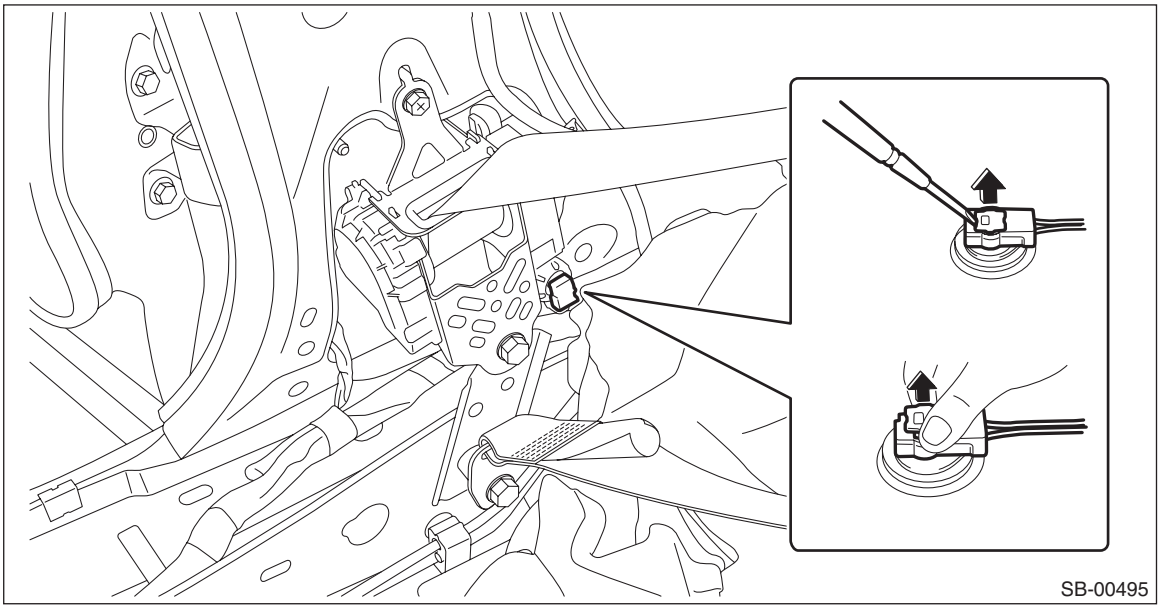
7. Disposal of Pretensioner

A: PROCEDURE

WARNING:
Make sure to follow the instructions below. Otherwise, personal injuries may occur.
• Before discarding a pretensioner, always perform an activation process to prevent any false activation.
• Wear protective gloves, safety goggles and earplugs during this operation. Wash your hands afterwards.
• Do not touch the pretensioner just after activation because it is very hot. Before handling it for disposal, wait for 40 minutes.

CAUTION:
• Perform a pretensioner operation process in a safe, level place. Do not perform the process outdoors when there is a strong rain or wind.
• Do not drop or damage the pretensioner.
• A large explosive noise will occur when the pretensioner is deployed. Warn persons in the area, and do not allow anyone to approach a radius of 5 m (16 ft) from the discard location.
• After activating the pretensioner, smoke may arise. Therefore, always perform an operation process in a well-ventilated place without any smoke sensor.
• Do not expose the activated pretensioner to water.
• Wrap the activated pretensioner in a sealed vinyl bag when discarding.
• If it is impossible to perform a pretensioner activation process due to some situational reasons, consult SUBARU dealership or one of the authorized workshops.

1) Fold the backrest all the way forward, and move the front seat all the way forward.
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>
4) Disconnect connector of the pretensioner.


SB-00495

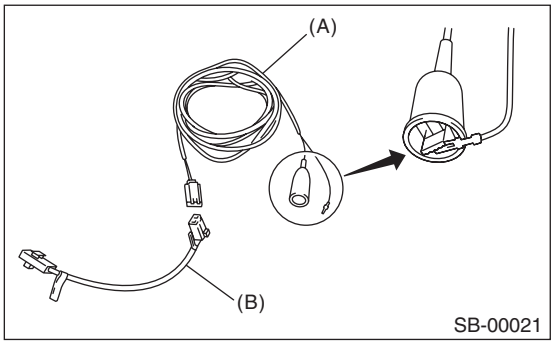
5) Short the alligator clip and terminal of the airbag deployment tool together.

CAUTION:
Short the airbag deployment tool terminals until just before the pretensioner operation process.

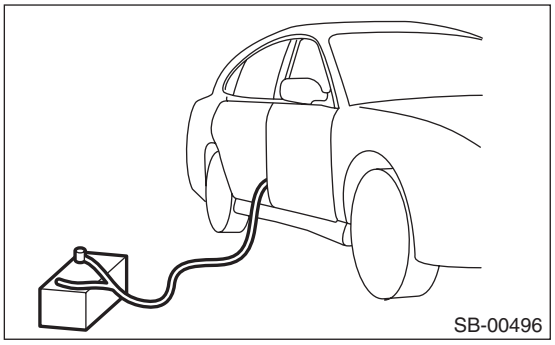
Preparation tool:
ST: AIRBAG DEPLOYMENT TOOL (98299PA030)

6) Connect the airbag deployment tool (A) and test harness adapter D (B).

Preparation tool:
ST: TEST HARNESS ADAPTER D (98299SA010)

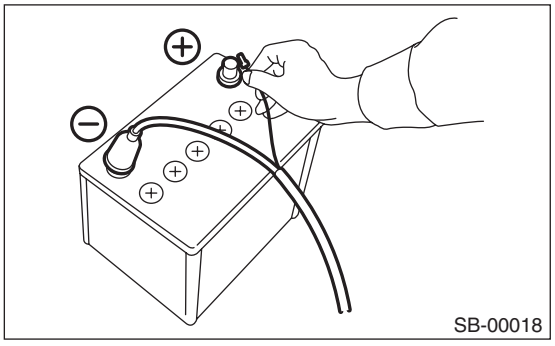


7) Connect the test harness adapter D connector to the pretensioner.
8) Make sure there is no one inside the vehicle.
9) Extend the wiring of the airbag deployment tool to its limit, and completely close all the windows and sunroof.



10) Move the battery 5 m (16 ft) or more from the vehicle, and affix nearby.
11) Connect the airbag deployment tool alligator clip to the battery negative (–) terminal.
12) Connect the other cable of airbag deployment tool to the battery positive (+) terminal, and activate the pretensioner.

CAUTION:
• After activation, the pretensioner will be extremely hot. Let it cool down for at least 40 minutes in an area with no one around.
• Do not expose the activated pretensioner to water.



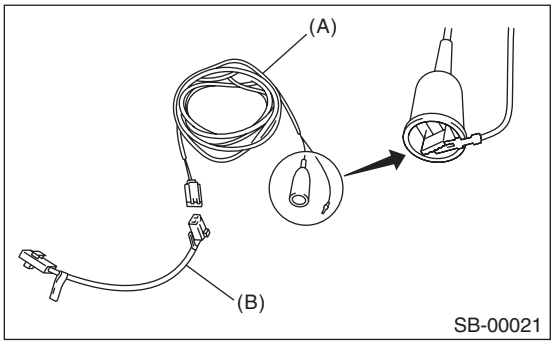
13) Perform operation process of lap seat belt pretensioner from steps 13) to 21) for the passenger's side.
14) Disconnect the connector from the lap seat belt pretensioner.
15) Short the alligator clip and terminal of the airbag deployment tool together.

CAUTION:
Short the airbag deployment tool terminals until just before the pretensioner operation process.

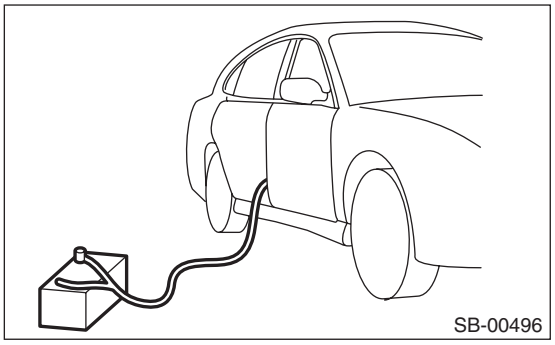
Preparation tool:
ST: AIRBAG DEPLOYMENT TOOL (98299PA030)

16) Connect the airbag deployment tool (A) and test harness adapter D (B).

Preparation tool:
ST: TEST HARNESS ADAPTER D (98299SA010)

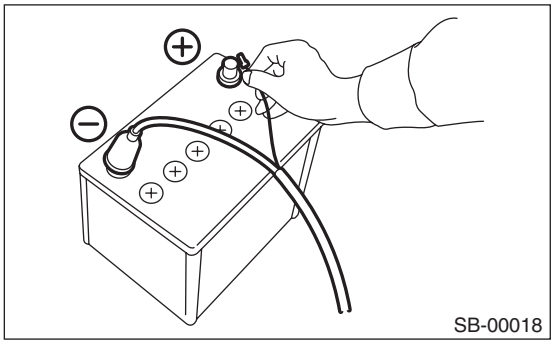


17) Connect the test harness adapter D connector to the lap seat belt pretensioner.
18) Make sure there is no one inside the vehicle.
19) Extend the wiring of airbag deployment tool to the limit, and close all the windows and sunroof completely.



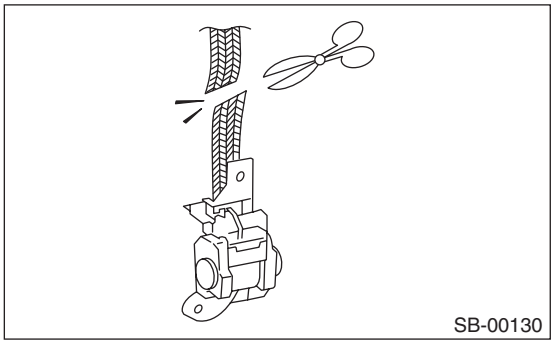
20) Move the battery 5 m (16 ft) or more from the vehicle, and affix nearby.
21) Connect the airbag deployment tool alligator clip to the battery negative (–) terminal.
22) Connect the other cable of airbag deployment tool to the battery positive (+) terminal, and activate the pretensioner.

CAUTION:
• After activation, the pretensioner will be extremely hot. Let it cool down for at least 40 minutes in an area with no one around.
• Do not expose the activated pretensioner to water.

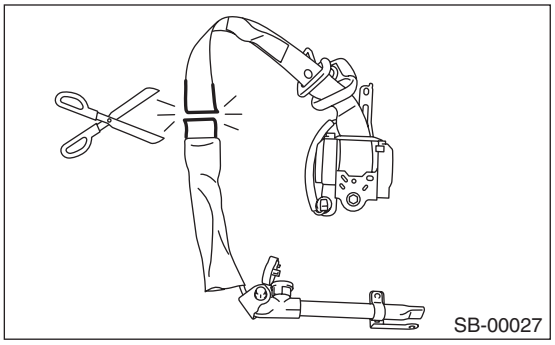


23) Remove the seat belt outer - front. <Ref. to SB-16, REMOVAL, Front Seat Belt.>

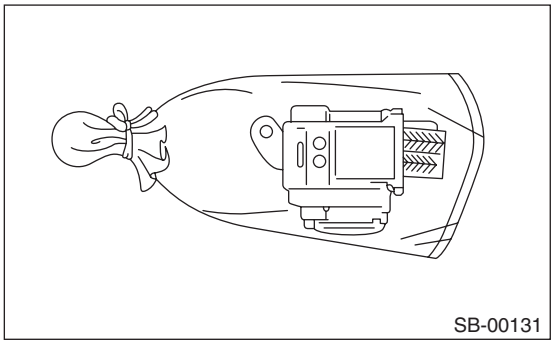
24) Cut the seat belt at a position as close as possible to the seat belt retractor.

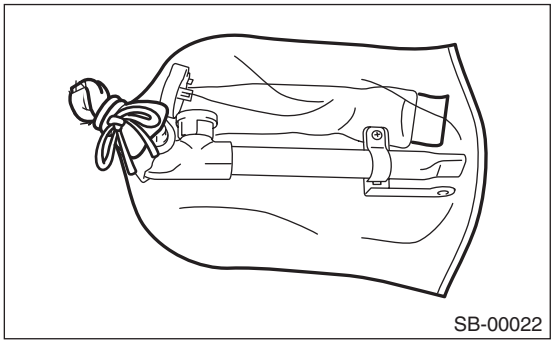


25) Cut the seat belt at a position as close as possible to the lap seat belt pretensioner.



26) Place the activated pretensioner in a sealed vinyl bag, then discard.





LIGHTING SYSTEM

LI

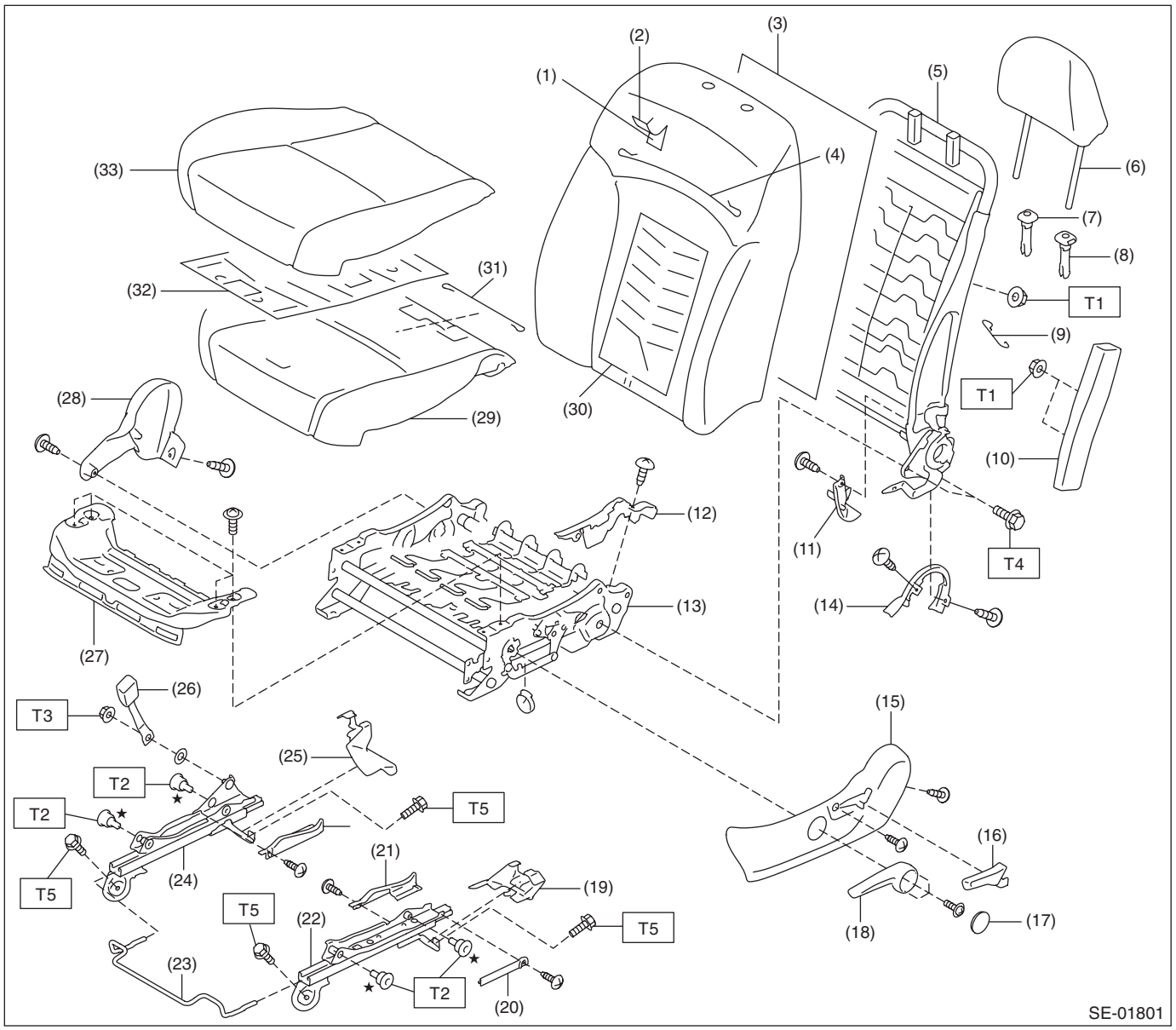
		Page
1.	General Description	2
2.	Relay and Fuse	5
3.	Headlight System	7
4.	Day Time Running Light System	10
5.	Clearance Light and Illumination Light System	11
6.	Front Fog Light System	12
7.	Turn Signal Light and Hazard Light System	13
8.	Back-up Light System	16
9.	Stop Light System	17
10.	Interior Light System	18
11.	Auto Headlight Beam Leveler System	19
12.	Combination Switch (Light)	21
13.	Light Control Sensor	27
14.	Headlight Assembly	29
15.	Headlight Bulb	36
16.	Hazard Switch	44
17.	Turn Signal Light & Hazard Light Module	45
18.	Front Turn Signal Light Bulb	47
19.	Clearance/Parking Light Bulb	49
20.	Front Side Marker Light Bulb	51
21.	Front Fog Light Assembly	53
22.	Front Fog Light Bulb	57
23.	Side Turn Signal Light Assembly	59
24.	Rear Combination Light Assembly	60
25.	Tail/Stop Light Bulb	63
26.	Rear Turn Signal Light Bulb	66
27.	Rear Side Marker Light Bulb	69
28.	Back-up Light Bulb	71
29.	License Plate Light	74
30.	High-mounted Stop Light	76
31.	Spot Map Light	80
32.	Room Light	82
33.	Luggage Room Light	84
34.	Trunk Room Light	86
35.	Glove Box Light	88
36.	Ignition Switch Illumination	90
37.	Auto Headlight Beam Leveler Control Module	92
38.	Rear Height Sensor	94
39.	Day Time Running Resistor	96
40.	Reflex Reflector	98
41.	Door Switch	99
42.	SRF OFF Switch	100

1. General Description

A: COMPONENT

1. FRONT SEAT

- Manual seat LH

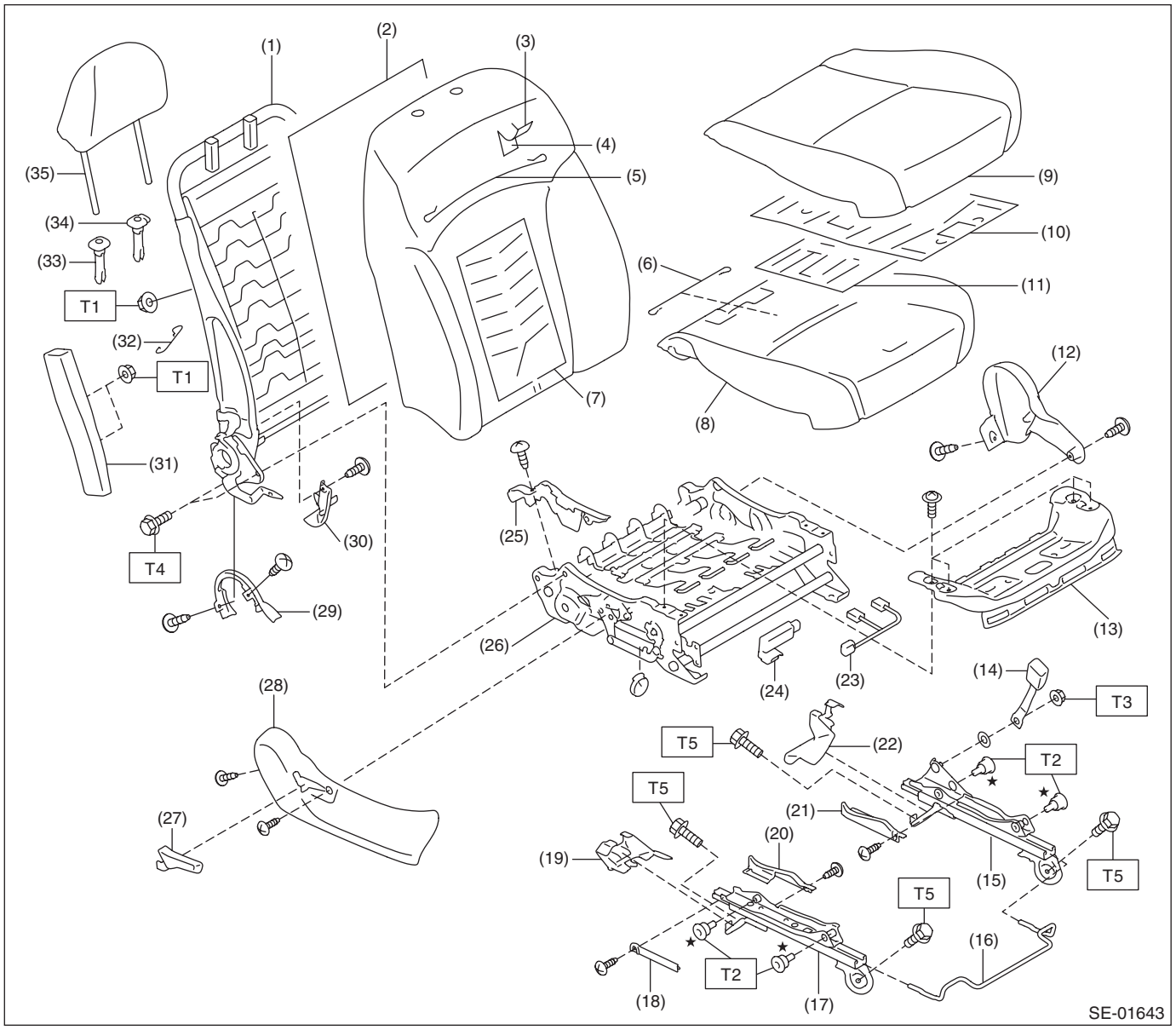


(1) Pad ASSY - front seat backrest
(2) Cover COMPL - front backrest
(3) Cover - silencer front seat backrest
(4) Wire set - front seat backrest
(5) Frame ASSY - front backrest
(6) Headrest ASSY - front
(7) Bushing - free headrest
(8) Bushing - lock headrest
(9) Hook - backrest front
(10) Side airbag module LH
(11) Cover - inner front
(12) Cover - frame front cushion
(13) Frame ASSY - front cushion
(14) Cover - hinge base front seat
(15) Cover - hinge front seat OUT
(16) Lever - reclining
(17) Cap - lifter lever
(18) Knob - lifter
(19) Cover - bolt rear OUT
(20) Cover - slide rail OUT
(21) Cover - slide rail OUT
(22) Slide rail ASSY - OUT
(23) Lever - towel bar
(24) Slide rail ASSY - INN
(25) Cover - bolt rear INN
(26) Seat belt inner - front
(27) Panel - front seat
(28) Cover - hinge front seat INN
(29) Pad ASSY - front seat cushion
(30) Heater unit - front seat backrest
(31) Wire set - front seat cushion
(32) Heater unit - front seat cushion
(33) Cover - front cushion

Tightening torque: N·m (kgf-m, ft-lb)

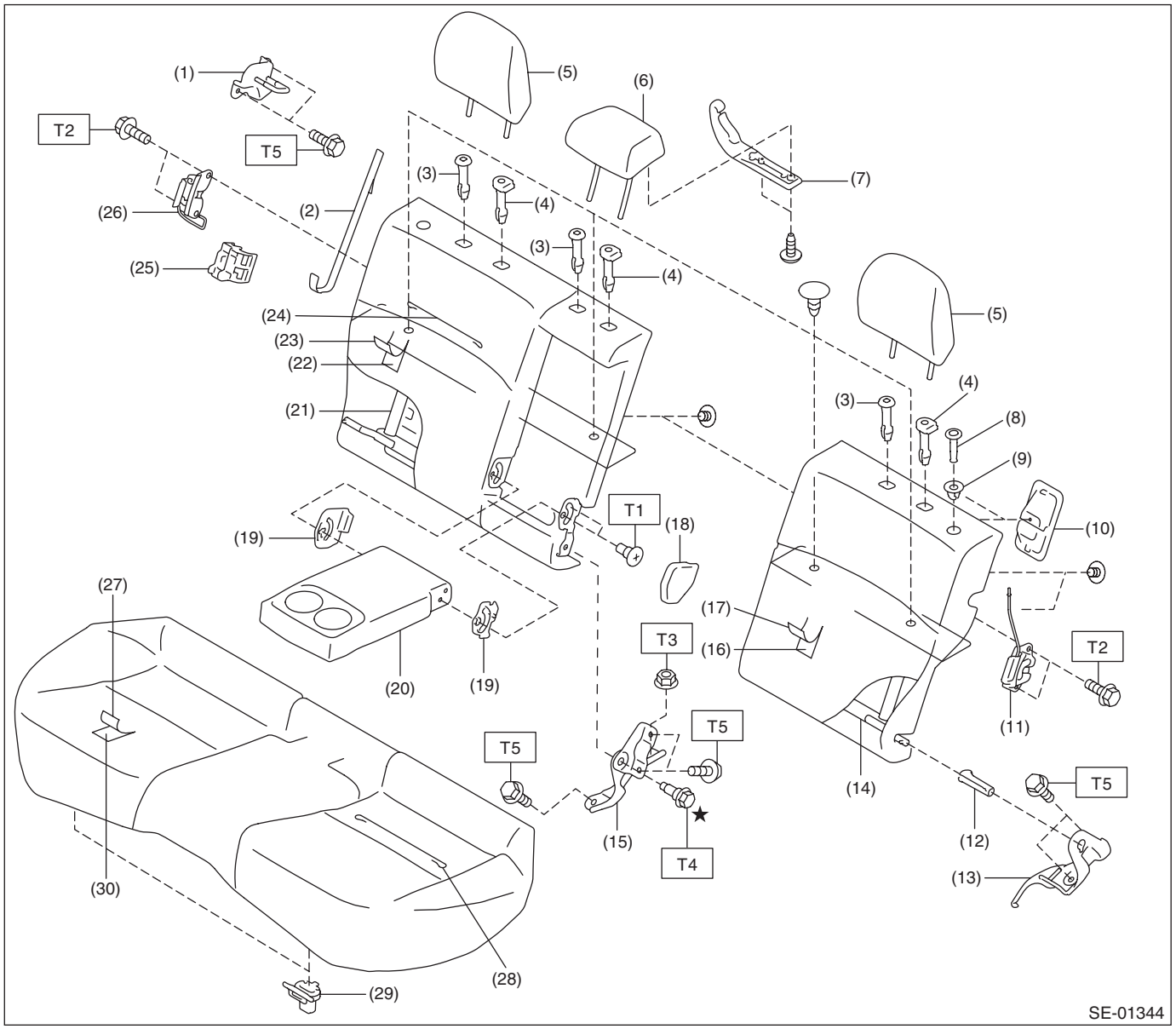
T1: 6 (0.61, 4.4)
T2: 15 (1.53, 11.1)
T3: 38 (3.87, 28.0)
T4: 52 (5.30, 38.4)
T5: 53 (5.40, 39.1)

- Manual seat RH



(1)	Frame ASSY - front backrest	(15)	Slide rail ASSY - INN	(29)	Cover - hinge base front seat
(2)	Cover - silencer front seat backrest	(16)	Lever - towel bar	(30)	Cover - inner front
(3)	Cover COMPL - front backrest	(17)	Slide rail ASSY - OUT	(31)	Side airbag module RH
(4)	Pad ASSY - front seat backrest	(18)	Cover - slide rail OUT	(32)	Hook - backrest front
(5)	Wire set - front seat backrest	(19)	Cover - bolt rear OUT	(33)	Bushing - free headrest
(6)	Wire set - front seat cushion	(20)	Cover - slide rail OUT	(34)	Bushing - lock headrest
(7)	Heater unit - front seat backrest	(21)	Cover - slide rail INN	(35)	Headrest ASSY - front
(8)	Pad ASSY - front seat cushion	(22)	Cover - bolt rear INN		
(9)	Cover - front cushion	(23)	Harness - occupant detection sensor	***Tightening torque: N·m (kgf-m, ft-lb)***	
(10)	Heater unit - front cushion	(24)	Control unit - occupant detection sensor	***T1:***	***6 (0.61, 4.4)***
(11)	Occupant detection sensor	(25)	Cover - frame front seat cushion	***T2:***	***15 (1.53, 11.1)***
(12)	Cover - hinge front seat INN	(26)	Frame ASSY - front seat cushion	***T3:***	***38 (3.87, 28.0)***
(13)	Panel - front seat	(27)	Lever - reclining	***T4:***	***52 (5.30, 38.4)***
(14)	Seat belt inner - front	(28)	Cover - hinge front seat OUT	***T5:***	***53 (5.40, 39.1)***

2. REAR SEAT



(1) Striker - backrest rear RH
(2) Knob - strap (4 door model)
(3) Bushing - headrest
(4) Bushing - lock ASSY
(5) Headrest ASSY - rear backrest
(6) Headrest ASSY - rear center
(7) Belt guide - rear seat (5 door model/XV model)
(8) Knob - backrest rear
(9) Knob - guide
(10) Tether anchor cover
(11) Lock ASSY - backrest rear LH
(12) Bushing - backrest hinge
(13) Hinge ASSY - rear backrest
(14) Frame ASSY - rear backrest LH
(15) Hinge ASSY - backrest center
(16) Pad ASSY - rear seat backrest LH
(17) Cover COMPL - rear backrest LH
(18) Cover - armrest
(19) Bushing - rear armrest
(20) Armrest ASSY - rear center
(21) Frame ASSY - rear backrest RH
(22) Pad ASSY - rear seat backrest RH
(23) Cover COMPL - rear backrest RH
(24) Wire set - rear backrest
(25) Knob - strap guide (4 door model)
(26) Lock ASSY - backrest rear RH
(27) Cover - rear cushion
(28) Wire set - rear cushion
(29) Hook - seat cushion rear
(30) Pad and frame ASSY - rear cushion

Tightening torque: N·m (kgf-m, ft-lb)

T1: 14.7 (1.5, 10.8)
T2: 22.5 (2.3, 16.6)
T3: 24.5 (2.5, 18.1)
T4: 28.9 (2.9, 21.3)
T5: 33 (3.4, 24.3)

B: CAUTION

When removing the front seat from the vehicle, refer to “CAUTION” of “General Description” in “AIRBAG SYSTEM” section. <Ref. to AB-10, CAUTION, General Description.>

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 measuring resistance and voltage.

2. Front Seat

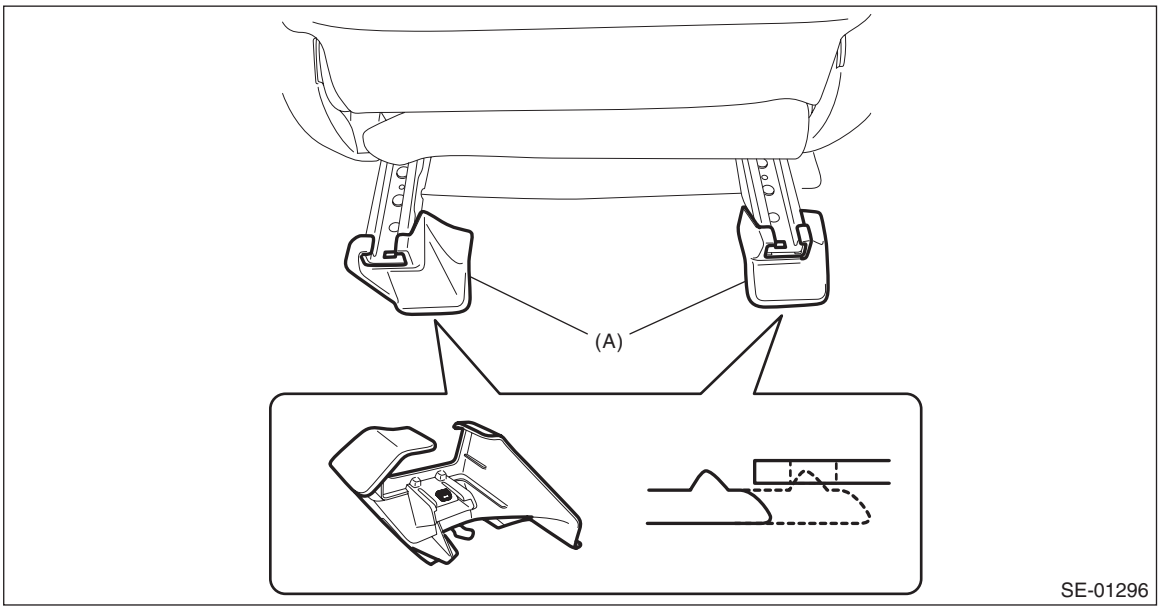
A: REMOVAL

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 assembly - front.
2) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

3) Remove the slide rail assembly installing bolt.
   (1) Tilt the backrest assembly forward and move the front seat to the front most position.
   (2) Remove the cover - bolt rear (A) and remove the bolts.



   (3) Move the front seat to the rearmost position, and remove the bolts.

4) Disconnect the connector under the front seat.
- Seat belt warning light connector (driver's seat)
- Occupant detection system harness connector (passenger's seat) <Ref. to OD(diag)-9, OCCUPANT DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS), PROCEDURE, Airbag Connector.>
- Side airbag connector <Ref. to AB-22, SIDE AIRBAG MODULE, PROCEDURE, Airbag Connector.>
- Seat heater connector (model with seat heater)
- Buckle switch RH connector (passenger's seat) <Ref. to AB-22, BUCKLE SWITCH RH, PROCEDURE, Airbag Connector.>

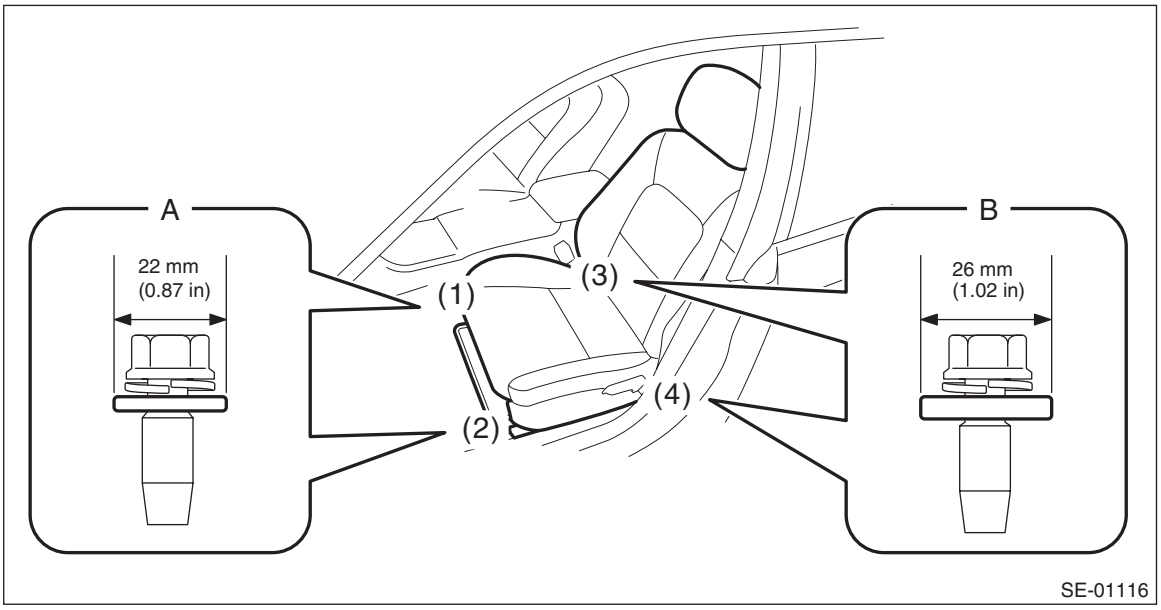
5) Take out the front seat from the vehicle.

CAUTION:
Be careful not to damage the body.

B: INSTALLATION

Install each part in the reverse order of removal.

CAUTION:
• The front seat mounting bolts differ between the front mounting points and the rear mounting points. When installing the front seat, make sure that you are using correct bolts at correct positions.
• Tighten the slide rail assembly 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

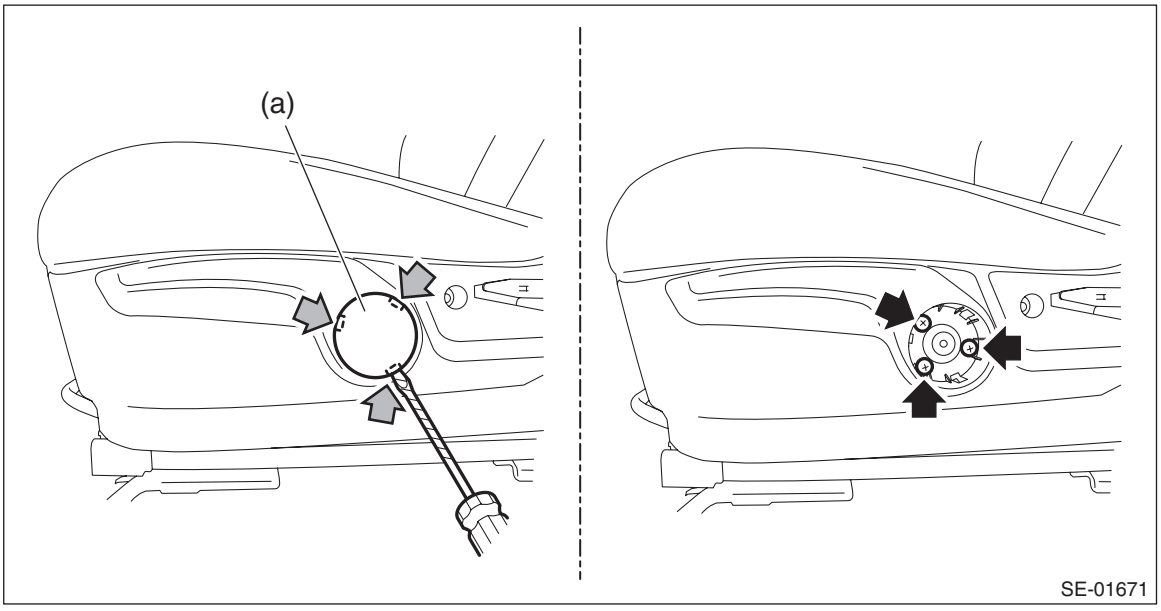
1. DRIVER'S SEAT

CAUTION:
Before assembling, make sure how the harnesses such as the side airbag harness and the seat belt inner - front harness are routed in order to avoid misarranging. Assembling with harnesses improperly routed may cause the harness to get caught and short out.

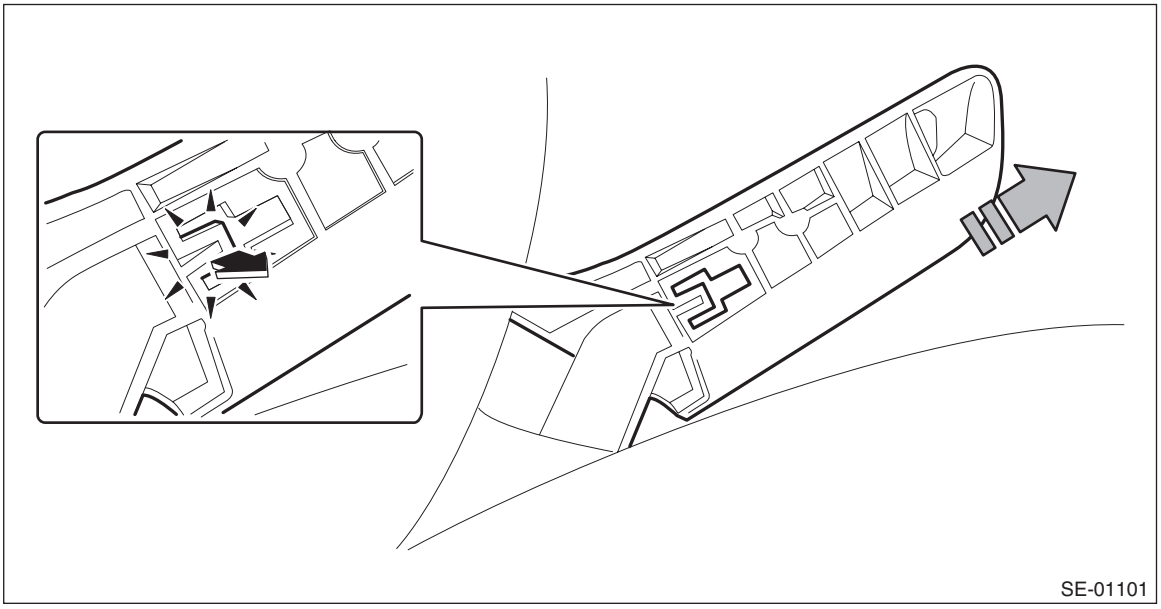
1) Remove the front seat from vehicle. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the knob - lifter.
   (1) Remove the cap - lifter lever (a).

NOTE:
Insert a flat tip screwdriver or similar tool wrapped with protective tape into the gap (shown with arrow) between the cap - lifter lever and the knob - lifter.

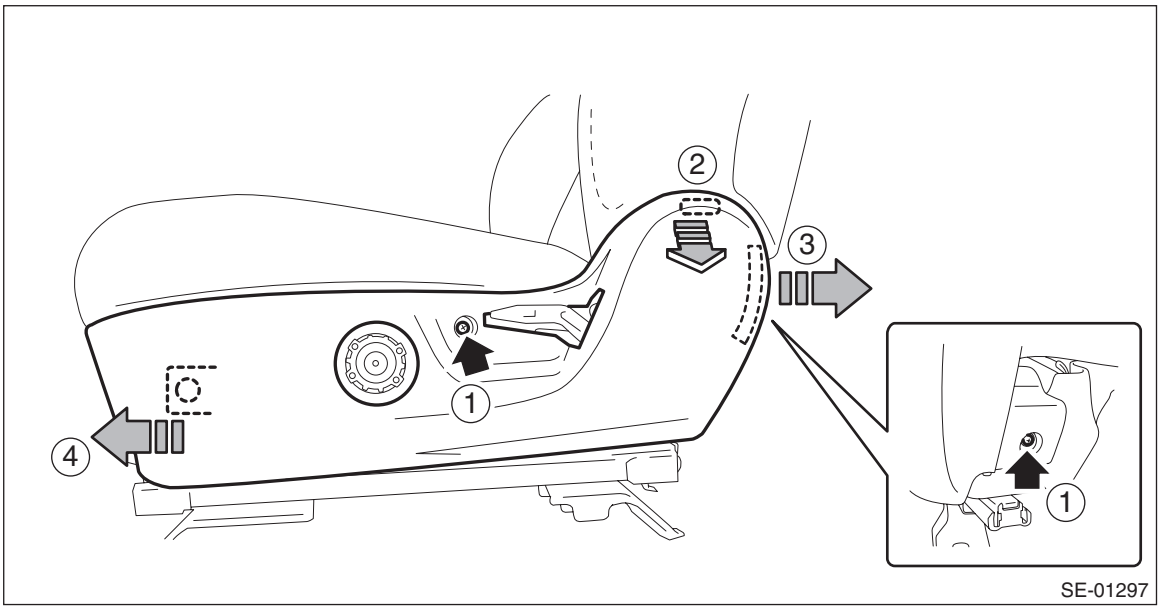
   (2) Remove the screws and remove the knob - lifter.



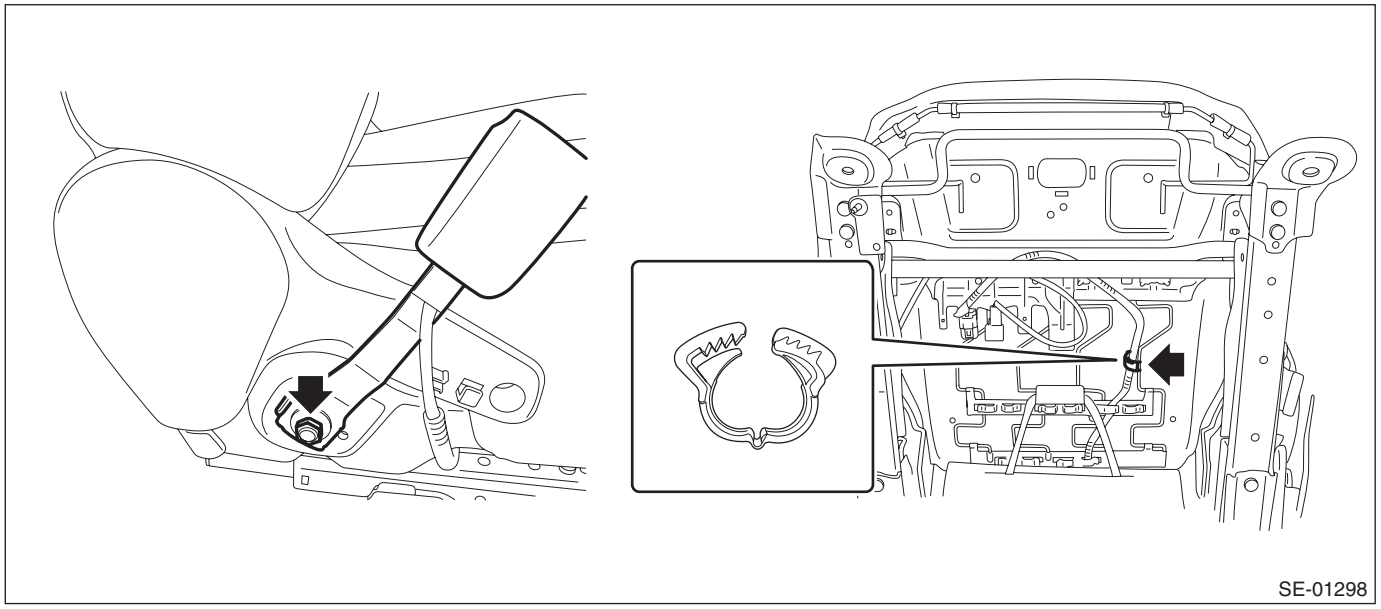
3) Remove the lever - reclining.
   (1) Pull up the lever - reclining and release the claws on the back.
   (2) Pull out the lever - reclining.



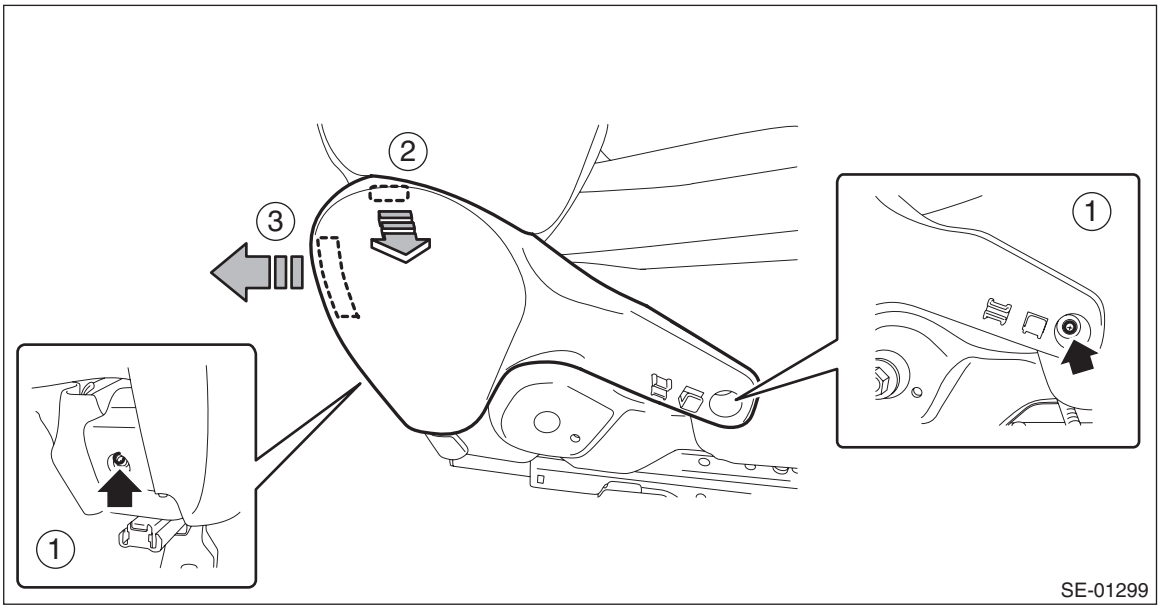
4) Remove the cover - hinge front seat OUT.
(1) Remove the screws.
(2) Release the claw in the upper section of the cover - hinge front seat OUT.
(3) Release the claw in the rear section of the cover - hinge front seat OUT.
(4) Release the claw in the front section of the cover - hinge front seat OUT,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



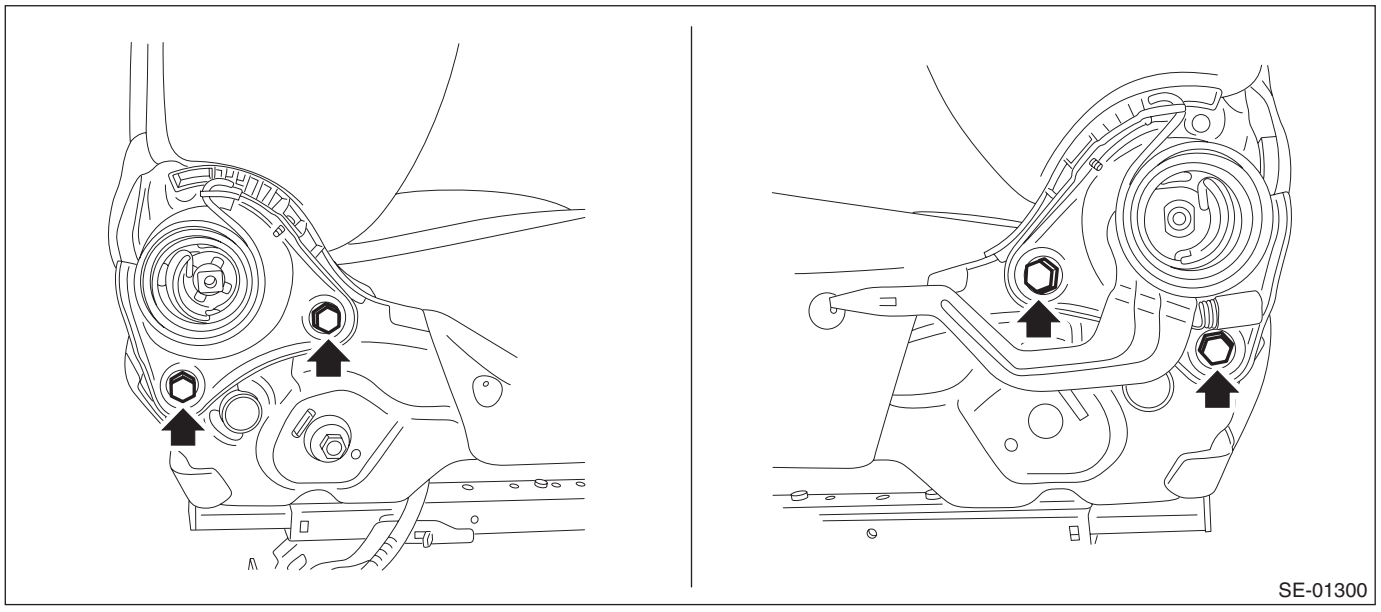
5) Remove the seat belt inner - front.
(1) Remove the nut, and remove the seat belt inner - front.
(2) Remove the clip for the seat belt inner - front located under the seat cushion assembly.



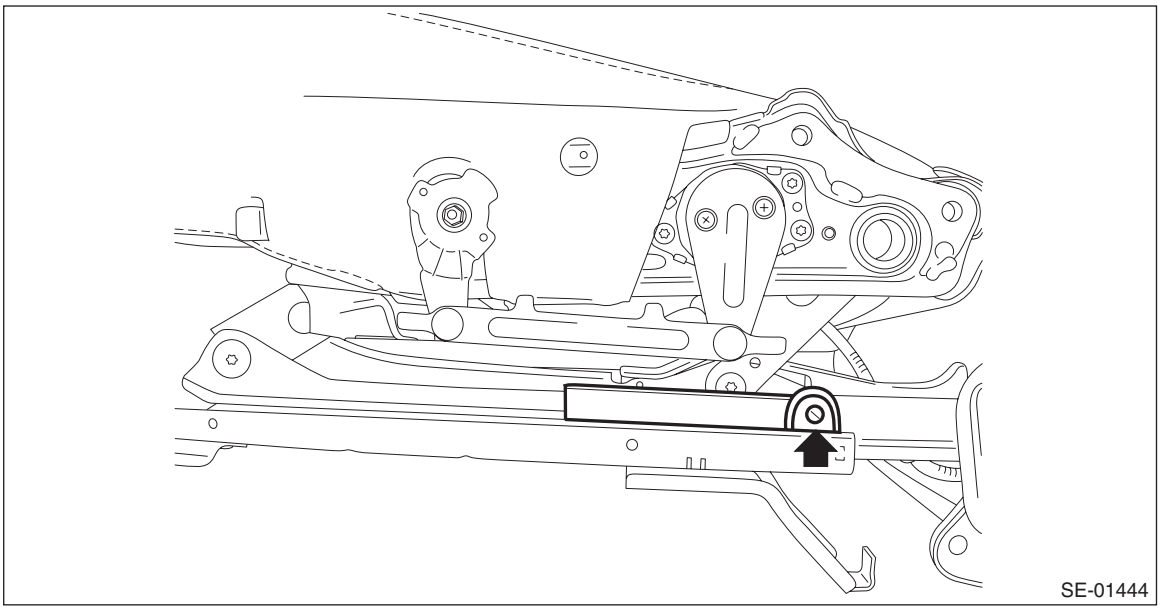
6) Remove the cover - hinge front seat INN.
(1) Remove the screws.
(2) Release the claw in the upper section of the cover - hinge front seat INN.
(3) Release the claw in the rear section of the cover - hinge front seat INN, then remove the cover - hinge front seat INN.



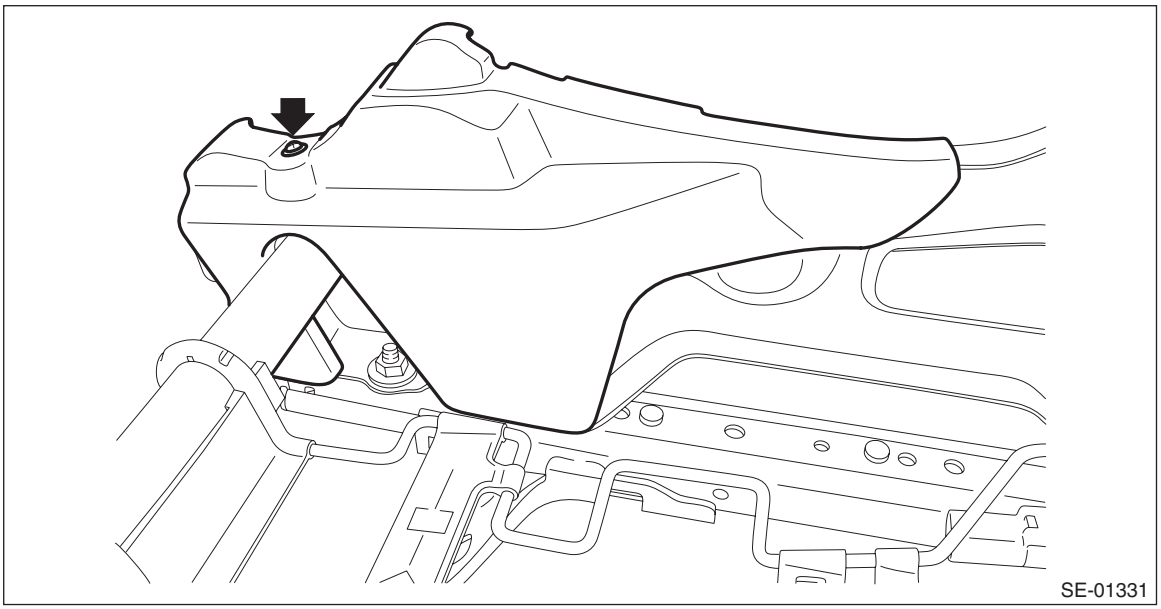
7) Separate the backrest assembly and the seat cushion assembly.
(1) Remove the clip for the side airbag harness located under the seat cushion assembly. (seat with side airbag)
(2) Remove the bolts from reclining hinge of both sides.
(3) While taking care not to damage the airbag harness, separate the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



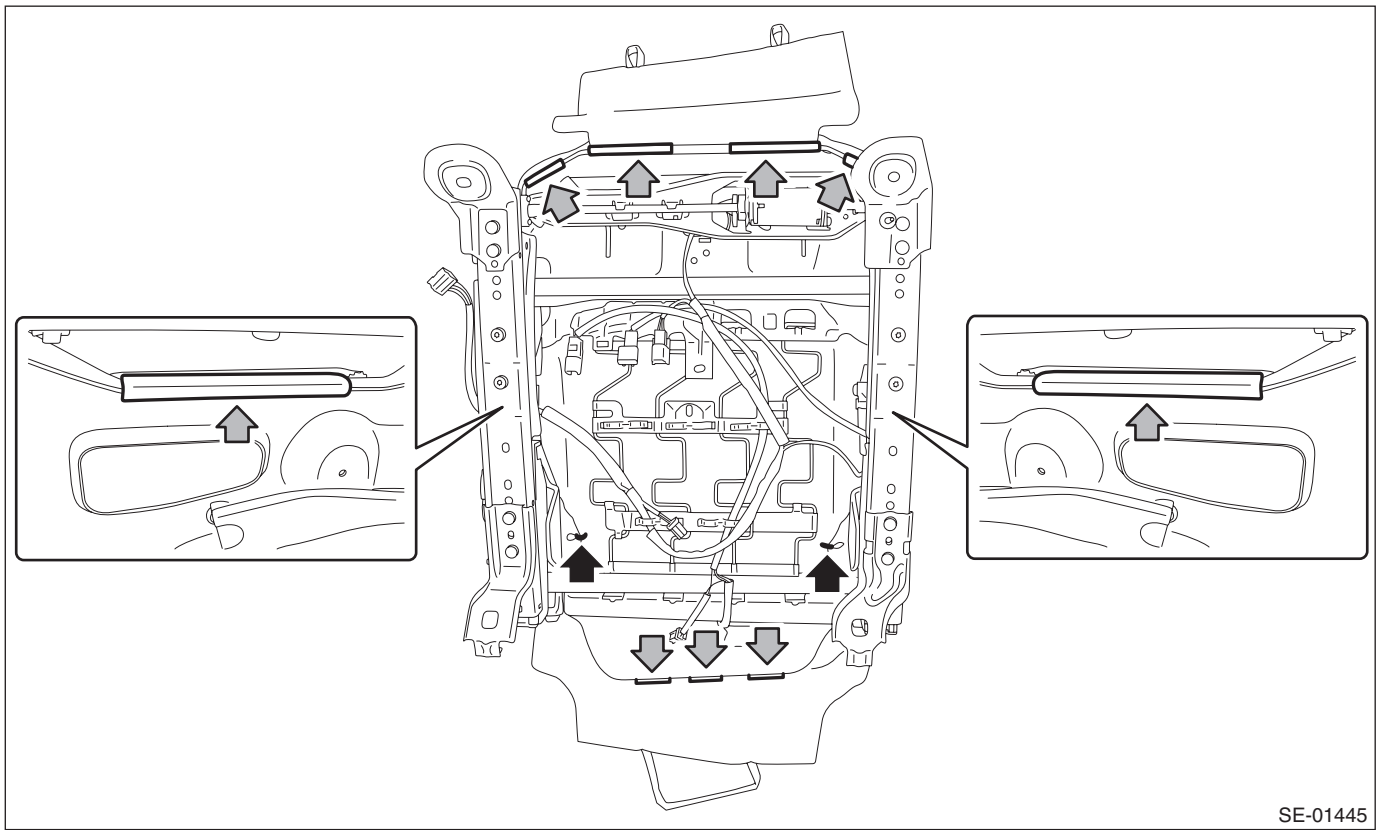
8) Remove the cover - slide rail OUT.
   (1) Remove the clip.
   (2) Remove the hook, and detach the cover - slide rail OUT.



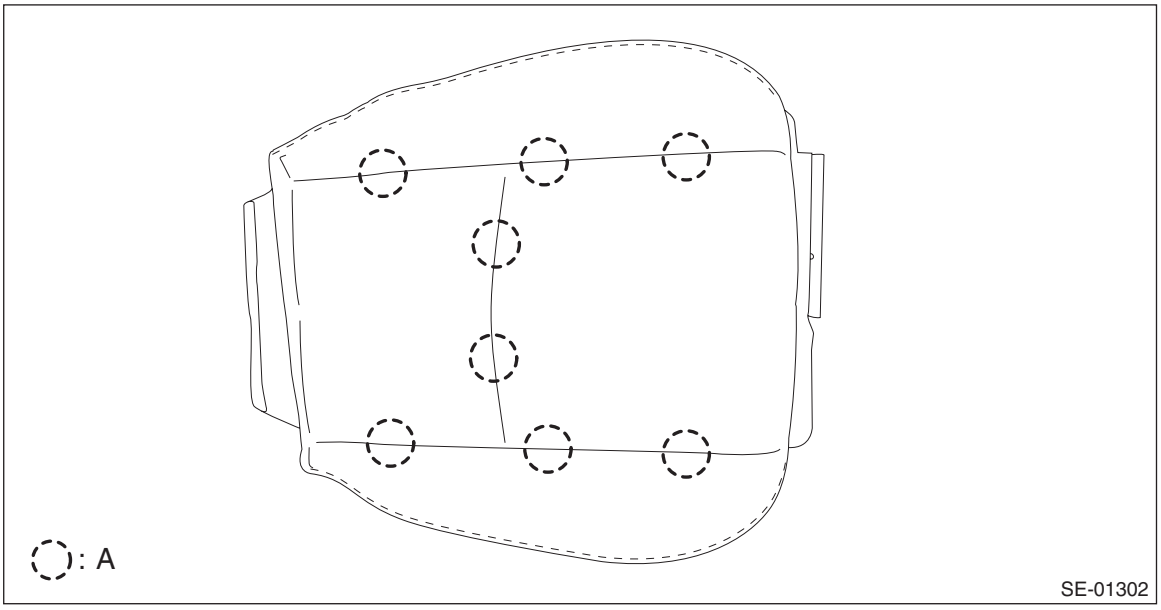
9) Remove the screws and detach the cover - slide rail INN.



10) Remove the pad assembly - front seat cushion and the cover - front cushion.
(1) Remove the hooks and hog rings.
(2) Remove the pad assembly - front seat cushion and the cover - front cushion from the seat cushion assembly.



11) Remove the cover - front cushion.
(1) Remove the hog ring (A).

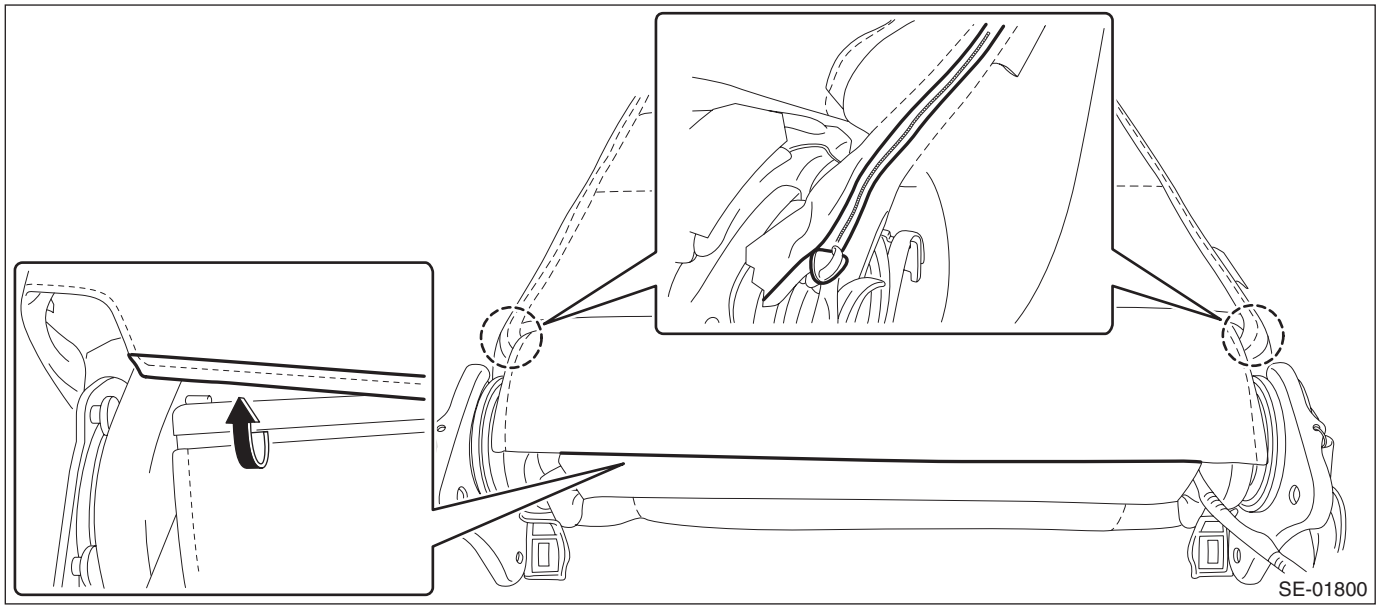


(2) Pull out the pad assembly - front seat cushion from the cover - front cushion.

(3) Remove the seat heater module from the pad assembly as necessary.

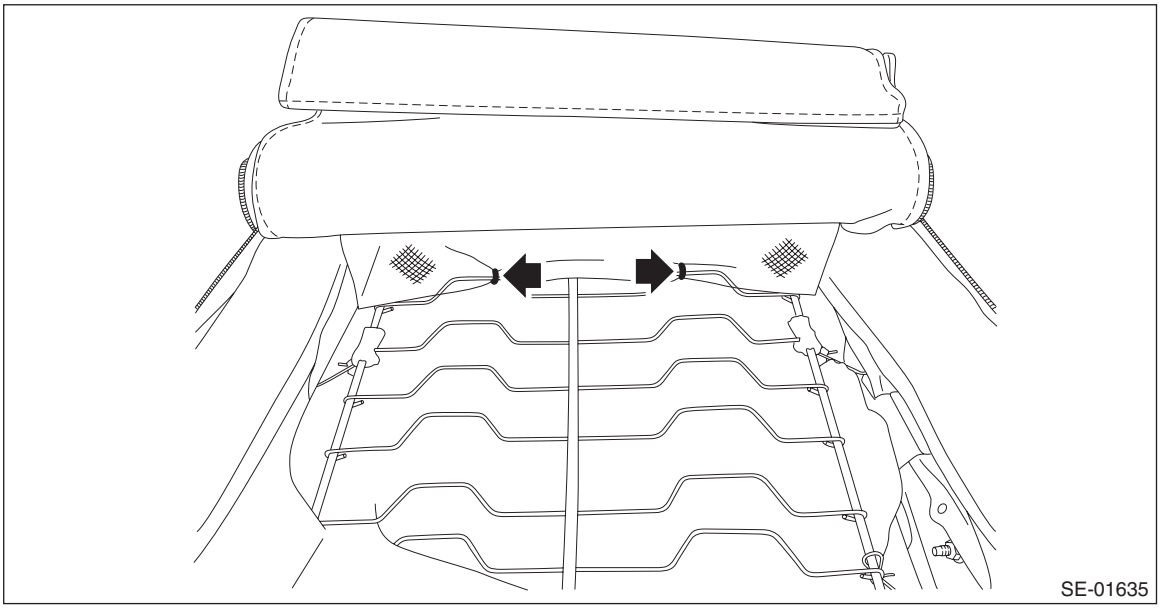
CAUTION:
- **If the seat heater module is removed, replace the pad assembly with a new part.**
- **If the seat heater module is reused, remove the polyurethane section from the reverse side completely.**

12) Remove the pad assembly - front seat backrest and the cover COMPL - front backrest.
(1) Remove the plastic fastener at the back side (bottom) of backrest assembly.
(2) Open the fastener at the rear side of backrest assembly.



NOTE:
If it is hard to open, use a metal clip, etc.

(3) Remove the hog ring.

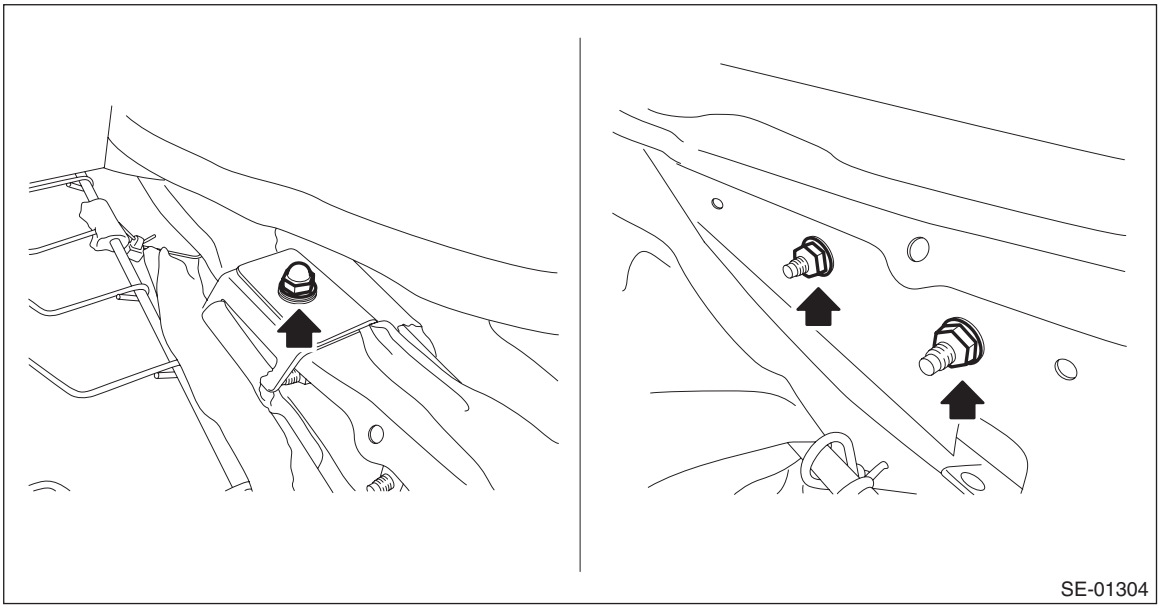


(4) Remove the pad assembly - front seat backrest and the cover COMPL - front backrest from the backrest assembly.

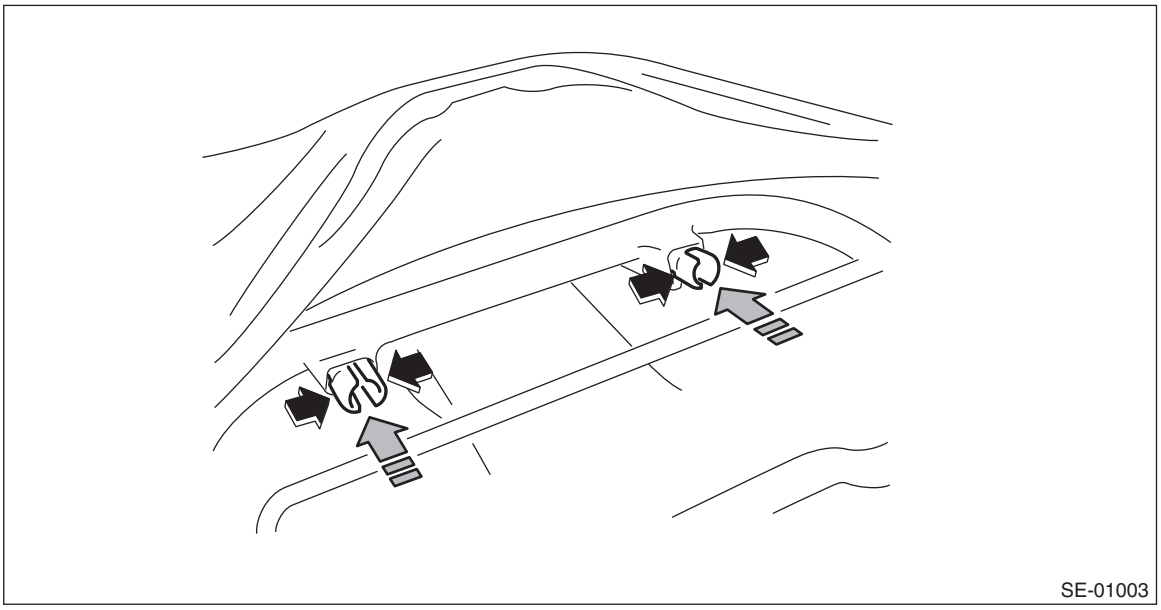
13) Remove the side airbag module.

CAUTION:
Do not open the protective cover of the side airbag. If any damage is present in the protective cover or the cloth of side airbag module comes out from the protective cover slit, replace the side airbag module with a new part.

(1) Remove the hexagon cap nut and nuts.
(2) While taking care not to damage the airbag protective cover, remove the side airbag module.

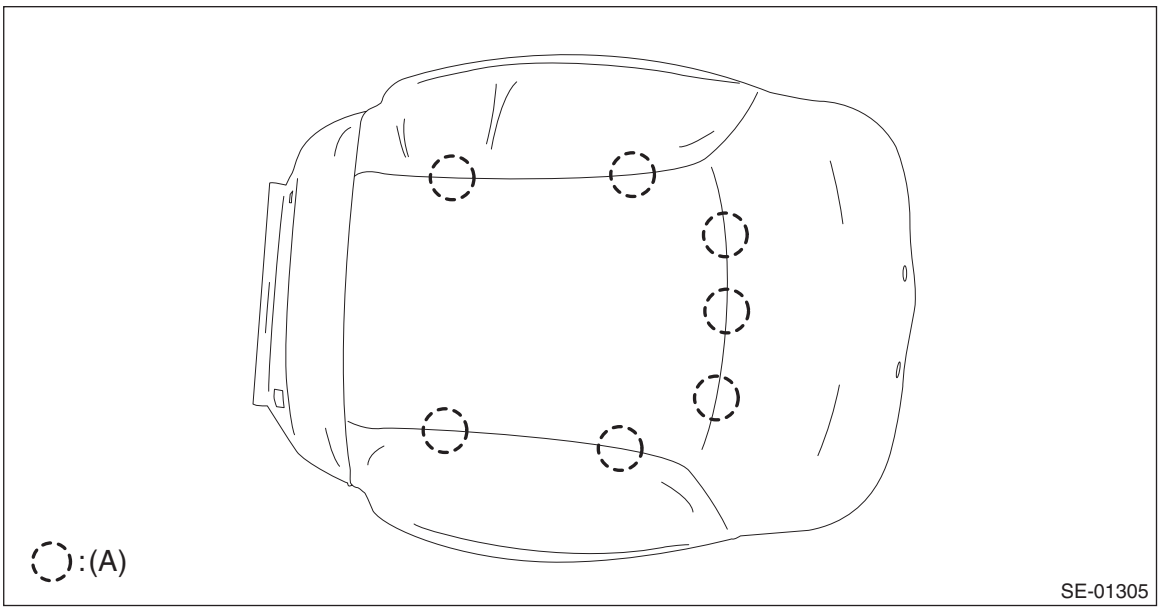

SE-01304

14) Remove the bushing - headrest.


SE-01003

NOTE:
Catch the tip of the bushing - headrest with pliers and push it outward from the inside of seat to remove it.
15) Pull out the frame assembly - front backrest.

16) Remove the cover COMPL - front backrest.
(1) Remove the hog ring (A).



(2) Pull out the pad assembly - front seat backrest from the cover COMPL - front backrest.
(3) Remove the seat heater module from the pad assembly as necessary.

CAUTION:
• If the seat heater module is removed, replace the pad assembly with a new part.
• If the seat heater module is reused, remove the polyurethane section from the reverse side completely.

2. PASSENGER'S SEAT

CAUTION:
• The occupant detection system (passenger's seat only) control module, the occupant detection sensor, the pad assembly - front seat cushion and the frame assembly - front cushion are considered as a single seat cushion pad & frame assembly. Never remove the occupant detection control module or the occupant detection sensor from the frame assembly - front cushion.
• If the cover - front cushion is removed, make sure to replace the hang wire on the cover - front cushion side with a new wire.
• Never remove the occupant detection sensor connector from the occupant detection control module.
• When replacing the seat cover, be careful not to damage the occupant detection sensor while installing the hog ring.
• When removing or replacing the seat cover, perform "Occupant Detection System Inspection" after installing the seat to check if the occupant detection system operates normally. <Ref. to PI-15, SEAT, PRE-DELIVERY INSPECTION (PDI) PROCEDURE, Pre-delivery Inspection.>
• If the seat heater module is removed, replace the seat cushion pad & frame assembly with a new part.
• If the seat heater module is reused, remove the polyurethane section from the reverse side completely.

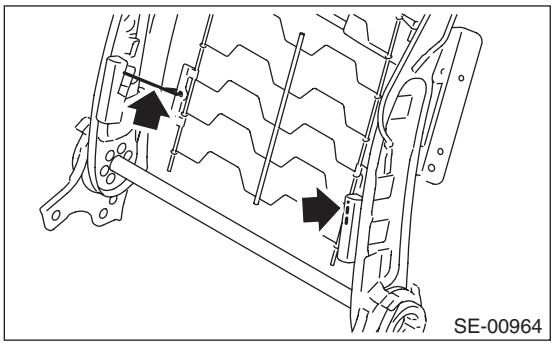
1) Remove the front seat (passenger's side) from vehicle. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Refer to the disassembly procedures for the driver's seat. <Ref. to SE-9, DRIVER'S SEAT, DISASSEMBLY, Front Seat.>

D: ASSEMBLY

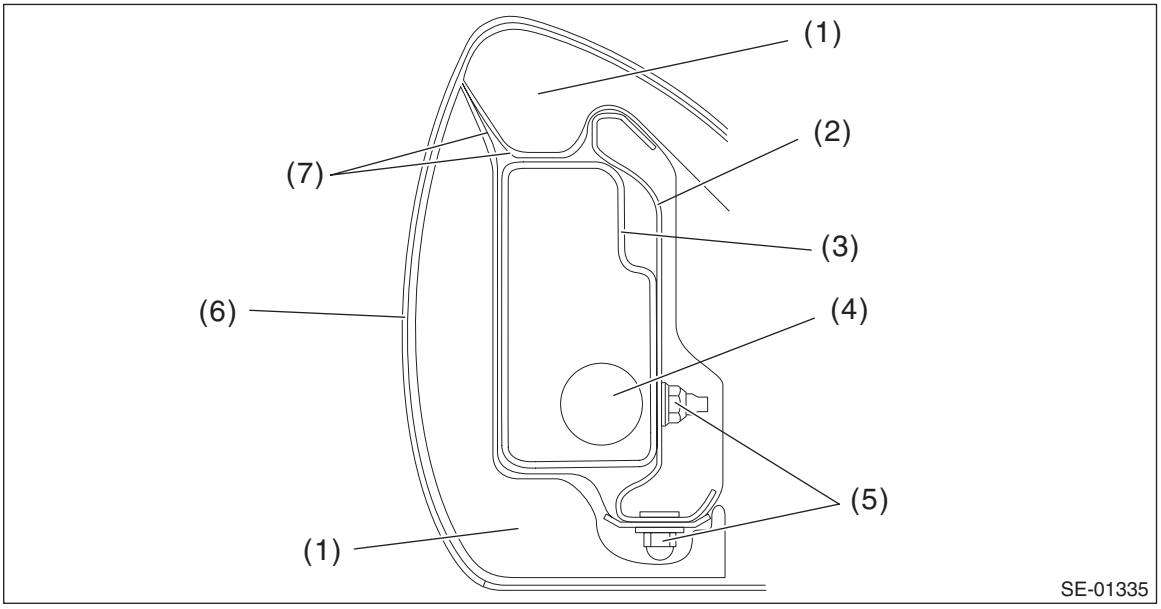
CAUTION:

• Do not confuse the harness routing of the side airbag harness and the seat belt inner - front harness, etc. Assembling with harnesses improperly routed may cause the harness to get caught and short out.

• If the flat mat hook of the frame assembly - front backrest is deformed or comes off due to the deformation, replace the hook with a new part.



• Make sure that the side airbag module is installed as shown in the figure.



(1)	Pad ASSY - front seat backrest	(4)	Side airbag module inflator	(7)	Side airbag guide cloth
(2)	Frame ASSY - front backrest	(5)	Nut		
(3)	Side airbag module protective cover	(6)	Cover COMPL - front backrest		

Besides, if the cover COMPL - front backrest is not installed securely, the side airbag may not be activated properly, therefore keep strictly to the following procedures.

• Be careful not to stain or damage the cover COMPL - front backrest during assembly.

• Do not reuse hog rings.

• Secure the hog ring using hog ring pliers.

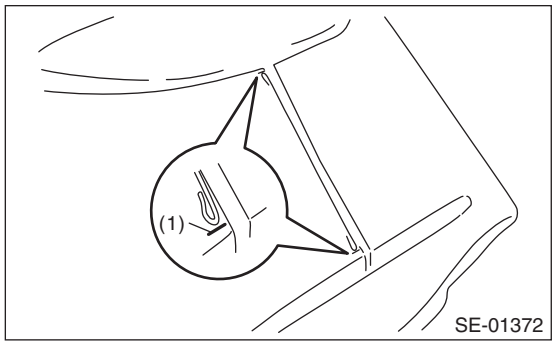
• Install the hog rings to the specified points securely and make sure that there is no wrinkle or twisting on the cover COMPL - front backrest.

1) Install the seat heater module.

CAUTION:
• If the seat heater module is removed, replace the pad assembly with a new part. (Driver's seat)
• If the seat heater module is removed, replace the seat cushion pad & frame assembly with a new part. (Passenger's seat)
• If the seat heater module is reused, remove the polyurethane section from the reverse side completely and attach a new pad assembly with a double-sided tape.

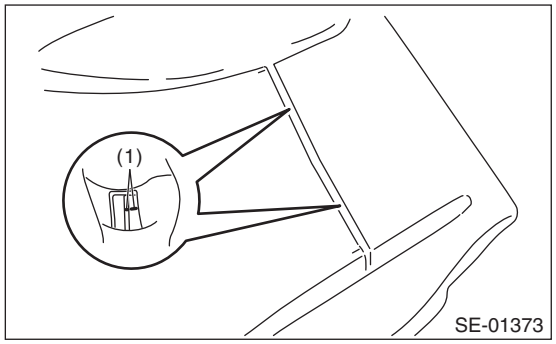
Double-sided tape:
NITTO DENKO 501L or equivalent

2) Make sure that there is no foreign matter on side airbag module.
3) 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.



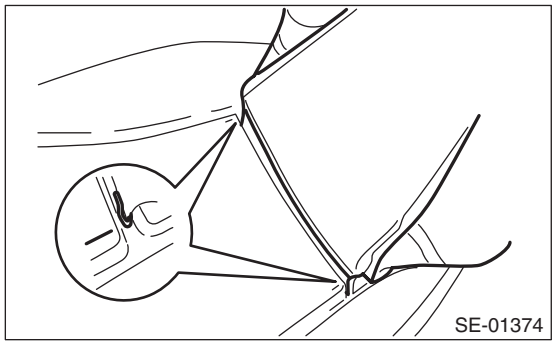
(1) Marking

(2) Mark the center of the wire on the pad side to which the hog ring is attached.

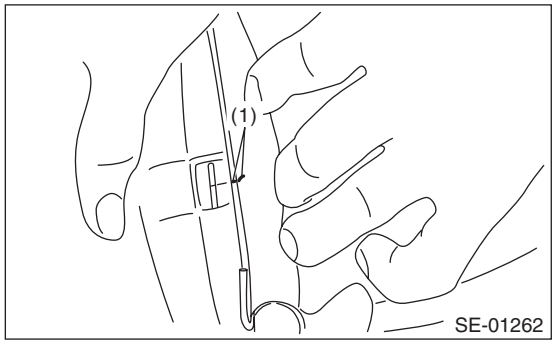


(1) Marking

(3) Insert the wire into the seat cover, and align the wire with the position marked in step 1).

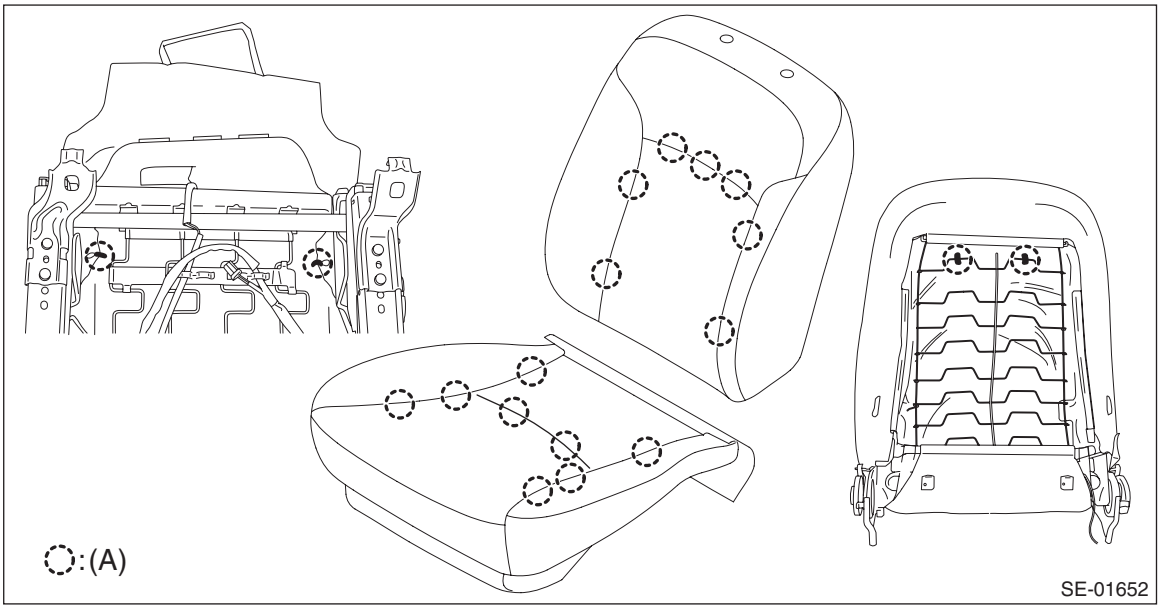


(4) Mark the wire on the seat cover side according to the markings on the seat pad.



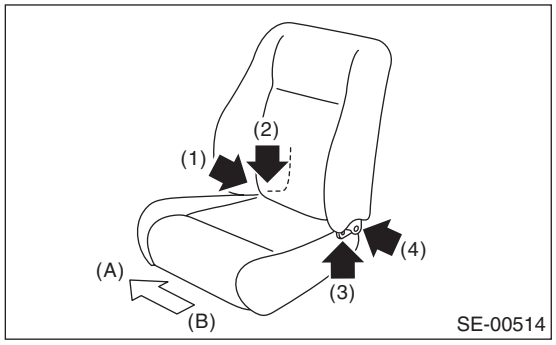
(1) Marking

(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.



4) Assemble remaining parts in the reverse order of disassemble.

NOTE:
• When installing the seat belt inner - front, 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

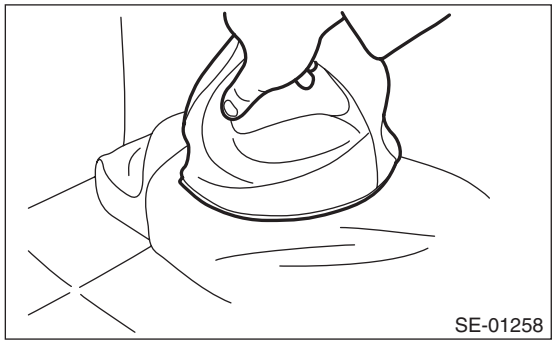
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, FRONT SEAT, COMPONENT, General Description.>

5) 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.

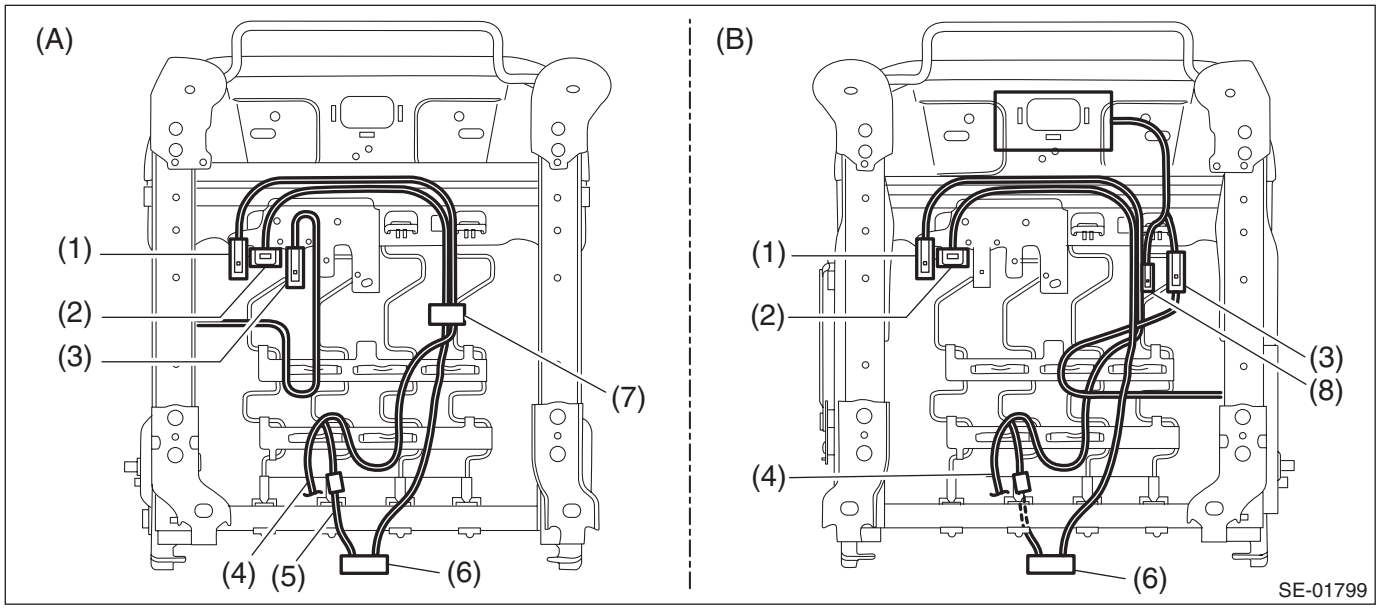
(2) Touch up with warm iron.

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.



6) Install connectors located under the front seat.
• Manual seat

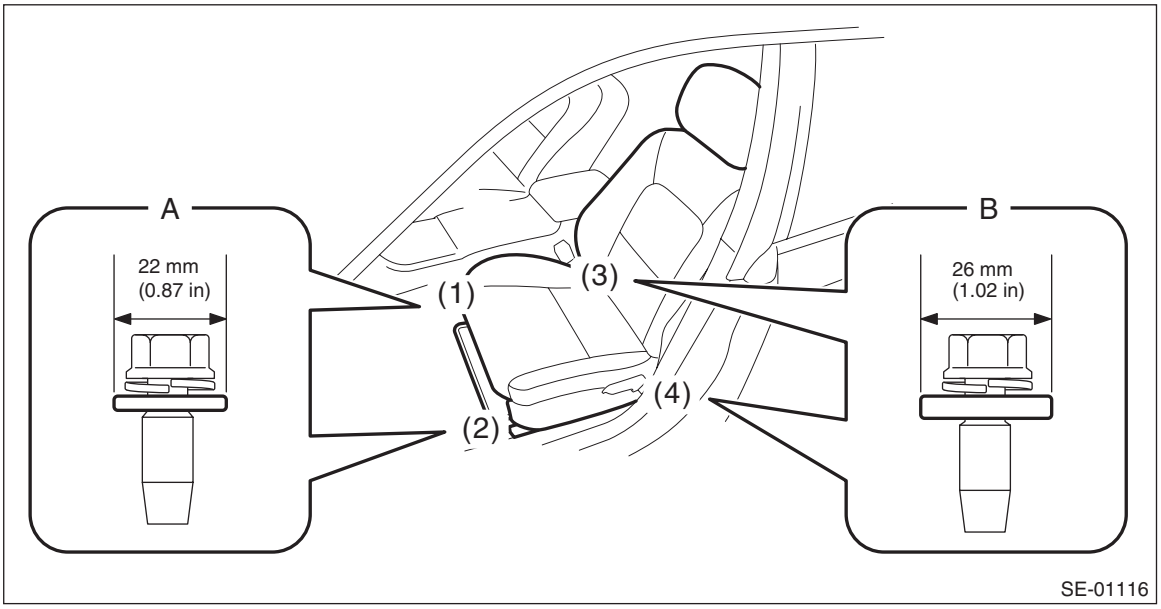


(A) Driver's seat (six-way)
(B) Passenger's seat (four-way)

(1) Seat cushion heater connector
(2) Side airbag connector
(3) Seat belt switch connector
(4) Seat cushion - heater harness
(5) Backrest heater harness
(6) Velcro
(7) Band A
(8) Occupant detection control module

7) 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

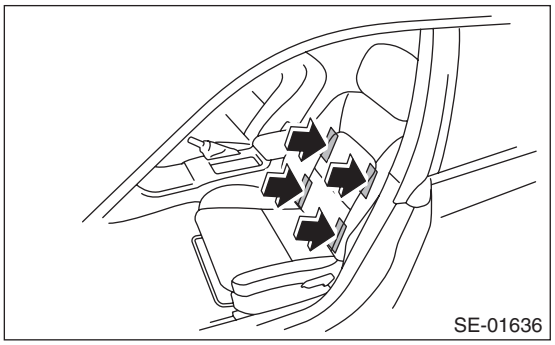
1. SEAT COVER

Check that there is no tear or fray on the cover COMPL - front backrest and the cover - front cushion.

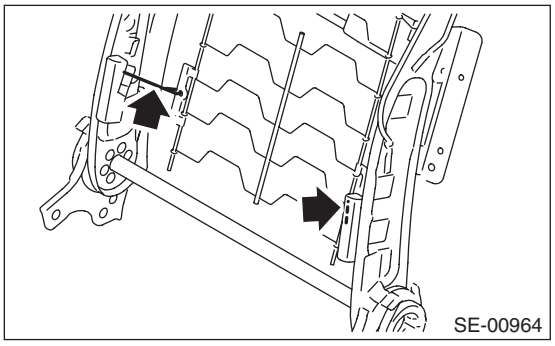
NOTE:
For model with side airbag, if the door side of the cover COMPL - front backrest is torn or frayed, the side airbag may not be deployed properly. In this case, replace the cover COMPL - front backrest with a new part.

2. FLAT MAT HOOK

Check the flat mat hook by applying weight to the backrest assembly.



NOTE:
If the appropriate stiffness is not obtained by applying weight to the backrest assembly, the hook may be disengaged.
If it is due to the deformation of the hook, replace the hook with a new part.



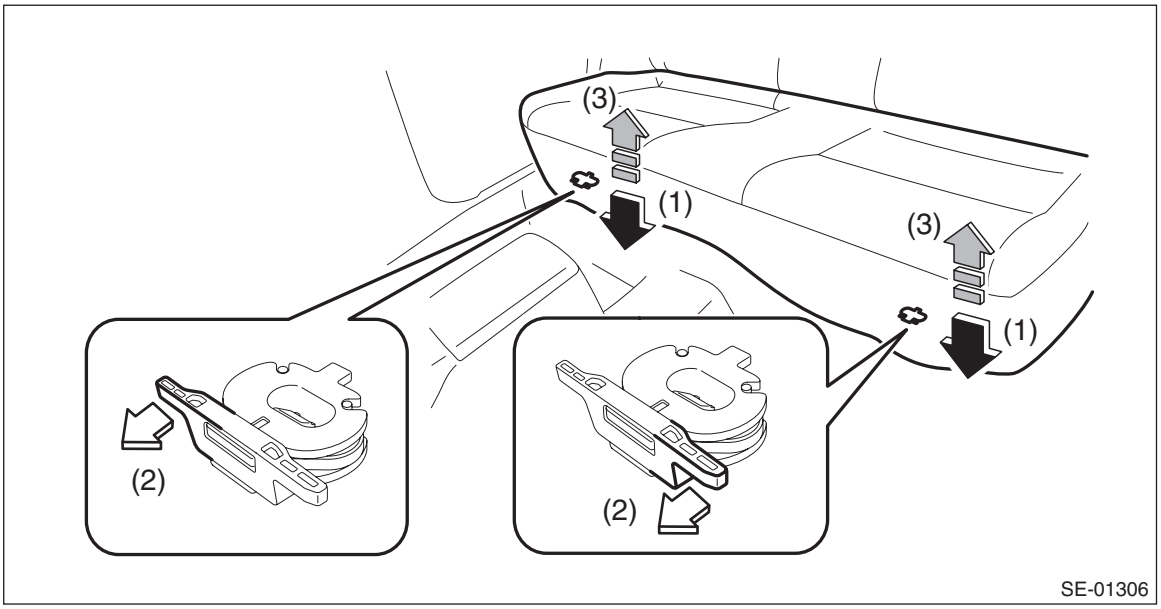
3. Rear Seat

A: REMOVAL

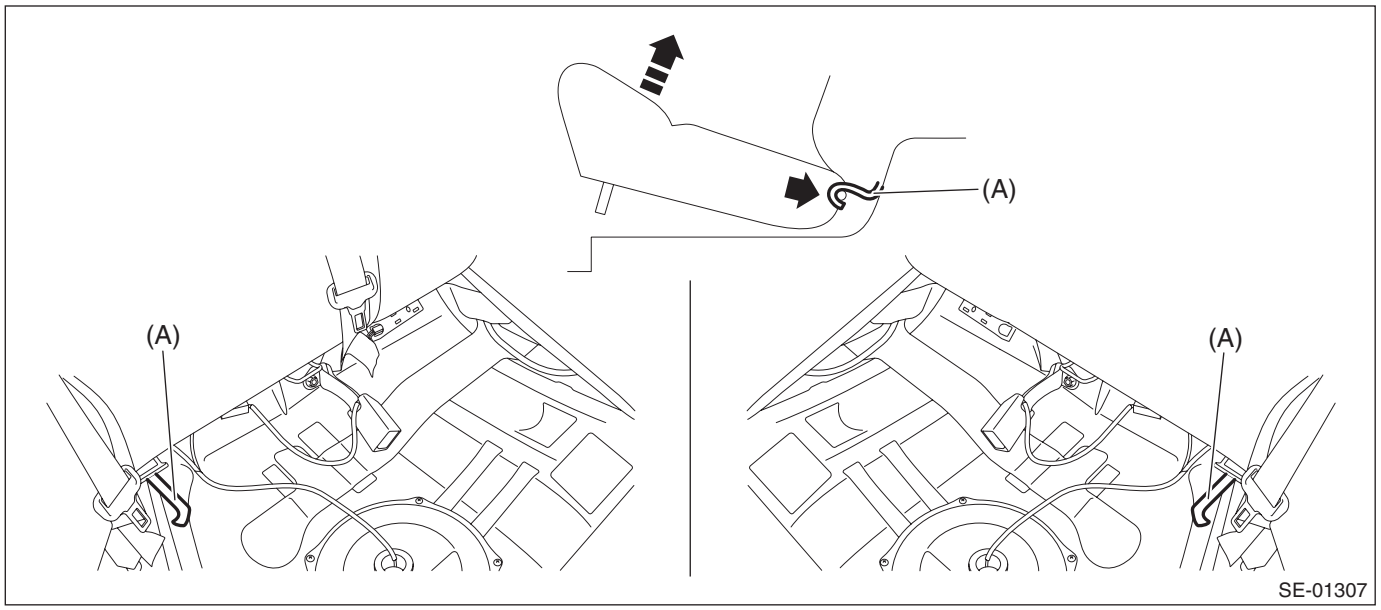
CAUTION:
• Airbag system satellite safing sensor is located in the lower of the rear seat cushion center. Before removing the rear seat, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. <Ref. to AB-10, CAUTION, General Description.>
• The airbag system is fitted with a backup power 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) Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
2) Remove the rear seat cushion assembly.
(1) Push the corners of the rear seat cushion from above.
(2) While pushing the corners of the rear seat cushion from above, pull the knob of the hook - seat cushion rear towards yourself.
(3) While pulling the knob towards yourself, disconnect the hooks by lifting up the rear seat cushion.

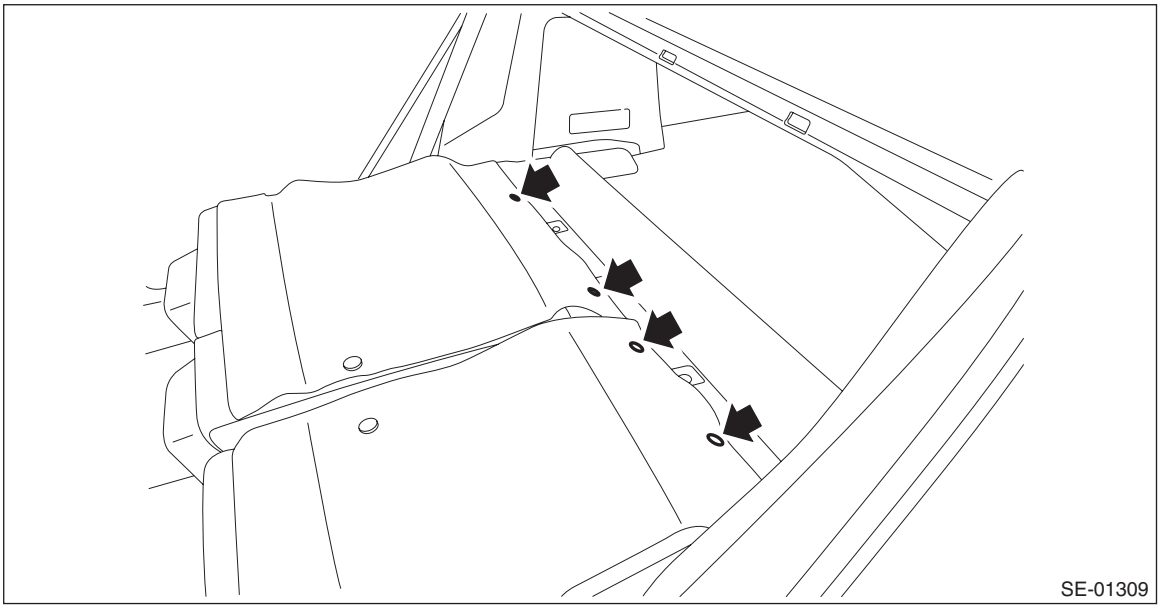
NOTE:
Pull the left side of the knob to disconnect the LH side hook, and pull the right side of the knob to disconnect the RH side hook.



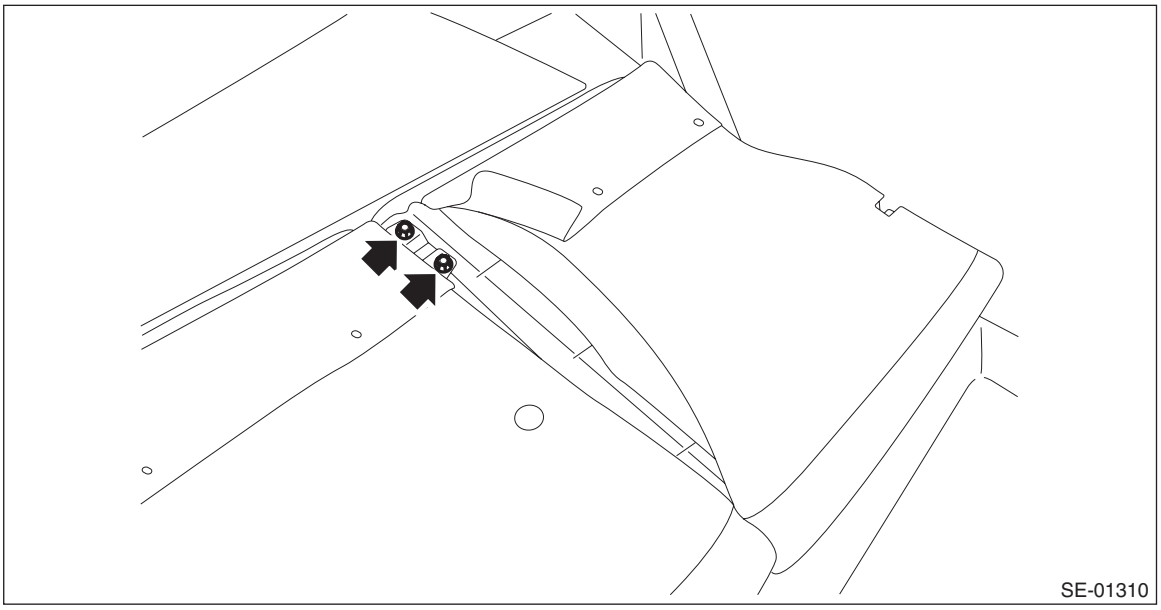
(4) Remove the hook (A) by pushing it back while lifting the front side of the rear seat cushion, and remove the rear seat cushion.



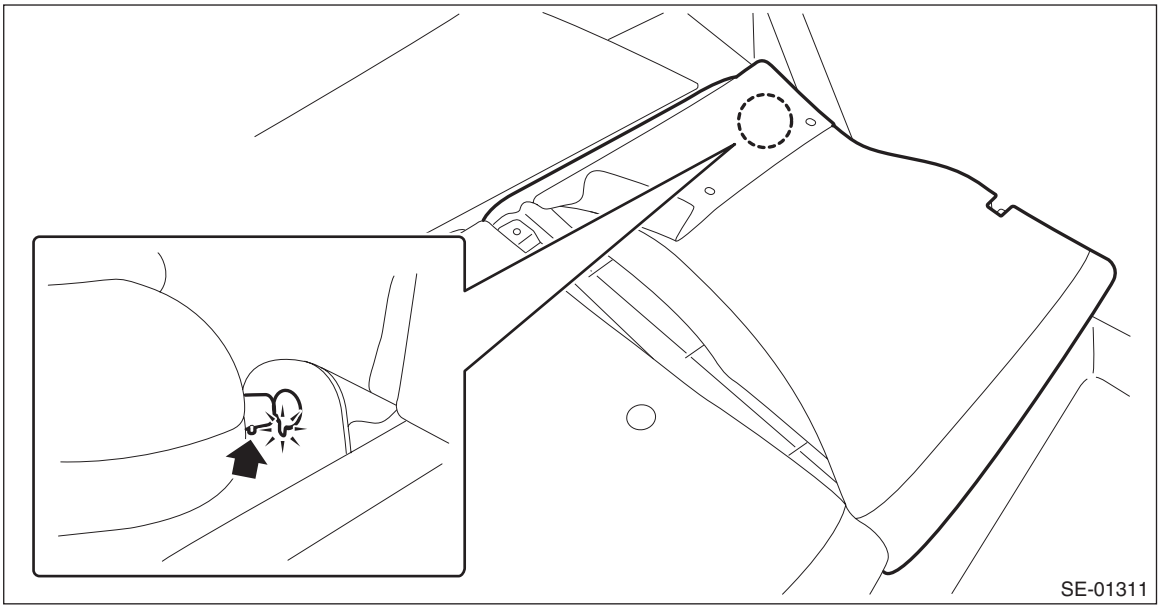
3) Remove the backrest assembly LH.
(1) Tilt the backrest assembly LH forward.
(2) Remove the clips located at the bottom of the cover COMPL - rear backrest LH and RH of the rear seat back.



(3) Turn over the cover COMPL - rear backrest LH to remove the bolts.

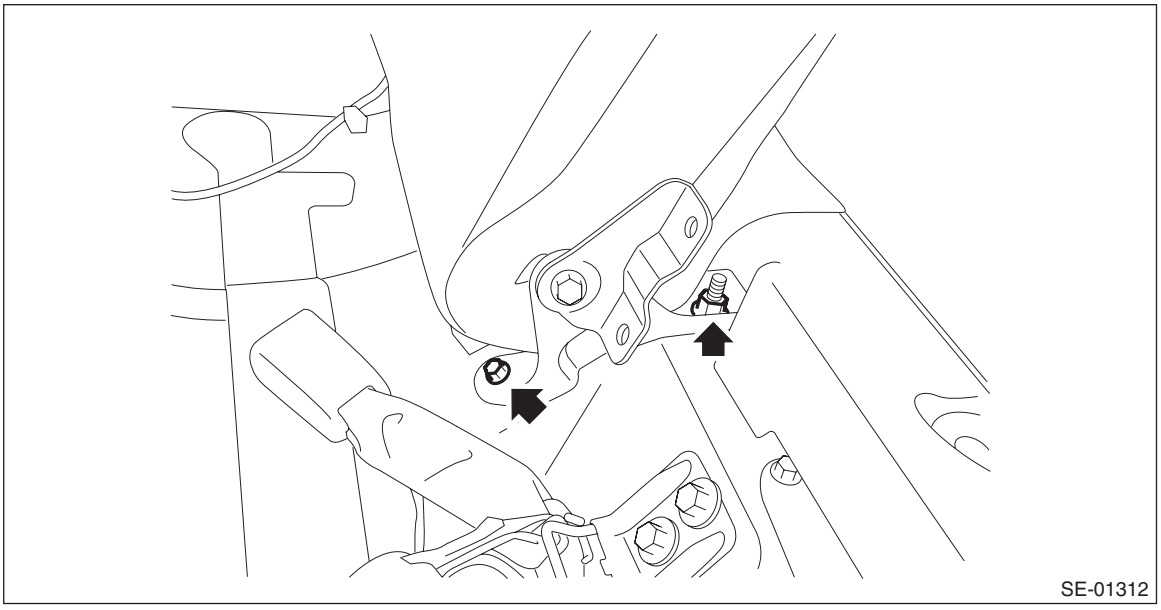


(4) Remove the backrest assembly LH from the hinge assembly.

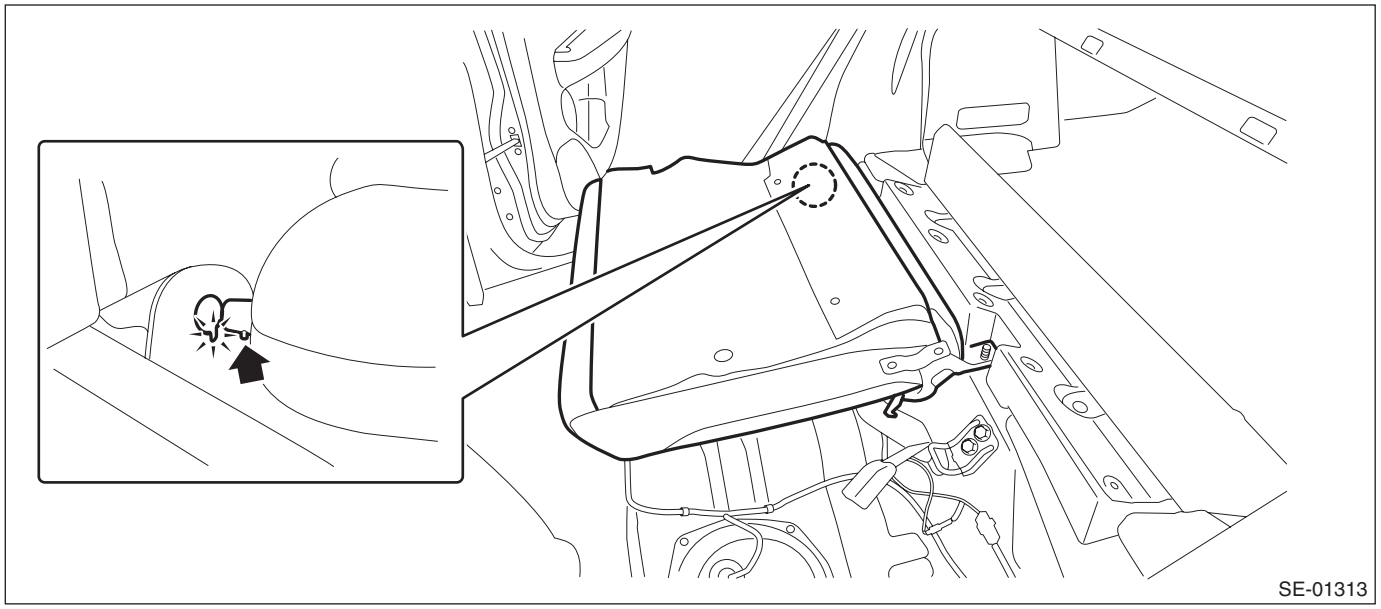


NOTE:
The backrest assembly cannot be removed unless pin positions on the hinge assembly side and backrest assembly side are aligned.

4) Remove the backrest assembly RH.
(1) Remove the bolts and nuts.



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



NOTE:
The backrest assembly cannot be removed unless pin positions on the hinge assembly side and backrest assembly side are aligned.

B: INSTALLATION

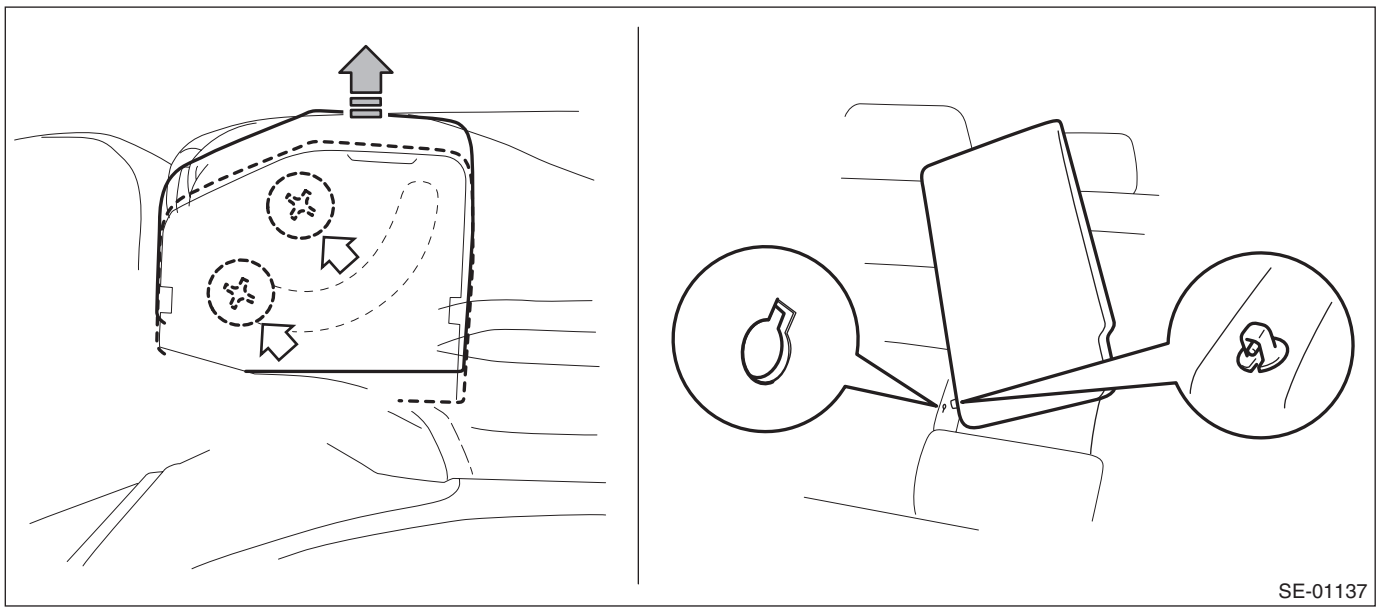
Install each part in the reverse order of removal.

NOTE:
- After installing the backrest assembly, make sure that each seat belt operates normally.
- Make sure that they are properly secured on each hook on the vehicle side.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-5, REAR SEAT, COMPONENT, General Description.>

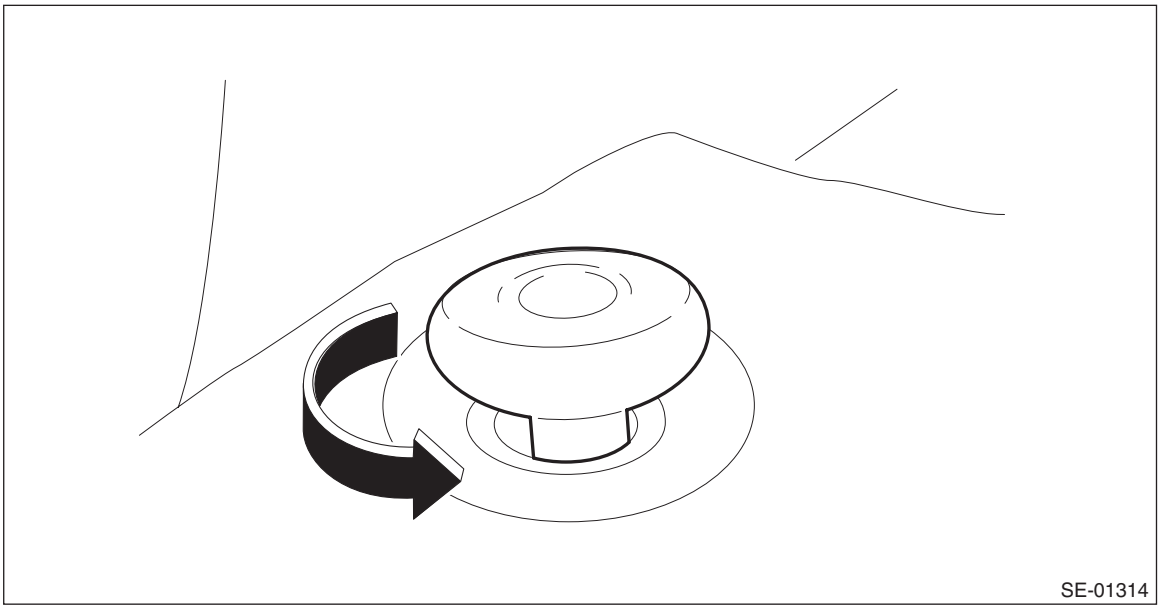
C: DISASSEMBLY

1) Remove the rear seat. <Ref. to SE-23, REMOVAL, Rear Seat.>
2) Remove the headrest assembly - rear backrest.
3) Remove the armrest assembly - rear center. (model with armrest assembly - rear center)
   (1) Remove the cover - armrest by pulling it in the direction of the arrow (black).
   (2) Remove the screws and remove the armrest assembly - rear center.

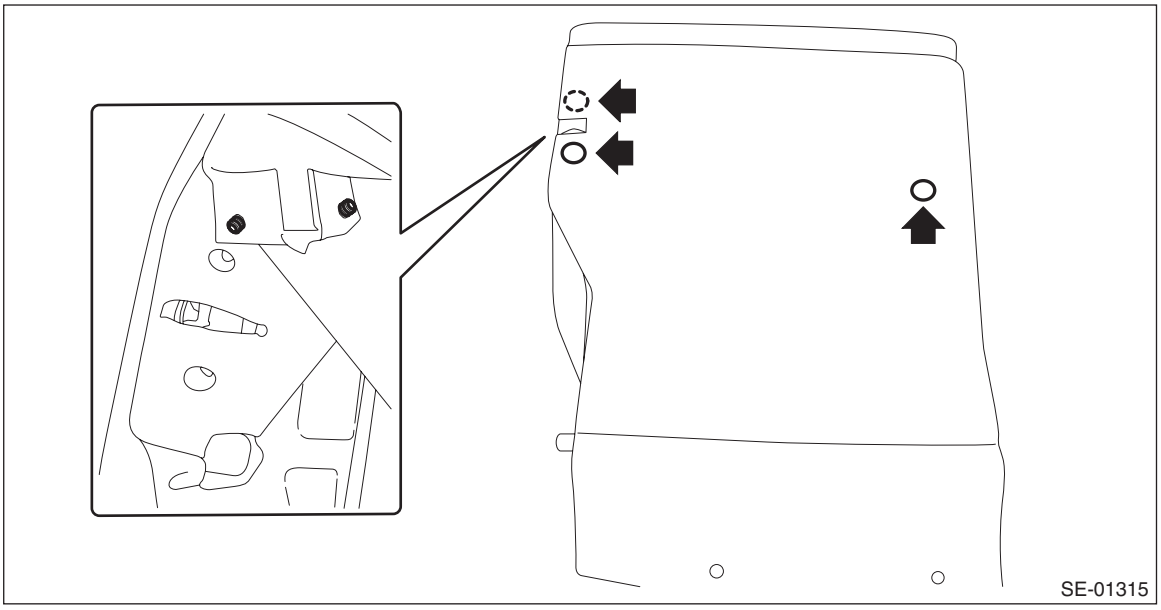


NOTE:
The armrest assembly - rear center cannot be detached unless pin positions on the RH side of the backrest assembly and on the center side of the armrest assembly - rear are aligned.

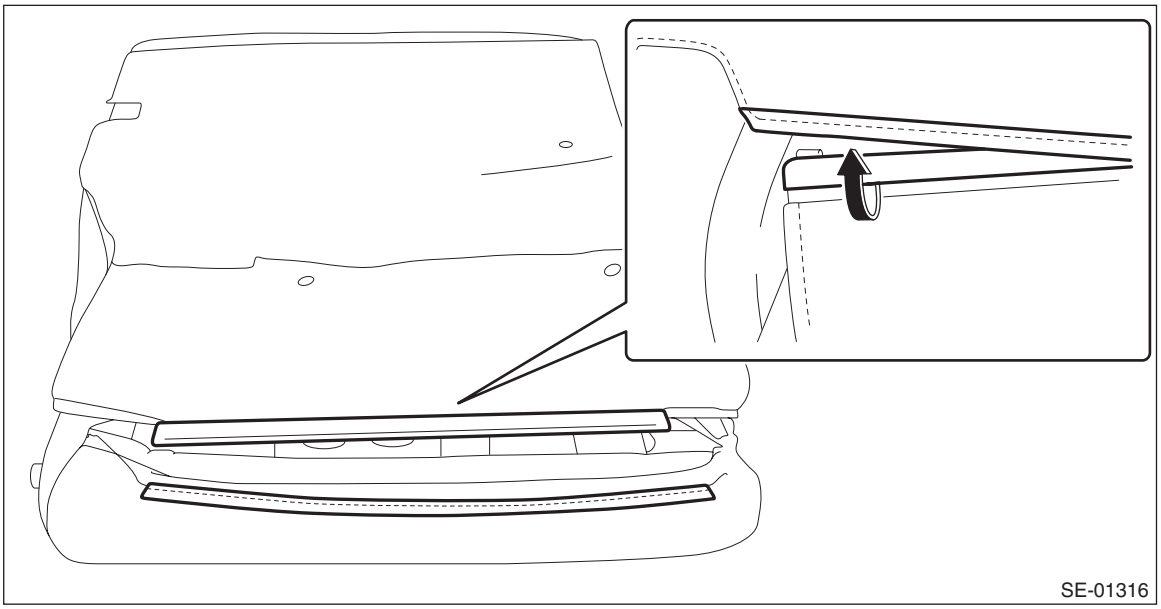
4) Remove the knob - backrest. (Screw-in type)



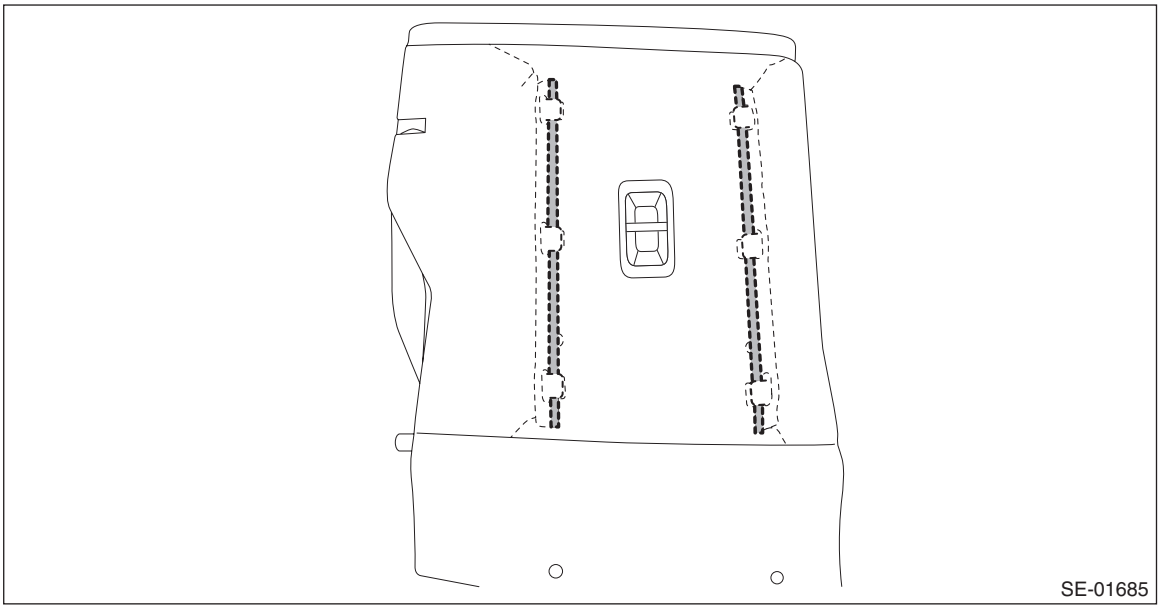
5) Remove the clips on the backside of the cover COMPL - rear backrest LH.



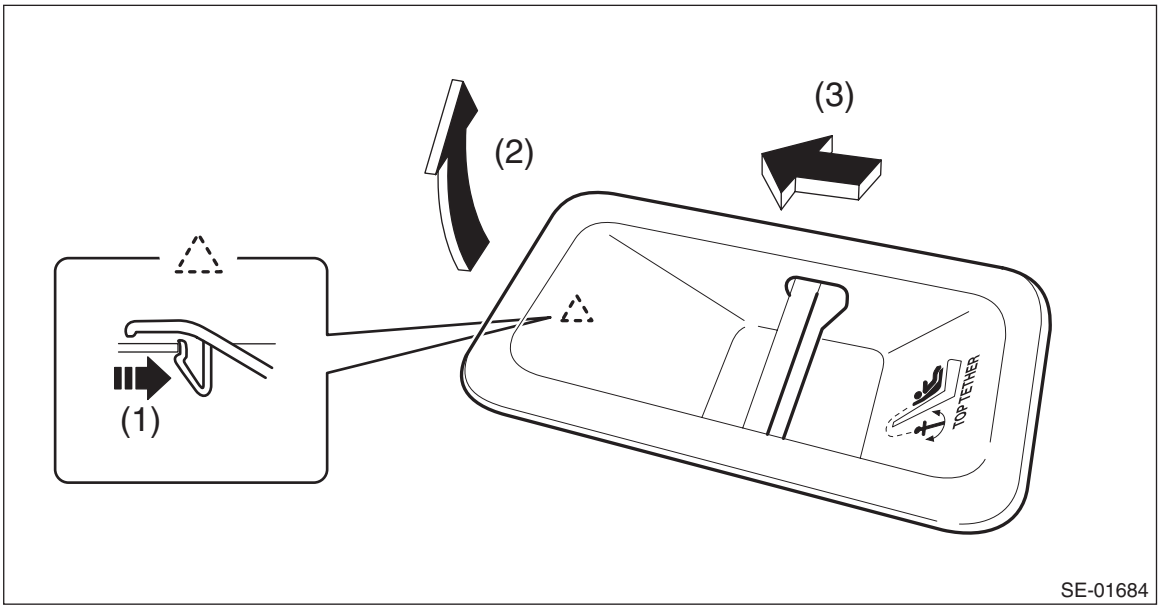
6) Detach the plastic fastener at the bottom of backrest assembly LH and turn over the cover COMPL - rear backrest LH.



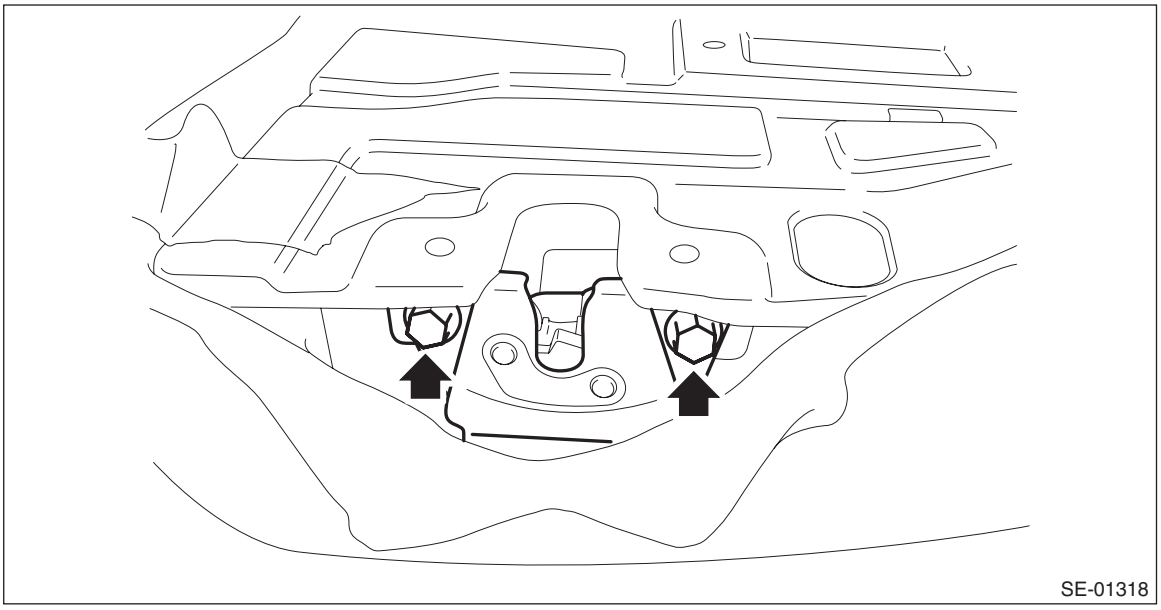
7) Remove the plastic hooks on the back side of the backrest assembly LH, and turn over the backrest assembly.



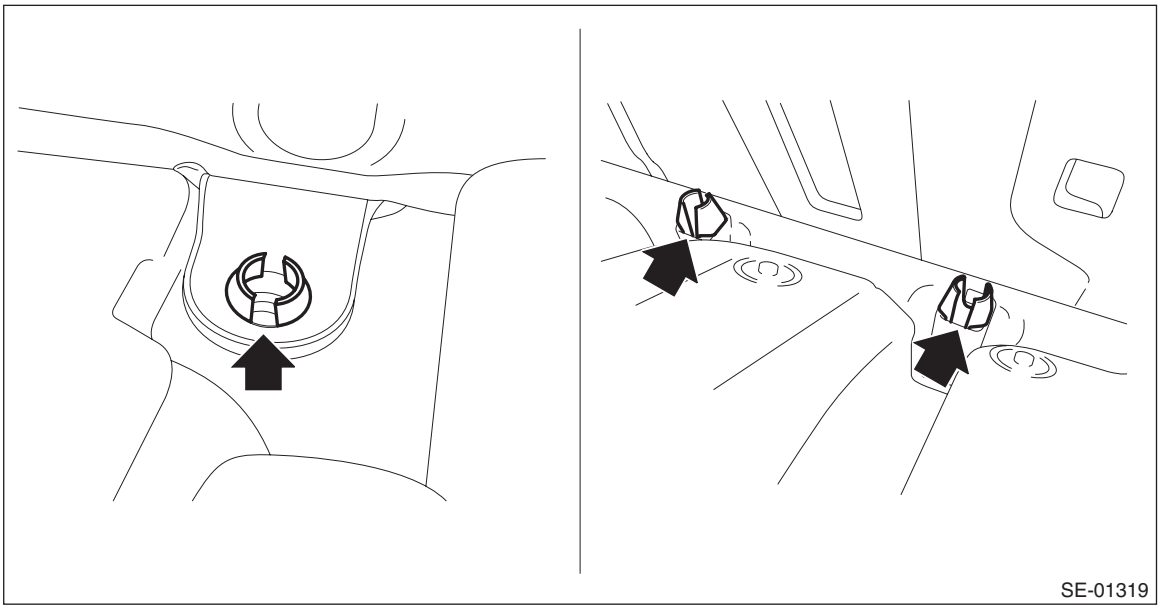
8) Pull up the pad and cover, and remove the tether anchor cover from the inside of back board.



9) Remove the lock assembly - rear backrest rear LH.

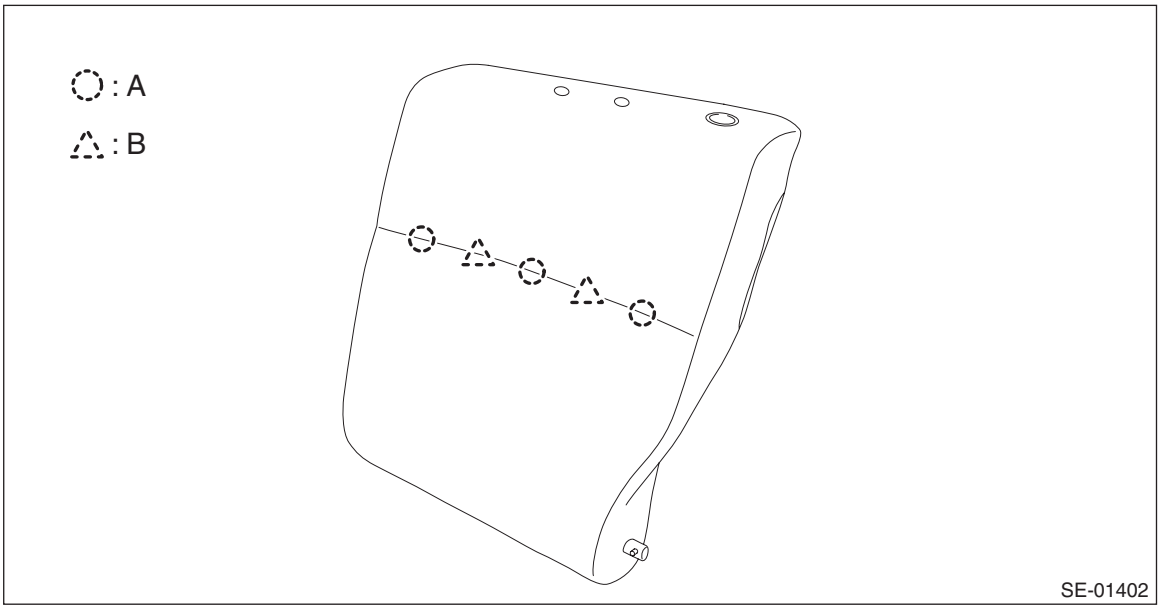


10) Detach the bushing - headrest and the bushing - lock assembly, and remove the frame assembly - rear backrest LH from the pad assembly - main LH.

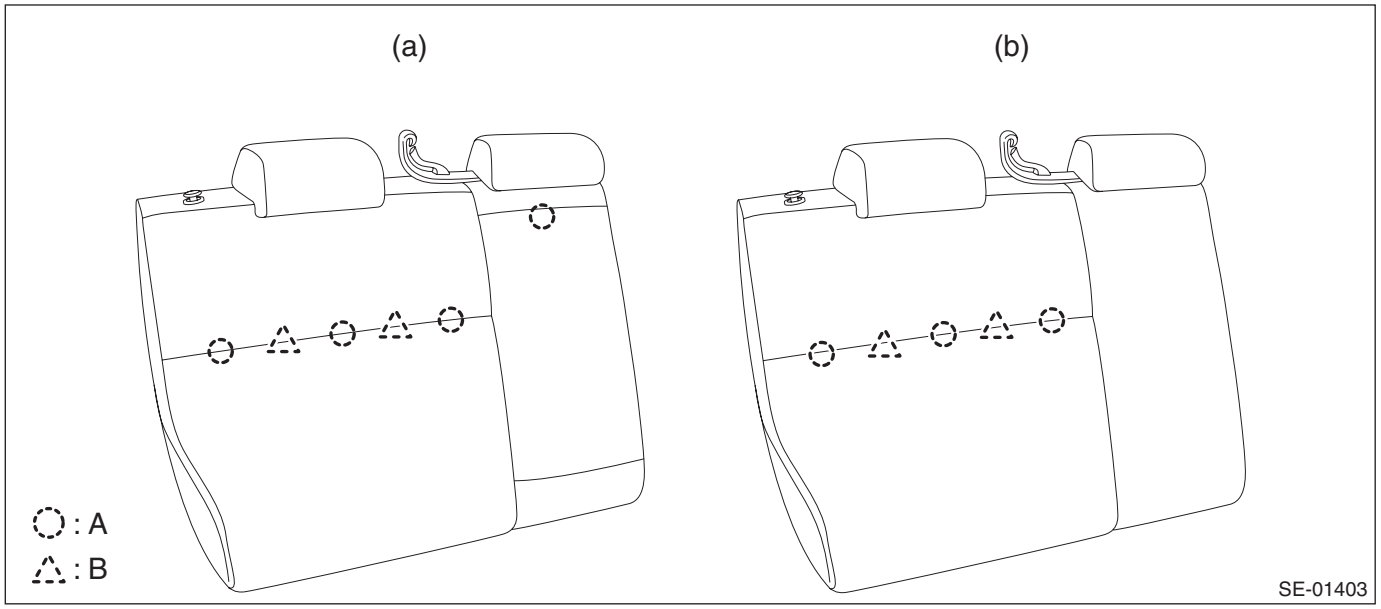


11) Remove the hog rings (A) and wire clip (B), then remove the cover COMPL - rear backrest LH.

- LH side

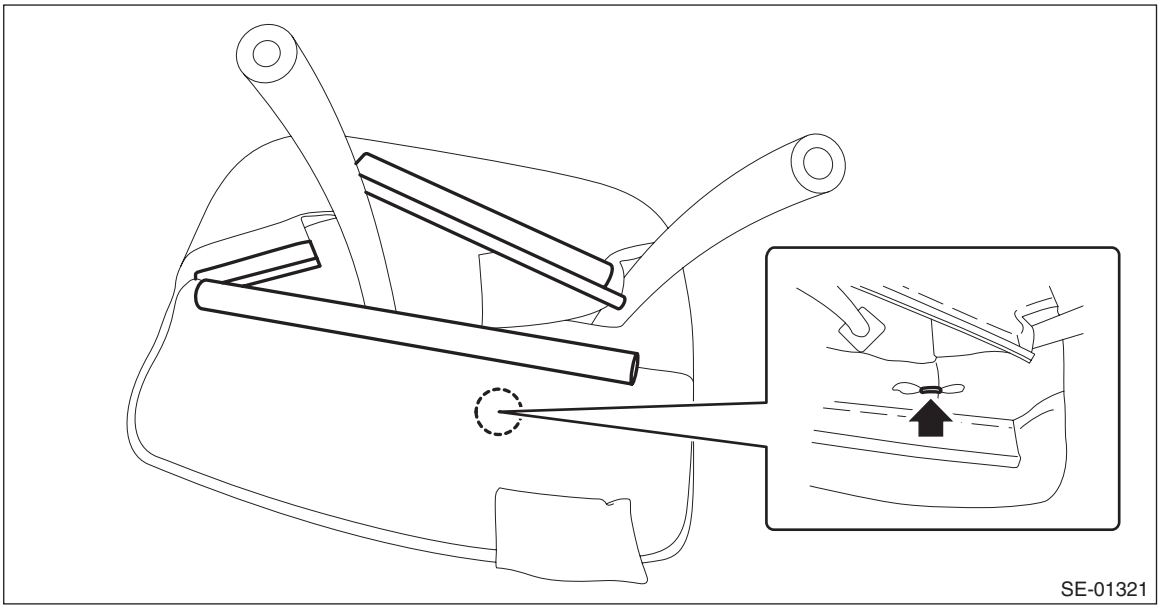


- RH side

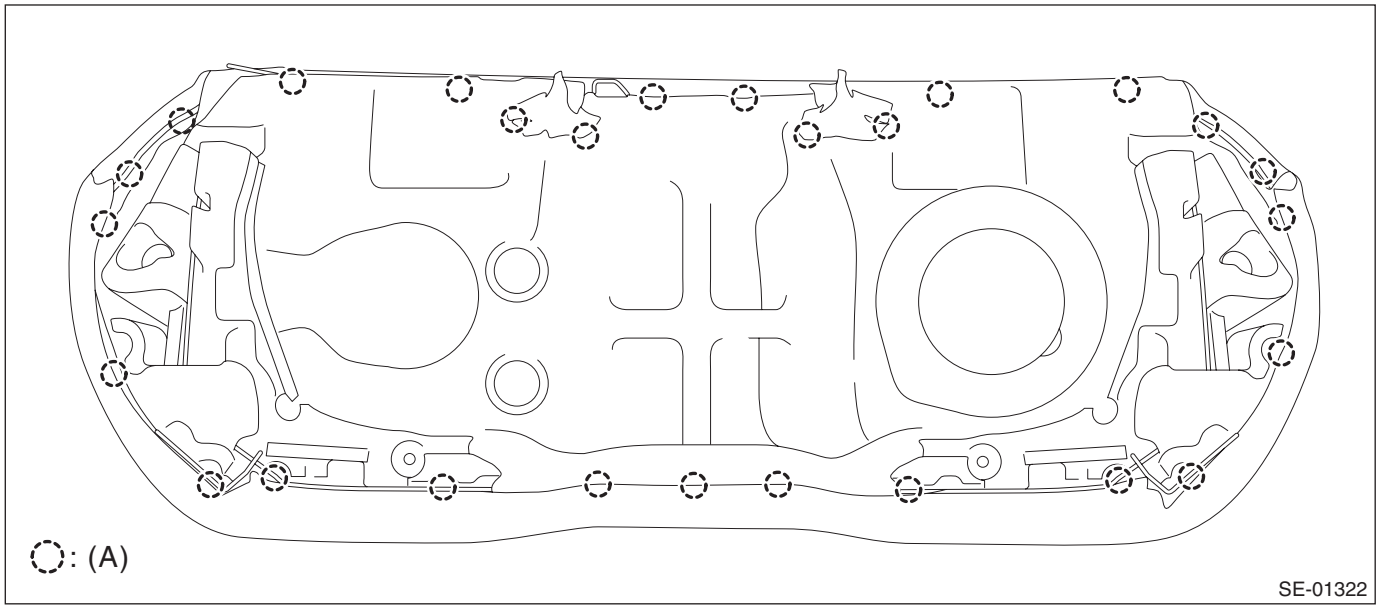


(a) Model with armrest assembly - rear center
(b) Model without armrest ASSY - rear center

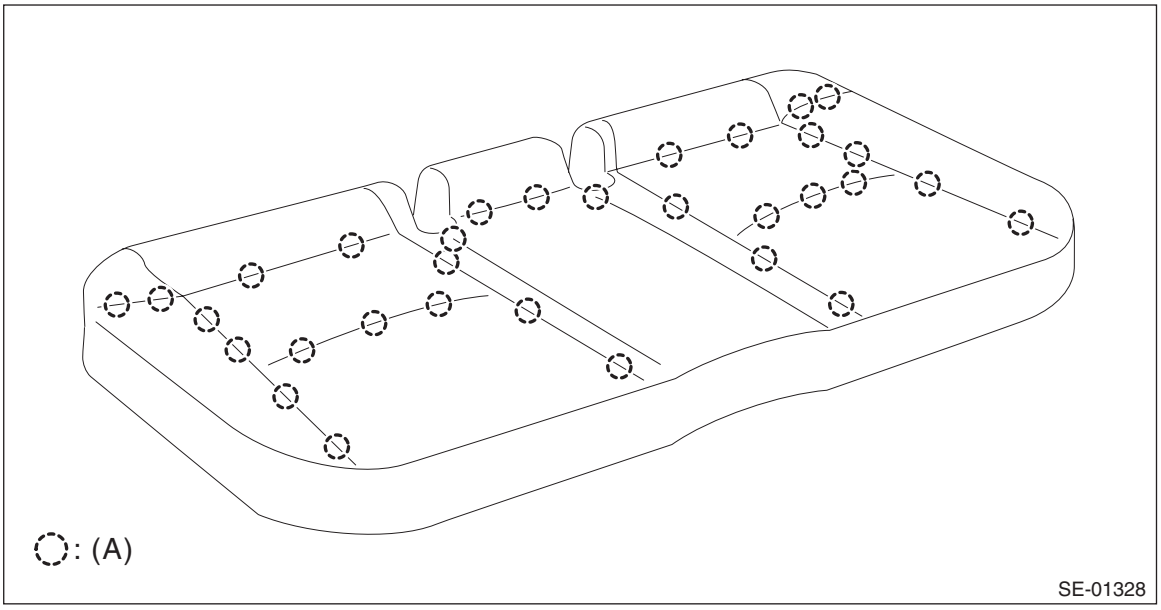
12) Referring to the above steps, disassemble the backrest assembly RH.
13) Detach the plastic fastener and hog ring, and then remove the headrest cover.



14) Remove the hog rings (A) on the back side of the rear seat cushion assembly.



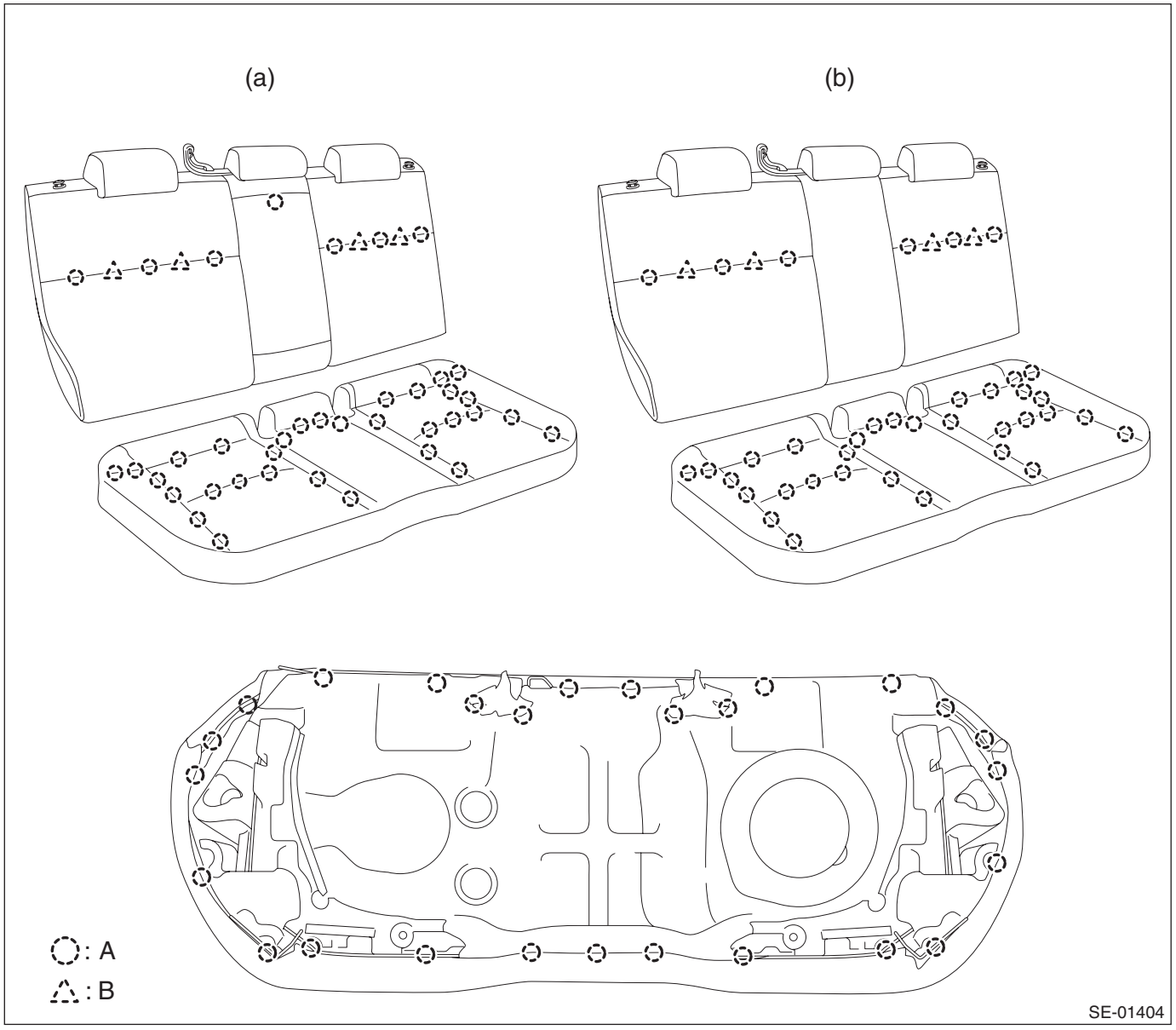
15) Remove the hog rings (A), then remove the cover - rear cushion.



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 the cover COMPL - rear backrest.**

1) Assemble the cover COMPL - rear backrest and the cover - rear cushion in the same manner as for the front seat. <Ref. to SE-17, ASSEMBLY, Front Seat.>
2) Make sure that all hog rings (A) and wire clips (B) are attached securely.



(a) Model with armrest assembly - rear center
(b) Model without armrest assembly - rear center

3) Assemble each part in the reverse order of disassembly.

NOTE:
- Do not contaminate or damage the cover COMPL - rear backrest and the cover - rear cushion.
- While installing the hog rings, prevent the cover COMPL - rear backrest and the cover - rear cushion from getting wrinkled.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-5, REAR SEAT, COMPONENT, General Description.>

4) Before installation, check the following items.
- No tear and fray on the cover COMPL - rear backrest and the cover - rear cushion.
- No fray or deformation on each wire cable.

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

4. Seat Heater System

A: REMOVAL

1. SEAT HEATER UNIT

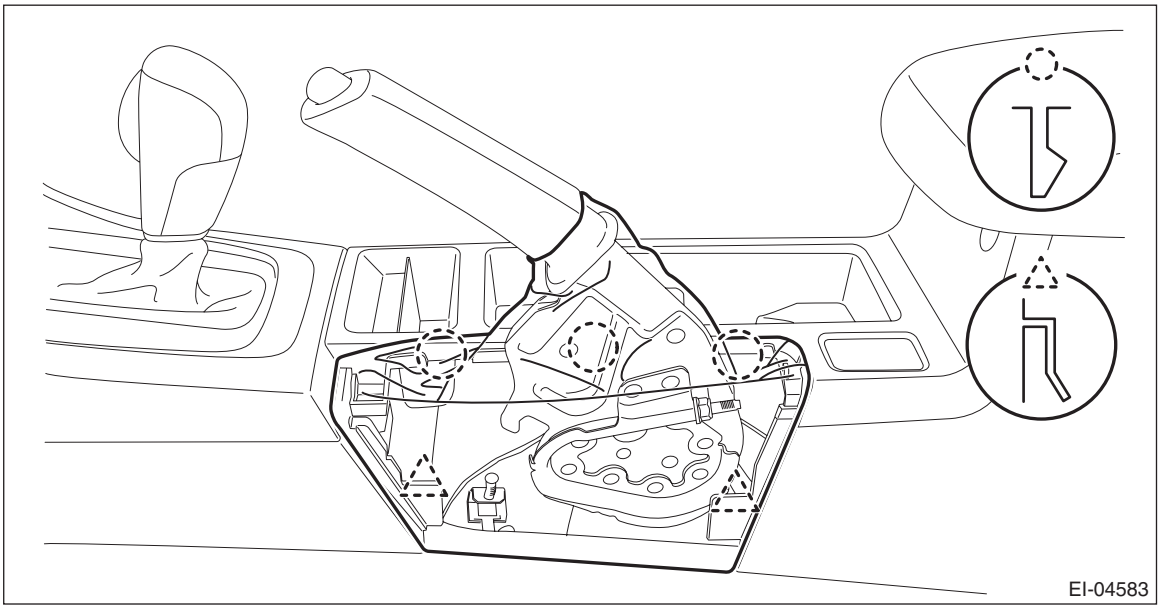
1) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the backrest cover of front seat and seat cushion cover. <Ref. to SE-9, DISASSEMBLY, Front Seat.>
3) Remove the seat heater module.

CAUTION:
If the seat heater module is removed, replace the pad assembly with a new part.

2. SEAT HEATER SWITCH

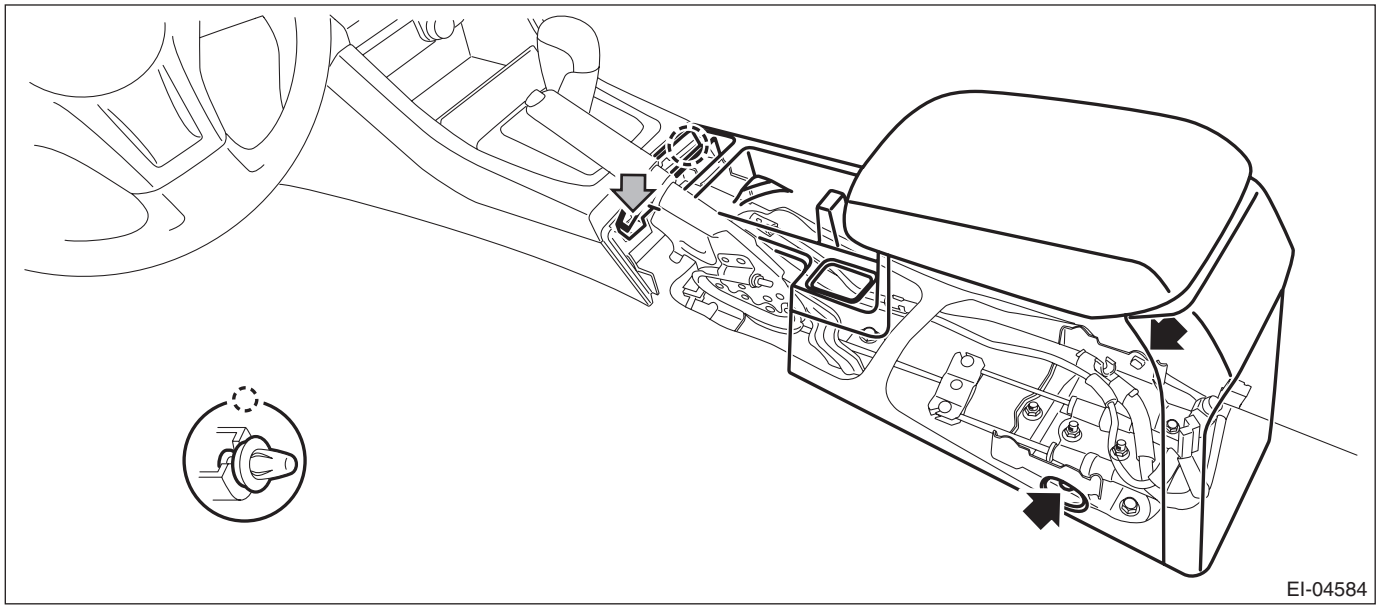
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
• For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
• On CVT models, shift the select lever into “D” before disconnecting the battery ground cable.
2) Remove the console box assembly.
(1) Release the claws, and then remove the boot - hand brake.



(2) Move the seat forward, and remove the bolts after detaching the left and right caps.

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



3) Remove the screws and remove the seat heater switch from the backside of the console box assembly.

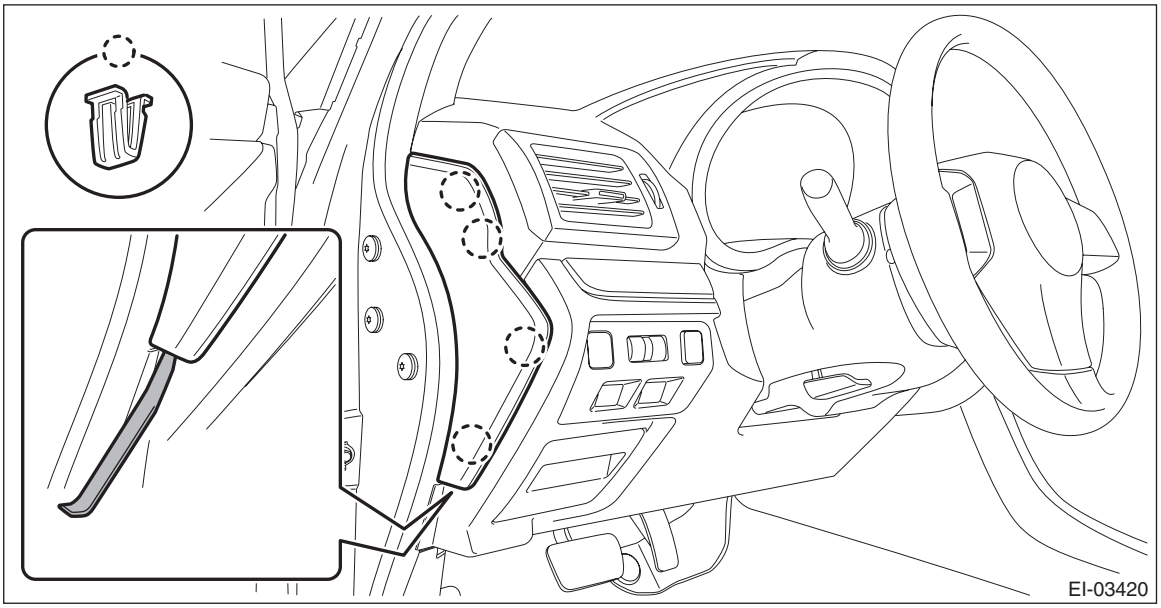
3. SEAT HEATER RELAY AND FUSE

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the cover assembly - instrument panel LWR driver.

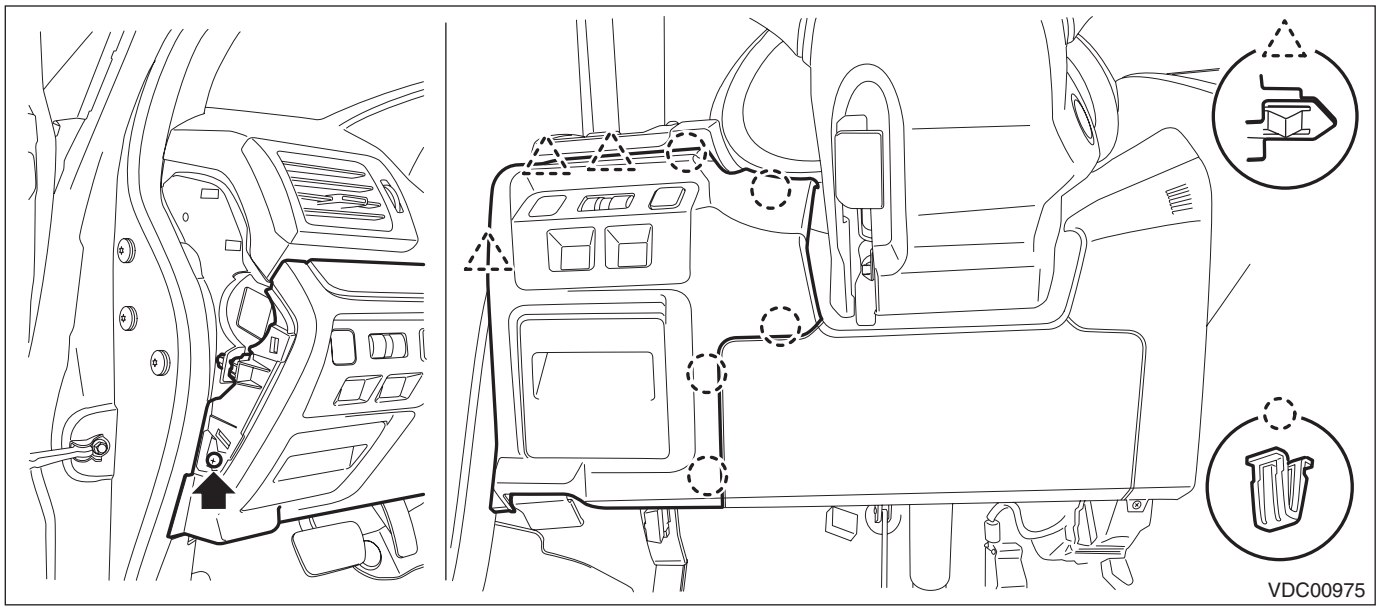
(1) Remove the clips, and remove the cover - instrument panel side LH.



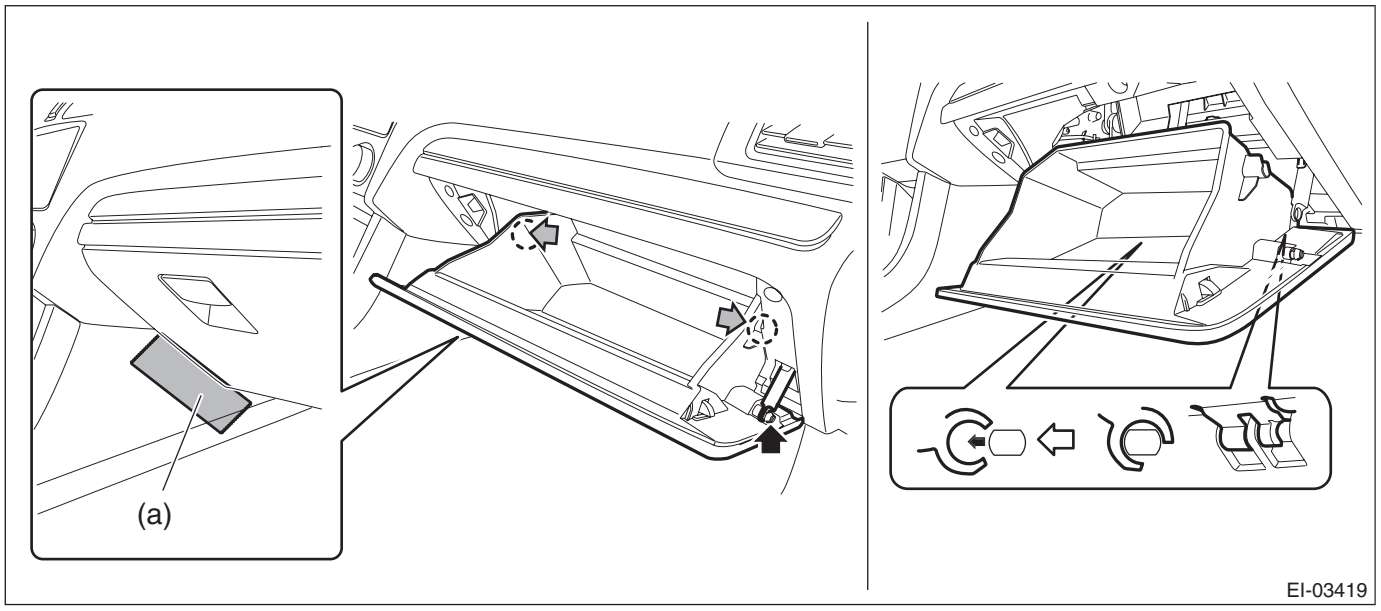
NOTE:
Using a plastic remover, open the cover - instrument panel side LH.

(2) Remove the screws and release the clips and claws.

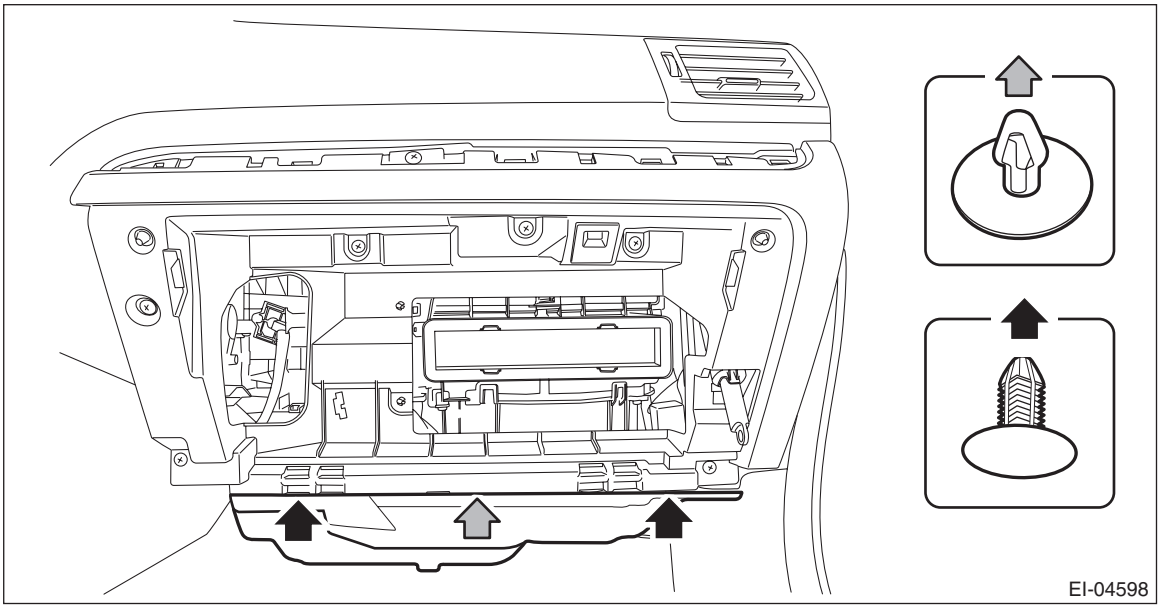
(3) Disconnect the harness connectors, and remove the cover assembly - instrument panel LWR driver OUT.



3) Remove the pocket assembly.
(1) Attach the protective tape (a) to the panel center LWR.
(2) Remove the damper COMPL - pocket.
(3) Release the stoppers and remove the pocket assembly by pulling it toward you.



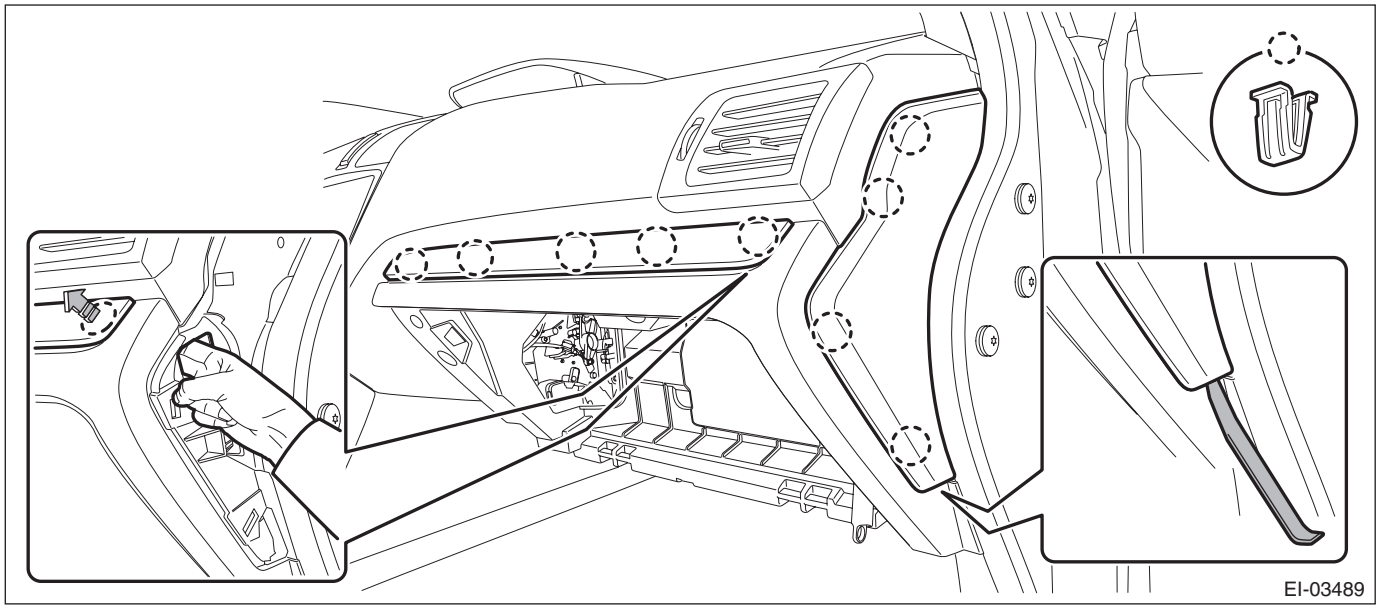
4) Remove the back panel - pocket.
(1) Release the clips, and remove the under cover assembly - passenger.



(2) Remove the clips, and remove the cover - instrument panel side RH.

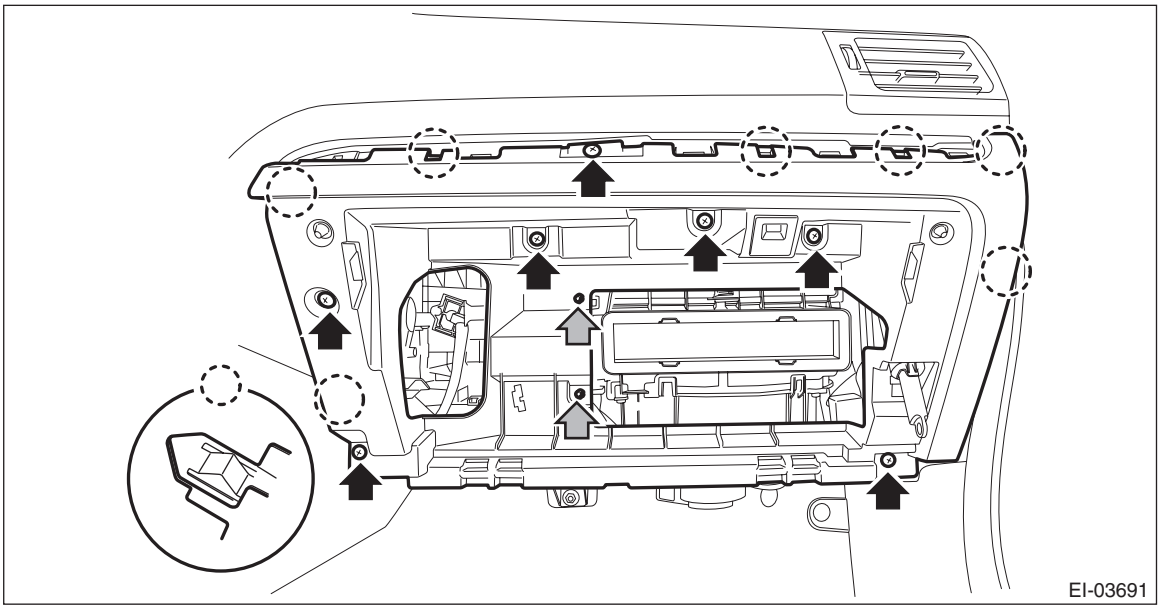
NOTE:
Remove the cover - instrument panel side RH by using a plastic remover.

(3) Release the clips, and remove the ornament - panel assembly passenger.



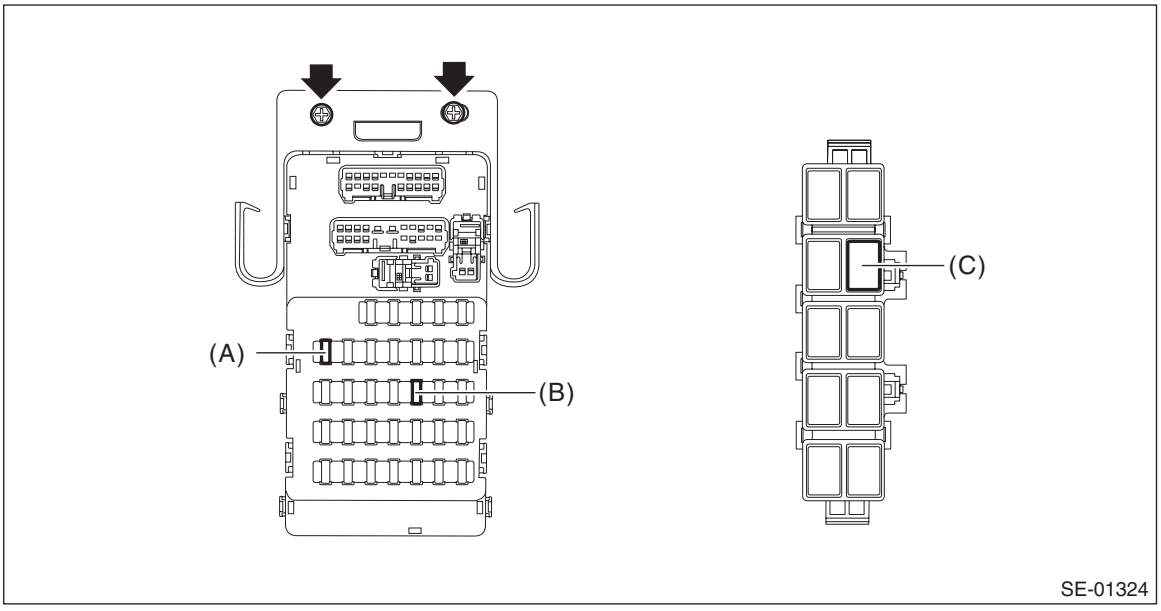
NOTE:
To facilitate the removal, push the clip of the ornament - panel assembly passenger from the backside.

(4) Release the claws and remove the screws, then remove the back panel - pocket.



(5) Disconnect the glove box light LED connector.

5) Remove the seat heater relay and fuse.
(1) Remove the relay & fuse box bolts.
(2) Remove the seat heater relay from the relay holder.



Relay & fuse box	Fuse 7.5 A (remote control mirror)	(A)
	Fuse 15 A (seat heater)	(B)
Relay holder	Seat heater relay	(C)

B: INSTALLATION

CAUTION:
• If the cover - front cushion is removed, make sure to replace the hang wire on the cover - front cushion side with a new wire.
• When replacing the seat cover, be careful not to damage the occupant detection sensor while installing the hog ring.
• When removing or replacing the seat cover, perform "Occupant Detection System Inspection" after installing the seat to check if the occupant detection system operates normally. <Ref. to PI-15, SEAT, PRE-DELIVERY INSPECTION (PDI) PROCEDURE, Pre-delivery Inspection.>
• If the seat heater module is removed, replace the seat cushion pad & frame assembly with a new part.
• If the seat heater module is reused, remove the polyurethane section from the reverse side completely.
Install each part in the reverse order of removal.

Double-sided tape for seat heater module adhesion:
NITTO DENKO 501L or equivalent

C: INSPECTION

1. WIRING DIAGRAM

Refer to "Seat Heater System" in the wiring diagram.
- Gasoline engine model <Ref. to WI(w/o HEV)-198, WIRING DIAGRAM, Seat Heater System.>
- HEV model <Ref. to WI(HEV)-202, WIRING DIAGRAM, Seat Heater System.>

2. DIAGNOSTIC CHART

Symptoms	Repair order
Seat heater does not operate.	1. Check the fuse. <Ref. to SE-41, CHECK SEAT HEATER FUSE, INSPECTION, Seat Heater System.>
	2. Check the seat heater relay. <Ref. to SE-42, CHECK SEAT HEATER RELAY, INSPECTION, Seat Heater System.>
	3. Check the seat heater system power supply and ground circuit. <Ref. to SE-42, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Seat Heater System.>
	4. Check the seat heater module. <Ref. to SE-43, SEAT HEATER UNIT, INSPECTION, Seat Heater System.>
	5. Check the seat heater switch circuit. <Ref. to SE-43, SEAT HEATER SWITCH, INSPECTION, Seat Heater System.>

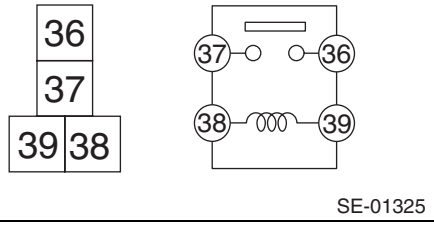
3. CHECK SEAT HEATER FUSE

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	Standard	Circuit
36 — 37	Always	1 MΩ or more	
36 — 37	Apply battery voltage between terminals 38 — 39.	Less than 1 Ω	

SE-01325

3) Replace the seat heater relay if the inspection result is not within the standard.

5. CHECK POWER SUPPLY AND GROUND CIRCUIT

1) Check power supply circuit
   (1) Disconnect the harness connector of seat heater switch.
   (2) Turn the ignition switch to ON.
   (3) Measure the voltage between harness connector terminal and chassis ground.

Connector & terminal
(R43) No. 7 (+) — 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
(R43) No. 2 — Chassis ground:
Is the resistance less than 10 Ω?
- **Yes** → Go to step 3.
- **No** → Repair the harness.

3) Check ground circuit
Measure the resistance between seat heater switch terminals.

Connector & terminal
(R43) No. 7 — (R43) No. 2:
Is the resistance less than 10 Ω?
- **Yes** → The power supply and ground circuits are normal.
- **No** → Replace the seat heater switch.

6. SEAT HEATER UNIT

1) Disconnect the seat heater unit connector, and check the continuity between terminals of connector.

Connector & terminal

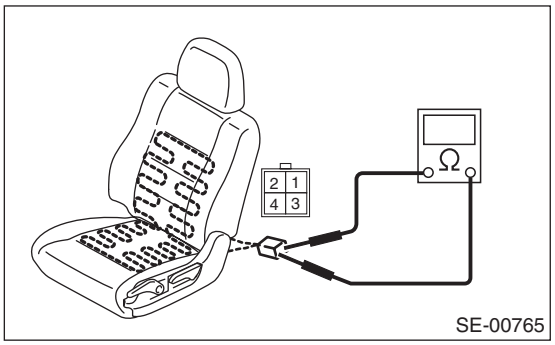
HI

No. 1 — No. 3:

No. 3 — No. 4:

LOW

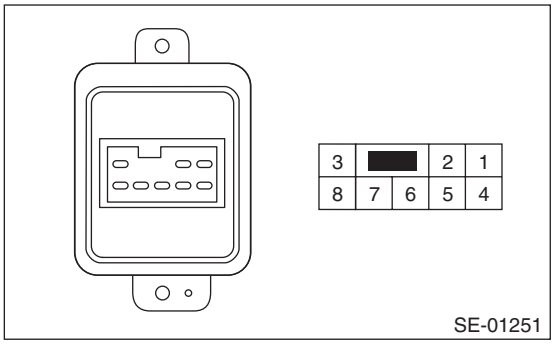
No. 1 — No. 4:



2) If no continuity exists, replace the seat heater module with a new part.

7. SEAT HEATER SWITCH

1) Inspect the continuity between the seat heater switch terminals.



Connector & terminal

HI

No. 7 — No. 2:

No. 7 — No. 4:

No. 7 — No. 8:

LOW

No. 7 — No. 1:

No. 7 — No. 2:

No. 7 — No. 3:

2) If no continuity exists, replace the seat heater switch with a new part.

BODY 2 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.

SECURITY AND LOCKS	SL
SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)	SR
EXTERIOR/INTERIOR TRIM	EI
EXTERIOR BODY PANELS	EB
CRUISE CONTROL SYSTEM	CC
CRUISE CONTROL SYSTEM (DIAGNOSTICS)	CC(w/o HEV)(diag)
CRUISE CONTROL SYSTEM (DIAGNOSTICS)	CC(HEV)(diag)
IMMOBILIZER (DIAGNOSTICS)	IM(diag)
LAN SYSTEM (DIAGNOSTICS)	LAN(w/o HEV)(diag)
EyeSight	ES
EyeSight (DIAGNOSTICS)	ES(diag)
LAN SYSTEM (DIAGNOSTICS)	LAN(HEV)(diag)
HYBRID ELECTRIC VEHICLE	HEV
HYBRID ELECTRIC VEHICLE (DIAGNOSTICS)	HEV(diag)
GENERAL DESCRIPTION (HEV)	GD(HEV)
PEDESTRIAN ALERT SYSTEM	PA
PEDESTRIAN ALERT SYSTEM (DIAGNOSTICS)	PA(diag)

FUJI HEAVY INDUSTRIES LTD.

BODY 2 SECTION

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS) KPS(diag)

BODY CONTROL SYSTEM (DIAGNOSTICS) BC(diag)

SECURITY AND LOCKS

SL

		Page
1.	General Description	2
2.	Relay and Fuse	12
3.	Door Lock Control System	14
4.	Keyless Entry System	20
5.	Keyless Access System	32
6.	Push Button Start System	33
7.	Security System	35
8.	Front Inner Remote	39
9.	Front Outer Handle	40
10.	Front Door Latch and Door Lock Actuator Assembly	44
11.	Rear Inner Remote	47
12.	Rear Outer Handle	48
13.	Rear Door Latch and Door Lock Actuator Assembly	52
14.	Rear Gate Opener Button	54
15.	Rear Gate Latch and Actuator Assembly	56
16.	Trunk Lid Latch and Actuator Assembly	58
17.	Front Hood Lock Assembly	60
18.	Remote Openers	63
19.	Ignition Key Lock	70
20.	Key Lock Cylinders	75
21.	Security Control Module	80
22.	Impact Sensor	81
23.	Keyless Entry Control Module	83
24.	Keyless Buzzer	85
25.	Body Integrated Unit	87
26.	Keyless Transmitter	90
27.	Access Key	93
28.	Immobilizer Control Module	95
29.	Immobilizer Antenna	96
30.	Keyless Access Indoor Antenna	99
31.	Keyless Access Outdoor Antenna	103
32.	Rear Lock Button	105
33.	Trunk Opener Button	107
34.	Receiver	108
35.	Keyless Access CM	110
36.	ID Code Box	112
37.	Steering Lock CM	113
38.	Push Button Ignition Switch	114
39.	Starter Relay (Push Button Start)	117
40.	IG Relay1 (Push Button Start)	119
41.	IG Relay2 (Push Button Start)	121
42.	Accessory Relay (Push Button Start)	123
43.	Starter Cut Relay	124
44.	Access Buzzer	126
45.	Function Setting (Customize)	128
46.	Keyless Access With Push Button Start System	129

1. General Description

A: PROCEDURE

For diagnostic procedures of the steering responsive fog light, refer to “BODY CONTROL SYSTEM (DIAGNOSTICS)”. <Ref. to BC(diag)-2, Basic Diagnostic Procedure.>

WIPER AND WASHER SYSTEMS

WW

		Page
1.	General Description	2
2.	Relay and Fuse	8
3.	Wiper and Washer System	10
4.	Combination Switch (Wiper)	11
5.	Wiper Blade	18
6.	Washer Tank and Motor	23
7.	Front Wiper Arm	29
8.	Front Wiper Motor and Link	35
9.	Front Washer Nozzle	39
10.	Rear Wiper Arm	45
11.	Rear Wiper Motor	47
12.	Rear Washer	51

1. General Description

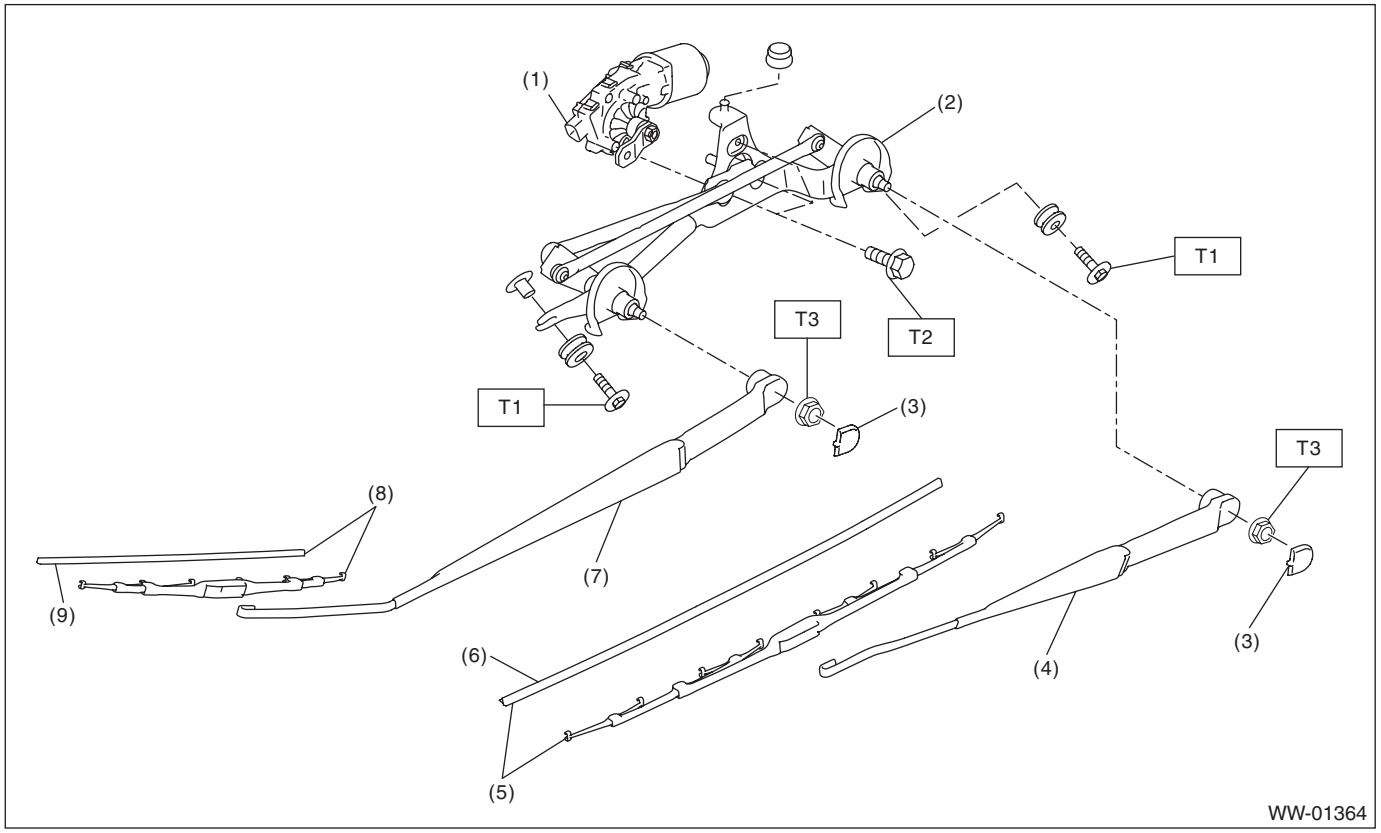
A: SPECIFICATION

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 — 60 W or less
Rear washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less

B: COMPONENT

1. FRONT WIPER

- Models without EyeSight

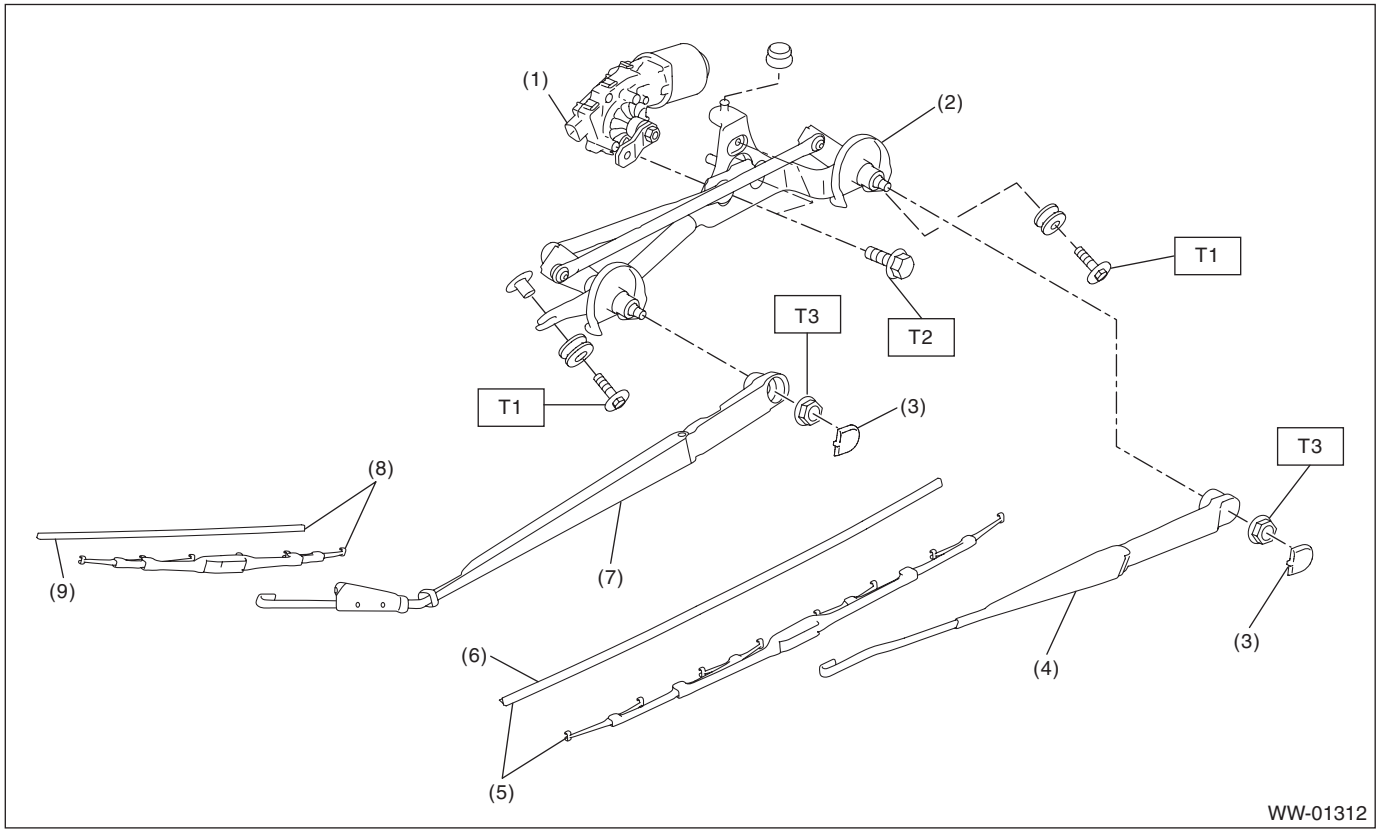


(1) Motor ASSY - windshield wiper
(2) Link ASSY - windshield wiper
(3) Cover - windshield wiper arm
(4) Arm ASSY - windshield wiper driver
(5) Blade ASSY - windshield wiper driver
(6) Rubber ASSY - windshield wiper driver
(7) Arm ASSY - windshield wiper assistor
(8) Blade ASSY - windshield wiper assistor
(9) Rubber ASSY - windshield wiper assistor

Tightening torque: N·m (kgf-m, ft-lb)

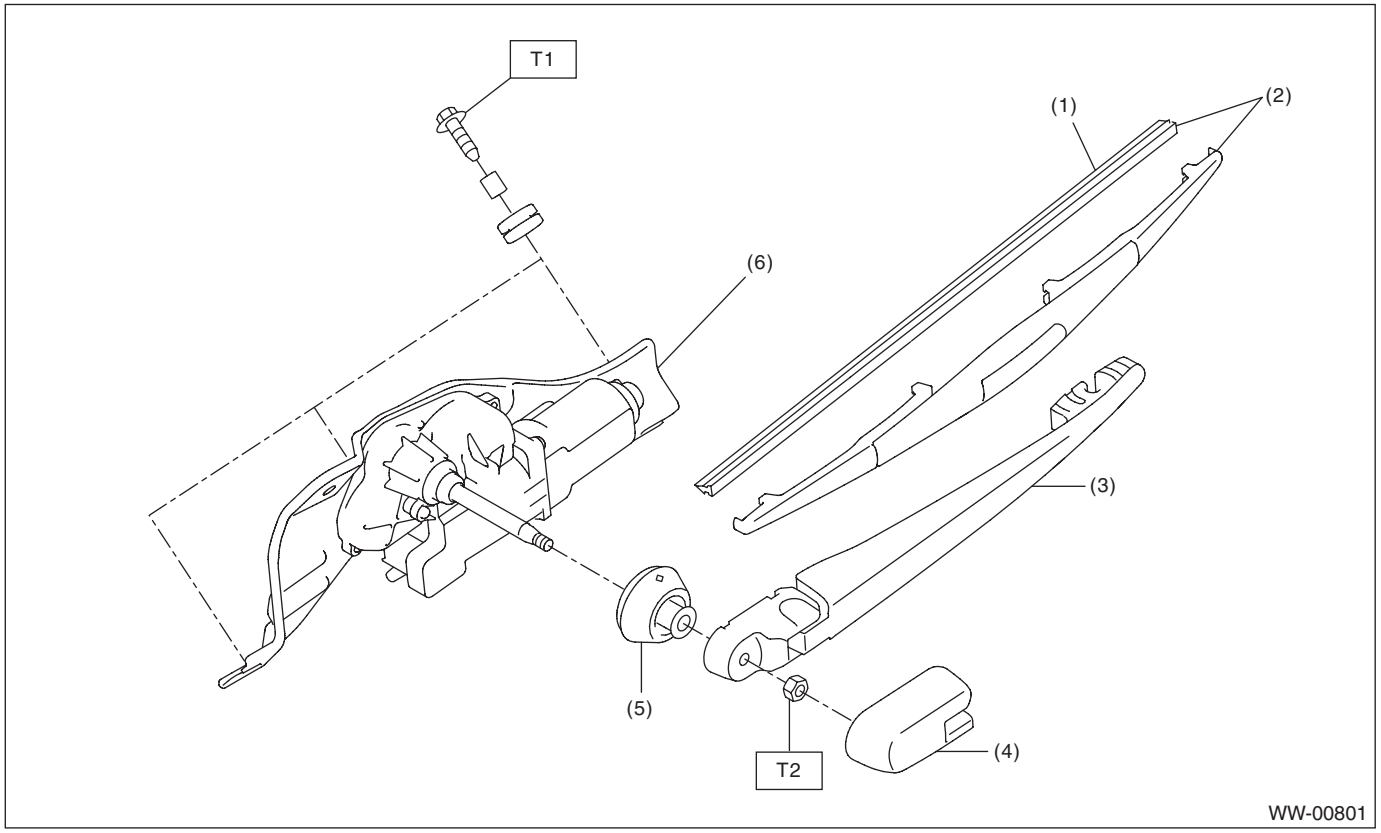
T1: 6 (0.61, 4.4)
T2: 5.5 (0.56, 4.1)
T3: 26 (2.65, 19.2)

- Models with EyeSight



(1)	Motor ASSY - windshield wiper	(6)	Rubber ASSY - windshield wiper driver	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Link ASSY - windshield wiper	(7)	Arm ASSY - windshield wiper assistor	***T1: 6 (0.61, 4.4)***
(3)	Cover - windshield wiper arm	(8)	Blade ASSY - windshield wiper assistor	***T2: 5.5 (0.56, 4.1)***
(4)	Arm ASSY - windshield wiper driver	(9)	Rubber ASSY - windshield wiper assistor	***T3: 26 (2.65, 19.2)***
(5)	Blade ASSY - windshield wiper driver			

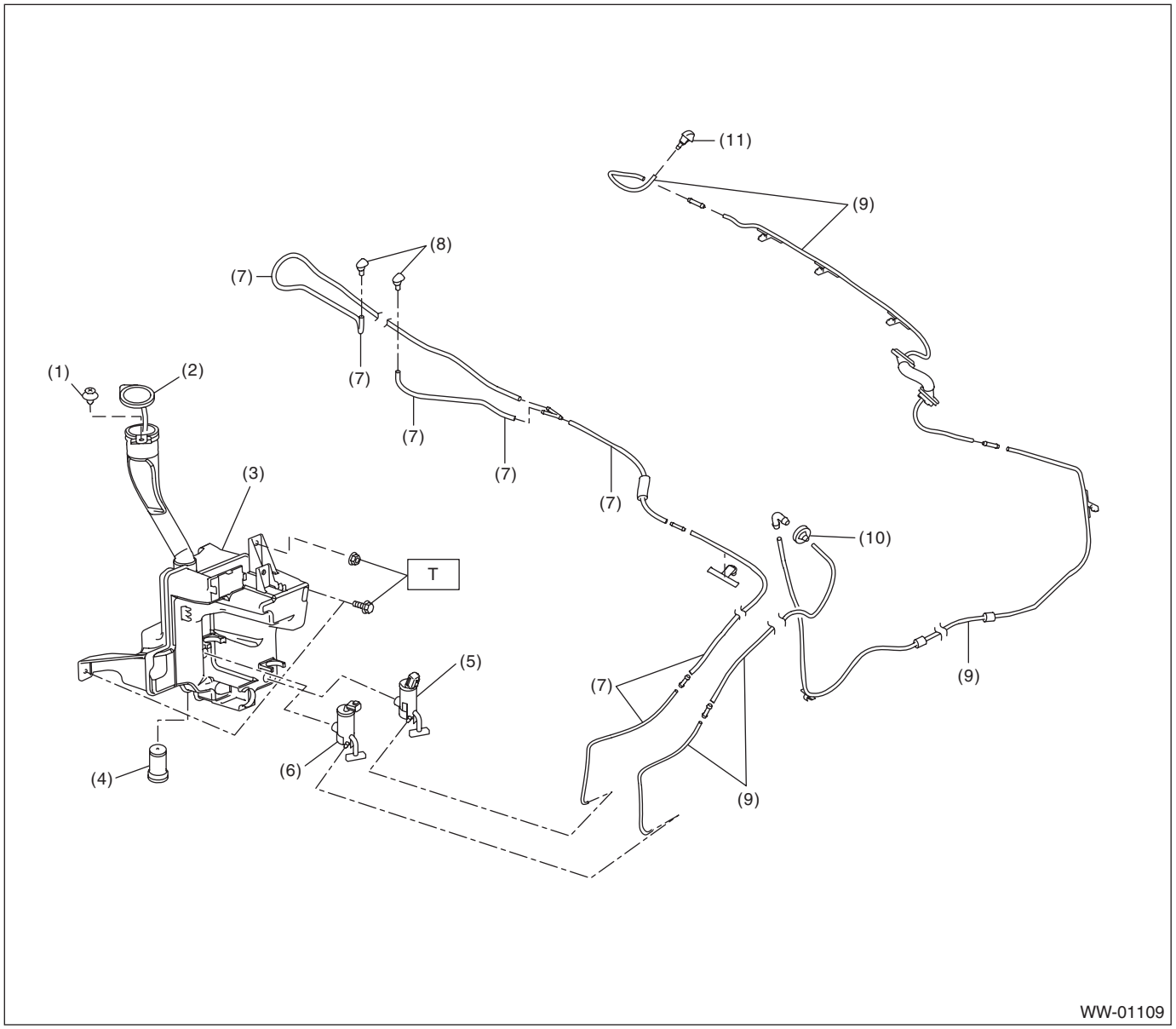
2. REAR WIPER



(1)	Rubber ASSY - rear wiper	(4)	Cover - rear wiper arm	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Blade ASSY - rear wiper	(5)	Cap - pivot wiper	***T1: 6 (0.61, 4.4)***
(3)	Arm ASSY - rear wiper	(6)	Motor ASSY - rear wiper	***T2: 8 (0.82, 5.9)***

3. WASHER TANK

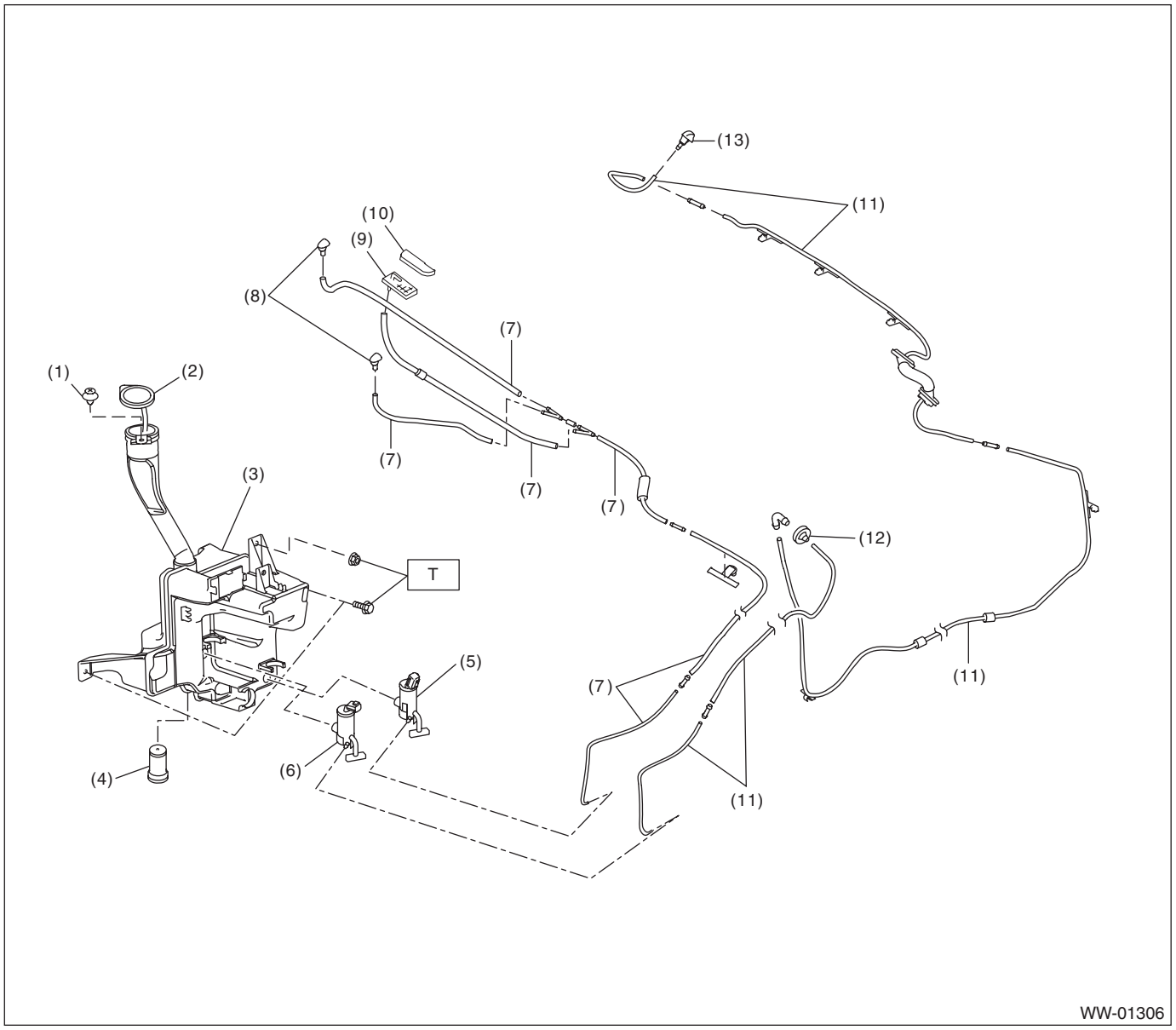
- Models without EyeSight



(1) Clip
(2) Holder - windshield washer tank
(3) Tank - washer
(4) Sensor - washer tank
(5) Motor pump ASSY - washer front
(6) Motor pump ASSY - washer rear (5 door model/XV model only)
(7) Hose - windshield washer
(8) Nozzle - windshield washer
(9) Hose ASSY - rear washer (5 door model/XV model)
(10) Grommet - washer hose
(11) Nozzle - rear washer (5 door model/XV model only)

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

- Models with EyeSight



(1) Clip
(2) Holder - windshield washer tank
(3) Tank - washer
(4) Sensor - washer tank
(5) Motor pump ASSY - washer front
(6) Motor pump ASSY - washer rear (5 door model/XV model only)
(7) Hose - windshield washer
(8) Nozzle - windshield washer
(9) Joint - washer hose
(10) Cover - joint
(11) Hose ASSY - rear washer (5 door model/XV model)
(12) Grommet - washer hose
(13) Nozzle - rear washer (5 door model/XV model only)

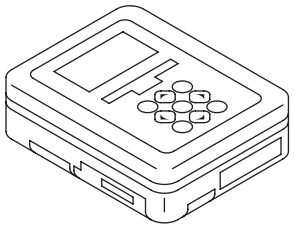
Tightening torque: N·m (kgf-m, ft-lb)
T: 6 (0.61, 4.4)

C: CAUTION

- Connect the connectors and hoses securely during reassembly.
- After reassembly, make sure that the each component or each function operates normally.
- 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 of “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 the tank - washer and the 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

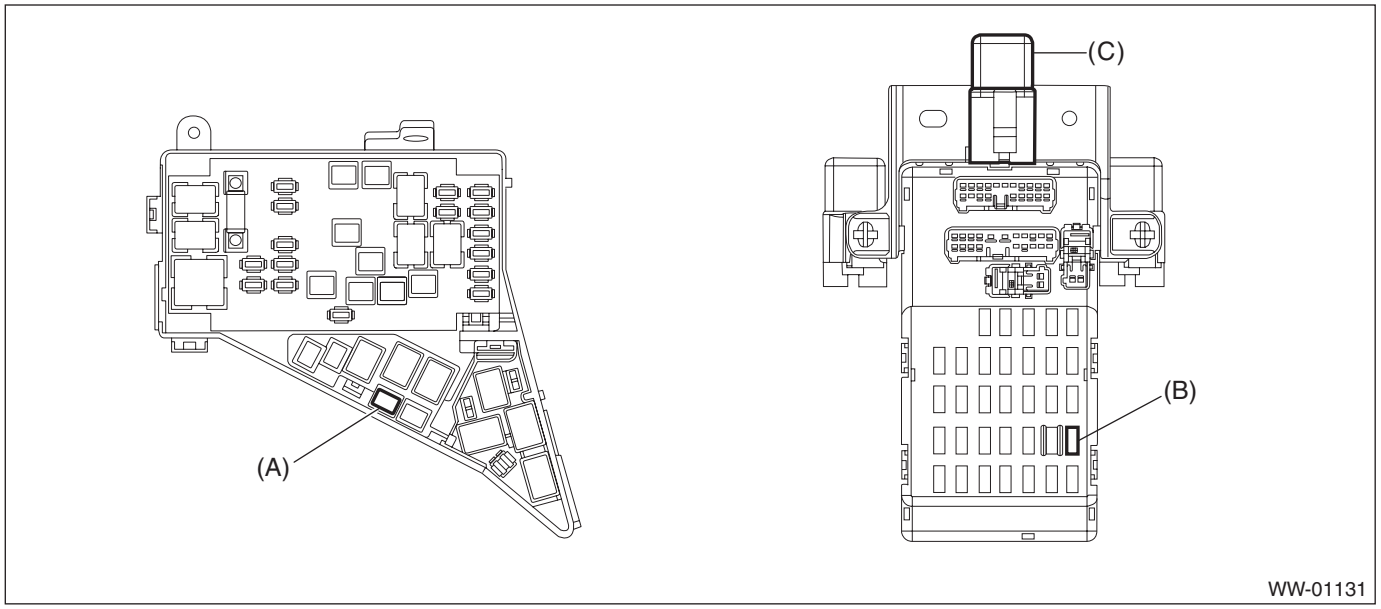
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of Subaru Select Monitor III, refer to “PC application help for Subaru Select Monitor”.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for checking voltage and continuity.

2. Relay and Fuse

A: LOCATION



Main fuse box	Fuse 30 A (wiper)	(A)
Relay & fuse box	Fuse 7.5 A (wiper)	(B)
Relay holder	Wiper relay	(C)

NOTE:
For other related fuses, refer to the wiring diagram. <Ref. to WI(w/o HEV)-16, Power Supply Circuit.>

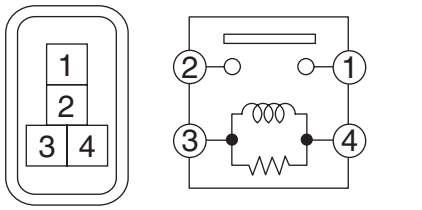
B: INSPECTION

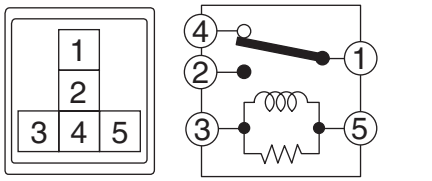
1. CHECK FUSE

1) Remove the fuse and inspect visually.
2) If the fuse is blown out, replace the fuse.

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 and 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 and 5.	Less than 1 Ω	

2) Replace the relay if the inspection result is not within the standard.

3. 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(w/o HEV)-133, 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(w/o HEV)-191, 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. Motor assembly - wiper 4. Wiring harness
Wipers do not operate in LO or HI.	1. Combination switch 2. Motor assembly - wiper 3. Wiring harness
Wipers do not operate in INT.	1. Combination switch 2. Motor assembly - wiper 3. Wiring harness
Washer motor does not operate.	1. Combination switch 2. Motor pump assembly - washer 3. Wiring harness
Wipers do not operate when washer switch is ON.	1. Motor assembly - wiper 2. Wiring harness
Washer fluid spray does not operate properly.	1. Motor pump assembly - washer 2. Hose assembly - washer 3. Nozzle - washer
Wipers flutter or rattle during operation.	1. Oil film or dirt on glass 2. Arm assembly - windshield wiper 3. Motor assembly - wiper

C: NOTE

For operation procedures of each component of the wiper and washer system, refer to the respective sections.

- Combination switch (Wiper): <Ref. to WW-11, Combination Switch (Wiper).>
- Wiper blade: <Ref. to WW-18, Wiper Blade.>
- Front wiper arm: <Ref. to WW-29, Front Wiper Arm.>
- Front wiper motor and link: <Ref. to WW-35, Front Wiper Motor and Link.>
- Rear wiper arm: <Ref. to WW-45, Rear Wiper Arm.>
- Rear wiper motor: <Ref. to WW-47, Rear Wiper Motor.>
- Washer tank and motor: <Ref. to WW-23, Washer Tank and Motor.>
- Front washer nozzle: <Ref. to WW-39, Front Washer Nozzle.>
- Rear washer nozzle: <Ref. to WW-51, Rear Washer.>

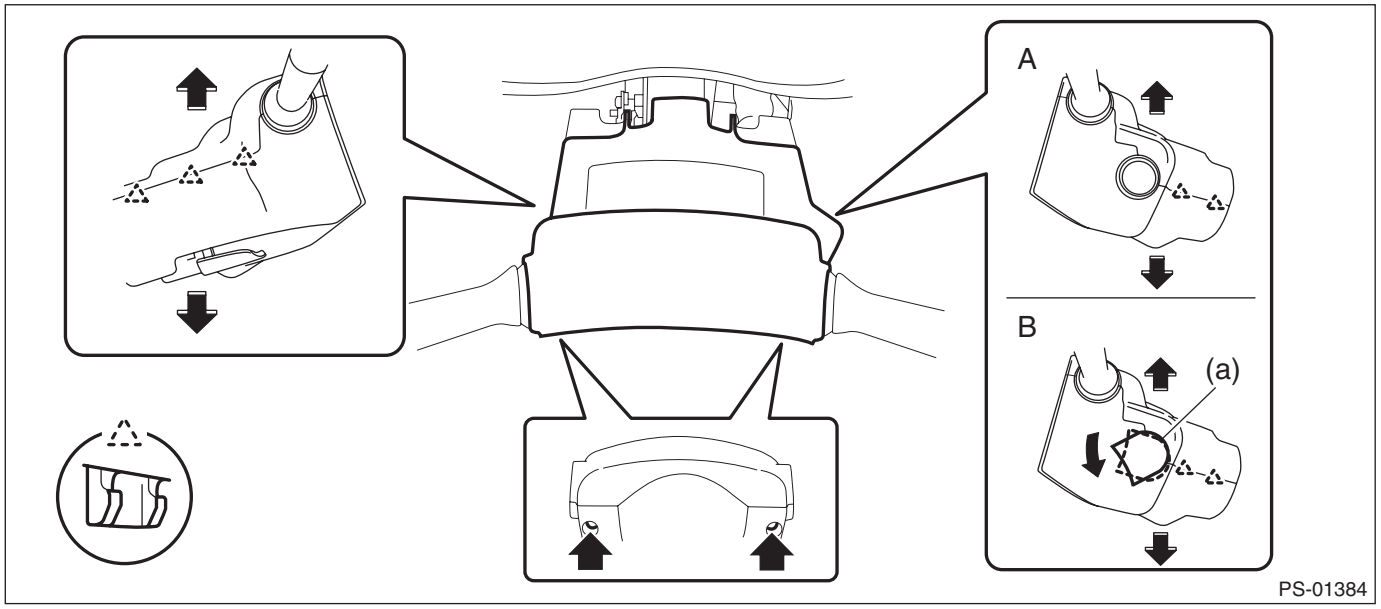
4. Combination Switch (Wiper)

A: REMOVAL

1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

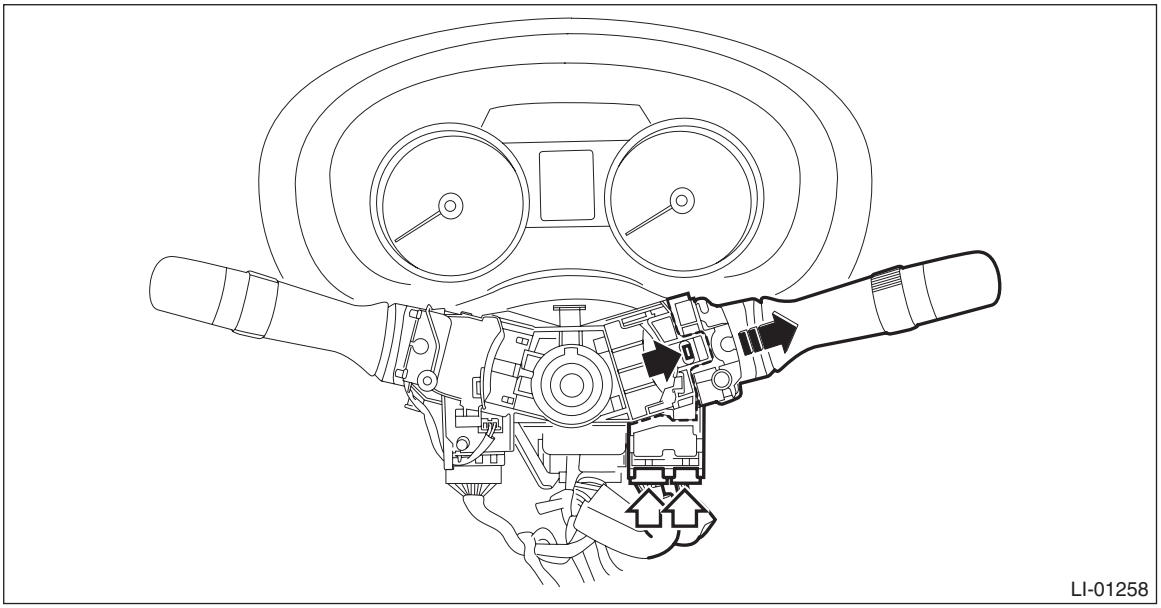
2) Remove the cover assembly - column.
   (1) Release the screws and claws.
   (2) Remove the cap - key cylinder (a). (Model with keyless access)
   (3) Remove the cover assembly - column UPR and the cover assembly - column LWR.



A Models without keyless access B Models with keyless access

3) Remove the switch assembly - combination wiper select.
   (1) Disconnect the connector.
   (2) Release the claws, and pull out the switch assembly - combination wiper select.

CAUTION:
Do not press the claws with excessive force. They may be damaged.



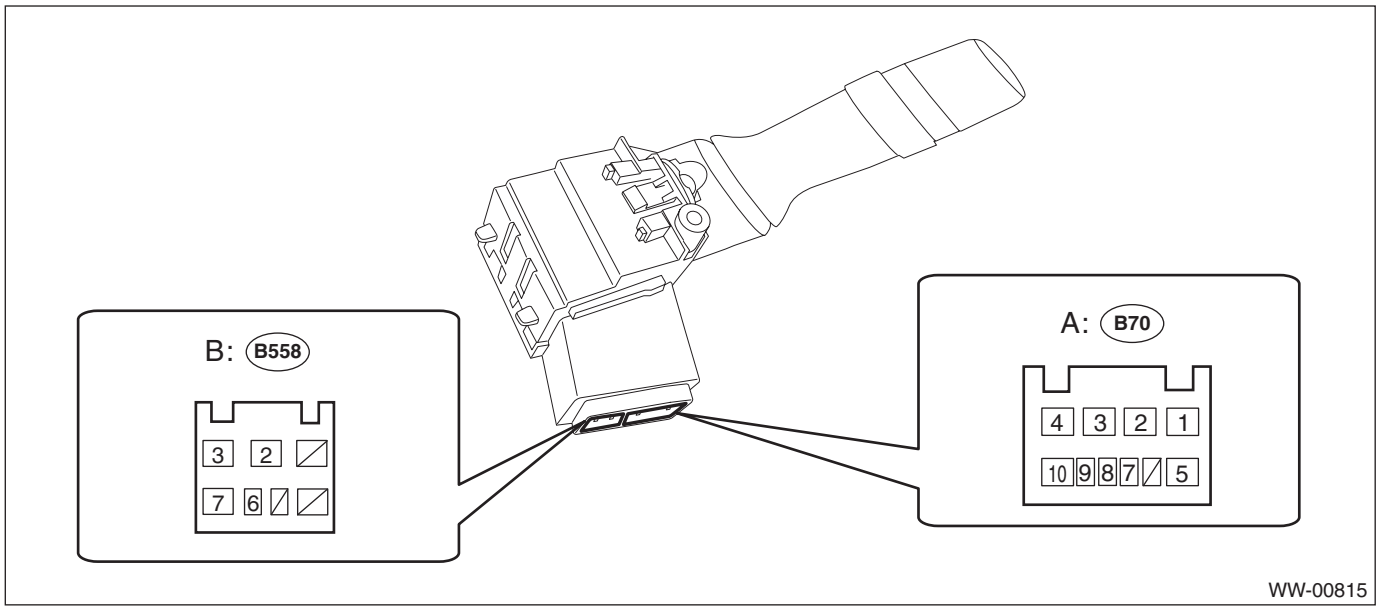
B: INSTALLATION

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.



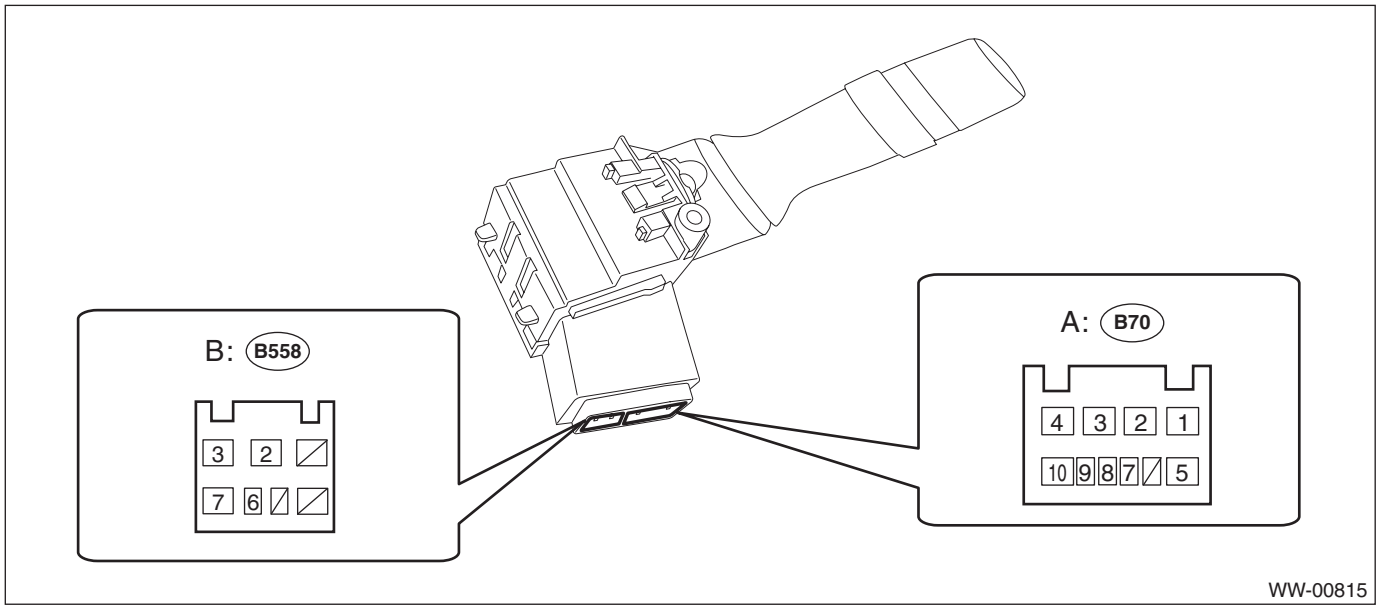
	Switch position	Terminal No.	Standard
Front	OFF	A1 and A3	Less than 1 Ω
	INT	A1 and A3	Less than 1 Ω
	LO	A2 and A3	Less than 1 Ω
	HI	A2 and A4	Less than 1 Ω
	Washer ON	B2 and B3	Less than 1 Ω
Rear	OFF	A5 and B2 B6 and B2 B7 and B2	1 MΩ or more
	LO	B6 and B2	Less than 1 Ω
	HI	B7 and B2	Less than 1 Ω
	Washer ON	A5 and B2	Less than 1 Ω

2) Replace the switch if the inspection result is not within the standard.

2. FRONT WIPER

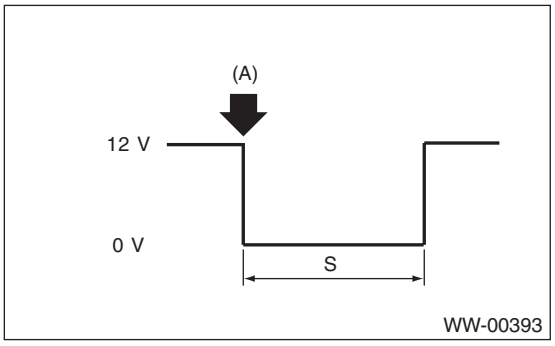
1) Check with Subaru Select Monitor
   (1) Check the input signal when the switch assembly - combination wiper select is turned to LO or HI, using the current data display.
   (2) Does the input signal change corresponding to the switch operation?
   - **Yes** → Finish the diagnosis.
   - **No** → Check the harness.

2) CHECK THE INTERMITTENT OPERATION (INSPECTION OF THE WIPER SWITCH ALONE).



   (1) Set the voltmeter between terminals No. A2 (+) and No. B2 (–).
   (2) Connect the battery to connector. (Terminal No. A2 (+), terminal No. B2 & A3 (–))
   (3) Turn the switch assembly - combination wiper select to INT.
   (4) Connect the battery (+) to the terminal No. A2 for 5 seconds.
   (5) Connect the battery (–) to the terminal No. B2, and check the voltage between terminals No. A2 and No. A3 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



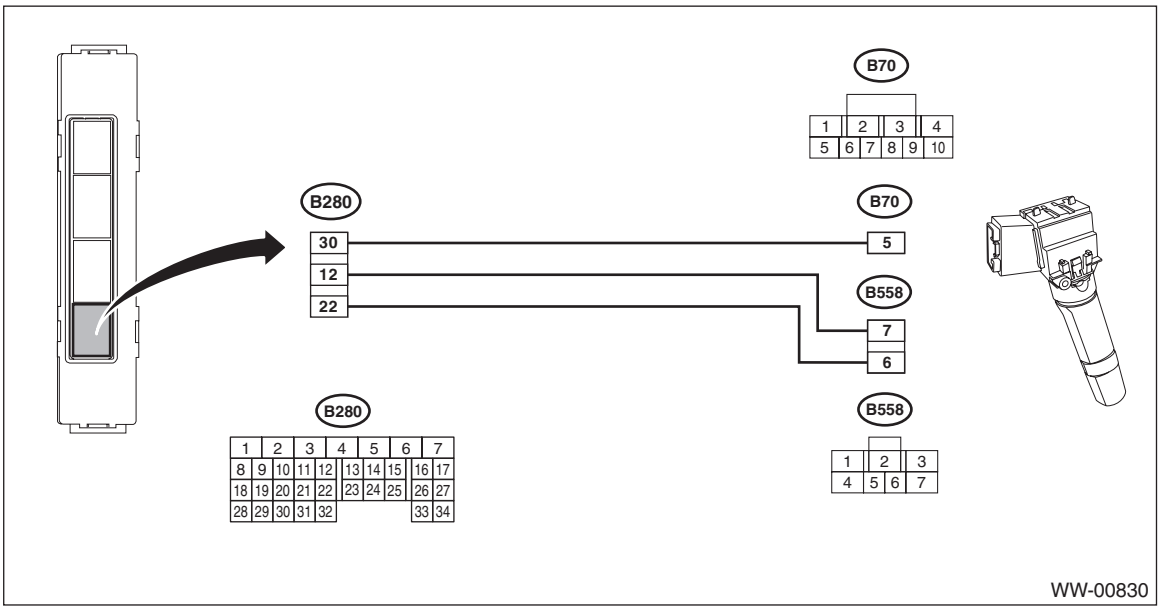
(A): Connect the battery (–) to the terminal No. B2.
S: Intermittent downtime (sec.)

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. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
(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. 30 — (B70) No. 5:
(B280) No. 22 — (B558) No. 6:
(B280) No. 12 — (B558) No. 7:
(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
(i84) No. 6 (+) — Chassis ground (–):
(B281) No. 3 (+) — 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-87, 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. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
(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 — (B97) No. 11:
(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 motor assembly - rear wiper.
(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 motor assembly - rear wiper.

8) Check power supply circuit of the rear wiper motor
(1) Disconnect the harness connector of the motor assembly - rear wiper.
(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 motor assembly - rear wiper.
(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. 2:
(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 motor assembly - rear wiper.
(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-87, Body Integrated Unit.>

12) Check operation of rear wiper motor
(1) Remove the motor assembly - rear wiper.
(2) Check the rear wiper motor. <Ref. to WW-50, INSPECTION, Rear Wiper Motor.>
(3) Does the rear wiper motor rotate normally?
- **Yes** → Finished.
- **No** → Replace the motor assembly - rear wiper.

NOTE:
Rear wiper intermittent time

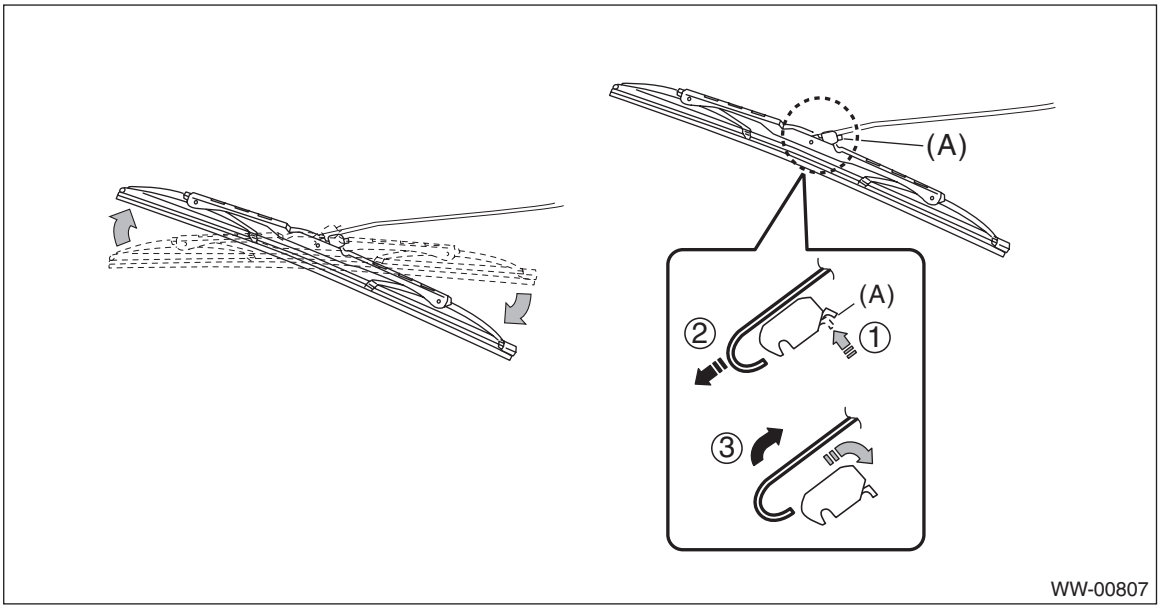
Select lever position	Vehicle speed (km/h (MPH))	Intermittent stopping time (sec.)
		5 door model/XV model
Rev.	—	Continuous operation
Except for reverse mode	80 — (50 —)	3
	50 — 80 (31 — 50)	6
	20 — 50 (12 — 31)	9
	0 — 20 (0 — 12)	12

5. Wiper Blade

A: REMOVAL

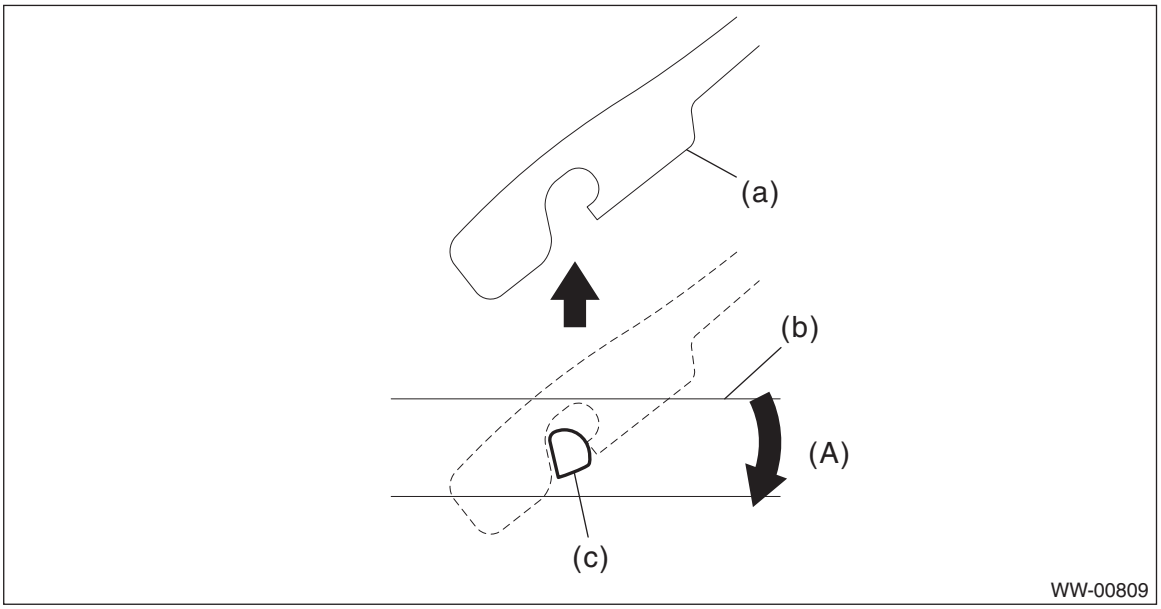
1. FRONT

While pushing the locking clip (A) up, pull out the blade assembly - windshield wiper in the direction of the arrow, and remove it from the arm assembly - windshield wiper.



2. REAR

Turn the blade assembly - rear wiper in the direction of arrow (A) and remove it from the arm assembly - rear wiper.



(A) Turn the wiper blade.

(a) Arm ASSY - rear wiper (b) Blade ASSY - rear wiper (c) Wiper blade attachment section

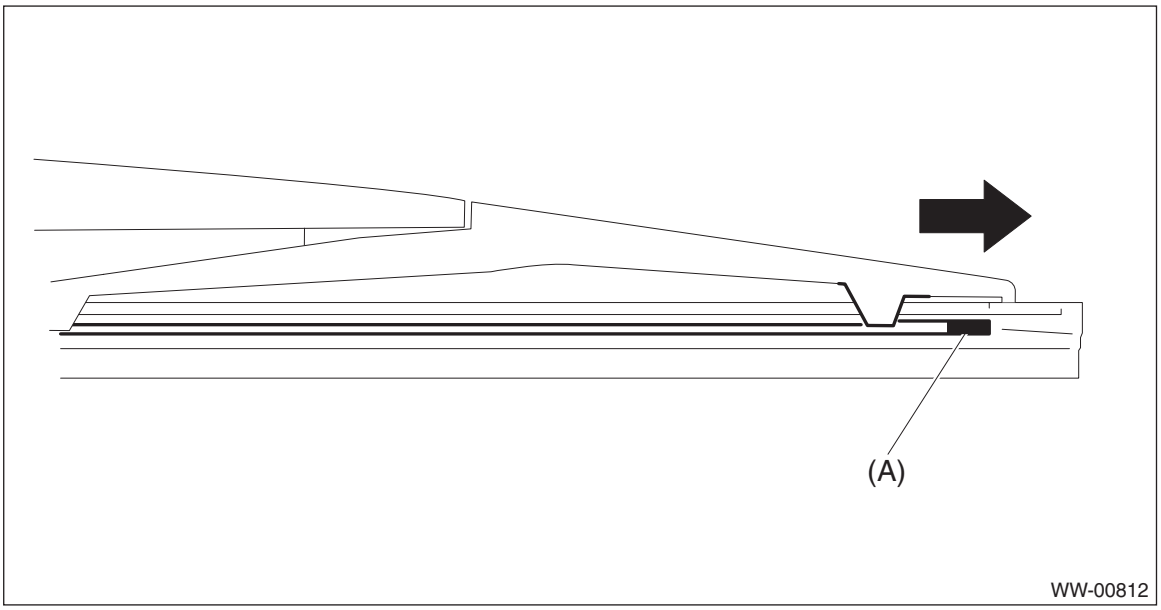
B: INSTALLATION

1) Install each part in the reverse order of removal.
2) Confirm that the clip is locked securely.

C: DISASSEMBLY

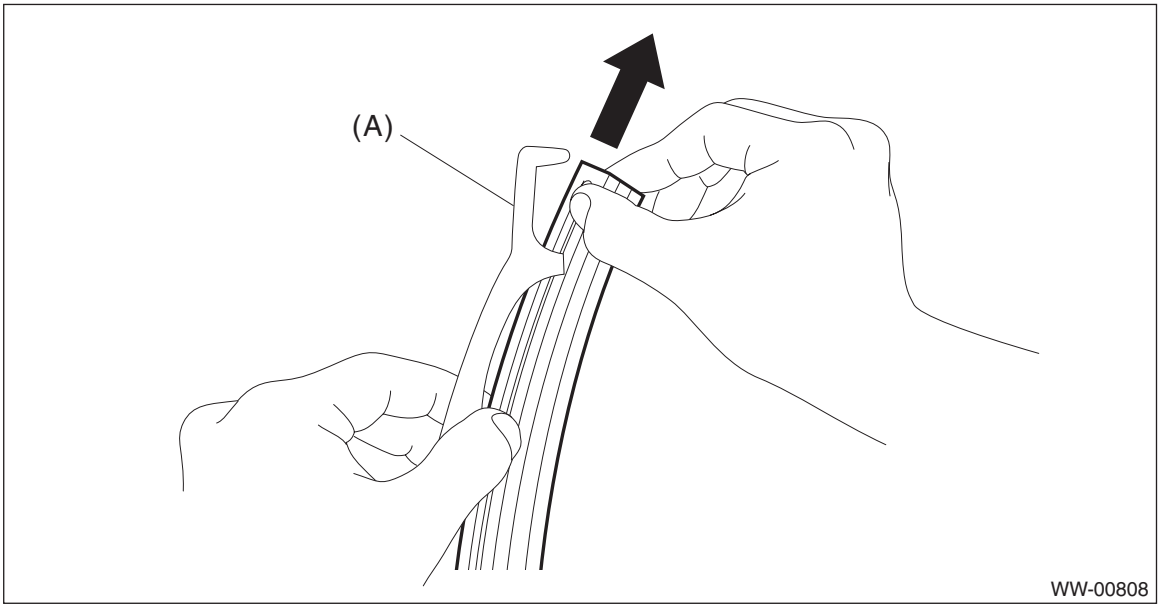
1. FRONT

Pull side (A) of the wiper rubber stopper, and remove the rubber assembly - windshield wiper from the blade assembly - windshield wiper.



2. REAR

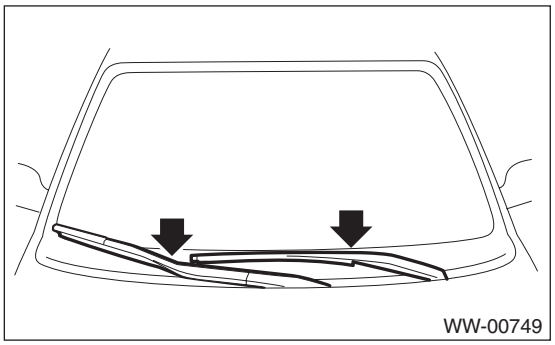
Slightly pull the top of the rubber assembly - rear wiper from the stopper (A), and pull out completely.



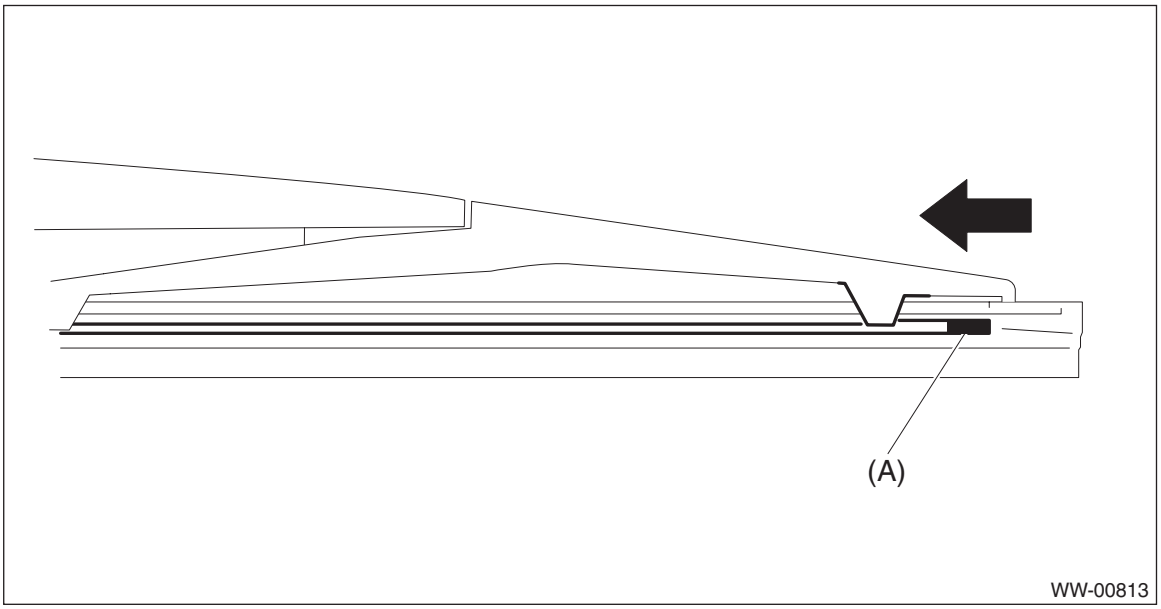
D: ASSEMBLY

1. FRONT

1) Insert the rubber assembly - windshield wiper onto the blade - windshield wiper so that the stopper is in the position shown in the figure.

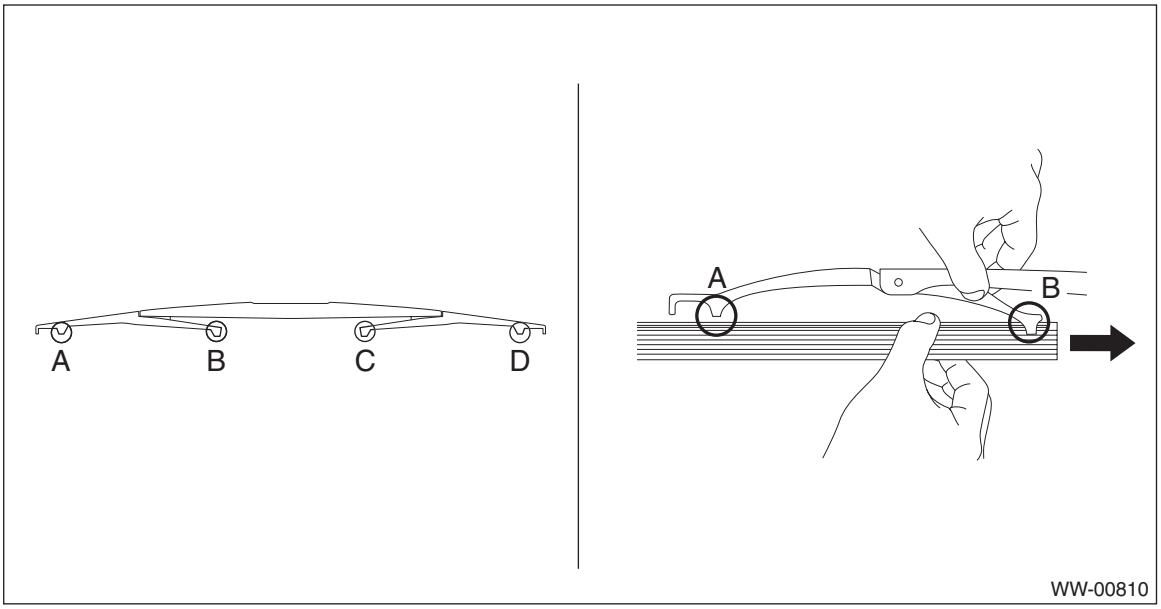


2) Make sure the rubber assembly - windshield wiper is securely fastened to the pull stopper (A).



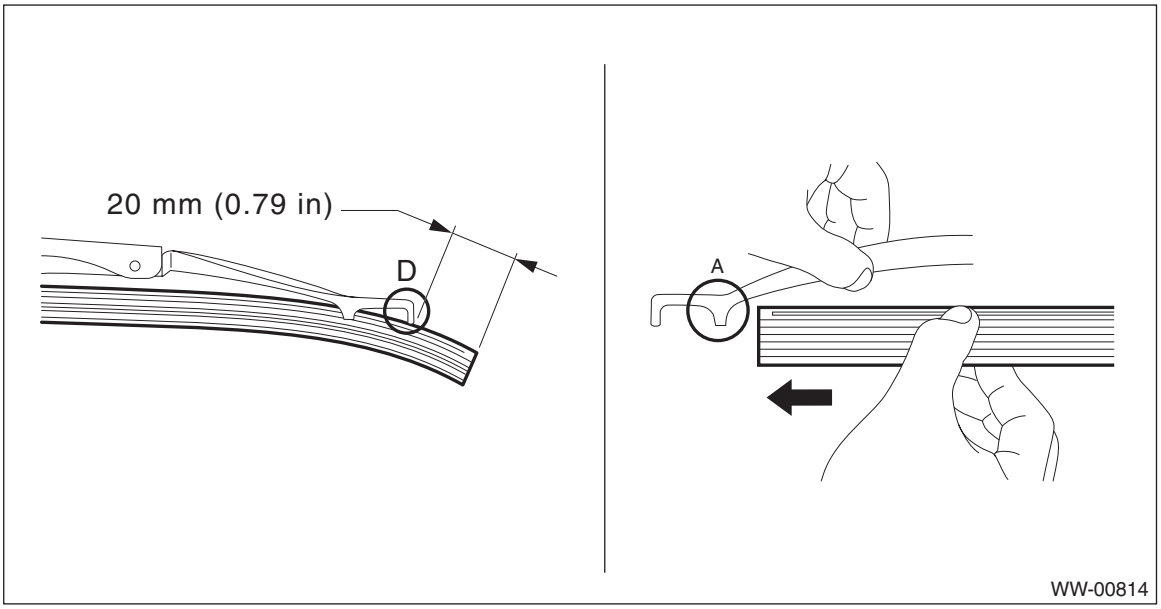
2. REAR

1) Insert the rubber assembly - rear wiper into claw (B).



2) Insert the rubber assembly - rear wiper until its top end protrudes approx. 20 mm (0.79 in) from stopper (D).

3) Insert the rubber assembly - rear wiper into claw (A).



E: INSPECTION

1) Check and clean the rubber assembly - wiper.

CAUTION:
- **Do not use organic solvent cleaner to clean the rubber portion in order to avoid deterioration.**
- **Apply windshield washer fluid or mild detergent on soft cloth or paper towel to clean the rubber portion.**

If hardening, deformation or damage is found at the rubber portion, replace the rubber assembly - wiper.
2) Operate the washer system to check whether flutters or streaks occur.
3) If flutters or streaks occurred, perform the following procedures.
   (1) Check that the blade assembly - wiper is free from deformation, and the movable parts operate smoothly.
   (2) Remove oil film and dirt on the glass.

CAUTION:
- **When using powder type glass cleaner, make sure to dissolve it in water completely. When used without sufficient water, it may damage the glass surface.**
- **Using glass cleaner, clean the glass surface with soft cloth or sponge.**

   (3) Operate the windshield wiper again to check whether flutters or streaks occur. If they do, repeat the procedure again.

4) If the problem still persists after performing steps 1) to 3), replace the rubber assembly - wiper with a new part.

6. Washer Tank and Motor

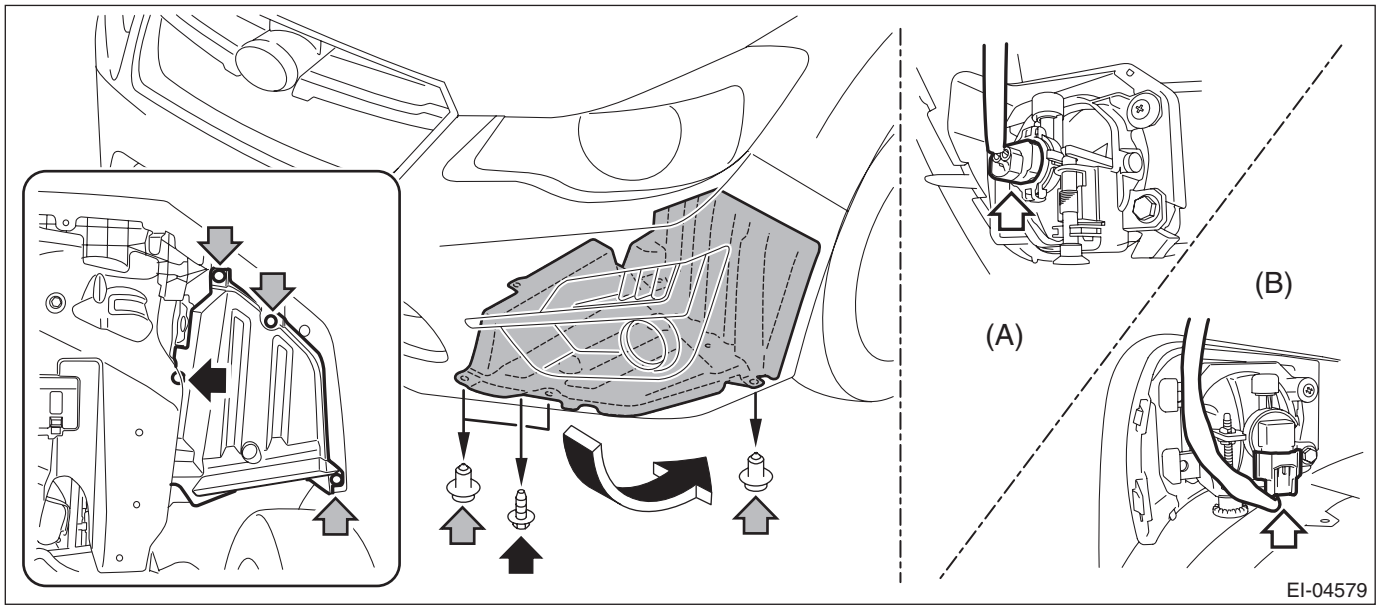
A: REMOVAL

1. WASHER TANK

1) Open the hood COMPL - front.
2) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

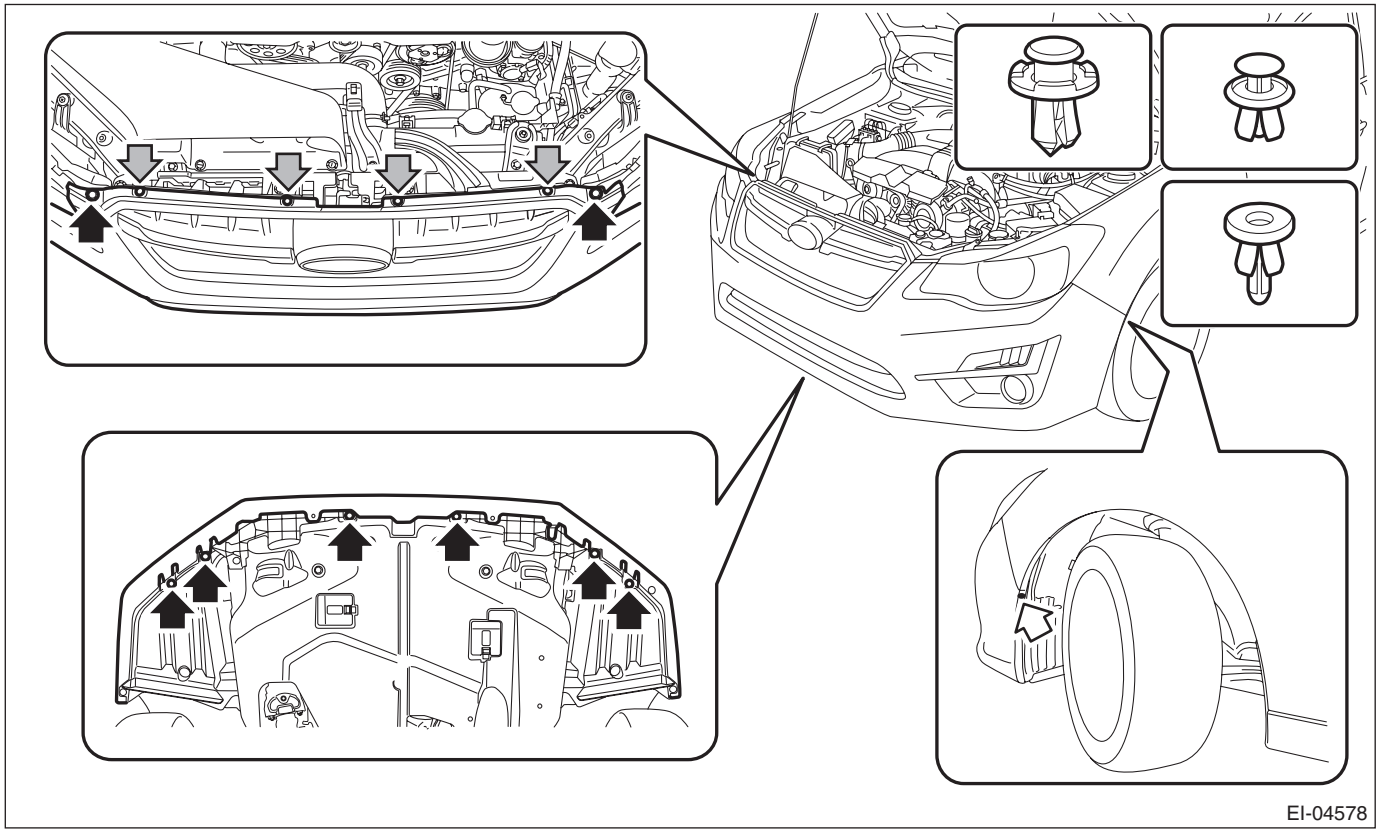
3) Remove the bumper face - front.
   (1) Remove the clips and screws, and turn over the mud guard - front, and then disconnect the connectors of the fog light assembly - front on the LH and RH sides. (Model with fog light)



(A) Type without SRF (B) Type with SRF

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

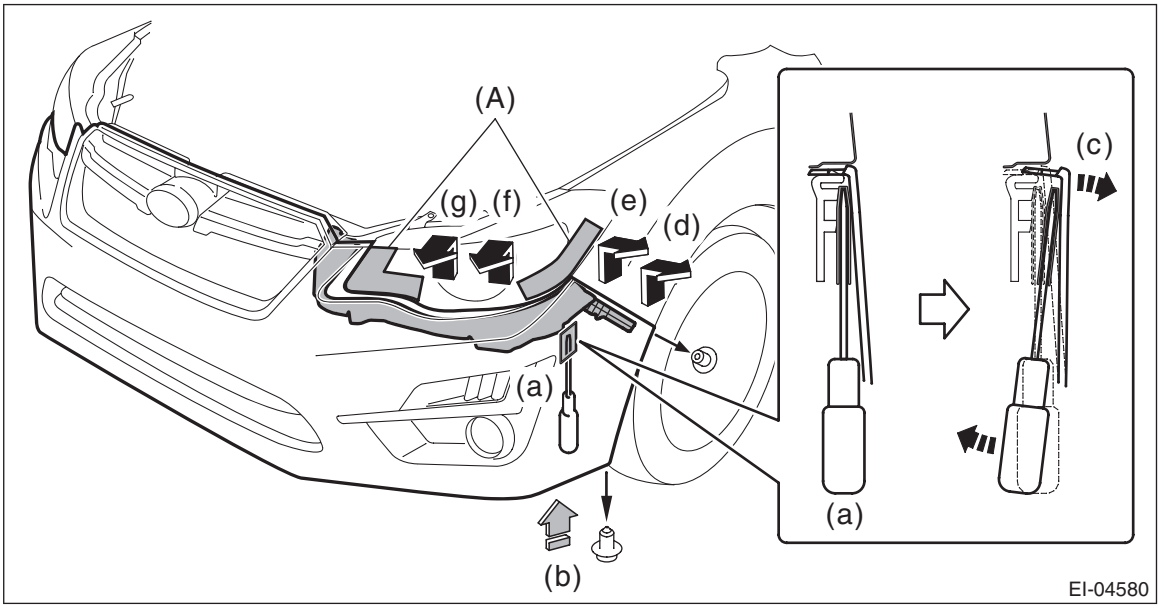
(4) Remove the clips at the lower side of the bumper face - front.



(5) Apply protective tape (A) to the light assembly - head.
(6) Detach the flange section on the bumper face side from the bracket - front bumper side.

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 the bracket - front bumper.

NOTE:
Remove the bumper face - front according to the following procedures.

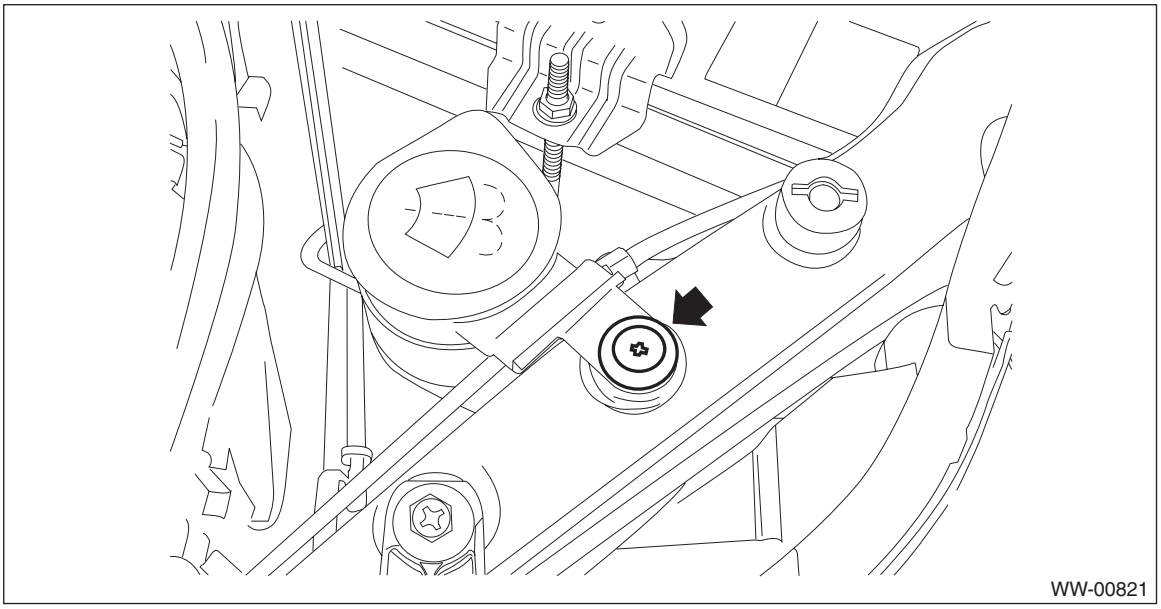


1. Remove the clips, turn over the mud guard, and insert a flat tip screwdriver with protection for damage prevention into the clearance between bumper and bracket. (a)

2. Push out the bumper with the flat tip screwdriver while pushing up the bumper from below. (b), (c)
3. Release the engagement of clips in the order of (d) to (g) while pushing up the bumper from below.
4. Perform the same procedures to remove the opposite side.

4) Remove the tank - washer assembly.

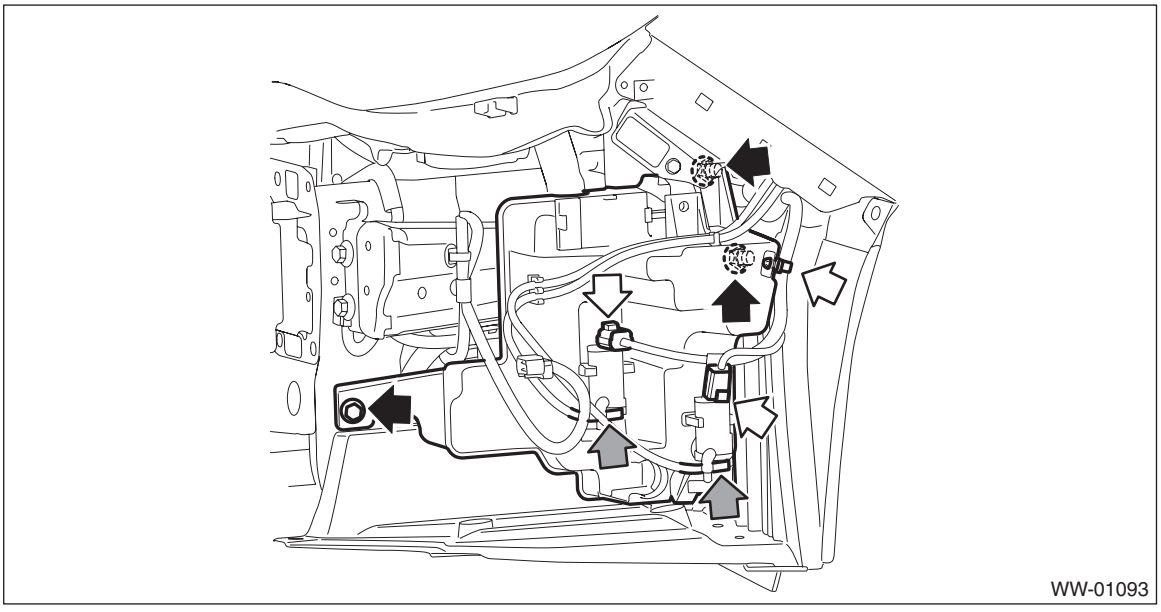
(1) Remove the clip of the holder - windshield washer tank.



(2) Disconnect the connector from the motor pump assembly - washer and the sensor - washer tank, and then remove the harness clip.

(3) Prepare a container before disconnecting the hose - washer, and drain all washer fluid in the tank - washer.

(4) Remove the bolt and nuts and remove the tank - washer assembly.

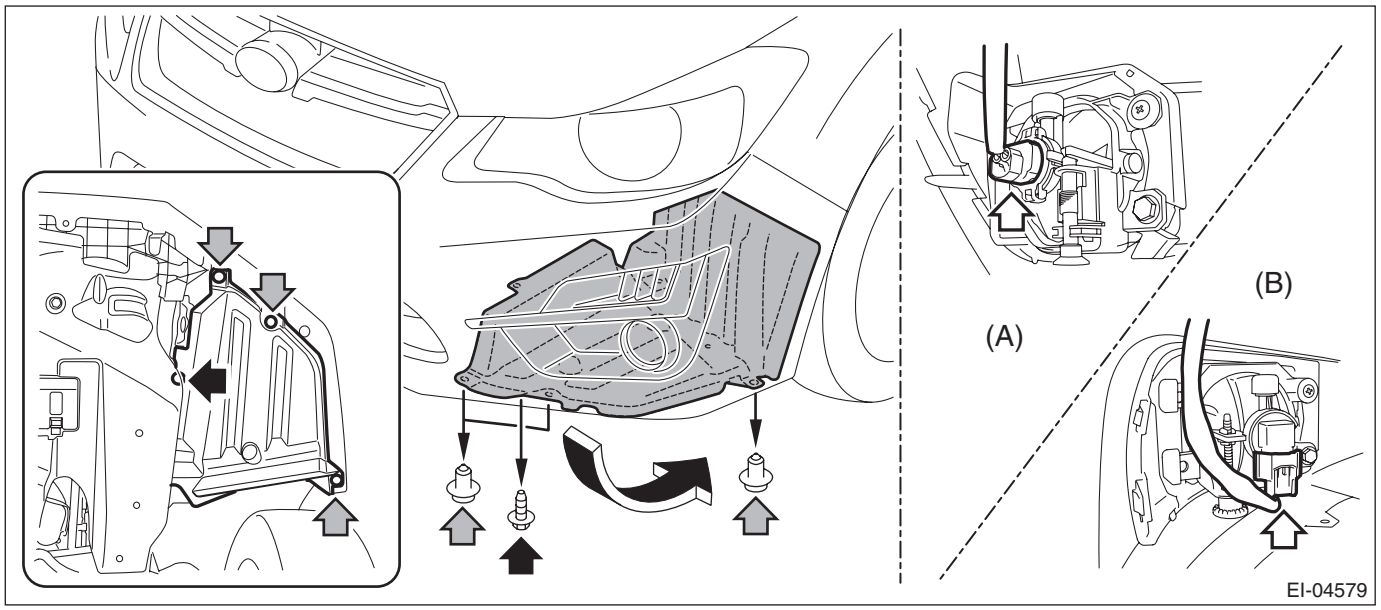


2. WASHER MOTOR

1) Open the hood COMPL - front.
2) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

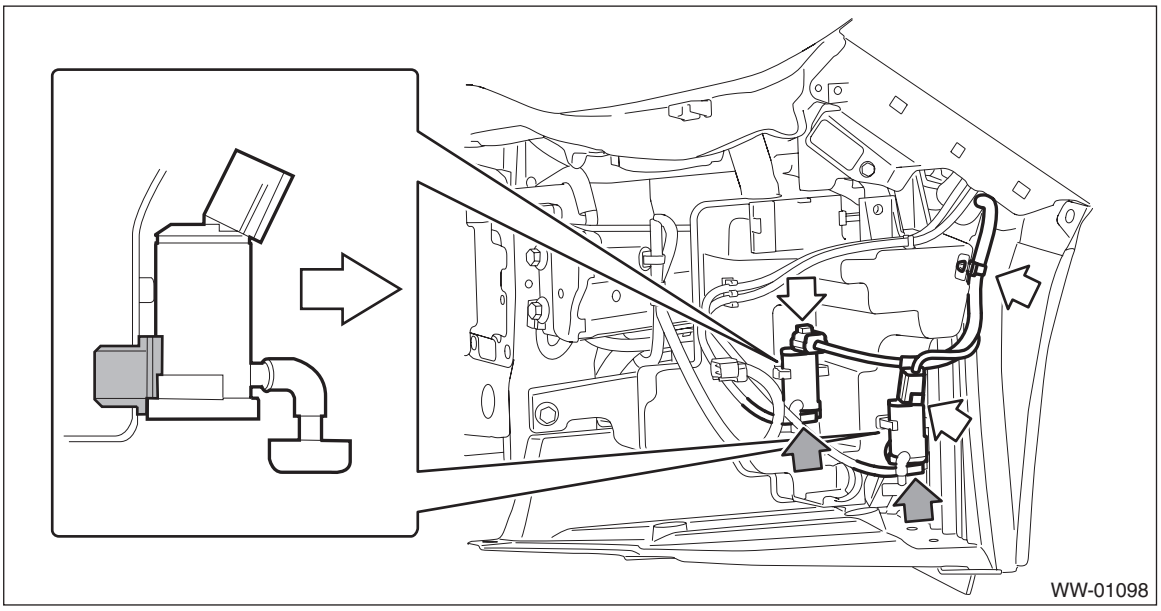
NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

3) Remove the clips and screws, turn over the mud guard - front LH, and disconnect the connector of the fog light assembly - front. (Model with fog light)



(A) Type without SRF (B) Type with SRF

4) Disconnect the connector from the motor pump assembly - washer and remove the harness clip.
5) Prepare a container before disconnecting the hose - washer, and drain all washer fluid in the tank - washer.
6) Remove the motor pump assembly - washer from the tank - washer.

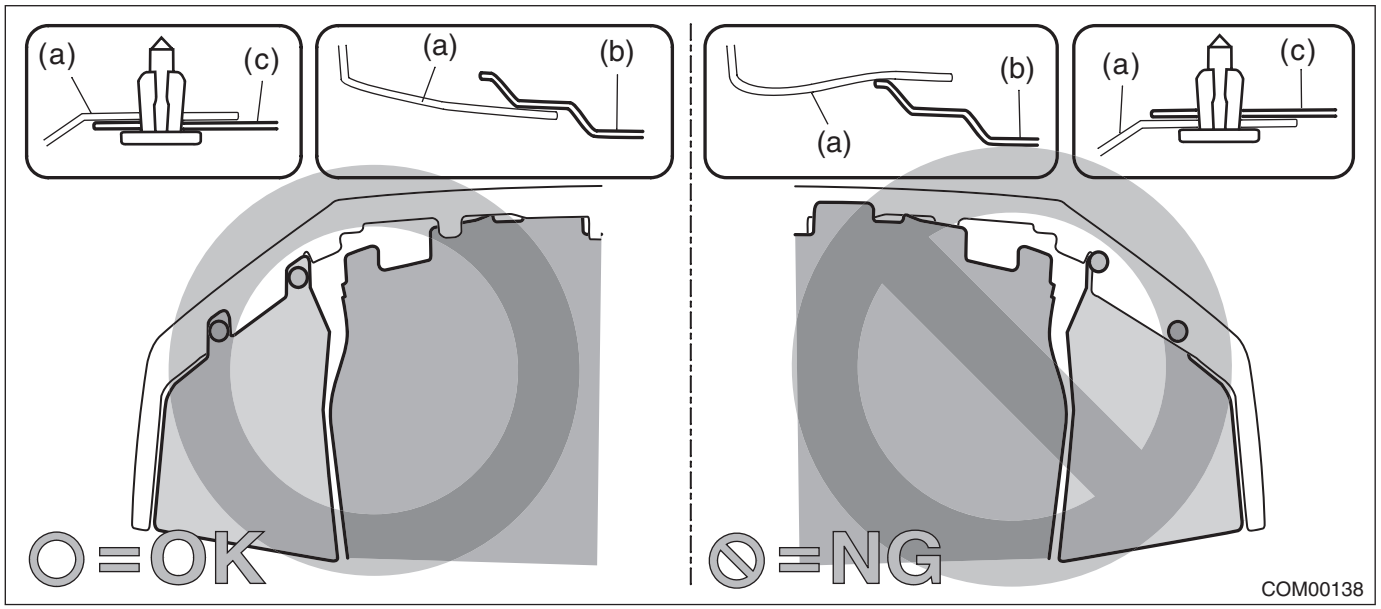


B: INSTALLATION

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

CAUTION:

• Install the under cover so that the under cover front end (b) comes inside of the bumper face - front (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:
6.0 N·m (0.61 kgf-m, 4.4 ft-lb)

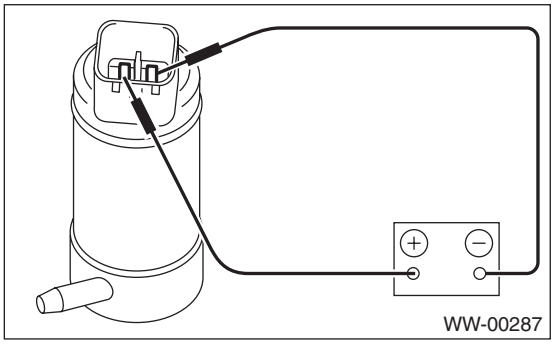
2) Add new washer fluid.

3) Adjust the fog light beam. (Model with fog light) <Ref. to LI-55, FOG LIGHT AIMING, ADJUSTMENT, Front Fog Light Assembly.>

C: INSPECTION

1. WASHER PUMP

Apply battery voltage to the connector terminal of the motor pump assembly - washer, and make sure that the motor operates.



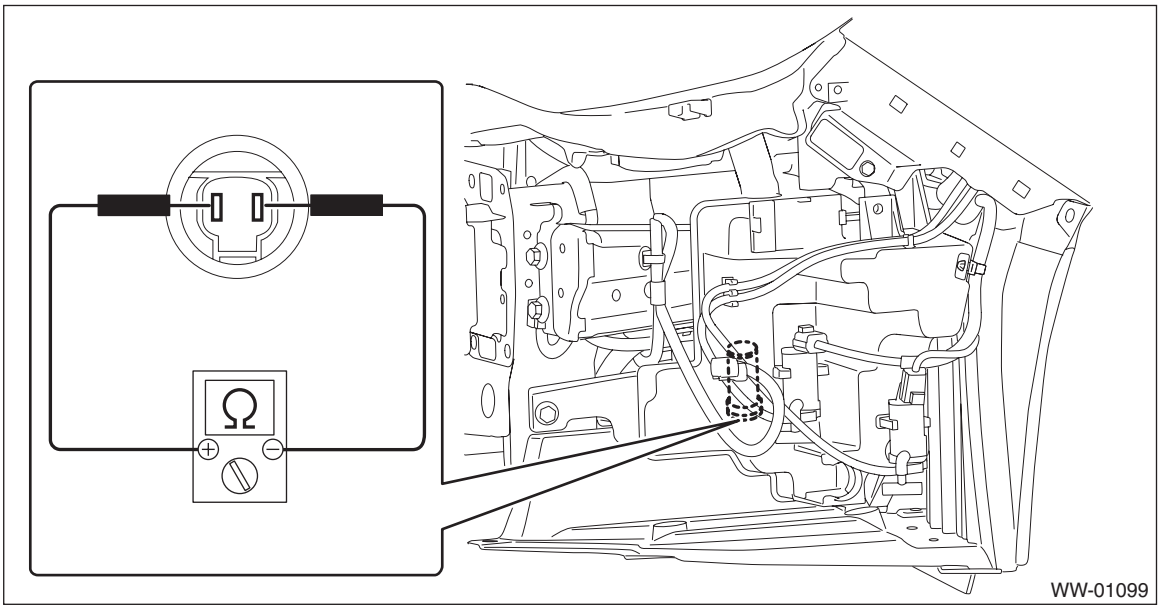
2. WASHER FLUID LEVEL SENSOR

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 operation.**
- **No → Perform 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 → Perform step 4.**
   - **No → Check harness, meter and integrated unit, and replace if necessary.**

4) Does the meter indicator illuminate if you short the washer fluid level sensor connector?
- **Yes → Perform step 5.**
- **No → Check meter and 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

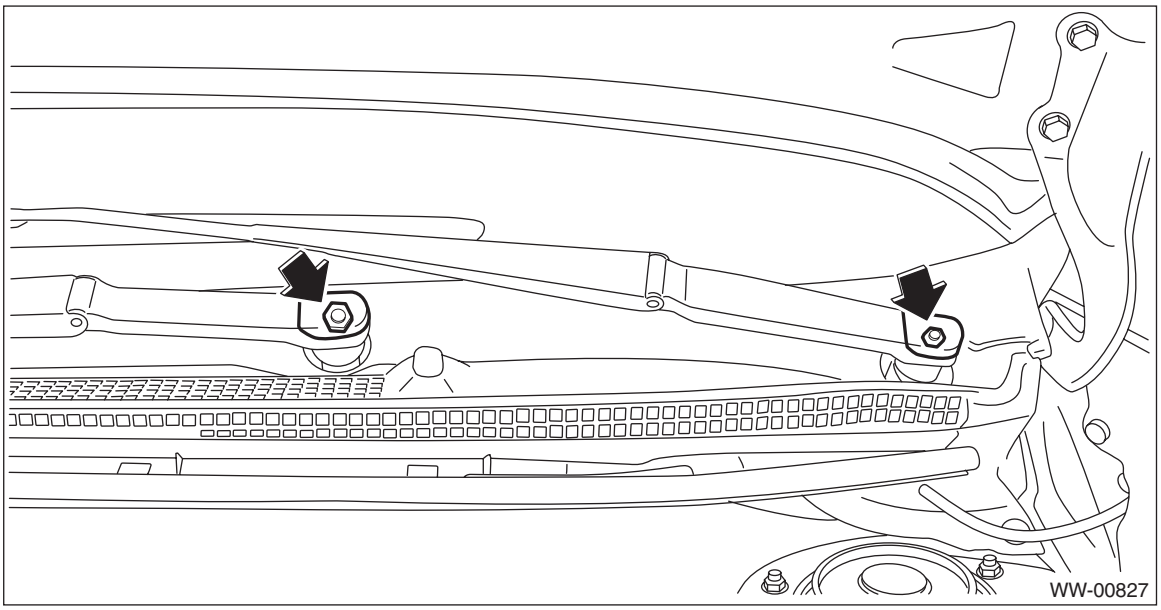
   (3) Is the resistance within the standard?
   - **Yes → Normal operation.**
   - **No → Replace the washer fluid level sensor along with the washer tank.**

7. Front Wiper Arm

A: REMOVAL

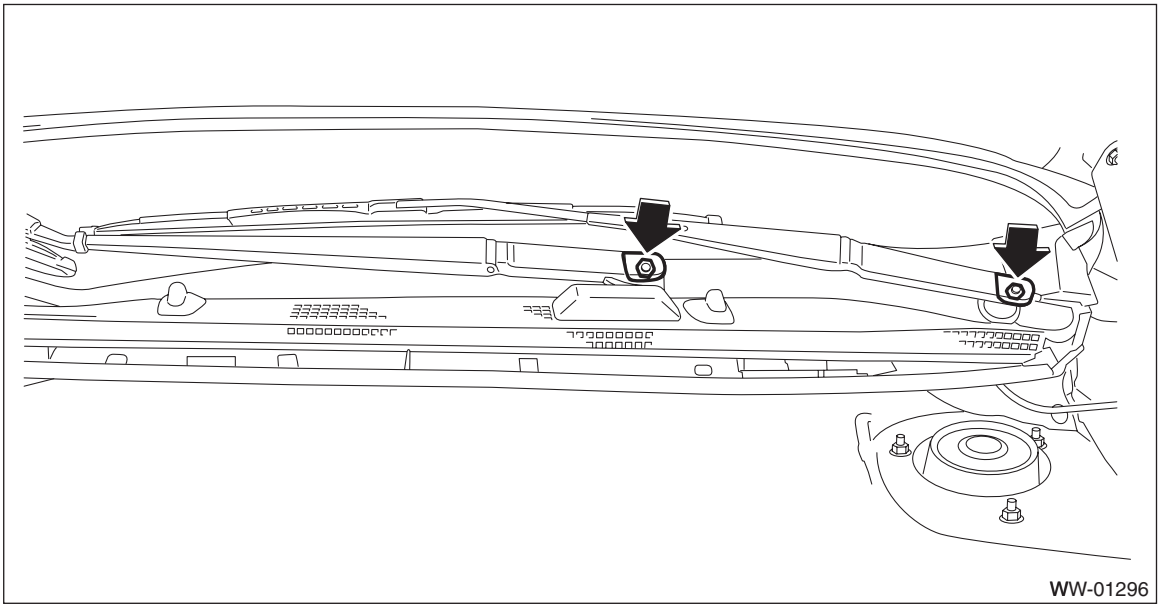
1. MODELS WITHOUT EyeSight

1) Open the hood COMPL - front.
2) Remove the arm assembly - windshield wiper.
   (1) Remove the cover - windshield wiper arm.
   (2) Remove the nuts, and remove the arm assembly - windshield wiper.

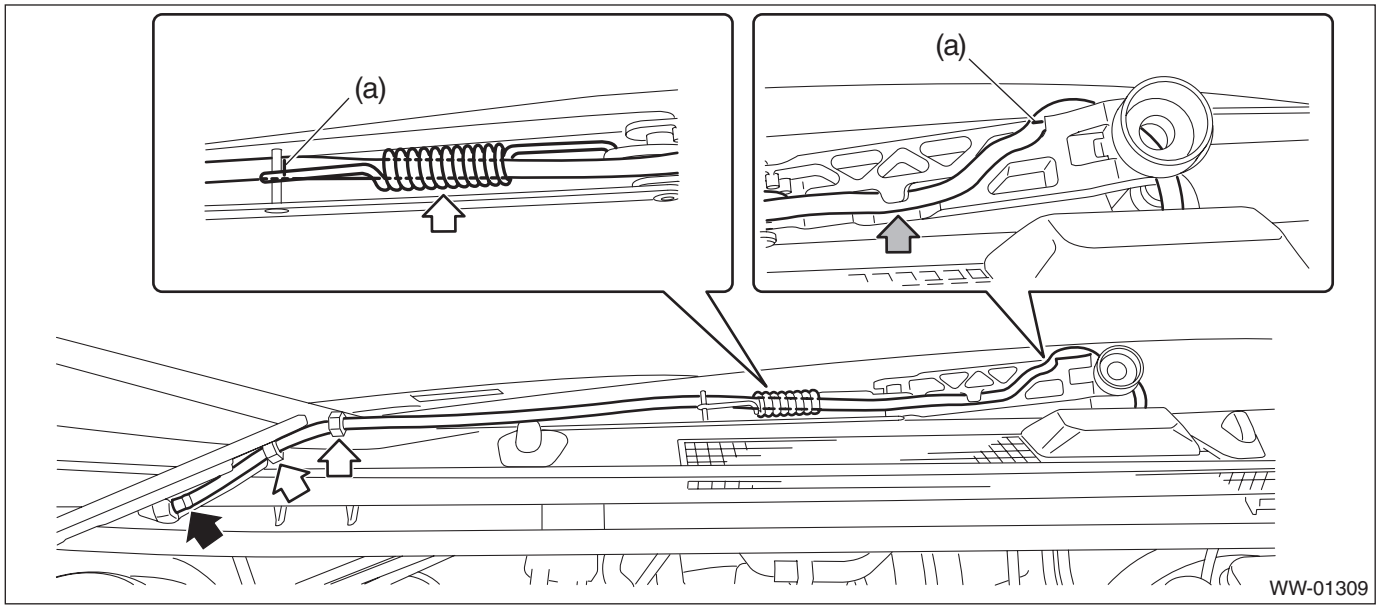


2. MODELS WITH EyeSight

1) Open the hood COMPL - front.
2) Remove the arm assembly - windshield wiper.
   (1) Remove the cover - windshield wiper arm.
   (2) Remove the nuts, and remove the arm assembly - windshield wiper.



(3) Place alignment marks (a), and remove the hose from the arm assembly - windshield wiper assistor.

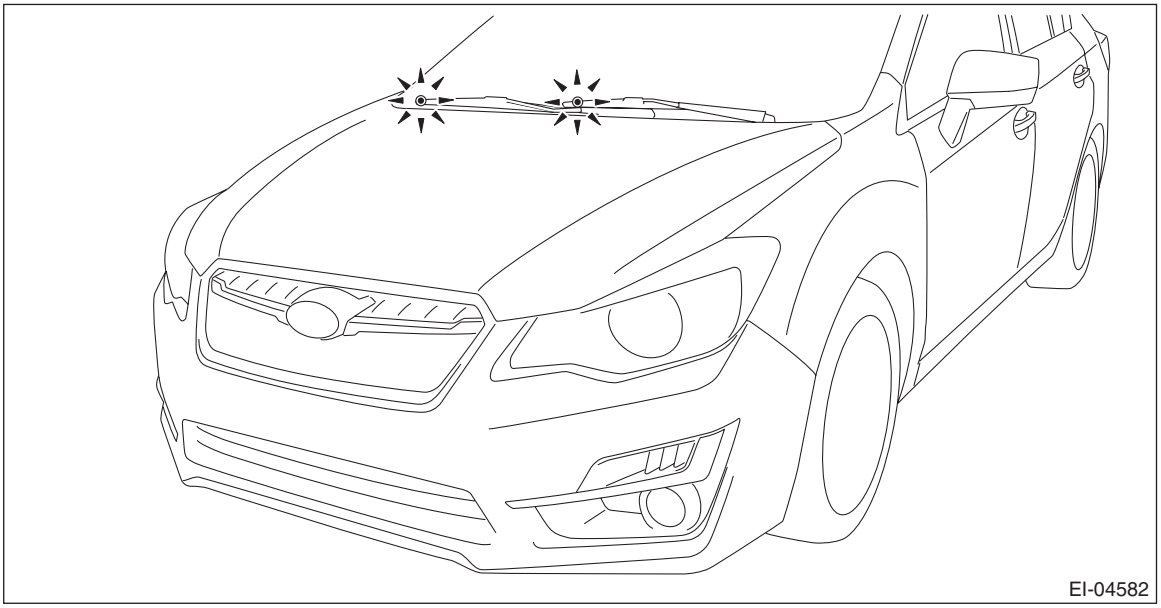


(4) Remove the cowl panel assembly. <Ref. to EI-61, REMOVAL, Cowl Panel.>
(5) Release the claws of cover - joint, and remove the cover - joint from cowl panel assembly. <Ref. to WW-39, REMOVAL, Front Washer Nozzle.>
(6) Remove the hose from joint - washer hose.

B: INSTALLATION

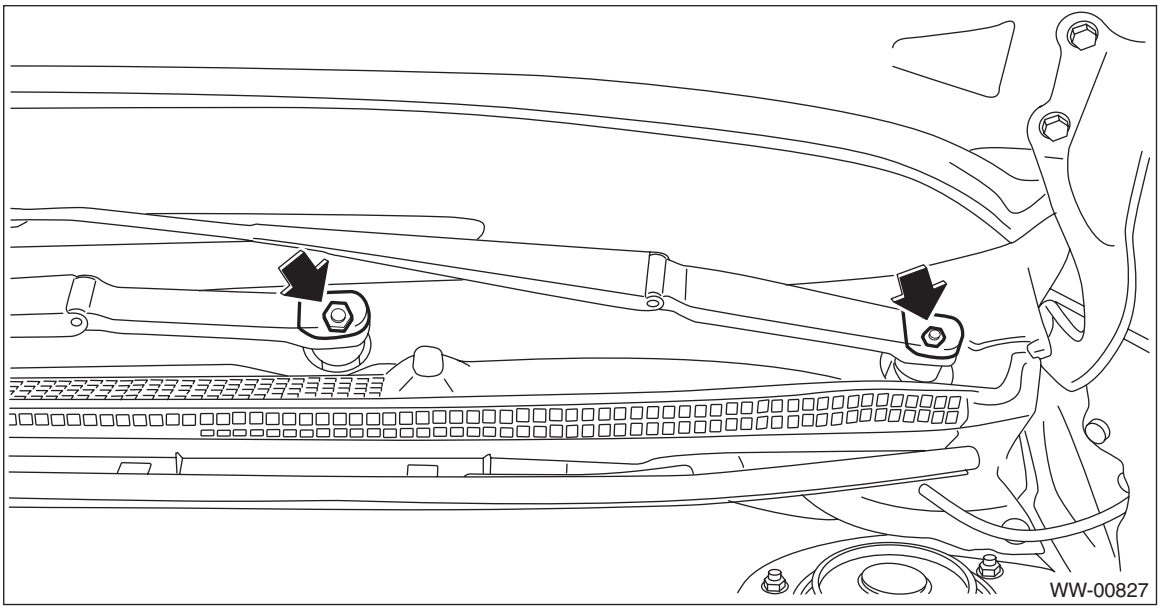
1. MODELS WITHOUT EyeSight

1) Install the arm assembly - windshield wiper.
(1) Assemble the arm assembly - windshield wiper so that the blade assembly - windshield wiper is aligned to the ceramic print point mark of the windshield glass.



(2) Tighten the arm assembly - windshield wiper to specified torque and install the cap.

Tightening torque:
26 N·m (2.65 kgf-m, 19.2 ft-lb)

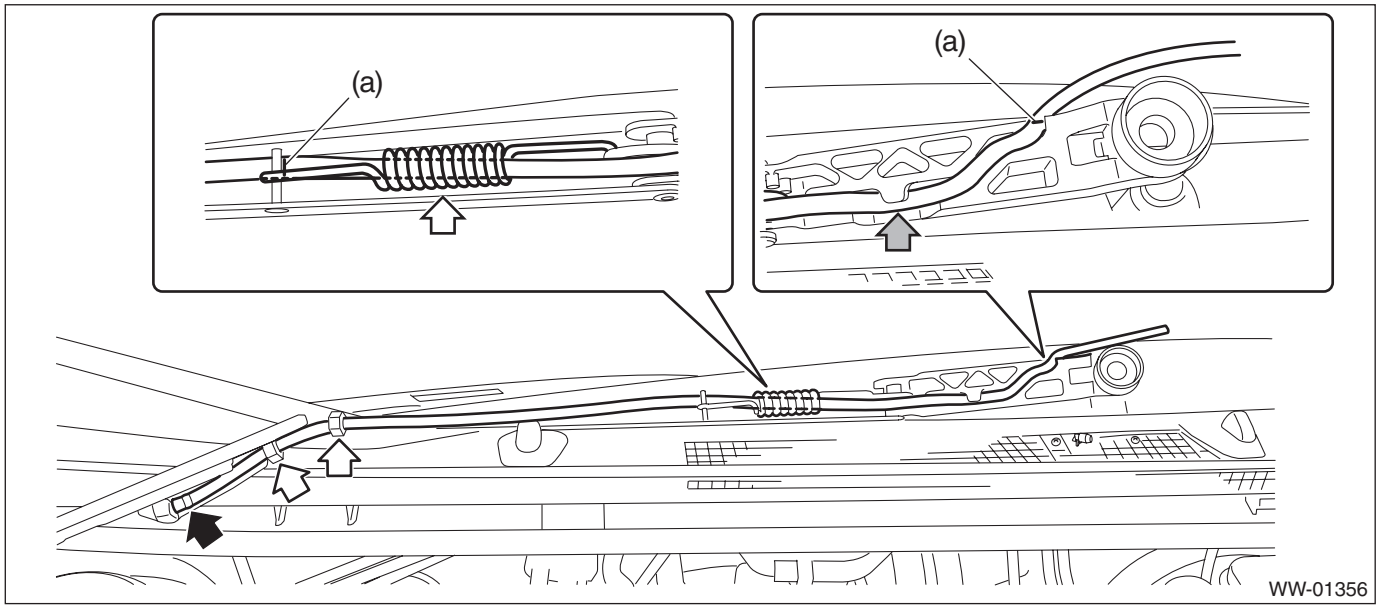


2) Check the position of windshield wiper. <Ref. to WW-34, ADJUSTMENT, Front Wiper Arm.>

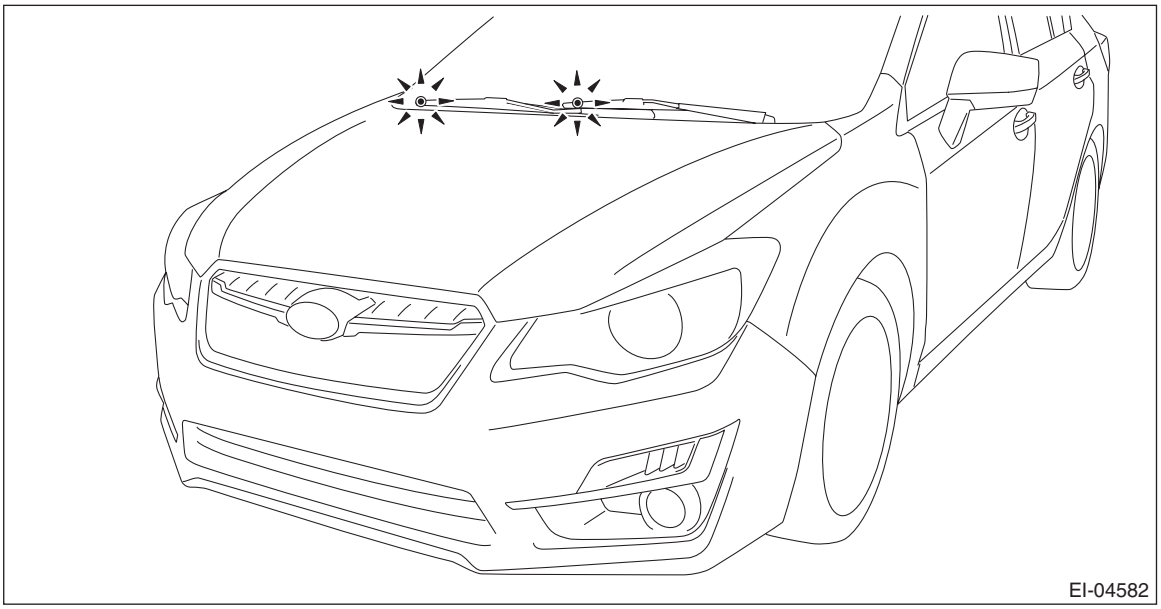
2. MODELS WITH EyeSight

CAUTION:
Install so that the hose is not bent, pressed or twisted.

1) Install the cowl panel assembly. <Ref. to EI-63, INSTALLATION, Cowl Panel.>
2) Install the arm assembly - windshield wiper.
(1) Align the alignment marks (a), and install the hose to the arm assembly - windshield wiper assistor.

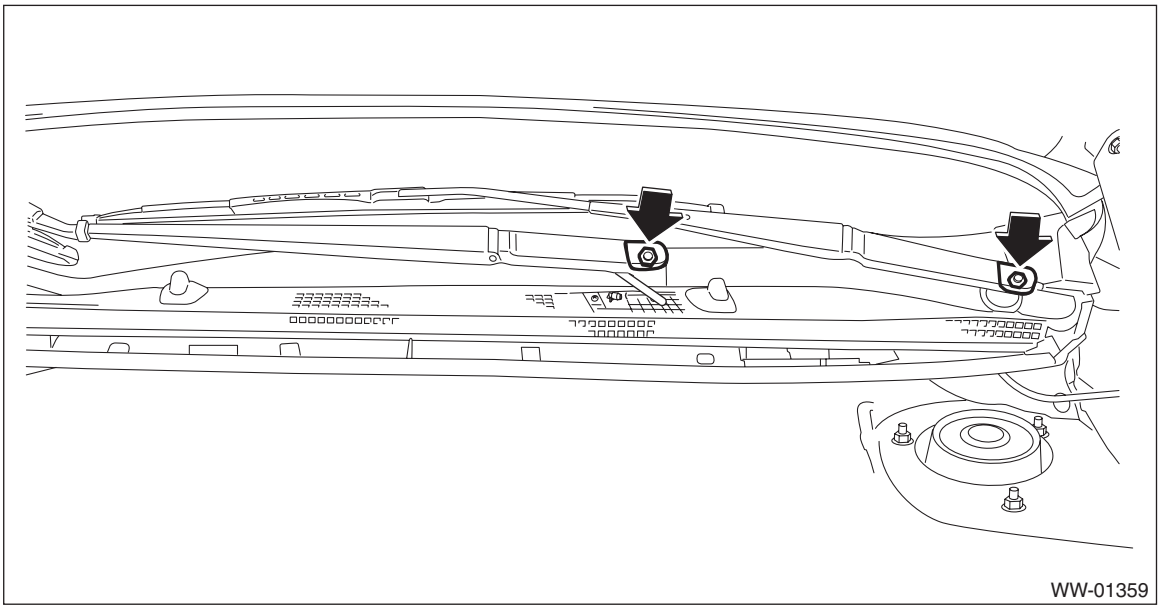


(2) Assemble the arm assembly - windshield wiper so that the blade assembly - windshield wiper is aligned to the ceramic print point mark of the windshield glass.

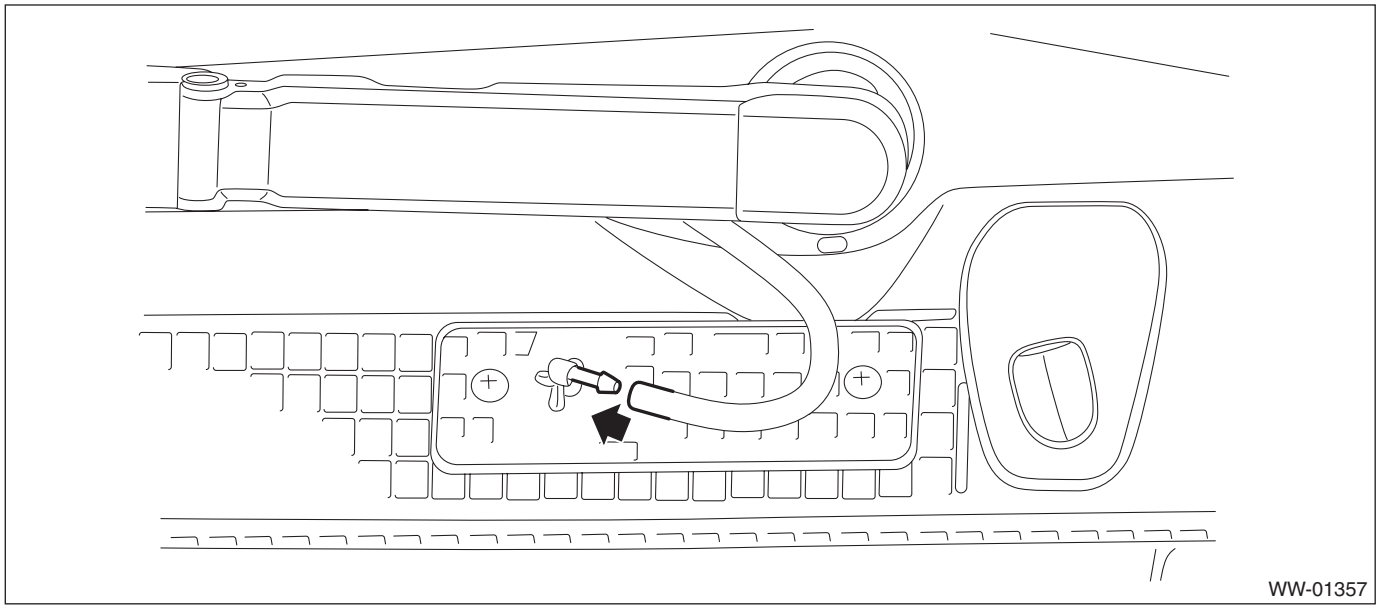


(3) Tighten the arm assembly - windshield wiper to specified torque and install the cap.

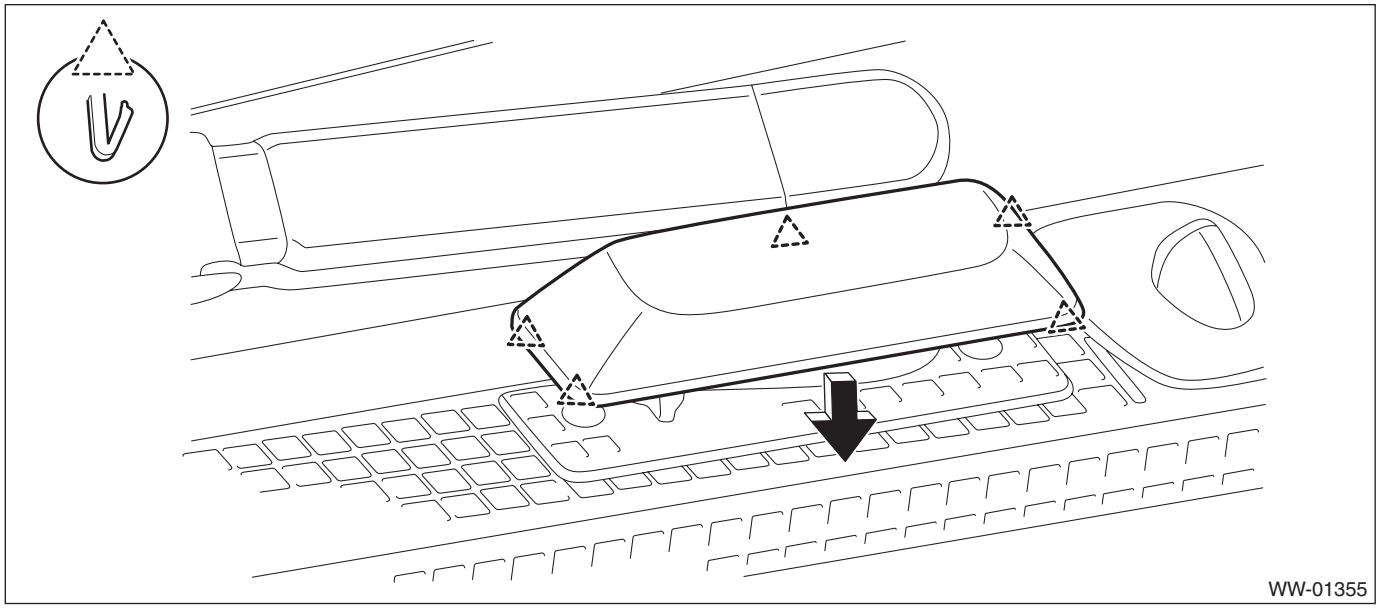
Tightening torque:
26 N·m (2.65 kgf-m, 19.2 ft-lb)



(4) Install the hose to joint - washer hose.



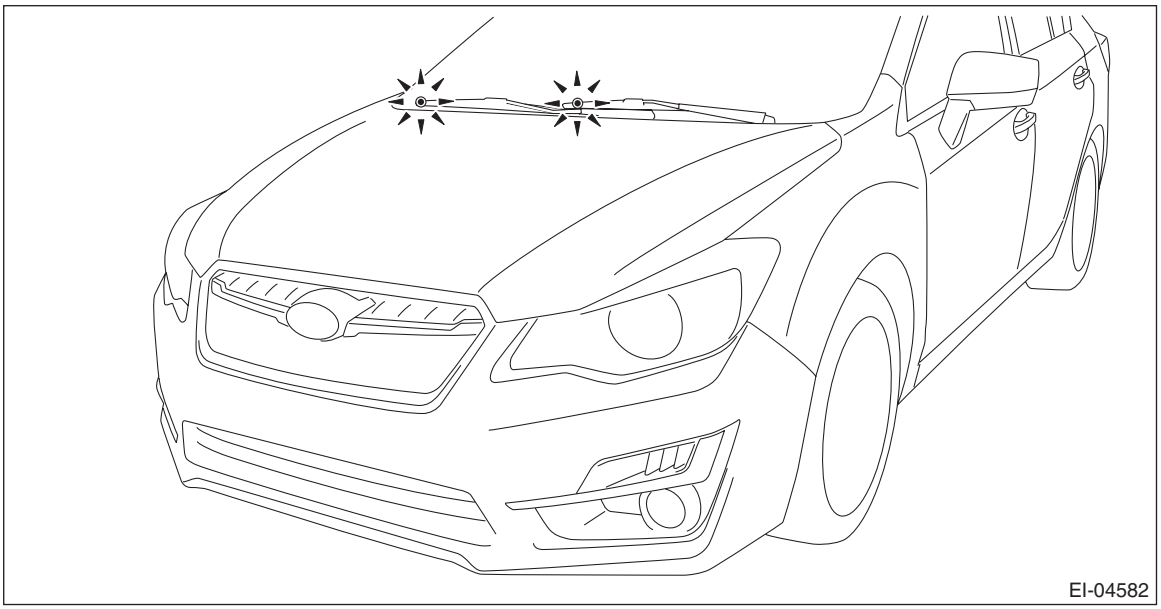
(5) Install the cover - joint to cowl panel assembly.



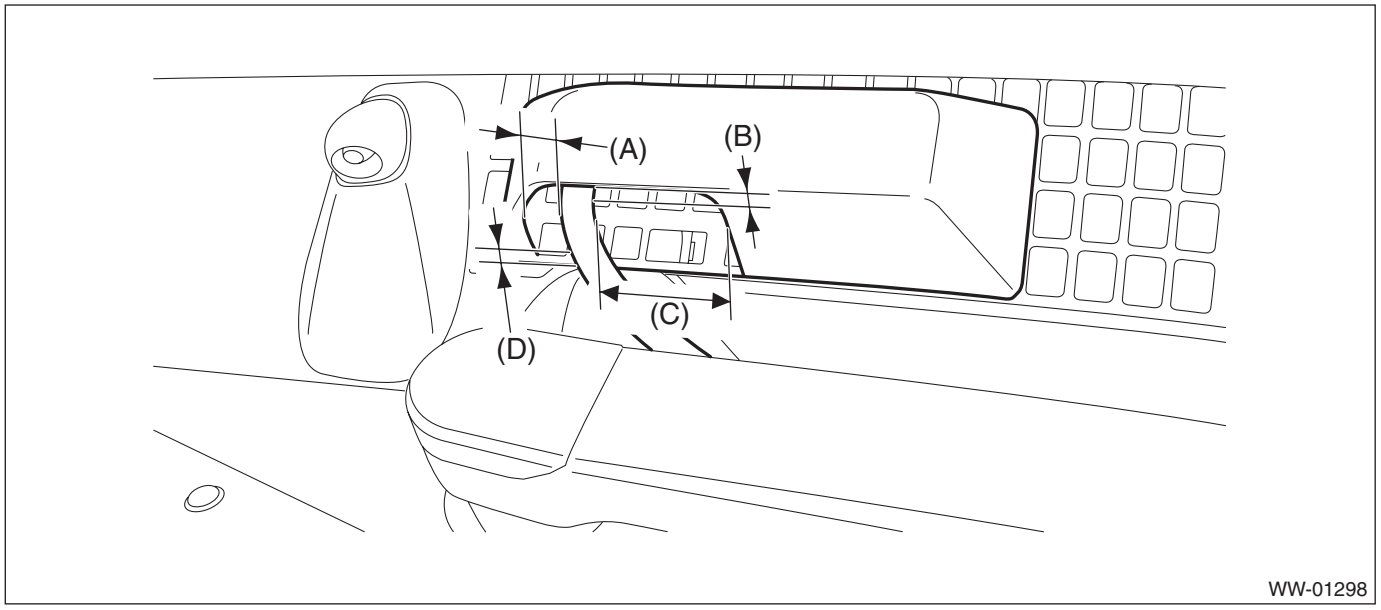
3) Check the position of windshield wiper. <Ref. to WW-34, ADJUSTMENT, Front Wiper Arm.>

C: ADJUSTMENT

1) Operate the windshield wiper once.
2) Check that the wiper blade is aligned with the point mark.



3) During the windshield wiper operation, make sure that there is a clearance of 1 mm (0.04 in) or more between the hose and the cover - joint / joint - washer hose.



(A) Clearance between hose and cover - joint outer side
(B) Clearance between hose and cover - joint top
(C) Clearance between hose and cover - joint inner side
(D) Clearance between hose and cover - joint bottom

4) If the clearance between the hose and the cover - joint / joint - washer hose is not met, or the point marks are not aligned, perform the removal and installation of the windshield wiper. <Ref. to WW-29, REMOVAL, Front Wiper Arm.>

8. Front Wiper Motor and Link

A: REMOVAL

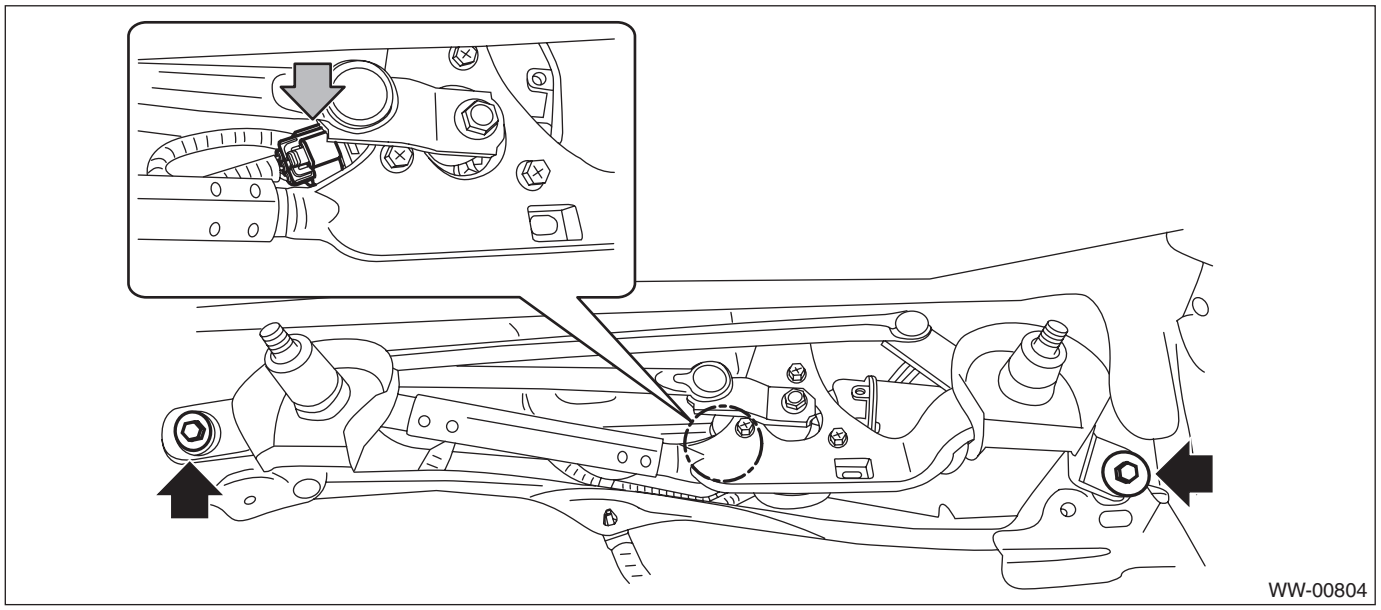
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

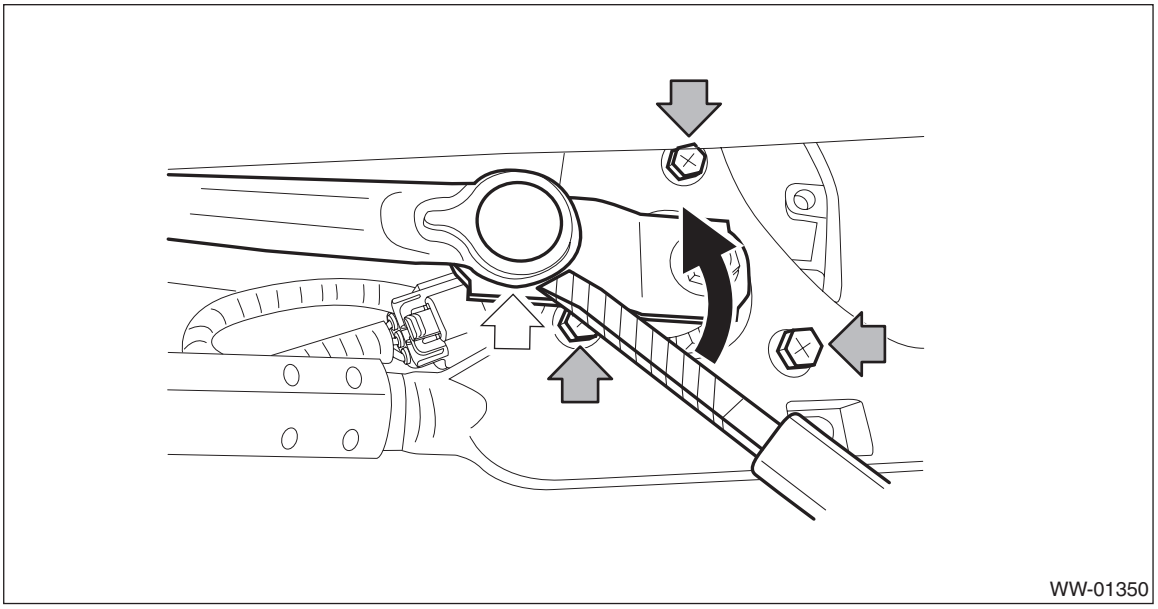
2) Remove the arm assembly - windshield wiper. <Ref. to WW-29, REMOVAL, Front Wiper Arm.>
3) Remove the cowl panel assembly. <Ref. to EI-61, REMOVAL, Cowl Panel.>

CAUTION:
Before removing the cowl panel, use an air blower and nylon brush to sweep gravel from the lower area of the front side of the glass.

4) Remove the link assembly - windshield wiper.
   (1) Disconnect the connector of the motor assembly - windshield wiper.
   (2) Remove the bolts and harness clips, and remove the link assembly - windshield wiper.



5) Remove the motor assembly - windshield wiper.
(1) Using a crowbar wrapped with protective tape, disconnect the link assembly - windshield wiper from the link plate.
(2) Remove the bolts, and remove the motor assembly - windshield wiper.



B: INSTALLATION

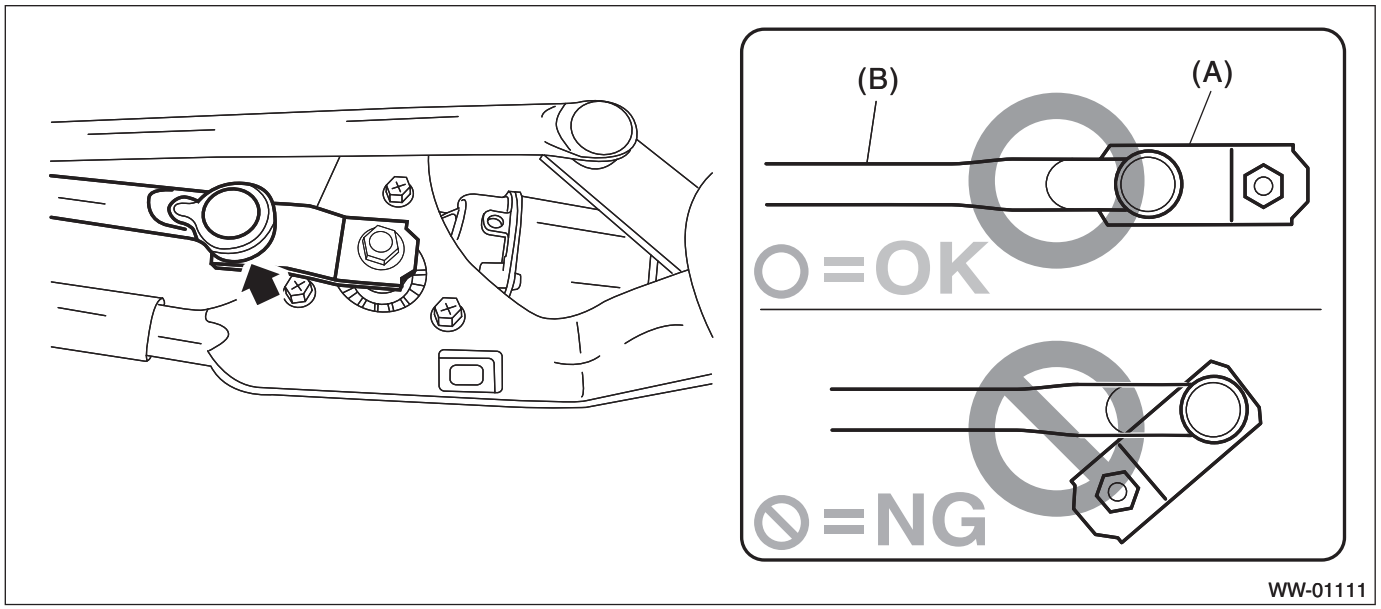
CAUTION:
Before installing the windshield glass and cowl panel, make sure there are no gravel in the installing area.
1) Connect the battery ground terminal.
2) To confirm that the motor assembly - windshield wiper is at the auto stop position, connect the harness to the motor and turn the wiper switch to ON/OFF once.

CAUTION:
During motor operation, do not touch the movable part.
3) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

4) Install the motor assembly - windshield wiper.

CAUTION:
Set the component where the rod (B) and link plate (A) is aligned in a straight line.



5) Install the link assembly - windshield wiper and cowl panel in the reverse order of removal.

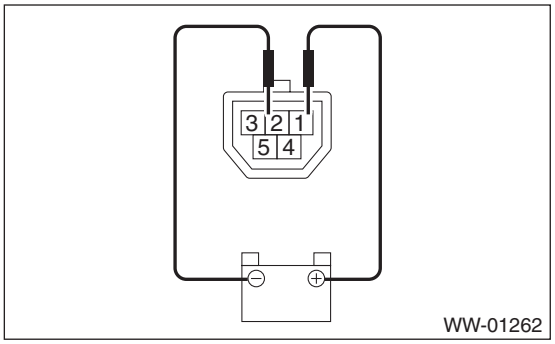
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-2, FRONT WIPER, COMPONENT, General Description.>

C: INSPECTION

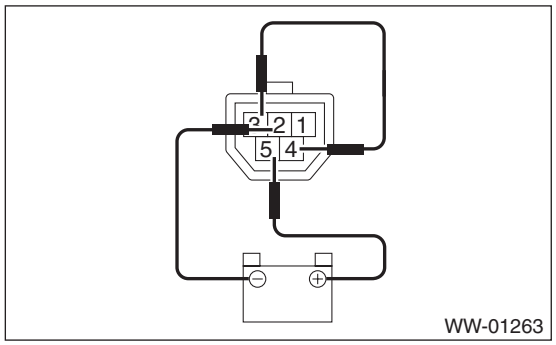
1) Check that the following operations perform normally.

CAUTION:
Fix the motor to prevent the motor from being shorted by moving during operation.

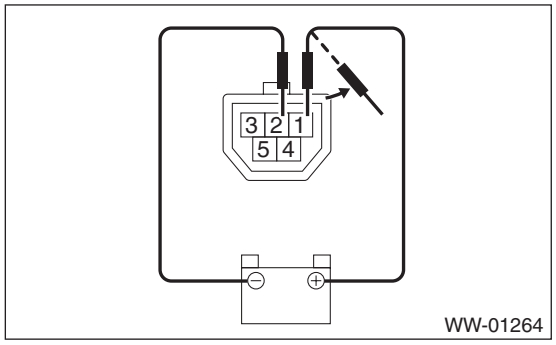
(1) When the battery is connected to the terminal of connectors, confirm that the motor operates at low speed.



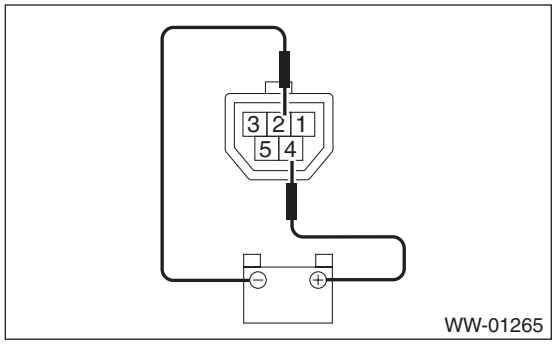
(2) When the battery is connected to the terminal of connectors, confirm that the motor operates at high speed.



(3) Connect the battery to terminals of the connector, and remove the terminal connection with motor rotating at low speed, and stop the motor assembly - windshield wiper in mid-operation.



(4) Connect the battery and check that the motor stops at the automatic stop position after the motor operates at low speed again.



NOTE:
Replace the motor assembly - windshield wiper if the inspection result is not within the standard.
2) Install the motor assembly - windshield wiper. <Ref. to WW-36, INSTALLATION, Front Wiper Motor and Link.>

9. Front Washer Nozzle

A: REMOVAL

1. NOZZLE - WINDSHIELD WASHER (MODEL WITHOUT EyeSight)

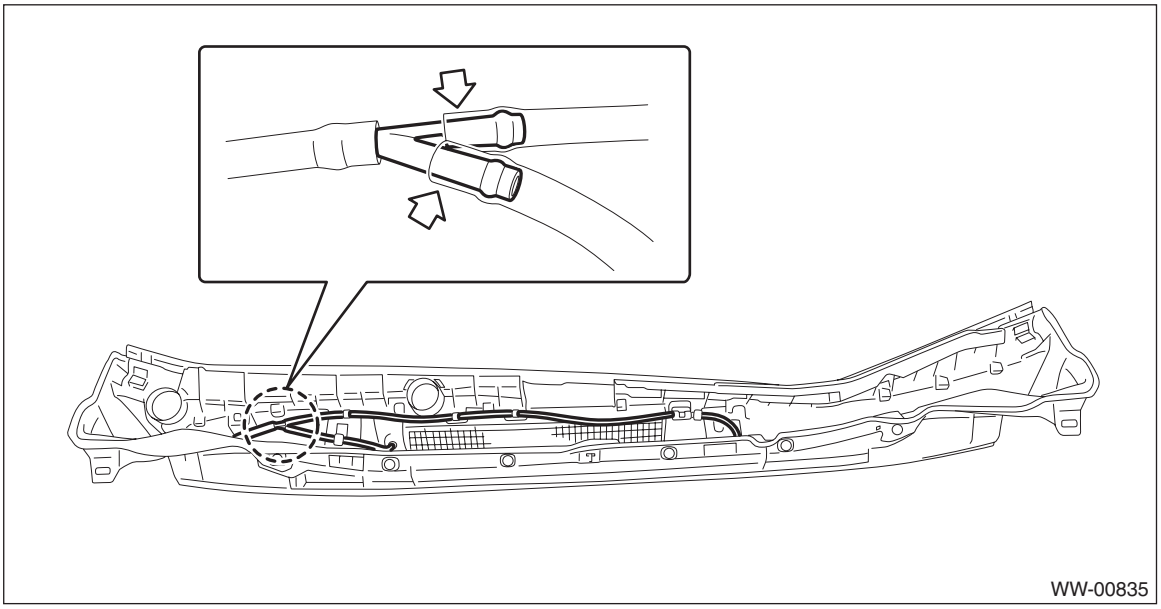
1) Open the hood COMPL - front.
2) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

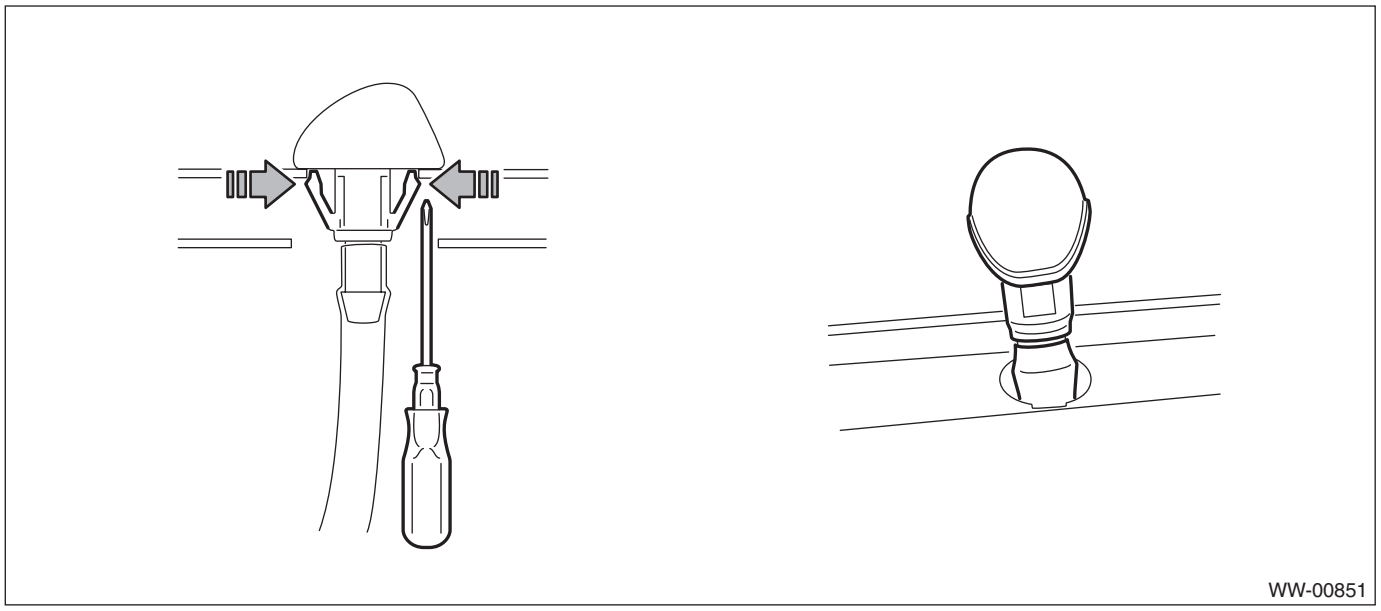
3) Remove the arm assembly - windshield wiper. <Ref. to WW-29, REMOVAL, Front Wiper Arm.>
4) Remove the cowl panel assembly. <Ref. to EI-61, REMOVAL, Cowl Panel.>

CAUTION:
Before removing the cowl panel, use an air blower and nylon brush to sweep gravel from the lower area of the front side of the glass.

5) Remove the hose - windshield washer.



6) Remove the nozzle - windshield washer.
(1) Push the claw using a flat tip screwdriver, etc.
(2) When the nozzle - windshield washer lifts up, pull out the nozzle - windshield washer using a clip remover, etc.
(3) Disconnect the hose - windshield washer, and remove the nozzle - windshield washer.

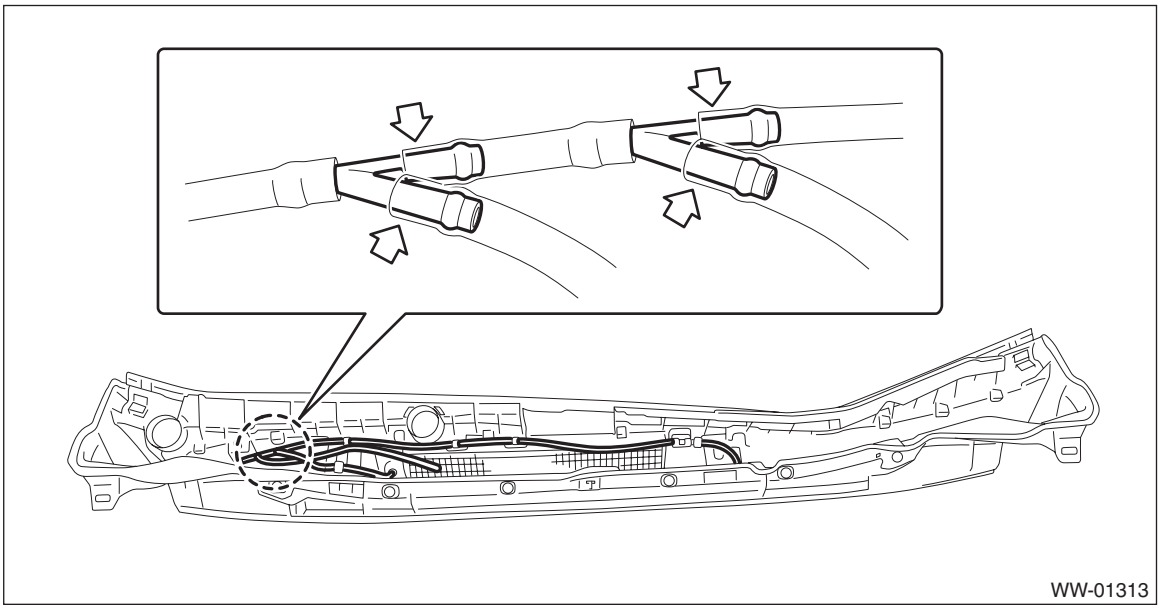


2. NOZZLE - WINDSHIELD WASHER (MODEL WITH EyeSight)

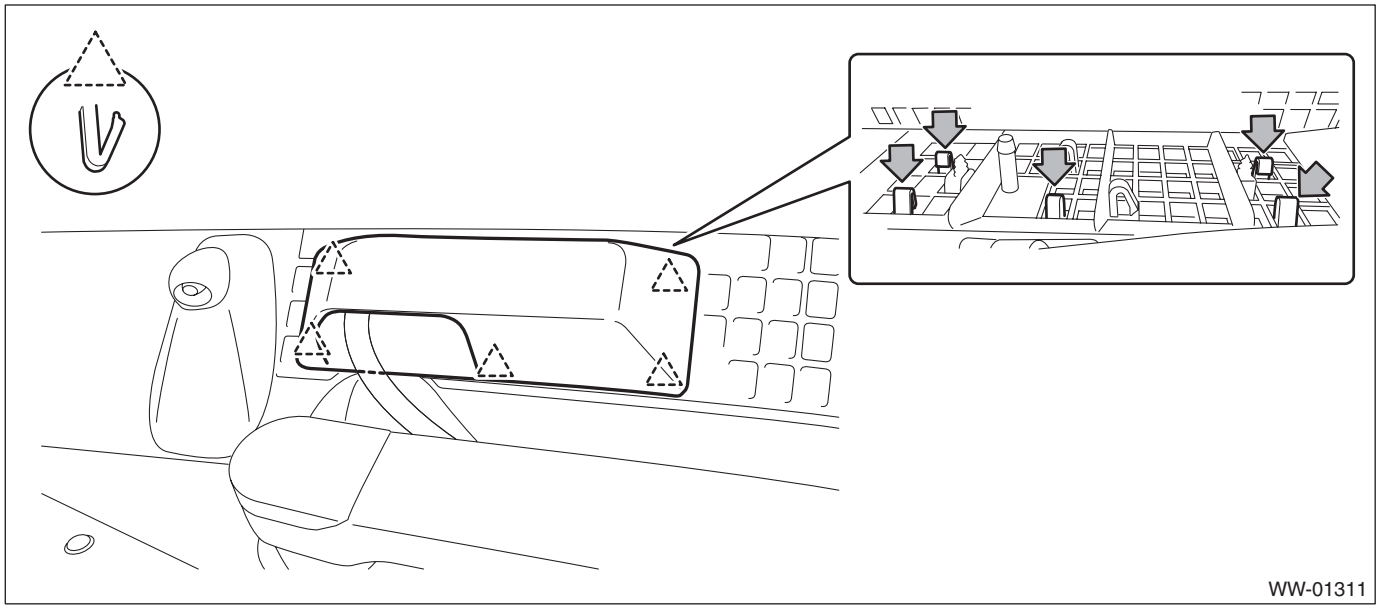
1) Open the hood COMPL - front.
2) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.
3) Remove the arm assembly - windshield wiper. <Ref. to WW-29, REMOVAL, Front Wiper Arm.>
4) Remove the cowl panel assembly. <Ref. to EI-61, REMOVAL, Cowl Panel.>

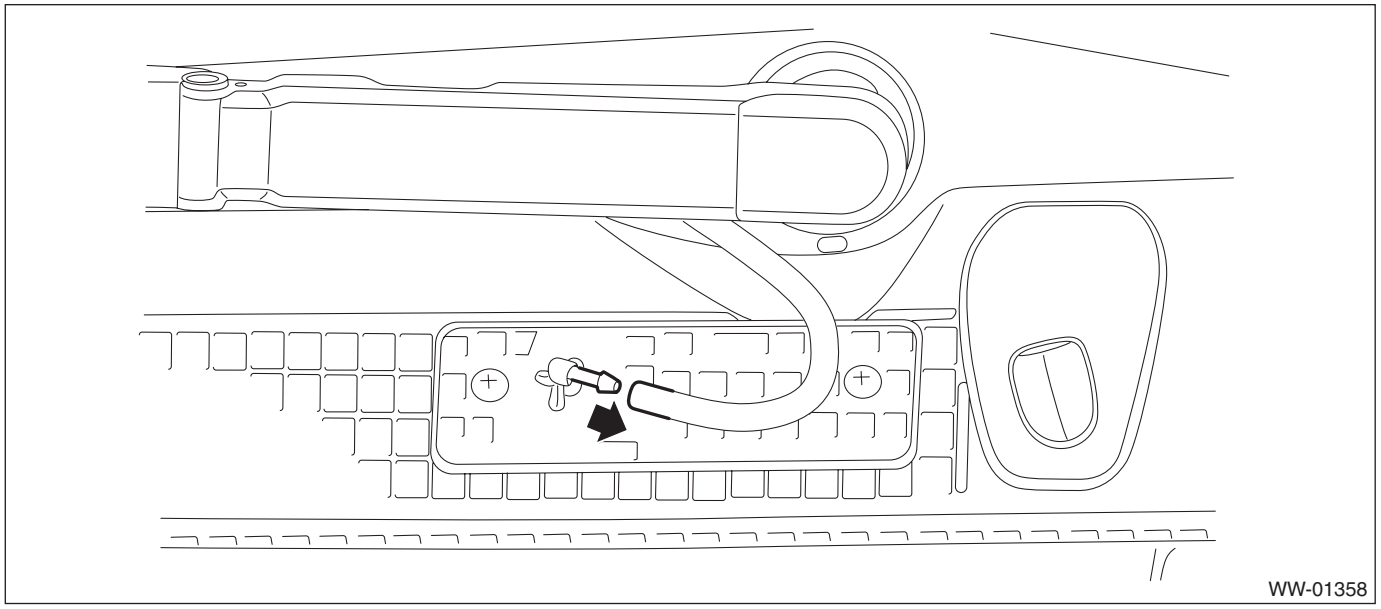
CAUTION:
Before removing the cowl panel, use an air blower and nylon brush to sweep gravel from the lower area of the front side of the glass.
5) Remove the hose - windshield washer.



6) Release the claws, and remove the cover - joint from the cowl panel assembly.



7) Remove the hose from joint - washer hose.



B: INSTALLATION

CAUTION:
Before installing the windshield glass and cowl panel, make sure there are no gravel in the installing area.

1) Install the hose - windshield washer.
2) Install the cowl panel assembly. <Ref. to EI-63, INSTALLATION, Cowl Panel.>
3) Install the arm assembly - windshield wiper. <Ref. to WW-30, INSTALLATION, Front Wiper Arm.>
4) Install the hose to joint - washer hose. (Models with EyeSight)
5) Install the cover - joint to cowl panel assembly. (Models with EyeSight)
6) Connect the battery ground terminal. <Ref. to NT-5, BATTERY, NOTE, Note.>
7) Adjust the position of the nozzle - windshield washer. <Ref. to WW-42, ADJUSTMENT, Front Washer Nozzle.>

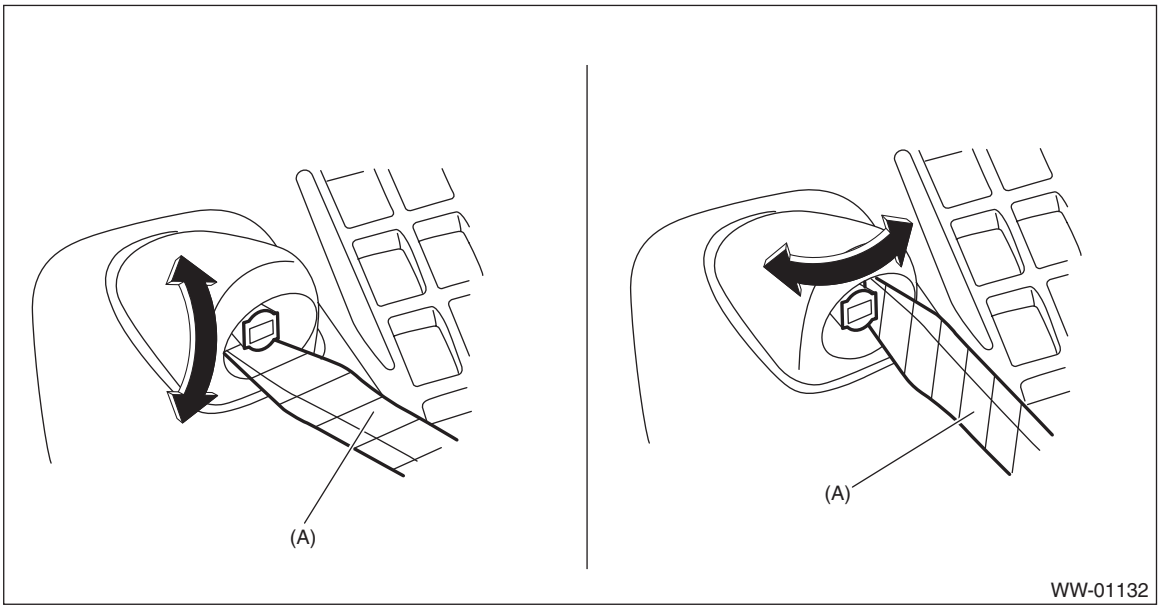
C: INSPECTION

- Check the nozzles and hoses for clogging.
- Check the hoses for bend or twisting.

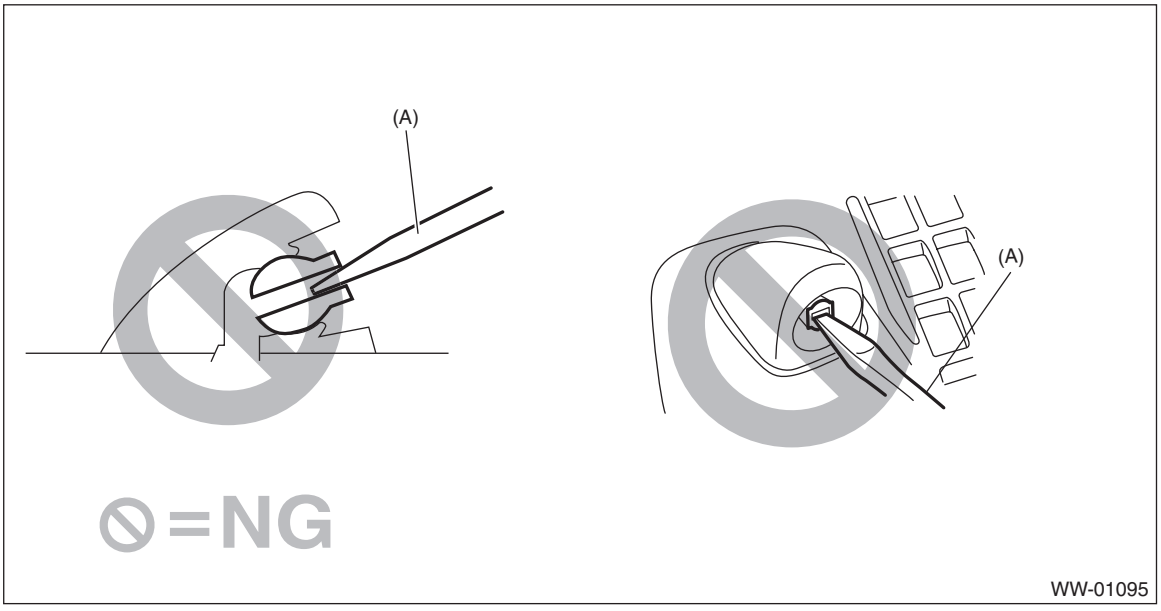
D: ADJUSTMENT

1. NOZZLE - WINDSHIELD WASHER

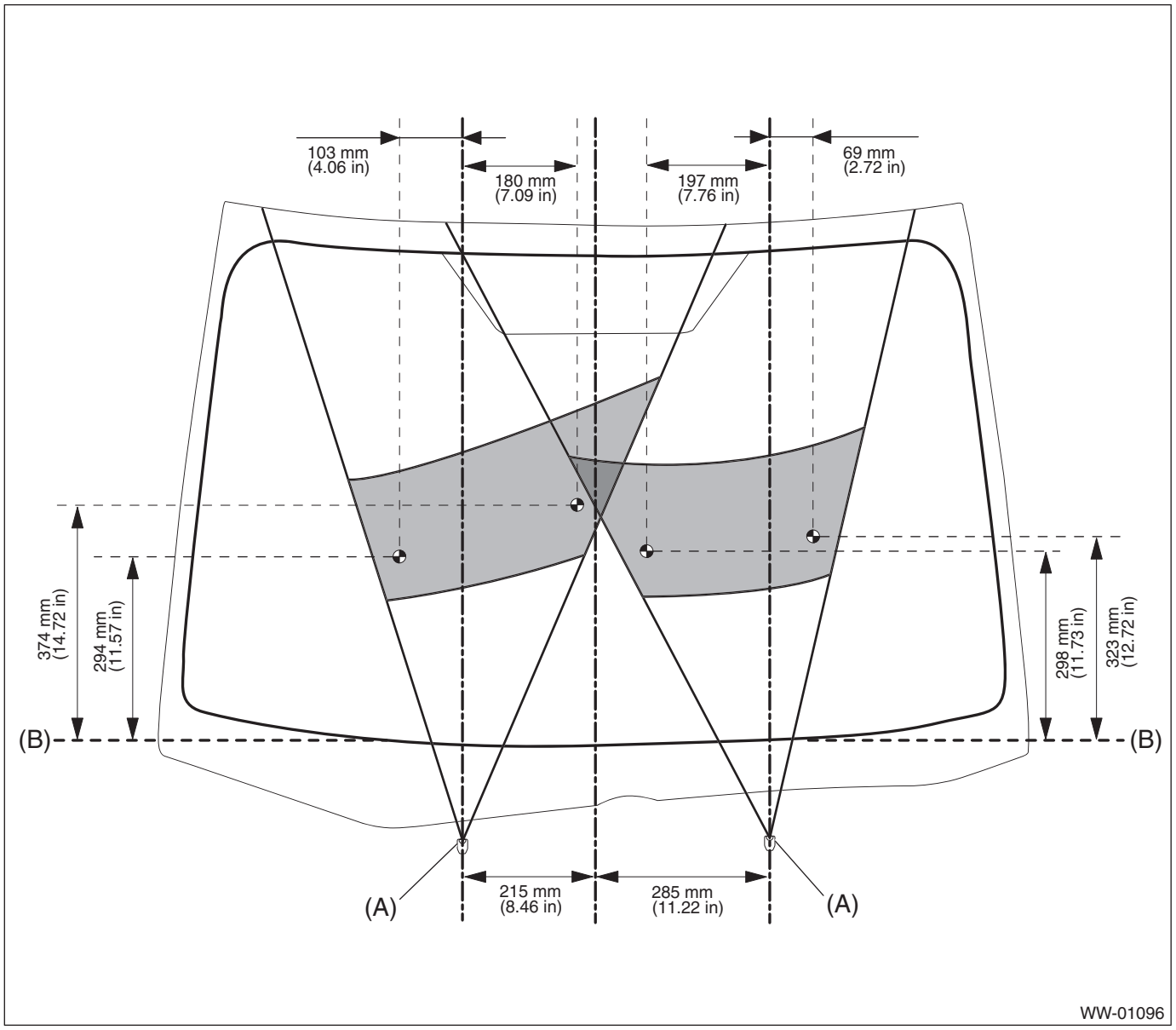
1) Turn the wiper switch to OFF position.
2) While the vehicle is at a standstill, insert a precision screwdriver (A) wrapped with protection tape or equivalent into the clearance on the upper/lower side or the right/left side of the nozzle - windshield washer to perform necessary adjustment.



CAUTION:
• The nozzle - windshield washer 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.
• Do not rotate the discharge port of the nozzle - windshield washer, otherwise it may be damaged.



3) Adjust the washer injection position as shown in the figure.

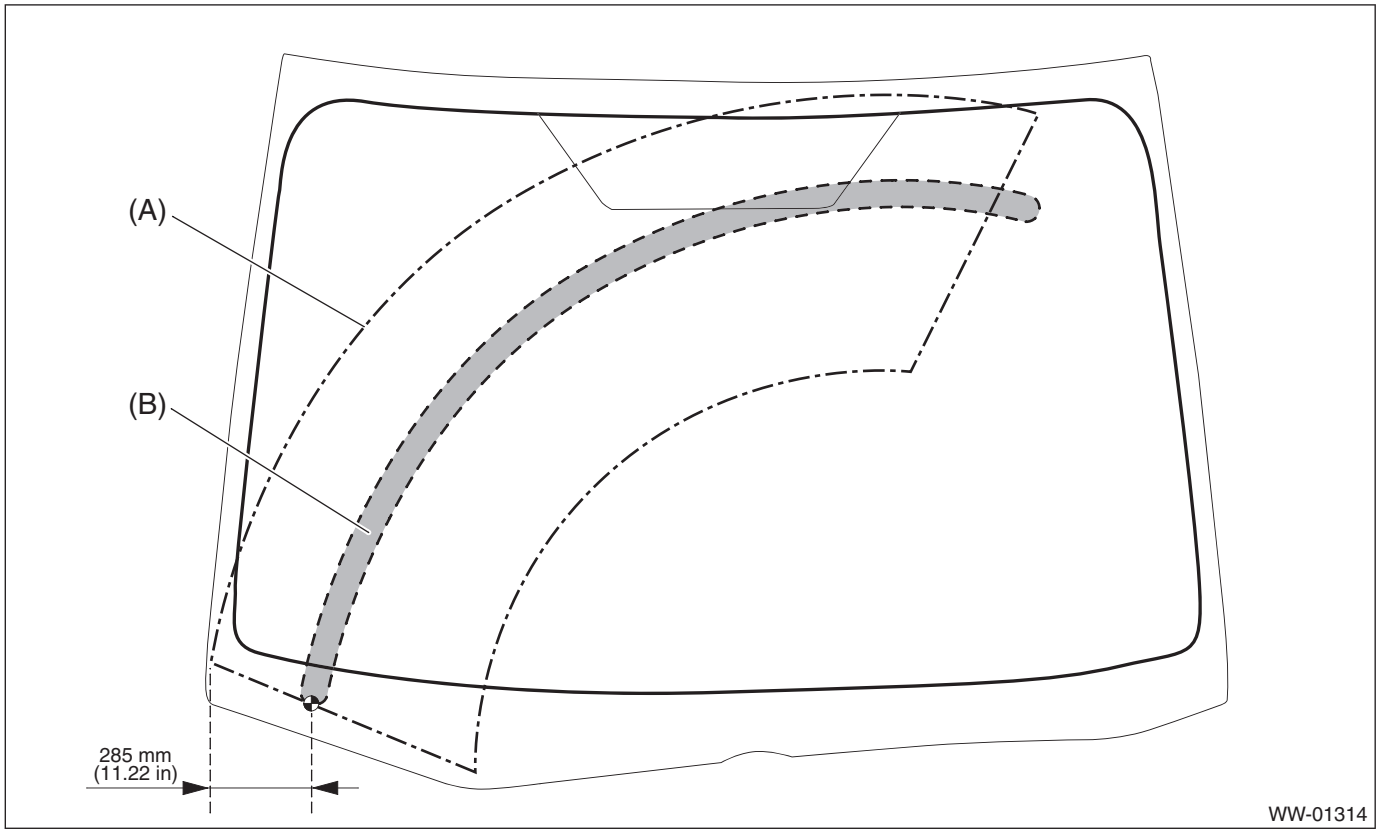


(A) Nozzle - windshield washer (B) Ceramic line

2. NOZZLE - WIPER ARM WASHER (MODEL WITH EyeSight)

CAUTION:
When performing adjustment, check the spray position of the nozzle - wiper arm washer at the wiper arm stop 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) If the spray position is significantly out of the specified area, replace the arm assembly - windshield wiper assistor with a new part.

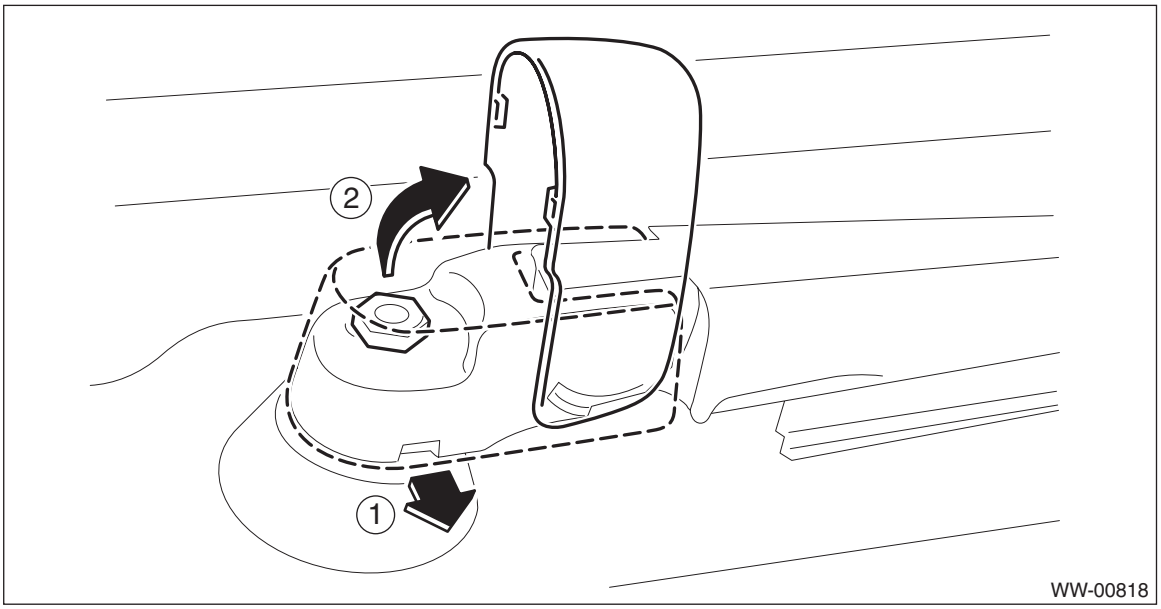


(A) Arm ASSY - windshield wiper assistor wiping area
(B) Spraying area

10.Rear Wiper Arm

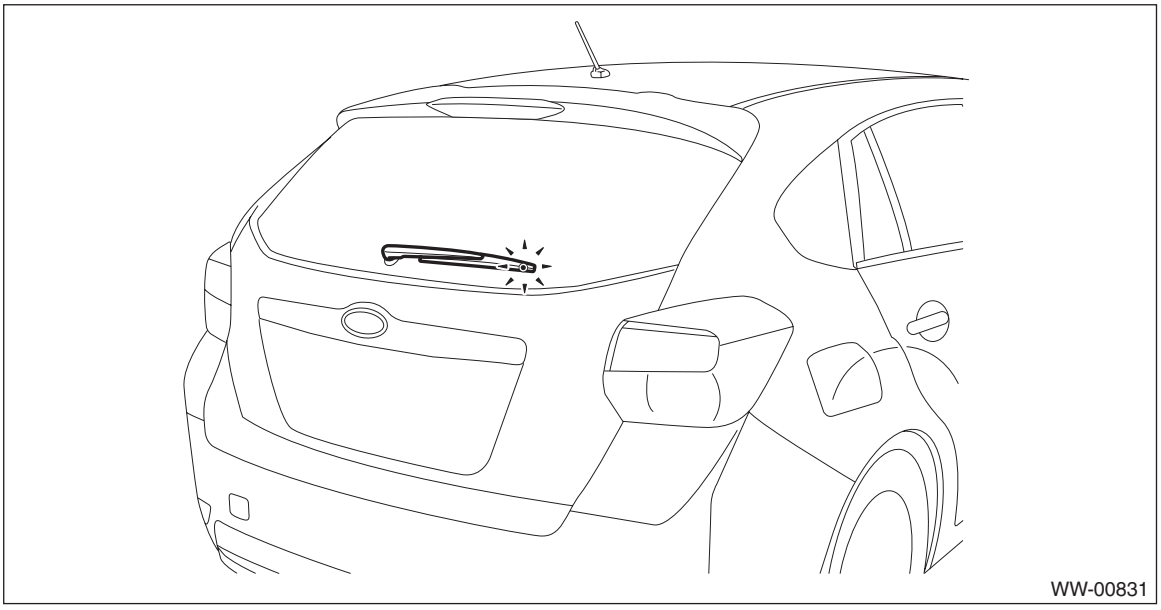
A: REMOVAL

1) Pull up the cover - rear wiper arm.
2) Remove the nut, and remove the arm assembly - rear wiper.



B: INSTALLATION

1) Install in the reverse order of removal.
2) Operate the rear wiper once.
3) Align the blade assembly - rear wiper with the marking on the glass, and then tighten the nut to the specified torque.

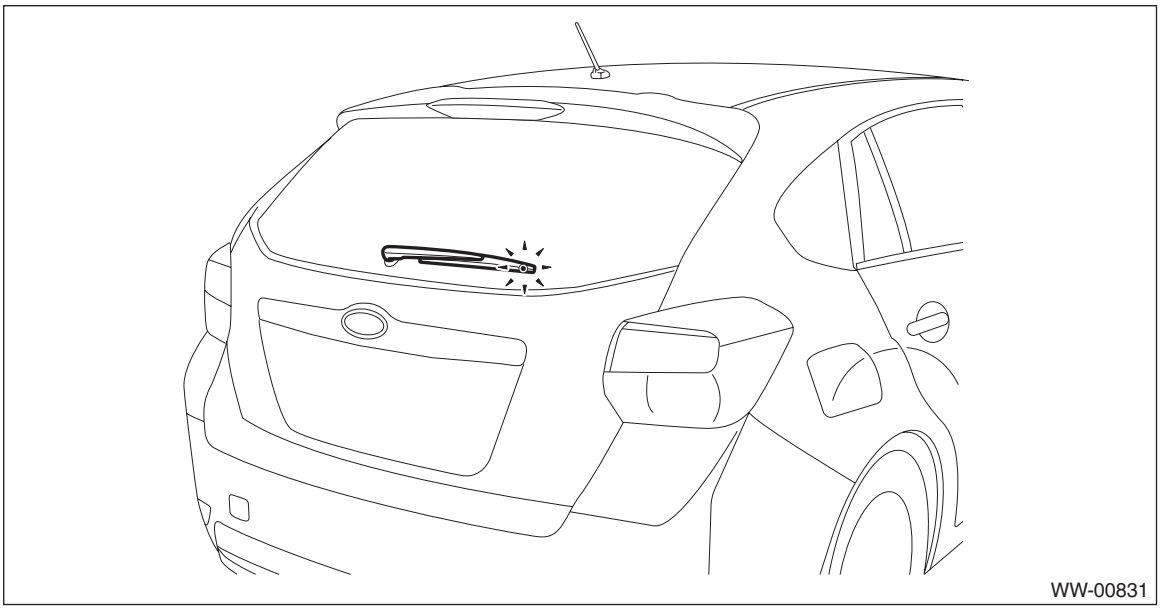


Tightening torque:
8 N·m (0.82 kgf-m, 5.9 ft-lb)

4) Operate the wiper to check whether the wiper blade aligns with the point mark. If not, perform installation over again.

C: ADJUSTMENT

1) Operate the rear wiper once.
2) Align the blade assembly - rear wiper with the marking on the glass.



3) If the wiper blade is not aligned with the point mark, perform the removal of the rear wiper arm to align with the marking. <Ref. to WW-45, REMOVAL, Rear Wiper Arm.>

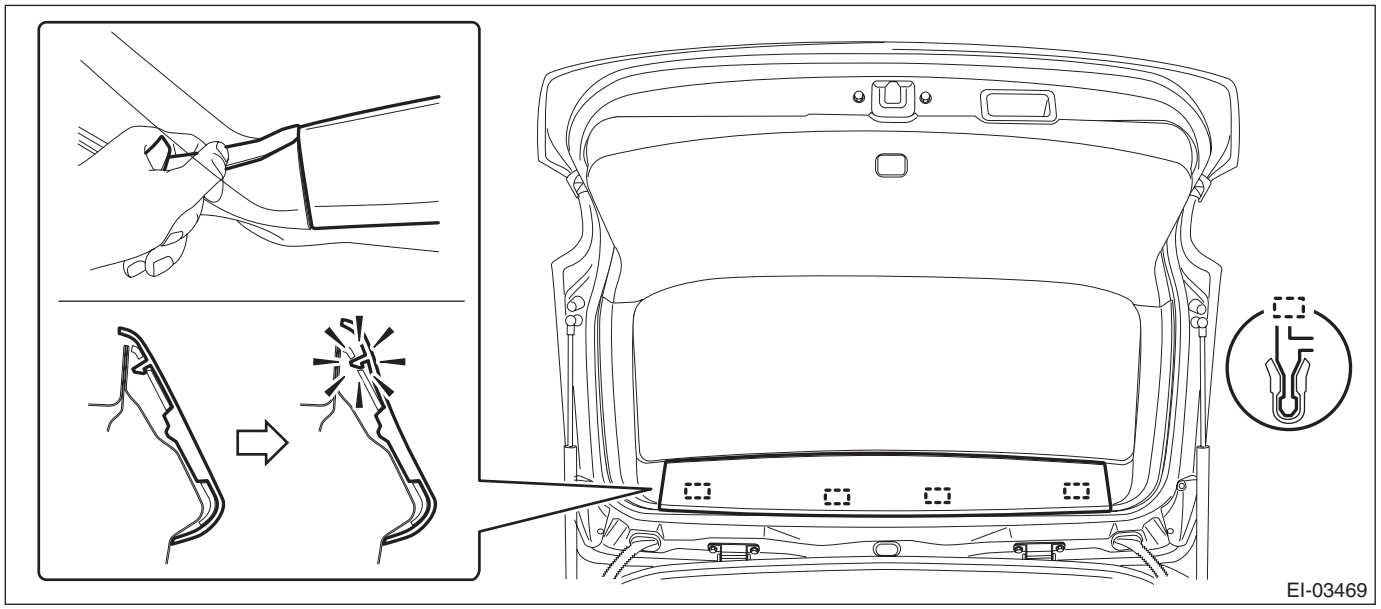
11.Rear Wiper Motor

A: REMOVAL

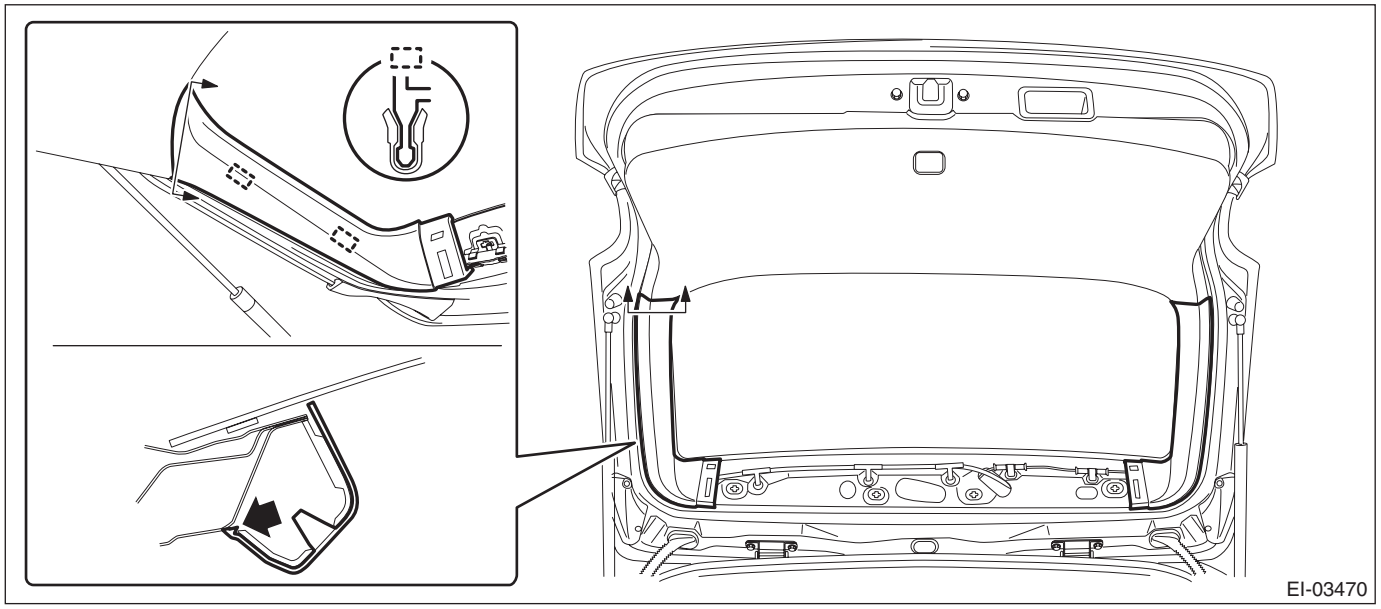
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

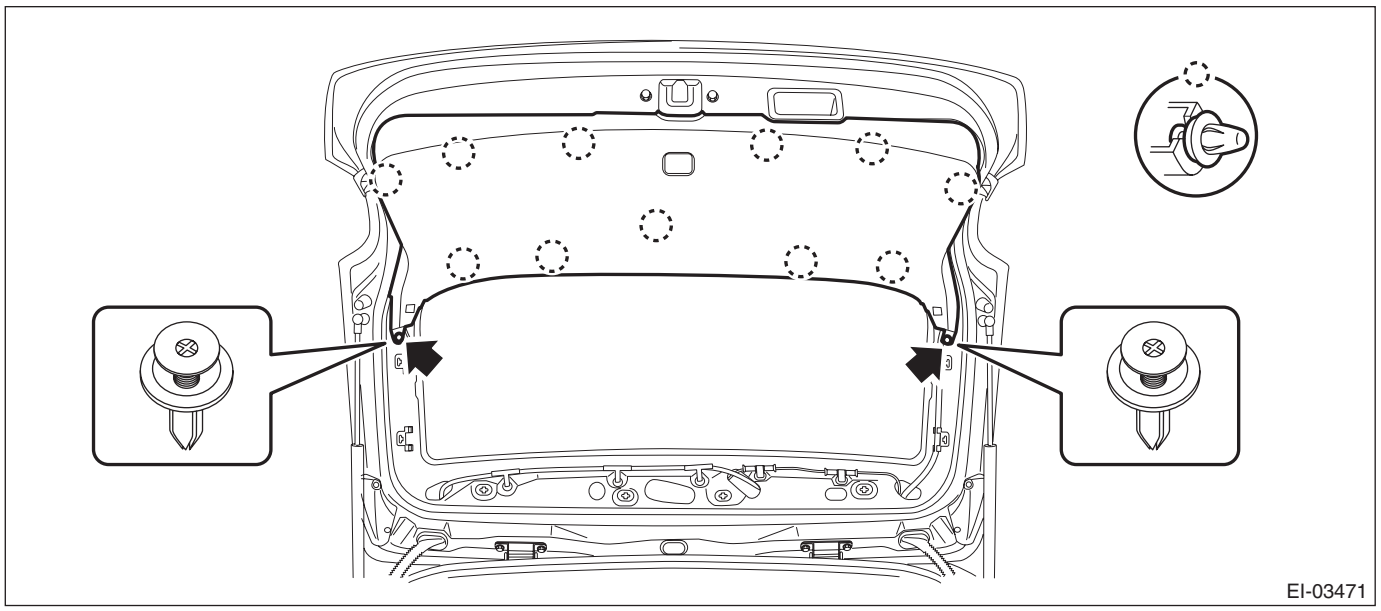
2) Remove the trim panel - rear gate UPR.
   (1) Remove the claws on the trim edge.
   (2) Release the claws in the center of trim, and remove the trim panel - rear gate UPR.



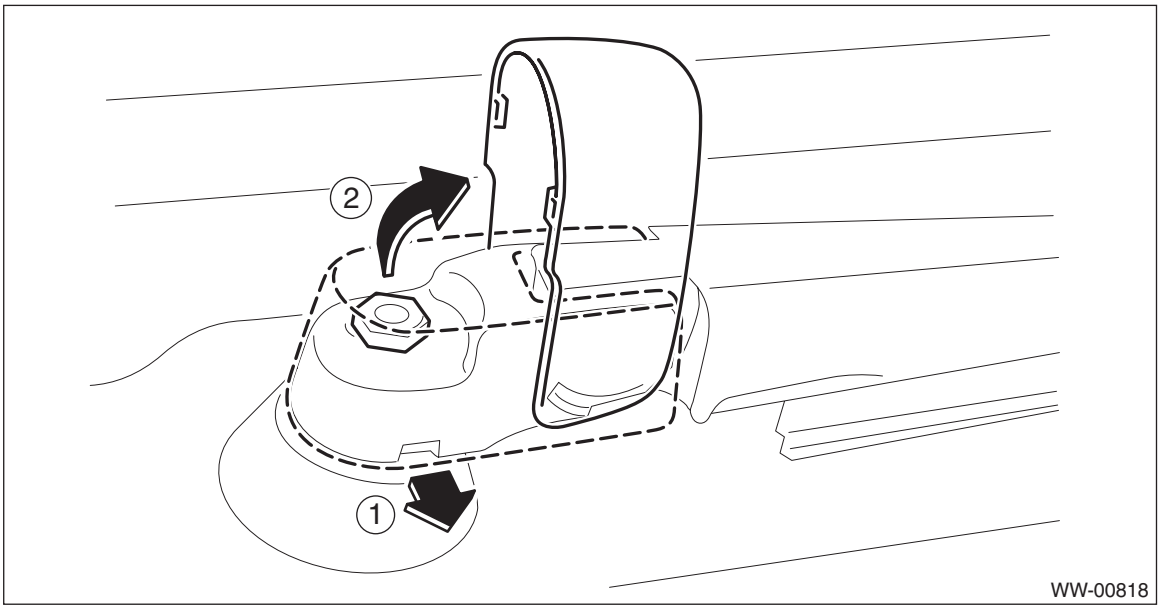
3) Remove the trim panel - rear gate pillar side.
   (1) Release the claws.
   (2) Remove the claws on the bottom of trim, and remove the trim panel - rear gate pillar side.



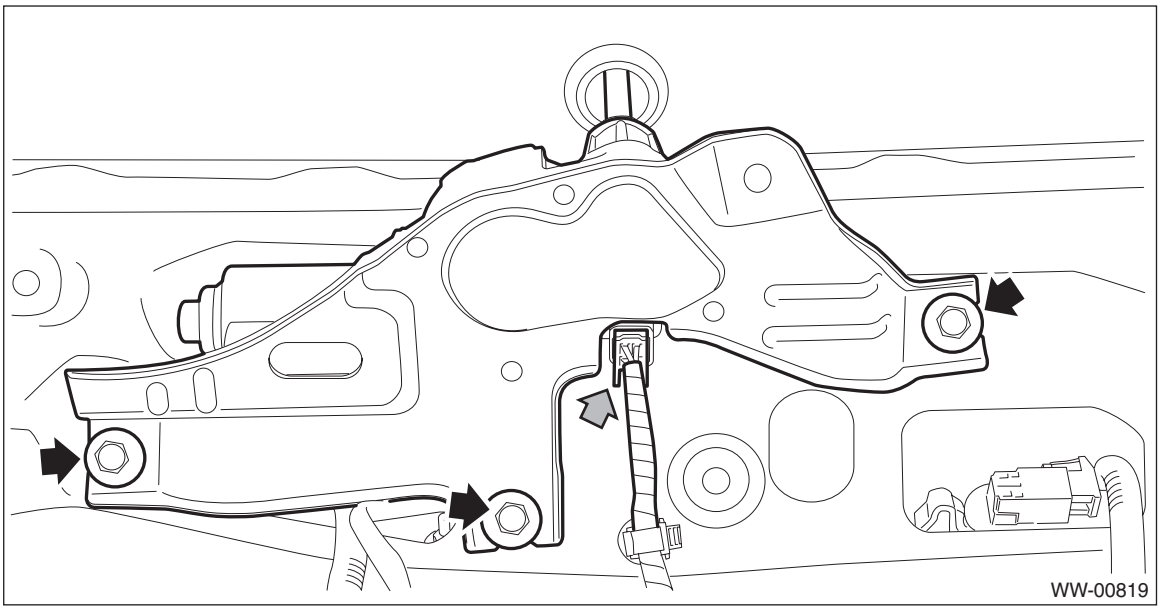
4) Remove the trim panel - rear gate LWR.
   (1) Remove the clips on both ends.
   (2) Release the clips, and remove the trim panel - rear gate LWR.



5) Remove the arm assembly - rear wiper.
   (1) Remove the cover - rear wiper arm.
   (2) Remove the nut, and remove the arm assembly - rear wiper.

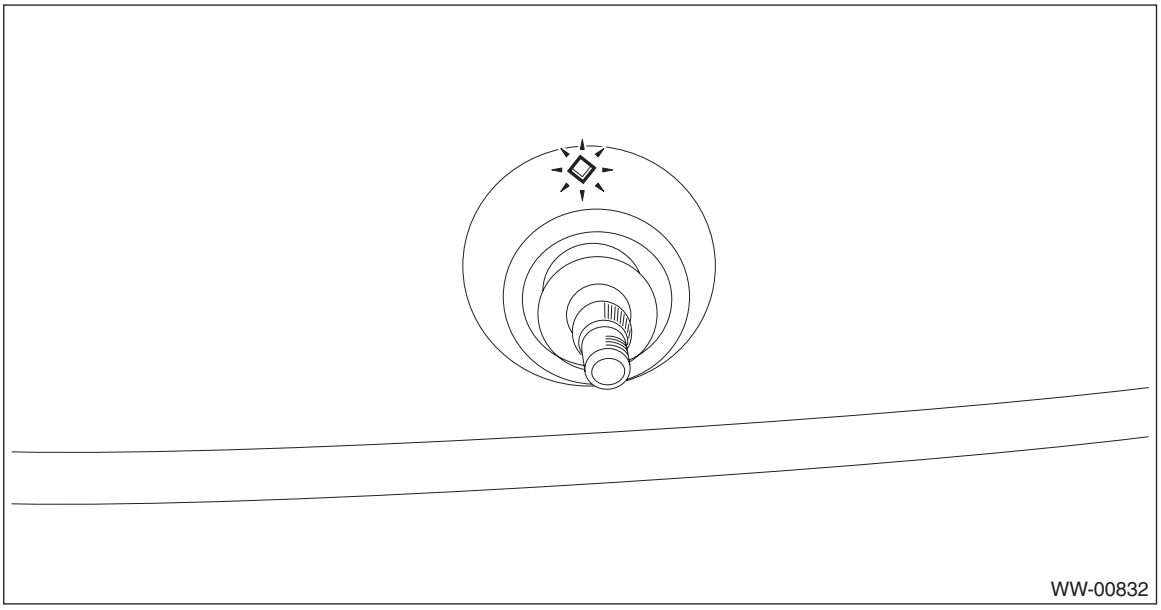


6) Remove the motor assembly - rear wiper.
   (1) Disconnect the harness connector of the motor assembly - rear wiper.
   (2) Remove the bolts, and remove the motor assembly - rear wiper.



B: INSTALLATION

1) Install each part in the reverse order of removal.
2) Check that the mark on the cap - pivot wiper faces up, as shown in the figure.

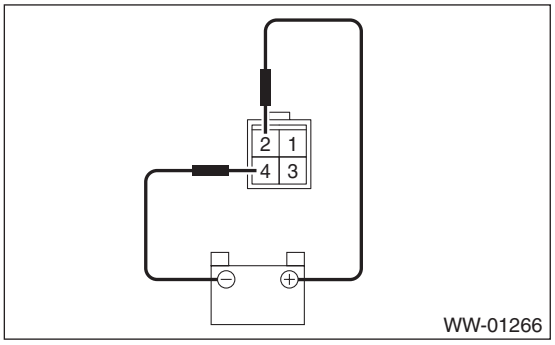


Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to WW-4, REAR WIPER, COMPONENT, General Description.>

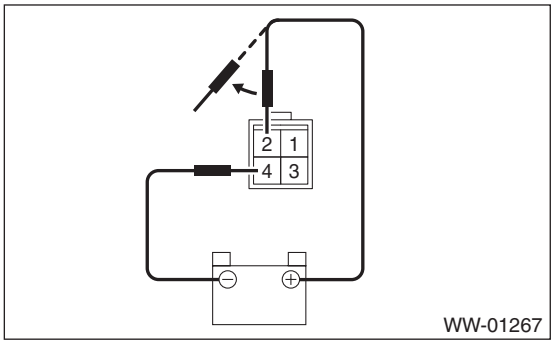
C: INSPECTION

CAUTION:
Fix the motor to prevent the motor from being shorted by moving during operation.

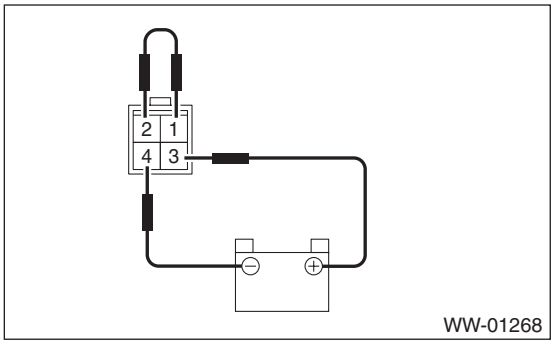
1) Connect the battery to the motor assembly - rear wiper connector, and check that the motor assembly - rear wiper operates.



2) Connect the battery to terminals of the connector, and remove the terminal connection with motor rotating, and stop the motor in mid-operation.



3) Connect the battery and check that the motor stops at the automatic stop position after the motor operates at low speed again.



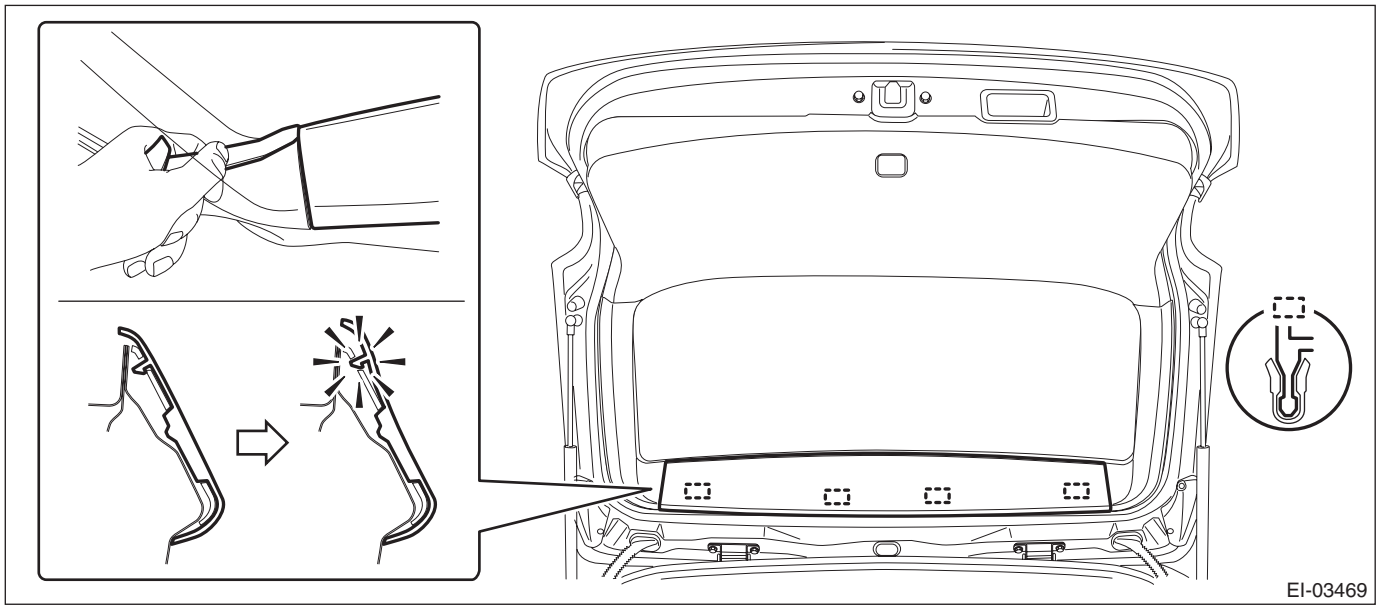
12.Rear Washer

A: REMOVAL

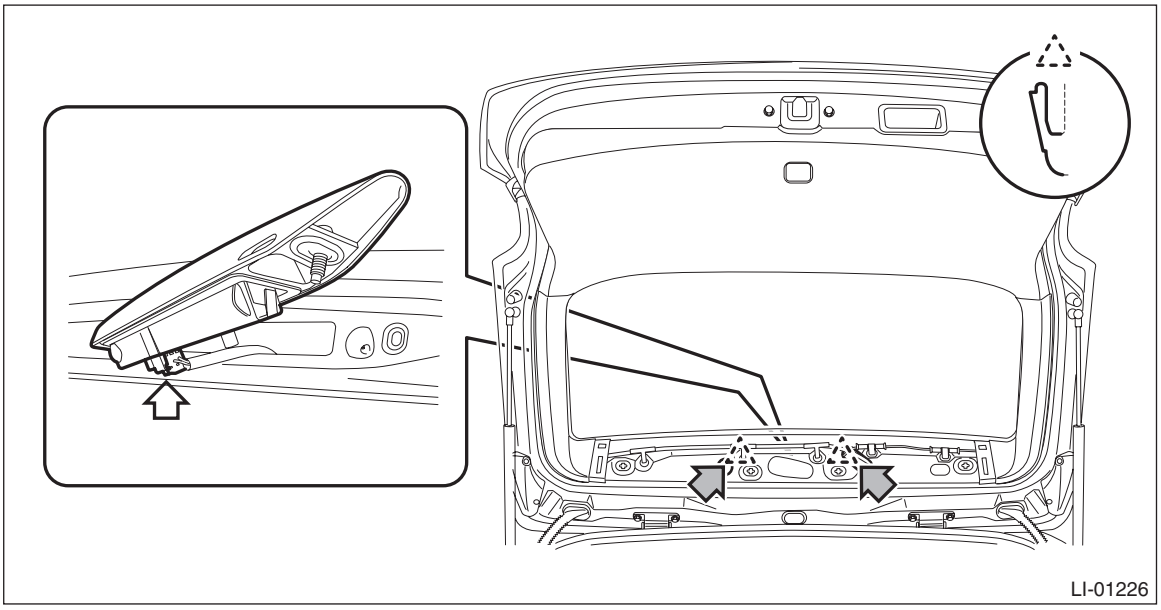
1) Disconnect the ground cable from battery. <Ref. to NT-5, BATTERY, NOTE, Note.>

NOTE:
For the 12 volt engine restart battery of HEV model, disconnect the ground terminal from 12V engine restart battery sensor.

2) Remove the trim panel - rear gate UPR.
   (1) Remove the claws on the trim edge.
   (2) Release the claws in the center of trim, and remove the trim panel - rear gate UPR.



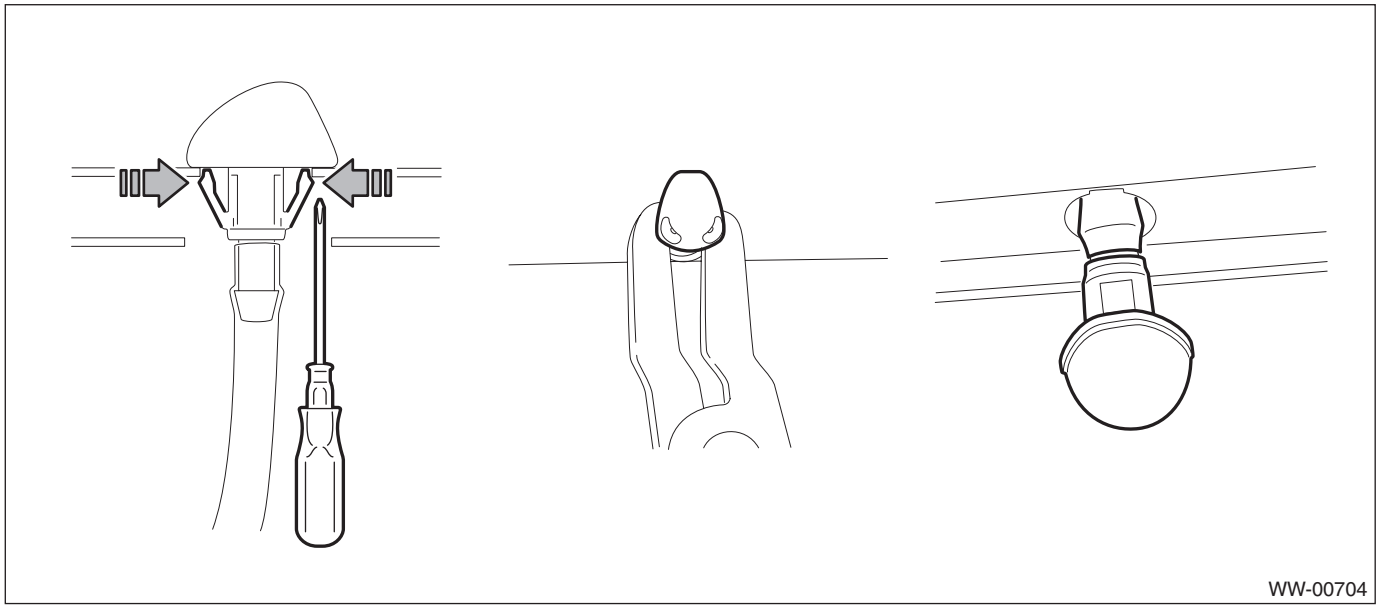
3) Remove the light assembly - high-mounted.
   (1) Remove the nut.
   (2) Disconnect the connector and remove the light assembly - high-mounted.



4) Remove the nozzle - rear washer.

CAUTION:
Before removing, apply protective tape to the body panel and used tools not to damage the panel - rear gate.

(1) Push the claw using a flat tip screwdriver, etc.
(2) When the nozzle - rear washer lifts up, pull out the nozzle - rear washer using a clip remover, etc.
(3) Disconnect the hose - rear washer, and remove the nozzle - rear washer.



B: INSTALLATION

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

Tightening torque:
Light assembly - high-mounted: 4.5 N·m (0.46 kgf-m, 3.3 ft-lb)

2) Check the nozzle - rear washer position. <Ref. to WW-53, VISUAL INSPECTION, INSPECTION, Rear Washer.>

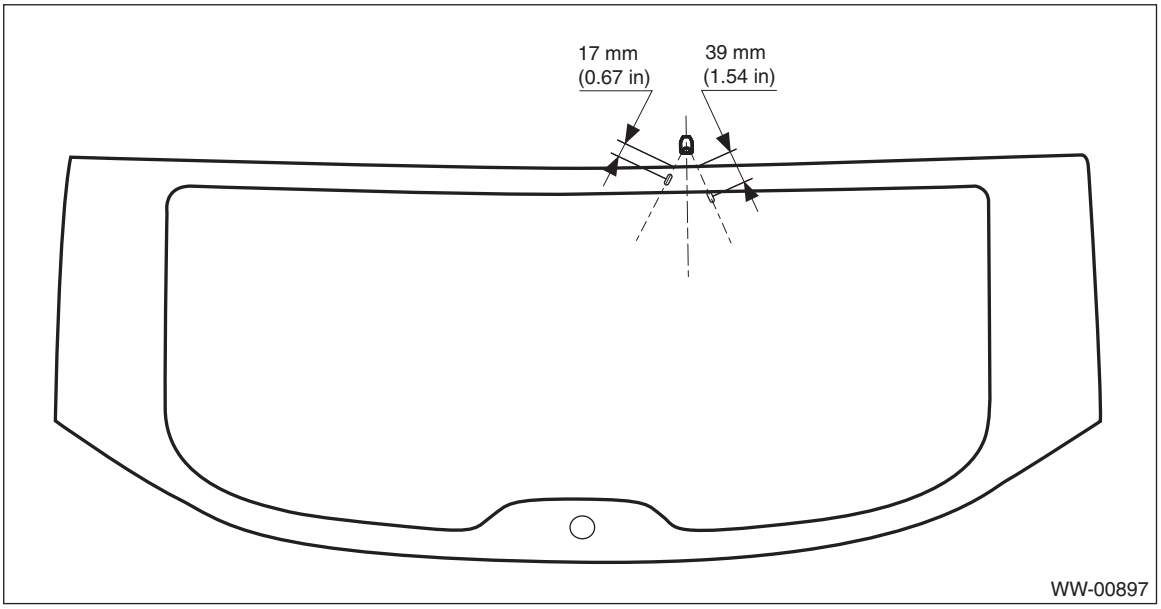
C: INSPECTION

1. VISUAL INSPECTION

Check for the following items, and if any malfunction is found, replace the corresponding part.
- Make sure the nozzle - rear washer and the hose - rear washer are not clogged.
- Make sure the hose - rear washer 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 significantly out of the specified range, replace the nozzle - rear washer with a new part.



ENTERTAINMENT

ET

		Page
1.	General Description	2
2.	Relay and Fuse	3
3.	Audio System	4
4.	Navigation System	8
5.	Audio	12
6.	Front Speaker	15
7.	Rear Speaker	18
8.	Antenna	20
9.	Steering Satellite Switch	32
10.	Microphone	34
11.	Navigation Body	35
12.	GPS Antenna	36
13.	Rearview Camera System	37
14.	Front Accessory Power Supply Socket	46
15.	Rear Accessory Power Supply Socket	48
16.	External Connection Terminal	49
17.	Diagnostics with Phenomenon	50