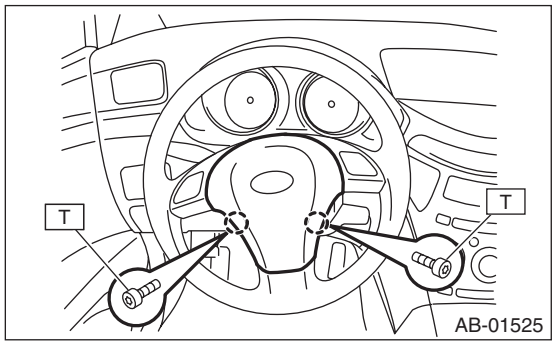
1. General Description

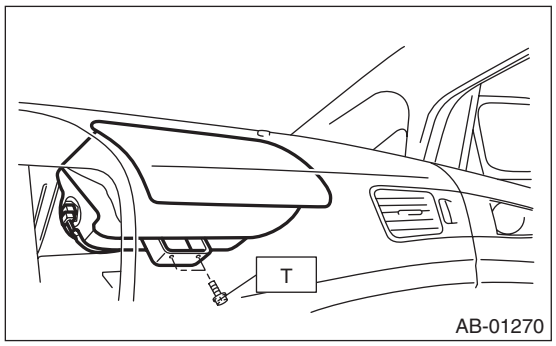
A: COMPONENT

1. DRIVER'S AIRBAG MODULE



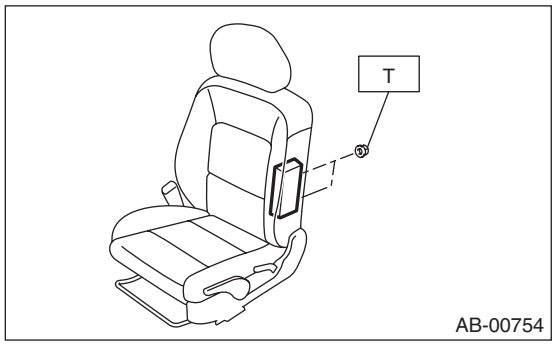
Tightening torque:
10 N·m (1.0 kgf-m, 7.2 ft-lb)

2. PASSENGER'S AIRBAG MODULE



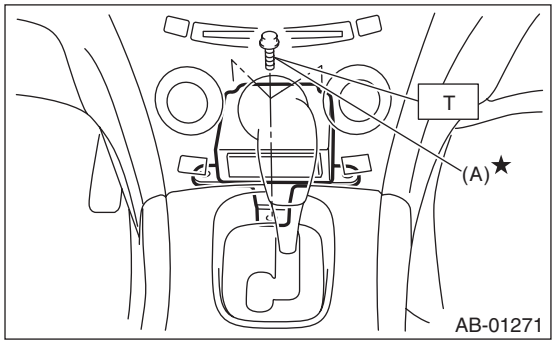
Tightening torque:
7.4 N·m (0.75 kgf-m, 5.5 ft-lb)

3. SIDE AIRBAG MODULE



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

4. AIRBAG CONTROL MODULE

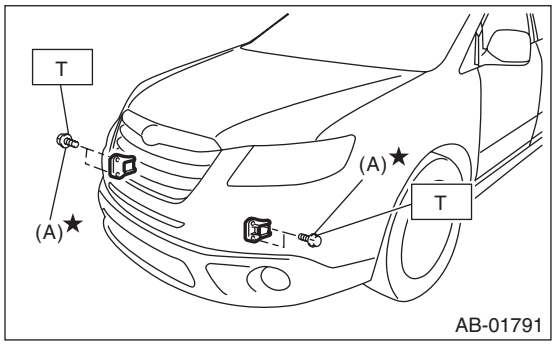


(A) Bolt

Tightening torque:
25 N·m (2.5 kgf-m, 18.1 ft-lb)

CAUTION:
Do not reuse mounting bolts and nuts.

5. FRONT SUB SENSOR

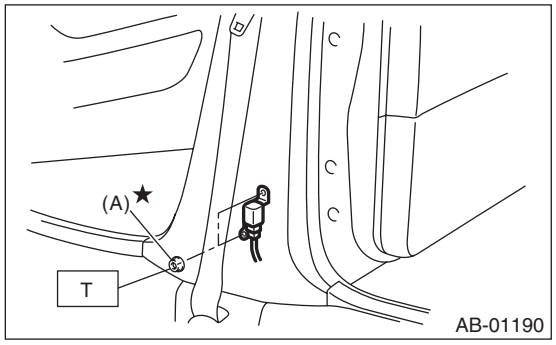


(A) Bolt

Tightening torque:
13 N·m (1.32 kgf-m, 9.6 ft-lb)

CAUTION:
Do not reuse mounting bolts and nuts.

6. SIDE AIRBAG SENSOR

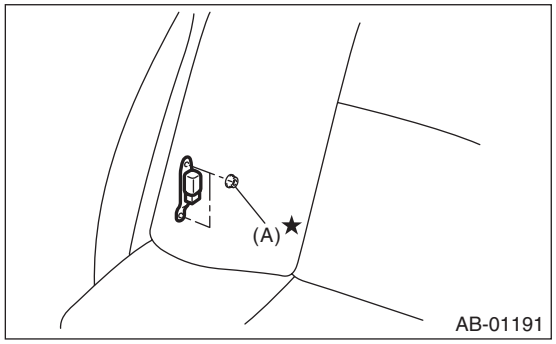


(A) Bolt

Tightening torque:
8 N·m (0.82 kgf-m, 5.9 ft-lb)

CAUTION:
Do not reuse mounting bolts and nuts.

7. CURTAIN AIRBAG SENSOR

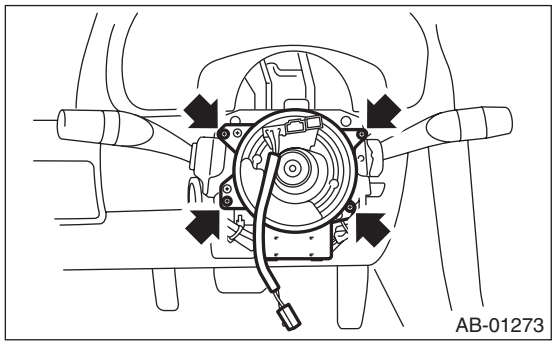


(A) Nut

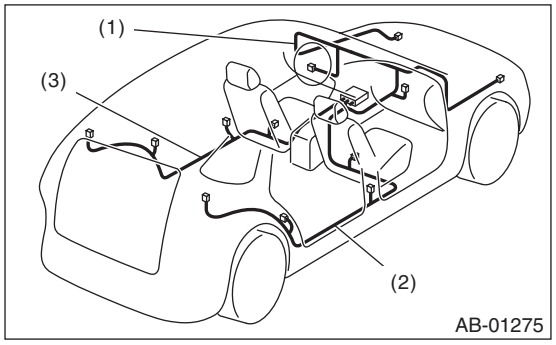
Tightening torque:
8 N·m (0.82 kgf-m, 5.9 ft-lb)

CAUTION:
Do not reuse mounting bolts and nuts.

8. STEERING ROLL CONNECTOR

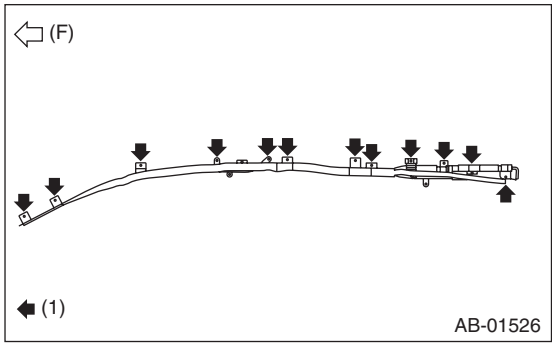


9. AIRBAG HARNESS



(1) Airbag main harness
(2) Airbag rear harness RH
(3) Airbag rear harness LH

10.CURTAIN AIRBAG MODULE



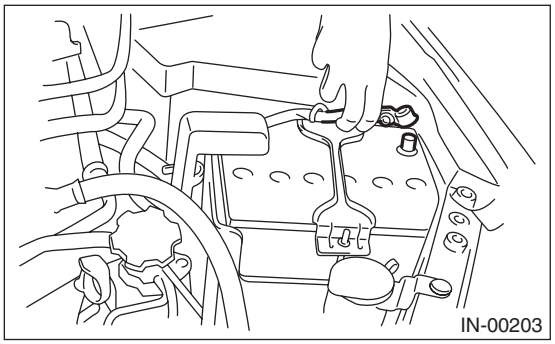
(F) Front side of vehicle

(1) Bolt

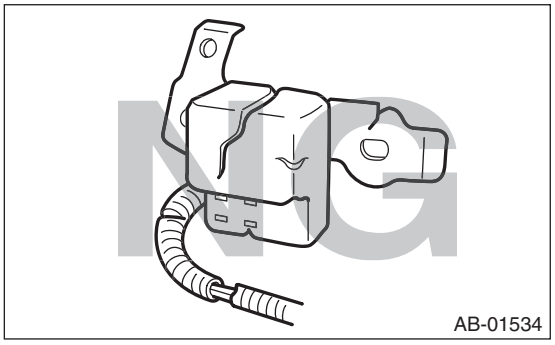
Tightening torque:
7.5 N·m (0.77 kgf-m, 5.5 ft-lb)

B: CAUTION

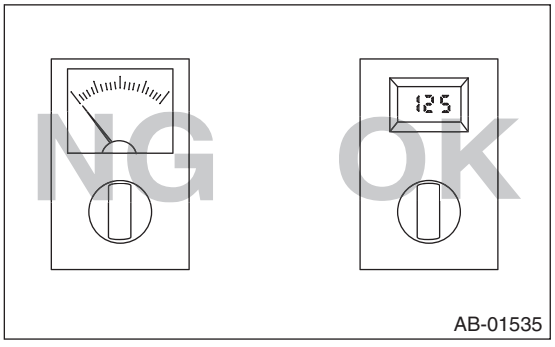
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for more than 20 seconds before starting work.
• The airbag system is fitted with a backup power source. After disconnecting the battery ground cable, the airbag may deploy if you do not wait for more than 20 seconds before starting the service of airbag system.



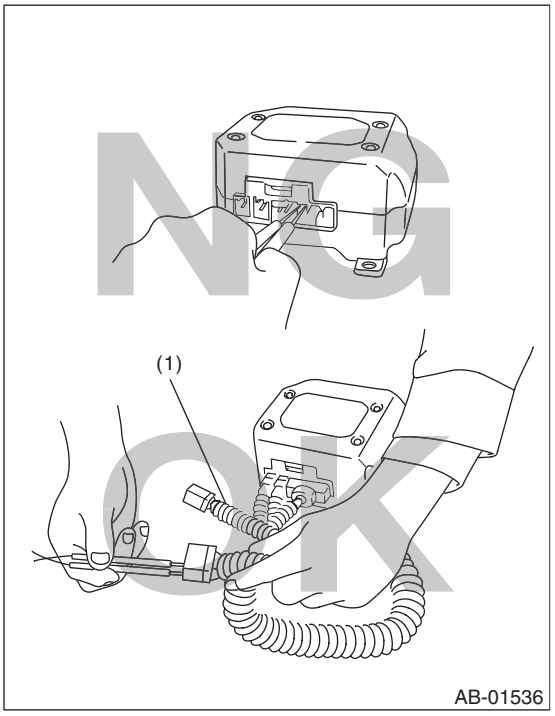
• If the airbag warning light illuminates, repair the vehicle immediately. Otherwise, the airbag or pretensioner may inflate incorrectly, or not inflate in collision.
• If sensors, airbag module, airbag control module, pretensioner or harness is deformed or damaged, replace with new part.



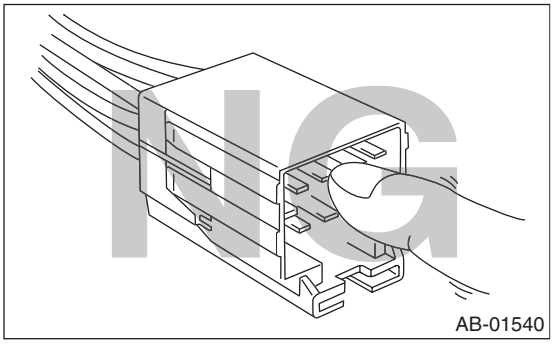
• When checking the airbag system, be sure to use a digital circuit tester. Use of an analog circuit tester may cause the airbag to activate erroneously due to a minimal current inside tester.



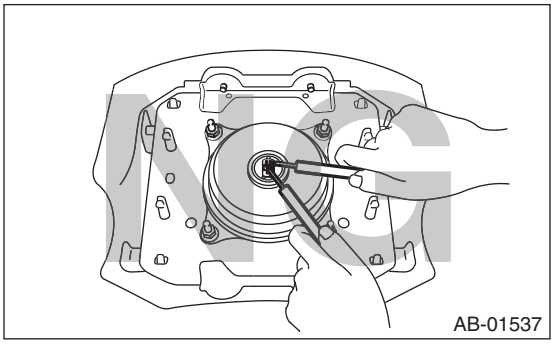
• When checking, use a test harness (1). Damage to connector terminal cause malfunction. Do not directly apply the tester probe to connector terminal of airbag.



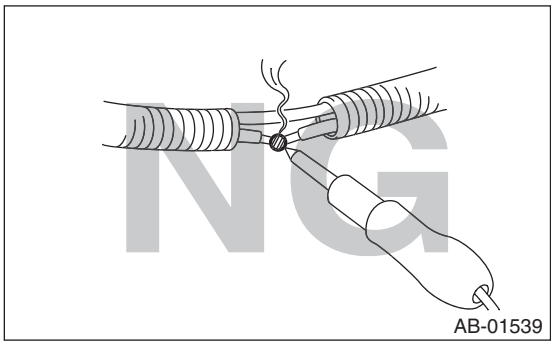
• Do not allow water or oil to come in contact with the connector terminals. Also do not touch the connector terminals.



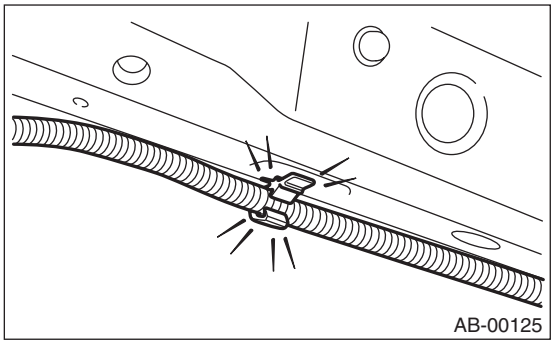
• Do not check continuity of the airbag modules for driver's side, passenger's side and curtain, or the pretensioner.



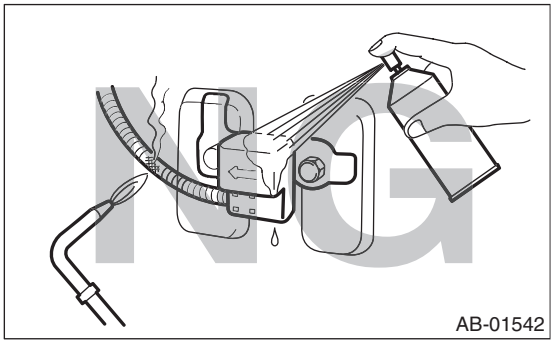
• If damage, open circuit or rust is found on airbag system wiring harness, do not use a soldering equipment to repair. Replace the faulty harness with a new genuine part.



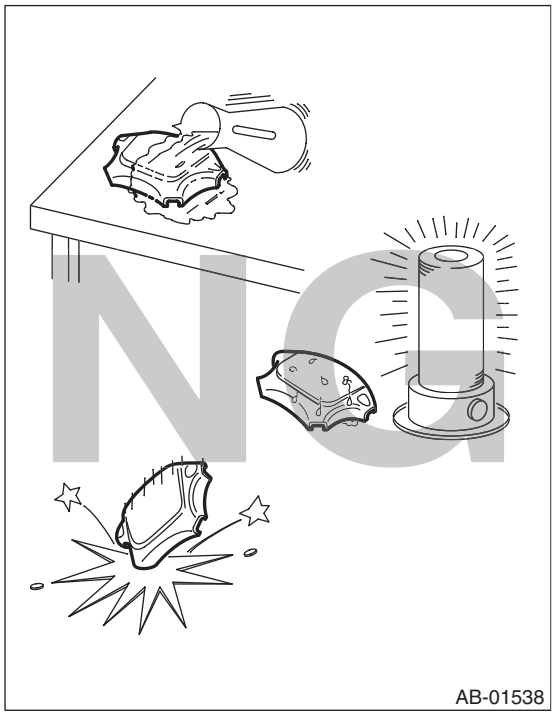
• Install the wiring harness securely with the specified clips to avoid interference or tangled with other parts.



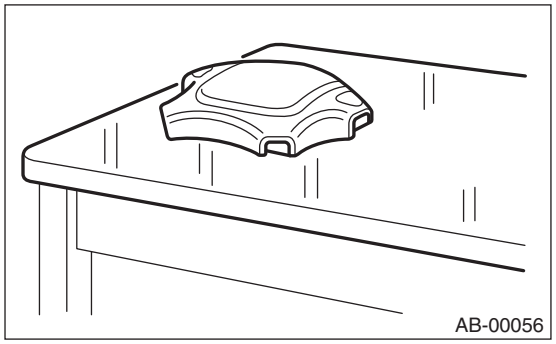
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and front side frame, remove the front sub sensors and wiring harness of airbag system.
• When painting or performing sheet metal work on the side of the vehicle, including the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



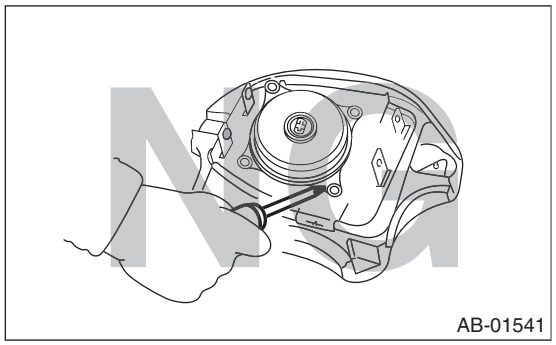
• Do not use the airbag or pretensioner parts from other vehicles. Always replace the defective parts with new parts.
• Never reuse a deployed airbag module and pretensioner.
• Do not discard the uninflated airbag or pretensioner.
• When airbag control module, front sub sensor, side airbag sensor and curtain airbag sensor are removed, do not reuse the bolts and nuts of them. Always use new bolts and nuts for them.
• Do not drop each airbag module, airbag control module and each sensor, or store these parts under high temperature over 93°C (199°F), or let water, oil or grease get on them; the internal parts may be damaged or the reliability may be greatly lowered.



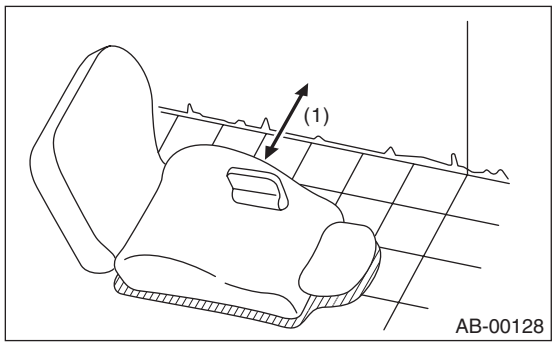
• After removal of each parts for airbag system, keep them with the pad facing upward on a dry, clean and flat surface without heat, light sources, moisture and dust.



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

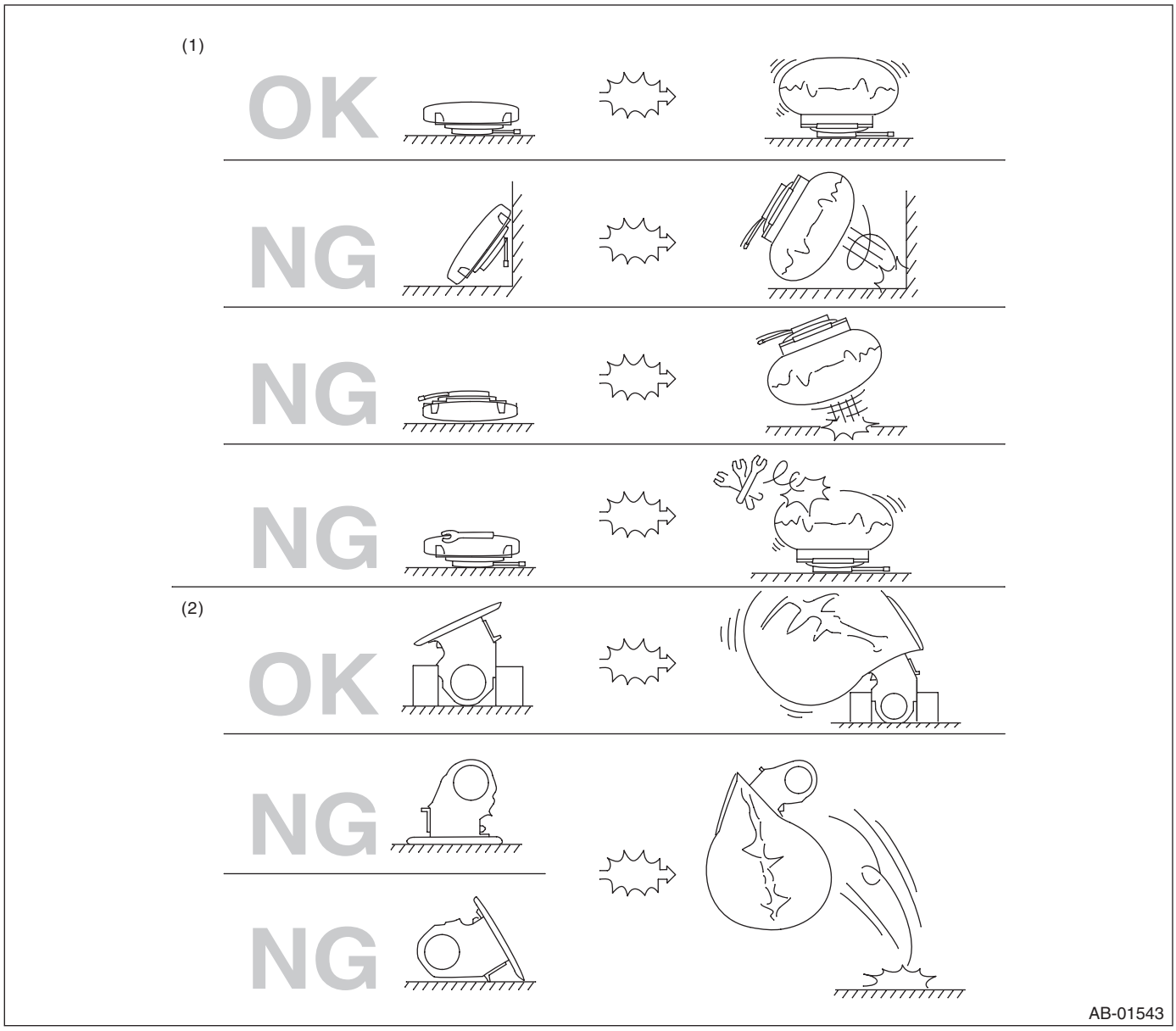


• When performing attachment of the steering wheel and steering roll connector, make sure to perform adjustment of the steering roll connector.
• The removed front seat with airbag module must be kept at least 200 mm (8 in) away from walls and other objects.



(1) 200 mm (8 in) or more

• When storing a removed airbag module, do not place the airbag with its pad side facing downward. Do not place any objects on the airbag module. Do not pile up the airbag module. If the airbag inflates for some reason when an airbag module pad is touching other objects, it may cause serious accident.



(1) Driver's airbag module (2) Passenger's airbag module

C: PREPARATION TOOL

1. GENERAL TOOL

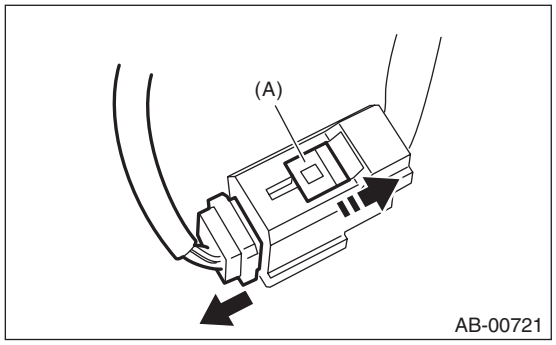
TOOL NAME	REMARKS
TORX® bit T30	Used for removing and installing driver's airbag module.

2. Airbag Connector

A: PROCEDURE

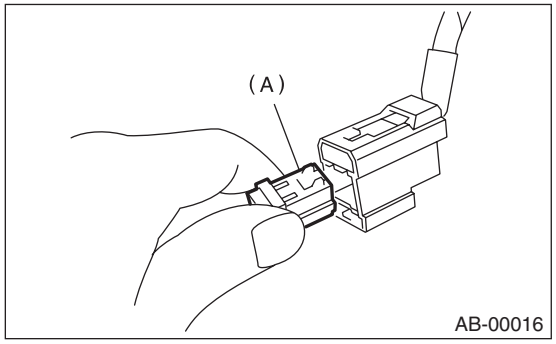
1. BUCKLE SWITCH

1) How to disconnect:
(1) Move the slide lock (A) in the direction of arrow.
(2) While holding the slide lock (A) in moved position, disconnect the connector.



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

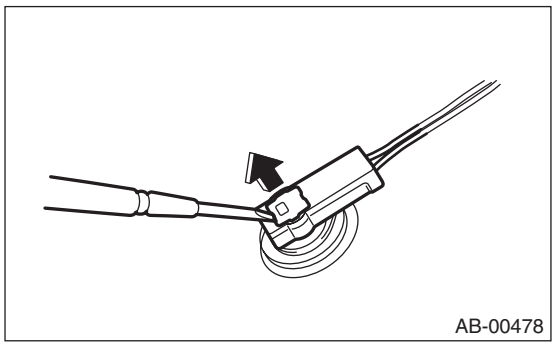
2) How to connect:
Holding the connector (A), and push it in carefully until a clicking sound is heard.



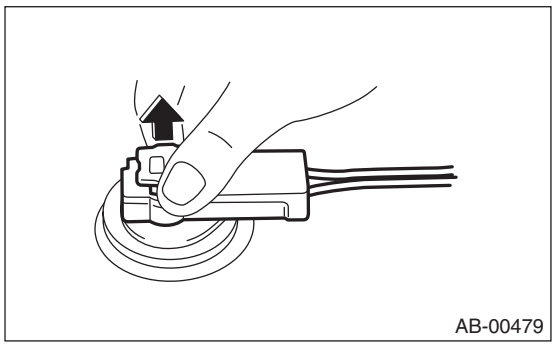
CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.

2. DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE AND PRETENSIONER

1) How to disconnect:
(1) Using a flat tip screwdriver, pry the push lock upward to unlock.

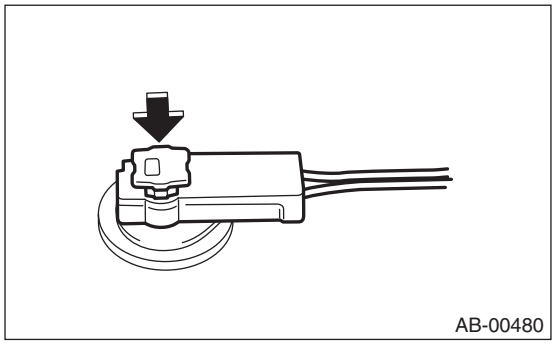


(2) Pull and disconnect the connector from the driver's airbag module assembly or retractor assembly.



2) How to connect:
Connect the connector in the reverse order of disconnecting. At this time, be sure to insert the push lock until a clicking sound is heard.

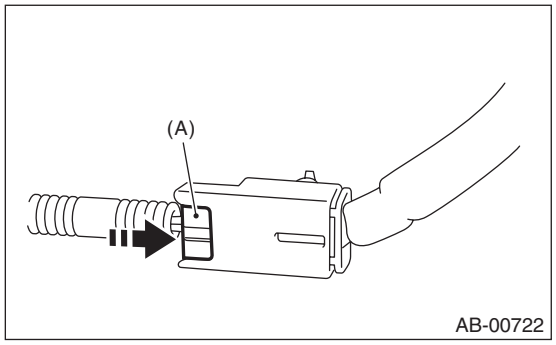
CAUTION:
- **Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.**
- **Be sure to push the push lock in securely.**



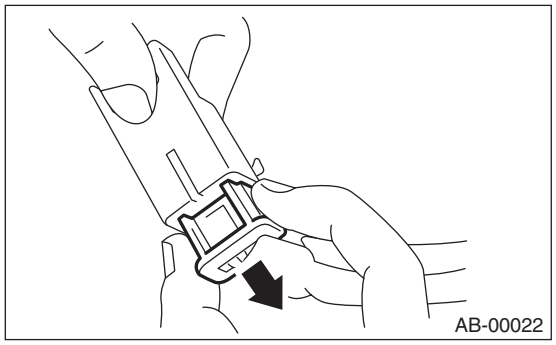
NOTE:
The connector can not be connected when the push lock is in the lock position. To connect the connector, set the push lock to unlock position.

3. DRIVER'S AIRBAG (BETWEEN AIRBAG MAIN HARNESS AND ROLL CONNECTOR) AND PASSENGER'S AIRBAG

1) How to disconnect:
(1) Push the slide lock (A) into the direction of arrow.



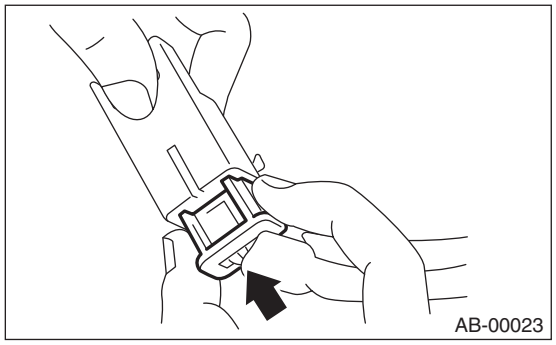
(2) With the slide lock pushed, disconnect the connector.



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

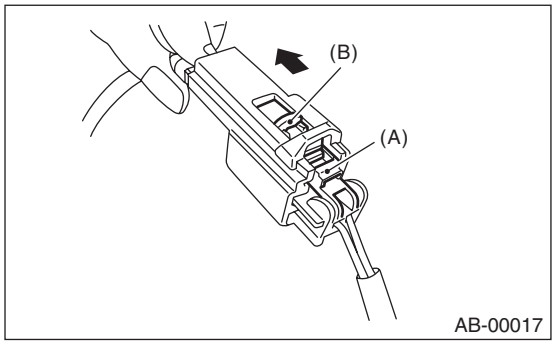
2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.



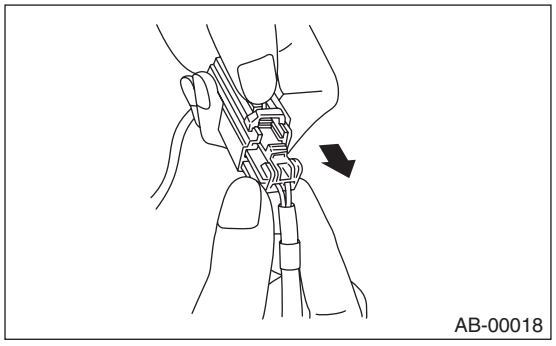
4. SIDE AIRBAG

1) How to disconnect:
(1) Push the lock arm (A).
(2) With the lock arm (A) pushed in, move the slide lock (B) in the direction of arrow.



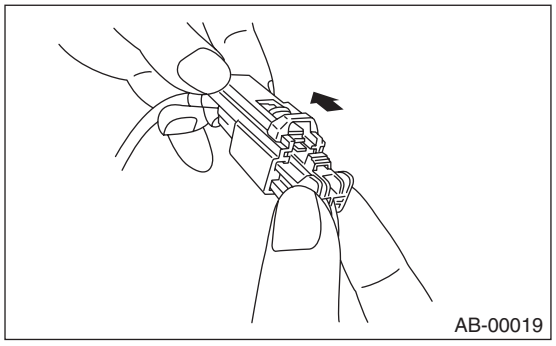
(3) While holding the slide lock in that position, release the lock arm (back to the original position), and disconnect the connector.

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.

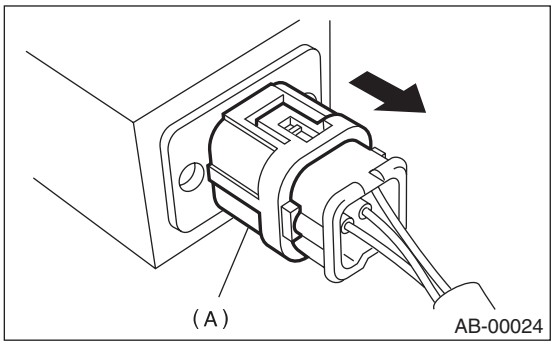
CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.



5. FRONT SUB SENSOR, SIDE AIRBAG SENSOR, CURTAIN AIRBAG SENSOR AND SEAT POSITION SENSOR

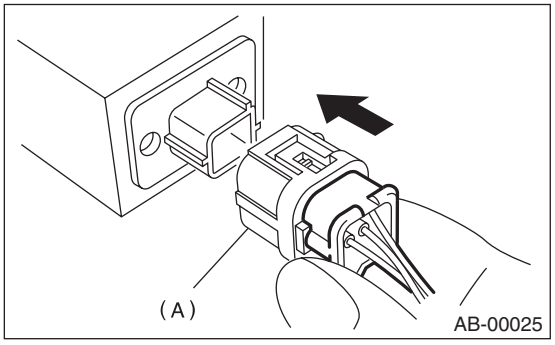
1) How to disconnect:
Holding outer part (A), pull it in the direction of arrow.

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.

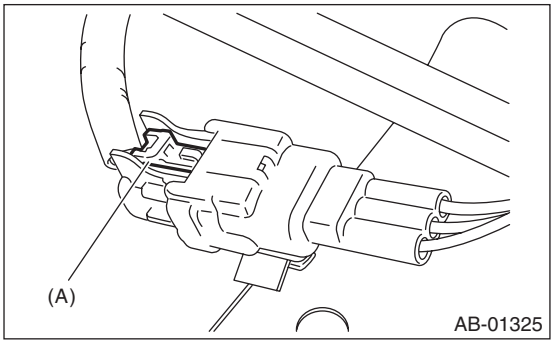
CAUTION:
• Outer side (A) move back, and so do not put your hand on the outer part.
• Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.



6. PASSENGER DETECTION SYSTEM (BETWEEN AIRBAG REAR HARNESS AND SEAT HARNESS) AND BELT TENSION SENSOR

1) How to disconnect:
Push lock arm (A), then 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.

3. Inspection Locations After a Collision

A: REPLACEMENT

Replace the following parts when the airbag is deployed.

1. FRONT COLLISION

1) Driver's airbag module
2) Passenger's airbag module
3) Driver's seat belt (Pretensioner)
4) Passenger's seat belt (Pretensioner)
5) Airbag control module
6) Front sub sensor (L/R)
7) Roll connector
8) Instrument panel (for integrating with passenger's airbag module)
9) Passenger side seat cushion pad and frame assembly

2. SIDE COLLISION

1) Airbag control module
2) Side airbag module (Operating side seat backrest)
3) Side airbag sensor (Operating side)
4) Curtain airbag module (Operating side)
5) Curtain airbag sensor (Operating side)

3. INSPECTION OF OTHER PARTS

Check for the following parts, and replace the damaged parts with new parts.
1) Steering wheel and steering shaft
Check the steering shaft for mounting conditions and deflection of front and rear, upward and downward directions, and deflection of front and rear direction with tilt lever released. (After a collision, there is a good chance that the shock absorbing part of steering shaft may have operated.)
2) Check the connectors of airbag module, pretensioner, etc. for damage, and also check each harness for pinch and connector damage. Replace the harness as a unit if damage is found.
3) Check the seat cushion pad and frame assembly, backrest, seat rail and headrest for deformation, distortion, crack, and installing condition and play.
4) For passenger's seat, replace the seat cushion pad and frame assembly with new part if it is deformed or cracked.
5) If there are tears or loosening in the passenger side seat cushion cover, it may interfere with the proper operation of the passenger detection system. Replace with a new cushion cover.
6) Be sure to perform the system calibration for the occupant detection system after removing or replacing the passenger seat cushion cover. Failure to do so may cause improper operation of the passenger detection system. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
7) Use the Subaru Select Monitor to check whether the driver's seat position sensor and the driver's and the front left/right seat belt buckle switches are operating normally.

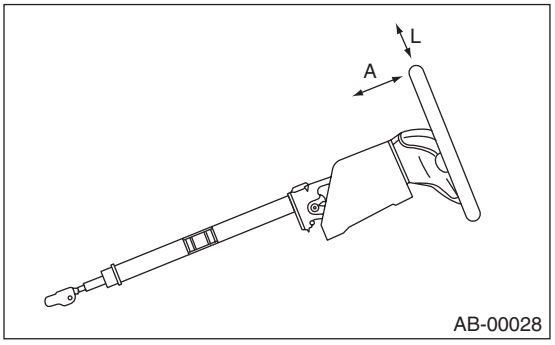
B: INSPECTION

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

1. DRIVER'S AIRBAG MODULE

1) Check for the following, and replace the damaged parts with new parts.
• Airbag module is cracked or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
• The module surface is fouled with grease, oil, water or cleaning solvent.
2) When installing a new driver's airbag module, check for the following, and replace the damaged parts with new parts.
• 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.
• When steering wheel deformation in axial and vertical directions exceed limits.

Specification:
Axial deflection A
Less than 6 mm (0.24 in)
Vertical deflection L
Less than 7 mm (0.28 in)



2. PASSENGER'S AIRBAG MODULE

Check for the following, and replace the damaged parts with new parts.
- Airbag module and instrument panel are cracked or deformed.
- Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
- Mounting bracket is cracked or deformed.

3. SIDE AIRBAG MODULE

Check for the following, and replace the damaged parts with new parts.
- Front seat, airbag module and mounting bracket are damaged or deformed.
- Harness and/or connector is cracked, deformed or open. Harness wire is exposed.

4. CURTAIN AIRBAG MODULE

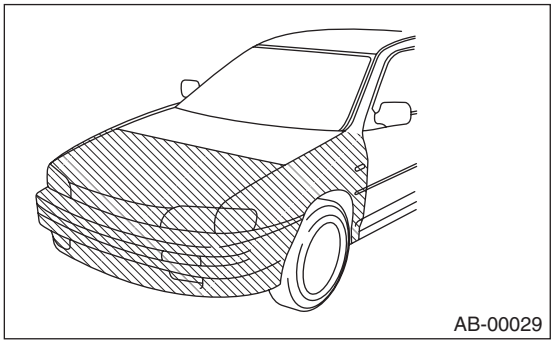
Check for the following, and replace the damaged parts with new parts.
- Airbag cover is scratched or broken.
- Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
- Mounting bracket and securing clip are cracked or deformed.

5. AIRBAG CONTROL MODULE

Check for the following, and replace the damaged parts with new parts.
- Control module is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Airbag is deployed.
- Side airbag is deployed.
- Curtain airbag is deployed.

6. FRONT SUB SENSOR

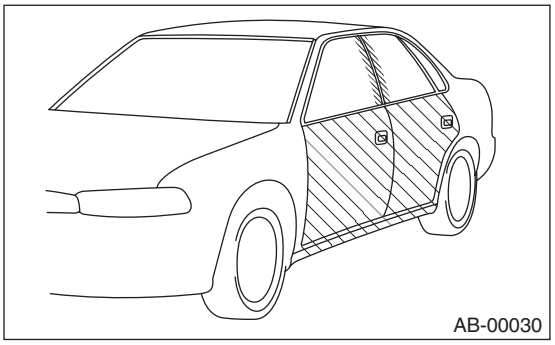
If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.



- Front sub sensor is cracked or deformed.
- Mounting bracket is cracked or deformed.
- Connector is scratched, cracked or deformed.
- Airbag is deployed.

7. 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.



- 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 or curtain airbag is deployed. (operating side)

8. ROLL CONNECTOR

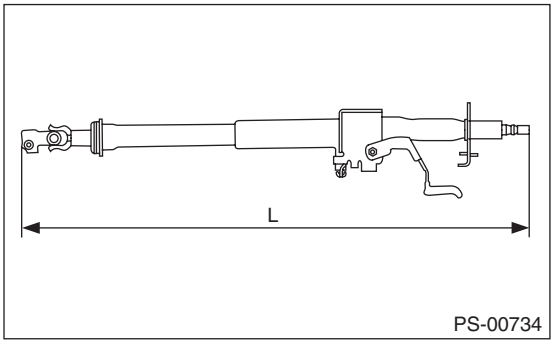
Check for the following, and replace the damaged parts with new parts.
- Combination switch or steering roll connector is cracked or deformed.

9. STEERING SHAFT

Check for the following, and replace the damaged parts with new parts.
- Overall length of steering column should be within specification.

Specification:

Overall length L
$917.5^{+1.3}_{-0.3}$ mm ($36.12^{+0.051}_{-0.012}$ in)



10.DRIVER'S SEAT

Check for the following, and replace the damaged parts with new parts.
• Seat belt buckle or seat position sensor body/ bracket is cracked or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.

11.PASSENGER'S SEAT

1) Check for the following, and replace the damaged parts with new parts.
• Seat belt buckle body, bracket or connector is scratched, cracked or deformed.
• Backrest frame for crack or deformation
• Headrest for deformation or play
• If the seat cushion cover and seat backrest cover is scratched or coming loose, replace with a new cover and readjust the system. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>

CAUTION:
If any of the following applies, replace the seat cushion pad and frame assembly. Do not disassemble.
• Cracks or deformation found in the seat cushion frame or seat cushion pad.
• Scratches, cracks, or deformation found on the passenger detection system pressure sensor hoses or passenger detection control module, or attachment brackets of the control module.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
2) After checking the installing condition of passenger's seat, perform the system calibration of occupant detection system. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>

12.BELT TENSION SENSOR

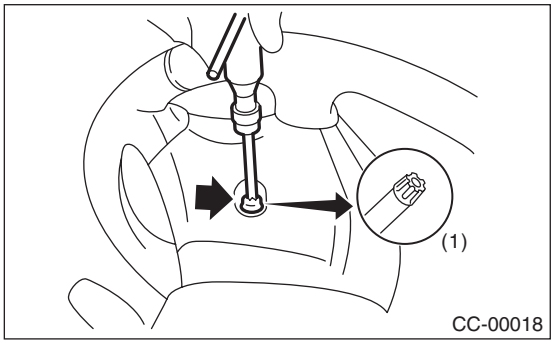
Check for the following, and replace the damaged parts with new parts.
• Belt tension sensor is scratched, cracked, or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.

4. Driver's Airbag Module

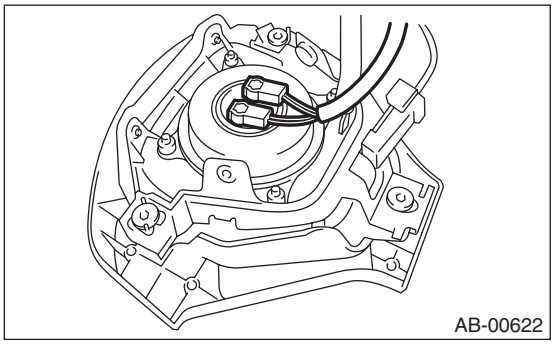
A: REMOVAL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, 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 20 seconds before starting work.
4) Using TORX® bit T30 (1), remove the two TORX® bolts on the side of steering wheel.



5) Disconnect the horn harness.
6) Disconnect the airbag connector on the back of airbag module, and then remove the airbag module. <Ref. to AB-8, PROCEDURE, Airbag Connector.>



7) Refer to "CAUTION" for handling of a removed airbag module. <Ref. to AB-4, CAUTION, General Description.>

B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
• To prevent the misconnection, the connector is colored. Connect the harness side connector to the same color of module side connector.

Install in the reverse order of removal.

Tightening torque:
10 N·m (1.0 kgf-m, 7.2 ft-lb)

C: INSPECTION

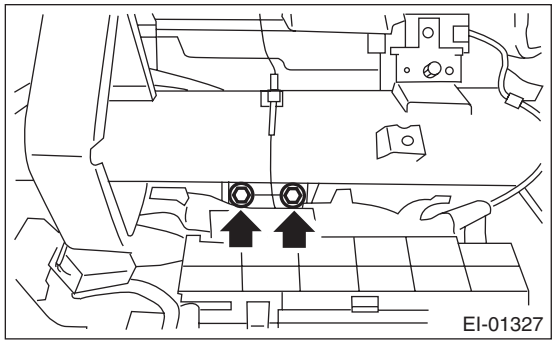
CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>

Check for the following, and replace the damaged parts with new parts.
• Airbag module, harness, connector and mounting bracket are damaged. <Ref. to AB-11, DRIVER'S AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

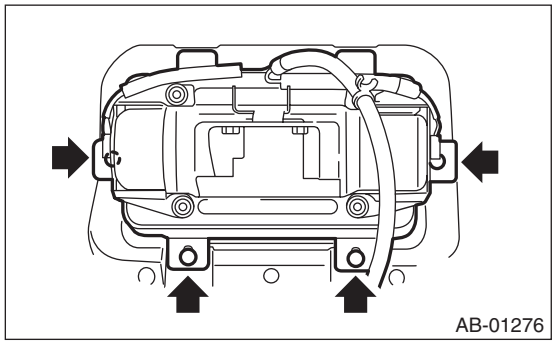
5. Passenger's Airbag Module

A: REMOVAL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
4) Remove the mounting bolts of the passenger's side airbag module.



5) Remove the instrument panel upper. <Ref. to EI-42, INSTRUMENT PANEL UPPER, REMOVAL, Instrument Panel Assembly.>
6) Remove the screws, and remove the passenger's airbag module.



7) Refer to "CAUTION" for handling of a removed airbag module. <Ref. to AB-4, CAUTION, General Description.>

B: INSTALLATION

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
Install in the reverse order of removal.

Tightening torque:
7.4 N·m (0.75 kgf-m, 5.5 ft-lb)

C: INSPECTION

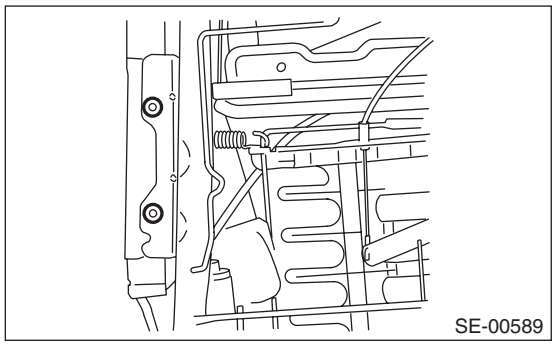
CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
Check for the following, and replace the damaged parts with new parts.
• Airbag module, harness, connector and mounting bracket are damaged. <Ref. to AB-12, PASSENGER'S AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

6. Side Airbag Module

A: REMOVAL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>

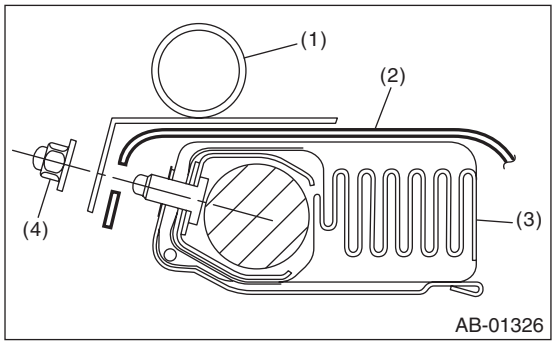
NOTE:
Remove the passenger's side by referring to driver's side.
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
4) Disconnect the connector from the back side of seat cushion assembly, then remove the side airbag harness.
5) Remove the backrest cover. <Ref. to SE-8, DISASSEMBLY, Front Seat.>
6) Remove the nuts, and remove the side airbag module assembly from the back rest frame assembly.



B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
• Be sure to perform the system calibration for occupant detection system after passenger's seat installation. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
1) Make sure that there is no foreign matter on side airbag module.
2) Install the side airbag module (A) to backrest frame assembly.

CAUTION:
When attaching the side airbag module assembly, make sure to sandwich the seat backrest cover between the seat backrest side bracket and side airbag module.



(1) Backrest frame ASSY
(2) Backrest cover
(3) Side airbag module ASSY
(4) Hexagon cap nut

Tightening torque:
6.0 N·m (0.61 kgf-m, 4.4 ft-lb)
3) Install the backrest cover. <Ref. to SE-11, ASSEMBLY, Front Seat.>
4) Draw the side airbag harness around the back side of seat cushion assembly.
5) Recline the seat or slide it backward and forward, and check there is no contact between the seat backrest assembly, cushion cover assembly and side airbag harness.

C: INSPECTION

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>

Check for the following, and replace the damaged parts with new parts. <Ref. to AB-12, SIDE AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

1) With side collision (when side airbag is deployed)
- Side airbag module assembly
- Backrest pad assembly
- Backrest frame assembly
- Backrest cover assembly

2) When damage is found by visual check
- Headrest assembly
- Bushing
- Slide rail OUT (Driver's side)
- Slide rail IN (Driver's side)
- Seat cushion frame assembly (Passenger's side)
- Seat hinge cover
- Seat lifter lever
- Reclining lever
- Side airbag harness and connector on body side

3) With side collision (when side airbag is not deployed)

Check the seat and airbag module visually, and then replace them with new parts if damaged or cracked.

Specially inspect the damage of airbag module body, mounting bracket and harness connector.

4) Without side collision (dirt and damage of cover)

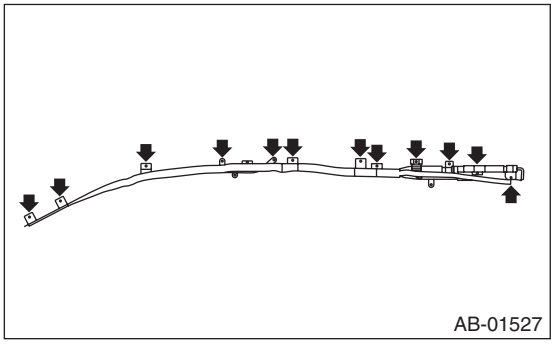
Replace the corresponding part with a new part.

7. Curtain Airbag Module

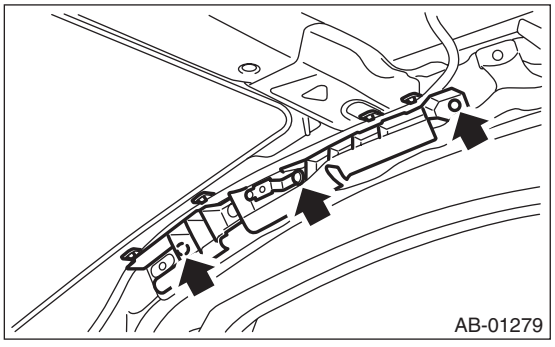
A: REMOVAL

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the front pillar upper trim and center pillar upper trim. <Ref. to EI-45, FRONT PILLAR UPPER TRIM, REMOVAL, Side Trim.> <Ref. to EI-46, CENTER PILLAR UPPER TRIM, REMOVAL, Side Trim.>
4) Remove the rear quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
5) Remove the roof trim. <Ref. to EI-52, REMOVAL, Roof Trim.>
6) Disconnect the connector from curtain airbag module.
7) Remove the bolts, and then remove the curtain airbag module.

CAUTION:
• Be careful not to damage the curtain airbag module during removal.
• Never open the curtain airbag module before deploying it. Never reuse the deployed curtain airbag module.


AB-01527

8) Remove the front piller from front pillar pad.


AB-01279

B: INSTALLATION

CAUTION:
• Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, 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 removal.
• Never open the curtain airbag module before deploying it. Never reuse the deployed curtain airbag module.
• Make sure that there are no foreign matter on airbag module.
Install in the reverse order of removal.

Tightening torque:
7.5 N·m (0.77 kgf-m, 5.5 ft-lb)

C: INSPECTION

CAUTION:
Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>
Check for the following, and replace the damaged parts with new parts. <Ref. to AB-12, CURTAIN AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>
1) With side collision (when curtain airbag is deployed)
- Curtain airbag module assembly
- Roof trim
- Front pillar upper trim
- Front piller pad (blue)
- Center pillar upper trim
- Center piller pad (green)
- Rear quarter upper trim
- Rear quarter piller pad (red)
- Airbag guide

2) When damage is found by visual check
- Assist grip
- Assist grip bracket
- Curtain airbag harness and connector on body side

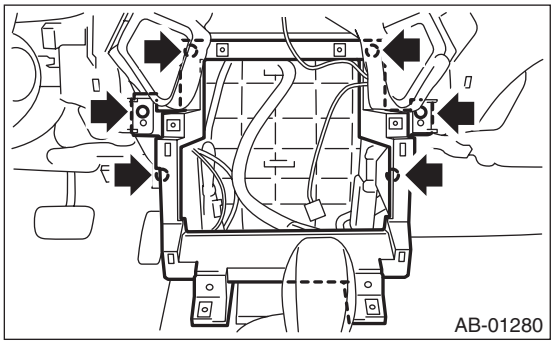
3) With side collision (when curtain airbag is not deployed)
Check the roof trim, pillar trim and airbag module visually, and then replace them with new parts if damaged or cracked.
Specially inspect the damage of airbag module body, mounting bracket and harness connector.
4) Without side collision (dirt and damage of cover)
Replace the corresponding part with a new part.

8. Airbag Control Module

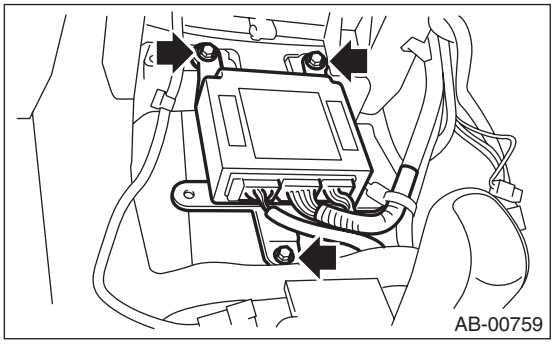
A: REMOVAL

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

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the center console. <Ref. to EI-41, REMOVAL, Center Console.>
4) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
5) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
6) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
7) Remove the audio unit. <Ref. to ET-13, REMOVAL, Audio.>
8) Remove the screws, and remove the center console frame.



9) Disconnect the connector from airbag control module.
10) Remove the bolts and remove airbag control module.



B: INSTALLATION

CAUTION:
• Do not reuse the bolt and nut.
• Always use new bolts and nuts for them.
• Be sure to put the water protection cover over the connector.

Install in the reverse order of removal.

Tightening torque:
25 N·m (2.5 kgf-m, 18.1 ft-lb)

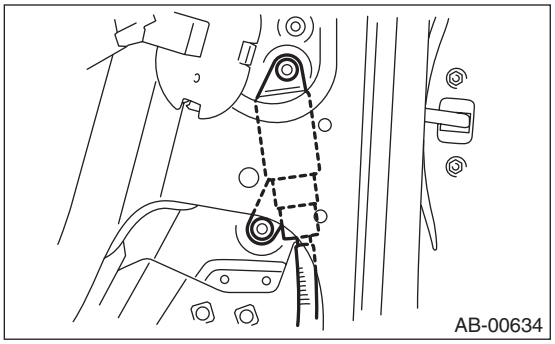
C: INSPECTION

Check for the following, and replace the damaged parts with new parts.
• Control module, connector, and mounting bracket are damaged.
• Airbag is deployed.
• Side airbag is deployed.
• Curtain airbag is deployed.

9. Side Airbag Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the center pillar lower trim. <Ref. to EI-46, CENTER PILLAR LOWER TRIM, REMOVAL, Side Trim.>
4) Remove the seat belt retractor of the front outer seat belt. <Ref. to SB-13, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
5) Remove the nut and disconnect the airbag connector to remove side airbag sensor.



B: INSTALLATION

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

Install in the reverse order of removal.

Tightening torque:
8 N·m (0.82 kgf-m, 5.9 ft-lb)

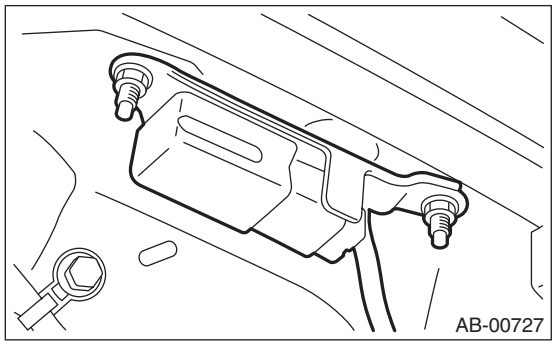
C: INSPECTION

Check for the following, and replace the damaged parts with new parts.
- Mounting bracket or connector of side airbag sensor is damaged.
- Side airbag is deployed.

10.Curtain Airbag Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the rear quarter lower trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
4) Remove the nut and disconnect the airbag connector to remove the curtain airbag sensor.



B: INSTALLATION

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

Install in the reverse order of removal.

Tightening torque:
8 N·m (0.82 kgf-m, 5.9 ft-lb)

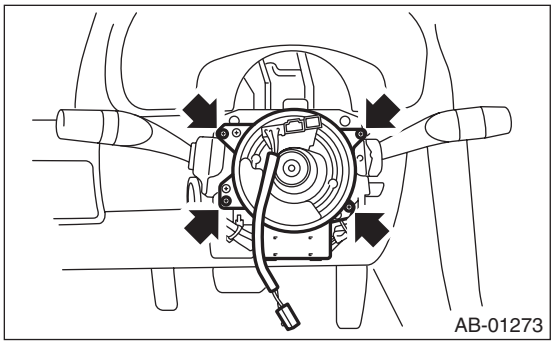
C: INSPECTION

Check for the following, and replace the damaged parts with new parts.
- Mounting bracket or connector of curtain airbag sensor is damaged.
- Curtain airbag is deployed.

11.Roll Connector

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>
4) Remove the steering wheel. <Ref. to PS-13, REMOVAL, Steering Wheel.>
5) Remove the steering column cover.
6) Remove the screws, and then remove the roll connector.



B: INSTALLATION

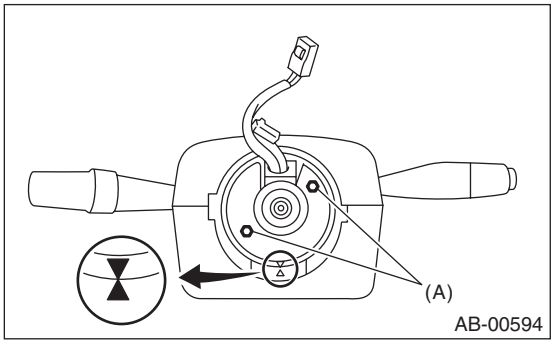
1) Install in the reverse order of removal.
2) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-22, ADJUSTMENT, Roll Connector.>

C: INSPECTION

Check for the following, and replace the damaged parts with new parts.
• Combination switch and roll connector are cracked or deformed.

D: ADJUSTMENT

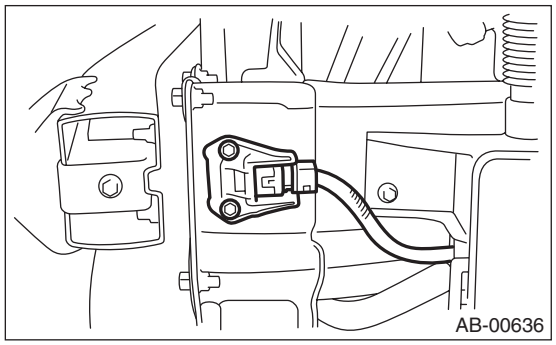
1) Check that front wheels are positioned in straight ahead direction.
2) Turn the roll connector pin (A) clockwise until it stops.
3) Turn the roll connector pins (A) approx. 3.25 turns until "▲" marks are aligned.



12.Front Sub Sensor

A: REMOVAL

1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the front bumper face. <Ref. to EI-22, FRONT BUMPER FACE, REMOVAL, Front Bumper.>
4) Remove the bolt, and then detach the front sub sensor.



5) Disconnect the connector from front sub sensor.

B: INSTALLATION

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

Install in the reverse order of removal.

Tightening torque:
13 N·m (1.32 kgf-m, 9.6 ft-lb)

C: INSPECTION

Check for the following, and replace the damaged parts with new parts.
- Front sub sensor, mounting bracket and connector are damaged.
- Airbag is deployed.

AIRBAG SYSTEM (DIAGNOSTICS)

AB(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**CHECK WARNING LIGHT.** Check whether the airbag warning light in the combination meter is lit.	Does the airbag warning light illuminate?	Go to step **2**.	Perform the diagnosis according to phenomenon of the problem.
2	**READ DTC.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON and run the Subaru Select Monitor. 4) Read the DTC. <Ref. to AB(diag)-35, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to AB(diag)-32, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 5) Record all DTCs and freeze frame data.	Is DTC displayed?	Go to step **3**.	<Ref. to AB(diag)-39, Airbag Warning Light Failure.>Go to “Airbag Warning Light Failure”.
3	**PERFORM DIAGNOSIS.** 1) Judge the possible cause from “List of Diagnostic Trouble Code” <Ref. to AB(diag)-43, 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)-37, Clear Memory Mode.> 5) Perform the Inspection Mode. <Ref. to AB(diag)-36, 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:		

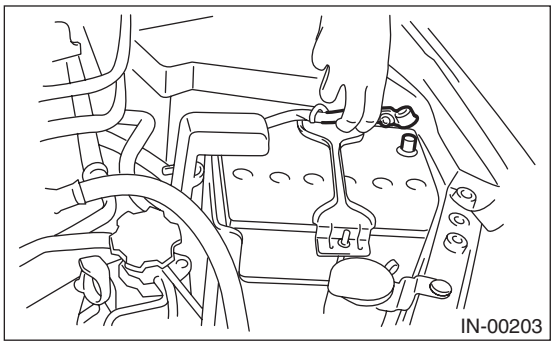
Vehicle operation	❑ Starting
	❑ Idling
	❑ Driving
	  ❑ Constant speed
	  ❑ Accelerating
	  ❑ Decelerating
	  ❑ Turning
	  ❑ Others:		

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:)		

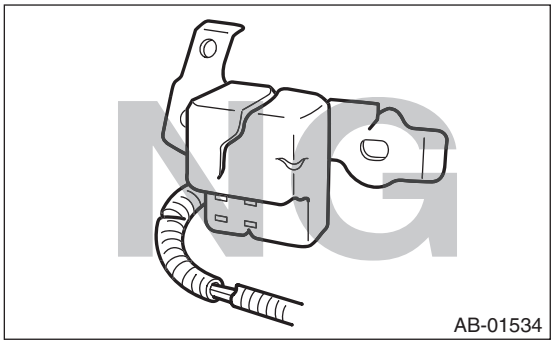
3. General Description

A: CAUTION

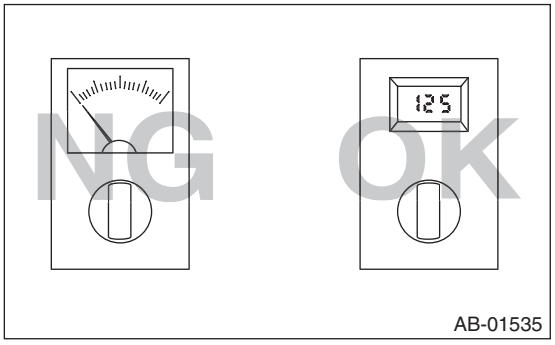
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for more than 20 seconds before starting work.
• The airbag system is fitted with a backup power source. After disconnecting the battery ground cable, the airbag may deploy if you do not wait for more than 20 seconds before starting the service of airbag system.



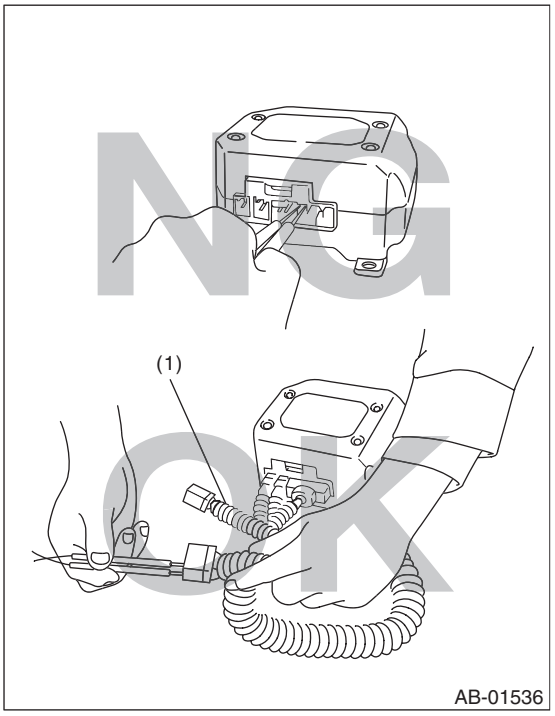
• If sensors, airbag module, airbag control module, pretensioner or harness is deformed or damaged, replace with new part.



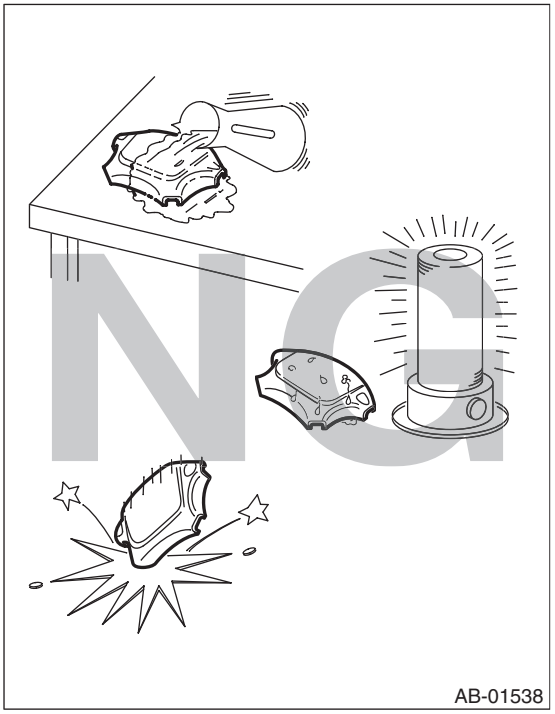
• Do not use the airbag system and pretensioners on other vehicles. When replacing parts, be sure to replace them with new parts.
• When checking the airbag system, be sure to use a digital circuit tester. Use of an analog circuit tester may cause the airbag to activate erroneously due to a minimal current inside tester.



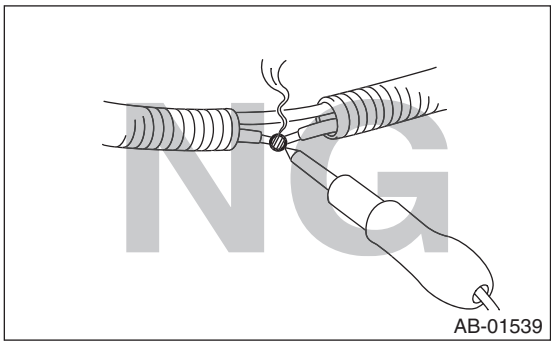
• When checking, use a test harness (1). Damage to connector terminal causes malfunction. Do not directly put the tester probe on airbag connector terminal.



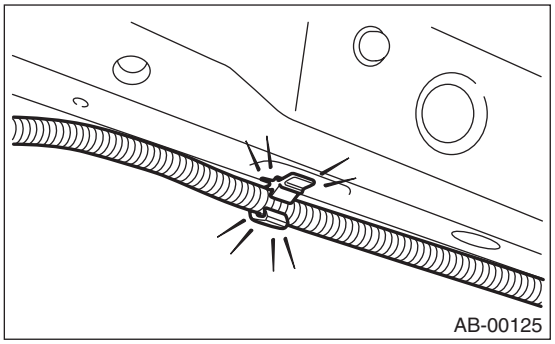
• Do not drop the airbag system parts, or keep them at high temperature over 93°C (199°F), or let water, oil or grease get on them; the internal parts may be damaged and reliability greatly lowered.



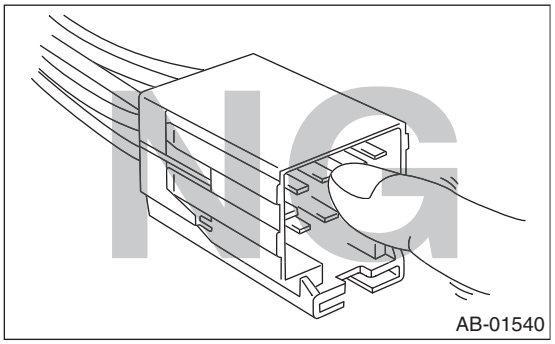
• If damage, open circuit or rust is found on airbag system wiring harness, do not use a soldering equipment to repair. Replace the faulty harness with a new genuine part.



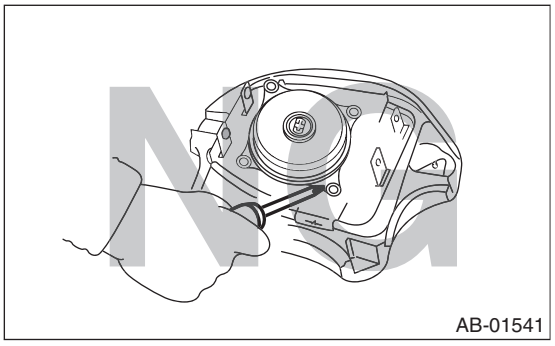
• Install the wiring harness securely with the specified clips to avoid interference or tangled with other parts.



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

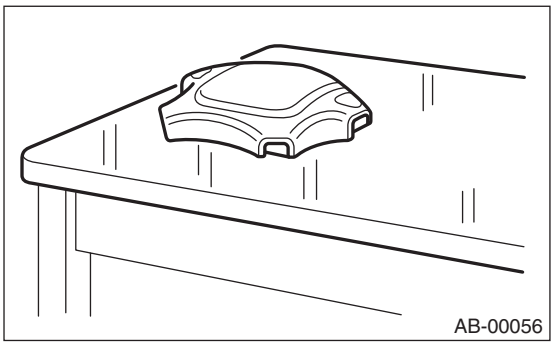


• Do not disassemble driver's airbag module, passenger's airbag module, side or curtain airbag modules, or pretensioner.

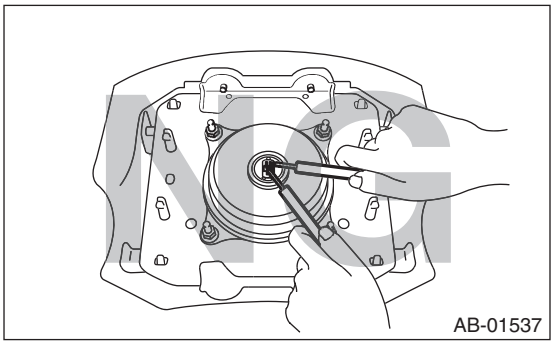


• The airbag module cannot be used again if deployed once.

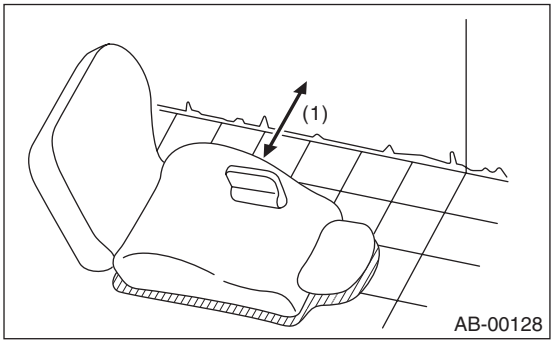
• After removal, keep the airbag module with the pad side facing upward on a dry, clean and flat surface away from heat, light sources, moisture and dust.



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



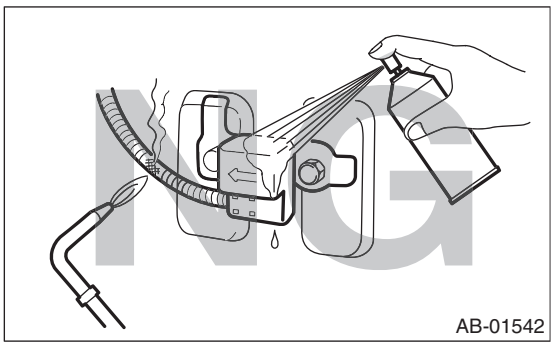
• The removed front seat with airbag module must be kept at least 200 mm (8 in) away from walls and other objects.



(1) 200 mm (8 in) or more

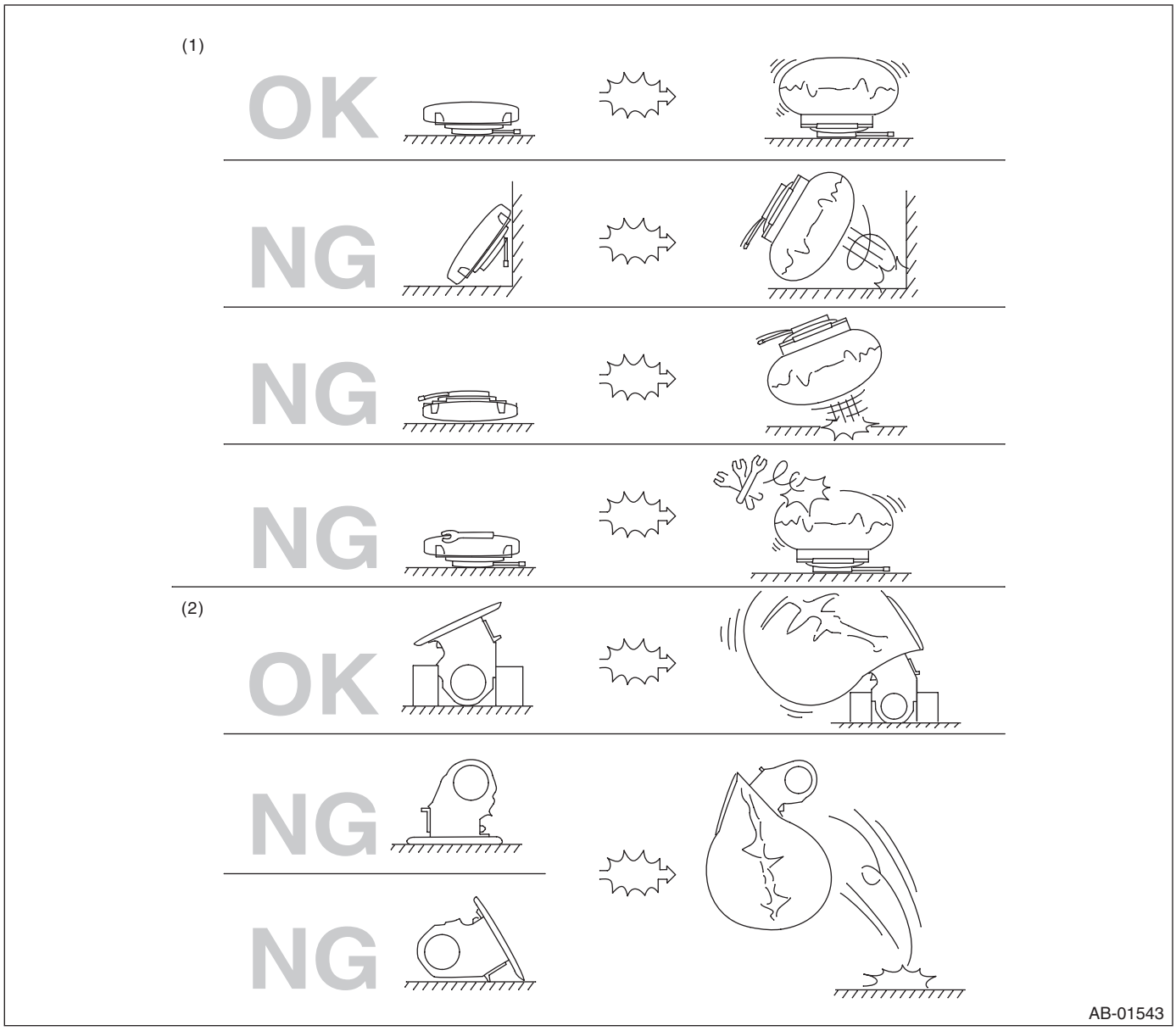
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and front side frame, remove the front sub sensors and wiring harness of airbag system.

• When painting or performing sheet metal work on the side of the vehicle, including the side sill, center pillar and front and rear doors, remove the side airbag sensors and wiring harness of the airbag system.



• Do not discard undeployed airbag module. They could easily cause a serious accident if accidentally deployed.

• 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 airbag modules on top of each other. If the airbag inflates for some reason when an airbag module pad is touching other objects, it may cause serious accident.



(1) Driver's airbag module (2) Passenger's airbag module

B: INSPECTION

Measure the battery voltage and check electrolyte.

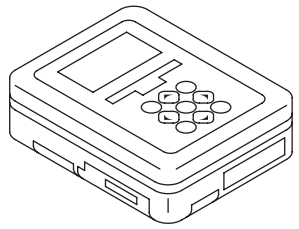
Standard voltage: 12 V

Specific gravity: 1.260 or more

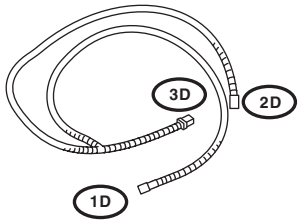
C: PREPARATION TOOL

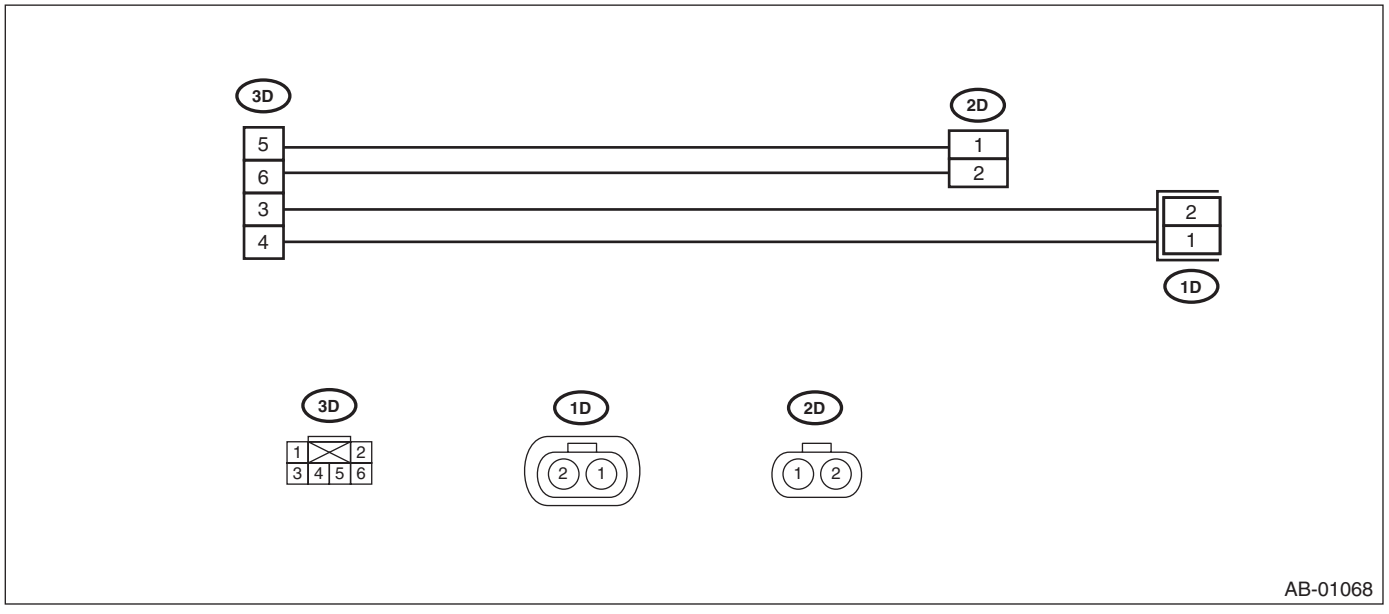
CAUTION:
To measure the voltage and resistance of airbag system component, be sure to use the specified test harness.

1. SPECIAL TOOL

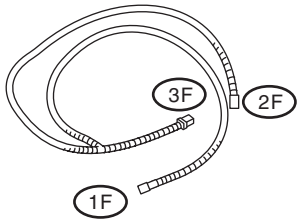
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

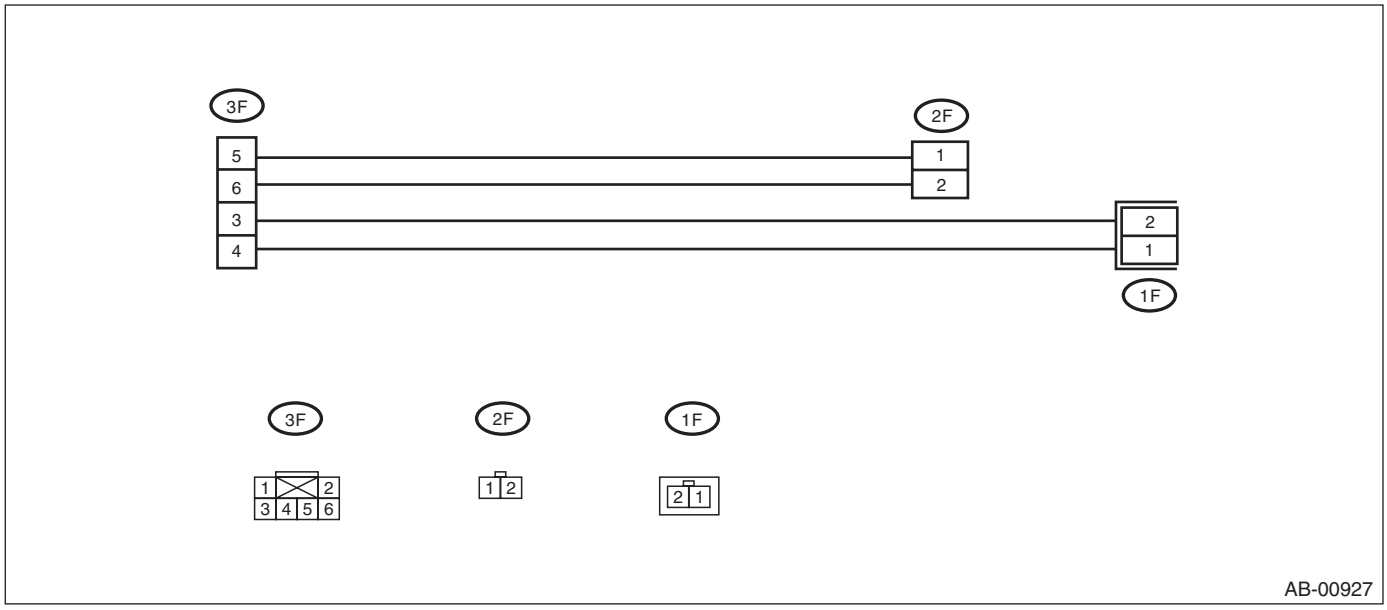
- TEST HARNESS D

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG060	98299AG060	TEST HARNESS D	Used when measuring voltage and resistance of the front seat belt buckle switch.

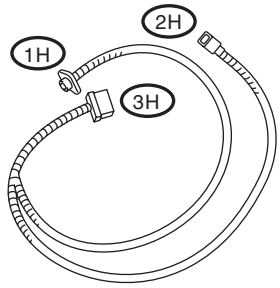


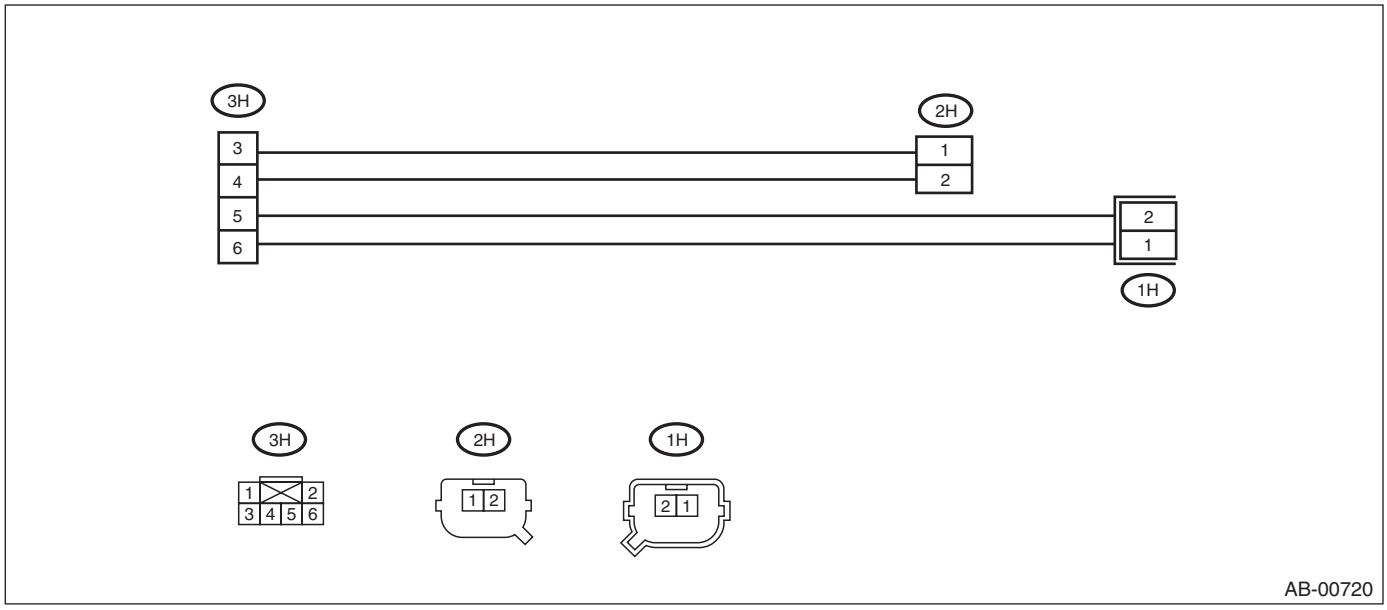
- TEST HARNESS F

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299FC010	98299FC010	TEST HARNESS F	Used when measuring voltage and resistance of airbag module harnesses.

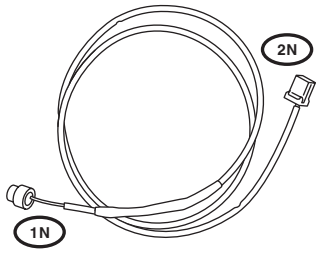


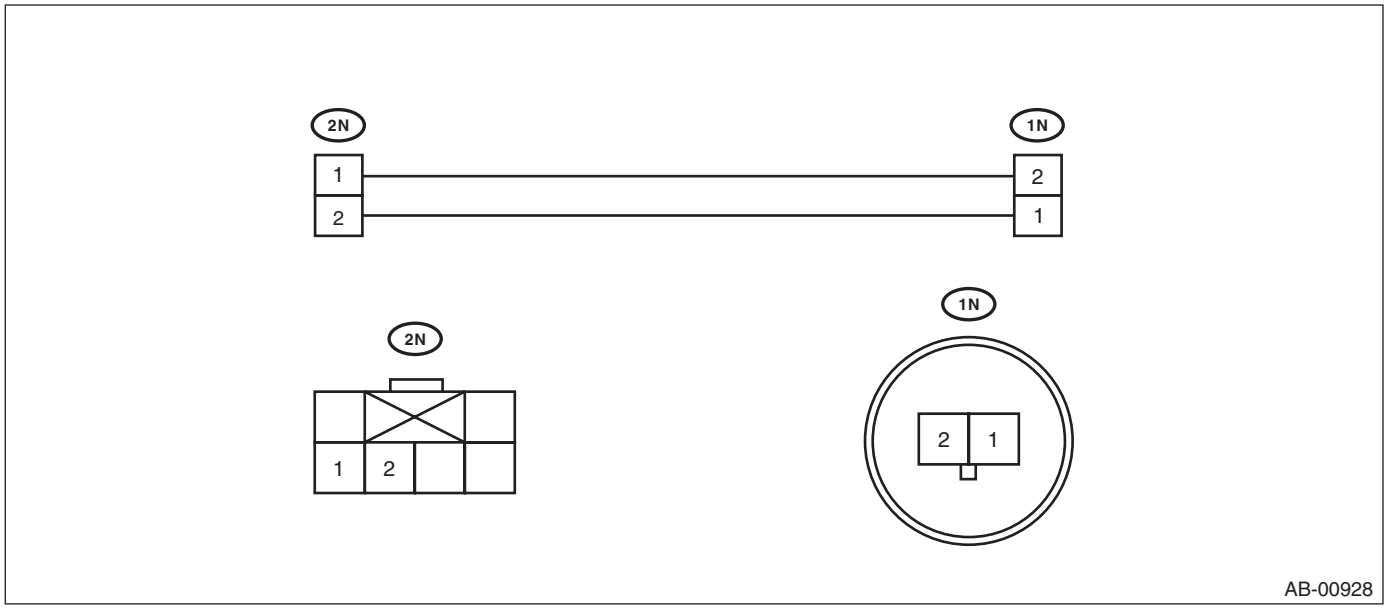
- TEST HARNESS H

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



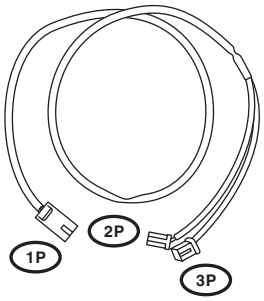
- TEST HARNESS N

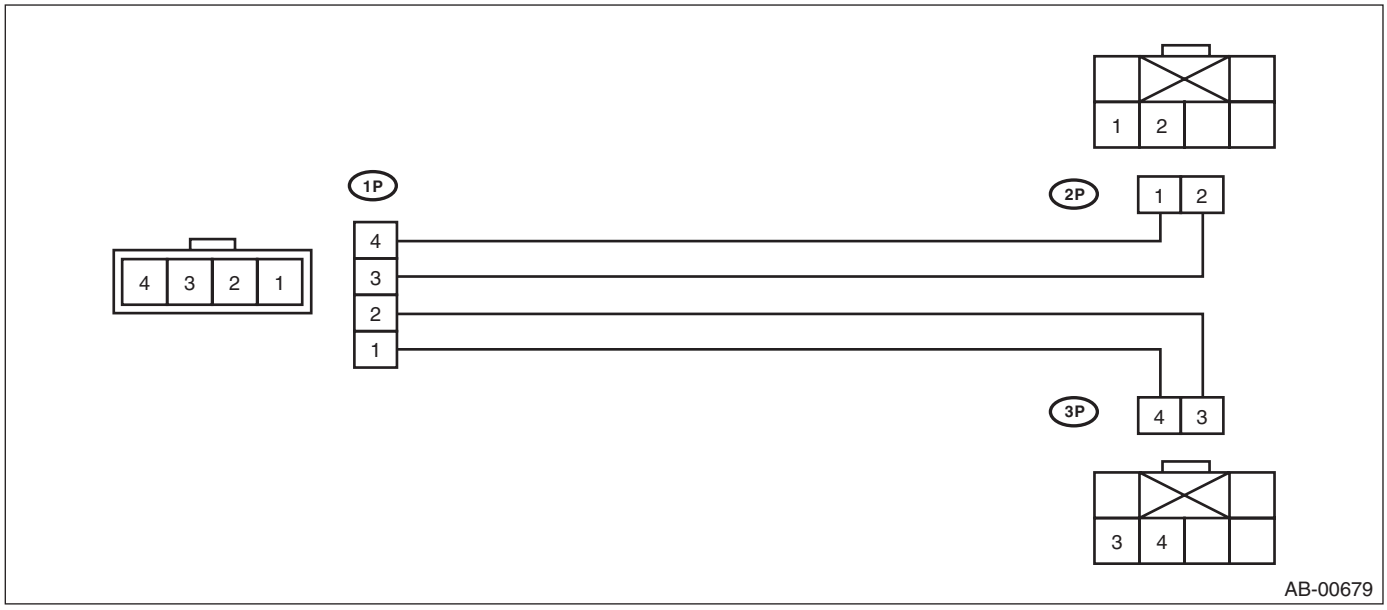
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA000	98299SA000	TEST HARNESS N	Used when measuring voltage and resistance of driver's airbag module, curtain airbag module and seat belt pretensioner.



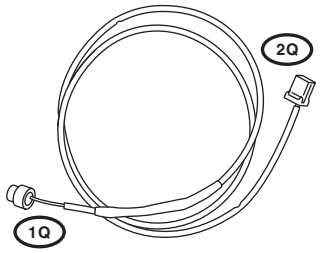
AB-00928

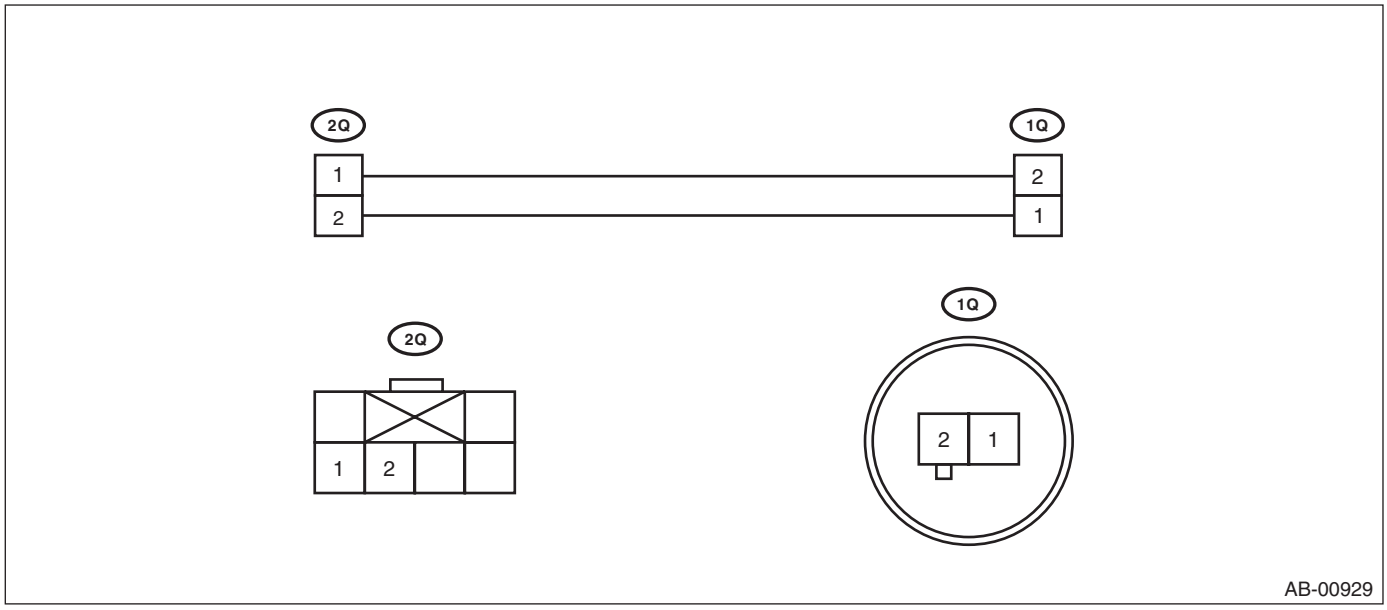
- TEST HARNESS P

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



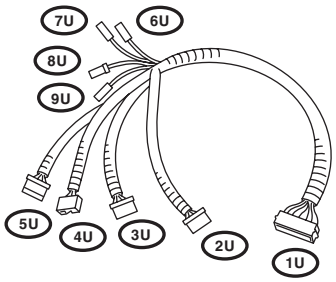
- TEST HARNESS Q

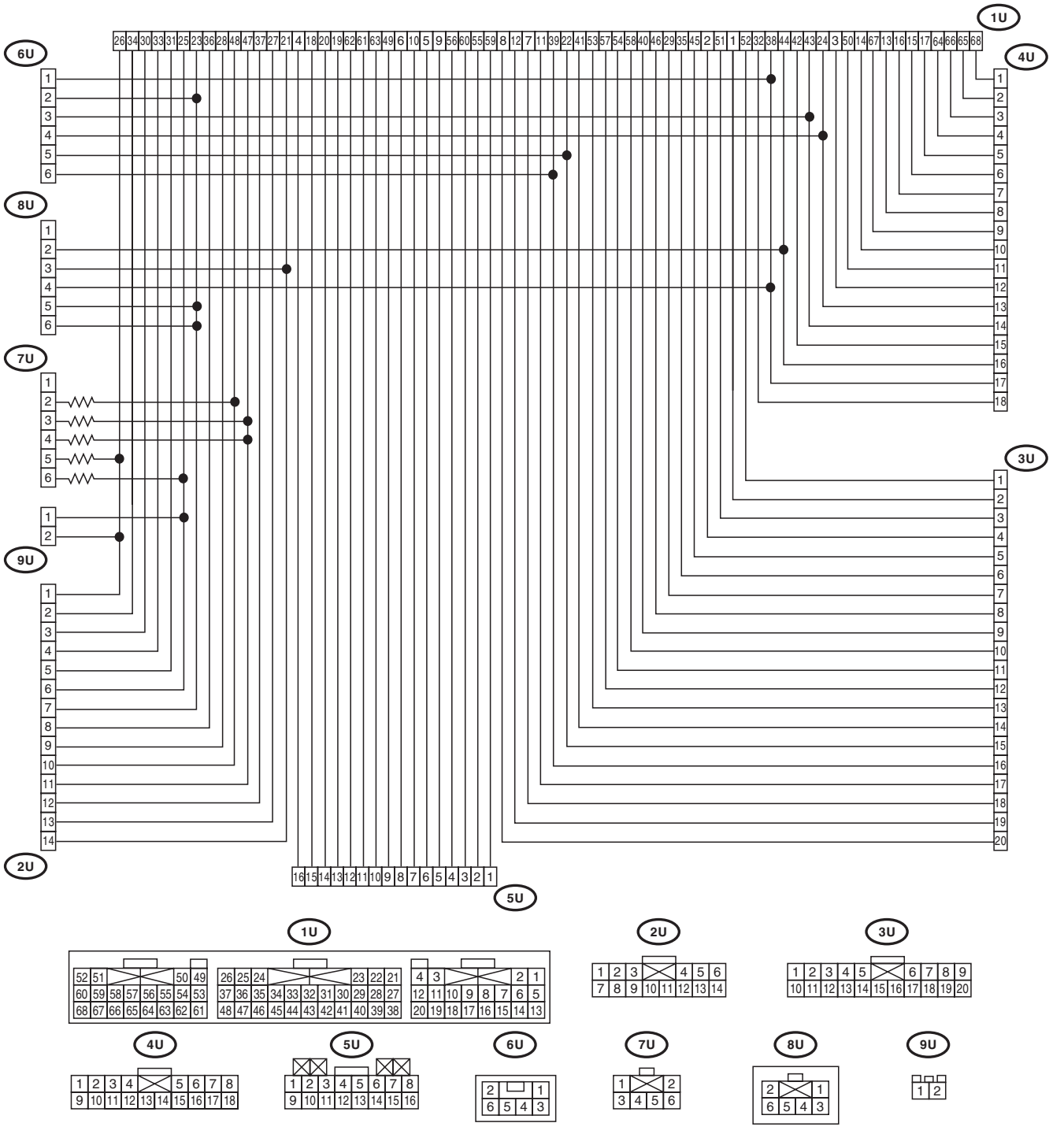
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299SA040	98299SA040	TEST HARNESS Q	Used when measuring voltage and resistance of driver's airbag module.



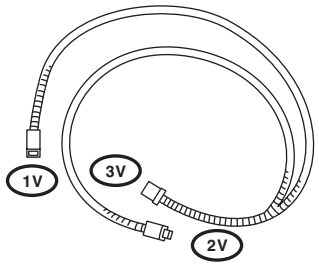
AB-00929

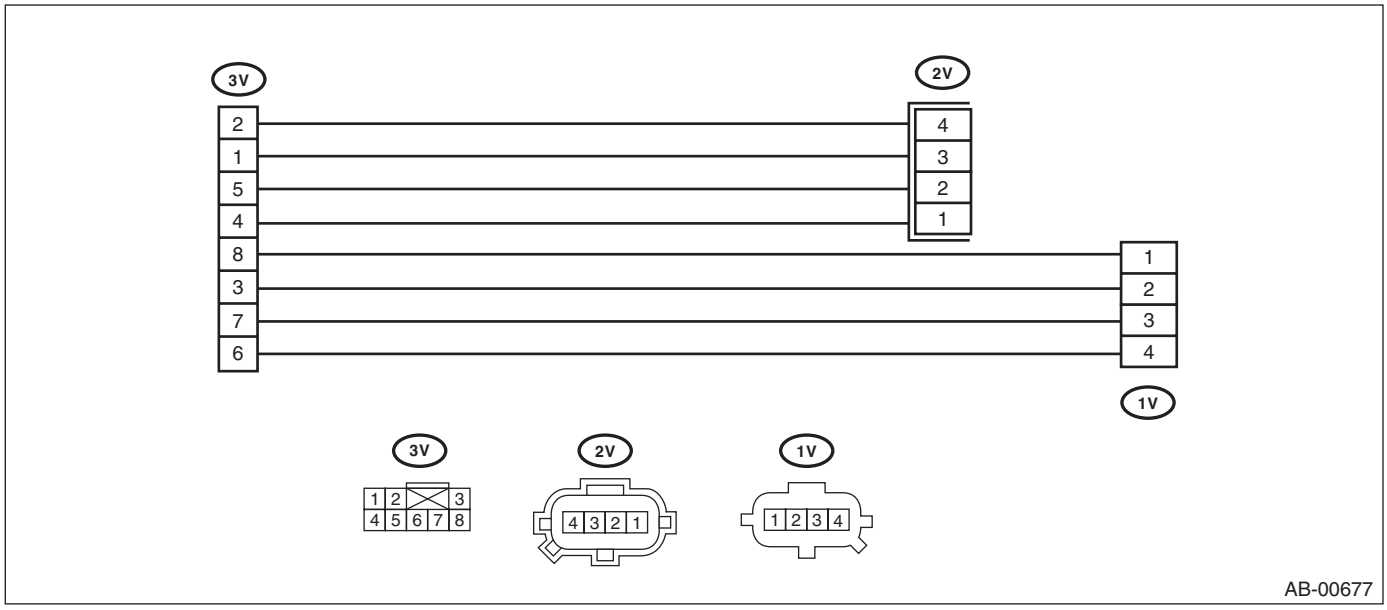
- TEST HARNESS U

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG000	98299AG000	TEST HARNESS U	Used when measuring voltage and resistance of airbag control module.

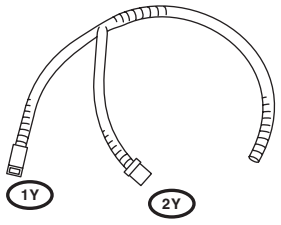

1U
6U
4U
8U
7U
3U
9U
2U
5U
AB-00930

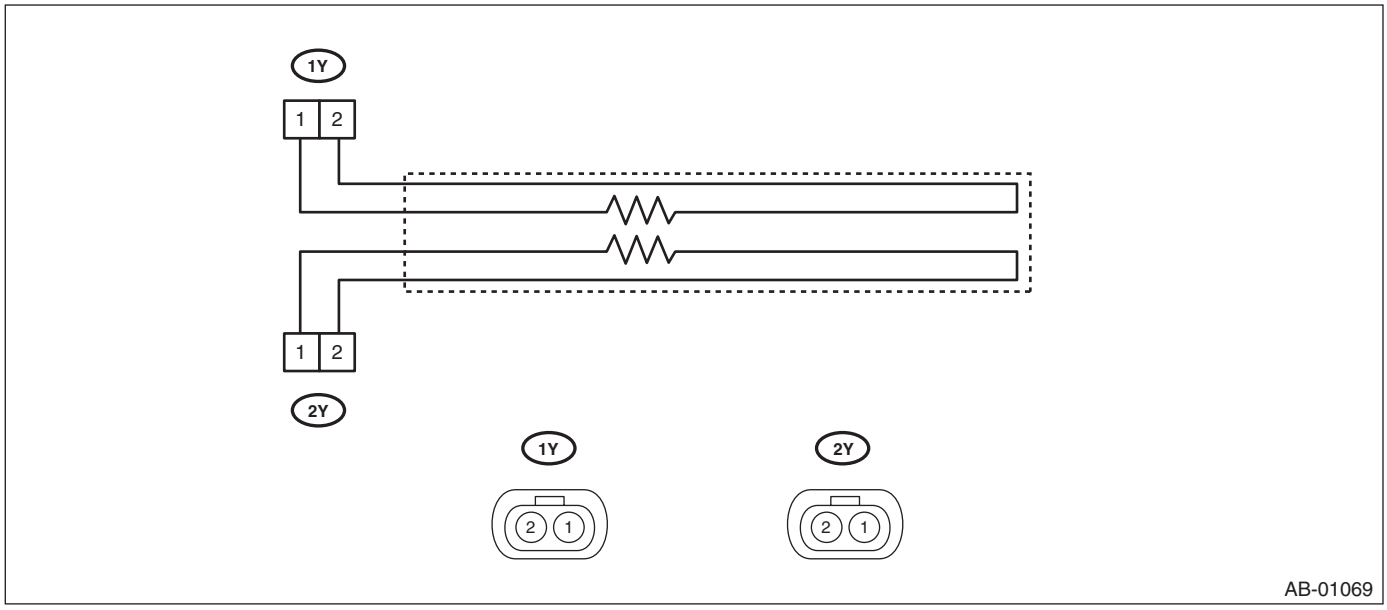
- TEST HARNESS V

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



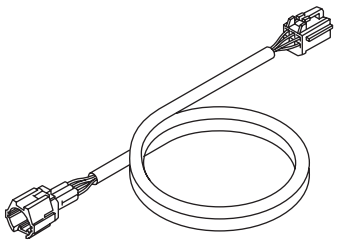
- TEST HARNESS Y

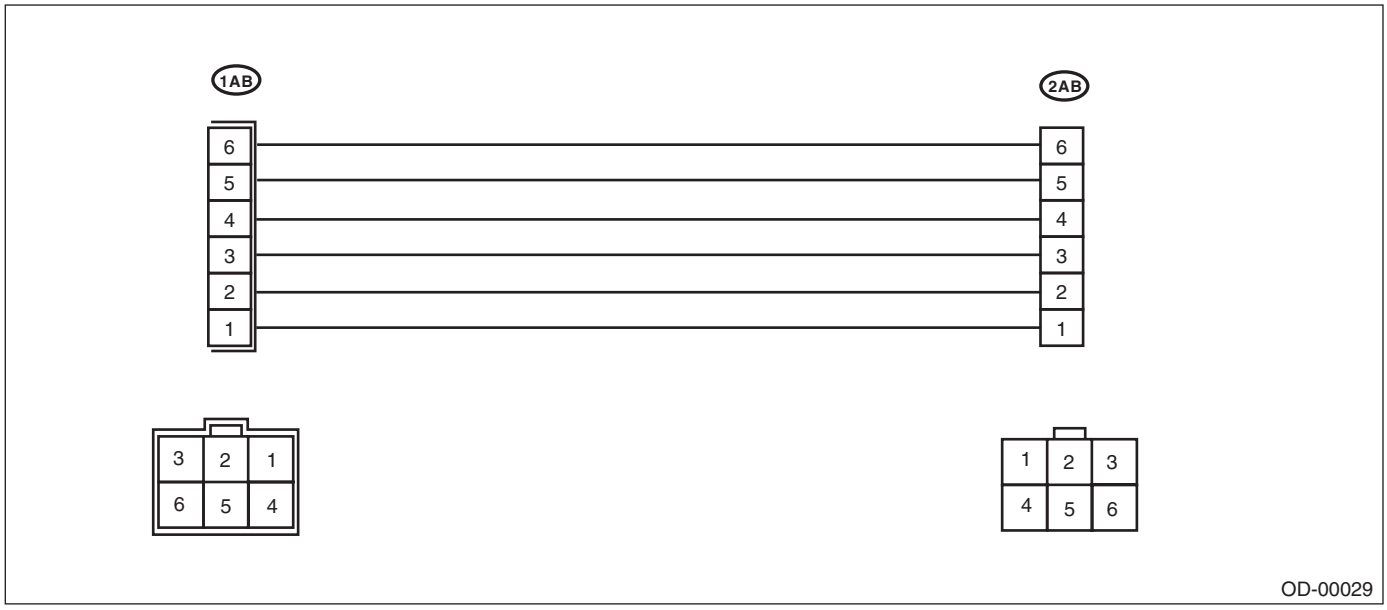
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for diagnosing a failure of the seat belt buckle switch.



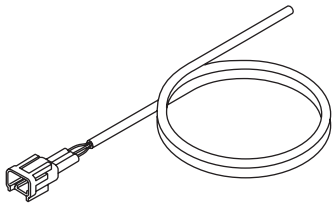
AB-01069

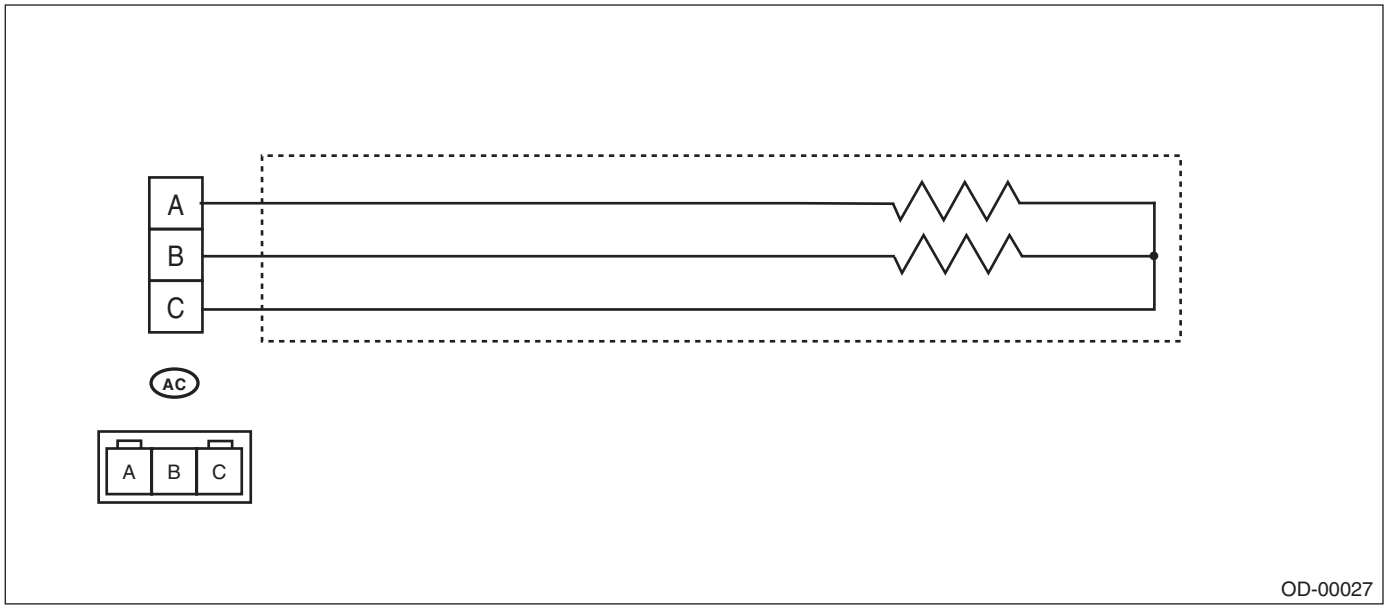
- TEST HARNESS AB

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA000	98299XA000	TEST HARNESS AB	Used when measuring voltage and resistance of occupant detection system.

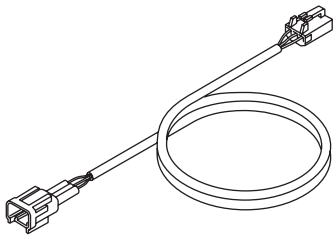


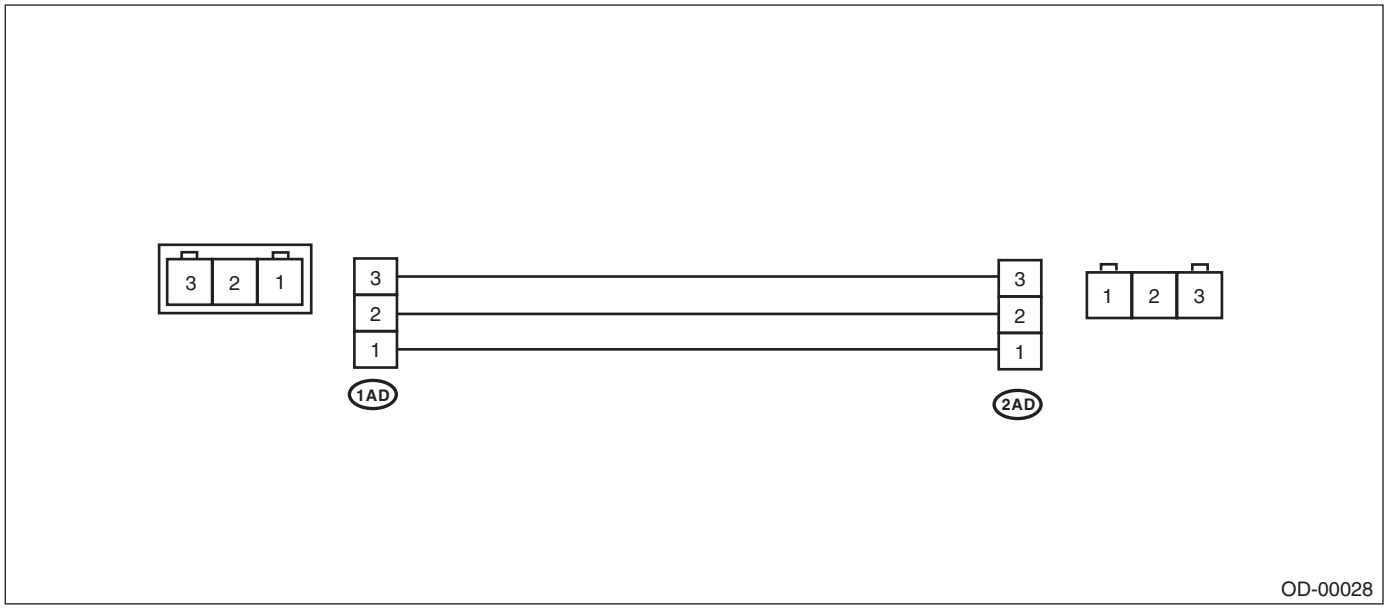
- TEST HARNESS AC

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA010	98299XA010	TEST HARNESS AC	Used for diagnosing a failure of the seat belt tension sensor.

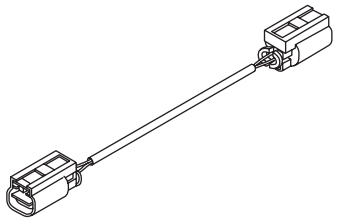


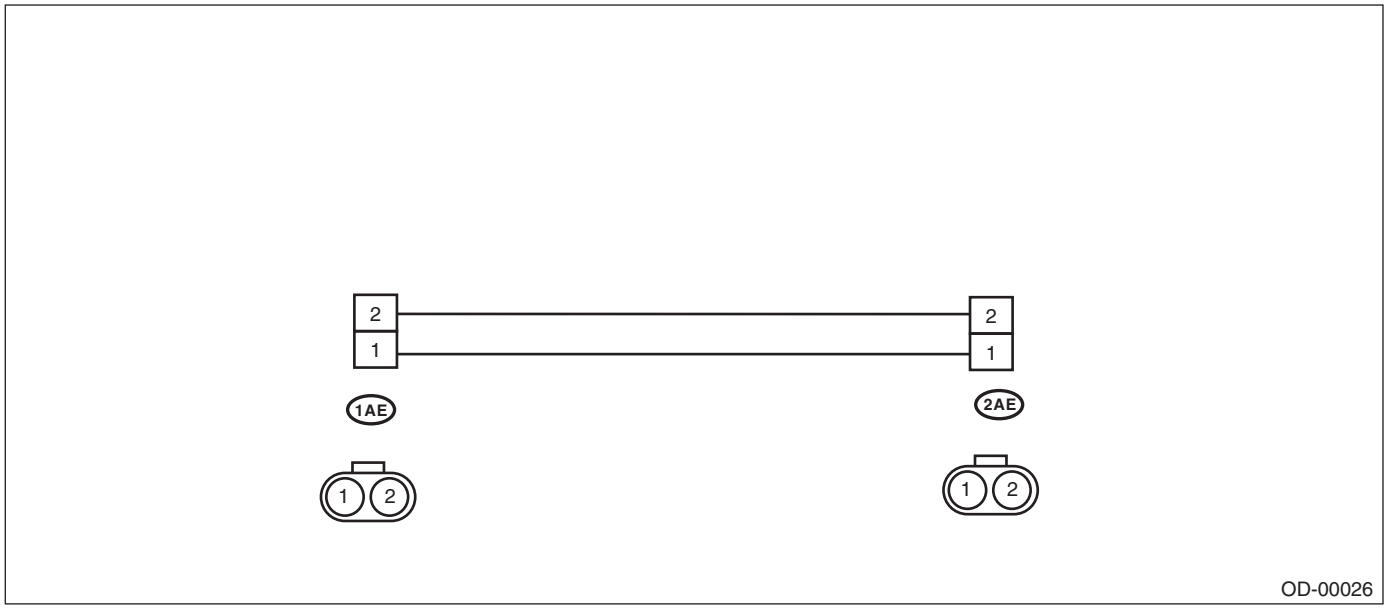
- TEST HARNESS AD

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA020	98299XA020	TEST HARNESS AD	Used when measuring voltage and resistance of seat belt tension sensor.

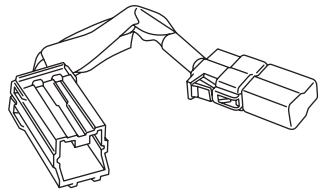


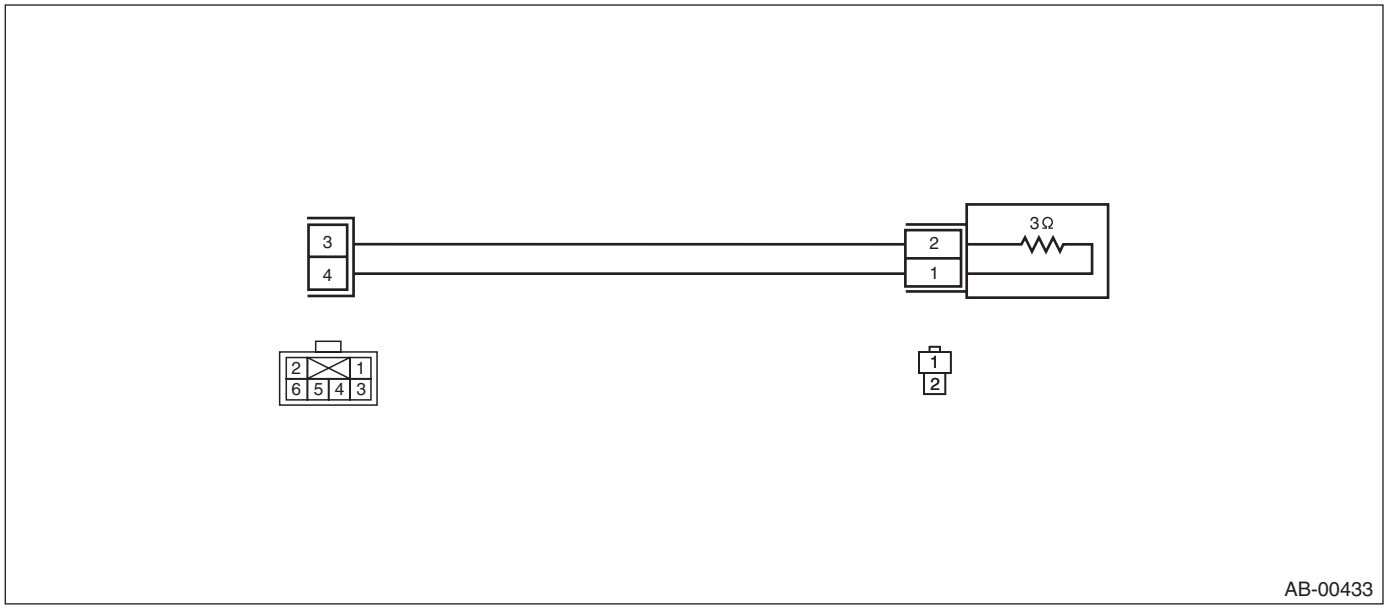
- TEST HARNESS AE

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA030	98299XA030	TEST HARNESS AE	• Used for diagnosing a failure of the seat belt buckle switch. • Used together with the test harness Y.



- 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.

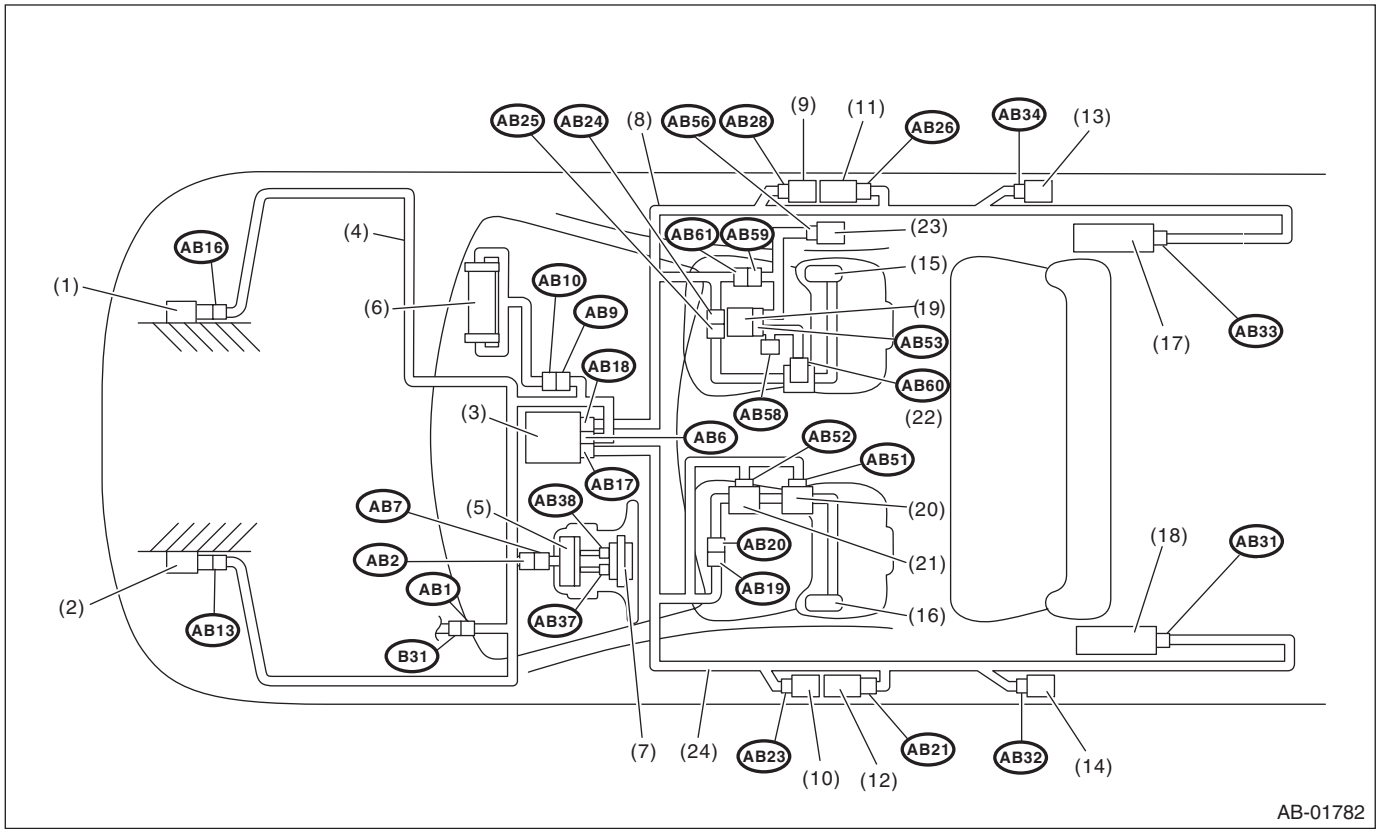


2. GENERAL TOOL

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

4. Electrical Component Location

A: LOCATION



(1)	Front sub sensor (RH)	(9)	Side airbag sensor (RH)	(17)	Curtain airbag module (RH)
(2)	Front sub sensor (LH)	(10)	Side airbag sensor (LH)	(18)	Curtain airbag module (LH)
(3)	Airbag control module	(11)	Seat belt pretensioner (RH)	(19)	Occupant detection control module
(4)	Airbag main harness	(12)	Seat belt pretensioner (LH)	(20)	Buckle switch (LH)
(5)	Roll connector	(13)	Curtain airbag sensor (RH)	(21)	Seat position sensor (LH)
(6)	Passenger's airbag module	(14)	Curtain airbag sensor (LH)	(22)	Buckle switch (RH)
(7)	Driver's airbag module	(15)	Side airbag module (RH)	(23)	Belt tension sensor
(8)	Airbag rear harness (RH)	(16)	Side airbag module (LH)	(24)	Airbag rear harness (LH)

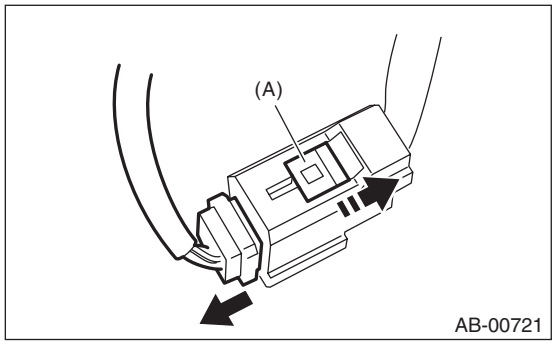
Connector No.	(AB1)	(AB2)	(AB6)	(AB7)	(AB9)	(AB10)	(AB13)	(AB16)	(AB17)	(AB18)	(AB19)	(AB20)
Pin	10	4	28	4	4	4	2	2	20	20	2	2
Connector color	Gray	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Male/Female	Female	Female	Female	Male	Female	Male	Female	Female	Female	Female	Female	Male
Connector No.	(AB21)	(AB23)	(AB24)	(AB25)	(AB26)	(AB28)	(AB31)	(AB32)	(AB33)	(AB34)	(AB37)	(AB38)
Pin	2	4	2	2	2	4	2	4	2	4	2	2
Connector color	Black	Yellow	Yellow	Yellow	Black	Yellow	Black	Yellow	Black	Yellow	Orange	Black
Male/Female	Female	Female	Female	Male	Female	Female	Female	Female	Female	Female	Female	Female
Connector No.	(AB51)	(AB52)	(AB53)	(AB56)	(AB58)	(AB59)	(AB60)	(AB61)				
Pin	2	2	18	3	3	6	2	6				
Connector color	Yellow	Yellow	Gray	Brown	Yellow	Gray	Yellow	Gray				
Male/Female	Female	Female	Female	Female	Female	Male	Male	Female				

5. Airbag Connector

A: PROCEDURE

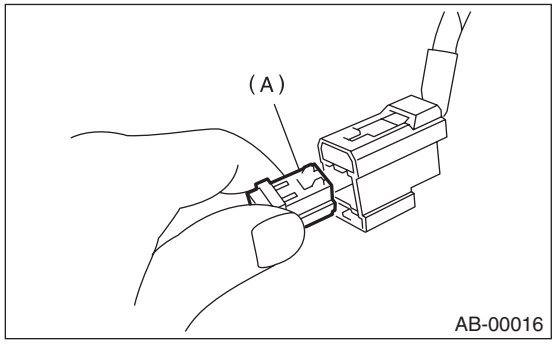
1. BUCKLE SWITCH

1) How to disconnect:
(1) Move the slide lock (A) in the direction of arrow.
(2) While holding the slide lock (A) in moved position, disconnect the connector.



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

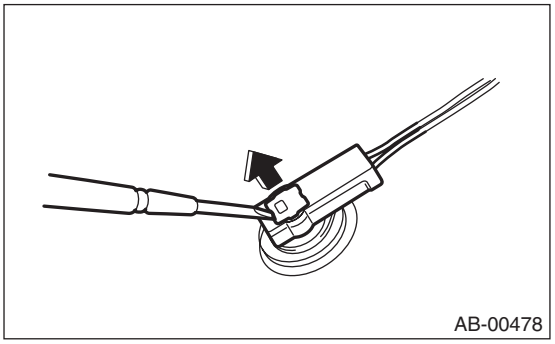
2) How to connect:
Holding the connector (A), and push it in carefully until a clicking sound is heard.



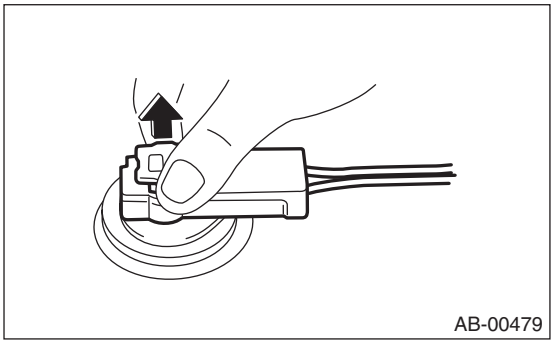
CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.

2. DRIVER'S AIRBAG MODULE, CURTAIN AIRBAG MODULE AND PRETENSIONER

1) How to disconnect:
(1) Using a flat tip screwdriver, pry the push lock upward to unlock.

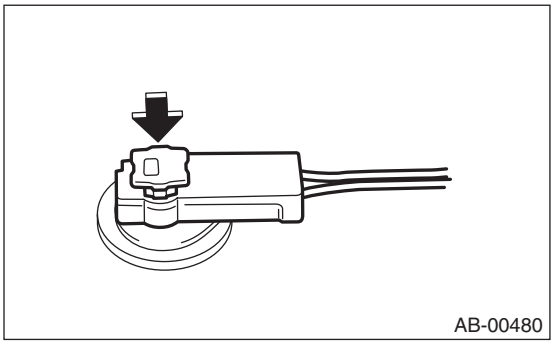


(2) Pull and disconnect the connector from the driver's airbag module assembly or retractor assembly.



2) How to connect:
Connect the connector in the reverse order of disconnecting. At this time, be sure to insert the push lock until a clicking sound is heard.

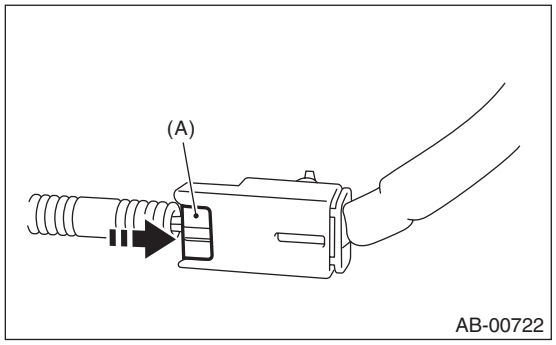
CAUTION:
- **Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.**
- **Be sure to push the push lock in securely.**



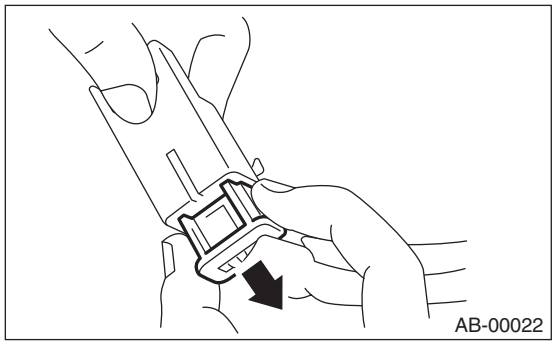
NOTE:
The connector can not be connected when the push lock is in the lock position. To connect the connector, set the push lock to unlock position.

3. DRIVER'S AIRBAG (BETWEEN AIRBAG MAIN HARNESS AND ROLL CONNECTOR) AND PASSENGER'S AIRBAG

1) How to disconnect:
(1) Push the slide lock (A) into the direction of arrow.



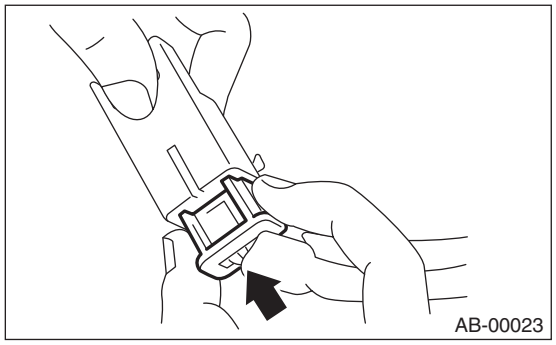
(2) With the slide lock pushed, disconnect the connector.



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

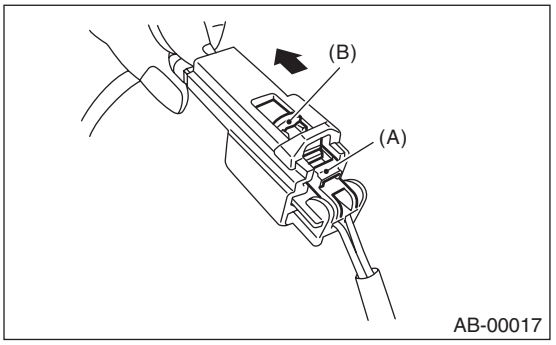
2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

CAUTION:
Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.



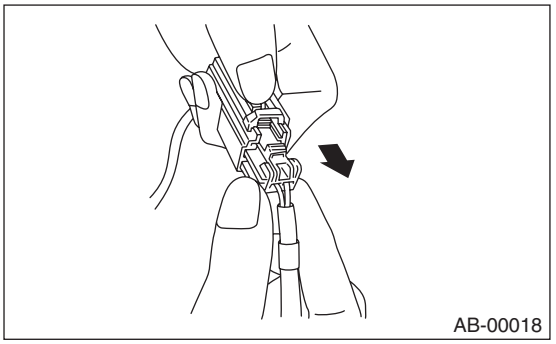
4. SIDE AIRBAG

1) How to disconnect:
(1) Push the lock arm (A).
(2) With the lock arm (A) pushed in, move the slide lock (B) in the direction of arrow.



(3) While holding the slide lock in that position, release the lock arm (back to the original position), and disconnect the connector.

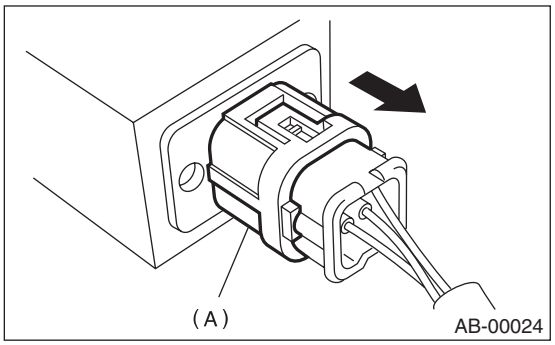
CAUTION:
When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.



5. FRONT SUB SENSOR, SIDE AIRBAG SENSOR, CURTAIN AIRBAG SENSOR AND SEAT POSITION SENSOR LH

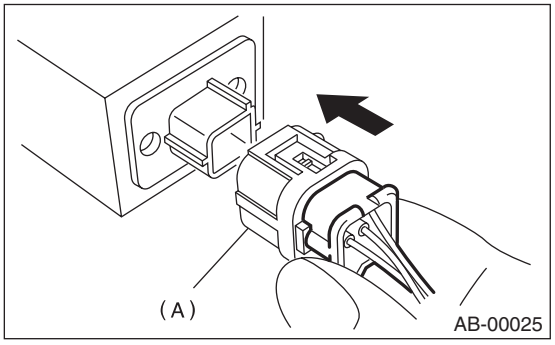
1) How to disconnect:
Holding outer part (A), pull it in the direction of arrow.

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



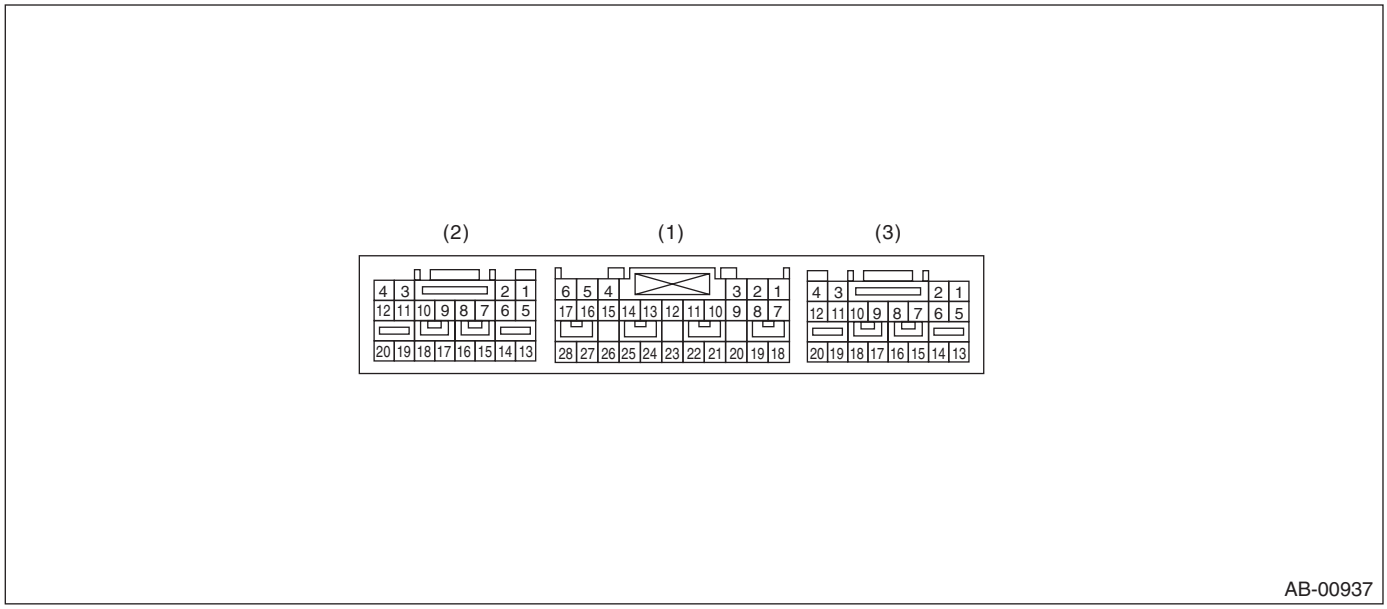
2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

CAUTION:
• Outer side (A) move back, and so do not put your hand on 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.



6. Airbag Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



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

Item		Control module terminal No.
Data link connector		(1)-12
Combination meter		(1)-3
Battery power supply	Dedicated fuse	(1)-5
Passenger's airbag module level one	+	(1)-10
	–	(1)-11
Passenger's airbag module level two	+	(1)-8
	–	(1)-7
Driver's airbag module level one	+	(1)-14
	–	(1)-13
Driver's airbag module level two	+	(1)-16
	–	(1)-17
Front sub sensor LH	Power supply and communication	(1)-15
	GND	(1)-26
Front sub sensor RH	Power supply and communication	(1)-9
	GND	(1)-20
Ground line (GND)		(1)-27
		(1)-28
Passenger's airbag OFF indicator		(1)-1
Passenger's airbag ON indicator		(1)-18
Passenger's seat belt warning light (integrated module)		(1)-24
Seat belt buckle switch LH	+	(2)-19
	–	(2)-2
Seat position sensor LH	+	(2)-4
	–	(2)-3
Seat belt pretensioner LH	+	(2)-6
	–	(2)-5

Item		Control module terminal No.
Side airbag sensor LH	Power supply and communication	(2)-16
	GND	(2)-18
	+	(2)-17
	–	(2)-20
Side airbag module LH	+	(2)-10
	–	(2)-9
Curtain airbag sensor LH	Power supply and communication	(2)-14
	GND	(2)-13
	+	(2)-15
	–	(2)-1
Curtain airbag module LH	+	(2)-11
	–	(2)-12
Seat belt pretensioner RH	+	(3)-11
	–	(3)-12
Side airbag sensor RH	Power supply and communication	(3)-17
	GND	(3)-15
	+	(3)-16
	–	(3)-13
Side airbag module RH	+	(3)-7
	–	(3)-8
Curtain airbag sensor RH	Power supply and communication	(3)-19
	GND	(3)-20
	+	(3)-18
	–	(3)-4
Curtain airbag module RH	+	(3)-6
	–	(3)-5
Occupant detection control module	+	(3)-1
	–	(3)-2

B: WIRING DIAGRAM

Refer to the WI section wiring diagram. <Ref. to WI-99, WIRING DIAGRAM, Airbag System.>

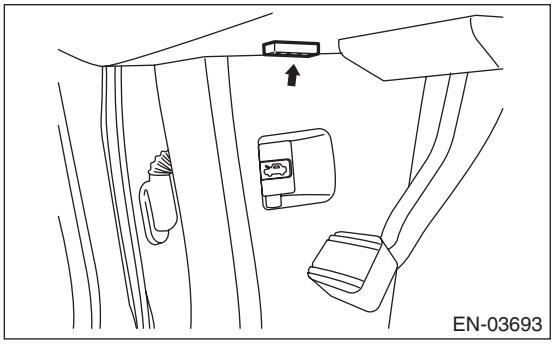
7. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

When malfunction of airbag system occurs, the DTC stored in airbag control module will be read out.
1) Prepare the Subaru Select Monitor kit. <Ref. to AB(diag)-8, SPECIAL TOOL, PREPARATION TOOL, General Description.>
2) Connect the diagnosis cable to Subaru Select Monitor.
3) Connect the Subaru Select Monitor to data link connector.

(1) Data link connector (1) is located in the lower portion of instrument panel (on the driver's side).



(2) Connect the diagnosis cable to data link connector.

CAUTION:
Do not connect the scan tools except for Subaru Select Monitor.

4) Turn the ignition switch to ON (engine OFF) and run the Subaru Select Monitor.
5) On the «Main Menu» display screen, select {Each System Check}.
6) On the «System Selection Menu» display screen, select {Airbag System}.
7) After {Airbag System} is displayed, select [OK].
8) Select the {Diagnostic Trouble Code} in «Airbag System» display screen.

NOTE:
• For details concerning operation procedure, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".
• For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>

2. DISPLAY OF STATUS INFORMATION

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

Item	Display contents
Seat position sensor LH	Front position *1/Rear position *2 /Other *3/Initial Setting *3 /—*5
Seat position sensor RH	—*5
Seat belt buckle switch LH	Belted *6/Unbelted*7 /Other *8/Initial Setting *4 /—*9
Seat belt buckle switch RH	Belted *6/Unbelted*7 /Other *8/Initial Setting *4 /—*9
Passenger's airbag control status	ON *10/OFF *11 /Initial Setting *4

*1: The seat position is forward.
*2: The seat position is rearward.
*3: Displayed when data other than before and behind the seat, such as the breakdown etc, is input.
*4: Displayed when it is initial.
*5: Seat position sensor not supported
*6: Seat belt fastened
*7: Seat belt not fastened
*8: Displayed when data other than belt fastened or not fastened, such as breakdowns is input.
*9: Seat belt buckle switch not supported
*10: Passenger's seat airbag operating state
*11: Passenger's seat airbag non-operating state

NOTE:
For details concerning the operation procedure, refer to the "PC application for Subaru Select Monitor".

3. CLEAR MEMORY MODE

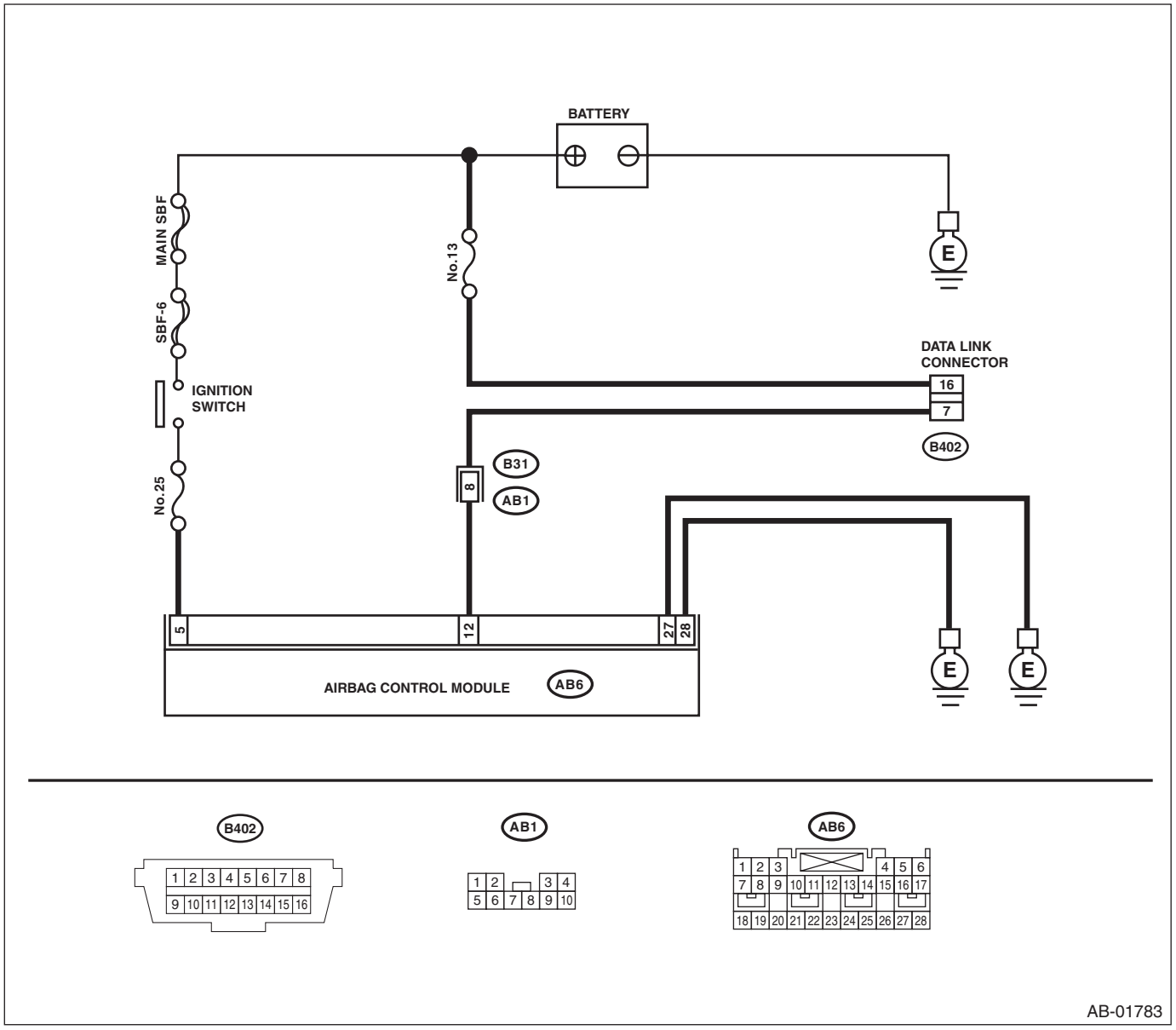
Clear the DTC stored in the airbag control module after repairing airbag system. (After the breakdown is recovered, the breakdown code for completed recoveries are read out when the next breakdown occurs if the memory clear work is not performed.)
1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select {Airbag System}.
3) Select the {Clear Memory} in «Airbag System» display screen.
4) When "Clear Memory?" is shown on the screen, press [ON].
5) When "Done" is displayed, end the Subaru Select Monitor.

NOTE:
For details concerning the operation procedure, refer to the "PC application for Subaru Select Monitor".

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

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



	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2**.	Turn the ignition switch to ON, and select the airbag mode using the Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.
4	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other system can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Go to step **9**.	Go to step **5**.
5	**CHECK AIRBAG CONTROL MODULE CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Check the connector of the airbag control module.	Is the connector of the airbag control module securely connected?	Go to step **6**.	Connect the connector of the airbag control module.
6	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of airbag control module. 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-19, Airbag Control Module.>	Go to step **7**.
7	**CHECK HARNESS CONNECTOR BETWEEN EACH SYSTEM CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the airbag control module, VDCCM&H/U, ECM and TCM. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **8**.	Repair the harness and connector between each system control module and data link connector. (Replace the entire harness if repair is necessary for airbag harness.)
8	**CHECK THE OUTPUT SIGNAL TO THE AIRBAG CONTROL MODULE.** 1) Turn the ignition switch to ON in the status of step 7. 2) Measure the voltage between data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **9**.	Repair the harness and connector between each system control module and data link connector. (Replace the entire harness if repair is necessary for airbag harness.)

	Step	Check	Yes	No
9	**CHECK THE HARNESS BETWEEN THE AIRBAG CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB6) from airbag control module. 3) Connect the connector (1U) in the test harness U to connector (AB6). 4) Measure the resistance between connector (4U) in the test harness U and the data link connector. ***Connector & terminal*** ***(4U) No. 18 — (B402) No. 7:***	Is the resistance less than 10 Ω?	Go to step **10**.	Repair the harness between the airbag control module and the data link connector. Or replace the airbag main harness along with the bulkhead harness.
10	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 1 (+) — Chassis ground (–):*** ***(2U) No. 6 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **11**.	Repair the harness between the airbag control module and the battery. Or replace the airbag main harness along with the bulkhead harness.
11	**CHECK BETWEEN THE AIRBAG CONTROL MODULE AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 10 — Chassis ground:*** ***(2U) No. 11 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **12**.	Repair the harness between the airbag control module and the chassis ground. Or replace the airbag main harness along with the bulkhead harness.
12	**CHECK POOR CONTACT IN CONNECTOR.**	Is there poor contact in the control module power supply, ground circuit and data link connector?	Repair the connector. (For airbag system connectors, do not repair but replace the entire harness.)	Replace the airbag control module only. <Ref. to AB-19, REMOVAL, Airbag Control Module.>

2. WITHOUT DTC

DETECTING CONDITION:

- Defective combination meter
- Open circuit of harness

TROUBLE SYMPTOM:

- Airbag warning light remains on.
- “NO TROUBLE CODE” will be displayed on the Subaru Select Monitor.

For detailed operation procedure, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-39, Airbag Warning Light Failure.>

NOTE:

- For detailed operation procedure, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-39, Airbag Warning Light Failure.>
- When the airbag warning light is OFF and “NO TROUBLE CODE” is displayed on Subaru Select Monitor, the system is in normal condition.

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details about reading DTCs, refer to “Subaru Select Monitor”. <Ref. to AB(diag)-30, Subaru Select Monitor.>

9. Inspection Mode

A: PROCEDURE

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

10.Clear Memory Mode

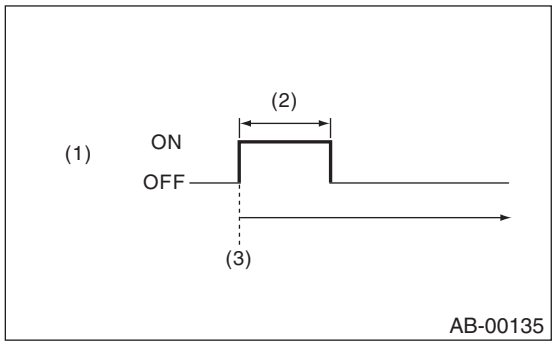
A: OPERATION

Clear the memory in the following steps after the malfunction is repaired.
For details concerning DTC clear operation, refer to “Subaru Select Monitor”. <Ref. to AB(diag)-30, Subaru Select Monitor.>

11.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 go off afterwards.



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

12.Airbag Warning Light Failure

A: AIRBAG WARNING LIGHT REMAINS ON

DETECTING CONDITION:

- Airbag warning light is faulty.
- Airbag control module to airbag warning light circuit is shorted or open.
- Grounding circuit is faulty.
- Airbag control module is faulty.
- Connection of (AB1) and (B31) is improper.
- Connection of (AB6) to airbag control module is improper.

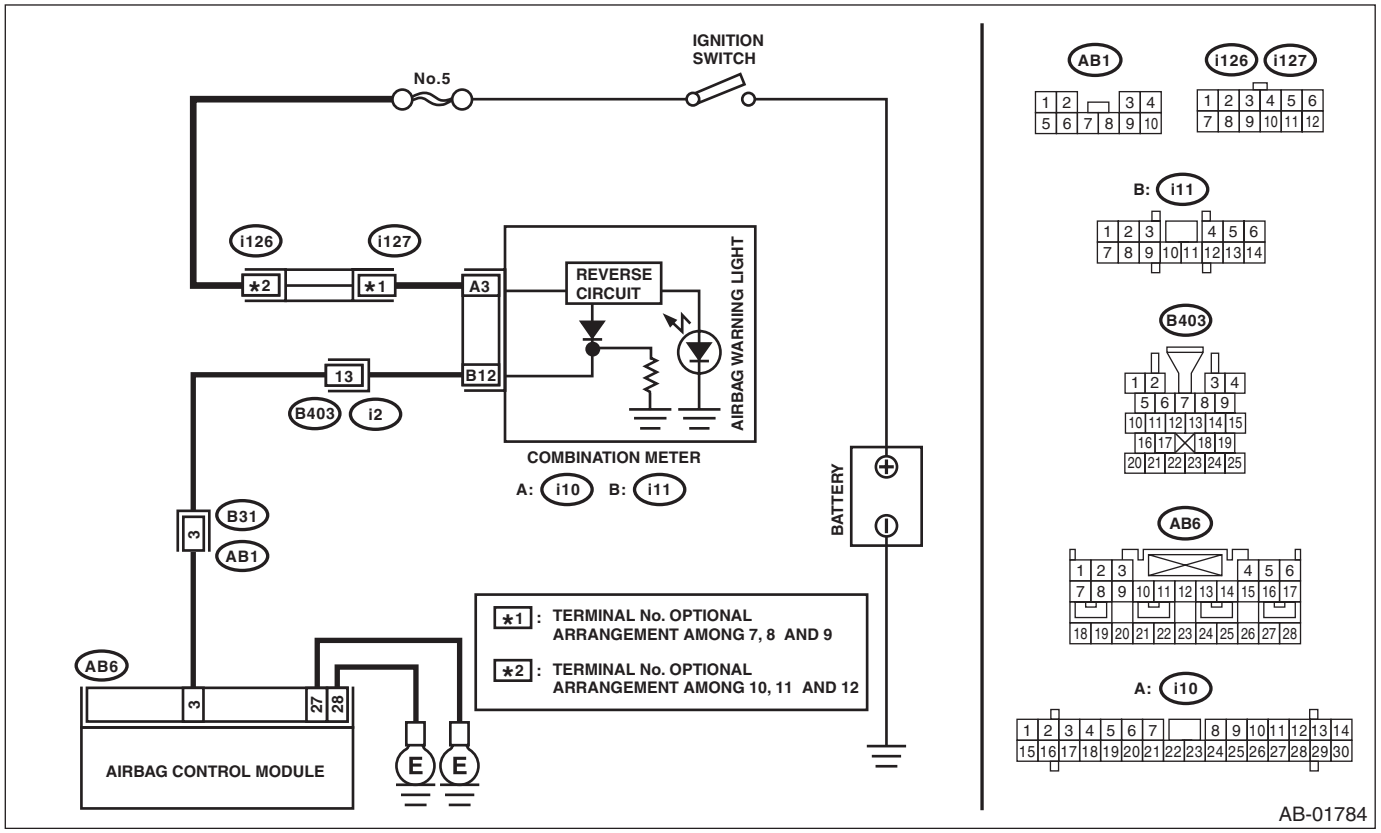
CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.

• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.

• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**READ DTC.** Read the DTC. <Ref. to AB(diag)-30, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK POOR CONTACT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Confirm that there is solid connection between the airbag control module and connector (AB6).	Is there poor contact in connector (AB6)?	If the poor contact of the connector is not fixed, replace the airbag main harness along with body harness or replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS.** 1) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2). 2) Remove the console side cover lower on the passenger's side and disconnect the connectors (AB10) and (AB9). 3) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 4) Connect the battery ground terminal and turn the ignition switch to ON. 5) Connect the connectors (7U) and (8U) in the test harness U. NOTE: After the fault has been cleared, disconnect the connectors (7U) and (8U).	Does the airbag warning light go off?	Go to step **4**.	Go to step **5**.
4	**CHECK GROUND CIRCUIT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB6) from airbag control module. 3) Connect the connector (1U) in the test harness U to body harness connector (AB6). 4) Measure the resistance between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 10 — Chassis ground:*** ***(2U) No. 11 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Repair the chassis ground circuit.
5	**CHECK AIRBAG MAIN HARNESS AND BULKHEAD HARNESS.** 1) Disconnect the connectors (7U) and (8U). 2) Remove the combination meter. 3) Measure the resistance between connector (i11) and connector (2U) in the test harness U. ***Connector & terminal*** ***(2U) No. 7 — (i11) No. 12:***	Is the resistance less than 10 Ω?	Check the combination meter.	Go to step **6**.
6	**CHECK POOR CONTACT OF CONNECTORS (AB1) AND (B31).** 1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait more than 20 seconds. 2) Confirm that there is a firm contact between connectors (AB1) and (B31).	Is there poor contact in connectors (AB1) and (B31)?	Repair the bulkhead harness or replace the airbag main harness along with body harness.	Go to step **7**.
7	**CHECK AIRBAG MAIN HARNESS.** Check the airbag main harness for defect.	Is there any defect in the airbag main harness?	Replace the airbag main harness along with bulkhead harness.	Repair the bulkhead harness.

B: AIRBAG WARNING LIGHT REMAINS OFF

DETECTING CONDITION:

- Fuse No. 5 (in fuse box) is blown out.
- Body harness circuit is open.
- Airbag warning light is faulty.
- Airbag main harness is faulty.
- Airbag control module is faulty.

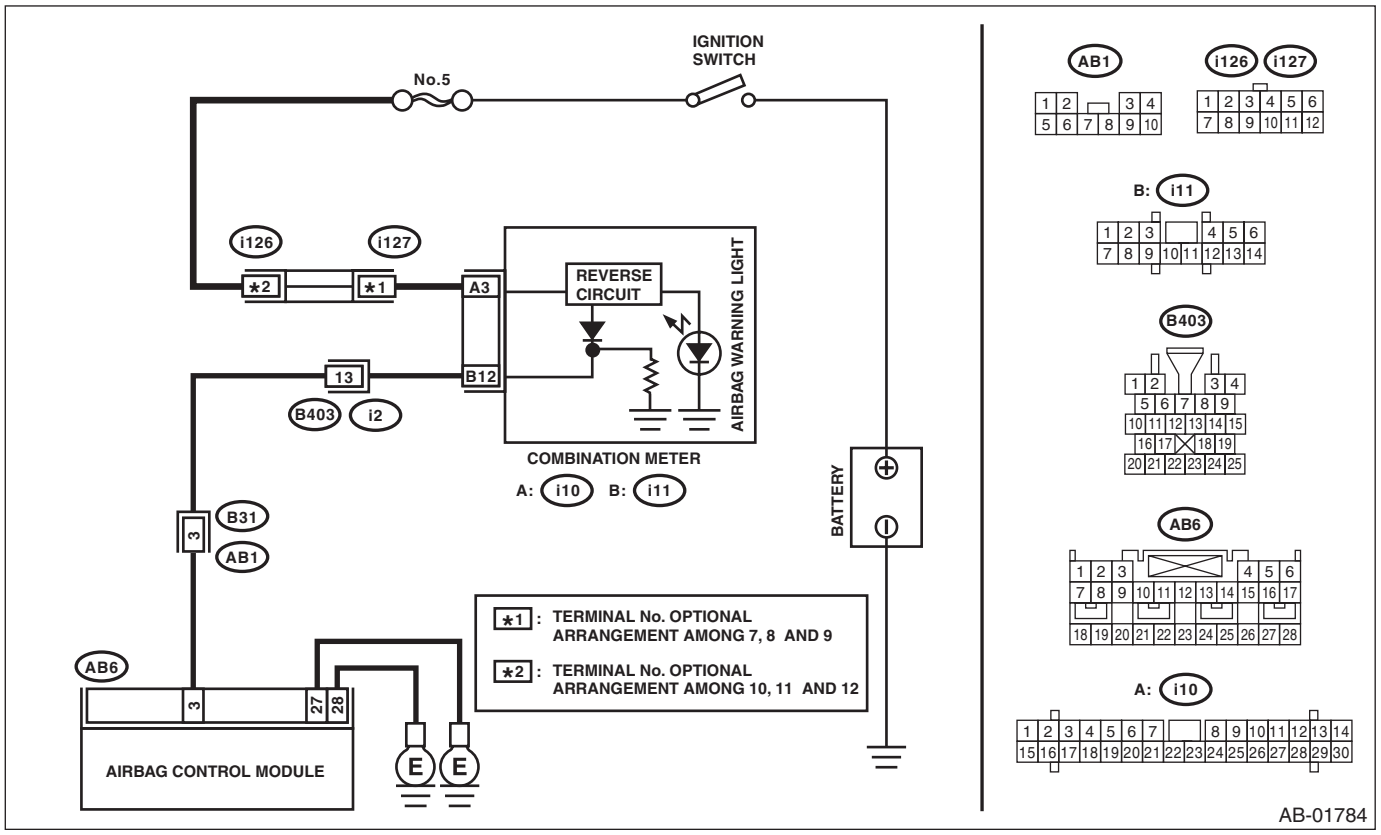
CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.

• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.

• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

WIRING DIAGRAM:



Airbag Warning Light Failure

	Step	Check	Yes	No
1	**CHECK COMBINATION METER.** Turn the ignition switch to ON, and confirm that warning light of combination meter is turned on.	Do warning lights except for airbag turn on?	Go to step **2**.	Check the combination meter.
2	**CHECK DTC.** Read the DTC. <Ref. to AB(diag)-30, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3**.
3	**CHECK FUSE NO. 5 (IN MAIN FUSE BOX).** Remove the fuse No. 5 and perform visual inspection.	Is the fuse No. 5 (in main fuse box) blown out?	Replace the fuse No. 5. If the fuse No. 5 is blown out again, go to step 4.	Go to step **4**.
4	**CHECK AIRBAG WARNING LIGHT CIRCUIT (IN COMBINATION METER).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB1) from (B31). 3) Connect the battery ground terminal and turn the ignition switch to ON.	Does airbag warning light turn on?	Go to step **5**.	Check the combination meter.
5	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Connect the connector (AB1) to (B31). 3) Disconnect the connector (AB6) from airbag control module. 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does airbag warning light turn on?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Replace the airbag main harness along with bulkhead harness.

13.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Display	Content of diagnosis	Reference target
11	Driver's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground. • Roll connector circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-48, DTC 11 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
12	Passenger's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-51, DTC 12 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
15	Driver's Airbag failure	• Airbag main harness circuit (Driver's side) is shorted to power supply. • Airbag module harness circuit (Driver's side) is shorted to power supply. • Roll connector is shorted to power supply. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-53, DTC 15 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
16	Passenger's Airbag failure	• Airbag main harness circuit (Passenger's side) is shorted to power supply. • Airbag module harness circuit (Passenger's side) is shorted to power supply. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-56, DTC 16 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
21	Airbag ECM failure	Airbag control module is faulty.	<Ref. to AB(diag)-58, DTC 21 AIRBAG ECM FAILURE, Diagnostic Chart with Trouble Code.>
22	Front Airbag Firing output	Front airbag module and seat belt pretensioner (LH/RH) are inflated.	<Ref. to AB(diag)-59, DTC 22 FRONT AIRBAG FIRING OUTPUT, Diagnostic Chart with Trouble Code.>
23	Connector to Airbag ECM failure	Connection of (AB6), (AB17) and (AB18) to airbag control module is improper.	<Ref. to AB(diag)-60, DTC 23 CONNECTOR TO AIRBAG ECM, Diagnostic Chart with Trouble Code.>
26	Passenger's Airbag 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)-61, DTC 26 PASSENGER'S AIRBAG INDICATOR FAILURE, Diagnostic Chart with Trouble Code.>
27	ODS Communication error	• Occupant detection control module communication is faulty. • Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply. • Occupant detection harness is faulty. • Airbag control module is faulty. • Occupant detection system is faulty.	<Ref. to AB(diag)-63, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference target
29	ODS Failure	• Occupant detection sensor is faulty. • Occupant detection control module is faulty. • Occupant detection harness is faulty.	Refer to “Occupant Detection System” for details on DTC 29. <Ref. to OD(diag)-28, DTC 29 ODS FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2A	ODS Calibration error	System calibration (Rezeroing) of the occupant detection system was not ended normally.	Refer to “Occupant Detection System” for details on DTC 2A. <Ref. to OD(diag)-25, DTC 2A ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2B	ODS Erroneous Parts	• Wrong airbag control module was installed. • Wrong occupant detection system was installed. • Occupant detection system is faulty.	Refer to “Occupant Detection System” for details on DTC 2B. <Ref. to OD(diag)-25, DTC 2B ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2C	Belt Tension Sensor failure	• Passenger’s seat belt tension sensor is faulty. • Occupant detection system is faulty. • Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply. • Occupant detection harness is faulty.	Refer to “Occupant Detection System” for details on DTC 2C. <Ref. to OD(diag)-26, DTC 2C BELT TENSION SENSOR FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
31	Front Sub Sensor RH failure	• Front sub sensor harness (RH) circuit is open or shorted. • Front sub sensor (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-65, DTC 31 FRONT SUB SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
32	Front Sub Sensor LH failure	• Front sub sensor harness (LH) circuit is open or shorted. • Front sub sensor (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-67, DTC 32 FRONT SUB SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
33	Front Sub Sensor RH failure	Front sub sensor (RH) is faulty.	<Ref. to AB(diag)-69, DTC 33 FRONT SUB SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
34	Front Sub Sensor LH failure	Front sub sensor (RH) is faulty.	<Ref. to AB(diag)-69, DTC 34 FRONT SUB SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
36	Seat Position Sensor LH Failure	• Driver’s seat position sensor is faulty. • Airbag control module is faulty. • Airbag rear harness LH circuit is open, shorted or shorted to ground.	<Ref. to AB(diag)-70, DTC 36 SEAT POSITION SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference target
37	Buckle Switch RH failure	• Passenger's seat buckle switch circuit is open, shorted or shorted to ground. • Occupant detection system is faulty. • Occupant detection harness is faulty.	Refer to "Occupant Detection System" for details on DTC 37. <Ref. to OD(diag)-29, DTC 37 BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
38	Buckle Switch LH Failure	• Driver's seat buckle switch circuit is open, shorted or shorted to ground. • Airbag rear harness LH circuit is open, shorted or shorted to ground. • Airbag control module is faulty.	<Ref. to AB(diag)-72, DTC 38 BUCKLE SWITCH LH FAILURE, Diagnostic Chart with Trouble Code.>
39	Seatbelt Warning failure	• Airbag control module is faulty. • Body integrated unit is faulty. • Harness circuits between body integrated unit and airbag control module are open, shorted or shorted to ground.	<Ref. to AB(diag)-75, DTC 39 SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>
41	Side Airbag RH failure	• Side airbag harness (RH) circuit is faulty. • Side airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-77, DTC 41 SIDE AIRBAG RH FAILURE, Diagnostic Chart with Trouble Code.>
42	Side Airbag LH failure	• Side airbag harness (LH) circuit is faulty. • Side airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-80, DTC 42 SIDE AIRBAG LH FAILURE, Diagnostic Chart with Trouble Code.>
45	Side Airbag RH failure	• Side airbag harness (RH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-83, DTC 45 SIDE AIRBAG RH FAILURE, Diagnostic Chart with Trouble Code.>
46	Side Airbag LH failure	• Side airbag harness (LH) is shorted to power supply. • Airbag control module is faulty.	<Ref. to AB(diag)-85, DTC 46 SIDE AIRBAG LH FAILURE, Diagnostic Chart with Trouble Code.>
51	Side Airbag Sensor RH failure	• Side airbag sensor (RH) is faulty. • Side airbag harness (RH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-87, DTC 51 SIDE AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
52	Side Airbag Sensor LH failure	• Side airbag sensor (LH) is faulty. • Side airbag harness (LH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-90, DTC 52 SIDE AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
53	Side Airbag Sensor RH failure	Side airbag sensor (RH) is faulty.	<Ref. to AB(diag)-92, DTC 53 SIDE AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
54	Side Airbag Sensor LH failure	Side airbag sensor (LH) is faulty.	<Ref. to AB(diag)-92, DTC 54 SIDE AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference target
55	Side Curtain Airbag Firing output	• Side airbag module, curtain airbag module and seat belt pretensioner are inflated. • Curtain airbag module is deployed.	<Ref. to AB(diag)-92, DTC 55 SIDE CURTAIN AIRBAG FIRING OUTPUT, Diagnostic Chart with Trouble Code.>
56	Curtain Airbag Sensor RH Failure	• Curtain airbag sensor (RH) is faulty. • Curtain airbag harness (RH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-93, DTC 56 CURTAIN AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
57	Curtain Airbag Sensor LH Failure	• Curtain airbag sensor (LH) is faulty. • Curtain airbag harness (LH) circuit is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-96, DTC 57 CURTAIN AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
58	Curtain Airbag Sensor RH failure	Curtain airbag sensor (RH) is faulty.	<Ref. to AB(diag)-98, DTC 58 CURTAIN AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.>
59	Curtain Airbag Sensor LH failure	Curtain airbag sensor (LH) is faulty.	<Ref. to AB(diag)-98, DTC 59 CURTAIN AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.>
61	Belt Pretensioner RH failure	• Seat belt pretensioner (RH) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Pretensioner is faulty. • Pretensioner harness is faulty.	<Ref. to AB(diag)-99, DTC 61 BELT PRETENSIONER RH FAILURE, Diagnostic Chart with Trouble Code.>
62	Belt Pretensioner LH failure	• Seat belt pretensioner (LH) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Pretensioner is faulty. • Pretensioner harness is faulty.	<Ref. to AB(diag)-102, DTC 62 BELT PRETENSIONER LH FAILURE, Diagnostic Chart with Trouble Code.>
65	Belt Pretensioner RH failure	• Seat belt pretensioner (RH) circuit is shorted to power supply. • Pretensioner is faulty. • Pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-105, DTC 65 BELT PRETENSIONER RH FAILURE, Diagnostic Chart with Trouble Code.>
66	Belt Pretensioner LH failure	• Seat belt pretensioner (LH) circuit is shorted to power supply. • Pretensioner is faulty. • Pretensioner harness is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-107, DTC 66 BELT PRETENSIONER LH FAILURE, Diagnostic Chart with Trouble Code.>
71	Driver's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground. • Roll connector circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-109, DTC 71 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
72	Passenger's Airbag failure	• Airbag main harness circuit is open, shorted or shorted to ground. • Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-112, DTC 72 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>

DTC	Display	Content of diagnosis	Reference target
75	Driver's Airbag failure	• Airbag main harness circuit (Driver's side) is shorted to power supply. • Airbag module harness circuit (Driver's side) is shorted to power supply. • Roll connector is shorted to power supply. • Airbag control module is faulty. • Driver's airbag module is faulty.	<Ref. to AB(diag)-114, DTC 75 DRIVER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
76	Passenger's Airbag failure	• Airbag main harness circuit (Passenger's side) is shorted to power supply. • Airbag module harness circuit (Passenger's side) is shorted to power supply. • Airbag control module is faulty. • Passenger's airbag module is faulty.	<Ref. to AB(diag)-117, DTC 76 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.>
91	Curtain Airbag Module RH failure	• Curtain airbag harness (RH) circuit is faulty. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-119, DTC 91 CURTAIN AIRBAG MODULE RH FAILURE, Diagnostic Chart with Trouble Code.>
92	Curtain Airbag Module LH failure	• Curtain airbag harness (LH) circuit is faulty. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-122, DTC 92 CURTAIN AIRBAG MODULE LH FAILURE, Diagnostic Chart with Trouble Code.>
95	Curtain Airbag Module RH failure	• Curtain airbag harness (RH) is shorted to power supply. • Curtain airbag module (RH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-125, DTC 95 CURTAIN AIRBAG MODULE RH FAILURE, Diagnostic Chart with Trouble Code.>
96	Curtain Airbag Module LH failure	• Curtain airbag harness (LH) is shorted to power supply. • Curtain airbag module (LH) is faulty. • Airbag control module is faulty.	<Ref. to AB(diag)-127, DTC 96 CURTAIN AIRBAG MODULE LH FAILURE, Diagnostic Chart with Trouble Code.>
BB	Roll Over:Firing Output	Curtain airbag module (LH/RH) and seat belt pretensioner (LH/RH) are inflated.	<Ref. to AB(diag)-128, DTC BB ROLL OVER:FIRING OUTPUT, Diagnostic Chart with Trouble Code.>

14.Diagnostic Chart with Trouble Code

A: DTC 11 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

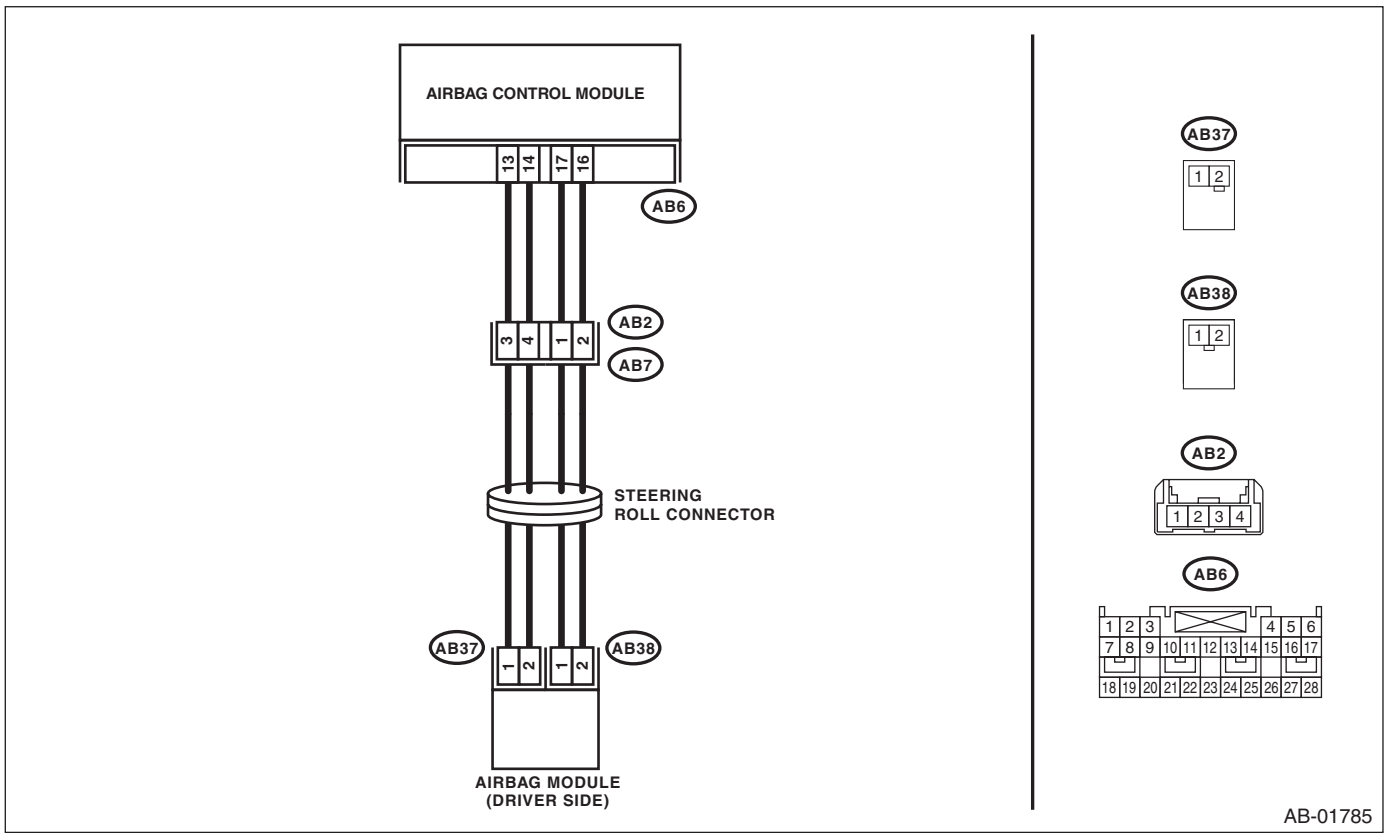
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (driver's side) circuit is open, shorted or shorted to ground.
- Roll connector circuit is open, shorted or shorted to ground.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 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) of test harness Q. 7) 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 driver's airbag module. <Ref. to AB-14, 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 more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) 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 roll connector. <Ref. to AB-22, Roll Connector.>	Go to step **4**.
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side cover lower on the passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 2 — (2P) No. 1:*** ***(2U) No. 4 — (2P) No. 2:*** ***(2U) No. 8 — (3P) No. 3:*** ***(2U) No. 12 — (3P) No. 4:***	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 (DRIVER'S AIRBAG HARNESS).** Measure the resistance between connector (2U) terminals in the test harness U. ***Connector & terminal*** ***(2U) No. 2 — (2U) No. 4:*** ***(2U) No. 4 — Chassis ground:*** ***(2U) No. 2 — Chassis ground:*** ***(2U) No. 8 — (2U) No. 12:*** ***(2U) No. 8 — Chassis ground:*** ***(2U) No. 12 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag main harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.
7	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

B: DTC 12 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

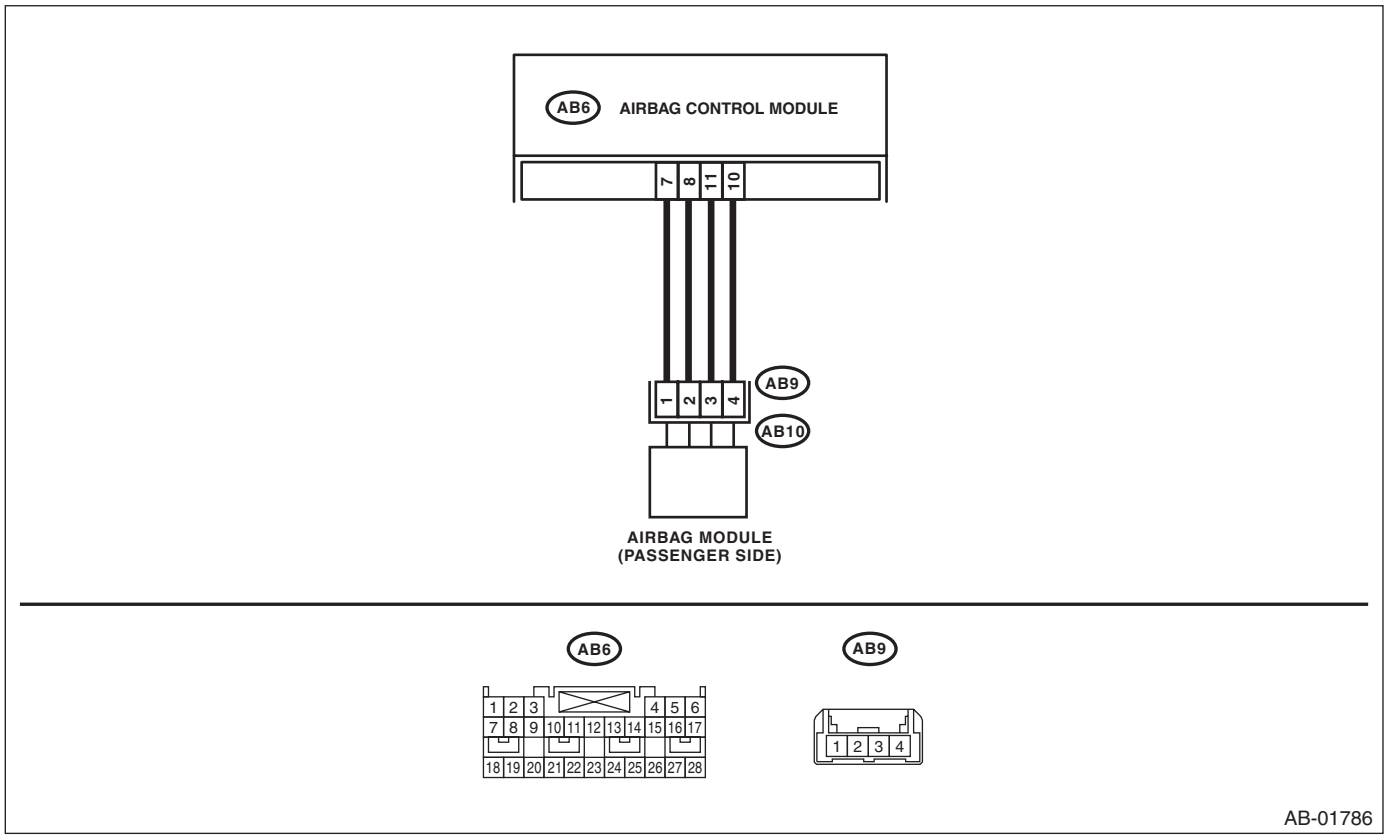
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	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 PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the console side cover lower on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 6) 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 passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 3 — (2P) No. 1:*** ***(2U) No. 5 — (2P) No. 2:*** ***(2U) No. 9 — (3P) No. 3:*** ***(2U) No. 13 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground. ***Connector & terminal*** ***(2U) No. 3 — (2U) No. 5:*** ***(2U) No. 3 — Chassis ground:*** ***(2U) No. 5 — Chassis ground:*** ***(2U) No. 9 — (2U) No. 13:*** ***(2U) No. 9 — Chassis ground:*** ***(2U) No. 13 — 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 the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **6**.
6	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

C: DTC 15 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

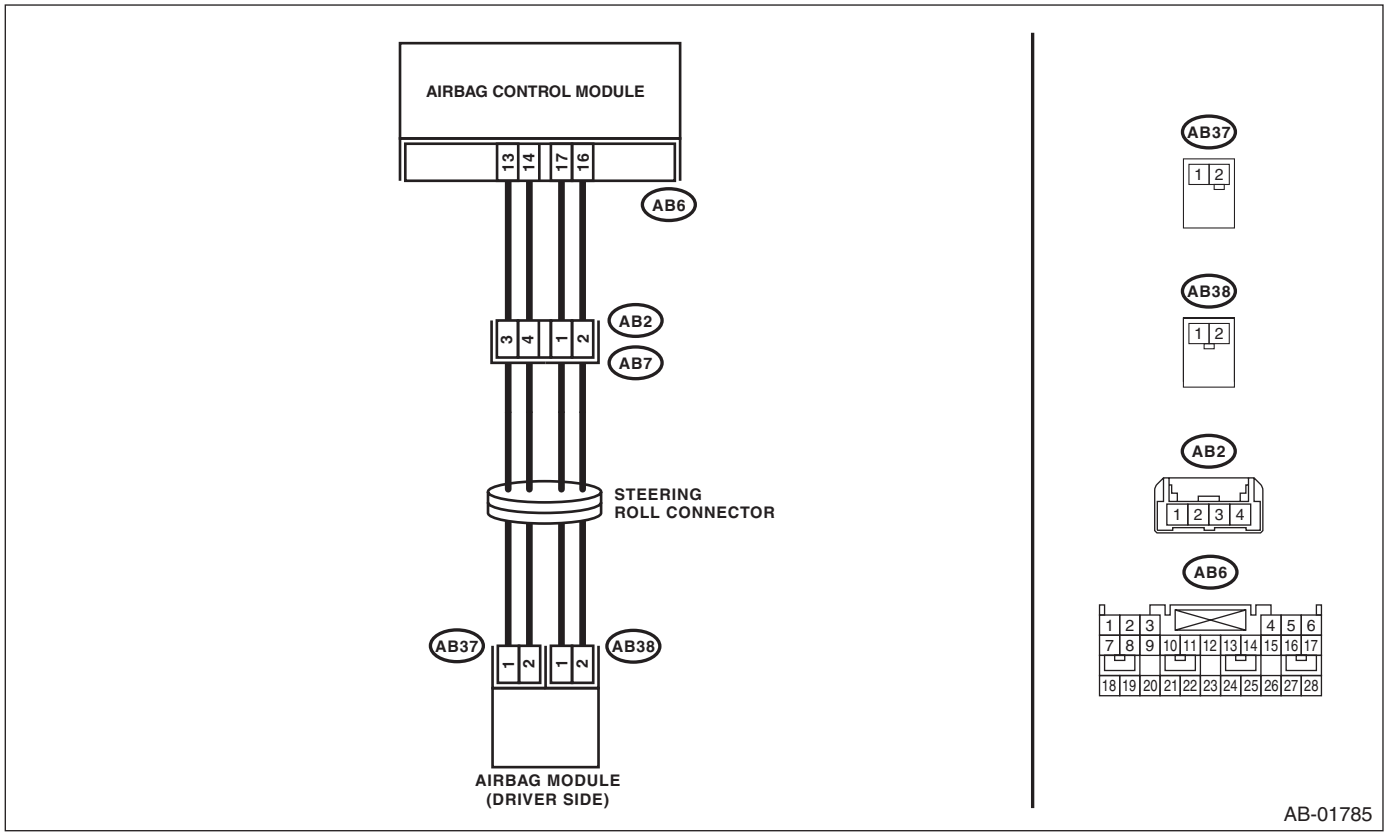
- Airbag main harness circuit (Driver's side) is shorted to power supply.
- Airbag module harness circuit (Driver's side) is shorted to power supply.
- Roll connector is shorted to power supply.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the driver's airbag module.	Is there poor contact?	Replace the airbag harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the driver's airbag module. 3) Connect the connector (AB38) to the connector (1N) in the test harness N. 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) of test harness Q. 7) 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 driver's airbag module. <Ref. to AB-14, 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 more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) 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 roll connector. <Ref. to AB-22, Roll Connector.>	Go to step **4**.
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side cover lower on the passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Connect the battery ground terminal and turn the ignition switch to ON. (Engine OFF) 6) Measure the voltage between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 4 (+) — Chassis ground (–):*** ***(2U) No. 2 (+) — Chassis ground (–):*** ***(2U) No. 8 (+) — Chassis ground (–):*** ***(2U) No. 12 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **5**.	Replace the airbag main harness along with body harness.

	Step	Check	Yes	No
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **6**.
6	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

D: DTC 16 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

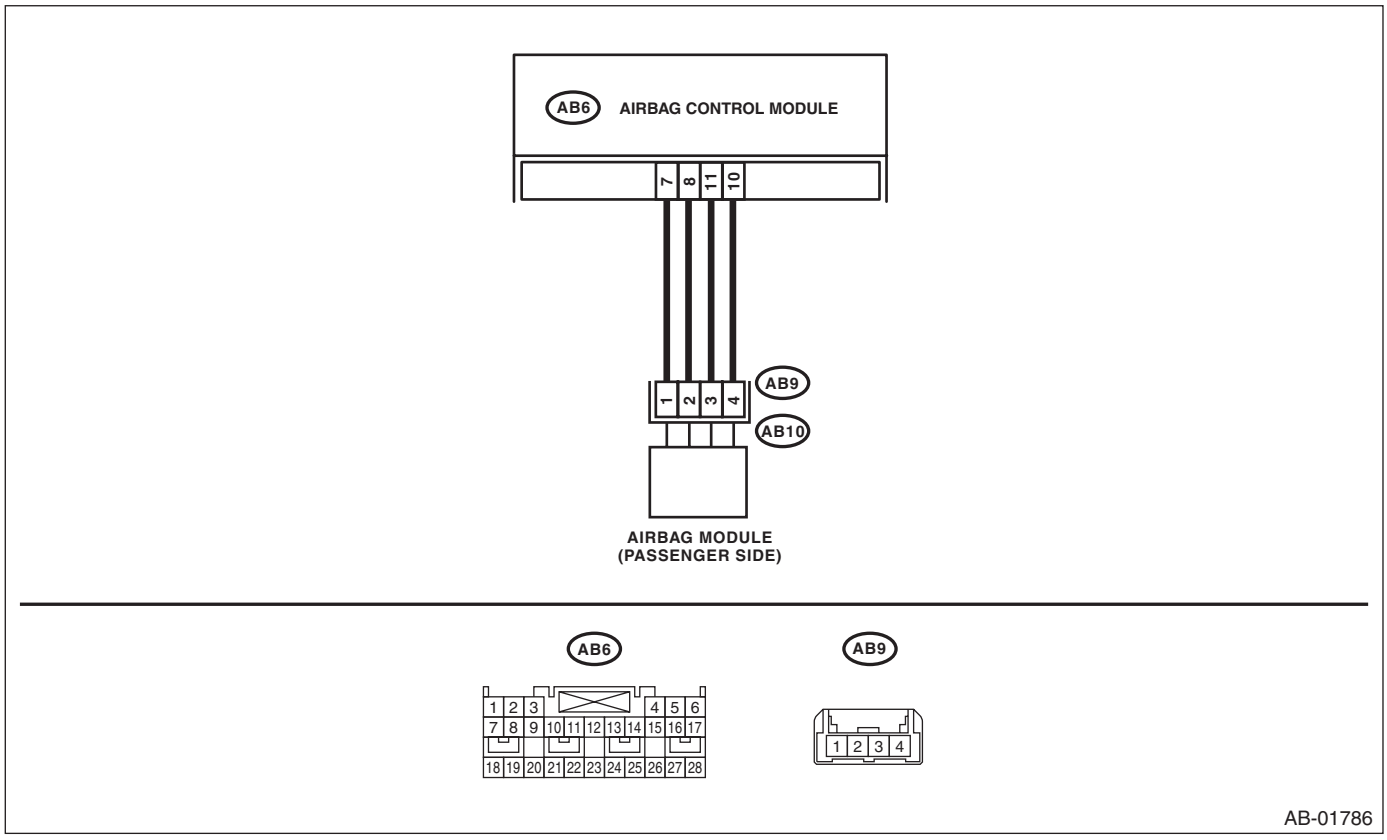
- Airbag main harness circuit (Passenger's side) is shorted to power supply.
- Airbag module harness circuit (Passenger's side) is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the passenger's airbag module.	Is there poor contact?	Replace the airbag harness along with chassis harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the console side cover lower on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 6) 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 passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the voltage between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 3 (+) — Chassis ground (–):*** ***(2U) No. 5 (+) — Chassis ground (–):*** ***(2U) No. 9 (+) — Chassis ground (–):*** ***(2U) No. 13 (+) — 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 the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

E: DTC 21 AIRBAG ECM FAILURE

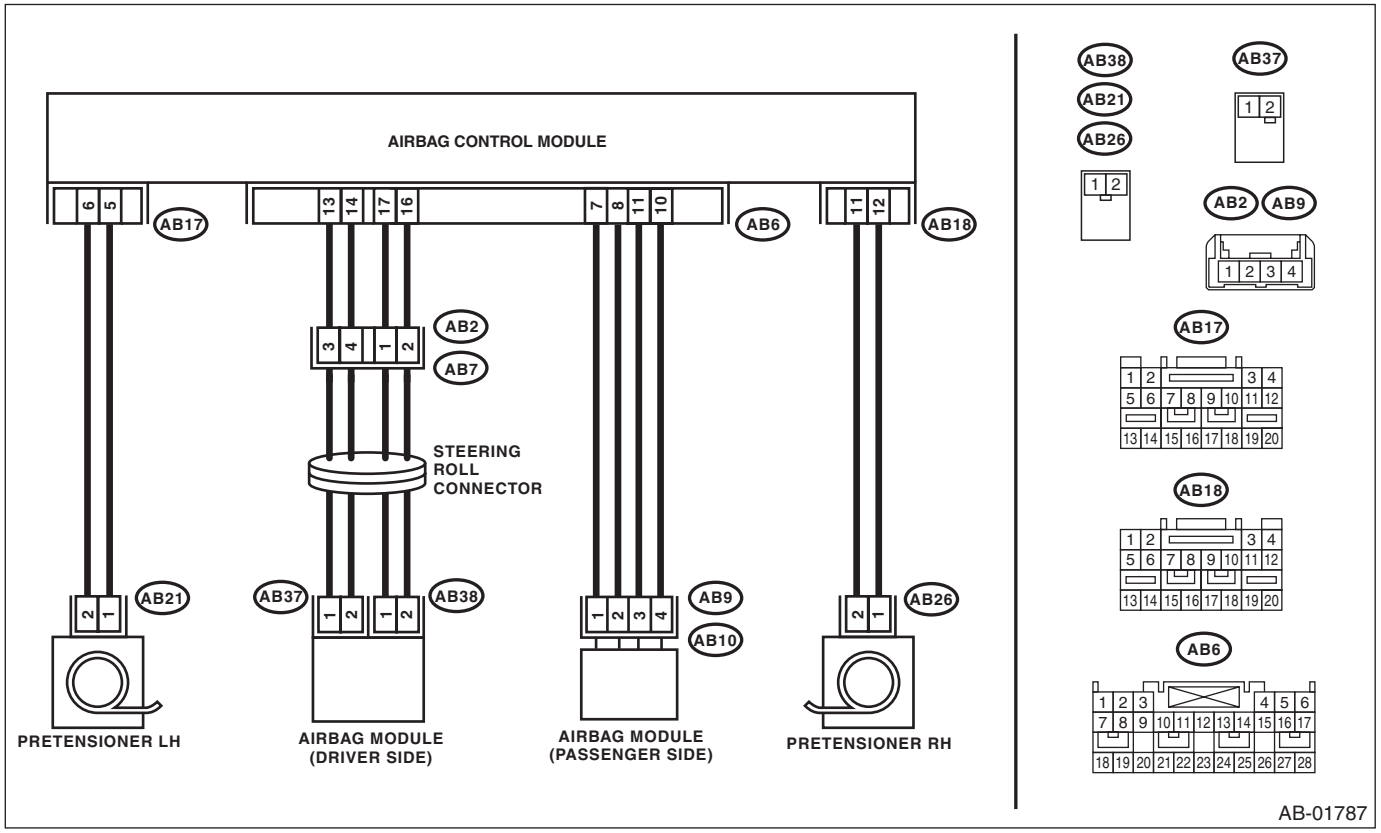
DTC DETECTING CONDITION:
Airbag control module is faulty.

CAUTION:
• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.

	Step	Check	Yes	No
1	**CHECK IF DTC 21 IS INDICATED.** Read the DTC. <Ref. to AB(diag)-30, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Does the Subaru Select Monitor display DTC21?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Perform the Clear Memory Mode. <Ref. to AB(diag)-31, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

F: DTC 22 FRONT AIRBAG FIRING OUTPUT

WIRING DIAGRAM:



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-19, Airbag Control Module.>
- Driver's airbag module <Ref. to AB-14, Driver's Airbag Module.>
- Passenger's airbag module <Ref. to AB-15, Passenger's Airbag Module.>
- Front sub sensor of both sides <Ref. to AB-23, Front Sub Sensor.>
- Front outer seat belt with pretensioner of both sides. <Ref. to SB-13, Front Seat Belt.>
- Steering roll connector <Ref. to AB-22, Roll Connector.>
- Occupant detection system (passenger's seat cushion & frame assembly) <Ref. to SE-7, Front Seat.>
- Inner seat belt assembly of both sides <Ref. to SB-13, INNER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
- Driver's seat slide rail assembly <Ref. to SE-8, DRIVER'S SEAT, DISASSEMBLY, Front Seat.>

G: DTC 23 CONNECTOR TO AIRBAG ECM

DTC DETECTING CONDITION:
Connection of (AB6), (AB17) and (AB18) to airbag control module is improper

CAUTION:
Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.

	Step	Check	Yes	No
1	**CHECK POOR CONTACTS OF CONNECTORS (AB6), (AB17) AND (AB18).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connectors (AB6), (AB17) and (AB18) from the airbag control module.	Is there rust or damage on the harness connector and the control module connector?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.> Replace the airbag main harness or side airbag harness along with body harness.	Go to step **2**.
2	**CHECK POOR CONTACTS OF CONNECTORS (AB6), (AB17) AND (AB18).** 1) Reconnect the connector securely. 2) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Go to step **3**.	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>
3	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **4**.
4	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

H: DTC 26 PASSENGER'S AIRBAG INDICATOR FAILURE

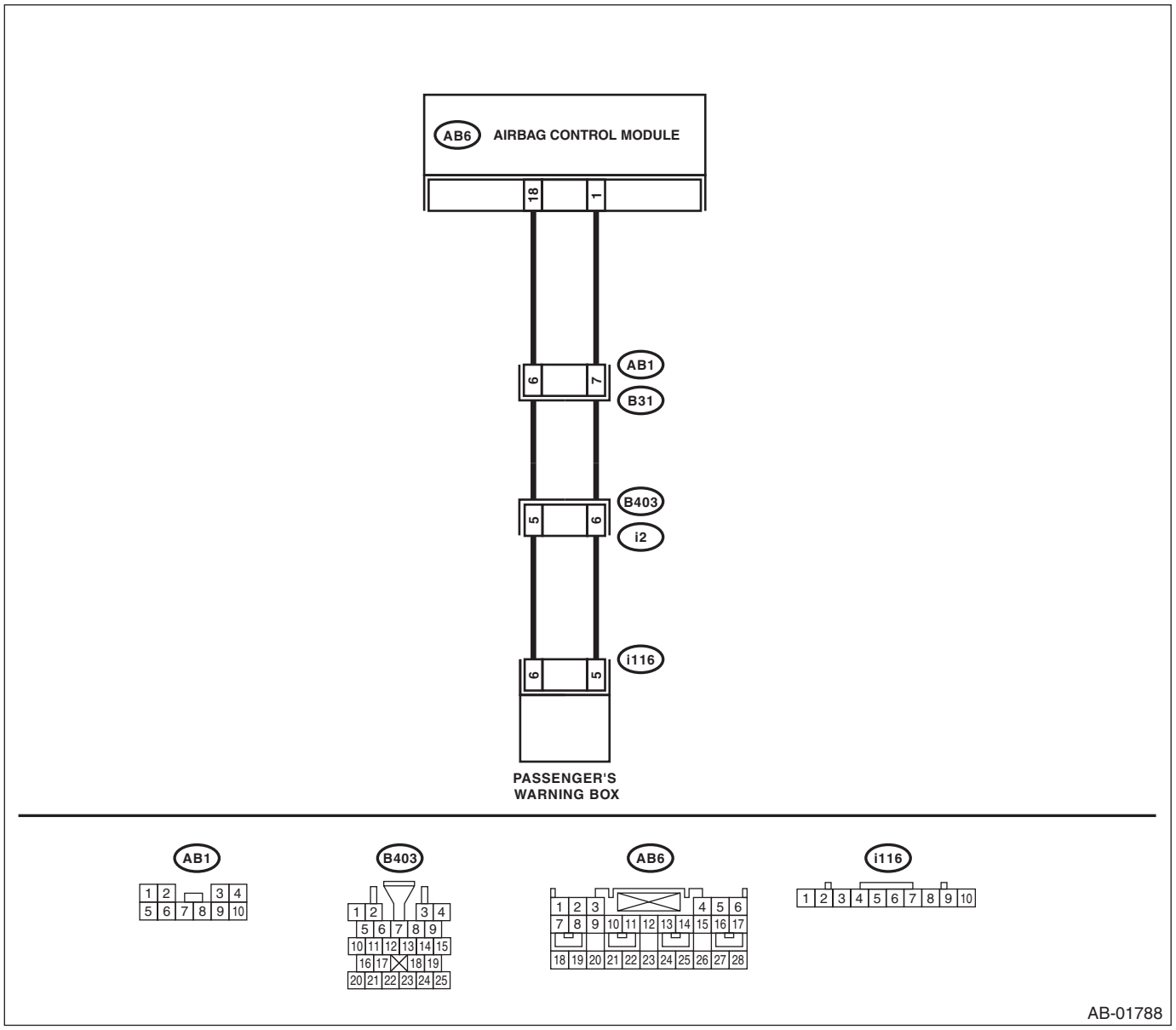
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag harness, disconnect the each airbag module connector, and seat belt pretensioner for safety reasons.

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	Step	Check	Yes	No
1	**CHECK POOR CONTACT.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Confirm that the connector that is between the airbag control module and the passenger's side warning box is securely connected.	Is there poor contact in any connector?	Replace the airbag harness.	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS.** 1) Disconnect the connector (AB6) 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.	Is the passenger's seat airbag indicator lit?	Go to step **3**.	Go to step **4**.
3	**CHECK AIRBAG MAIN HARNESS.** 1) Turn the ignition switch to OFF. 2) Remove the passenger's side warning box and disconnect the connector (i116). 3) Connect the connector (1U) in the test harness U to connector (AB6). 4) Measure the resistance between connectors (2U) and (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 14 — (4U) No. 17:*** ***(2U) No. 14 — Chassis ground:*** ***(4U) No. 17 — Chassis ground:***	Is the resistance 1 MΩ or more?	Replace the passenger's side warning box. <Ref. to AC-51, REMOVAL, Air Vent Grille.>	Repair the bulkhead harness. Or replace the airbag main harness along with the bulkhead harness.
4	**CHECK THE AIRBAG HARNESS.** 1) Connect the connector (1U) in the test harness U to connector (AB6). 2) Connect the connectors (7U) and (8U) in the test harness U. 3) Connect the battery ground terminal and turn the ignition switch to ON.	Is the passenger's seat airbag indicator lit?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK THE AIRBAG HARNESS.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between connectors (2U) and (4U) in the test harness U and the connector (i116). ***Connector & terminal*** ***(2U) No. 14 — (i116) No. 5:*** ***(4U) No. 17 — (i116) No. 6:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the bulkhead harness. Or replace the airbag main harness along with the bulkhead harness.
6	**CHECK BODY HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (i116) and chassis ground. ***Connector & terminal*** ***(i116) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Replace the passenger's side warning box. <Ref. to AC-51, REMOVAL, Air Vent Grille.>	Repair the power supply line to the passenger's side warning box.

I: DTC 27 ODS COMMUNICATION ERROR

DTC DETECTING CONDITION:

- Occupant detection control module communication is faulty.
- Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply.
- Occupant detection harness (seat harness) is faulty.
- Occupant detection system is faulty.
- Airbag control module is faulty.

CAUTION:
<Ref. to OD(diag)-4, CAUTION, General Description.>

	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the occupant detection control module.	Is there poor contact?	Reconnect the connector. If defective is not improved, replace the airbag rear harness RH or the occupant detection harness (seat harness).	Go to step **2**.
2	**CHECK THE AIRBAG HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB18) from airbag control module. 3) Disconnect the connectors (AB59) and (AB61) under the passenger's seat. 4) Connect the connector (1U) in the test harness U to connector (AB18). 5) Connect the connector (1AB) in the test harness AB to the connector (AB61). 6) Measure the resistance between connector (3U) in the test harness U and connector (2AB) in the test harness AB. ***Connector & terminal*** ***(3U) No. 2 — (2AB) No. 1:*** ***(3U) No. 4 — (2AB) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness RH along with body harness.
3	**CHECK THE AIRBAG HARNESS.** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 2 — Chassis ground:*** ***(3U) No. 2 — (3U) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness RH along with the body harness.
4	**CHECK THE AIRBAG HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2AB) in the test harness AB and chassis ground. ***Connector & terminal*** ***(2AB) No. 3 (+) — Chassis ground (–):***	Is the voltage 9 V or more?	Go to step **5**.	Check the battery voltage and fuse. If there is no faulty, replace the airbag rear harness RH along with body harness.

	Step	Check	Yes	No
5	**CHECK THE AIRBAG HARNESS.** Measure the voltage between connector (2AB) in the test harness AB and chassis ground. ***Connector & terminal*** ***(2AB) No. 1 (+) — Chassis ground (–):***	Is the voltage 9 V or more?	Replace the airbag rear harness RH along with body harness.	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.

J: DTC 29 ODS FAILURE

NOTE:
Refer to “Occupant Detection System” for details on DTC 29. <Ref. to OD(diag)-28, DTC 29 ODS FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC 2A ODS CALIBRATION ERROR

NOTE:
Refer to “Occupant Detection System” for details on DTC 2A. <Ref. to OD(diag)-25, DTC 2A ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

L: DTC 2B ODS SYSTEM WRONG PARTS

NOTE:
Refer to “Occupant Detection System” for details on DTC 2B. <Ref. to OD(diag)-25, DTC 2B ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

M: DTC 2C BELT TENSION SENSOR FAILURE

NOTE:
Refer to “Occupant Detection System” for details on DTC 2C. <Ref. to OD(diag)-26, DTC 2C BELT TENSION SENSOR FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

N: DTC 31 FRONT SUB SENSOR RH FAILURE

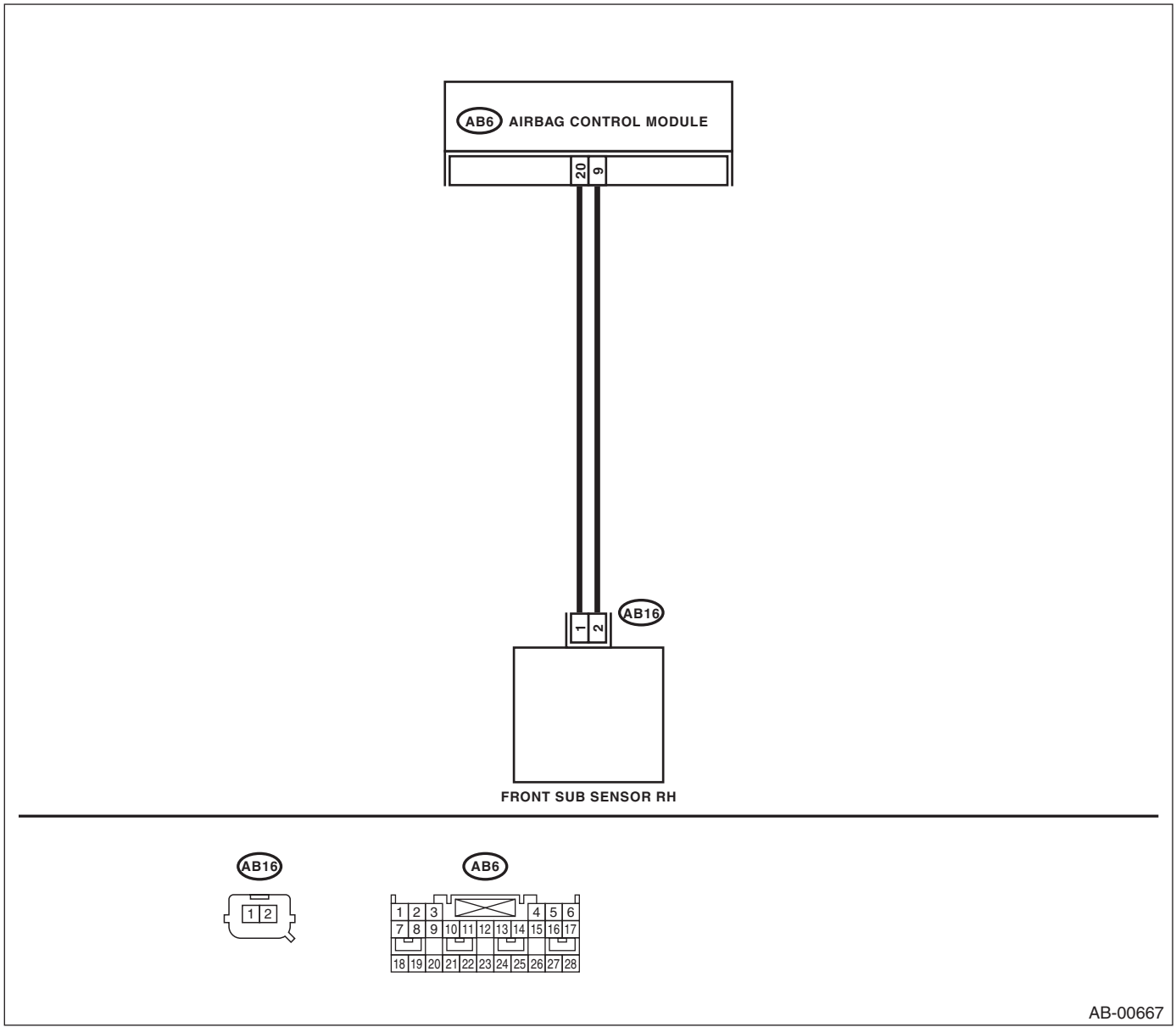
DTC DETECTING CONDITION:

- Front sub sensor harness (RH) circuit is shorted.
- Front sub sensor harness (RH) circuit is open.
- Front sub sensor (RH) is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	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 RH.	Is there poor contact?	Repair the connector.	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS (FRONT SUB SENSOR HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2). 3) Remove the console side cover lower on the passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module. 5) Connect the connector (1U) in the test harness U to connector (AB6). 6) Disconnect 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 (3U) in the test harness U and connector (3H) in the test harness H. ***Connector & terminal*** ***(3U) No. 7 — (3H) No. 5:*** ***(3U) 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 SUB SENSOR HARNESS RH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 7 — Chassis ground:*** ***(3U) No. 9 — Chassis ground:*** ***(3U) No. 7 — No. 9:***	Is the resistance 1 MΩ or more?	Replace the front sub sensor (RH). <Ref. to AB-23, Front Sub Sensor.>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-19, Airbag Control Module.>	Go to step **4**.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

O: DTC 32 FRONT SUB SENSOR LH FAILURE

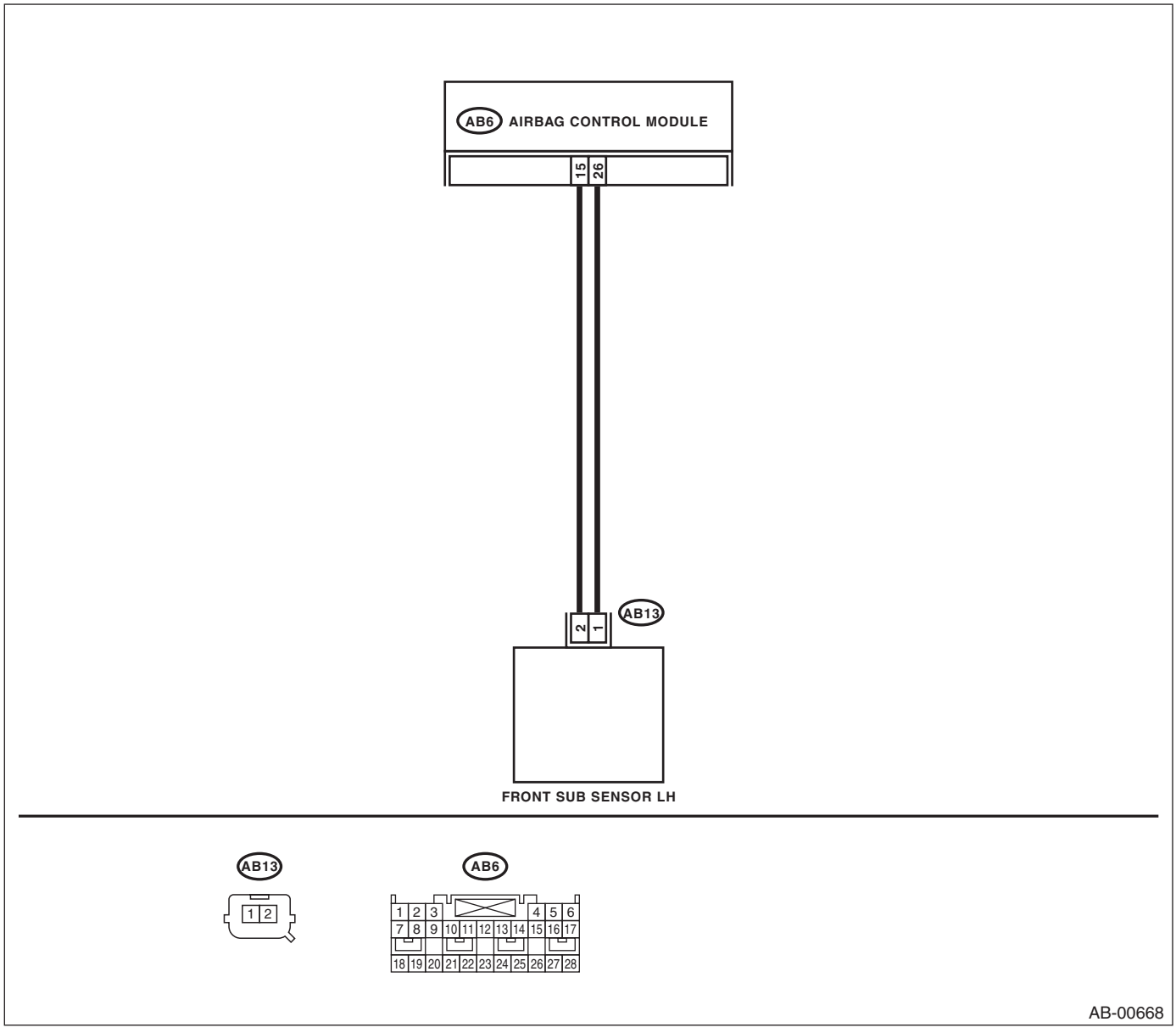
DTC DETECTING CONDITION:

- Front sub sensor harness (LH) circuit is shorted.
- Front sub sensor harness (LH) circuit is open.
- Front sub sensor (LH) is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

WIRING DIAGRAM:



	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 LH.	Is there poor contact?	Replace the airbag main harness along with body harness.	Go to step **2**.
2	**CHECK AIRBAG MAIN HARNESS (FRONT SUB SENSOR HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2). 3) Remove the console side cover lower on the passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from airbag control module. 5) Connect the connector (1U) in the test harness U to connector (AB6). 6) Disconnect 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 (3U) in the test harness U and connector (3H) in the test harness H. ***Connector & terminal*** ***(3U) No. 6 — (3H) No. 5:*** ***(3U) No. 8 — (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 SUB SENSOR HARNESS LH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 6 — Chassis ground:*** ***(3U) No. 8 — Chassis ground:*** ***(3U) No. 6 — No. 8:***	Is the resistance 1 MΩ or more?	Replace the front sub sensor (LH). <Ref. to AB-23, Front Sub Sensor.>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-19, Airbag Control Module.>	Go to step **4**.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

P: DTC 33 FRONT SUB SENSOR RH FAILURE

DTC DETECTING CONDITION:

Front sub sensor (RH) is faulty.

If DTC 33 is displayed, the circuit within the front sub sensor (RH) is faulty. Replace the front sub sensor (RH). <Ref. to AB-23, Front Sub Sensor.>

Q: DTC 34 FRONT SUB SENSOR LH FAILURE

DTC DETECTING CONDITION:

Front sub sensor (LH) is faulty.

If DTC 34 is displayed, the circuit within the front sub sensor (LH) is faulty. Replace the front sub sensor (LH). <Ref. to AB-23, Front Sub Sensor.>

R: DTC 36 SEAT POSITION SENSOR LH FAILURE

DTC DETECTING CONDITION:

- Driver's seat position sensor is faulty.
- Airbag control module is faulty.
- Airbag rear harness LH circuit is open, shorted or shorted to ground.

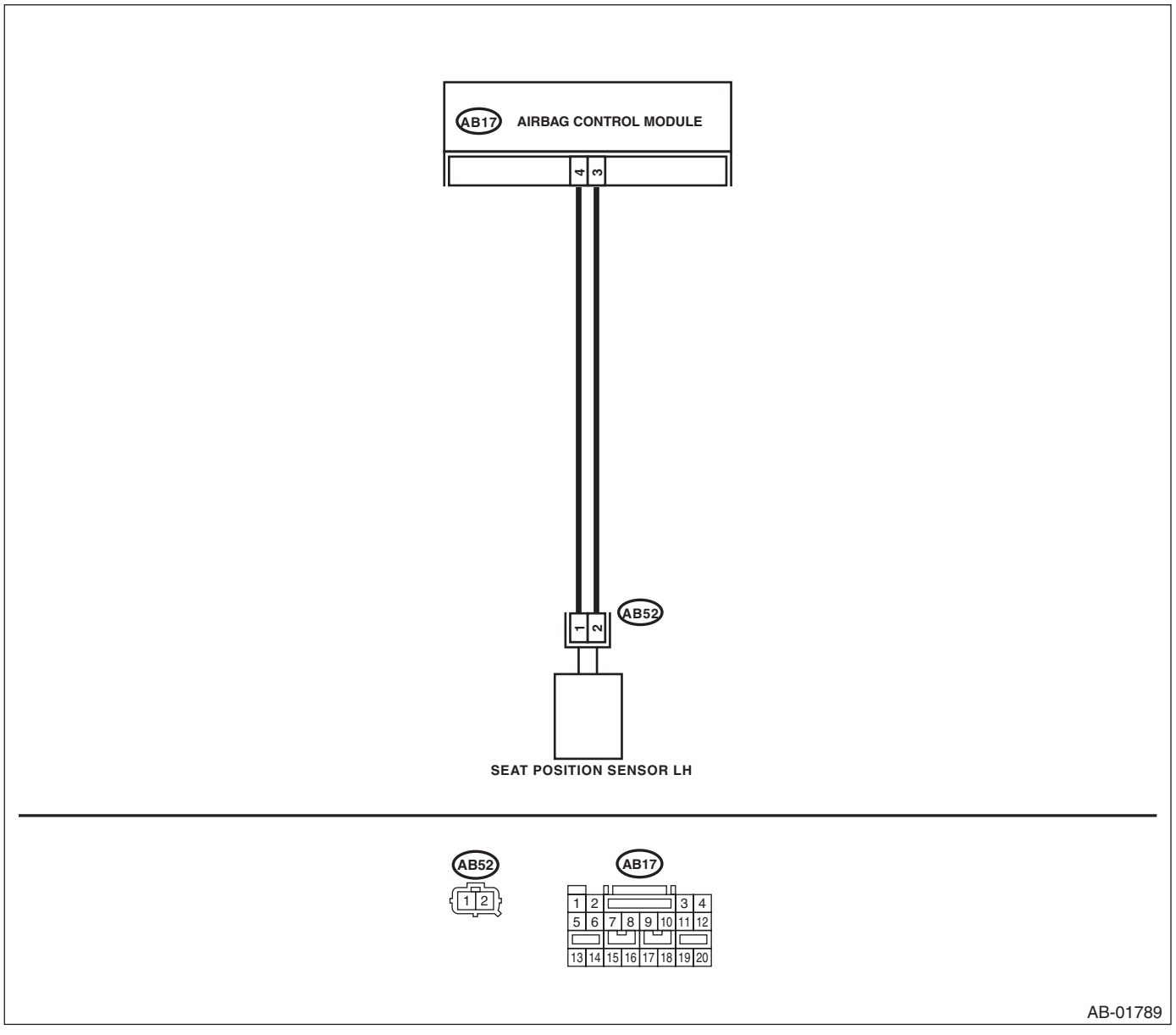
CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.

• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.

• When inspecting the airbag harness, disconnect the each airbag module connector, and seat belt pretensioner for safety reasons.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK SEAT POSITION SENSOR (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB52) from the connector of the seat position sensor (LH). 3) Connect the connector (2Y) in the test harness Y to connector (AB52). 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 seat position sensor (LH) along with the driver's seat slide rail assembly. <Ref. to SE-7, Front Seat.>	Go to step **2**.
2	**CHECK AIRBAG REAR HARNESS LH (SEAT POSITION SENSOR HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect connectors (AB19) and (AB20) from side airbag module (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the connector (AB21) from seat belt pretensioner (LH). 5) Disconnect each connector from the airbag control module, and connect the connector (1U) in the test harness U to connector (AB17). 6) Disconnect the seat position sensor (LH), and then connect the connector (1H) in the test harness H to connector (AB52). 7) Measure the resistance between connector (3U) in the test harness U and connector (3H) in the test harness H. ***Connector & terminal*** ***(3U) No. 1 — (3H) No. 6:*** ***(3U) No. 3 — (3H) No. 5:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness LH along with the body harness.
3	**CHECK AIRBAG REAR HARNESS LH.** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 1 — Chassis ground:*** ***(3U) No. 3 — Chassis ground:*** ***(3U) No. 1 — No. 3:***	Is resistance less than 10 Ω?	Replace the airbag rear harness LH along with the body harness.	Replace the airbag control module.

S: DTC 37 BUCKLE SWITCH RH FAILURE

NOTE:
Refer to "Occupant Detection System" for details on DTC 37. <Ref. to OD(diag)-29, DTC 37 BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

T: DTC 38 BUCKLE SWITCH LH FAILURE

DTC DETECTING CONDITION:

- Driver's seat buckle switch circuit is open, shorted or shorted to ground.
- Airbag rear harness LH circuit is open, shorted or shorted to ground.
- Airbag control module is faulty.

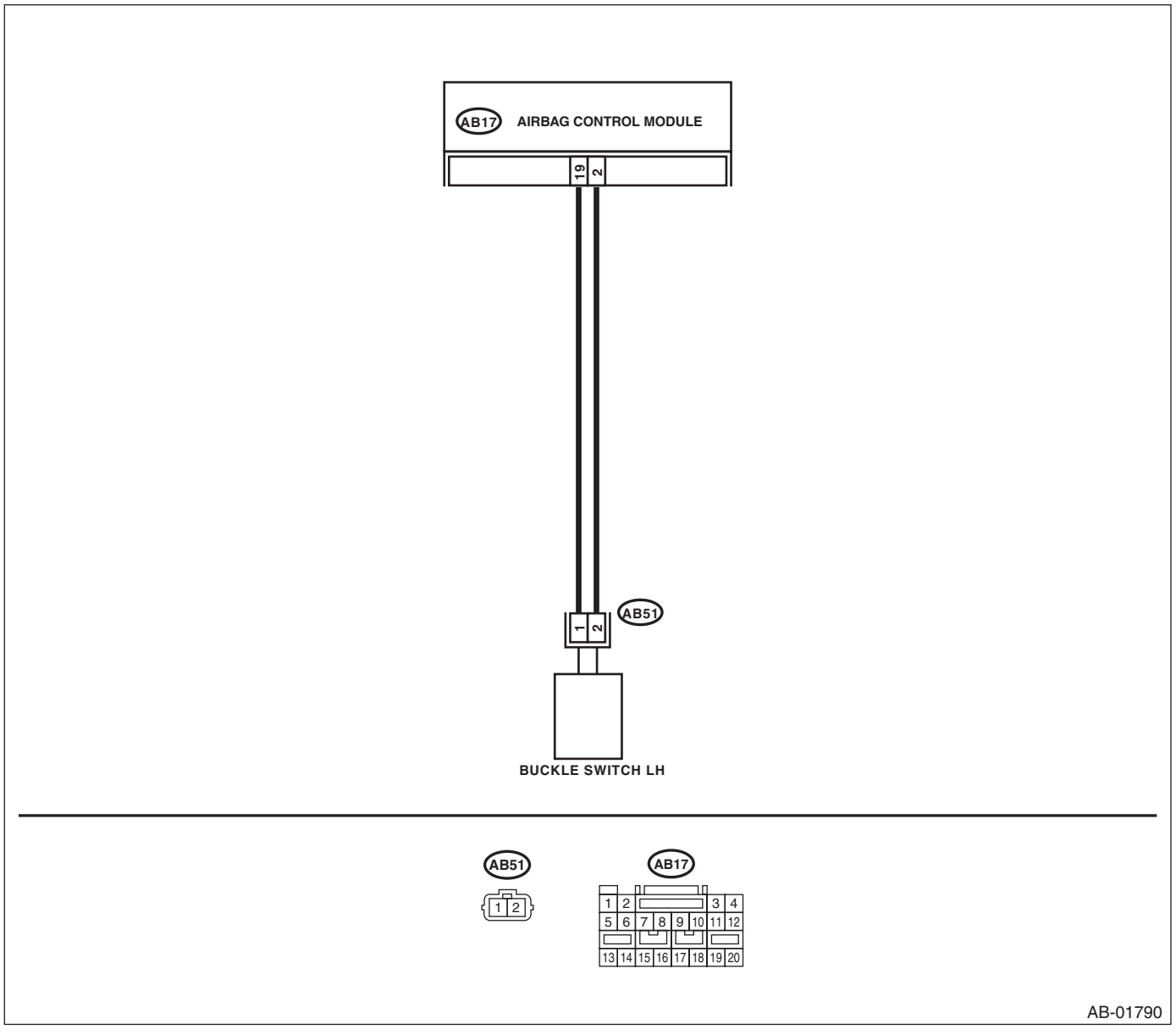
CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.

• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.

• When inspecting the airbag harness, disconnect the each airbag module connector, and seat belt pretensioner for safety reasons.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the airbag control module and the buckle switch LH.	Is there poor contact?	Replace the airbag rear harness LH along with the body harness.	Go to step **2**.
2	**CHECK SEAT BELT BUCKLE SWITCH (LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB51) from the buckle switch (LH). 3) Connect the connector (1Y) in the test harness Y to connector (AB51). 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 seat belt buckle switch (LH). <Ref. to SB-13, Front Seat Belt.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS (BUCKLE SWITCH HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect connectors (AB19) and (AB20) from side airbag module (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the connector (AB21) from seat belt pretensioner (LH). 5) Disconnect each connector from the airbag control module, and connect the connector (1U) in the test harness U to connector (AB17). 6) Disconnect the seat belt buckle switch (LH), and then connect the connector (1D) in the test harness D to connector (AB51). 7) Measure the resistance between connectors (4U) and (5U) in the test harness U and connector (3D) in the test harness D. ***Connector & terminal*** ***(4U) No. 11 — (3D) No. 3:*** ***(4U) No. 9 — (3D) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK THE AIRBAG REAR HARNESS.** Measure the resistance between connector (4U) terminals in the test harness U. ***Connector & terminal*** ***(4U) No. 9 — (4U) No. 11:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag control module.
5	**CHECK THE AIRBAG REAR HARNESS.** Measure the resistance between connector (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(4U) No. 9 — Chassis ground:*** ***(4U) No. 11 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness LH along with the body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	**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)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

U: DTC 39 SEAT BELT WARNING FAILURE

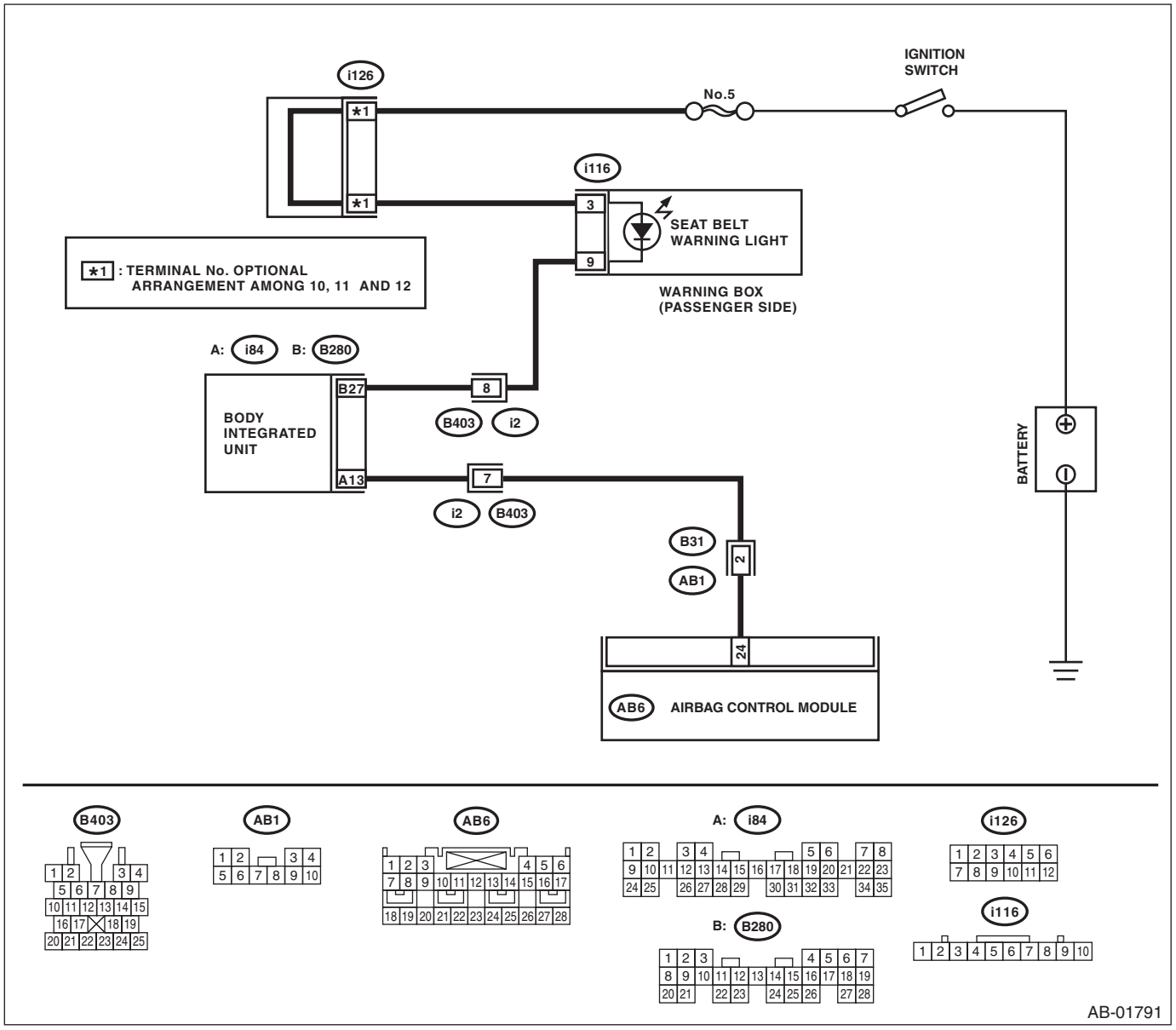
DTC DETECTING CONDITION:

- Passenger's seat belt warning system is faulty.
- Airbag control module is faulty.
- Body integrated unit is faulty.
- Airbag rear harness RH circuit is open, shorted or shorted to ground.
- Harness circuits between body integrated unit and airbag control module are open, shorted or shorted to ground.

CAUTION:

- **Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.**
- **After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.**
- **When inspecting the airbag harness, disconnect the each airbag module connector, and seat belt pretensioner for safety reasons.**

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK THE AIRBAG HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the connector (AB6) from airbag control module. 3) Connect the battery ground terminal and turn the ignition switch to ON.	Does the passenger's seat belt warning light blink for 6 seconds and go off?	Go to step **3**.	Go to step **2**.
2	**CHECK THE AIRBAG HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the connector (1U) in the test harness U to connector (AB6). 3) Measure the resistance between connector (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(4U) No. 16 — Chassis ground:***	Is the resistance 1 MΩ or more?	Replace the body integrated unit.	Repair the bulkhead harness. Or replace the airbag main harness along with body harness.
3	**CHECK THE AIRBAG HARNESS.** 1) With the condition of step 2, connect the connectors (7U) and (8U) in the test harness U. 2) 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-19, Airbag Control Module.>	Go to step **4**.
4	**CHECK THE AIRBAG HARNESS.** 1) With the condition of step 3, disconnect the connectors (7U) and (8U) in the test harness U. 2) Measure the resistance between connector (4U) in the test harness U and the connector (i84). ***Connector & terminal*** ***(4U) No. 16 — (i84) No. 13:***	Is the resistance less than 10 Ω?	Replace the body integrated unit.	Repair the bulkhead harness. Or replace the airbag main harness along with body harness.

V: DTC 41 SIDE AIRBAG RH FAILURE

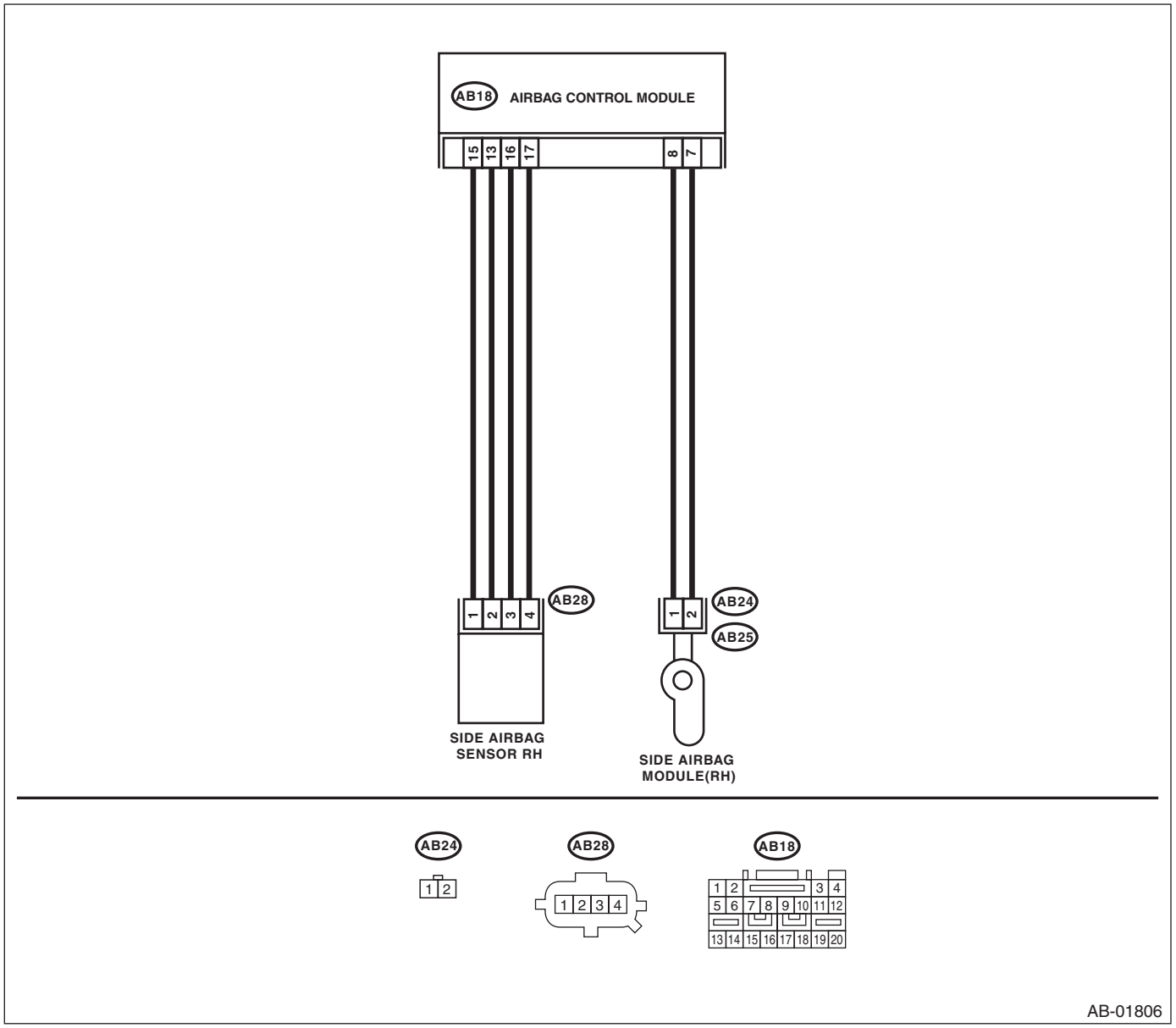
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 RH 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 more than 20 seconds. 2) Disconnect the connector (AB25) from (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to the connector (3F) of test harness F. 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-16, REMOVAL, Side Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS RH (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness F. 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Measure the resistance between connector (3U) in the test harness U and connector (3F) in the test harness F. ***Connector & terminal*** ***(3U) No. 20 — (3F) No. 4:*** ***(3U) No. 18 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG REAR HARNESS RH (SIDE AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 20 — (3U) No. 18:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness RH along with body harness.
5	**CHECK AIRBAG REAR HARNESS RH (SIDE AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 20 — Chassis ground:*** ***(3U) No. 18 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness RH along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

W: DTC 42 SIDE AIRBAG LH FAILURE

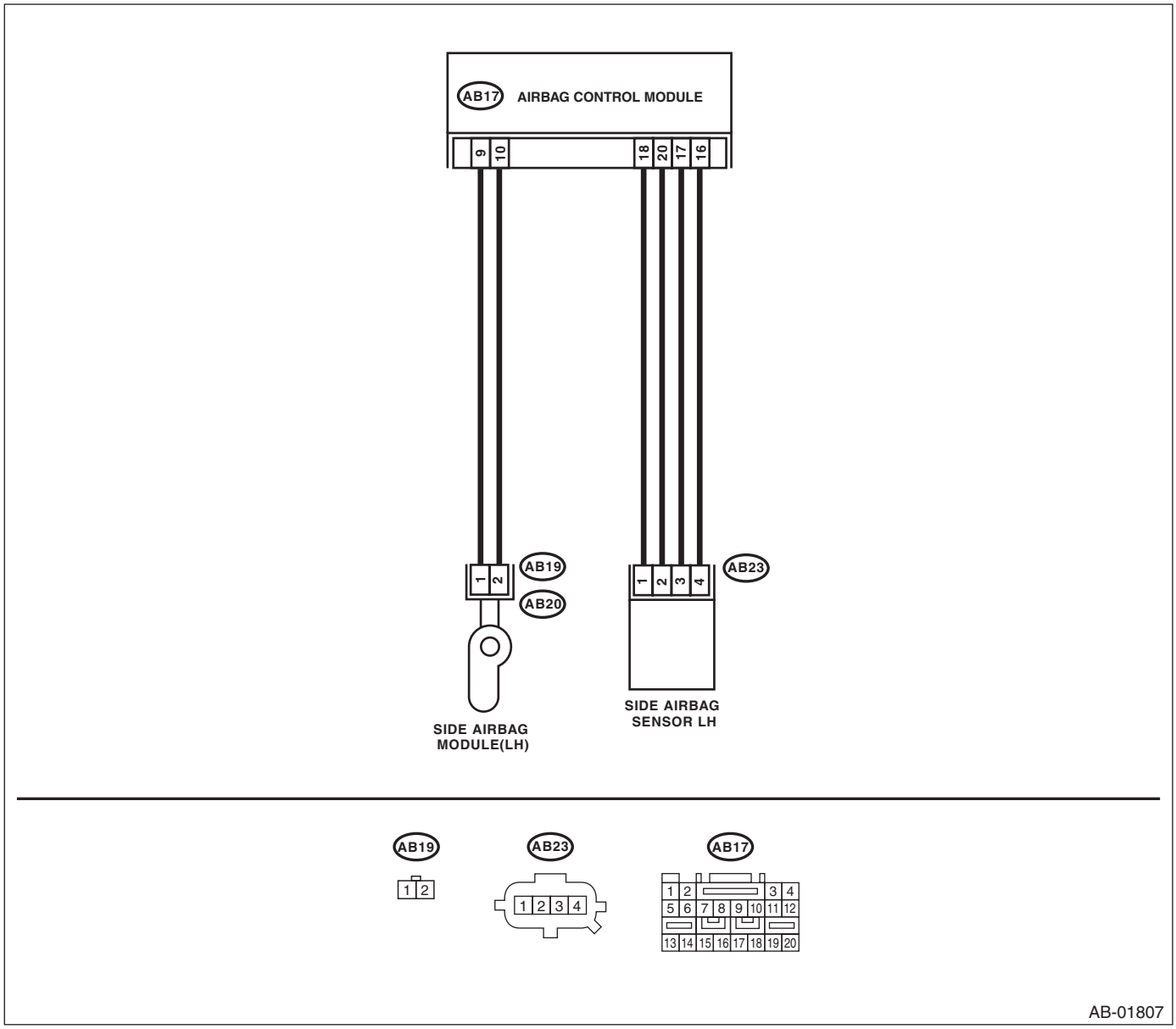
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 LH along with the 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 20 seconds or more. 2) Disconnect the connector (AB20) from (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to the connector (3F) of test harness F. 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-16, REMOVAL, Side Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS LH (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Measure the resistance between connector (3U) in the test harness U and connector (3F) in the test harness F. ***Connector & terminal*** ***(3U) No. 12 — (3F) No. 4:*** ***(3U) No. 10 — (3F) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG REAR HARNESS LH (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 12 — (3U) No. 10:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness LH along with the body harness.
5	**CHECK AIRBAG REAR HARNESS LH (SIDE AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 12 — Chassis ground:*** ***(3U) No. 10 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness LH along with the body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

X: DTC 45 SIDE AIRBAG RH FAILURE

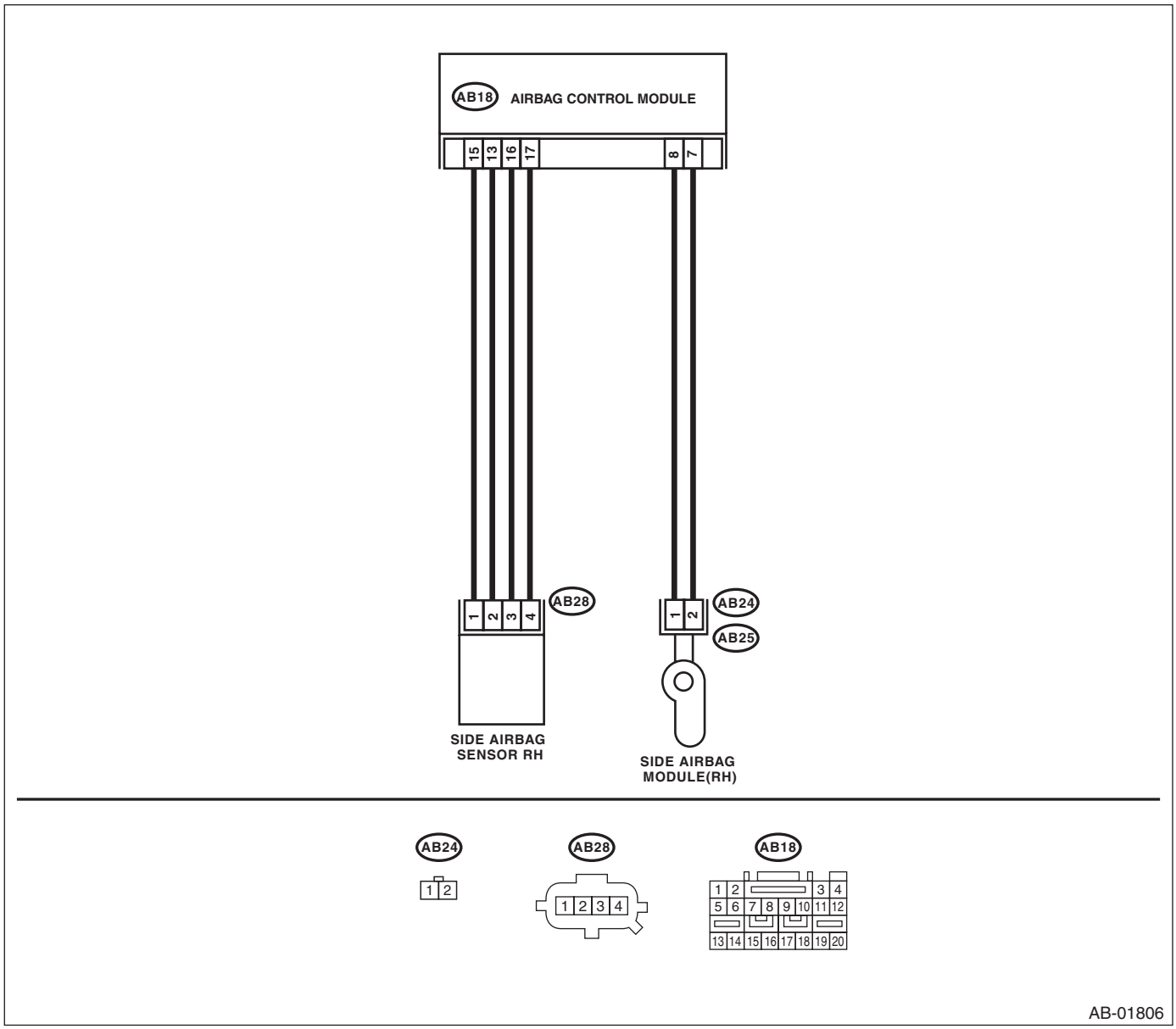
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 RH 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 more than 20 seconds. 2) Disconnect the connector (AB25) from (AB24), and connect the connector (1F) in test harness F to connector (AB24). 3) Connect the airbag resistor to the connector (3F) of test harness F. 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-16, REMOVAL, Side Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS RH (SIDE AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 20 (+) — Chassis ground (–):*** ***(3U) No. 18 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

Y: DTC 46 SIDE AIRBAG LH FAILURE

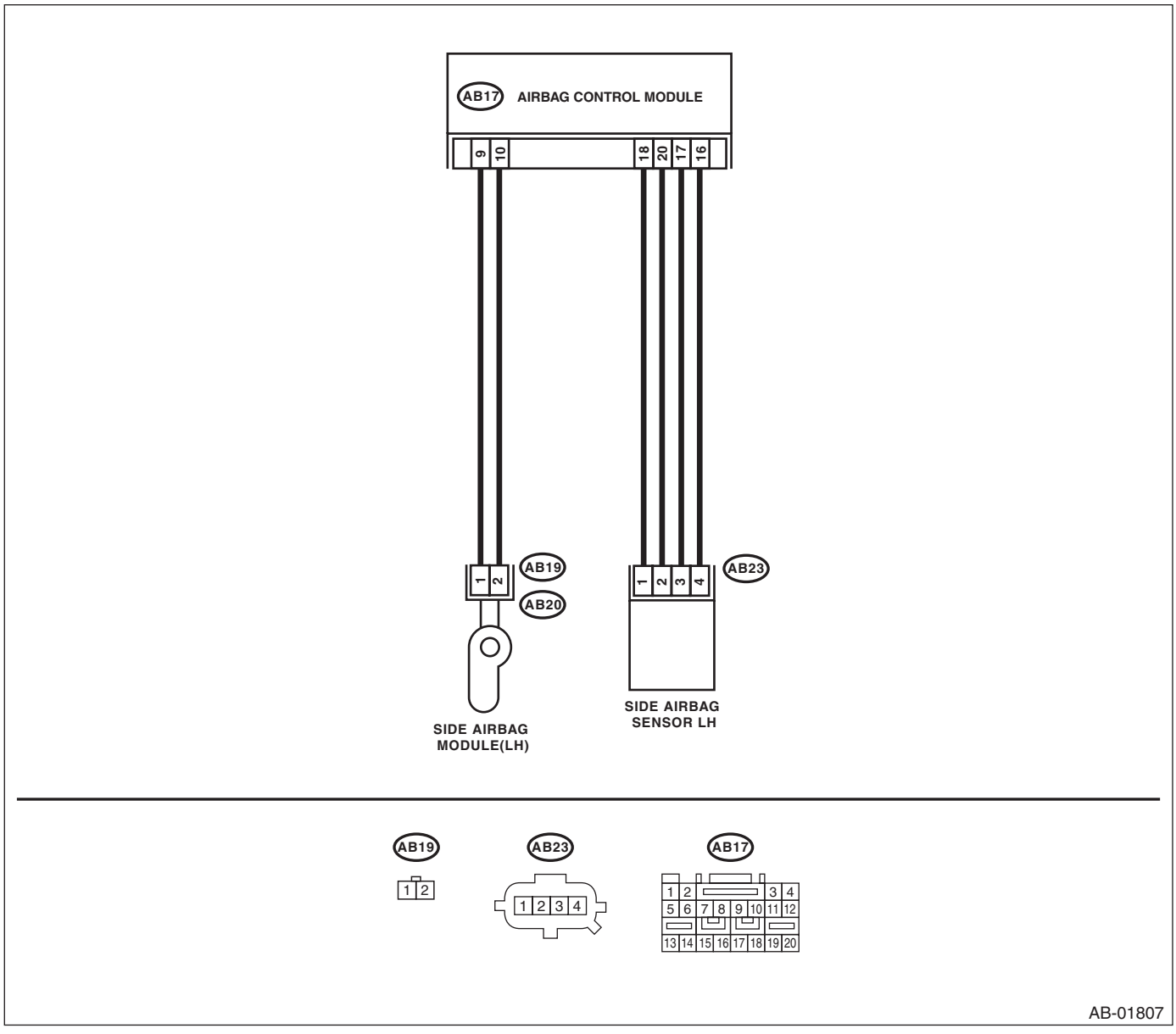
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 LH along with the 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 20 seconds or more. 2) Disconnect the connector (AB20) from (AB19), and connect the connector (1F) in test harness F to connector (AB19). 3) Connect the airbag resistor to the connector (3F) of test harness F. 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-16, REMOVAL, Side Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS LH (SIDE AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the airbag resistor from test harness. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 12 (+) — Chassis ground (–):*** ***(3U) No. 10 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

Z: DTC 51 SIDE AIRBAG SENSOR RH FAILURE

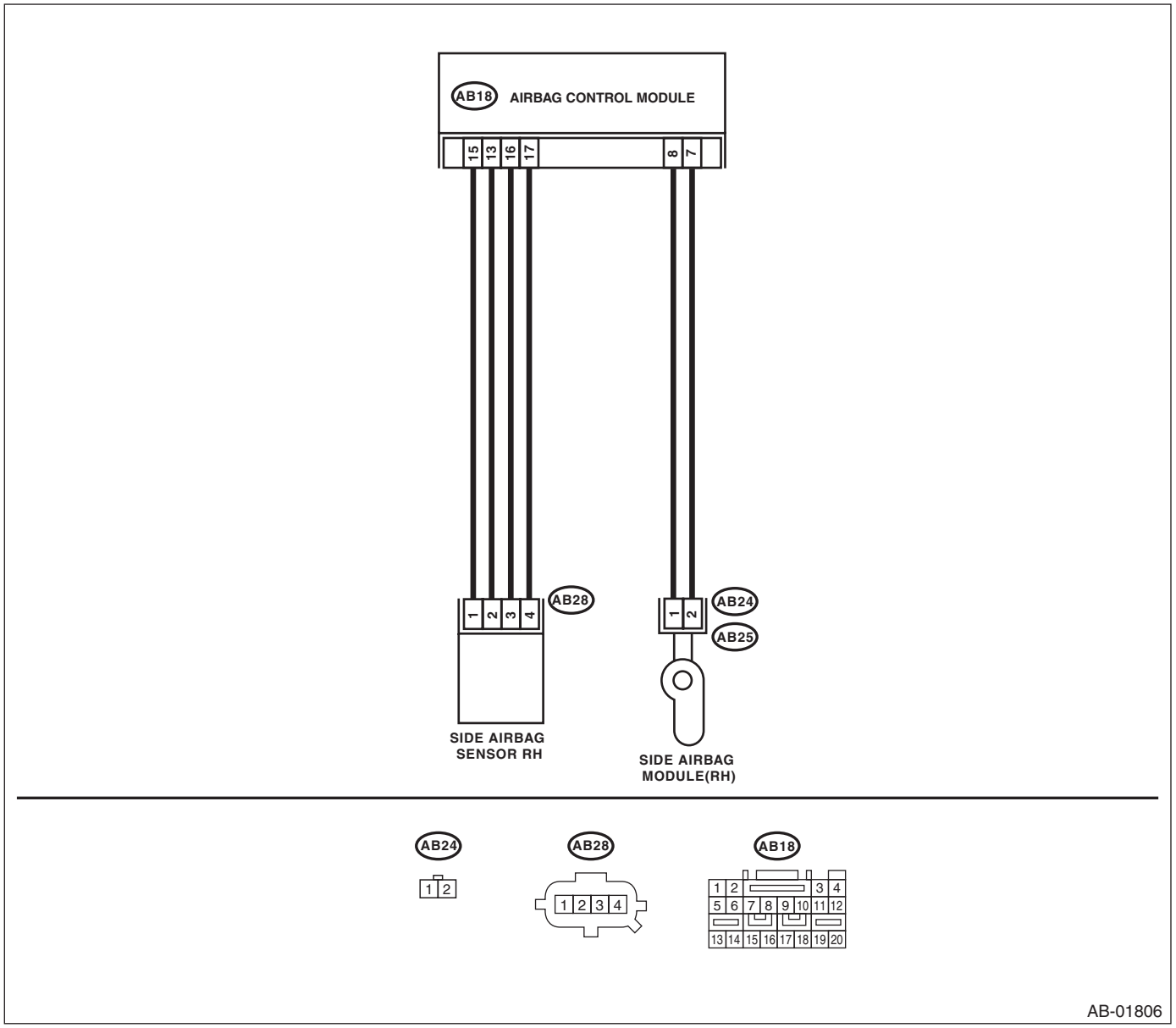
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 RH along with body harness.	Go to step **2**.
2	**CHECK AIRBAG REAR HARNESS RH (SIDE AIRBAG SENSOR HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB33) from curtain airbag module (RH). 4) Disconnect the connector (AB25) from (AB24). 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 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 (4U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(4U) No. 5 — (3V) No. 2:*** ***(4U) No. 7 — (3V) No. 1:*** ***(4U) No. 8 — (3V) No. 5:*** ***(4U) No. 6 — (3V) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness RH along with body harness.
3	**CHECK AIRBAG REAR HARNESS RH (SIDE AIRBAG SENSOR HARNESS RH).** Measure the resistance between connector (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(4U) No. 5 — Chassis ground:*** ***(4U) No. 7 — Chassis ground:*** ***(4U) No. 8 — Chassis ground:*** ***(4U) No. 6 — Chassis ground:*** ***(4U) No. 5 — No. 7:*** ***(4U) No. 5 — No. 8:*** ***(4U) No. 5 — No. 6:*** ***(4U) No. 7 — No. 8:*** ***(4U) No. 7 — No. 6:*** ***(4U) No. 8 — No. 6:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the side airbag sensor (RH). <Ref. to AB-20, Side Airbag Sensor.>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.

Step		Check	Yes	No
5	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AA:DTC 52 SIDE AIRBAG SENSOR LH FAILURE

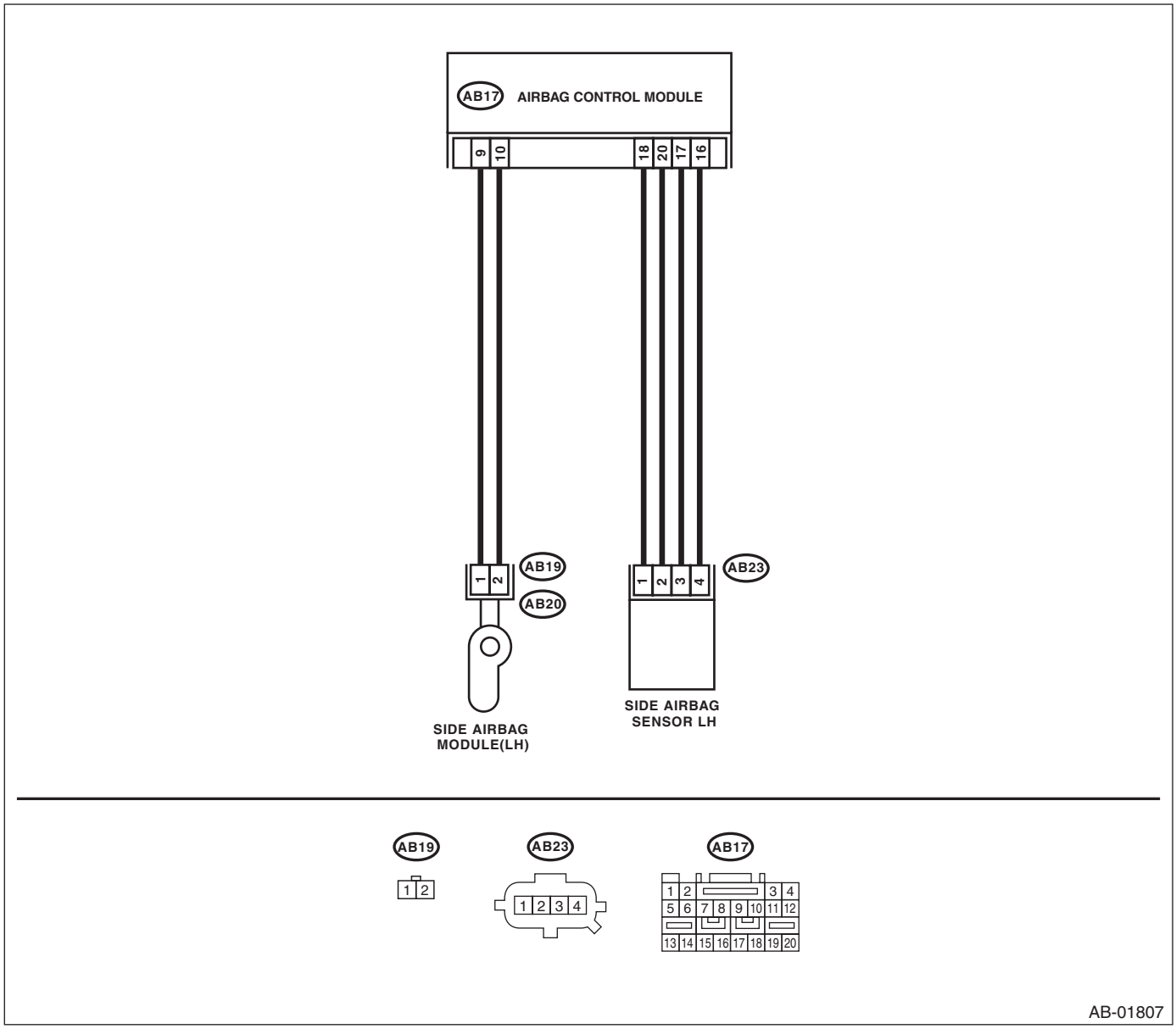
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 LH along with the body harness.	Go to step **2**.
2	**CHECK AIRBAG REAR HARNESS LH (SIDE AIRBAG SENSOR HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB31) from curtain airbag module (LH). 4) Disconnect the connector (AB20) from (AB19). 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 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 (4U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(4U) No. 3 — (3V) No. 4:*** ***(4U) No. 1 — (3V) No. 5:*** ***(4U) No. 2 — (3V) No. 1:*** ***(4U) No. 4 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness LH along with the body harness.
3	**CHECK AIRBAG REAR HARNESS LH (SIDE AIRBAG SENSOR HARNESS LH).** Measure the resistance between connector (4U) in the test harness U and chassis ground. ***Connector & terminal*** ***(4U) No. 3 — Chassis ground:*** ***(4U) No. 1 — Chassis ground:*** ***(4U) No. 2 — Chassis ground:*** ***(4U) No. 4 — Chassis ground:*** ***(4U) No. 3 — No. 1:*** ***(4U) No. 3 — No. 2:*** ***(4U) No. 3 — No. 4:*** ***(4U) No. 1 — No. 2:*** ***(4U) No. 1 — No. 4:*** ***(4U) No. 2 — No. 4:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the side airbag sensor (LH). <Ref. to AB-20, Side Airbag Sensor.>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.

Step		Check	Yes	No
5	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AB:DTC 53 SIDE AIRBAG SENSOR RH FAILURE

DTC DETECTING CONDITION:

Side airbag sensor (RH) is faulty.

When DTC 53 is displayed, the circuit within the side airbag sensor (RH) is faulty. Replace the side airbag sensor (RH). <Ref. to AB-20, Side Airbag Sensor.>

AC:DTC 54 SIDE AIRBAG SENSOR LH FAILURE

DTC DETECTING CONDITION:

Side airbag sensor (LH) is faulty.

When DTC 54 is displayed, the circuit within the side airbag sensor (LH) is faulty. Replace the side airbag sensor (LH). <Ref. to AB-20, Side Airbag Sensor.>

AD:DTC 55 SIDE CURTAIN AIRBAG FIRING OUTPUT

This DTC is displayed when the side airbag module, curtain airbag module and seat belt pretensioner are deployed, or when the curtain airbag module is deployed.

Once this DTC is displayed, the memory cannot be cleared. Replace the following parts.

- Airbag control module<Ref. to AB-19, Airbag Control Module.>
- Front seat with side airbag module (Operating side) <Ref. to SE-7, Front Seat.>
- Side airbag sensor (Operating side) <Ref. to AB-20, Side Airbag Sensor.>
- Curtain airbag module (Operating side) <Ref. to AB-18, Curtain Airbag Module.>
- Curtain airbag sensor (Operating side) <Ref. to AB-21, Curtain Airbag Sensor.>
- Front outer seat belt with pretensioner (Operating side) <Ref. to SB-13, Front Seat Belt.>

AE:DTC 56 CURTAIN AIRBAG SENSOR RH FAILURE

DTC DETECTING CONDITION:

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

CAUTION:

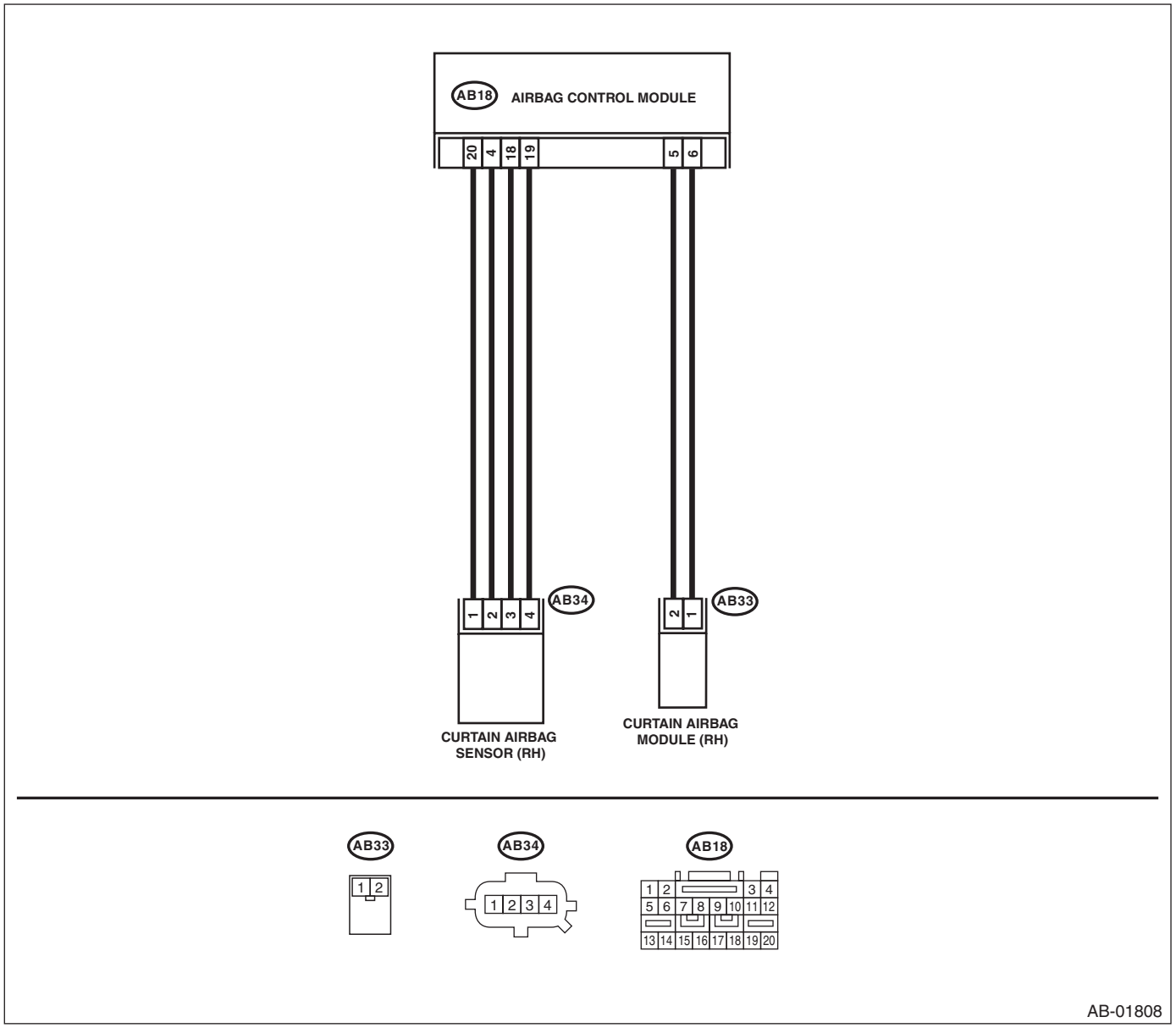
• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.

• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.

• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 AIRBAG REAR HARNESS RH (CURTAIN AIRBAG SENSOR HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34). 8) Measure the resistance between connector (5U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(5U) No. 14 — (3V) No. 4:*** ***(5U) No. 16 — (3V) No. 5:*** ***(5U) No. 15 — (3V) No. 1:*** ***(5U) No. 13 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness RH along with body harness.
3	**CHECK AIRBAG REAR HARNESS RH (CURTAIN AIRBAG SENSOR HARNESS RH).** Measure the resistance between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 14 — Chassis ground:*** ***(5U) No. 16 — Chassis ground:*** ***(5U) No. 15 — Chassis ground:*** ***(5U) No. 13 — Chassis ground:*** ***(5U) No. 14 — No. 16:*** ***(5U) No. 14 — No. 15:*** ***(5U) No. 14 — No. 13:*** ***(5U) No. 16 — No. 15:*** ***(5U) No. 16 — No. 13:*** ***(5U) No. 15 — No. 13:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the curtain airbag sensor (RH). <Ref. to AB-21, Curtain Airbag Sensor.>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.

Step		Check	Yes	No
5	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AF:DTC 57 CURTAIN AIRBAG SENSOR LH FAILURE

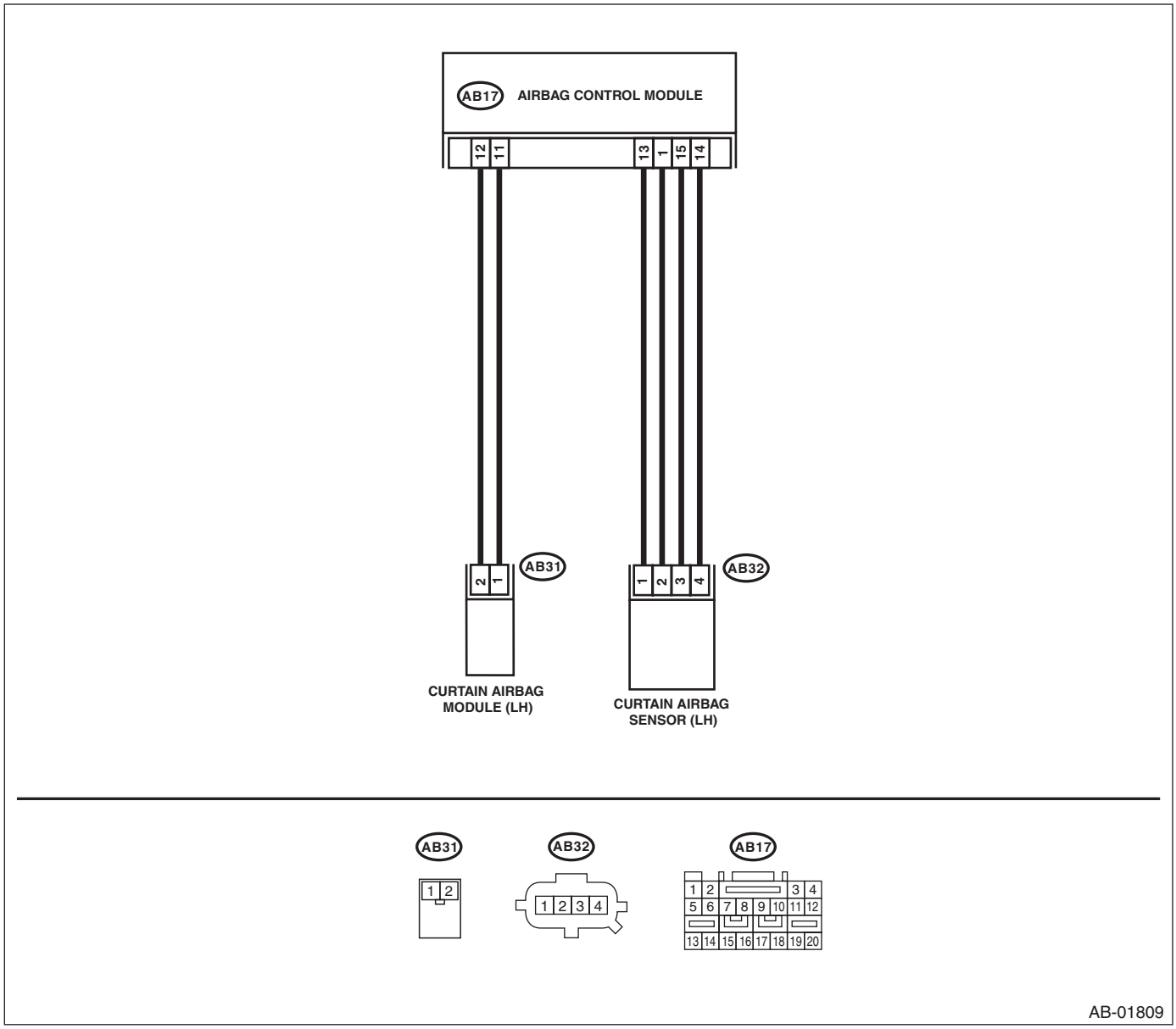
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 AIRBAG REAR HARNESS LH (CURTAIN AIRBAG SENSOR HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB32). 8) Measure the resistance between connector (5U) in the test harness U and connector (3V) in the test harness V. ***Connector & terminal*** ***(5U) No. 11 — (3V) No. 4:*** ***(5U) No. 9 — (3V) No. 5:*** ***(5U) No. 10 — (3V) No. 1:*** ***(5U) No. 12 — (3V) No. 2:***	Is the resistance less than 10 Ω?	Go to step **3**.	Replace the airbag rear harness LH along with the body harness.
3	**CHECK AIRBAG REAR HARNESS LH (CURTAIN AIRBAG SENSOR HARNESS LH).** Measure the resistance between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 11 — Chassis ground:*** ***(5U) No. 9 — Chassis ground:*** ***(5U) No. 10 — Chassis ground:*** ***(5U) No. 12 — Chassis ground:*** ***(5U) No. 11 — No. 9:*** ***(5U) No. 11 — No. 10:*** ***(5U) No. 11 — No. 12:*** ***(5U) No. 10 — No. 9:*** ***(5U) No. 10 — No. 12:*** ***(5U) No. 9 — No. 12:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the curtain airbag sensor (LH). <Ref. to AB-21, Curtain Airbag Sensor.>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.

Step		Check	Yes	No
5	CHECK ANY OTHER DTC ON DISPLAY.	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AG:DTC 58 CURTAIN AIRBAG SENSOR RH FAILURE

DTC DETECTING CONDITION:

Curtain airbag sensor (RH) is faulty.

If DTC 58 is displayed, the circuit within the curtain airbag sensor (RH) is faulty. Replace the curtain airbag sensor (RH). <Ref. to AB-21, Curtain Airbag Sensor.>

AH:DTC 59 CURTAIN AIRBAG SENSOR LH FAILURE

DTC DETECTING CONDITION:

Curtain airbag sensor (LH) is faulty.

If DTC 59 is displayed, the circuit within the curtain airbag sensor (LH) is faulty. Replace the curtain airbag sensor (LH). <Ref. to AB-21, Curtain Airbag Sensor.>

AI: DTC 61 BELT PRETENSIONER RH FAILURE

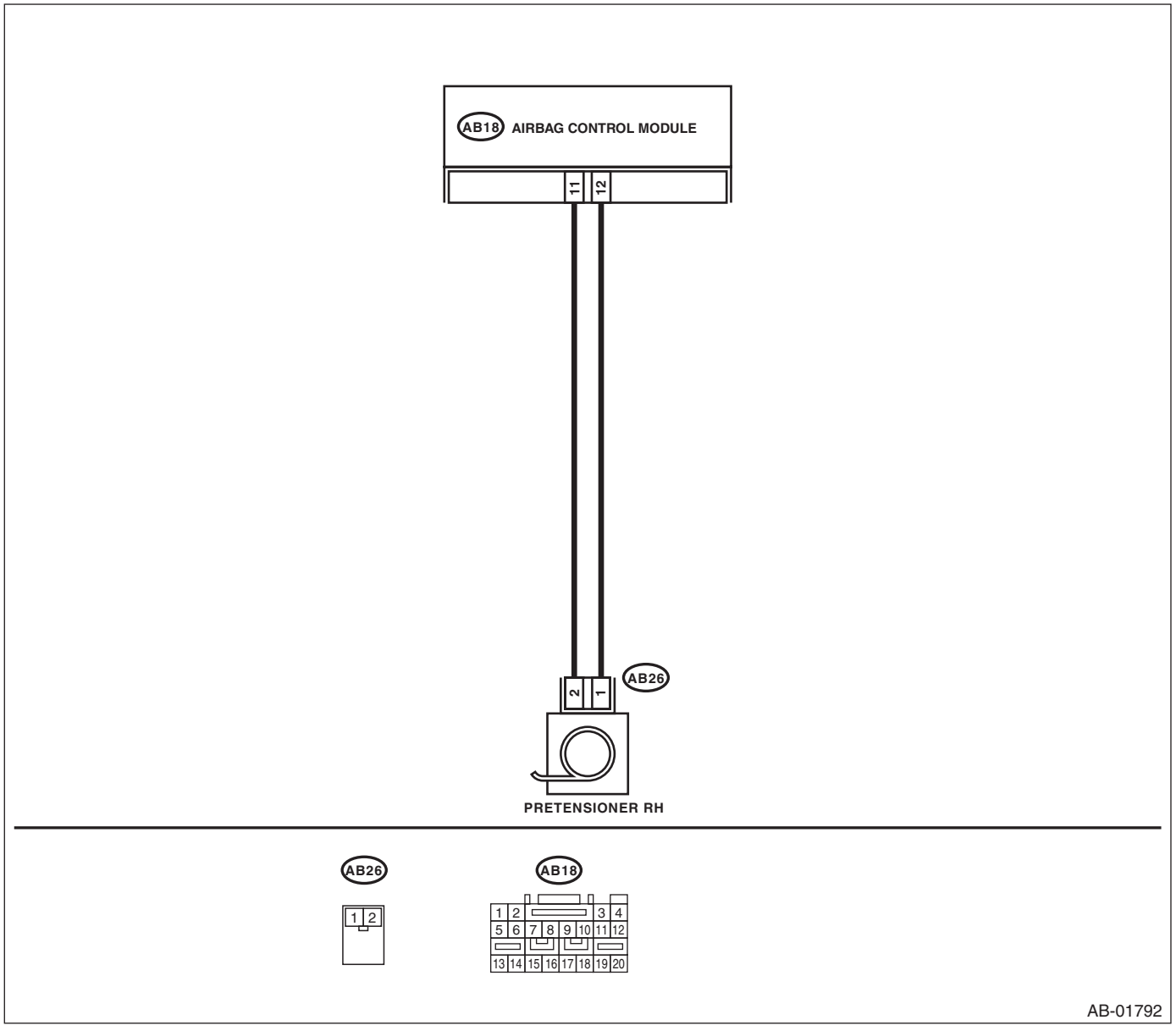
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.

WIRING DIAGRAM:



	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 RH 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 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) in 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-13, Front Seat Belt.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS RH (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB17) and (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Measure the resistance between connector (3U) in the test harness U and connector (2N) in the test harness N. ***Connector & terminal*** ***(3U) No. 17 — (2N) No. 2:*** ***(3U) No. 19 — (2N) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 19 — (3U) No. 17:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness RH along with body harness.
5	**CHECK AIRBAG REAR HARNESS RH (PRETENSIONER HARNESS RH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 17 — Chassis ground:*** ***(3U) No. 19 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness RH along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AJ:DTC 62 BELT PRETENSIONER LH FAILURE

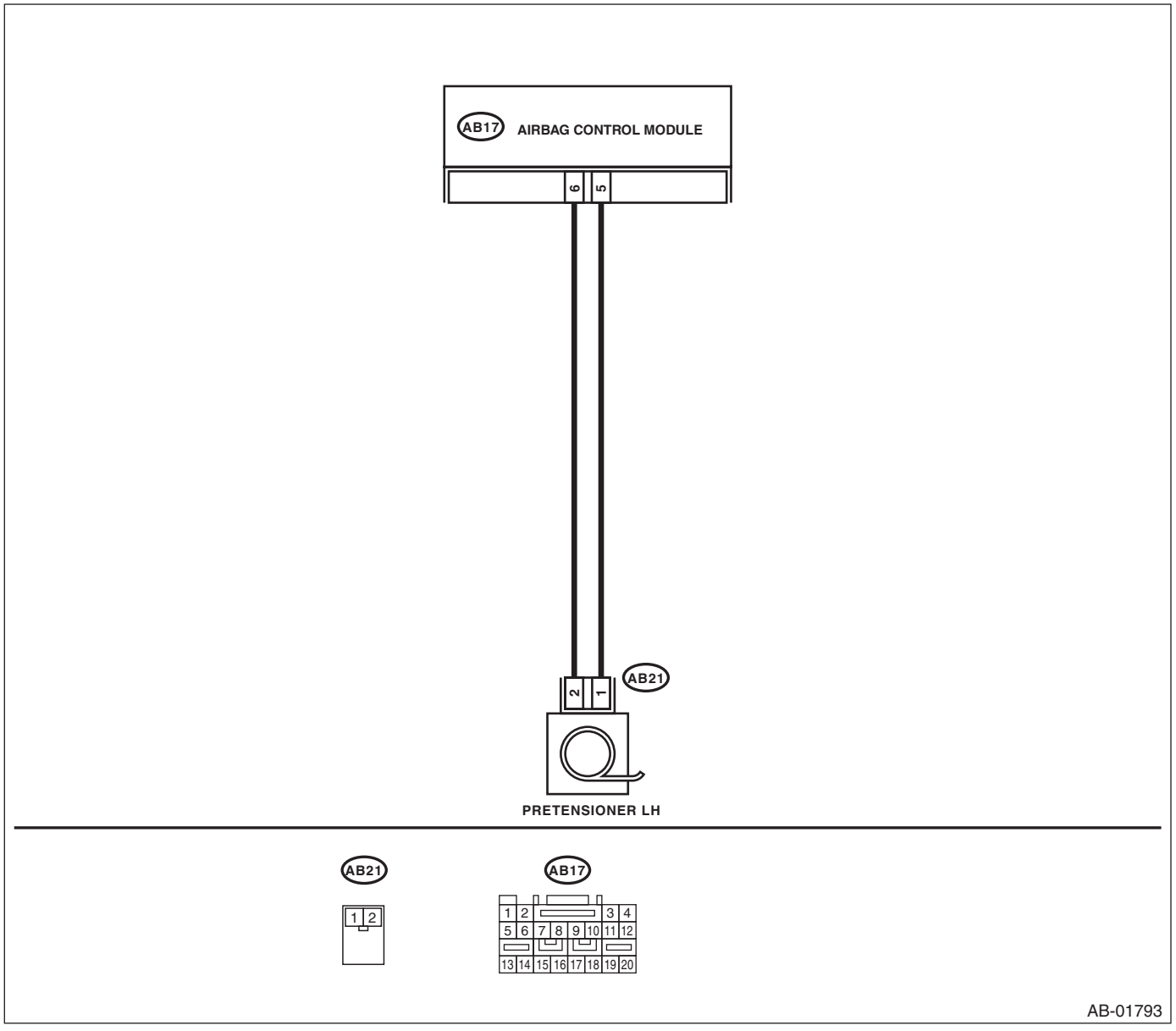
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.

WIRING DIAGRAM:



	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 LH along with the 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 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) in 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-13, Front Seat Belt.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS LH (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB17) and (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Measure the resistance between connector (3U) in the test harness U and connector (2N) in the test harness N. ***Connector & terminal*** ***(3U) No. 13 — (2N) No. 1:*** ***(3U) No. 11 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG REAR HARNESS LH (PRETENSIONER HARNESS LH).** Measure the resistance between connector (3U) terminals in the test harness U. ***Connector & terminal*** ***(3U) No. 11 — (3U) No. 13:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness LH along with the body harness.
5	**CHECK AIRBAG REAR HARNESS LH (PRETENSIONER HARNESS LH).** Measure the resistance between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 11 — Chassis ground:*** ***(3U) No. 13 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness LH along with the body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AK:DTC 65 BELT PRETENSIONER RH FAILURE

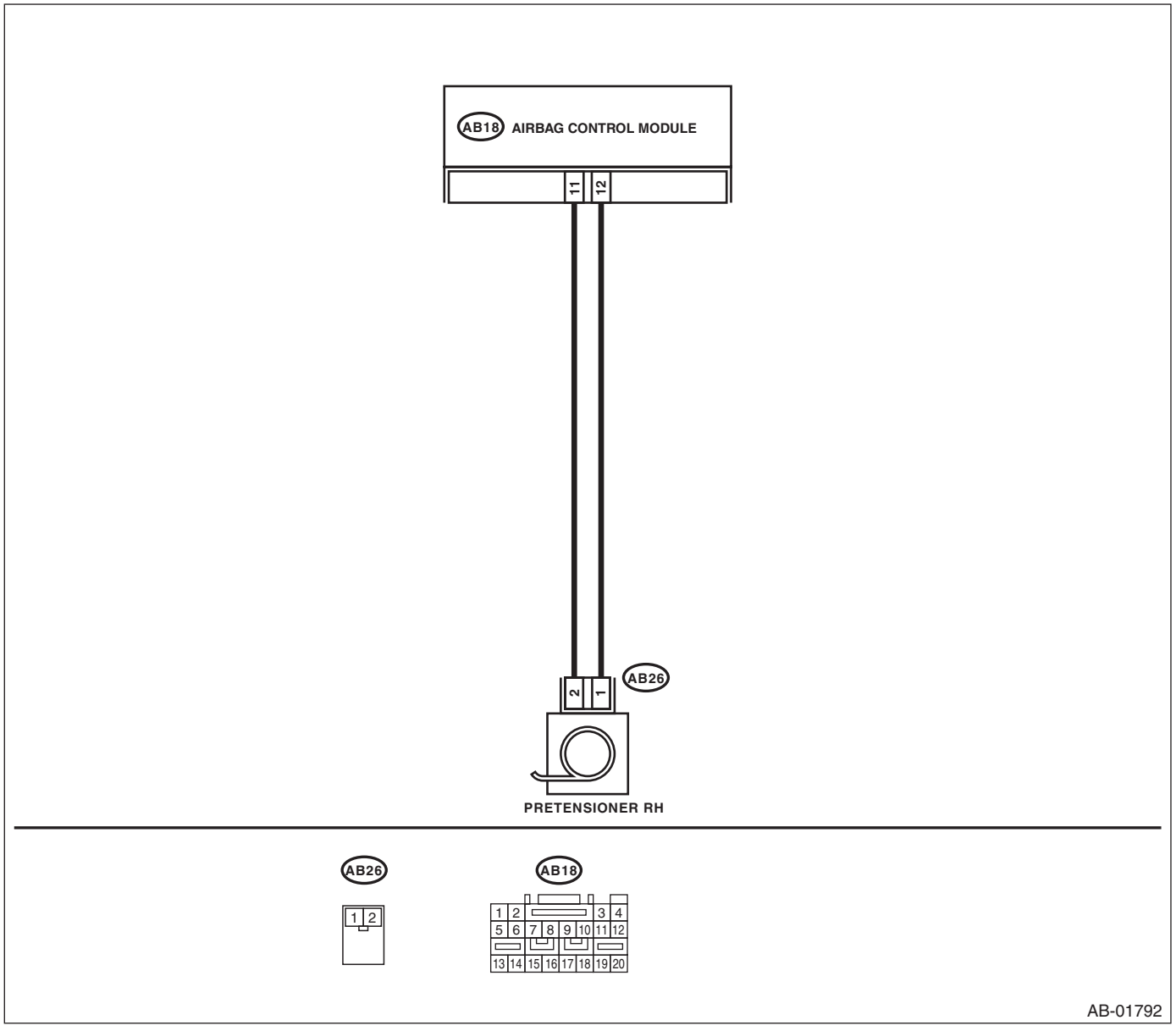
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	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 RH 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 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Connect the connector (1N) in the test harness N to the connector (AB26). 4) Connect the airbag resistor to the connector (2N) in 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-13, Front Seat Belt.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS RH (PRETENSIONER HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB24) from side airbag module (RH). 4) Disconnect the connector (AB33) from curtain airbag module (RH). 5) Disconnect the connectors (AB17) and (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 17 (+) — Chassis ground (–):*** ***(3U) No. 19 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AL:DTC 66 BELT PRETENSIONER LH FAILURE

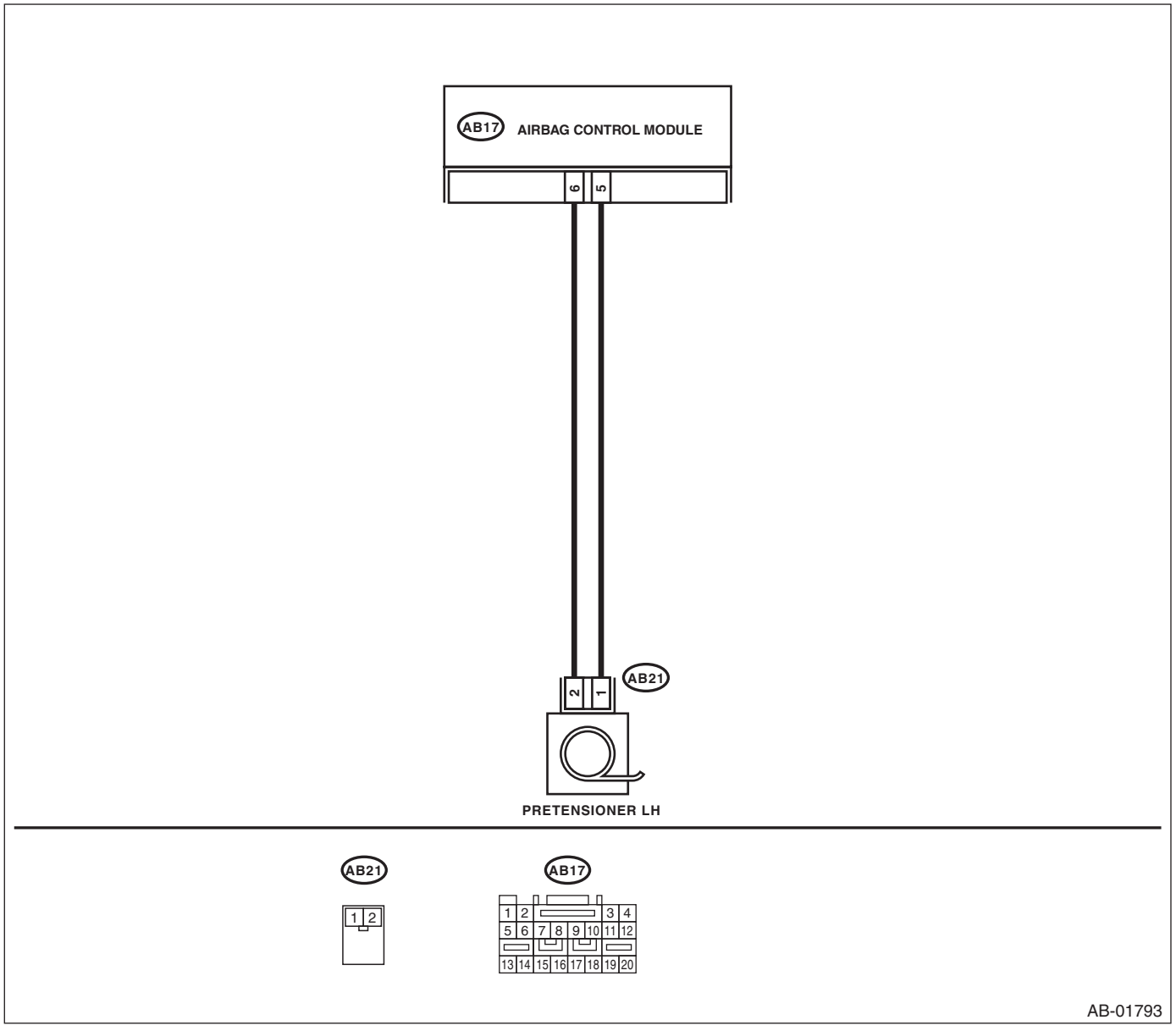
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.

WIRING DIAGRAM:



	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 LH along with the 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 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Connect the connector (1N) in the test harness N to the connector (AB21). 4) Connect the airbag resistor to the connector (2N) in 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-13, Front Seat Belt.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS LH (PRETENSIONER HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the airbag resistor from test harness. 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the connector (AB31) from curtain airbag module (LH). 5) Disconnect the connectors (AB17) and (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (3U) in the test harness U and chassis ground. ***Connector & terminal*** ***(3U) No. 11 (+) — Chassis ground (–):*** ***(3U) No. 13 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AM:DTC 71 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

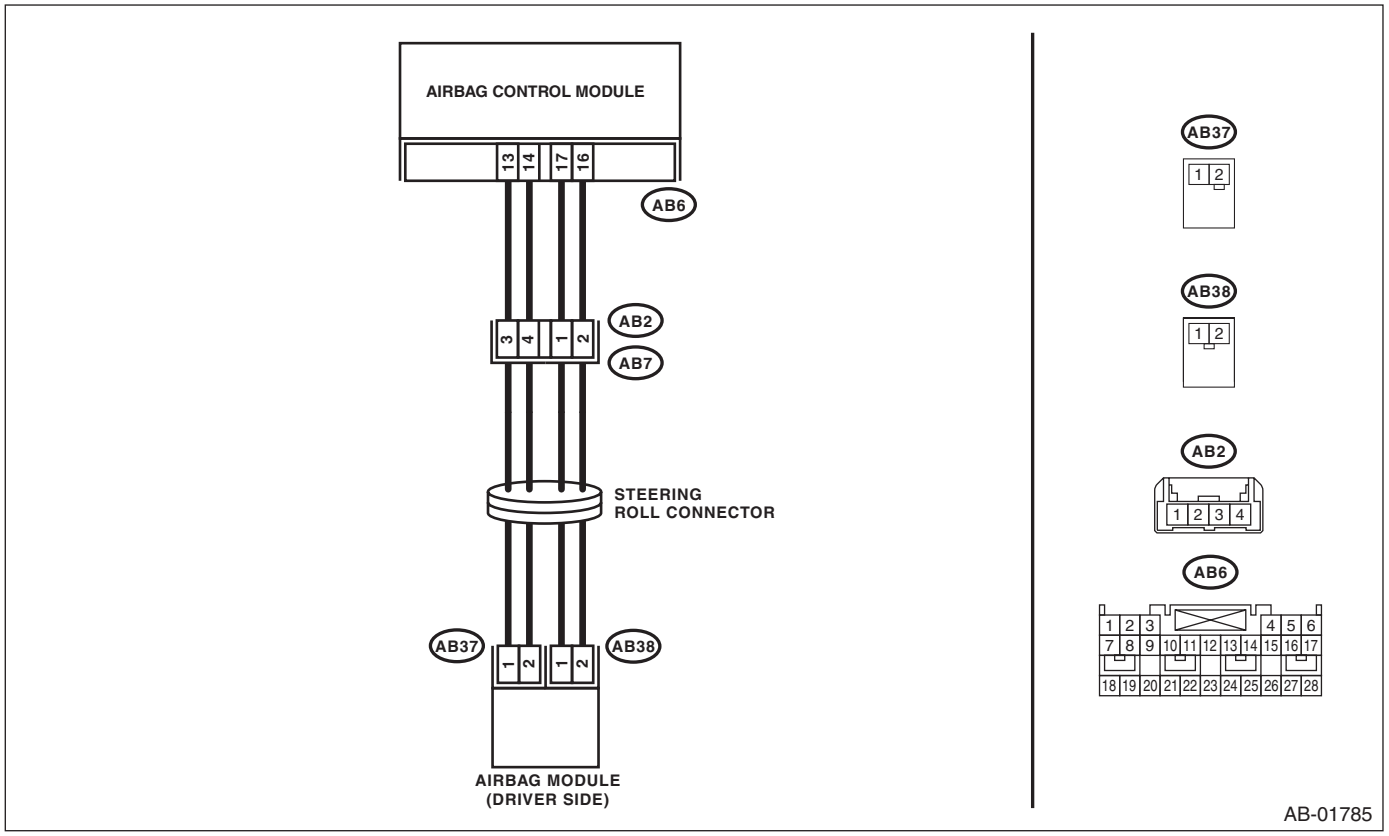
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (driver's side) circuit is open, shorted or shorted to ground.
- Roll connector circuit is open, shorted or shorted to ground.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	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 main harness along with body harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 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) of test harness Q. 7) 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 driver's airbag module. <Ref. to AB-14, 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 more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) 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 roll connector. <Ref. to AB-22, Roll Connector.>	Go to step **4**.
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side cover lower on the passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 2 — (2P) No. 1:*** ***(2U) No. 4 — (2P) No. 2:*** ***(2U) No. 8 — (3P) No. 3:*** ***(2U) No. 12 — (3P) No. 4:***	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 (DRIVER'S AIRBAG HARNESS).** Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground. ***Connector & terminal*** ***(2U) No. 2 — (2U) No. 4:*** ***(2U) No. 4 — Chassis ground:*** ***(2U) No. 2 — Chassis ground:*** ***(2U) No. 8 — (2U) No. 12:*** ***(2U) No. 8 — Chassis ground:*** ***(2U) No. 12 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag main harness along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.
7	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AN:DTC 72 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

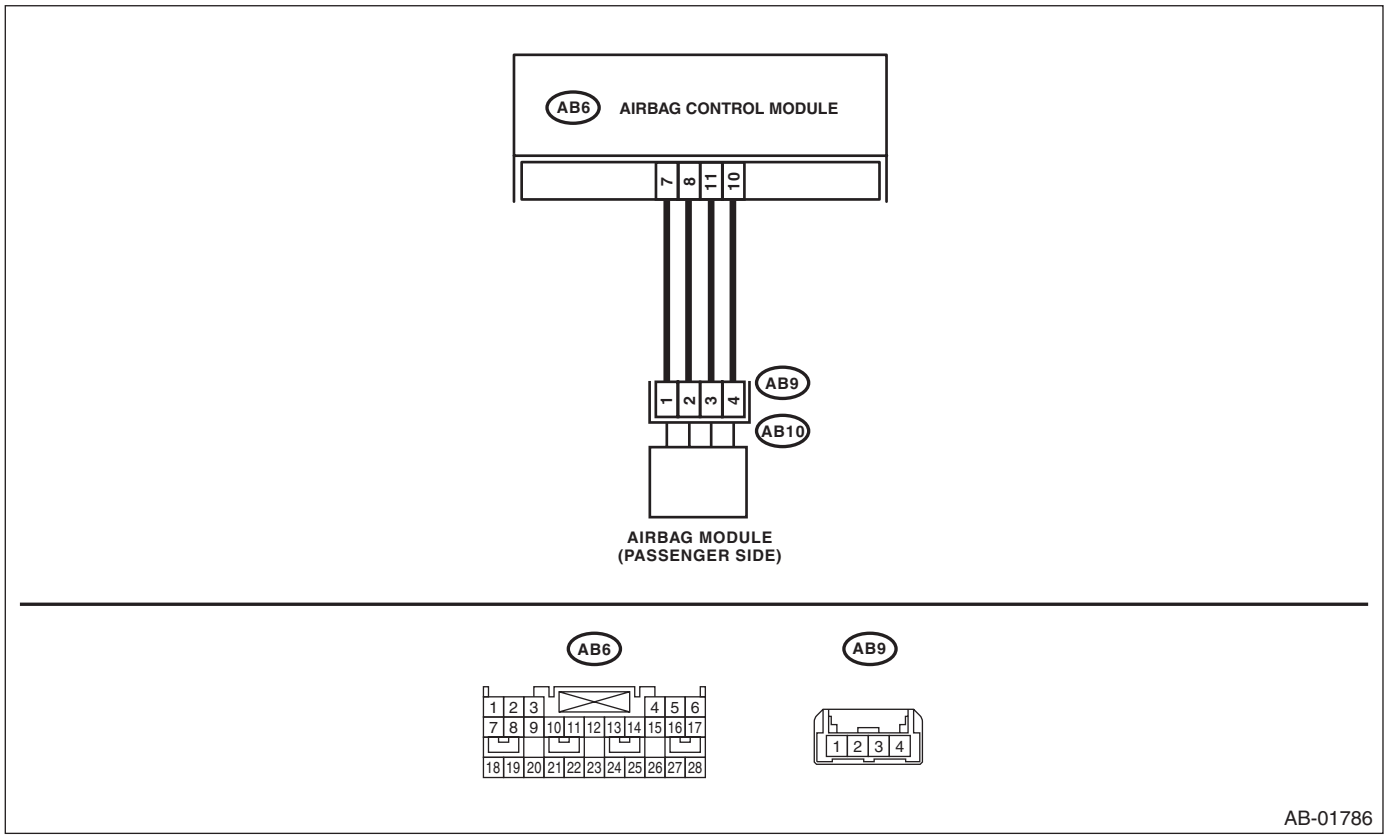
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	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 main harness along with body harness.	Go to step **2**.

	Step	Check	Yes	No
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the console side cover lower on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 6) 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 passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P. ***Connector & terminal*** ***(2U) No. 3 — (2P) No. 1:*** ***(2U) No. 5 — (2P) No. 2:*** ***(2U) No. 9 — (3P) No. 3:*** ***(2U) No. 13 — (3P) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag main harness along with body harness.
4	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground. ***Connector & terminal*** ***(2U) No. 3 — (2U) No. 5:*** ***(2U) No. 3 — Chassis ground:*** ***(2U) No. 5 — Chassis ground:*** ***(2U) No. 9 — (2U) No. 13:*** ***(2U) No. 9 — Chassis ground:*** ***(2U) No. 13 — 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 the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **6**.
6	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AO:DTC 75 DRIVER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

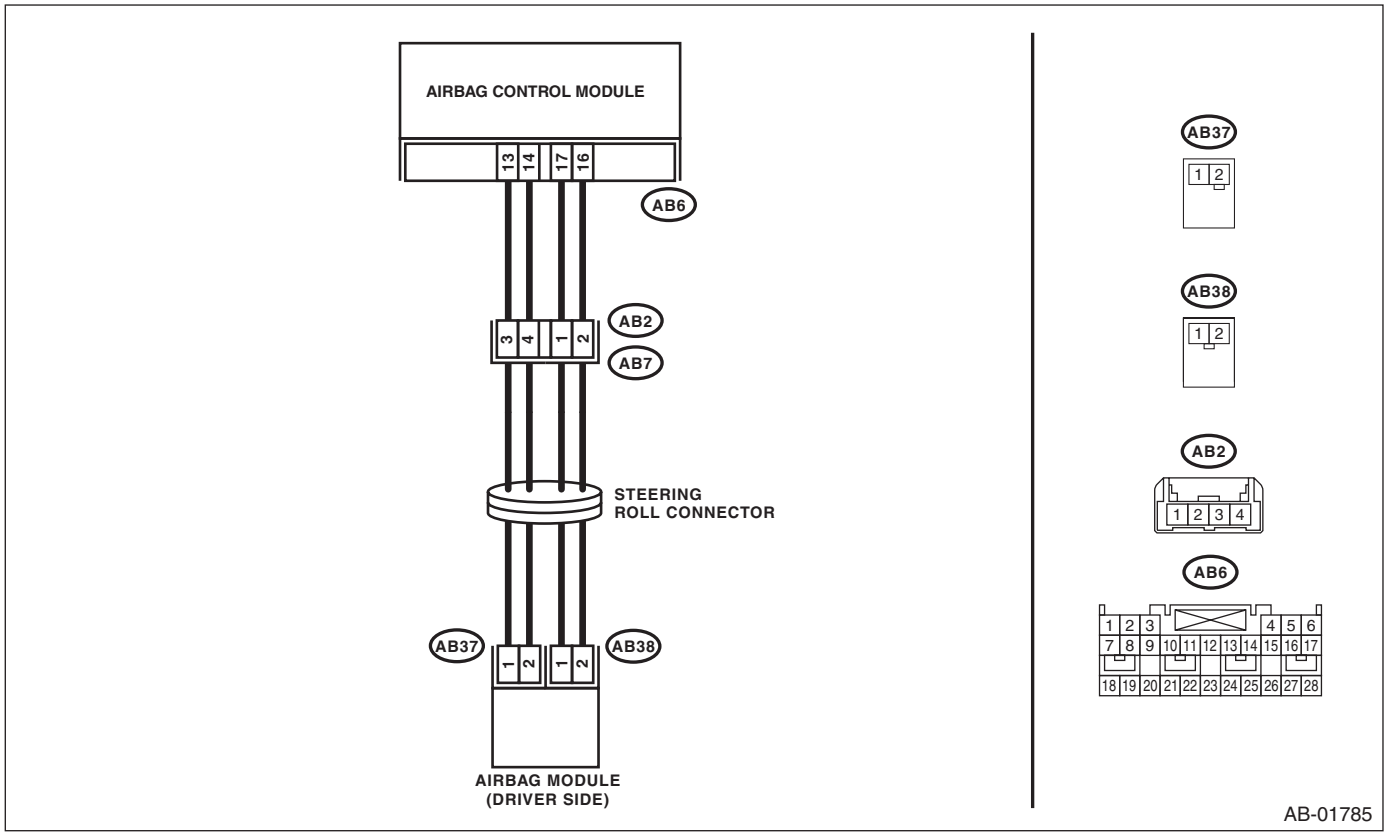
- Airbag main harness circuit (Driver's side) is shorted to power supply.
- Airbag module harness circuit (Driver's side) is shorted to power supply.
- Roll connector is shorted to power supply.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait more than 20 seconds before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	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 main harness along with body harness.	Go to step **2**.
2	**CHECK DRIVER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the driver's airbag module. 3) Connect the connector (AB38) to the connector (1N) in the test harness N. 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) of test harness Q. 7) 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 driver's airbag module. <Ref. to AB-14, 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 more than 20 seconds. 2) Disconnect the test harness N from connector (AB38). 3) Disconnect the test harness Q from connector (AB37). 4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 5) Connect the connector (1P) in the test harness P to connector (AB2). 6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 7) 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 roll connector. <Ref. to AB-22, Roll Connector.>	Go to step **4**.
4	**CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the console side cover lower on the passenger's side and disconnect the connectors (AB10) and (AB9). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Connect the battery ground terminal and turn the ignition switch to ON. (Engine OFF) 6) Measure the voltage between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 4 (+) — Chassis ground (–):*** ***(2U) No. 2 (+) — Chassis ground (–):*** ***(2U) No. 8 (+) — Chassis ground (–):*** ***(2U) No. 12 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **5**.	Replace the airbag main harness along with body harness.

	Step	Check	Yes	No
5	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **6**.
6	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AP:DTC 76 PASSENGER'S AIRBAG FAILURE

DTC DETECTING CONDITION:

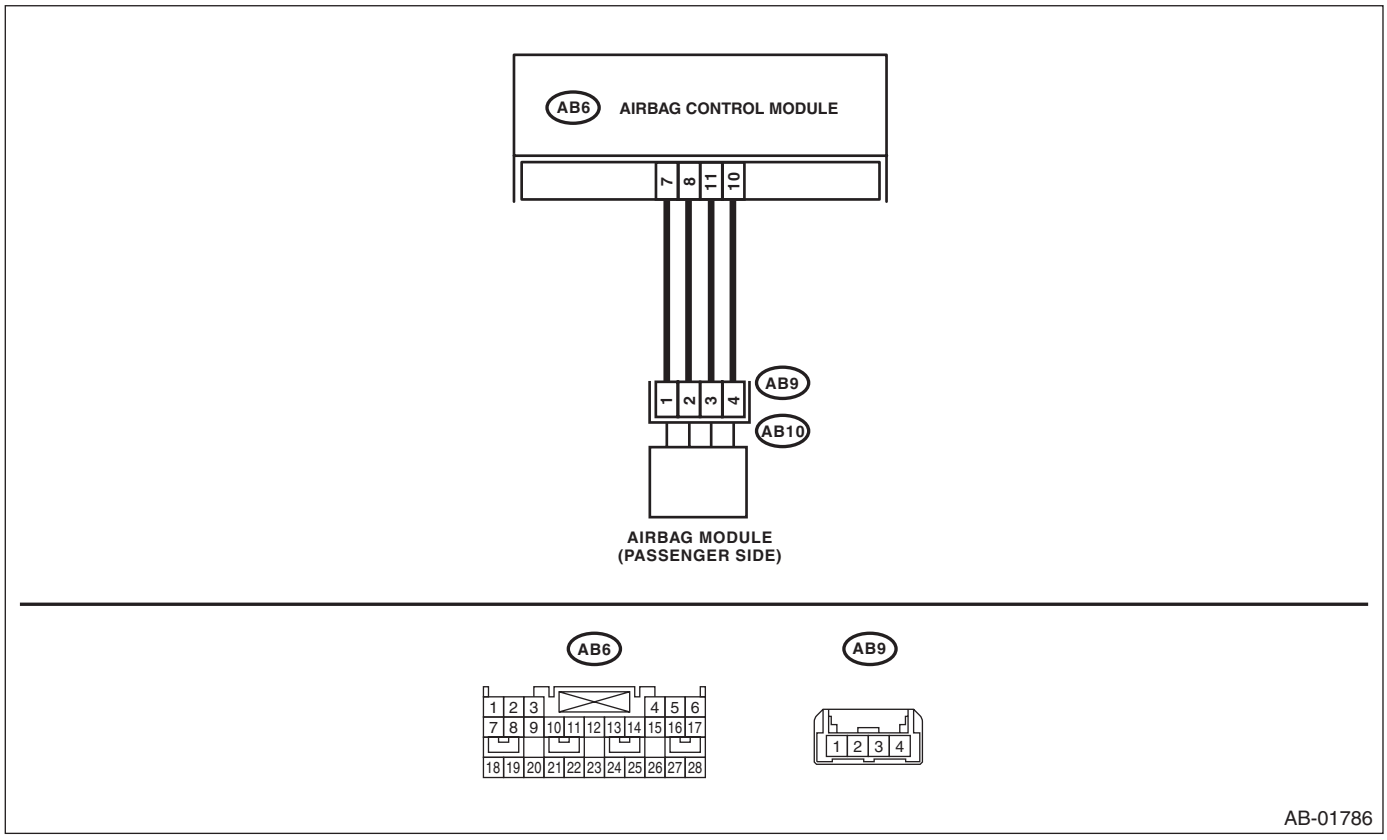
- Airbag main harness circuit (Passenger's side) is shorted to power supply.
- Airbag module harness circuit (Passenger's side) is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors and seat belt pretensioners of the driver's and passenger's seats for safety reasons.

NOTE:
Prior to starting work, prepare two airbag resistors (98299PA040).

WIRING DIAGRAM:



	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 main harness along with body harness.	Go to step **2**.
2	**CHECK PASSENGER'S AIRBAG MODULE.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Remove the console side cover lower on the passenger's side. 3) Disconnect the connector (AB10) from (AB9). 4) Connect the connector (1P) in the test harness P to connector (AB9). 5) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P. 6) 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 passenger's airbag module. <Ref. to AB-15, Passenger's Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P. 3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2). 4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U. 5) Measure the voltage between connector (2U) in the test harness U and chassis ground. ***Connector & terminal*** ***(2U) No. 3 (+) — Chassis ground (–):*** ***(2U) No. 5 (+) — Chassis ground (–):*** ***(2U) No. 9 (+) — Chassis ground (–):*** ***(2U) No. 13 (+) — 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 the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AQ:DTC 91 CURTAIN AIRBAG MODULE RH FAILURE

DTC DETECTING CONDITION:

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

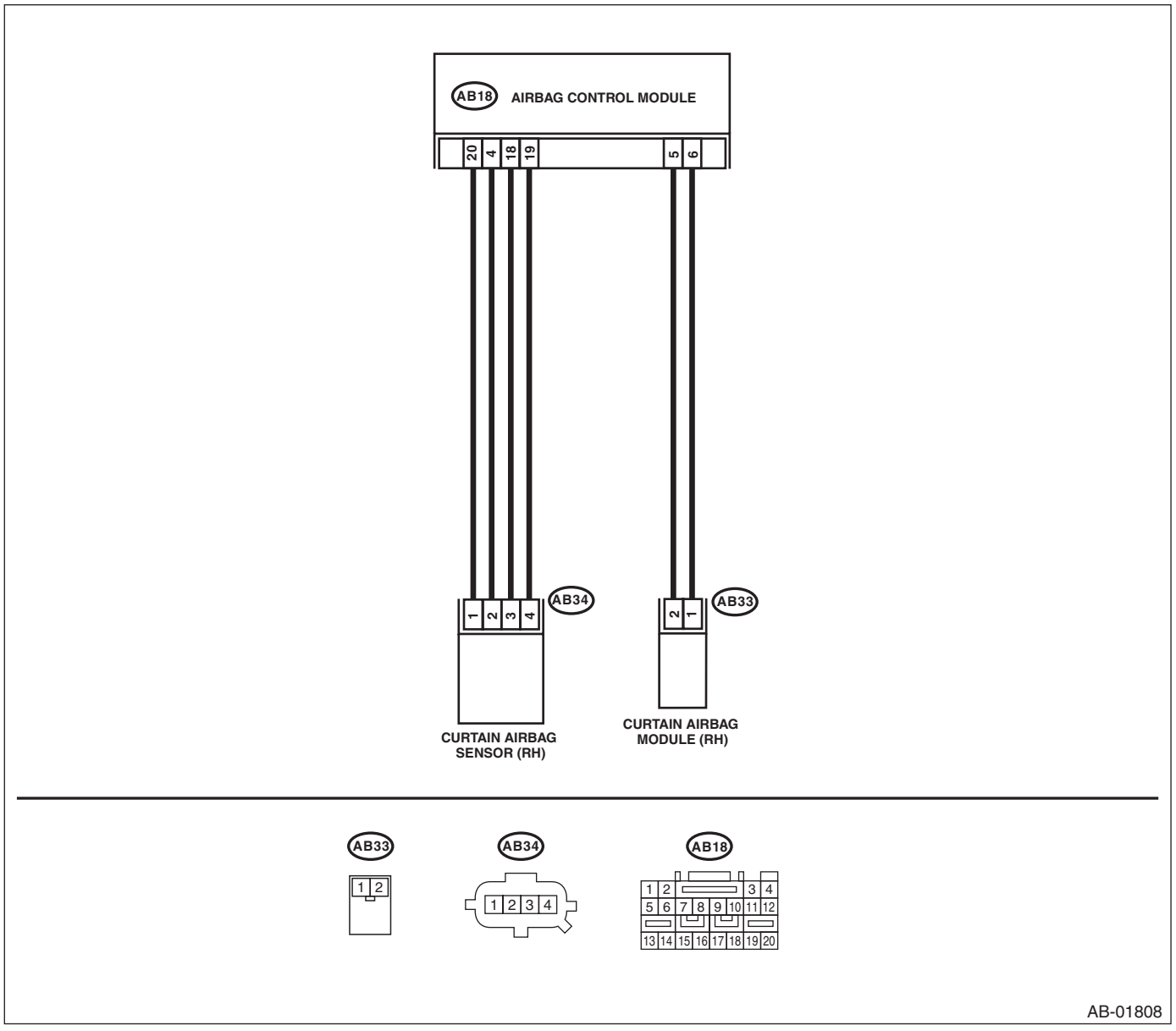
CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.

• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.

• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	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 20 seconds or more. 2) Disconnect the connector (AB33) from curtain airbag module (RH), and connect the connector (1N) in test harness N to connector (AB33). 3) Connect the airbag resistor to the connector (2N) in test harness N. 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 curtain airbag module (RH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS RH (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Measure the resistance between connector (5U) in the test harness U and connector (2N) in the test harness N. ***Connector & terminal*** ***(5U) No. 6 — (2N) No. 1:*** ***(5U) No. 8 — (2N) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG REAR HARNESS RH (CURTAIN AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (5U) terminals in the test harness U. ***Connector & terminal*** ***(5U) No. 6 — (5U) No. 8:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness RH along with body harness.
5	**CHECK AIRBAG REAR HARNESS RH (CURTAIN AIRBAG MODULE HARNESS RH).** Measure the resistance between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 6 — Chassis ground:*** ***(5U) No. 8 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness RH along with body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AR:DTC 92 CURTAIN AIRBAG MODULE LH FAILURE

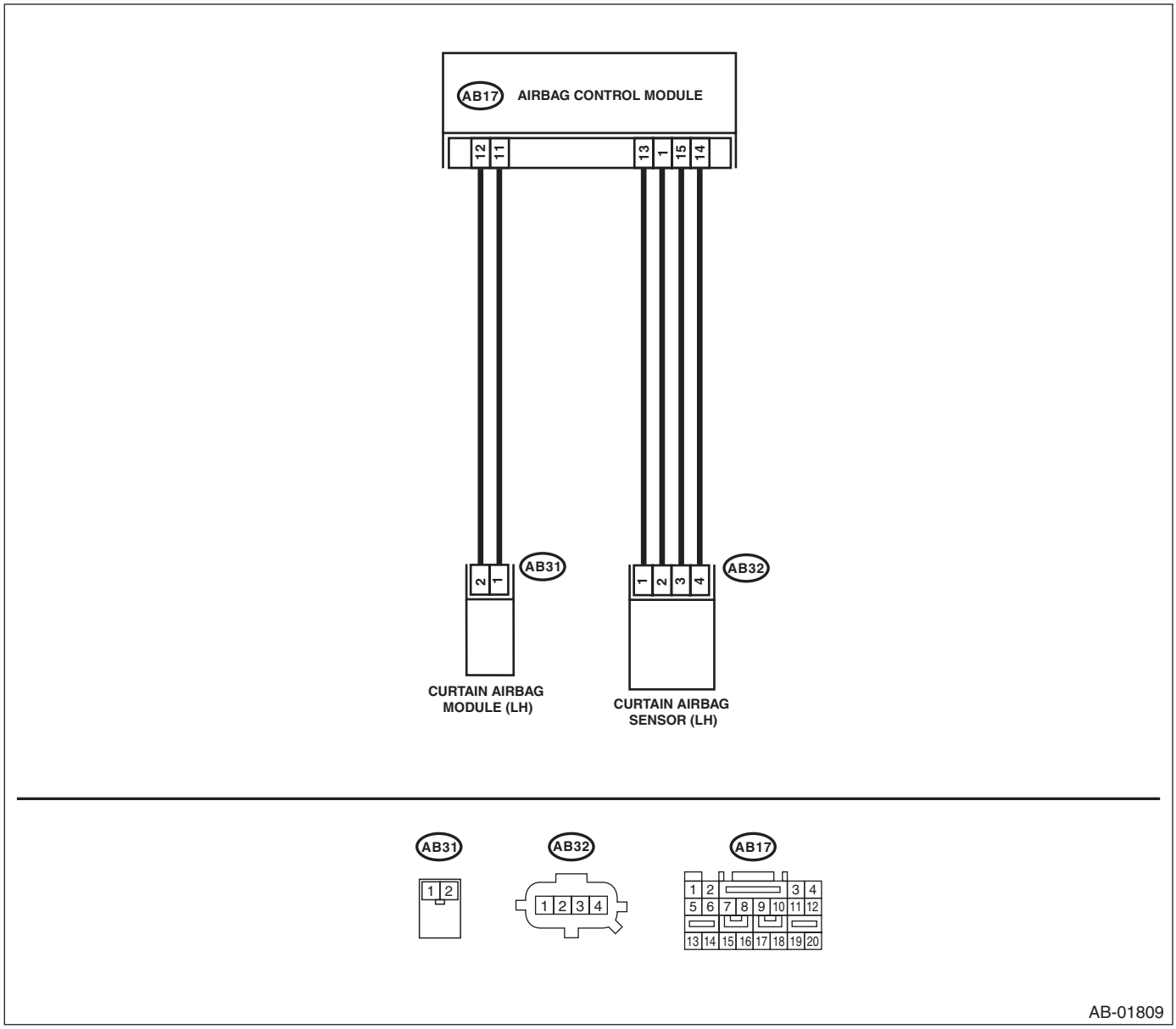
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 LH along with the 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 20 seconds or more. 2) Disconnect the connector (AB31) from curtain airbag module (LH), and connect the connector (1N) in test harness N to connector (AB31). 3) Connect the airbag resistor to the connector (2N) in test harness N. 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 curtain airbag module (LH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS LH (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Measure the resistance between connector (5U) in the test harness U and connector (2N) in the test harness N. ***Connector & terminal*** ***(5U) No. 1 — (2N) No. 2:*** ***(5U) No. 3 — (2N) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG REAR HARNESS LH (CURTAIN AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (5U) terminals in the test harness U. ***Connector & terminal*** ***(5U) No. 1 — (5U) No. 3:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Replace the airbag rear harness LH along with the body harness.
5	**CHECK AIRBAG REAR HARNESS LH (CURTAIN AIRBAG MODULE HARNESS LH).** Measure the resistance between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 1 — Chassis ground:*** ***(5U) No. 3 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **6**.	Replace the airbag rear harness LH along with the body harness.
6	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **7**.

Step		Check	Yes	No
7	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using “List of Diagnostic Trouble Code (DTC)”. <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AS:DTC 95 CURTAIN AIRBAG MODULE RH FAILURE

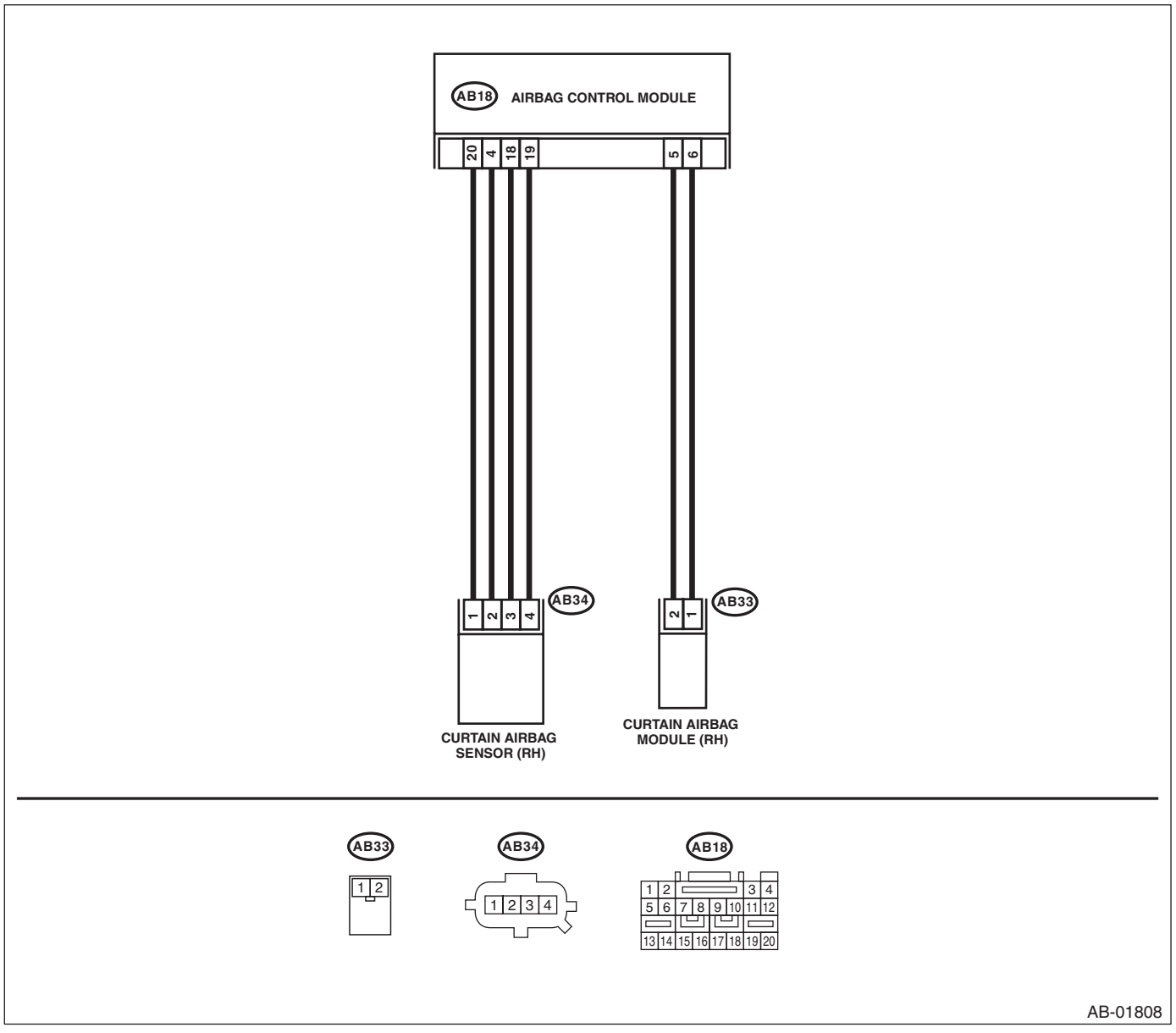
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



Diagnostic Chart with Trouble Code

	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 RH 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 more than 20 seconds. 2) Disconnect the connector (AB33) from curtain airbag module (RH), and connect the connector (1N) in test harness N to connector (AB33). 3) Connect the airbag resistor to the connector (2N) in test harness N. 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 curtain airbag module (RH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS RH (CURTAIN AIRBAG MODULE HARNESS RH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB26) from seat belt pretensioner (RH). 3) Disconnect the connector (AB24) from side airbag module (RH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connector (AB18) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB18). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 6 (+) — Chassis ground (–):*** ***(5U) No. 8 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness RH along with body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AT:DTC 96 CURTAIN AIRBAG MODULE LH FAILURE

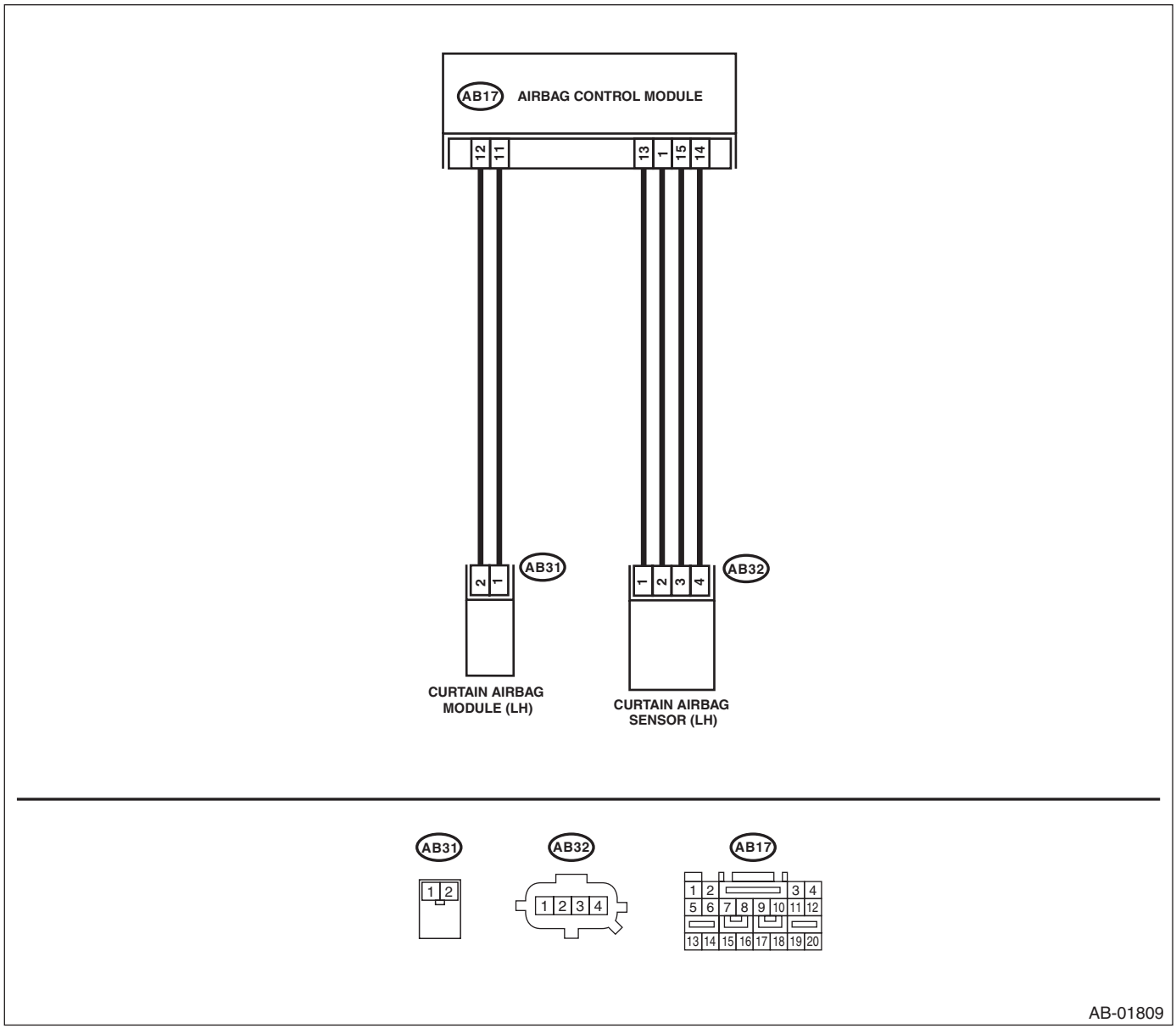
DTC DETECTING CONDITION:

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

CAUTION:

• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.
• After replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and confirm that the warning light operates properly.
• When inspecting the airbag main harness, disconnect the airbag module connectors of driver's and passenger's seats 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.

WIRING DIAGRAM:



	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 LH along with the 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 20 seconds or more. 2) Disconnect the connector (AB31) from curtain airbag module (LH), and connect the connector (1N) in test harness N to connector (AB31). 3) Connect the airbag resistor to the connector (2N) in test harness N. 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 curtain airbag module (LH). <Ref. to AB-18, Curtain Airbag Module.>	Go to step **3**.
3	**CHECK AIRBAG REAR HARNESS LH (CURTAIN AIRBAG MODULE HARNESS LH).** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more. 2) Disconnect the connector (AB21) from seat belt pretensioner (LH). 3) Disconnect the connector (AB19) from side airbag module (LH). 4) Disconnect the airbag resistor from test harness N. 5) Disconnect the connector (AB17) from airbag control module. 6) Connect the connector (1U) in the test harness U to connector (AB17). 7) Connect the battery ground terminal and turn the ignition switch to ON. 8) Measure the voltage between connector (5U) in the test harness U and chassis ground. ***Connector & terminal*** ***(5U) No. 1 (+) — Chassis ground (–):*** ***(5U) No. 3 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **4**.	Replace the airbag rear harness LH along with the body harness.
4	**CHECK AIRBAG CONTROL MODULE.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step **5**.
5	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other DTC displayed?	Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

AU:DTC BB ROLL OVER:FIRING OUTPUT

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-19, Airbag Control Module.>
- Curtain airbag module (Operating side) <Ref. to AB-18, Curtain Airbag Module.>
- Curtain airbag sensor (Operating side) <Ref. to AB-21, Curtain Airbag Sensor.>
- Front outer seat belt with pretensioner (operating side) <Ref. to SB-13, Front Seat Belt.>

OCCUPANT DETECTION SYSTEM (DIAGNOSTICS)

OD(diag)

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1. General Description

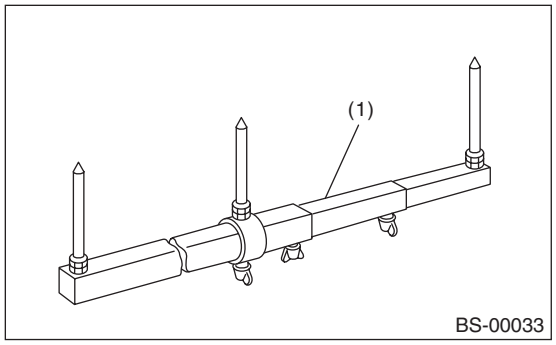
A: PREPARATION TOOL

TOOL NAME	REMARKS
Tram tracking gauge	Used for measuring dimension.
Tape measure	Used for measuring dimension.

2. Datum Dimensions

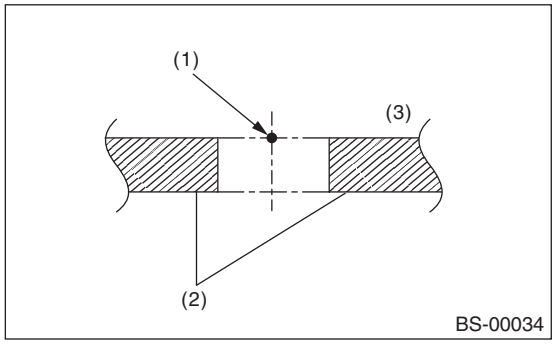
A: MEASUREMENT

NOTE:
• Using a tram tracking gauge, measure all the dimensions.
• When using a tape measure, carefully measure dimensions without letting the tape measure sag or twist.
• Measure the linear dimensions between cores of holes.
• Suffixes “RH” and “LH” indicate right-hand and left-hand.



(1) Tram tracking gauge

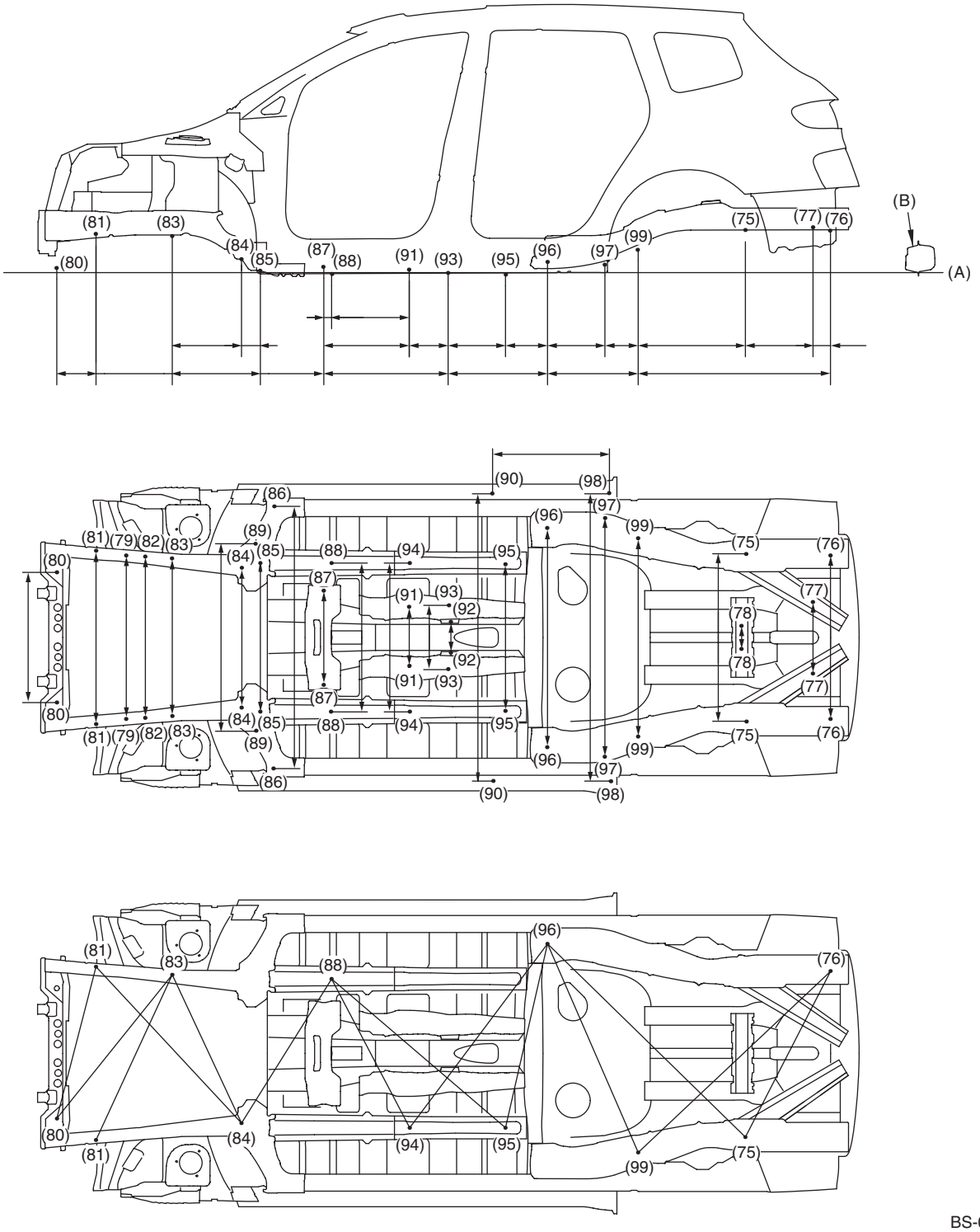
• Measure at the center of the circle around the outside of the body panel.



(1) Datum points
(2) Body panel
(3) Outside

1. CENTER STRUCTURE

NOTE:
- Longitudinal dimensions are projected dimensions.
- The height dimensions are the vertical distances from the gauge point on the assumed horizontal line through the side sill flange joint (bending angle point).
- Diagnonal dimensions are the actual dimensions between reference points. The values in brackets are projected dimensions for reference.



BS-02107

(A) Standard line

(B) Side sill

(75) Sub frame mounting hole (symmetrical)

(76) Muffler cover mounting hole (symmetrical)

(77) Trailer hitch mounting hole (symmetrical)

(78) Support sub frame mounting hole (symmetrical)

(79) Compression member mounting hole (symmetrical)

(80) Paint drain hole (symmetrical)

(81) Gauge hole (symmetrical)

(82) Front crossmember mounting hole (symmetrical), front

(83) Front crossmember mounting hole (symmetrical), rear

(84) Bushing rear mounting hole (symmetrical)

(85) Suspension plate mounting hole (symmetrical)

(86) Gauge hole (symmetrical)

(87) Crossmember mounting hole (symmetrical)

(88) Gauge hole (symmetrical)

(89) Suspension plate mounting hole (symmetrical)

(90) Side sill spoiler mounting hole (symmetrical)

(91) Gauge hole (symmetrical)

(92) Center bearing mounting hole

(93) Exhaust cover mounting hole (symmetrical)

(94) Gauge hole (symmetrical)

(95) Gauge hole (symmetrical)

(96) Tank protector mounting hole (symmetrical)

(97) Tie-down plate mounting hole (symmetrical)

(98) Side spoiler mounting hole (symmetrical)

(99) Sub frame mounting hole (symmetrical)

Datum Dimensions

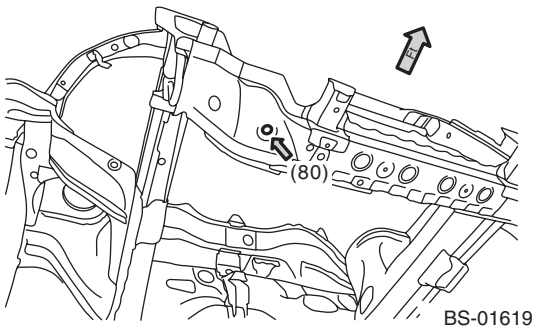
Point of measurement	Datum dimension mm (in)
Datum line — (75)	225 (8.86)
Datum line — (76)	228 (8.98)
Datum line — (77)	238 (9.37)
Datum line — (80)	27 (1.06)
Datum line — (81)	204 (8.03)
Datum line — (83)	218 (8.58)
Datum line — (84)	70 (2.76)
Datum line — (85)	10 (0.39)
Datum line — (87)	30 (1.18)
Datum line — (88)	-10 (-0.39)
Datum line — (91)	16 (0.63)
Datum line — (93)	-5 (-0.20)
Datum line — (95)	-7 (-0.28)
Datum line — (96)	62 (2.44)
Datum line — (97)	45 (1.77)
Datum line — (99)	124 (4.88)
(75) — (77)	362 (14.25)
(75) — (99)	573 (22.56)
(76) — (77)	93 (3.66)
(76) — (99)	1,028 (40.47)
(80) — (81)	210 (8.27)
(81) — (83)	408 (16.06)
(83) — (84)	370 (14.57)
(83) — (85)	471 (18.54)
(84) — (85)	101 (3.98)
(85) — (87)	339 (13.35)
(87) — (88)	42 (1.65)
(87) — (91)	457 (17.99)
(87) — (93)	665 (26.18)
(88) — (91)	415 (16.34)
(91) — (93)	208 (8.19)
(93) — (95)	307 (12.09)
(93) — (96)	563 (22.17)
(95) — (96)	256 (10.08)
(96) — (97)	276 (10.87)
(96) — (99)	455 (17.91)
(97) — (99)	179 (7.05)
(75) RH — (75) LH	895 (35.24)
(76) RH — (76) LH	876 (34.49)
(77) RH — (77) LH	376 (14.80)
(78) RH — (78) LH	120 (4.72)
(79) RH — (79) LH	868 (34.17)
(80) RH — (80) LH	696 (27.40)
(81) RH — (81) LH	926 (36.46)
(82) RH — (82) LH	862 (33.94)
(83) RH — (83) LH	840 (33.07)
(84) RH — (84) LH	746 (29.37)
(85) RH — (85) LH	796 (31.34)
(86) RH — (86) LH	1,402 (55.20)
(87) RH — (87) LH	504 (19.84)

Point of measurement	Datum dimension mm (in)
(88) RH — (88) LH	796 (31.34)
(89) RH — (89) LH	1,002 (39.45)
(90) RH — (90) LH	1,536 (60.47)
(91) RH — (91) LH	320 (12.60)
(92) RH — (92) LH	168 (6.61)
(93) RH — (93) LH	343 (13.50)
(94) RH — (94) LH	796 (31.34)
(95) RH — (95) LH	796 (31.34)
(96) RH — (96) LH	1,167 (45.94)
(97) RH — (97) LH	1,280 (50.39)
(98) RH — (98) LH	1,536 (60.47)
(99) RH — (99) LH	1,060 (41.73)
(75) RH — (76) LH	996 (39.21)
(75) RH — (96) LH	1,465 (57.68)
(76) LH — (99) RH	1,416 (55.75)
(80) RH — (81) LH	856 (33.70)
(80) RH — (83) LH	1,004 (39.53)
(81) RH — (83) LH	973 (38.31)
(81) LH — (84) RH	1,150 (45.28)
(83) LH — (84) RH	887 (34.92)
(84) RH — (88) LH	913 (35.94)
(88) LH — (94) RH	899 (35.39)
(88) LH — (95) RH	1,224 (48.19)
(94) RH — (96) LH	1,248 (49.13)
(95) RH — (96) LH	1,017 (40.04)
(96) LH — (99) RH	1,204 (47.4)

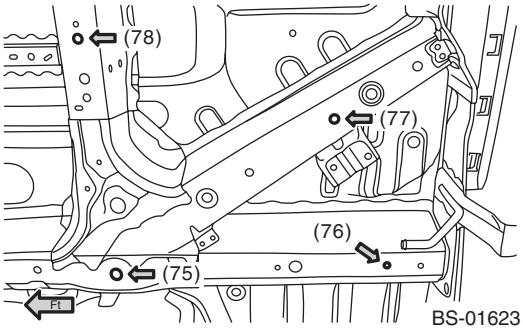
NOTE:

- Other datum points except for (92) are symmetrical.
- Longitudinal dimensions are projected dimensions.
- The height dimensions are the vertical distances from the gauge point on the assumed horizontal line through the side sill flange joint (bending angle point).
- Diagnonal dimensions are the actual dimensions between reference points.
- The left and right dimensions are the actual dimensions between reference points.

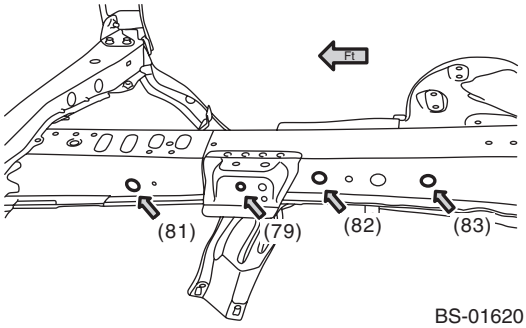
Datum Dimensions



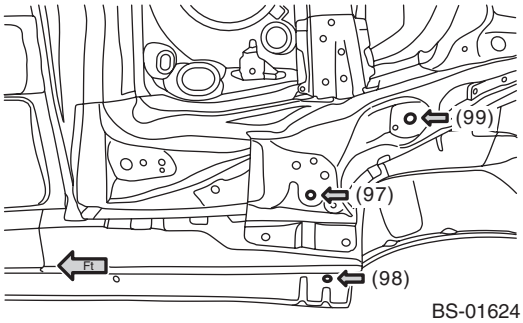
BS-01619



BS-01623



BS-01620



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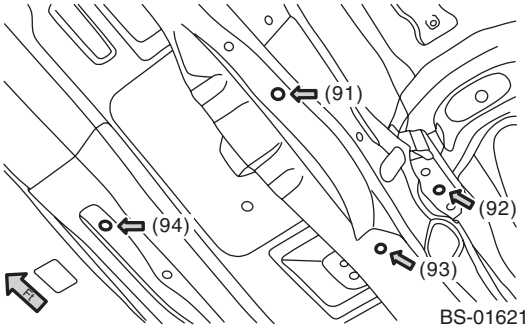
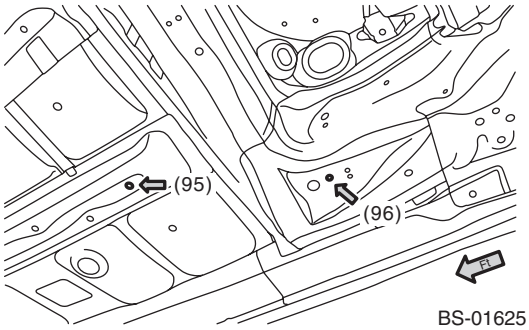
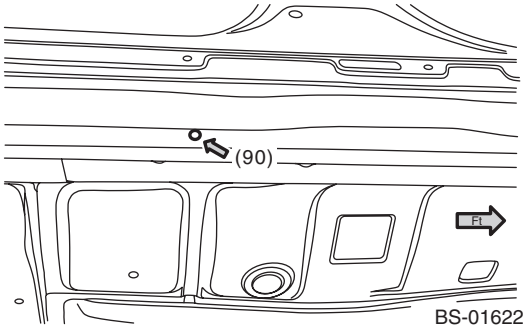


BS-01621



BS-01625



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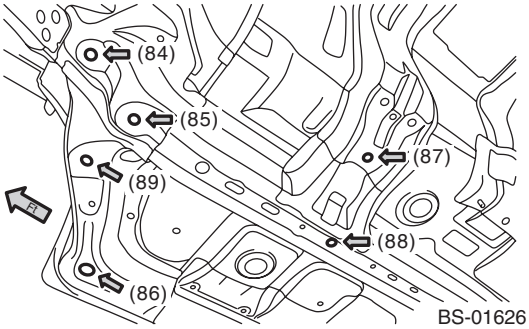
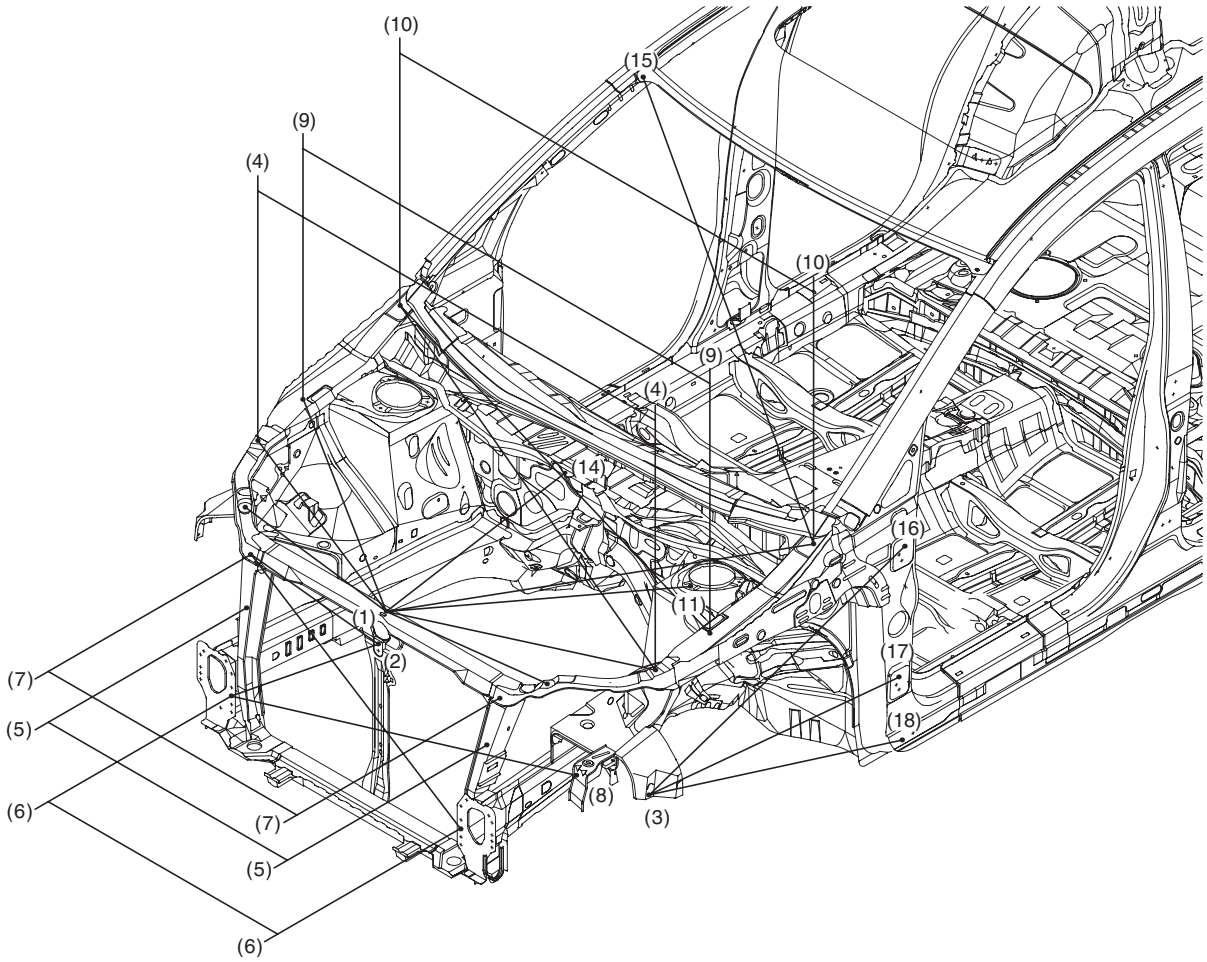


BS-01626

2. FRONT STRUCTURE



BS-02108

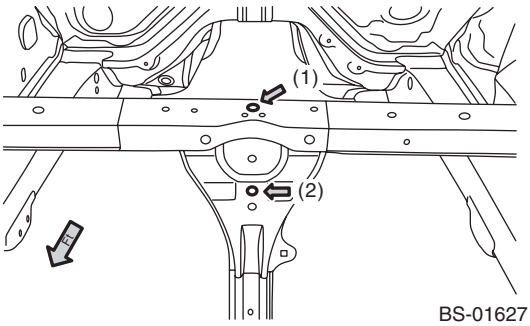
(1) Cover upper front mounting hole
(2) Hood lock mounting hole
(3) Front fender mounting hole (symmetrical), front
(4) Fender drip bracket mounting hole (asymmetrical)
(5) Corner bracket mounting hole (symmetrical)
(6) Bumper beam mounting hole (symmetrical)
(7) Corner bracket mounting hole (symmetrical)
(8) Harness mounting hole
(9) Fender drip bracket mounting hole (symmetrical)
(10) Assemblies hole (symmetrical)
(11) Strut mount mounting hole (symmetrical), front
(14) Assemblies hole
(15) Glass mounting hole (symmetrical)
(16) Front door hinge upper mounting hole (symmetrical), upper side
(17) Front door hinge lower mounting hole (symmetrical), upper side
(18) Front fender mounting hole (sym metrical), rear

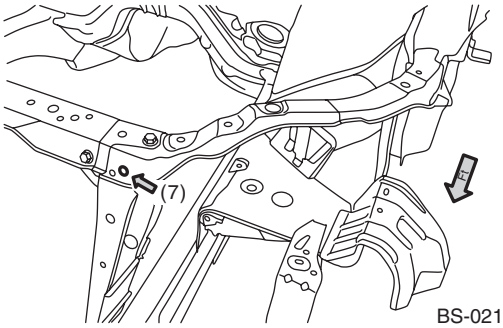
Datum Dimensions

Point of measurement	Datum dimension mm (in)
(1) — (3) RH	567 (22.32)
(1) — (3) LH	567 (22.32)
(1) — (4) RH	779 (30.67)
(1) — (4) LH	797 (31.38)
(1) — (9) RH	888 (34.96)
(1) — (10) LH	1,147 (45.16)
(1) — (11) LH	807 (31.77)
(1) — (14)	667 (26.26)
(2) — (6) RH	550 (21.65)
(2) — (7) RH	469 (18.46)
(4) — (4)	1,487 (58.54)
(4) LH — (10) RH	1,636 (64.41)
(5) — (5)	894 (35.20)
(6) — (6)	858 (33.78)
(6) LH — (7) RH	980 (38.58)
(6) RH — (8)	1,123 (44.21)
(7) — (7)	930 (36.61)
(9) — (9)	1,522 (59.92)
(9) LH — (10) RH	1,584 (62.36)
(10) — (10)	1,548 (60.94)
(10) LH — (15) RH	1,651 (65.00)
(16) RH — (3) RH	1,019 (40.12)
(17) RH — (3) RH	954 (37.56)
(18) RH — (3) RH	1,016 (40.00)

NOTE:

- The reference points (1) and (2) are at the body center, while the other points except for (8) and (14) are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.


(1)
(2)
F
BS-01627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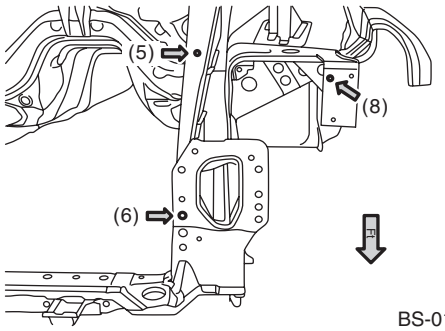
(5)
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(6)
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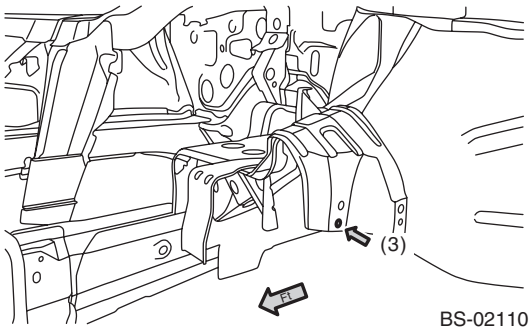
BS-01628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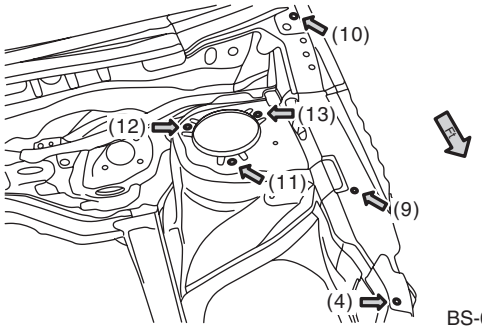
BS-02110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(11)
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(4)
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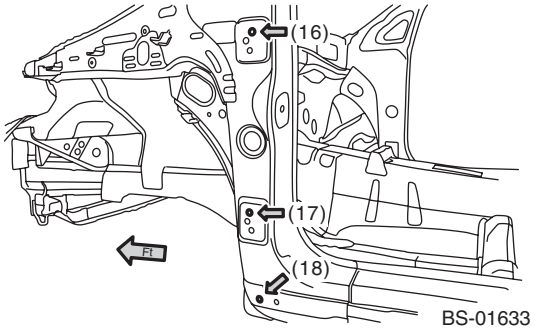
BS-01631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(17)
(18)
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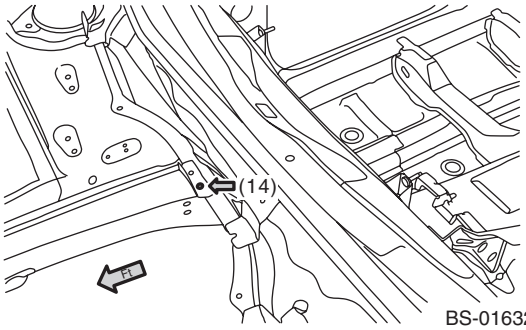
BS-01633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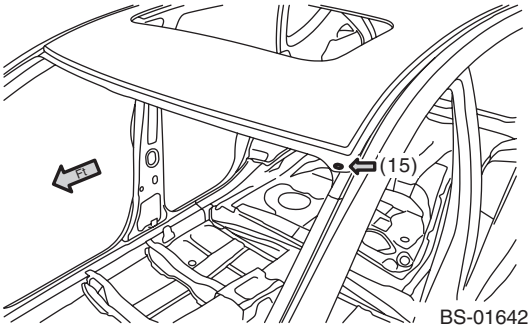
BS-01632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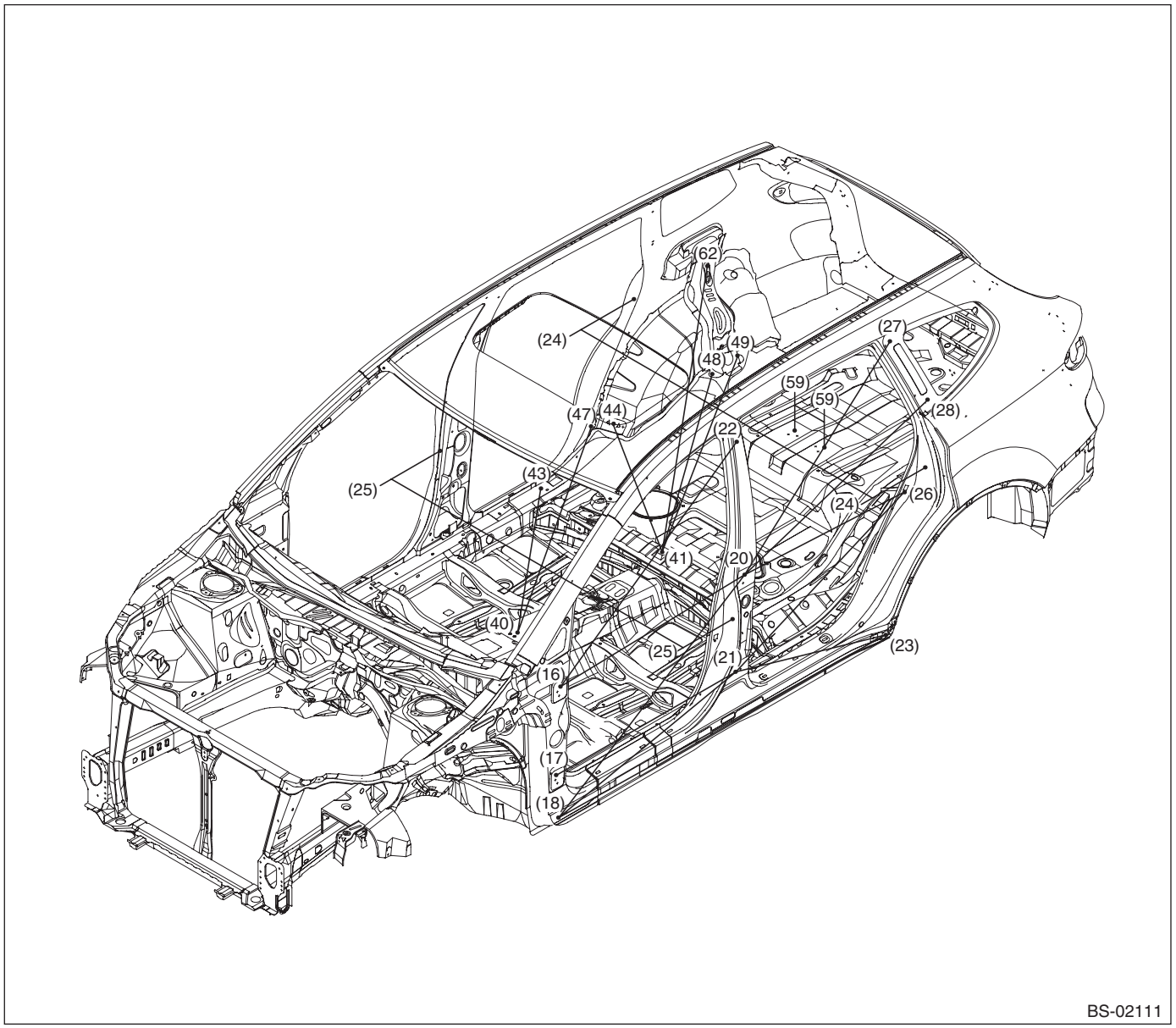
BS-01642

3. INSIDE

- View 1



(20) Rear door hinge upper mounting hole (symmetrical), upper

(21) Rear door hinge lower mounting hole (symmetrical), front

(22) Door seal mounting hole (symmetrical)

(23) End cover mounting hole (symmetrical)

(24) Rear door striker mounting hole (symmetrical), upper

(25) Front door striker mounting hole (symmetrical), upper

(26) Door switch mounting hole (symmetrical)

(27) Rear quarter glass clip mounting hole (symmetrical), upper

(28) Rear quarter glass clip mounting hole (symmetrical), lower

(40) Hand brake mounting hole

(41) Floor mat mounting hole

(43) Piping cover mounting hole (symmetrical)

(44) Belt anchor mounting hole (symmetrical)

(47) Trim mounting hole (symmetrical)

(48) Damper mounting hole (symmetrical), front

(49) Damper mounting hole (symmetrical), rear

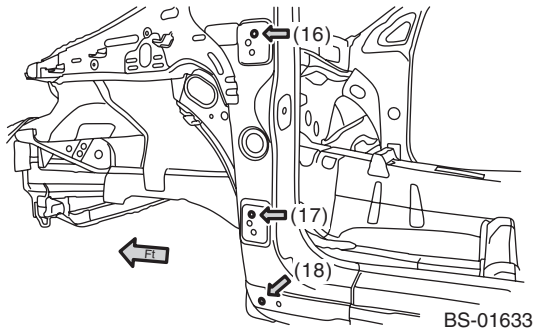
(59) Third seat hinge mounting hole (symmetrical)

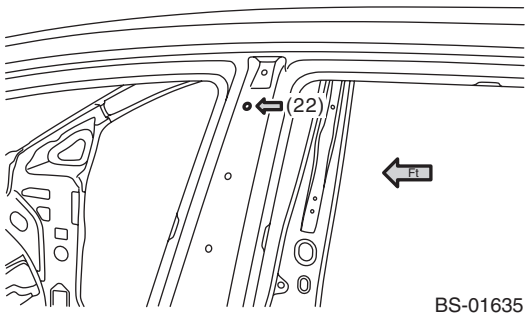
(62) Assemblies hole (symmetrical)

Point of measurement	Datum dimension mm (in)
(16) LH — (20) LH	1,017 (40.04)
(16) LH — (22) RH	1,242 (48.90)
(17) LH — (21) LH	990 (38.98)
(18) LH — (20) LH	1,212 (47.72)
(18) LH — (21) LH	997 (39.25)
(18) LH — (23) LH	1,771 (69.72)
(20) LH — (26) LH	954 (37.56)
(20) LH — (27) LH	1,122 (44.17)
(20) LH — (28) LH	1,095 (43.11)
(21) LH — (23) LH	825 (32.48)
(21) LH — (26) LH	1,049 (41.30)
(24) — (24)	1,610 (63.39)
(25) — (25)	1,612 (63.46)
(40) — (43) RH	1,125 (44.29)
(40) — (47) RH	1,375 (54.13)
(41) — (44) RH	822 (32.36)
(41) — (48) RH	1,031 (40.59)
(41) — (49) RH	1,150 (45.28)
(41) — (62) RH	1,309 (51.54)
(59) — (59)	163 (6.24)

NOTE:

- The reference points (40) and (41) are at the body center, while the other reference points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.


(16)
(17)
(18)
Ft
BS-01633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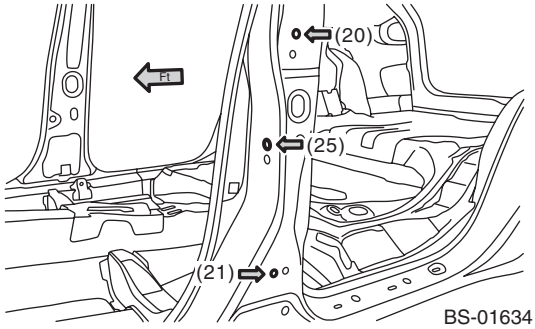
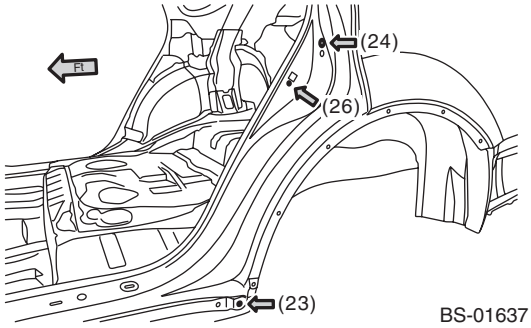
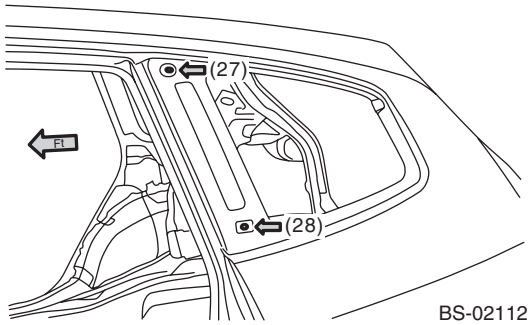
Ft
BS-01635


(20)
(25)
(21)
Ft
BS-01634


(24)
(26)
(23)
Ft
BS-01637


(27)
(28)
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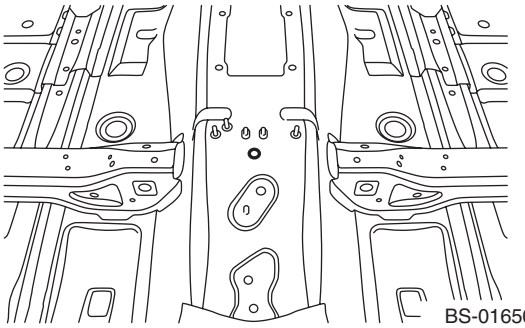
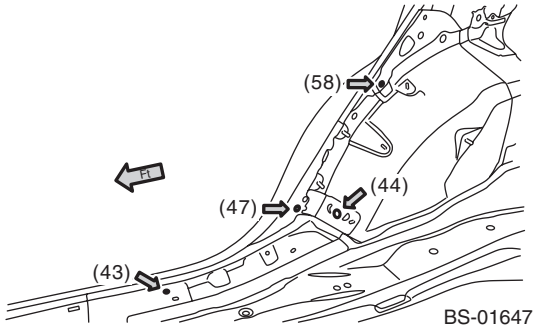
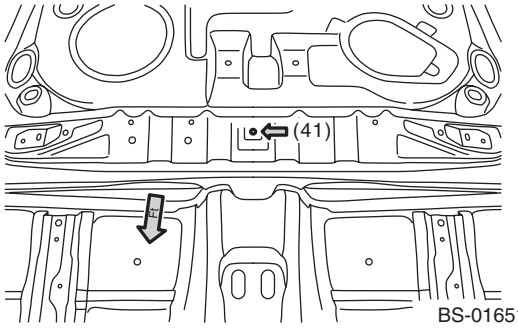
BS-02112


BS-01650


(58)
(47)
(44)
(43)
Ft
BS-01647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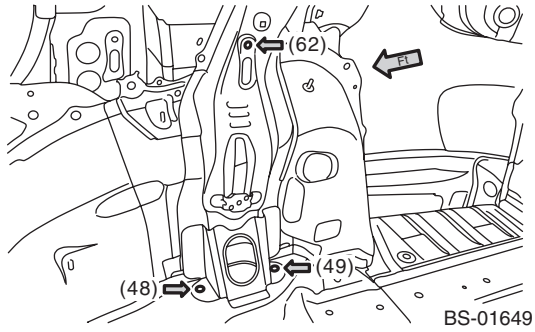
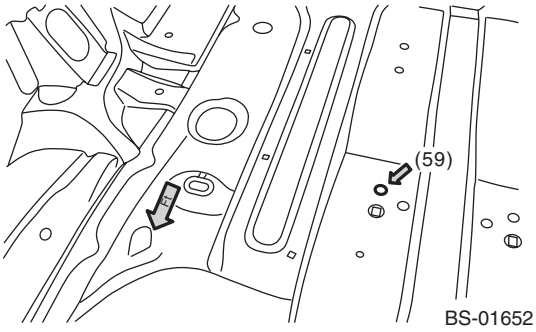
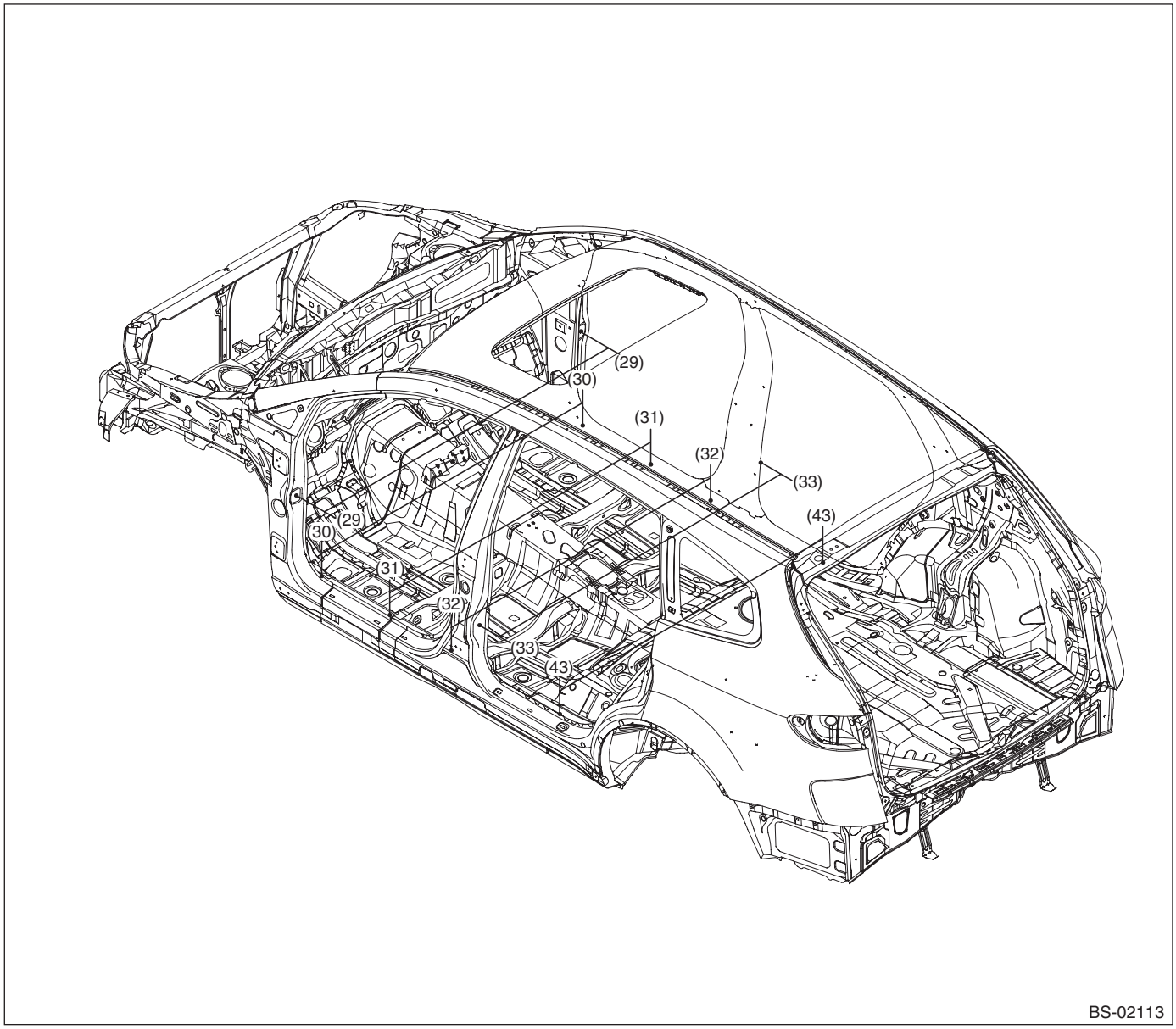
BS-01651


(62)
(49)
(48)
Ft
BS-01649


(59)
Ft
BS-01652

- View 2

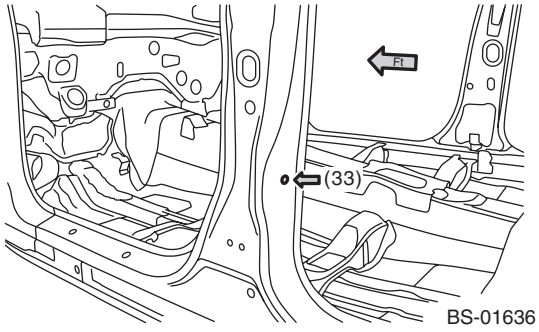


(29) Front door checker mounting hole (symmetrical)
(30) Harness clip attachment hole (symmetrical)
(31) Harness clip attachment hole (symmetrical)
(32) Harness clip attachment hole (symmetrical)
(33) Rear door checker mounting hole (symmetrical)

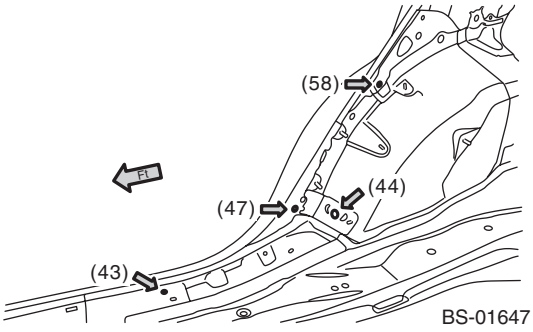
Point of measurement	Datum dimension mm (in)
(29) — (29)	1,566 (61.65)
(30) — (30)	1,439 (56.65)
(31) — (31)	1,439 (56.65)
(32) — (32)	1,429 (56.26)
(33) — (33)	1,553 (61.14)
(43) — (43)	1,452 (57.17)

NOTE:

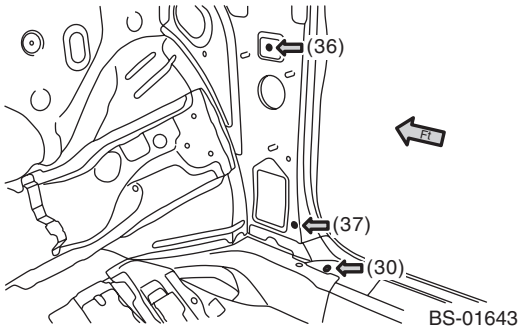
- All reference points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.



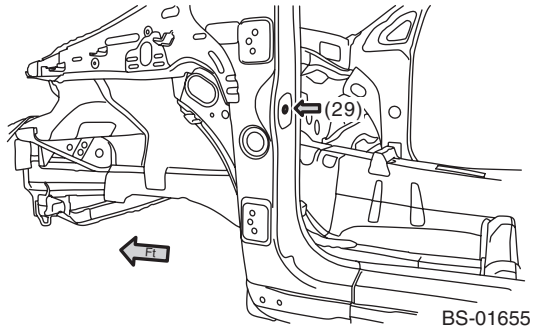
BS-01636



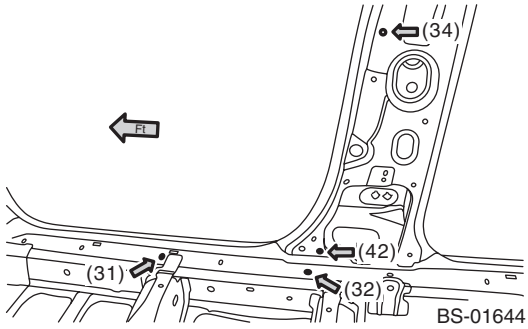
BS-01647



BS-01643

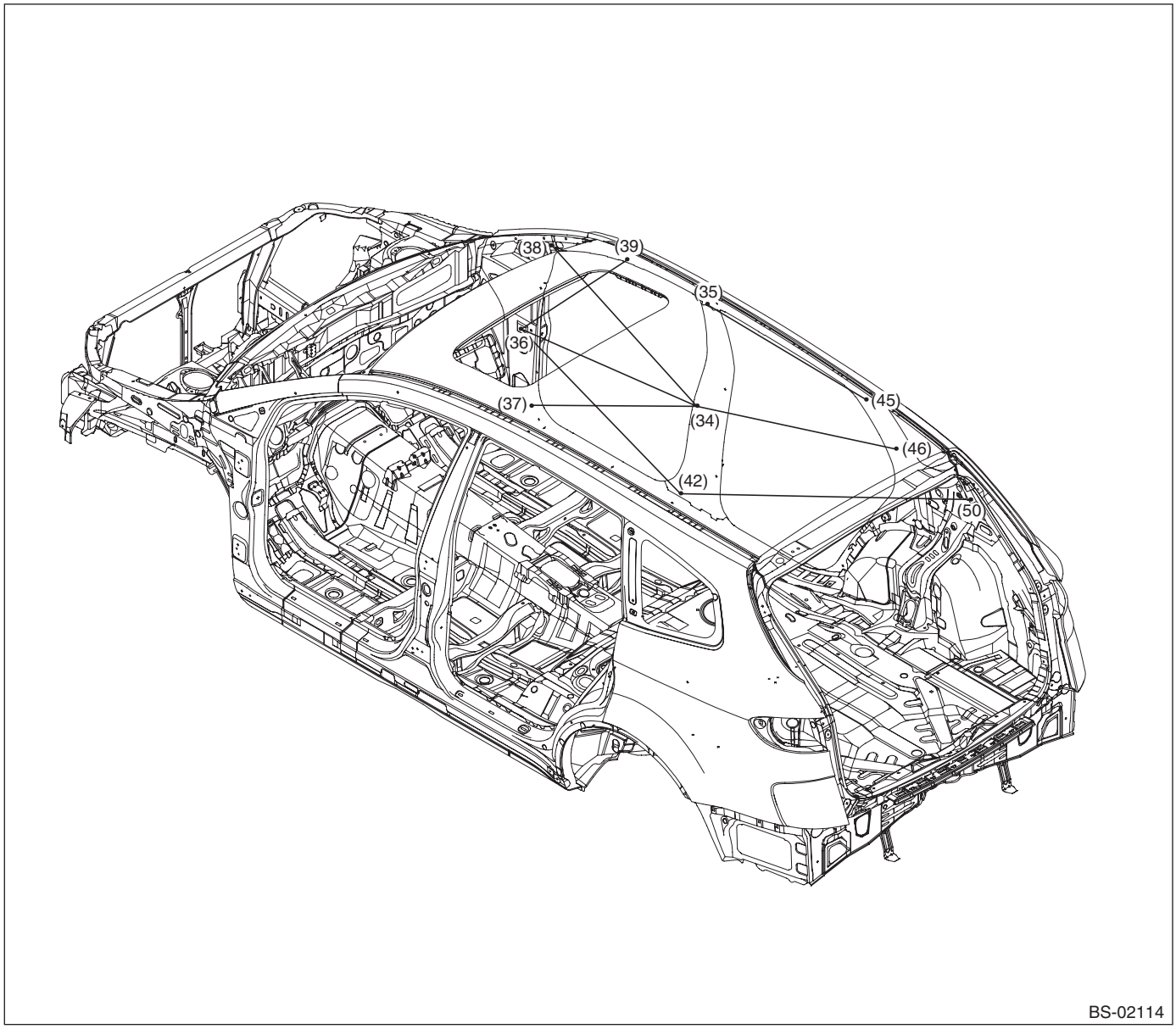


BS-01655



BS-01644

- View 3



(34) B pillar trim mounting hole (symmetrical), upper

(35) Center pillar trim mounting hole (symmetrical)

(36) Harness protector mounting hole (symmetrical)

(37) Side sill cover mounting hole (symmetrical)

(38) A pillar trim mounting hole (symmetrical)

(39) A pillar pad mounting hole (symmetrical)

(42) B pillar trim mounting hole (symmetrical), lower

(45) C pillar trim mounting hole (symmetrical)

(46) Adjuster mounting hole (symmetrical)

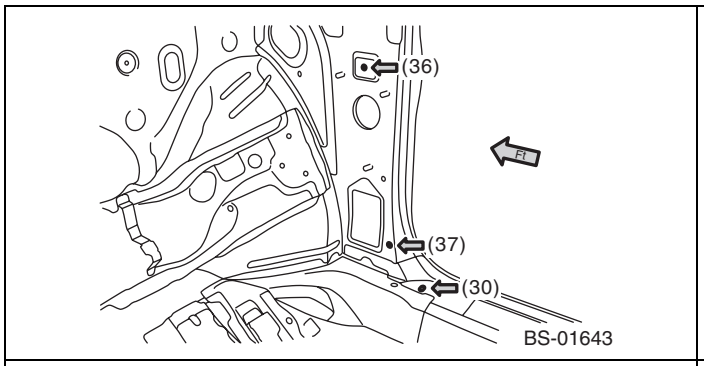
(50) Assemblies hole (symmetrical)

Datum Dimensions

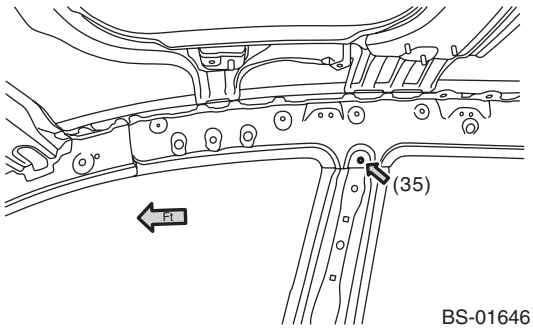
Point of measurement	Datum dimension mm (in)
(34) RH — (36) RH	979 (38.54)
(34) RH — (37) RH	1,018 (40.08)
(34) RH — (38) RH	871 (34.29)
(34) RH — (46) RH	1,154 (45.43)
(35) RH — (45) RH	860 (33.86)
(36) RH — (39) RH	999 (39.33)
(36) RH — (42) RH	941 (37.05)
(42) RH — (50) RH	2,030 (79.92)

NOTE:

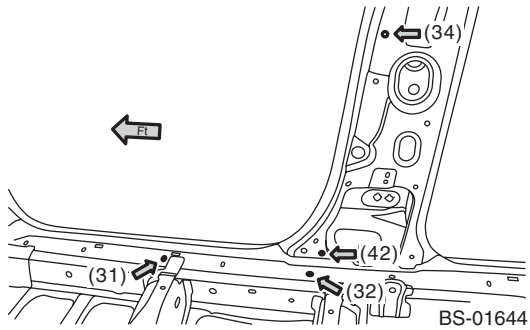
- All reference points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.



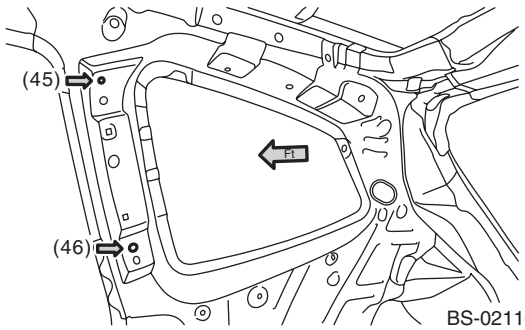
BS-01643



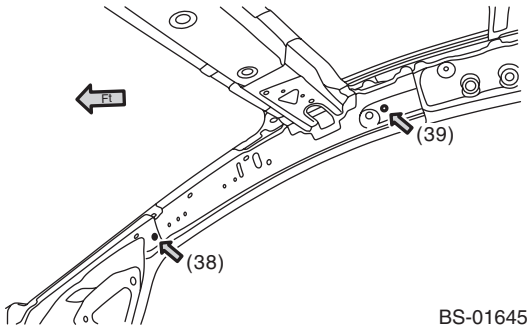
BS-01646



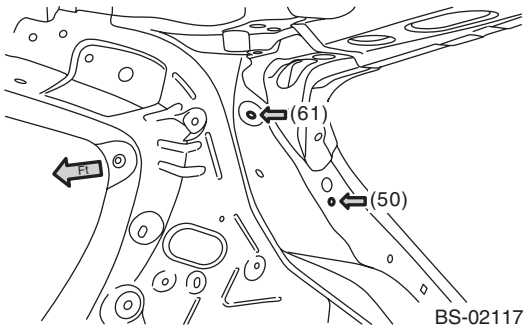
BS-01644



BS-02116

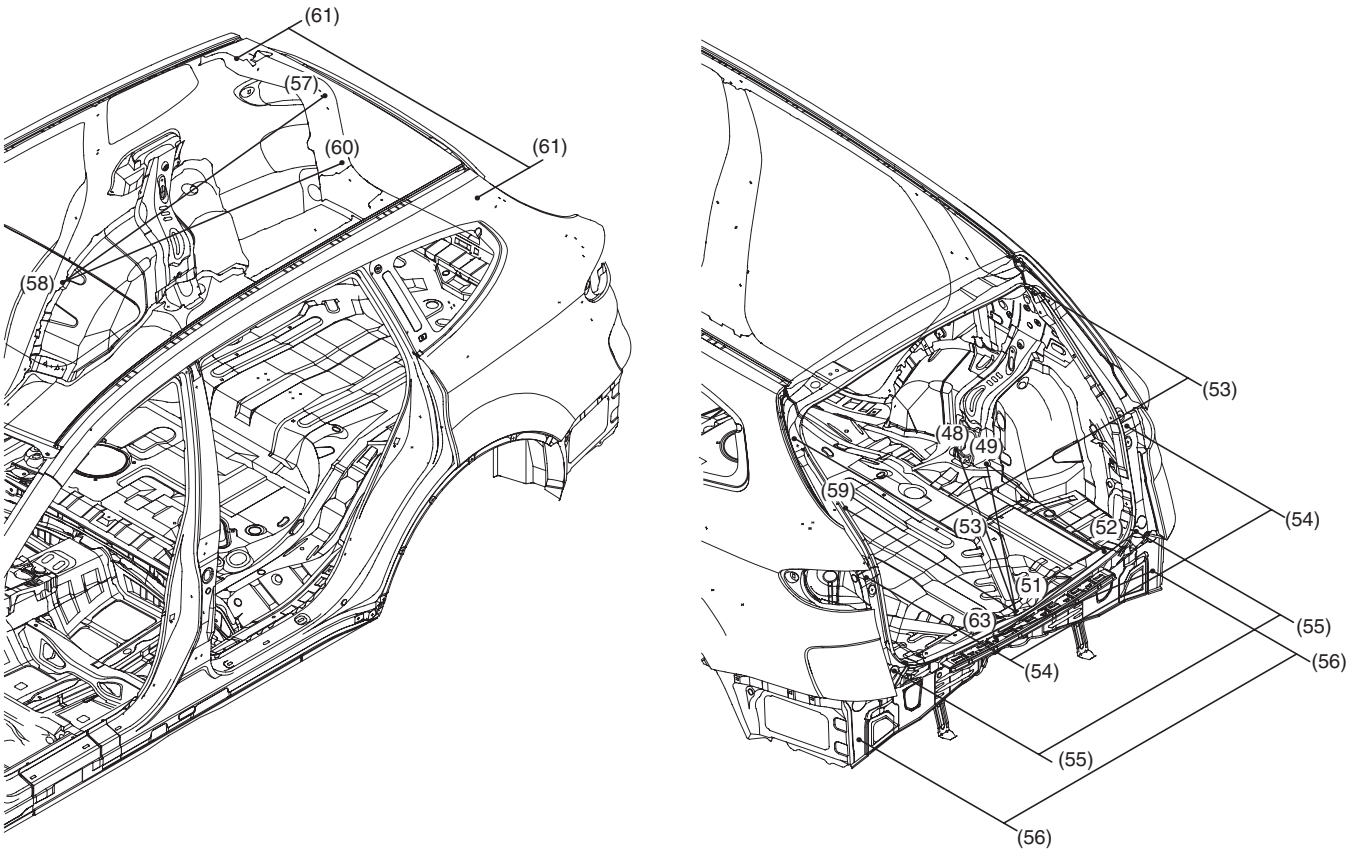


BS-01645



BS-02117

4. REAR



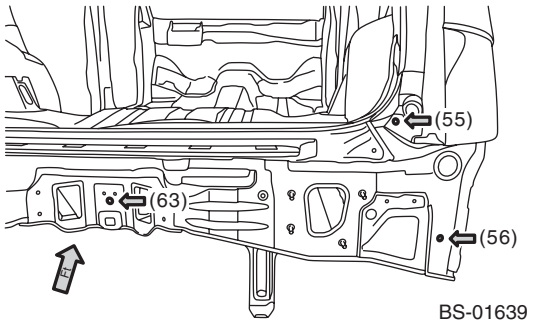
(51) Paint drain hole
(52) Edge rear mounting hole (symmetrical)
(53) Rear gate stay mounting hole (symmetrical), upper
(54) Gauge hole (symmetrical)
(55) D pillar cover mounting hole (symmetrical)
(56) Gauge hole (symmetrical)
(57) Retractor mounting hole (symmetrical)
(58) Trim mounting hole (symmetrical)
(60) Apron trim mounting hole (symmetrical)
(61) Harness mounting hole (symmetrical)
(63) Gauge hole

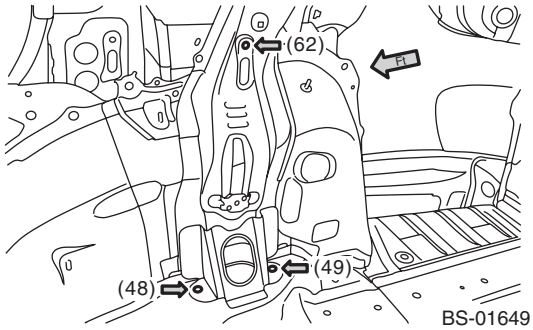
Datum Dimensions

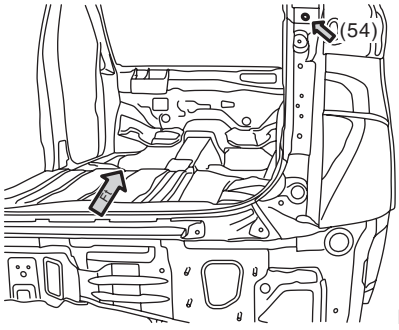
Point of measurement	Datum dimension mm (in)
(48) RH — (51)	1,022 (40.24)
(49) RH — (51)	909 (35.79)
(49) RH — (52) RH	724 (28.50)
(51) — (59) RH	886 (34.88)
(53) — (53)	1,165 (45.87)
(54) — (54)	1,220 (48.03)
(55) — (55)	1,130 (44.49)

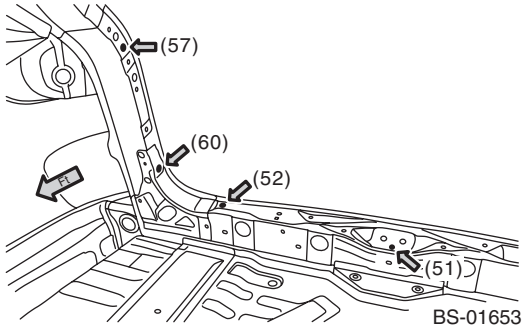
Point of measurement	Datum dimension mm (in)
(55) RH — (63)	602 (23.70)
(56) — (56)	1,369 (53.90)
(56) RH — (63)	688 (27.09)
(57) RH — (58) RH	1,107 (43.58)
(58) RH — (60) RH	1,136 (44.72)
(61) — (61)	1,127 (44.37)

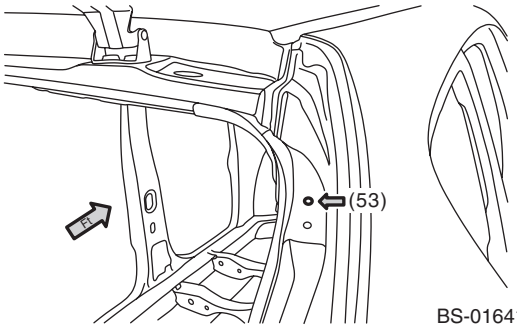
NOTE:
- The reference points (51) and (63) are at the body center, while the other points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.

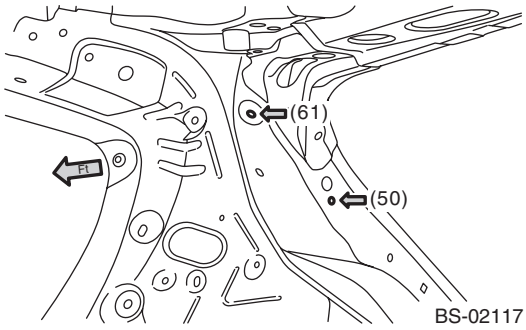


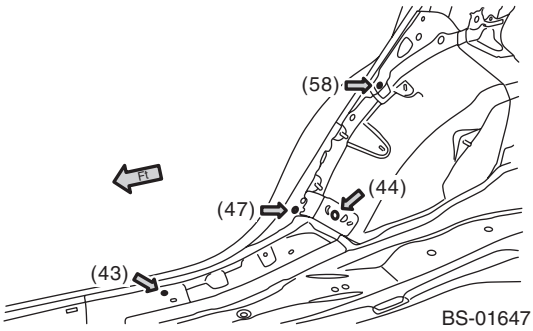




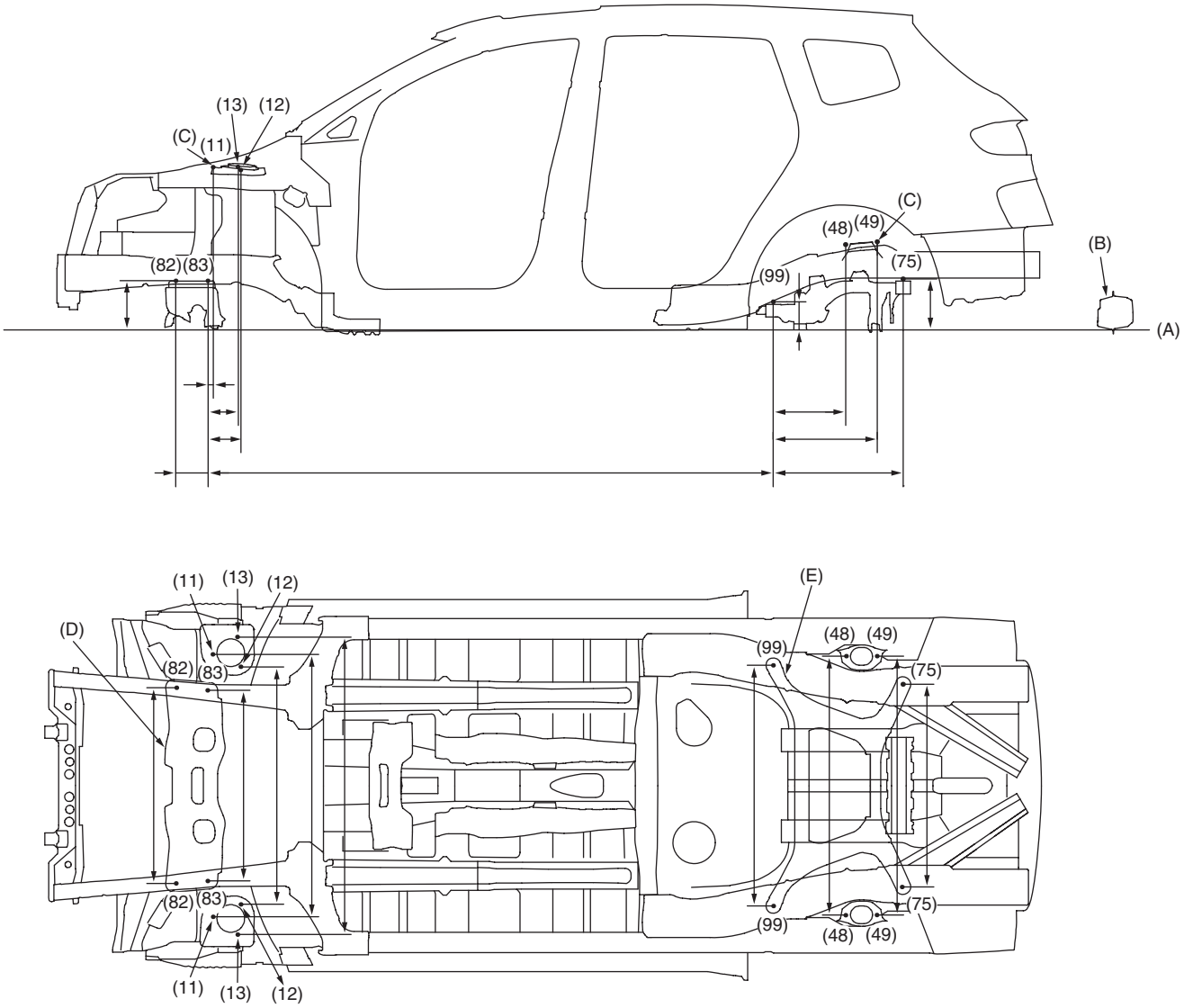








5. SUSPENSION MOUNT



BS-02118

Datum Dimensions

(A) Standard line
(B) Side sill
(C) Upper face
(D) Crossmember
(E) Sub frame

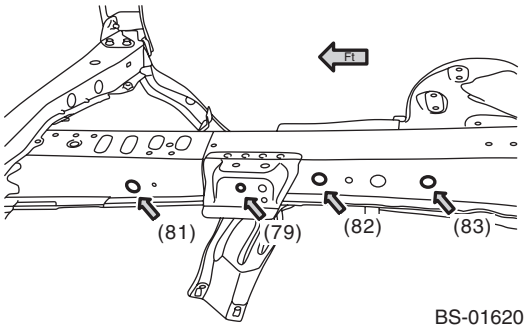
(11) Strut mount mounting hole (symmetrical), front
(12) Strut mount mounting hole (symmetrical), rear inside
(13) Strut mount mounting hole (symmetrical), rear outside
(48) Damper mounting hole (symmetrical), front
(49) Damper mounting hole (symmetrical), rear
(75) Sub frame mounting hole (symmetrical)
(82) Front crossmember mounting hole (symmetrical), front
(83) Front crossmember mounting hole (symmetrical), rear
(99) Sub frame mounting hole (symmetrical)

Datum Dimensions

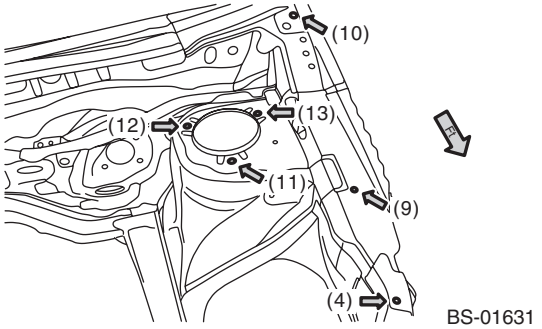
Point of measurement	Datum dimension mm (in)
Datum line — (75)	225 (8.86)
Datum line — (82)	218 (8.58)
Datum line — (83)	218 (8.58)
Datum line — (99)	124 (4.88)
(11) — (83)	23 (0.91)
(12) — (83)	144 (5.67)
(13) — (83)	132 (5.20)
(48) — (99)	319 (12.56)
(49) — (99)	459 (18.07)
(75) — (99)	573 (22.56)
(82) — (83)	144 (5.67)

Point of measurement	Datum dimension mm (in)
(83) — (99)	2,492 (98.11)
(11) — (11)	1,156 (45.51)
(12) — (12)	1,046 (41.18)
(13) — (13)	1,311 (51.61)
(48) — (48)	1,139 (44.84)
(49) — (49)	1,139 (44.84)
(75) — (75)	895 (35.24)
(82) — (82)	862 (33.94)
(83) — (83)	840 (33.07)
(99) — (99)	1,060 (41.73)

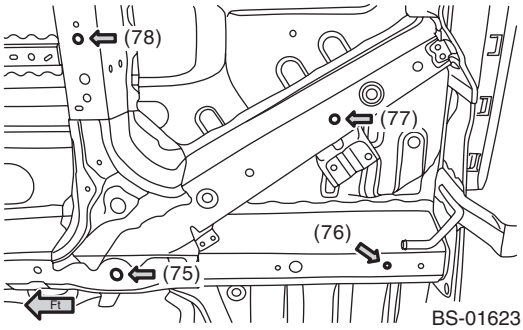
NOTE:
- All reference points are left-right symmetrical.
- Longitudinal dimensions are projected dimensions.
- The height dimensions are the vertical distances from the gauge point on the assumed horizontal line through the side sill flange joint (bending angle point).
- The left and right dimensions are the actual dimensions between reference points.



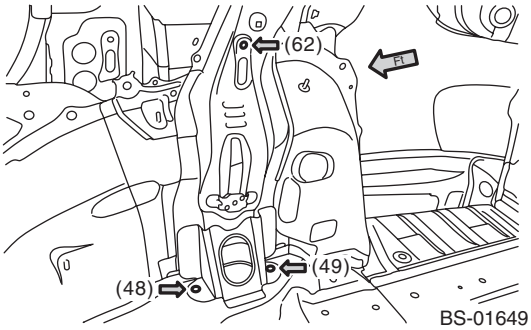
BS-01620



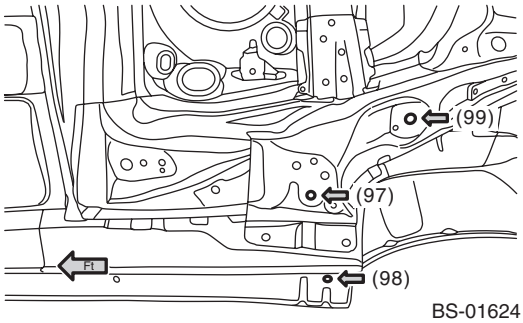
BS-01631



BS-01623



BS-01649

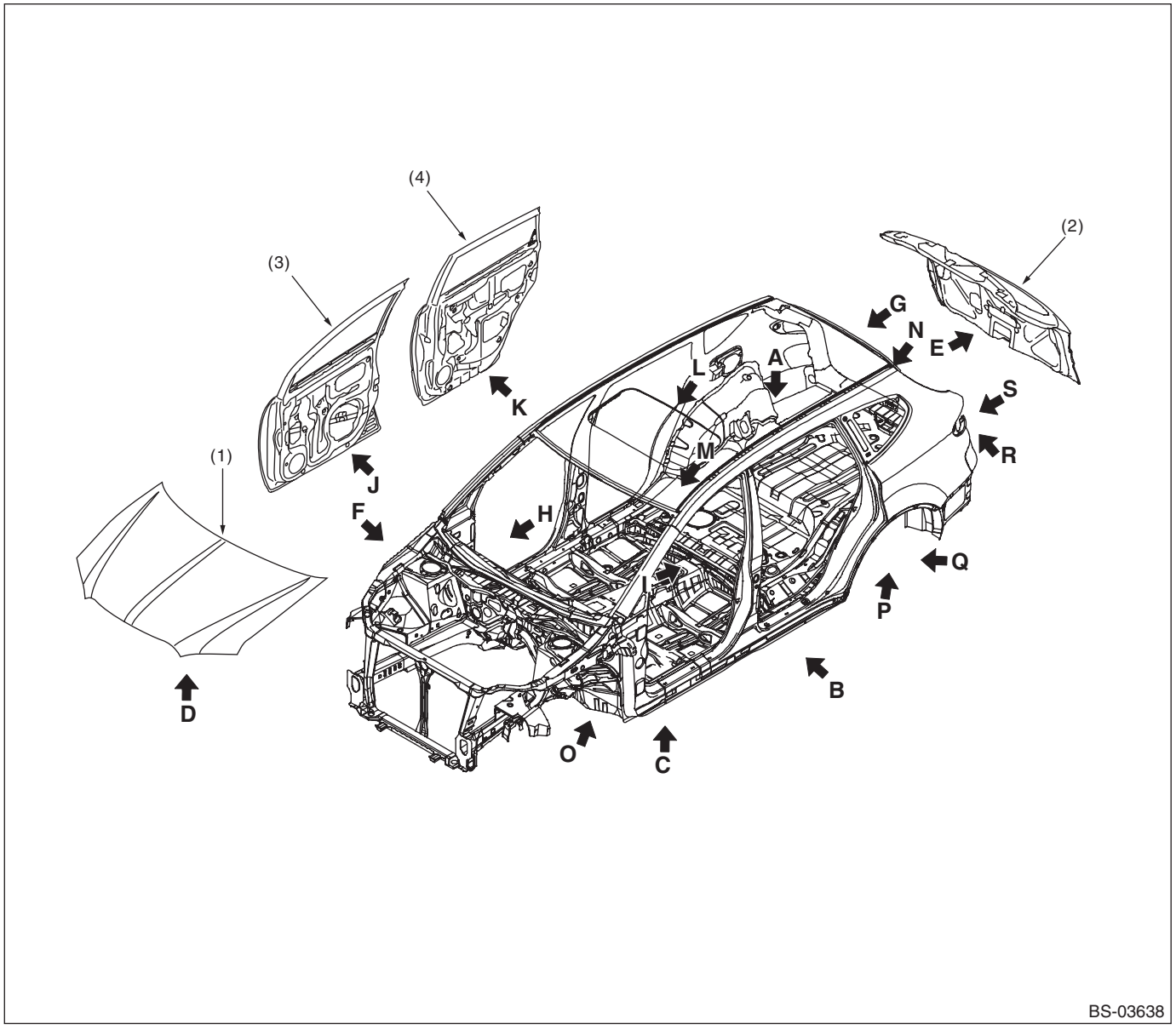


BS-01624

3. Body Sealing

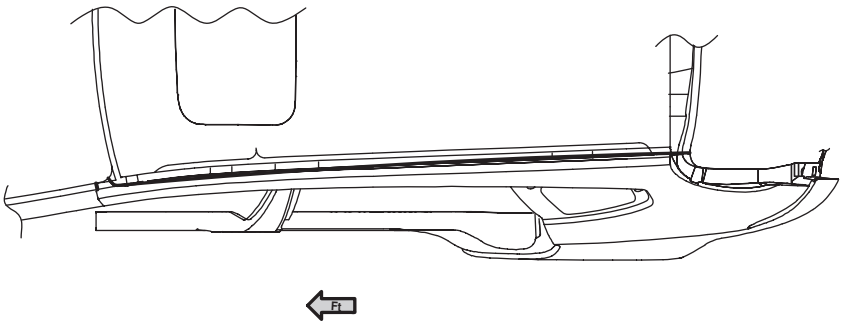
A: SPECIFICATION

Used material:
THREE BOND 4101 (004403063)
▬▬: Sealing application locations



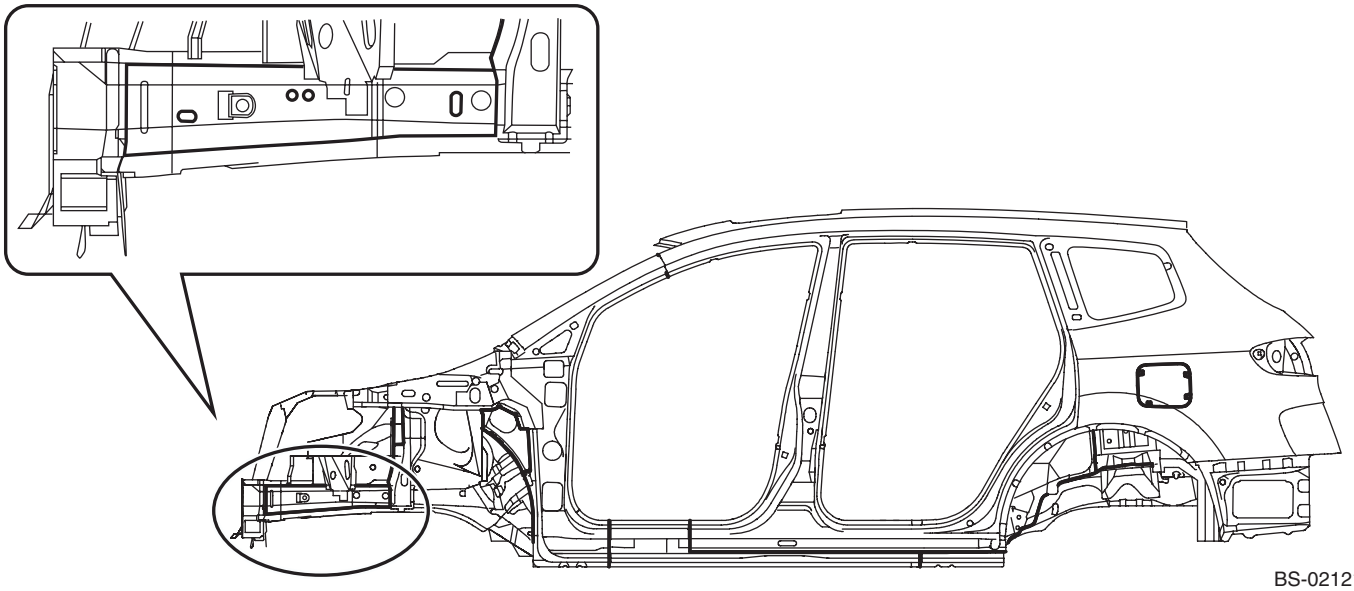
(1) Front hood
(2) Rear gate
(3) Front door
(4) Rear door

View A



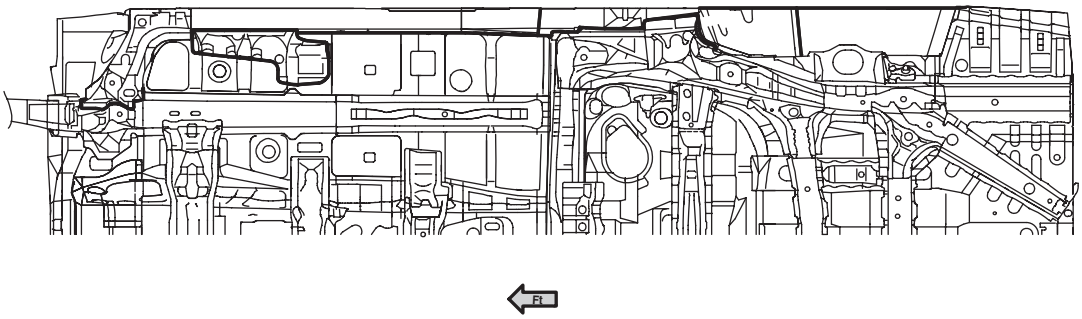
BS-02120

View B



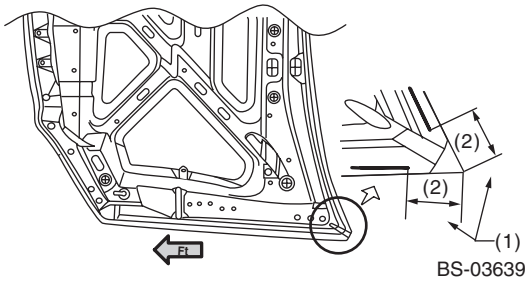
BS-02121

View C



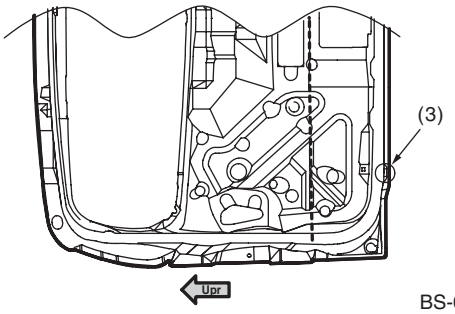
BS-01659

View D



BS-03639

View E



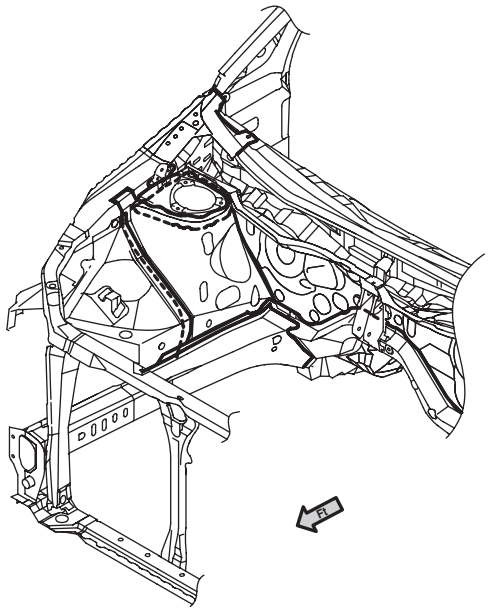
BS-01661

(1) Application not required.

(2) 50 mm (1.97 in)

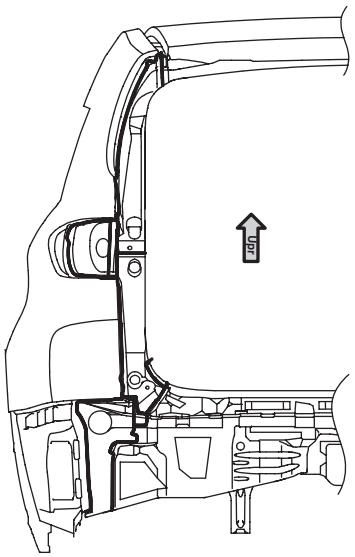
(3) Do not block the water drain hole.

View F



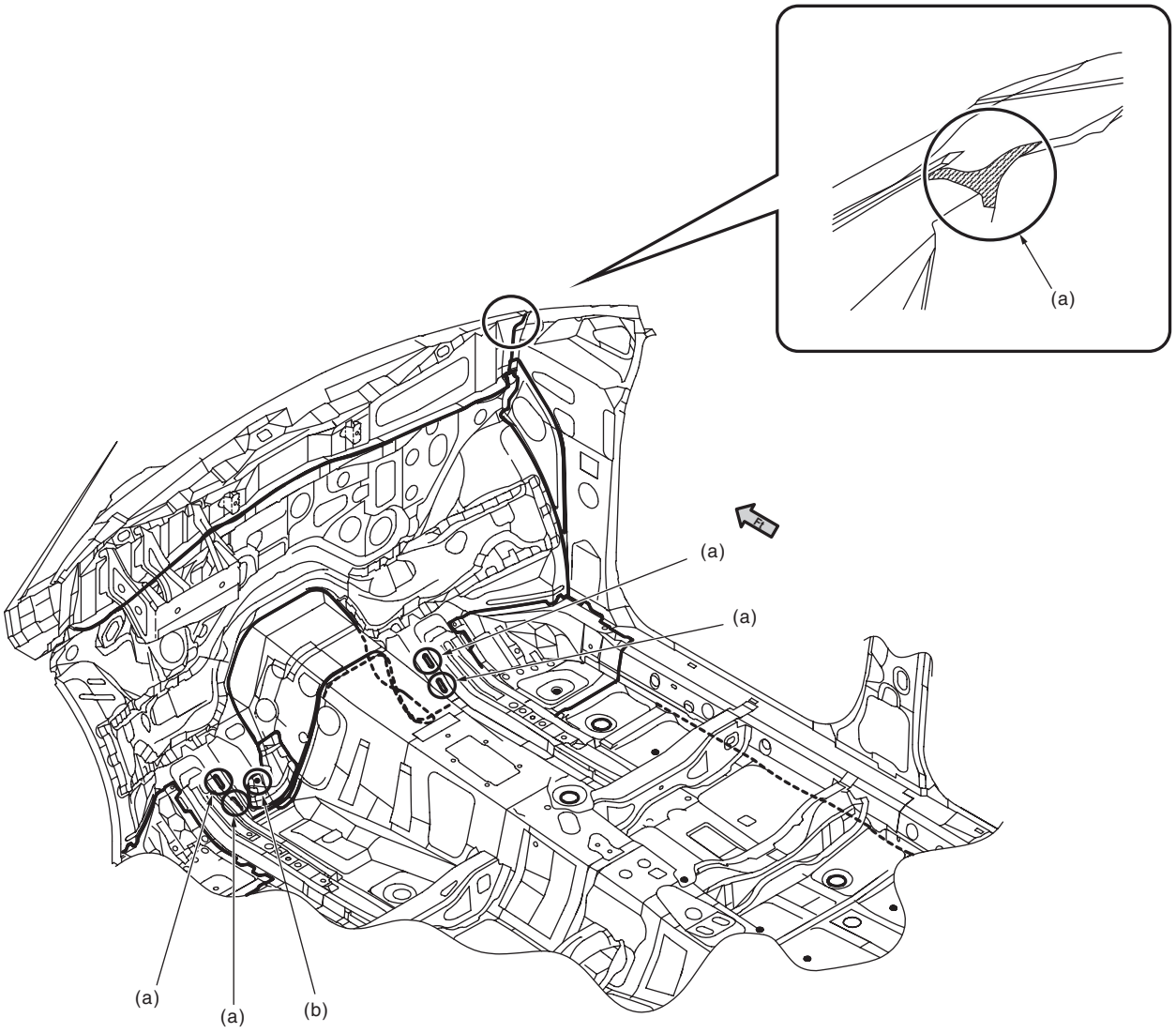
BS-01662

View G



BS-01663

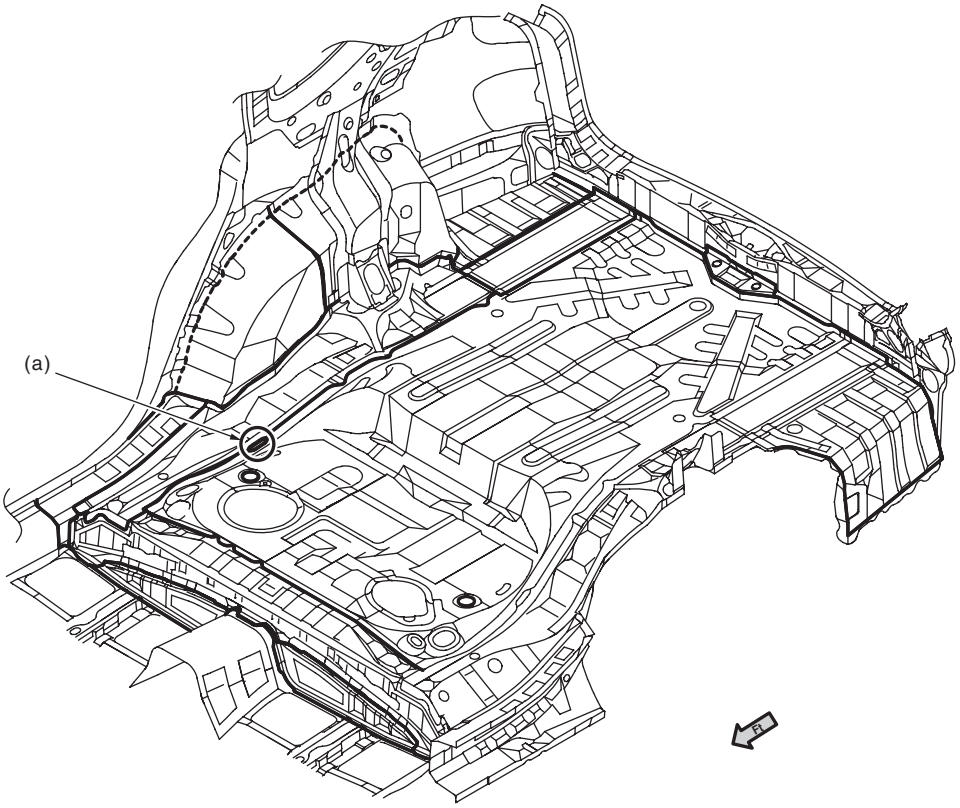
View H



(a) The holes shall be blocked.

(b) The holes shall be blocked.
LH side: one location
RH side: two locations

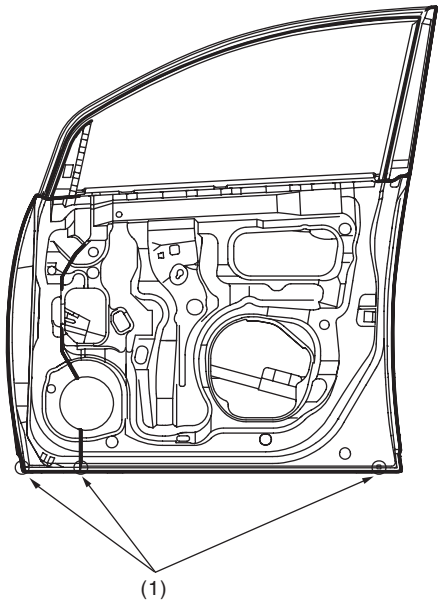
View I



BS-01707

(a) The holes shall be blocked.

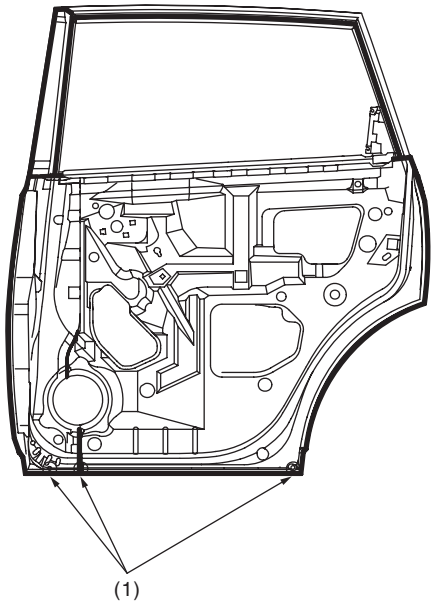
View J



BS-02122

(1) Do not block the water drain holes.

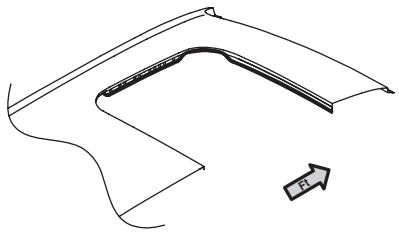
View K



BS-02123

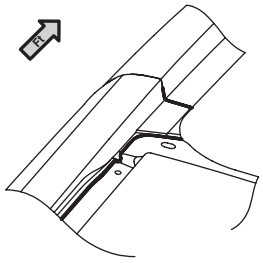
(1) Do not block the water drain holes.

View L



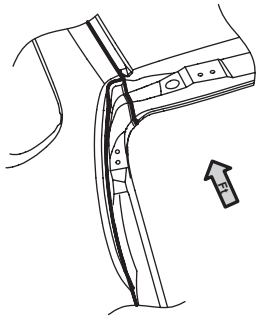
BS-01668

View M



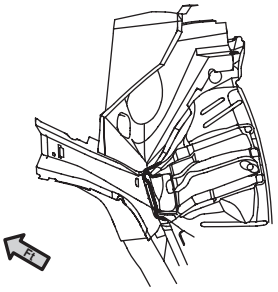
BS-01669

View N



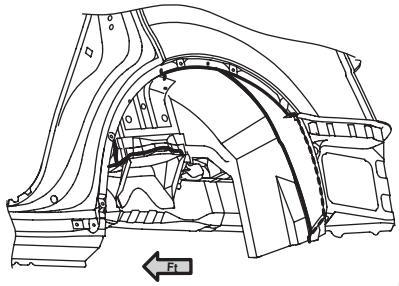
BS-01670

View O



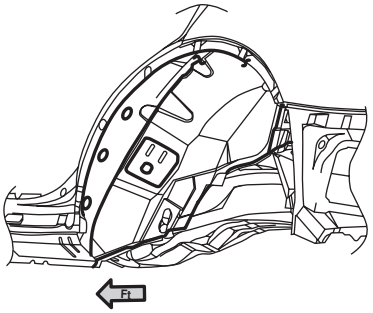
BS-01671

View P



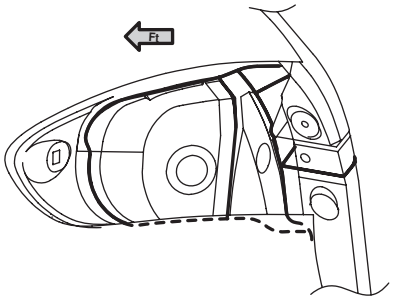
BS-01708

View Q



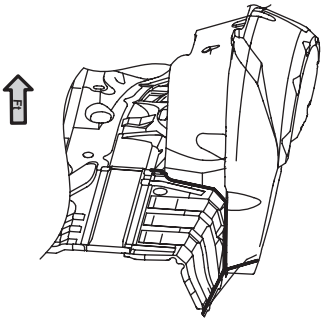
BS-01709

View R



BS-01674

View S



BS-01675

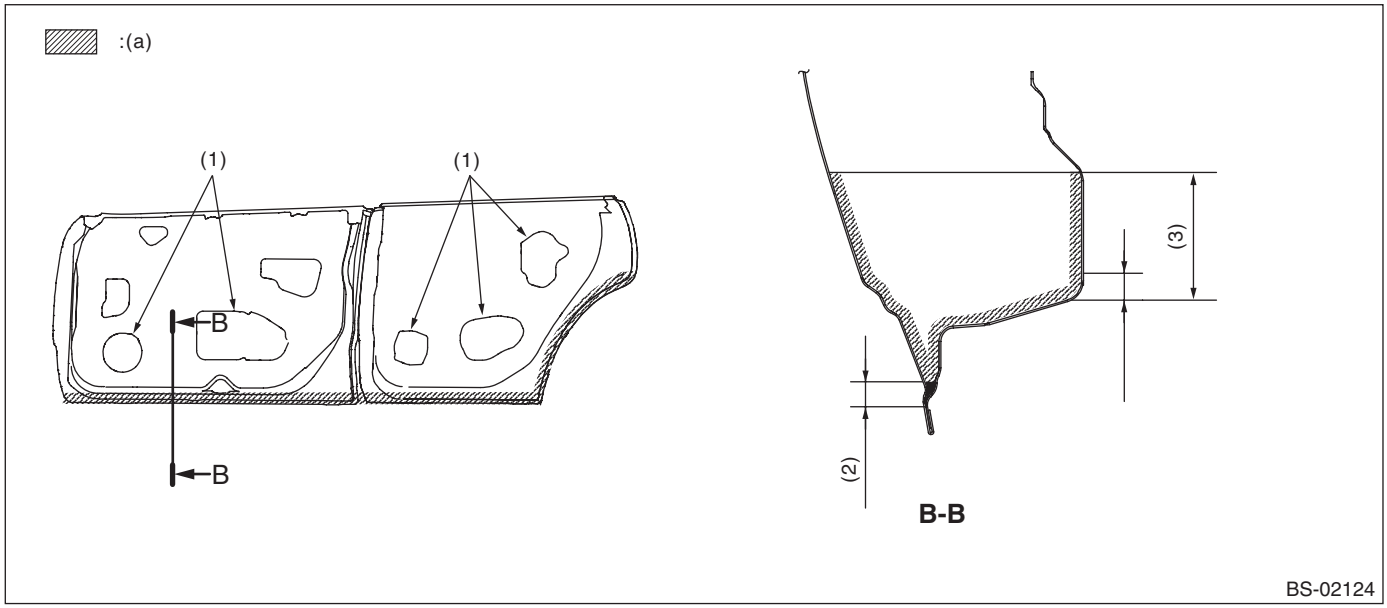
4. Anticorrosion Wax

A: SPECIFICATION

Used material:
Rust-stop aerosol (K0877YA015)

: Application area

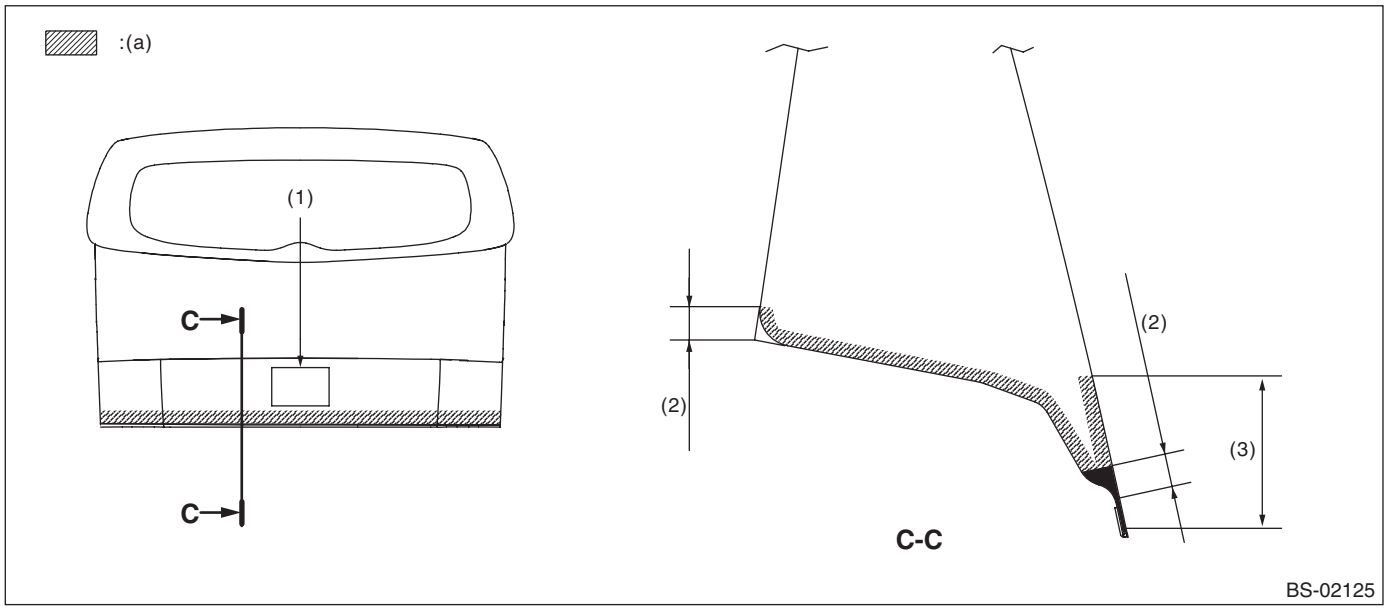
- Door (Application thickness = 20 μm or more)



(a) Rust-stop aerosol

(1) Wax application work openings (2) 10 mm (0.39 in) (3) 50 mm (1.97 in)

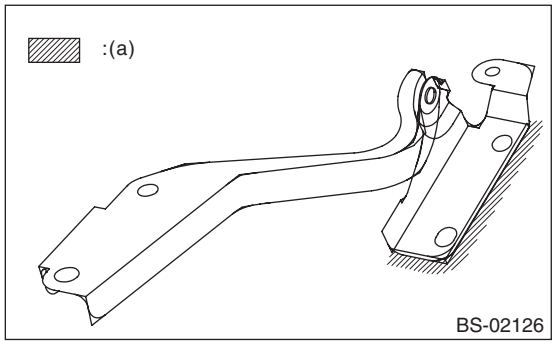
- Rear gate (Application thickness = 15 μm or more)



(a) Rust-stop aerosol

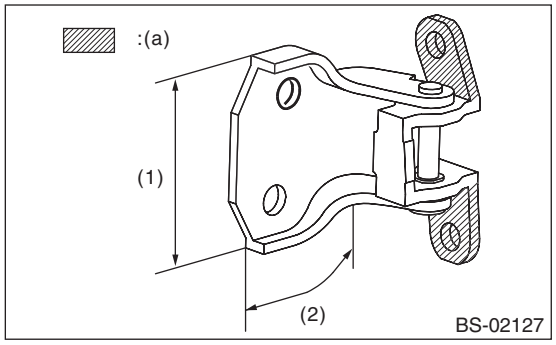
(1) Wax application work openings (2) 10 mm (0.39 in) (3) 50 mm (1.97 in)

• Front hood hinge (Application thickness = 15 μm or more)
Apply around the installation outer circumference (indicated range) at two locations on the left and right.



(a) Rust-stop aerosol

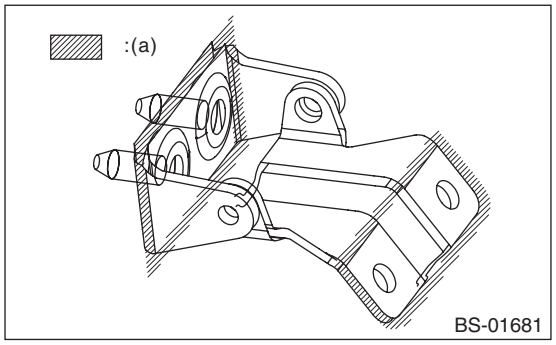
• Door hinge (Application thickness = 15 μm or more)
Apply to the installation outer circumference (indicated range) at two locations at the top and bottom (eight locations in all).



(a) Rust-stop aerosol

(1) Application thickness of 15 μm or less is acceptable only on the front door hinge
(2) Application thickness of 15 μm or less is acceptable both on the front and rear door hinge

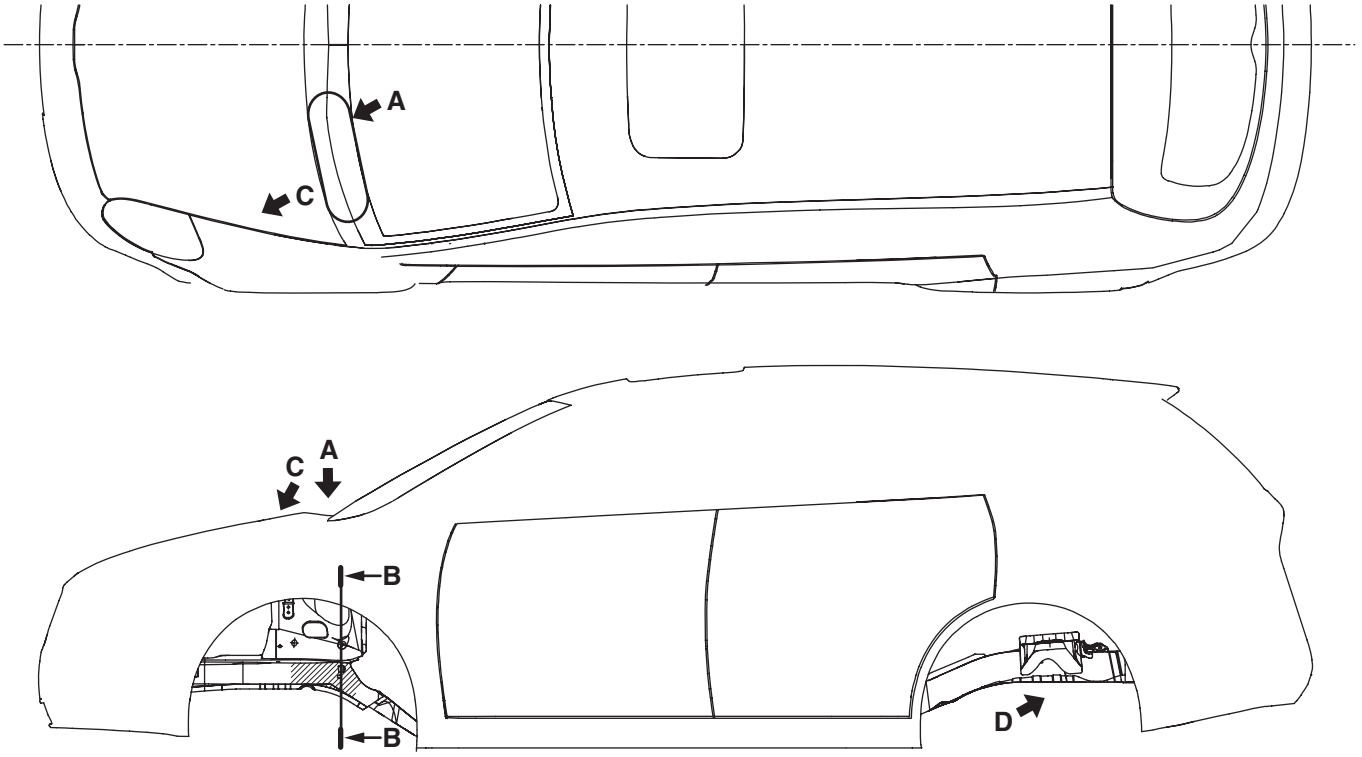
• Rear gate hinge (Application thickness = 15 μm or more)
Apply around the installation outer circumference (plate edges) at two locations on the left and right.



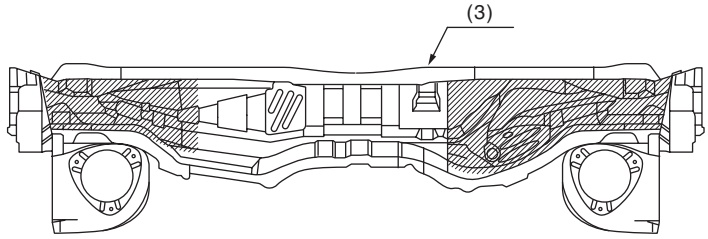
(a) Rust-stop aerosol

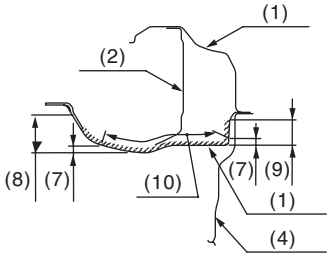
- Overall view 1

:(a)

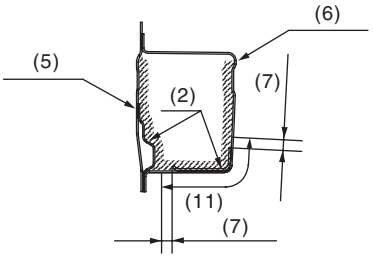


(A)





(B)



BS-01682

(a) Rust-stop aerosol

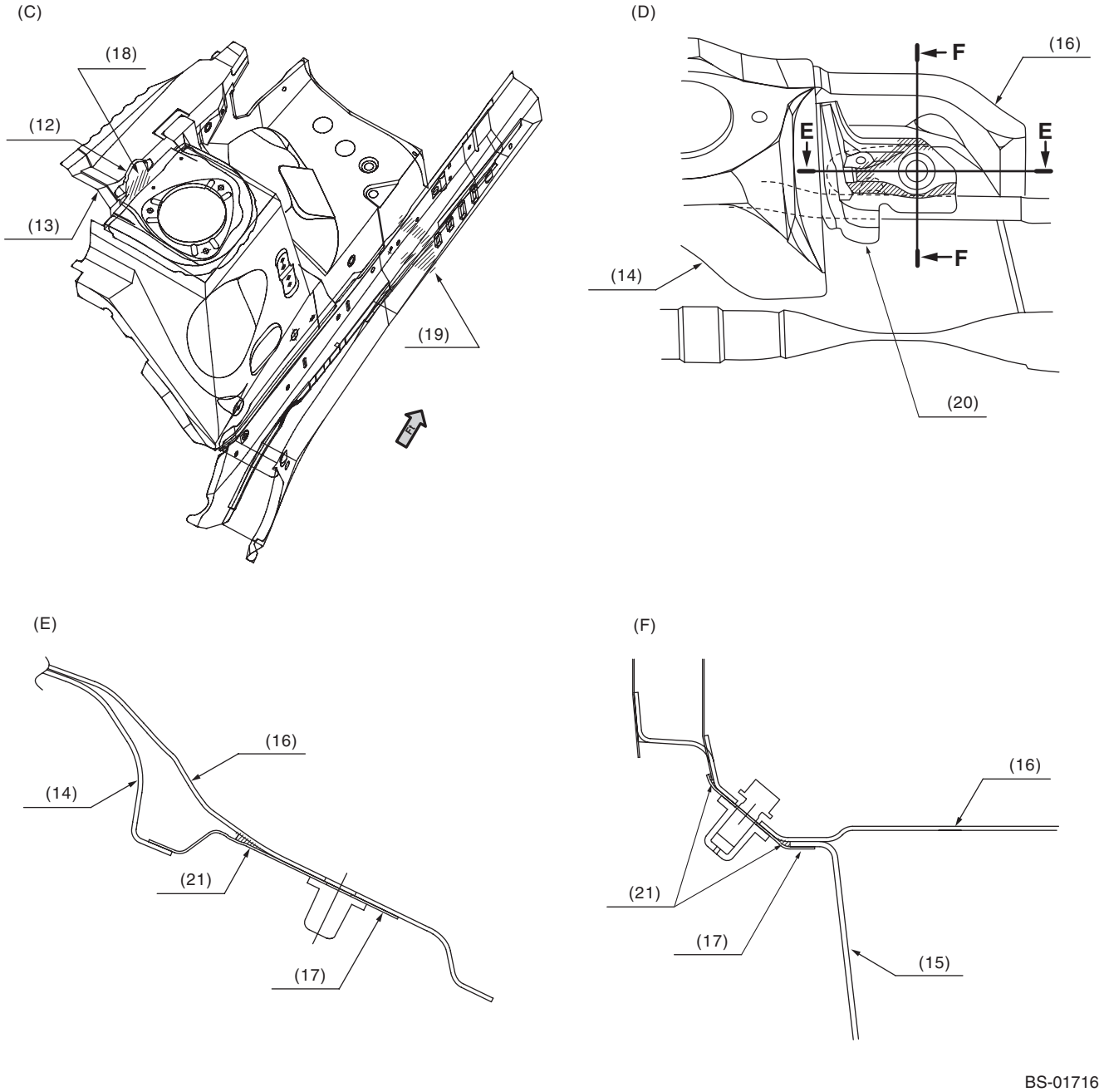
(A) View A (Application thickness = 20 µm or more)

(B) Cross section B — B (Application thickness = 15 µm or more)

(1) Front panel
(2) Reinforcement
(3) Bulkhead
(4) Toe board
(5) Closing plate
(6) Side frame
(7) 10 mm (0.39 in)
(8) 50 mm (1.97 in)
(9) 35 mm (1.38 in)
(10) Application thickness = 50 µm or more
(11) Application thickness = 50 µm or more
(Reinforcement mating surface)

- Overall view 2

:(a)



BS-01716

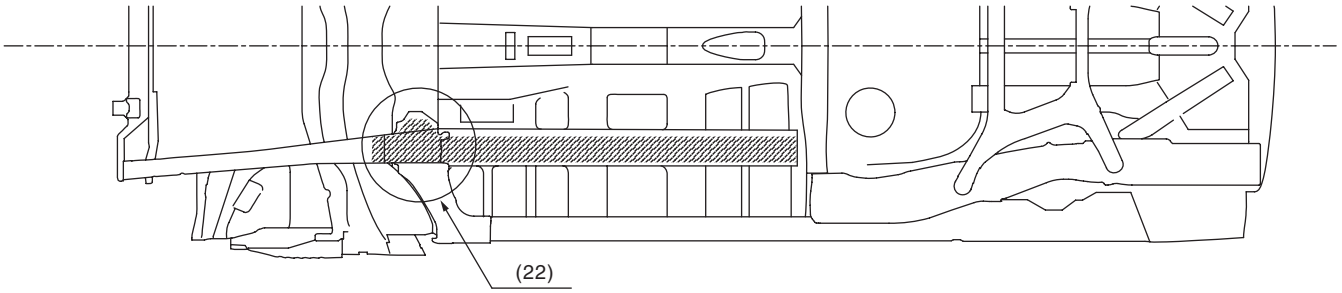
(a) Rust-stop aerosol

(C) View C
(D) View D
(E) Cross section E — E
(F) Cross section F — F

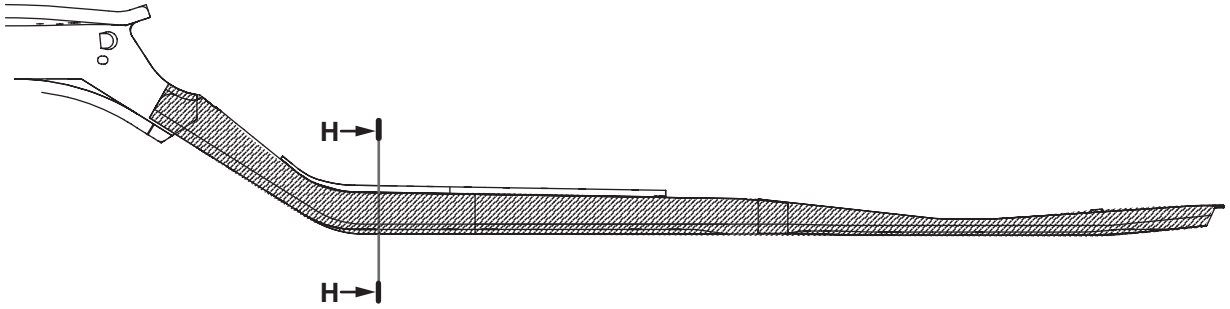
(12) Hood stay bracket
(13) Wheel apron upper
(14) Damper bracket
(15) Side frame
(16) Closing plate
(17) Anchor bracket
(18) Apply to the mating surface and between the hood stay bracket wheel apron upper. (Application thickness = 15 µm or more)
(19) Apply to the side frame welded seam. (Application thickness = 15 µm or more)
(20) Third-row seat anchor bracket
(21) Application area

- Bottom view

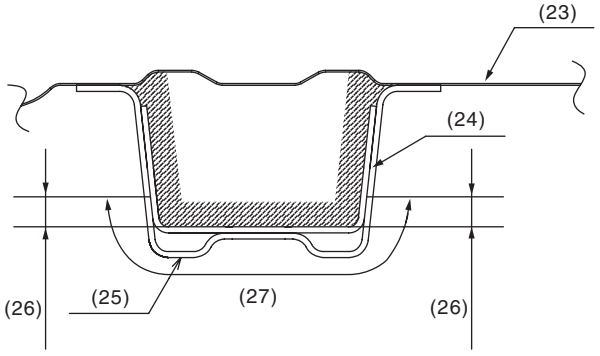
:(a)



(G)



(H)



BS-01710

(a) Rust-stop aerosol

(G) Side frame side view

(H) Cross section H — H (Application thickness = 20 μm or more)

(22) Apply to the inside of suspension bracket.

(23) Floor pan

(24) Reinforcement

(25) Side frame

(26) 10 mm (0.39 in)

(27) Application thickness = 50 μm or more

5. Under Coat

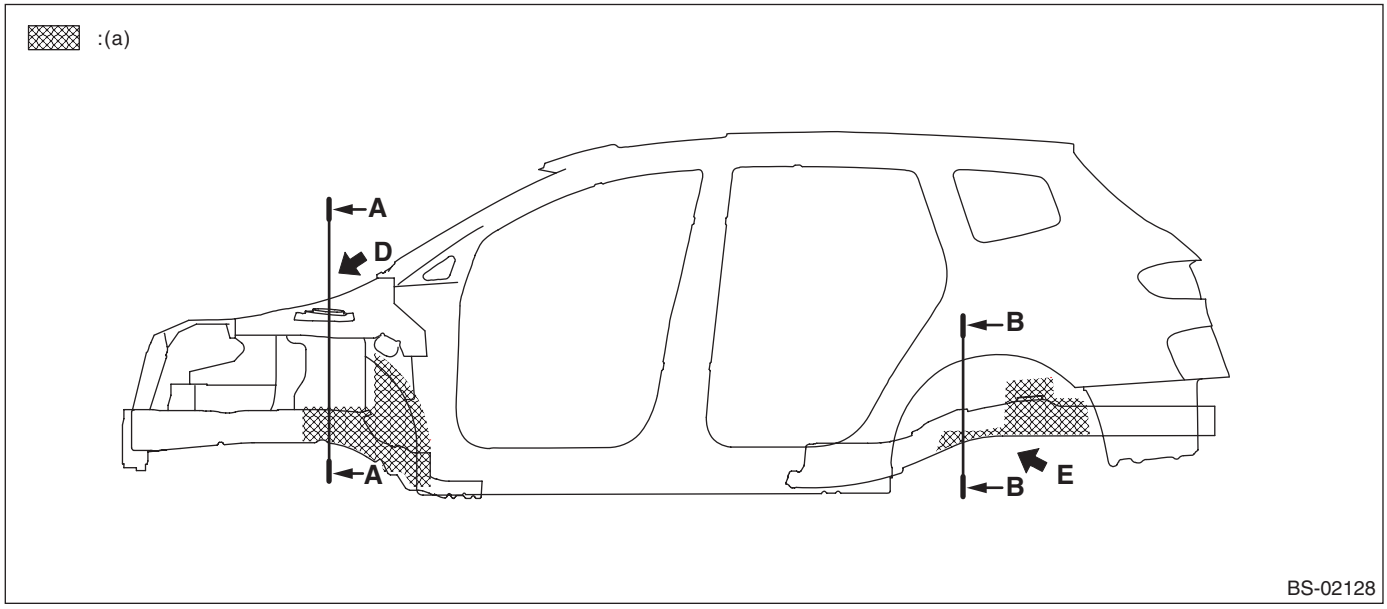
A: SPECIFICATION

Repair material:
THREE BOND 6115

1) Take care that under coat does not attach to the locations other than shown in the figures and to the following locations.
• High-temperature parts related to the exhaust pipe
• Hoses, tubes, and harness parts
• Installation surfaces of rear suspension, transmission, subframe, etc.
2) Application area and application thickness

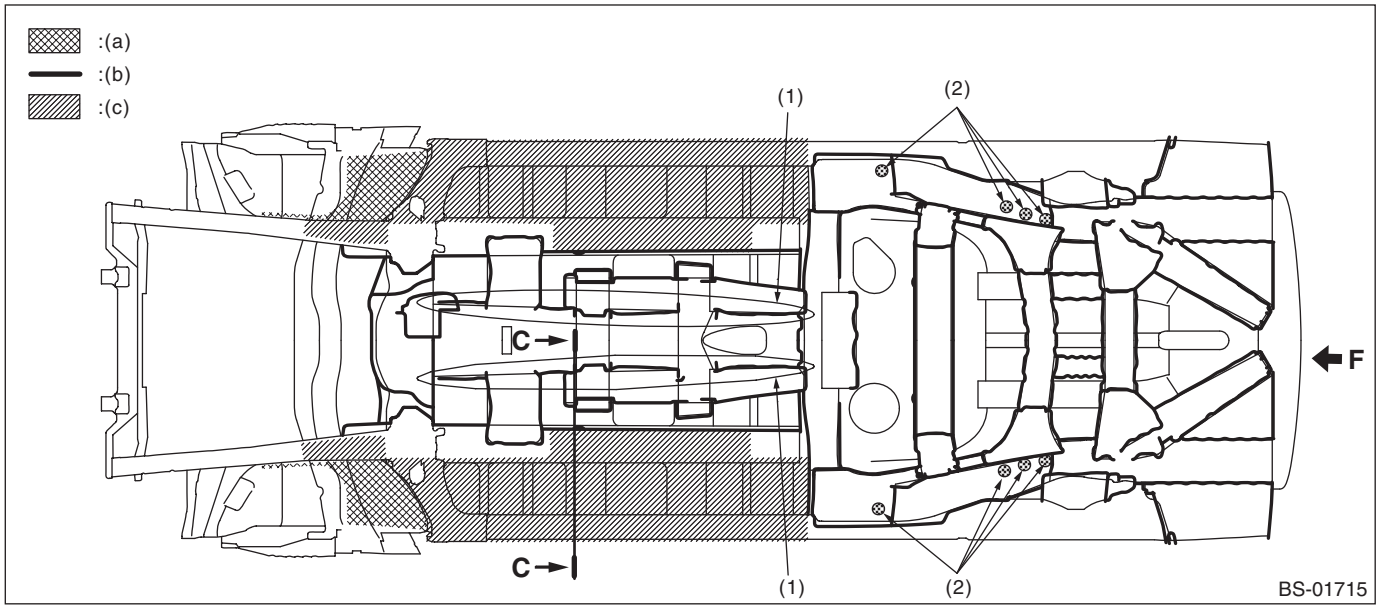
	300 μm or more
	600 μm or more

• Side view



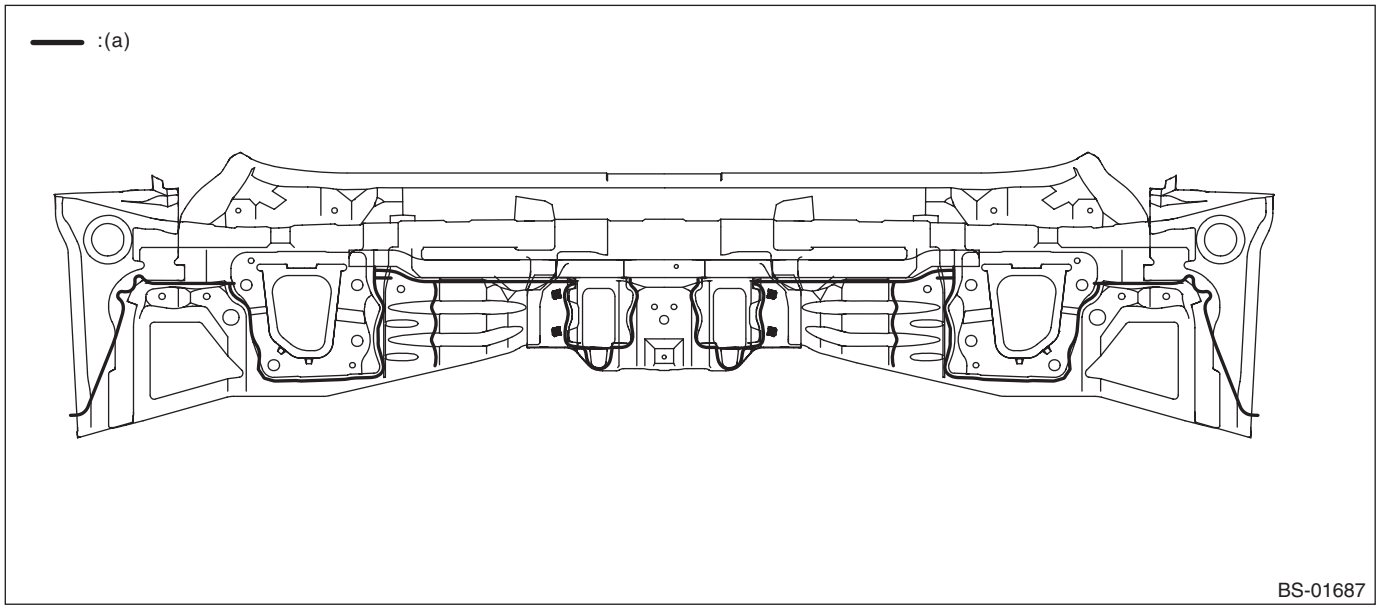
(a) 600 μm or more

- Bottom view



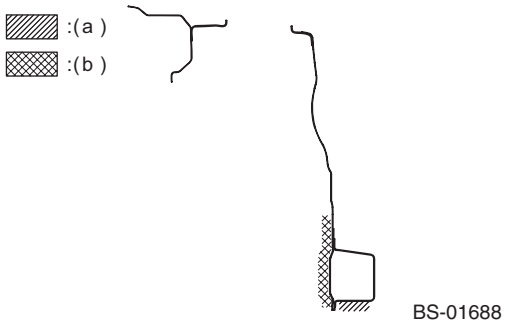
(a) 600 µm or more
(b) 600 µm or more
(c) 300 µm or more

(1) Film thickness in this area should be 200 µm or more.
(2) Apply to the grommet.



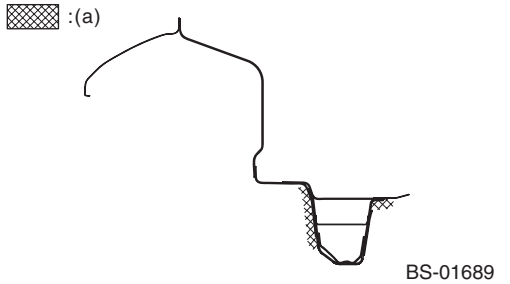
(a) 600 µm or more

Cross section A — A



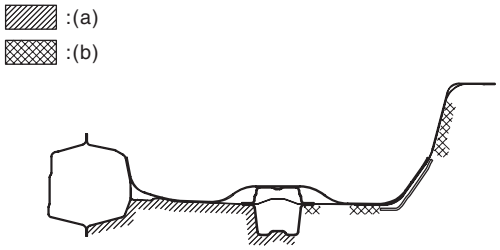
(a) 300 µm or more
(b) 600 µm or more

Cross section B — B



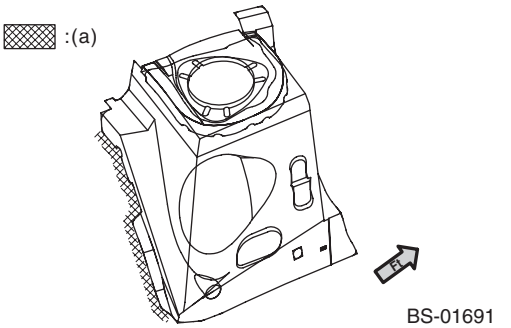
(a) 600 µm or more

Cross section C — C (rotated 90°)



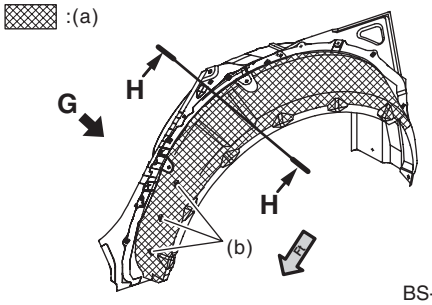
(a) 300 µm or more
(b) 600 µm or more

View D



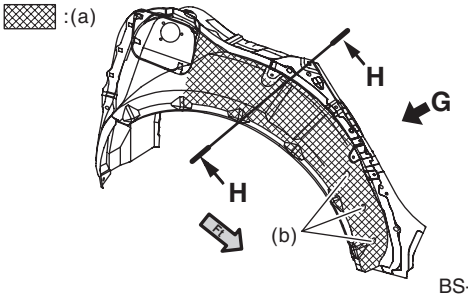
(a) 600 µm or more

View E (LH)



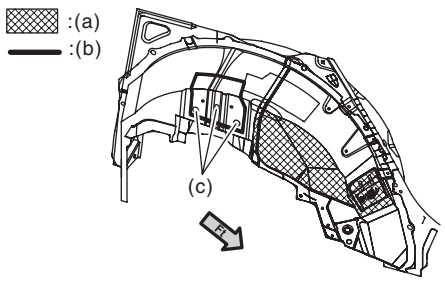
(a) 600 µm or more
(b) Also apply to the grommets.

View E (RH)



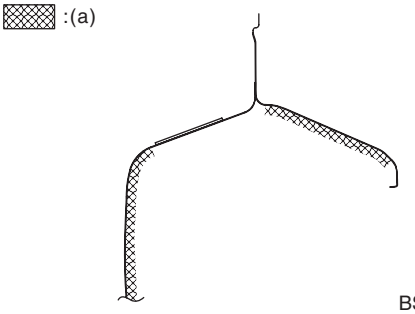
(a) 600 µm or more
(b) Also apply to the grommets.

View G (LH, RH)



(a) 600 µm or more
(b) 600 µm or more
(c) The holes shall be blocked.

Cross section H — H

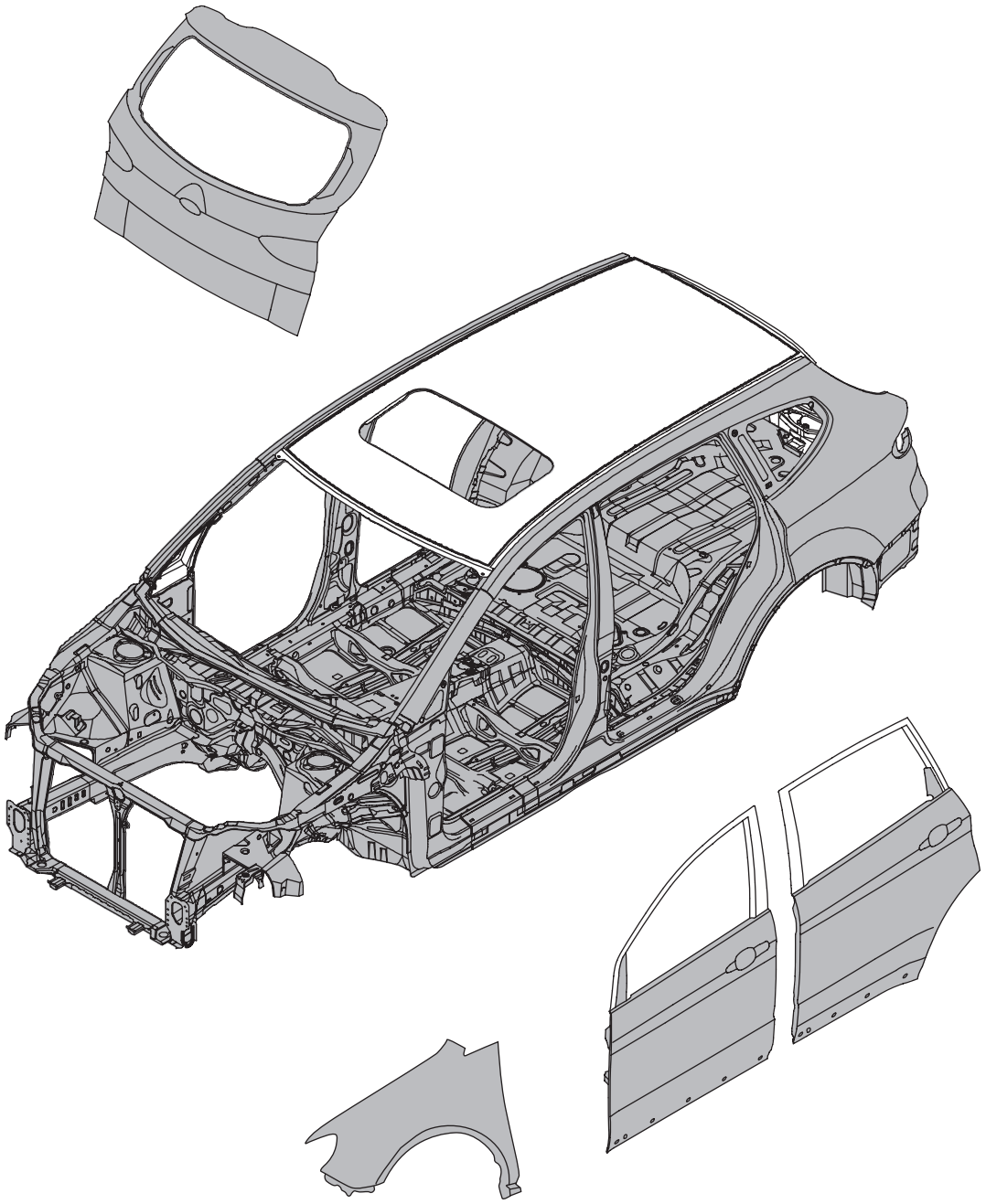


(a) 600 µm or more

6. Galvanized Sheet Metal

A: SPECIFICATION

(1)

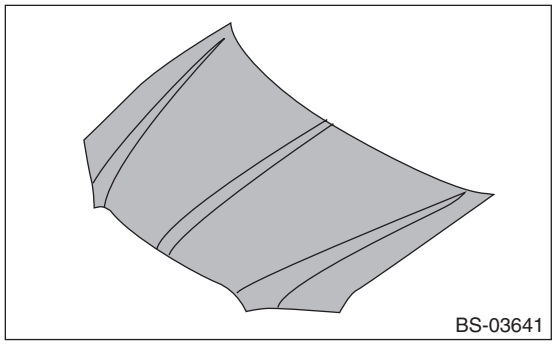


BS-03640

(1) Galvanized on both sides

7. Aluminium Sheet Metal

A: SPECIFICATION



INSTRUMENTATION/DRIVER INFO

IDI

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1. General Description

A: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Adjust parts to the given specifications.
• Connect the connectors securely during reassembly.
• After reassembly, make sure functional parts operate smoothly.

B: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
TORX® bit T30	Used for removing/installing driver's airbag module.

2. Horn System

A: WIRING DIAGRAM

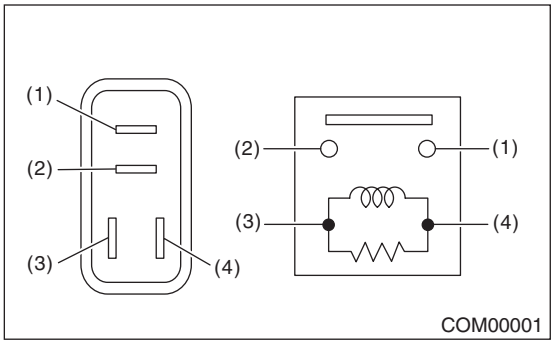
1. HORN

<Ref. to WI-172, WIRING DIAGRAM, Horn System.>

B: INSPECTION

1. HORN RELAY

Measure the security horn relay resistance between terminals (indicated in the table below) when connecting terminal No. 4 to battery positive terminal and terminal No. 3 to battery ground terminal.

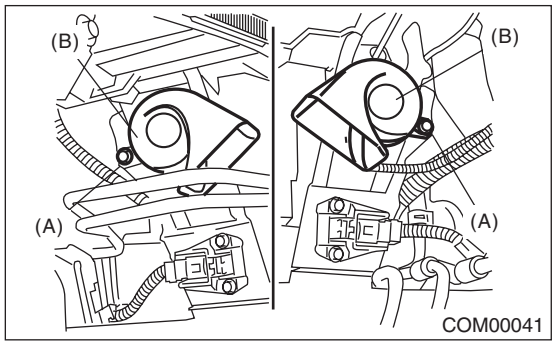


Continuity	Terminal No.	Standard
Yes	1 and 2	Less than 1 Ω
No		1 MΩ or more

3. Horn

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the left and right headlight assemblies. <Ref. to LI-13, REMOVAL, Headlight Assembly.>
3) Remove the horn bracket mounting bolt (A).
4) Disconnect the harness connector and remove the horn assembly (B).

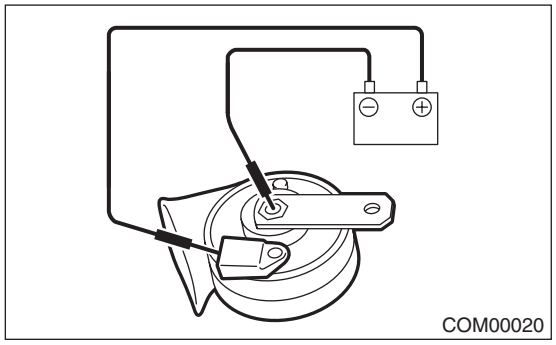


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

With 12 V direct current supplied between horn terminals, check that the horn sounds properly.



4. Horn Switch

A: REMOVAL

CAUTION:
Before servicing, be sure to read the notes in the "AB" section for proper handling of the driver's airbag module. <Ref. to AB-4, CAUTION, General Description.>

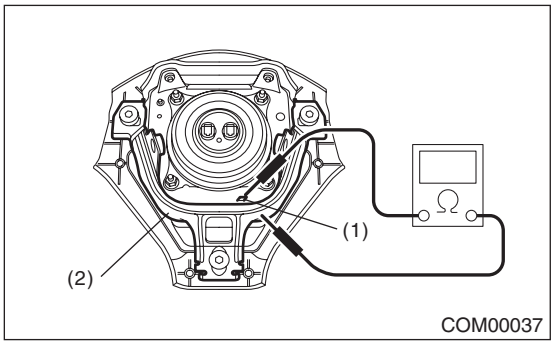
NOTE:
Horn switch is a unit with the driver's airbag module.
1) Disconnect the ground cable from the battery.
2) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance between horn switch terminal and airbag module bracket.



(1) Airbag module bracket
(2) Horn switch terminal

Switch position	Terminal No.	Resistance
When horn switch is pushed.	Horn switch terminal and airbag module bracket	Less than 1 Ω
When horn switch is not pushed.		1 MΩ or more

GLASS/WINDOWS/MIRRORS

GW

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3.	Power Window Control Switch	8
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19.	Sunroof Glass	32
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21.	Wiper Deicer System	34
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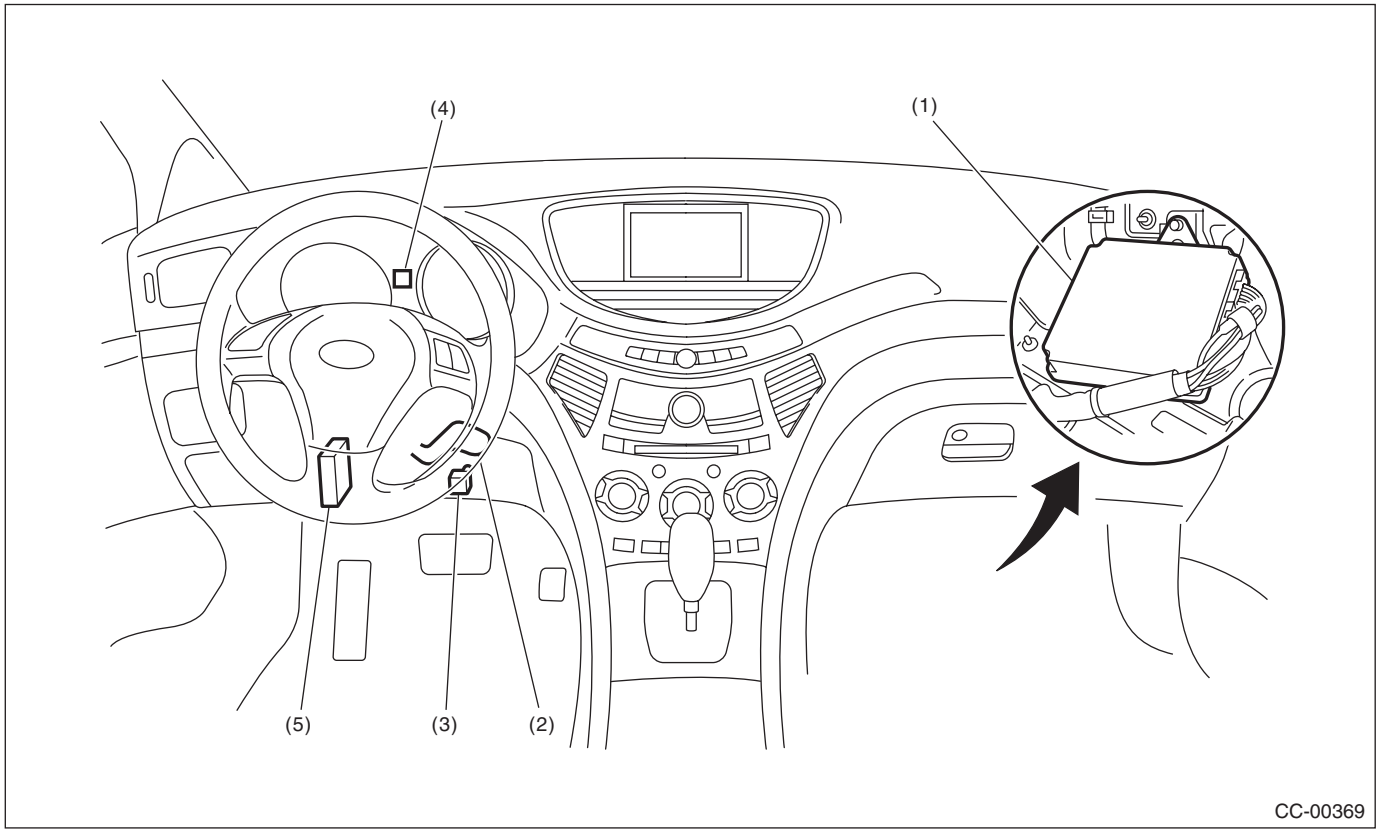
1. General Description

A: COMPONENT



(1) Engine control module (ECM)
(2) Cruise control command switch
(3) Stop light & brake switch
(4) Cruise indicator light and cruise set indicator light
(5) Transmission control module (TCM)

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When repairing the audio, control module, etc. which are provided with memory functions, record the memory contents before disconnecting the ground cable from battery. Otherwise, the memory will be cleared.
• Reassemble the parts in the reverse order of disassembly unless otherwise indicated.
• Adjust the parts to specifications specified in this manual.
• Connect the connectors securely during reassembly.
• After reassembly, ensure functional parts operate properly.

C: PREPARATION TOOL

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

2. Cruise Control Unit

A: NOTE

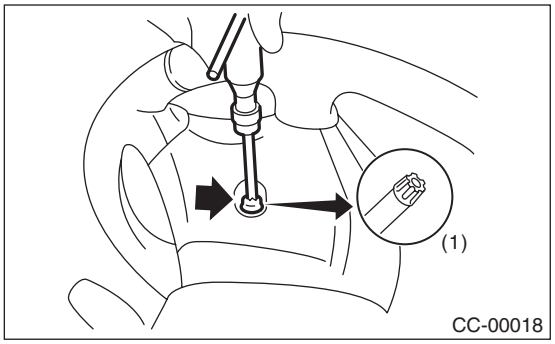
The control of cruise control system is carried out in engine control module (ECM).
Refer to engine section for removal and installation. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>

3. Cruise Control Command Switch

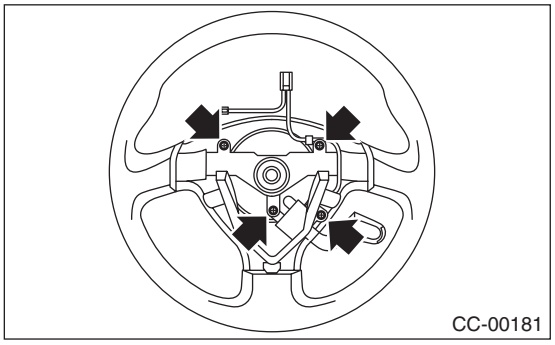
A: REMOVAL

CAUTION:
Before servicing, be sure to read the notes in the "AB" section for proper handling of the driver's airbag module. <Ref. to AB-4, CAUTION, General Description.>

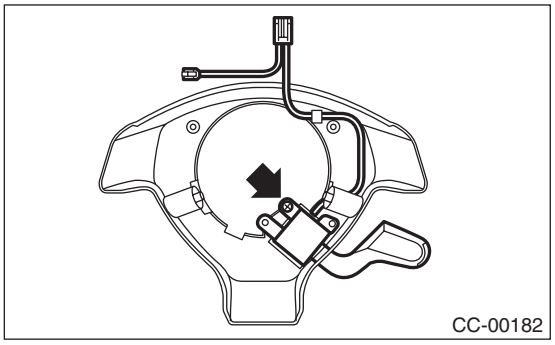
1) Set the front wheels in straight ahead position.
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
4) Using TORX® bit T30 (1), loosen two TORX® bolts which secure the driver's airbag module.



5) Disconnect the airbag module connector on back of the airbag module.
6) Remove the steering wheel. <Ref. to PS-13, REMOVAL, Steering Wheel.>
7) Remove the four screws to remove the lower cover from steering wheel.



8) Remove one screw to remove the cruise control command switch from lower cover.

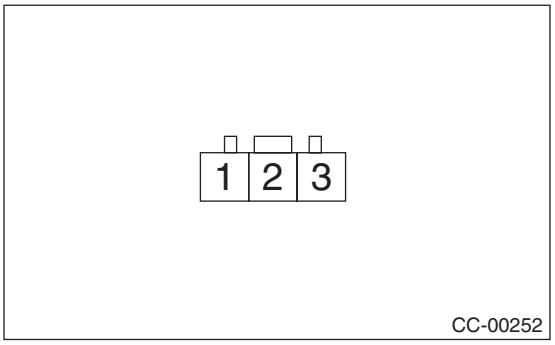


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the cruise control command switch resistance.



Switch	Area	Terminal No.	Standard
CANCEL SET/COAST RESUME/ ACCEL	All OFF	2 and 3	Approx. 4 kΩ
CANCEL	ON	2 and 3	Less than 1 Ω
SET/COAST	ON	2 and 3	Approx. 250 Ω
RESUME/ ACCEL	ON	2 and 3	Approx. 1500 Ω
MAIN	OFF	1 and 2	1 MΩ or more
	ON	1 and 2	Less than 1 Ω

If NG, replace the cruise control command switch.

4. Combination Meter

A: NOTE

Refer to IDI section for combination meter. <Ref. to IDI-12, Combination Meter.>

5. Stop Light & Brake Switch

A: NOTE

Refer to BR section for stop light & brake switch.
<Ref. to BR-40, Stop Light Switch.>

6. Transmission Control Module (TCM)

A: NOTE

Refer to the following section for transmission control module (TCM). <Ref. to 5AT-60, Transmission Control Module (TCM).>

7. Inhibitor Switch

A: NOTE

Inhibitor switch cannot be removed and checked, because the inhibitor switch is installed on control valve assembly.
When a malfunction occurs, refer to 5AT (diag) section. <Ref. to 5AT(diag)-33, DTC P0705 TRANSMISSION RANGE SENSOR CIRCUIT (PRNDL INPUT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

CRUISE CONTROL SYSTEM (DIAGNOSTICS)

CC(diag)

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2. General Description 4
3. Electrical Component Location 5
4. Engine Control Module (ECM) I/O Signal 6
5. Subaru Select Monitor 7
6. Diagnostics with Phenomenon 9
7. List of Diagnostic Trouble Code (DTC) 11
8. Diagnostic Procedure with Diagnostic Trouble Code (DTC) 14

1. Basic Diagnostic Procedure

A: PROCEDURE

	Step	Check	Yes	No
1	**CHECK MALFUNCTION INDICATOR LIGHT.** 1) Start the engine. 2) Make sure the malfunction indicator light illuminates.	Does the malfunction indicator light illuminate?	Go to step **5**.	Go to step **2**.
2	**CHECK CRUISE INDICATOR LIGHT.** Make sure the cruise indicator light blinks.	Does the cruise indicator light blink?	Go to step **5**.	Go to step **3**.
3	**CHECK CRUISE CONTROL MAIN SWITCH OPERATION.** Check cruise control main switch operation. (Ensure the cruise indicator light illuminates.)	Is the cruise control main switch turned on? (Does the cruise indicator light illuminate?)	Go to step **4**.	Go to phenomenon 1. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
4	**CHECK CRUISE CONTROL SET OPERATION.** Check the cruise control setting operation.	Can the cruise control be set while driving at more than 40 km/h (25 MPH)?	Go to step **6**.	Go to step **5**.
5	**PERFORM CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS.** Perform the cruise control cancel conditions diagnosis. <Ref. to CC(diag)-7, CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS, OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Go to “List of Diagnostic Trouble Code (DTC)”. <Ref. to CC(diag)-11, List of Diagnostic Trouble Code (DTC).>	Go to phenomenon 2. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
6	**CHECK CRUISE SET INDICATOR LIGHT.** Make sure the cruise set indicator light illuminates.	Does the cruise set indicator light illuminate?	Go to step **7**.	Go to phenomenon 3. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
7	**CHECK VEHICLE SPEED IS HELD WITHIN SET SPEED.** Make sure the vehicle speed is held within set speed.	Is the vehicle speed kept within setting speed ±3 km/h (±2 MPH)? (Make sure that on a level road.)	Go to step **8**.	Go to phenomenon 4. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
8	**CHECK RESUME/ACCEL OPERATION.** Check the RESUME/ACCEL switch operation.	Does the vehicle speed increase or return to set speed after RESUME/ACCEL switch has been pressed?	Go to step **9**.	Go to phenomenon 5. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

	Step	Check	Yes	No
9	**CHECK SET/COAST OPERATION.** Check the SET/COAST switch operation.	Does the vehicle speed decrease after SET/COAST switch has been pressed?	Go to step **10**.	Go to phenomenon 6. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
10	**CHECK CANCEL OPERATION.** Check the CANCEL switch operation.	Is the cruise control released after CANCEL switch has been pressed?	Go to step **11**.	Go to phenomenon 7. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
11	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check the cruise control release operation.	Is the cruise control released after brake pedal has been depressed?	Go to step **12**.	Go to phenomenon 8. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>
12	**CHECK CRUISE CONTROL RELEASE OPERATION.** Check the cruise control release operation.	Is the cruise control released after shifting to the neutral position?	Finish the diagnosis.	Go to phenomenon 9. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.>

2. General Description

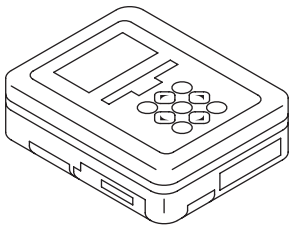
A: CAUTION

Airbag system wiring harness is routed near the cruise control command switch.

CAUTION:
• The airbag system wiring harnesses and connectors are colored yellow. Do not use the electrical test equipment on these circuits.
• Be careful not to damage the airbag system wiring harness when servicing the cruise control command switch. Airbag system wiring harness is routed near the cruise control command switch.

B: PREPARATION TOOL

1. SPECIAL TOOL

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

2. GENERAL TOOL

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

C: INSPECTION

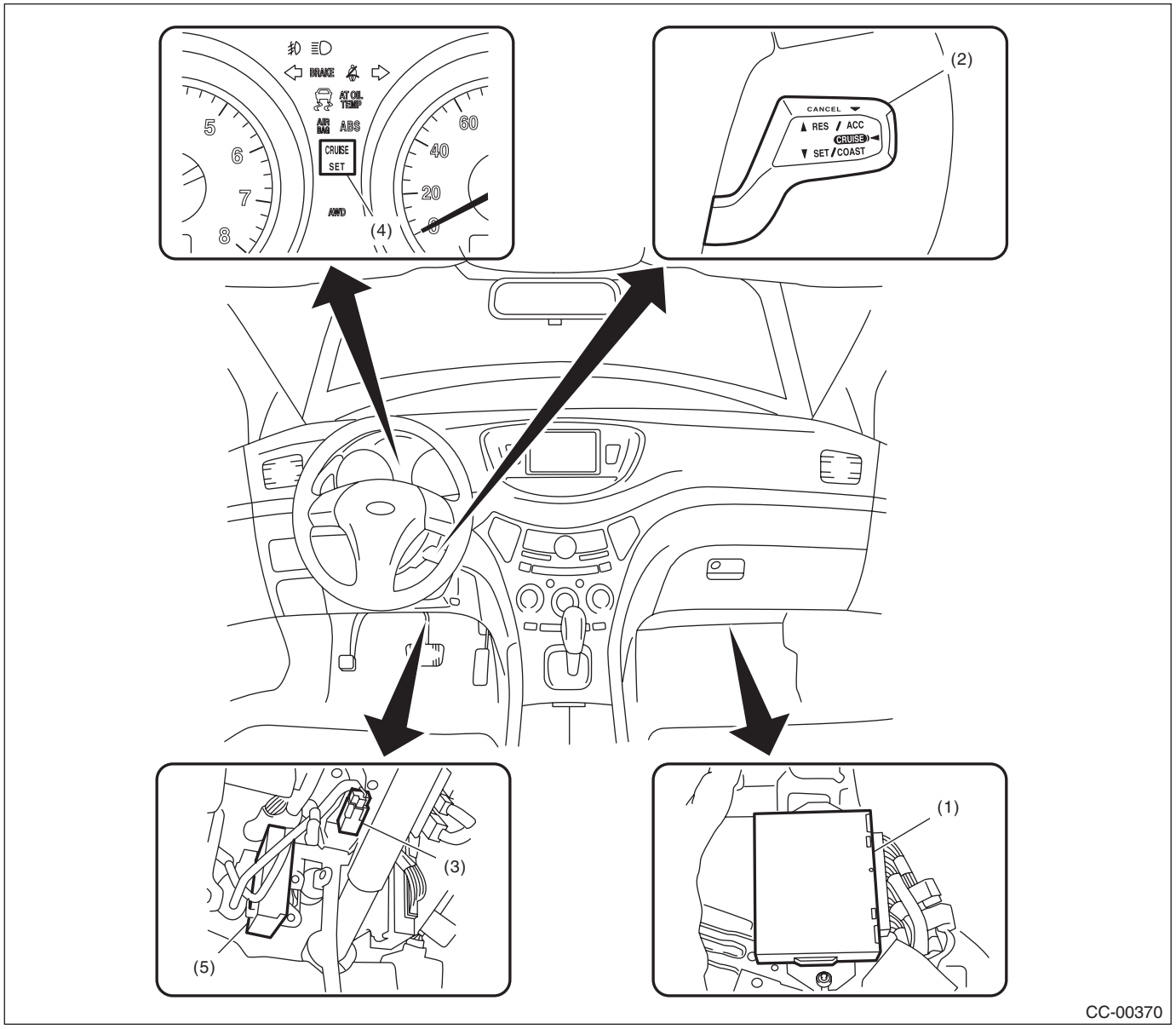
Measure the battery voltage and specific gravity of electrolyte.

Standard voltage:
12 V or more

Specific gravity:
1.260 or more

3. Electrical Component Location

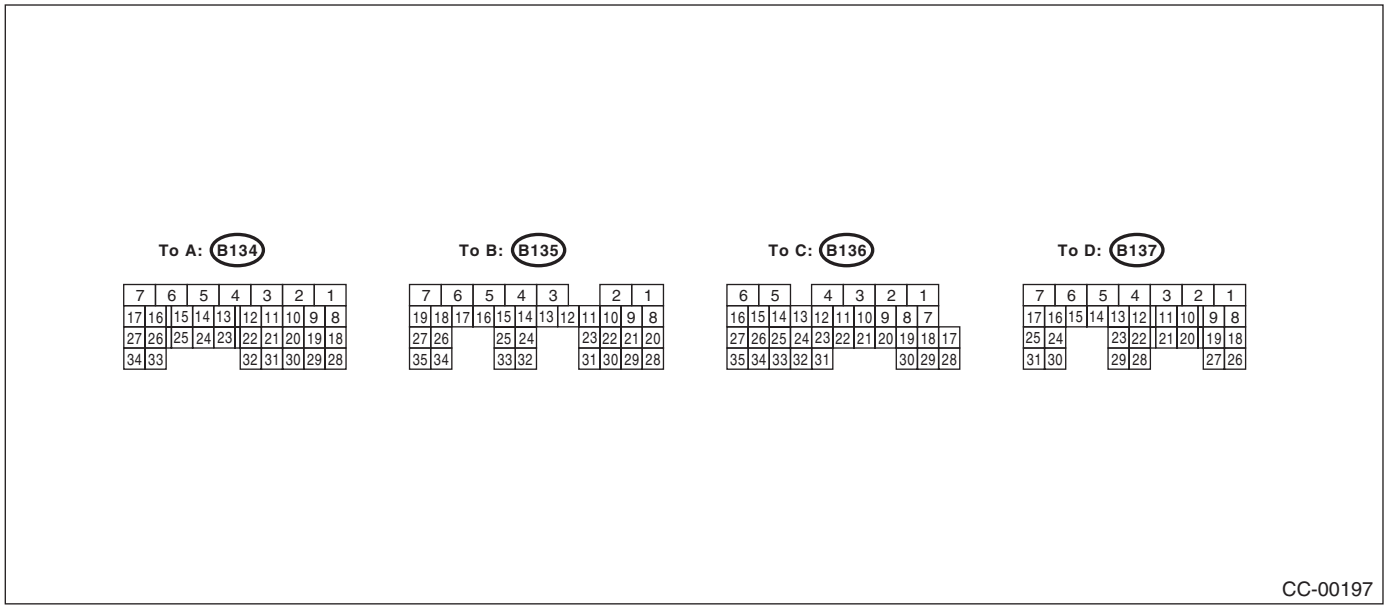
A: LOCATION



(1) Engine control module (ECM)
(2) Cruise control command switch
(3) Stop and brake switch
(4) Cruise indicator light and cruise set indicator light
(5) Transmission control module (TCM)

4. Engine Control Module (ECM) I/O Signal

A: ELECTRICAL SPECIFICATION



Description		Terminal No.	Measurement Condition and I/O Signal (Idling with ignition ON: Except cruise set light)
Main power supply	VB (CONTROL 1) VB (CONTROL 2)	A7 B2	• Battery voltage is present when the main power is turned ON. • "0 V" is present when the main power is turned OFF.
Command switch		B24	• "0 V" is detected when the command switch is in CANCEL position. • "Approx. 1 V" is present when the command switch is in SET/COAST position. • "Approx. 3 V" is detected when the command switch is in RESUME/ACCEL position. • "Approx. 4 V" is detected when the command switch is released.
Brake switch 1 (Brake switch)		B20	• Battery voltage is present when the brake pedal is released. • "0 V" is present when brake pedal is depressed.
Brake switch 2 (Stop light switch)		B28	• Battery voltage is present when brake pedal is depressed. • "0 V" is present when the brake pedal is released.
Main switch		B12	• "0 V" is present while the main switch is pressed or turned on. • "5 V" is present when the main switch is OFF.
Ground	GND (CONTROL 1) GND (CONTROL 2)	A5 D7	—
Ignition switch		B19	• Battery voltage is present when the ignition switch is turned ON. • "0 V" is present when the ignition switch is turned OFF.
Neutral signal		C31	• Battery voltage is present when shift lever is in other than "P" or "N" position. • "0 V" is detected when the shift lever is in "P" or "N" position.

B: WIRING DIAGRAM

<Ref. to WI-106, WIRING DIAGRAM, Cruise Control System.>

5. Subaru Select Monitor

A: OPERATION

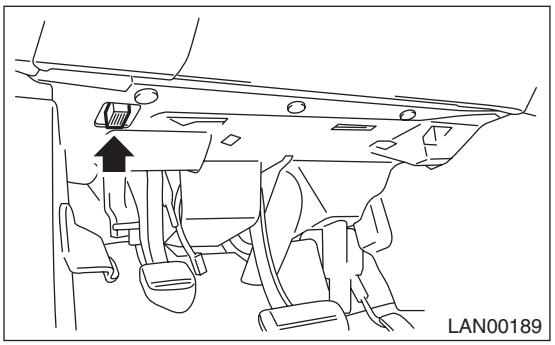
1. GENERAL DESCRIPTION

The on-board diagnosis function of the cruise control system uses Subaru Select Monitor.
The on-board diagnosis function operates in two categories, which are used depending on the type of problems;
1) Cruise Control Cancel Conditions Diagnosis:
(1) This category of diagnosis requires actual vehicle driving in order to determine the cause, as when cruise speed is cancelled during driving although cruise cancel condition is not entered.
(2) Cruise control memory in ECM stores the cancel condition (Code No.) which occurred during driving. When there are multiple cancel conditions (Code No.), they are shown on the Subaru Select Monitor.

CAUTION:
• The cruise control memory stores not only the cruise "cancel" which occurred (although "cancel" operation is not entered by the driver), but also the "cancel" condition input by the driver.
• The latest memory content (latest code) is cleared when ignition switch is turned to OFF. However, the memory content by the diagnosis of faulty switches relating to the system and cruise control is retained as the fault history (memory code), after the ignition switch is turned to OFF.
2) Real-time Diagnosis:
Real-time diagnosis function is used to determine whether or not the input signal system is in good order, according to signal emitted from switches, sensors, etc.
(1) Vehicle cannot be driven at cruise speed when the problem occurs in the cruise control system or relevant circuits.
(2) Monitor the signal conditions from switches and sensors.

2. CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS

1) Prepare the Subaru Select Monitor kit.
2) Connect the diagnosis cable to Subaru Select Monitor.
3) Connect the Subaru Select Monitor to data link connector.
(1) Data link connector is located in the lower portion of the instrument panel (on the driver's side).



(2) Connect the diagnosis cable to data link connector.
4) Start the engine and turn the cruise control main switch to ON.
5) Run the Subaru Select Monitor.
6) On the «Main Menu» display screen, select the {2. Each System Check}.
On the system selection display screen, select the {Engine Control System}. Select the [OK] after the information of engine type is displayed.
7) Drive vehicle at least 40 km/h (25 MPH) and set the cruise control.

CAUTION:
• When performing diagnosis, observe the legal speed limit on the road.
• DTC will be also displayed when cruise control is cancelled by the driver's operation. Do not confuse them.
• Be sure to get an assistant to support the diagnosis while driving, and have him/her operate the select monitor.

8) When the set speed is canceled by itself (without any cancel operations) or when the cruise control cannot be set after the set operation, DTC will be displayed on the screen after selecting the {Check Cancel Code} on the engine malfunction diagnosis screen.

NOTE:
There are the {Latest Code} and the {Memory Code} in DTC. The latest code recognized during current test drive is displayed in the {Latest Code}, while the codes in past test drive are displayed in the {Memory Code}. DTCs by the diagnosis of faulty switches relating to the system and cruise control are also displayed in the {Memory Code}.

9) Perform Engine DTC Clear Memory operation. <Ref. to EN(H6DO)(diag)-56, OPERATION, Clear Memory Mode.>
DTCs of switches relating to the system and cruise control are deleted by clearing memory on the engine side.

NOTE:
DTC will be cleared by turning ignition switch to OFF.

3. REAL-TIME DIAGNOSIS

1) Connect the Subaru Select Monitor.
2) Turn the ignition switch and cruise control main switch to ON.
3) Run the Subaru Select Monitor.
4) On the «Main Menu» display screen, select the {2. Each System Check}.
5) On the «System Selection » screen, select the {Engine Control System}.
6) Select the [OK] after the information of engine type is displayed.
7) On the «Cruise Control Diagnosis» display screen, select the {Current Data Display & Save}.
8) Make sure that normal display is shown when operated as follows:

- Depress and release the brake pedal. (Stop light switch and brake switch turn ON.)
- Turn the main switch to ON.
- Turn the «CANCEL» switch to ON.
- Turn the «SET/COAST» switch to ON.
- Turn the «RESUME/ACCEL» switch to ON.
- Depress or release the clutch pedal.
- Place the shift lever in any position other than neutral.

NOTE:

- For details concerning operation procedure, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.
- Refer to “List of Diagnostic Trouble Code (DTC)” for DTC. <Ref. to CC(diag)-11, List of Diagnostic Trouble Code (DTC).>

6. Diagnostics with Phenomenon

A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

Phenomenon		Checking item	Reference
1	Cruise control main switch is not turned to ON. (Cruise indicator light does not illuminate.)	(1) Check the cruise indicator light.	<Ref. to CC(diag)-10, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
		(2) Check the cruise control command switch.	<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-19, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-20, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2	Cruise control cannot be set.	(1) Check the cruise control command switch.	<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-19, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-20, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(2) Check stop light switch and brake switch.	<Ref. to CC(diag)-16, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 25, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 61, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(3) Check the neutral position switch.	<Ref. to CC(diag)-18, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 62, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
		(4) Check vehicle speed sensor.	<Ref. to CC(diag)-21, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 32, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 63, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
3	Cruise set indicator light does not illuminate.	Check the cruise set indicator light.	<Ref. to CC(diag)-10, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.>
4	Vehicle speed is not held within set speed ±3 km/h (±2 MPH).	Check the vehicle speed sensor.	<Ref. to CC(diag)-21, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 32, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 63, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Phenomenon		Checking item	Reference
5	Vehicle speed does not increase or does not return to set speed after RESUME/ ACCEL switch has been pressed.	Check the RESUME/ACCEL switch.	<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-19, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-20, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
6	Vehicle speed does not decrease after SET/COAST switch has been pressed.	Check the SET/COAST switch.	<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-19, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-20, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
7	Cruise control is not released after CANCEL switch has been pressed.	Check the CANCEL switch.	<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-19, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-20, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
8	Cruise control is not released after brake pedal has been depressed.	Check the stop light switch and brake switch.	<Ref. to CC(diag)-16, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-21, DTC 25, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 61, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
9	Cruise control is not released after shifting to the neutral position.	Check the neutral position switch.	<Ref. to CC(diag)-18, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to CC(diag)-22, DTC 62, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

B: CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT

TROUBLE SYMPTOM:

Cruise control can be set, but the cruise indicator light and cruise set indicator light do not illuminate.

Step		Check	Yes	No
1	**CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT.** 1) Perform the self-diagnosis of combination meter. <Ref. to IDI-4, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.> 2) Check the cruise indicator light and cruise set indicator light if they illuminate.	Do the cruise indicator light and cruise set indicator light illuminate?	Go to step **2**.	Replace the meter case assembly. <Ref. to IDI-12, Combination Meter.>
2	**CHECK LAN SYSTEM DTC.** 1) Complete self-diagnosis, and turn the ignition switch to ON again. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC of LAN system displayed?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>

7. List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Contents of diagnosis	Reference
11	Main Switch	Main switch of cruise control command switch is turned to OFF, and then the cruise control is released.	This DTC is displayed without operating the main switch. <Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
12	Stop light & brake switch	Stop light switch or brake switch is turned to ON, and then the cruise control is released.	This DTC is displayed without depressing the brake pedal. <Ref. to CC(diag)-16, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
14	Neutral switch	Neutral position switch is turned to ON, and then the cruise control is released.	This DTC is displayed without shifting to neutral position. <Ref. to CC(diag)-18, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
15	Cancel switch	Cancel switch is turned to ON, and then the cruise control is released.	This DTC is displayed without operating the cancel switch. <Ref. to CC(diag)-19, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
16	Ignition switch	Ignition switch is turned to OFF, and then the cruise control is released.	This DTC is displayed without operating the ignition switch. <Ref. to CC(diag)-20, DTC 16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
21	Cruise control switch malfunction when ignition switch is turned to ON	When the ignition switch is turned to ON, each switch of cruise control command switch is already turned to ON.	This DTC is displayed without operating the main switch. <Ref. to CC(diag)-20, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
22	Vehicle Speed Variation Malfunction	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-21, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
24	Cruise Control Related Switch Malfunction	Command switch malfunction is detected. (While the switch is pressed ON for an abnormally long time (approximately two minutes), open circuit is detected.)	This DTC is displayed with normal operation. <Ref. to CC(diag)-21, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Contents of diagnosis	Reference
25	Brake Switch Input Circuit Malfunction	Malfunction of brake switch input circuit in ECM is detected.	<Ref. to CC(diag)-21, DTC 25, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
31	Engine speed signal	• Abnormal increase of engine speed is detected. • Gear is placed in Neutral, 1st or Reverse position.	Cruise in more than 2nd shift position.
32	Out of vehicle speed range of cruise control operation	• Vehicle speed is out of the controlled range during cruising. • Set operation was performed at vehicle speed unavailable for setting. • Resume operation was performed without memorized vehicle speed.	This DTC is displayed, though the vehicle speed is increased to the speed available for cruise set and set operation was performed again. <Ref. to CC(diag)-21, DTC 32, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
34	Prohibition when accelerator position is continued to be large	The vehicle has been driven at higher speed than set vehicle speed for an abnormally long time (approximately 10 minutes) during cruise driving.	<Ref. to CC(diag)-21, DTC 34, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
35	Prohibition when vehicle speed feedback is impossible	Set vehicle speed cannot be kept because of some reasons (steep uphill, parking brake, abnormal decrease of engine output, etc.) during cruise driving.	<Ref. to CC(diag)-21, DTC 35, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
41	VDC/TCS operation	Vehicle dynamics control (VDC) or TCS is operated during cruise driving or cruise setting.	<Ref. to CC(diag)-22, DTC 41, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
43	ABS/VDC malfunction	Vehicle dynamics control (VDC) system malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-22, DTC 43, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
44	Body integrated unit malfunction	Body integrated unit system malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-22, DTC 44, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
45	Meter Failure	Combination meter malfunction is detected during cruise driving or cruise setting.	<Ref. to CC(diag)-22, DTC 45, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
61	Brake Switch Malfunction	Malfunction in the stop light switch or brake switch is detected.	<Ref. to CC(diag)-22, DTC 61, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
62	Neutral Position Switch Malfunction	Neutral position switch malfunction is detected.	<Ref. to CC(diag)-22, DTC 62, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
63	Vehicle Speed Variation is Abnormal	Malfunction of vehicle speed signal variation is detected.	<Ref. to CC(diag)-22, DTC 63, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
64	Engine Sensor Related Sensor Malfunction 1	Malfunction related to engine is detected.	<Ref. to CC(diag)-22, DTC 64, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Contents of diagnosis	Reference
65	Cruise Control Related Switch Malfunction 1	Cruise control command switch malfunction is detected. (While the switch is pressed ON for a long time (approximately two minutes), stuck ON open circuit is detected.)	<Ref. to CC(diag)-22, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
66	Cruise Control Calculation Malfunction	Cruise control calculation (microcomputer) malfunction is detected.	<Ref. to CC(diag)-22, DTC 66, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

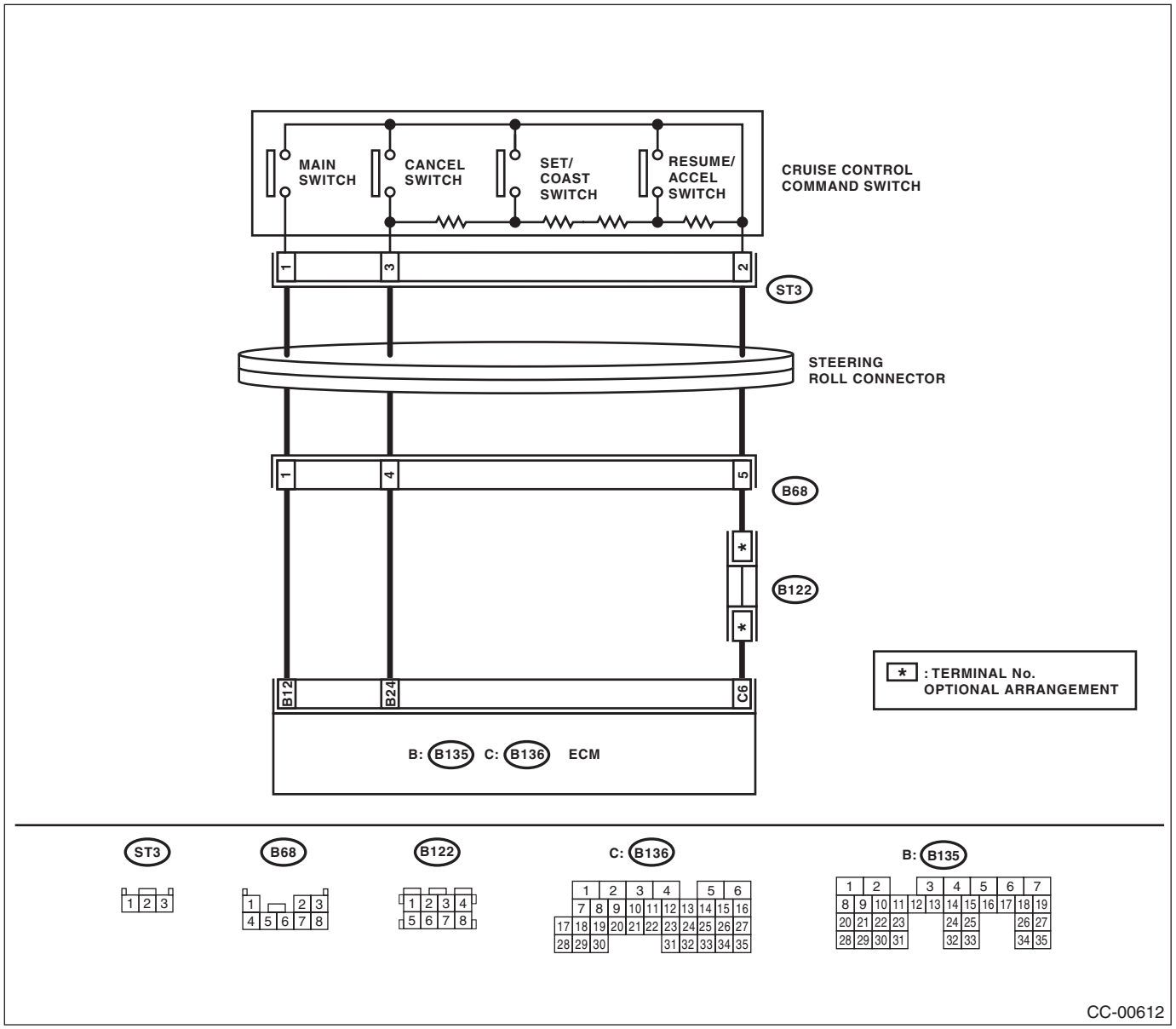
8. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC 11

TROUBLE SYMPTOM:

- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

WIRING DIAGRAM:



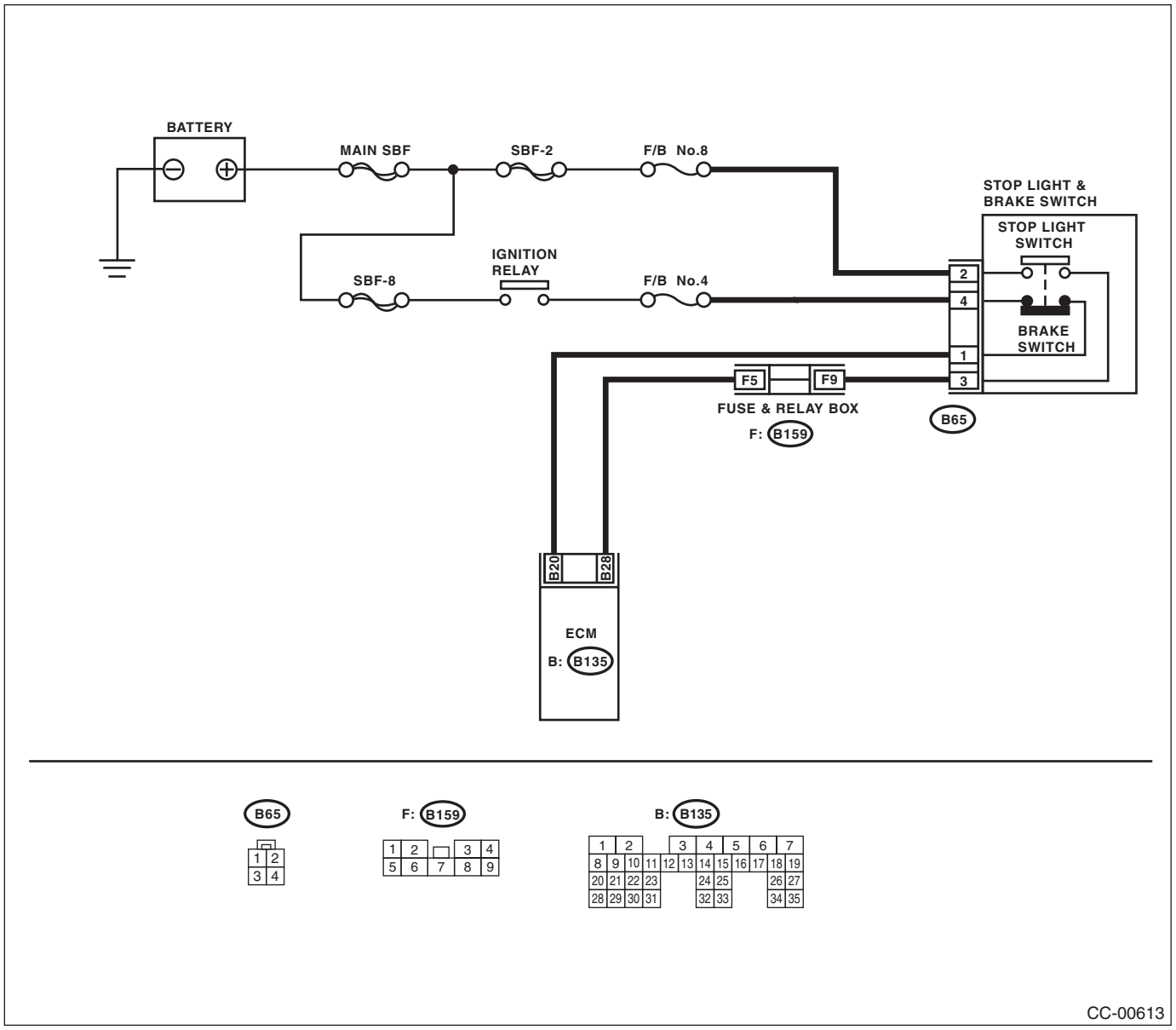
	Step	Check	Yes	No
1	**CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT.** 1) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.> 2) Disconnect the harness connector of cruise control command switch. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(ST3) No. 1 (+) — Chassis ground (–):*** ***(ST3) No. 3 (+) — Chassis ground (–):***	Is the voltage 5 V or more?	Go to step **2**.	Check the harness between cruise control command switch and ECM, and the steering roll connector for open or short circuit, or for poor contact.
2	**CHECK CRUISE CONTROL COMMAND SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-5, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between harness connector terminal and chassis ground. ***Connector terminal*** ***(ST3) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check for open between cruise control command switch and ECM and chassis ground, and check the ECM.
3	**CHECK CRUISE CONTROL COMMAND SWITCH.** Measure the resistance between switch terminals when the cruise control command switch is not being pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 4 kΩ?	Go to step **4**.	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
4	**CHECK CANCEL SWITCH.** 1) Turn the ignition switch to OFF. 2) Remove the cruise control command switch. <Ref. to CC-5, REMOVAL, Cruise Control Command Switch.> 3) Measure the resistance between switch terminals when the CANCEL switch is pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. less than 1 Ω when the CANCEL switch is pressed?	Go to step **5**.	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
5	**CHECK SET/COAST SWITCH.** Measure the resistance between switch terminals when the SET/COAST switch is pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 250 Ω when SET/COAST switch is pressed?	Go to step **6**.	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>
6	**CHECK RESUME/ACCEL SWITCH CIRCUIT.** Measure the resistance between switch terminals when the RESUME/ACCEL switch is pressed. ***Terminals*** ***No. 2 — No. 3:***	Is the resistance approx. 1,500 Ω when RESUME/ACCEL switch is pressed?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.>

B: DTC 12

TROUBLE SYMPTOM:

- Cruise control cannot be set.
- Cruise control cannot be released.

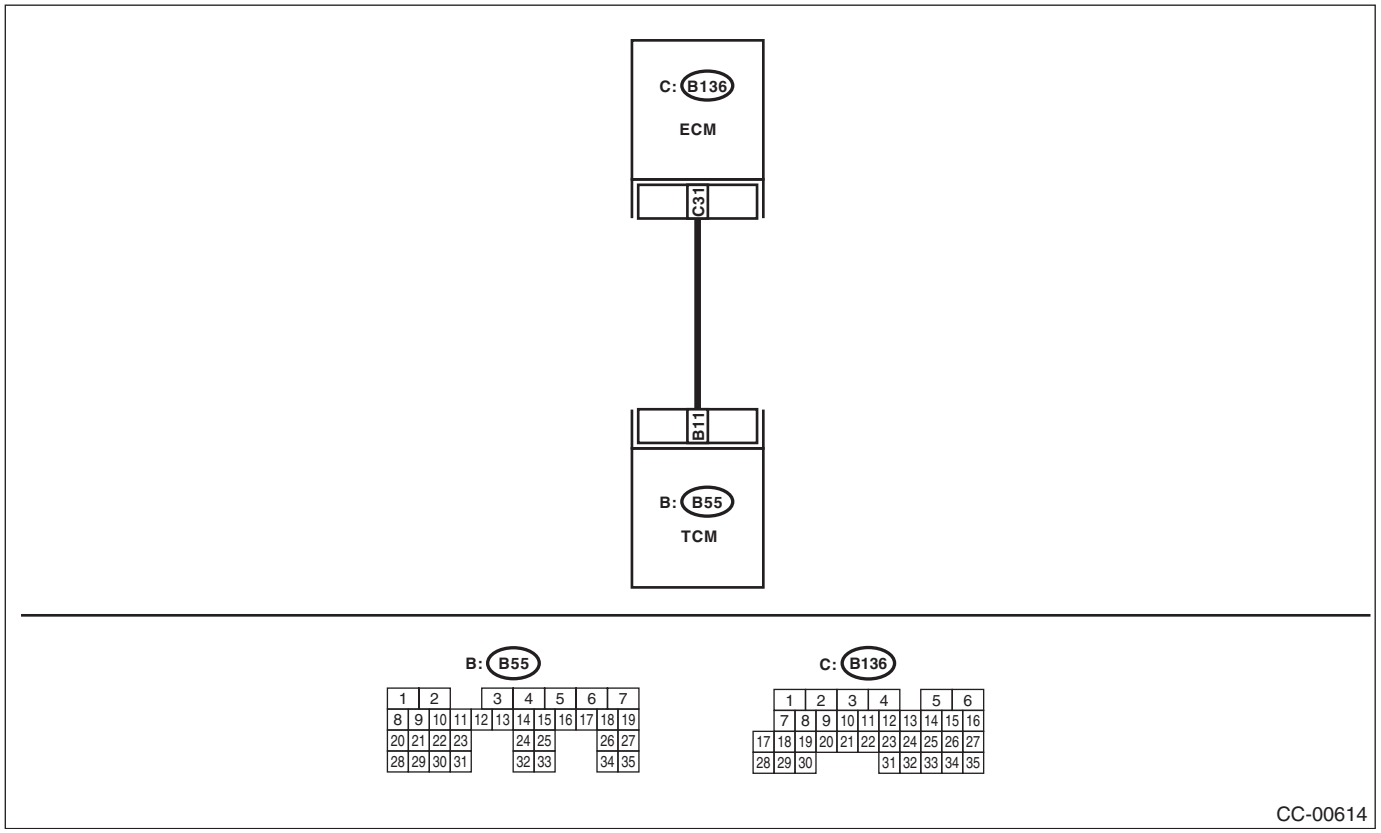
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch and brake switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	• Check fuse No. 8 (in fuse & relay box). • Check for open or short in the harness between stop light/brake switch and fuse & relay box.
2	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B65) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	• Check fuse No. 4 (in fuse & relay box). • Check for open or short in the harness between stop light/brake switch and fuse & relay box.
3	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of ECM. 3) Measure the resistance between ECM harness connector terminal and stop light switch and brake switch harness connector terminal. ***Connector & terminal*** ***(B135) No. 28 — (B65) No. 3:*** ***(B135) No. 20 — (B65) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the harness.
4	**CHECK STOP LIGHT SWITCH AND BRAKE SWITCH.** Remove and check the stop light switch and brake switch. <Ref. to CC-7, Stop Light & Brake Switch.>	Are the stop light switch and brake switch OK?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Replace the stop light switch and brake switch.

C: DTC 14

TROUBLE SYMPTOM:
Cruise control cannot be set.
WIRING DIAGRAM:



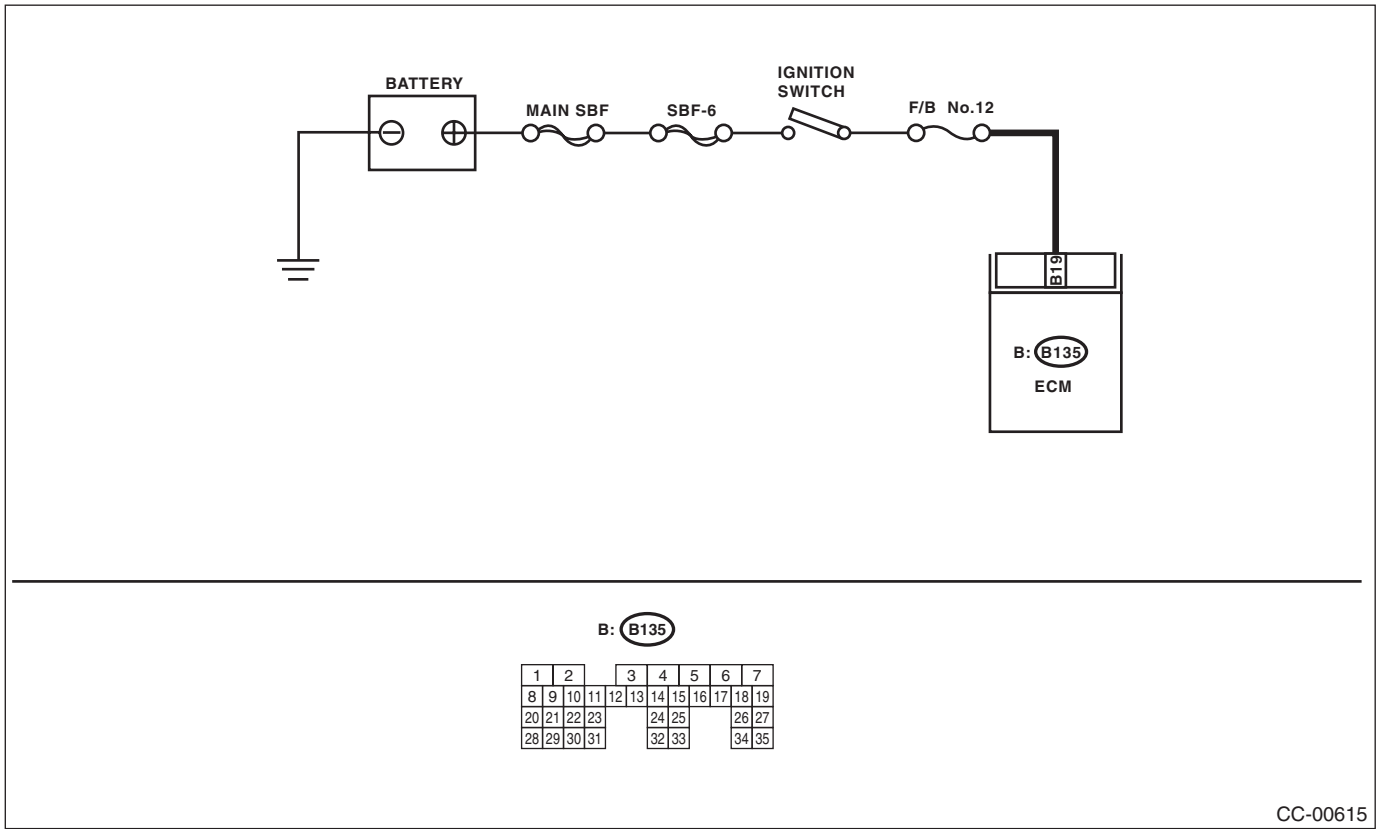
	Step	Check	Yes	No
1	**CHECK NEUTRAL POSITION SWITCH.** 1) Connect the Subaru Select Monitor to data link connector. 2) Turn the ignition switch to ON and run the Subaru Select Monitor. 3) Select {Engine Control System} from the main menu. 4) Then, select {Current Data Display & Save}. 5) Check the neutral position switch signal by shifting the select lever to "P" or "N" range.	Is Subaru Select Monitor ON when select lever is shifted into "P" or "N" range? Is Subaru Select Monitor OFF when select lever is shifted to a range other than the "P" or "N" range?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Go to step **2**.
2	**CHECK TCM OUTPUT VOLTAGE.** 1) Turn the ignition switch to ON. 2) Measure the voltage between TCM harness connector terminal and chassis ground. ***Connector & terminal*** ***(B55) No. 11 (+) — Chassis ground (–):***	Is voltage more than 10 V when select lever is shifted to a range other than "P" or "N" range? Is voltage less than 1 V when select lever is shifted into "P" or "N" range?	Go to step **3**.	Check the TCM. <Ref. to 5AT(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK HARNESS BETWEEN TCM AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from TCM and ECM. 3) Measure the resistance between TCM harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B136) No. 31 — (B55) No. 11:***	Is the resistance less than 10 Ω?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Repair the wiring harness.

D: DTC 15

Malfunction regarding the cancel switch.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

E: DTC 16

TROUBLE SYMPTOM:
Cruise control cannot be set.
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK IGNITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the ECM harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B135) No. 19 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check poor contact of ECM connector.	• Check fuse No. 12 (in fuse & relay box). • Check the harness for open or short circuit between ignition switch and ECM.

F: DTC 21

Malfunction of the cruise control command switch.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

G: DTC 22

DIAGNOSIS:
Open or short circuit in vehicle speed sensor system.
TROUBLE SYMPTOM:
Cruise control cannot be set. (Cancelled immediately.)

	Step	Check	Yes	No
1	**CHECK ABS WARNING LIGHT.** 1) Turn the ignition switch to ON. 2) After the initial operation of combination meter is completed, check if the VDC warning light continues to illuminate.	Does the VDC warning light continue to illuminate?	Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **2**.
2	**CHECK LAN SYSTEM DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC of LAN system displayed?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>

H: DTC 24

Malfunction of the cruise control related switch.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

I: DTC 25

Malfunction of the brake input circuit in ECM.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

J: DTC 31

Malfunction of the engine speed signal.
Abnormal increase of engine speed is detected.
Gear is set to 1st or Reverse position.
After driving at the 2nd gear position or more, perform the cruise setting again. If the DTC is not detected, it is normal.

K: DTC 32

Out of vehicle speed range of system operation.
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-21, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

L: DTC 34

Malfunction of throttle opening angle continuous time is detected.
The vehicle has been driven at a speed higher than set speed for a long time (approximately 10 minutes) during cruise driving.
DTC is detected when driving for a long period of time at higher speed than appropriate cruise speed by operating accelerator pedal.
Release the cruise setting. If it is not detected again, it is normal.

M: DTC 35

Detected when it is impossible to perform the vehicle speed feedback.
Set vehicle speed cannot be kept for some reasons (steep uphill, unreleased parking brake, etc.) during cruise driving.
DTC is detected when driving condition is not suitable for cruise control.
Perform cruise set operation again after clearing the possible cause.

N: DTC 41

VDC/TCS has operated.
Vehicle dynamics control (VDC) or TCS is operated during cruise driving or cruise setting.
<Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

O: DTC 43

ABS/VDC malfunction is detected.
VDC malfunction is detected during cruise driving or cruise setting.
<Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

P: DTC 44

Body integrated unit malfunction is detected.
Body integrated unit system malfunction is detected during cruise driving or cruise setting.
<Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Q: DTC 45

Malfunction of the combination meter is detected.
Combination meter malfunction is detected during cruise driving or cruise setting.
<Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

R: DTC 61

Malfunction of the brake light switch is detected.
Refer to DTC 12 for diagnostic procedure.
<Ref. to CC(diag)-16, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

S: DTC 62

Neutral position switch malfunction is detected.
Refer to DTC 14 for diagnostic procedure.
<Ref. to CC(diag)-18, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

T: DTC 63

Malfunction of vehicle speed signal variation is detected.
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-21, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

U: DTC 64

Malfunction related to engine is detected.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

V: DTC 65

Cruise control command switch malfunction is detected.
While the command switch is pressed ON for a long time (approximately two minutes), stuck ON open circuit is detected.
Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-14, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

W: DTC 66

Cruise control calculation malfunction is detected.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

IMMOBILIZER (DIAGNOSTICS)

IM(diag)

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1. General Description

A: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery.
• When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
• Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
• Adjust parts to the given specifications.
• Connect the connectors securely during reassembly.
• After reassembly, make sure functional parts operate smoothly.

B: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Conductive silver composition (DUPONT No. 4817 or equivalent)	Used for repairing antenna wire.

2. Audio System

A: WIRING DIAGRAM

<Ref. to WI-151, WIRING DIAGRAM, Audio System.>

B: INSPECTION

Symptom	Repair order
No power coming in. (No display and no sound from speakers)	1. Check the fuse and power supply for audio. 2. Check the audio ground. 3. Remove the audio and repair them.
A specific speaker does not operate.	1. Check the speaker. 2. Check the output circuit between audio and speaker.
Audio generates noise with engine is running.	1. Check the audio ground. 2. Check the generator. 3. Check the ignition coil. 4. Remove the audio and repair them.
Volume is low in AM and FM modes or interference noise occurs.	1. Check the antenna. 2. Check the antenna amplifier. 3. Check the noise suppressor. 4. Check the audio ground. 5. Remove the audio and repair them.

3. Navigation System

A: WIRING DIAGRAM

<Ref. to WI-156, WIRING DIAGRAM, Navigation System.>

B: INSPECTION

1. CHECK THE OPERATION OF THE NAVIGATION.

Start the engine, and then inspect that the opening screen is displayed.
Standard value: The opening screen should be displayed.
OK: Normal
NG: When not displayed, check the signal line connector and the audio connector. If there are no problems in the connecting lines or the lines were repaired, check that the opening screen is displayed.
At this point, if the display is not viewable, the unit is defective.

2. CHECK THE DVD-ROM.

An opening screen is displayed, then it switches to the map screen after a while.
When a screen other than the opening screen is displayed, press the «MAP» key.
Standard value: The map screen should be displayed.
OK: Normal
NG: If the map screen is not displayed, check whether the DVD-ROM is set in the navigation system, whether the correct side is set, type of the DVD-ROM, the existence of any scratches, etc. If there are no problems on the DVD-ROM, the main body is defective.

3. CHECK EACH CONNECTION

If there are no problems in the inspections of 1 and 2 above, use "<Ref. to WI-156, WIRING DIAGRAM, Navigation System.>" of the navigation device to perform inspection.

4. SWITCHING TO CONNECTION INSPECTION MODE

1) Press the menu key.
2) Select navigation setup from the menu screen.
3) Select navigation information from the navigation setup screen.
4) Select the vehicle signal from the navigation information screen.
5) The display will switch to the vehicle signal (for connection inspection) screen.
6) Check that the display changes according to each operation.
ON: Normal
NG: Check the circuit when the display does not change.

5. CHECK THE GPS ANTENNA

NOTE:
When checking the GPS antenna, perform the check operation outdoors to improve the receiver sensitivity.
Make sure that a value other than "zero" is displayed in the GPS item.
OK: Normal
NG: If "No positioning" is displayed, check the GPS antenna connection.
If the GPS display is red, the main unit could be faulty.

6. CHECK THE BACK SENSOR

NOTE:
Before starting inspections, inspect the safety around the rear end of the vehicle.
1) Turn the ignition switch to ON.
2) Pull the parking brake and depress the brake, then put the gear in reverse.
3) Make sure that "On" is lit in the back sensor item.
Standard Value: "On" should be lit.
On: Normal
NG: If "On" does not light, check the signal line connection. If there are no problems, the unit could be faulty.

7. CHECK THE ILLUMINATION

1) Turn the lighting switch to level 1.

NOTE:
Make sure that the bright switch is not turned ON at this time.
2) Make sure that “On” lights in the illumination item, then the screen fades out.
Standard Value: “On” should be lit.
OK: Normal
NG: If “On” does not light, check the signal line connection. If there are no problems, the unit could be faulty.

8. CHECK SPEED SENSOR

NOTE:
• Before starting inspections, inspect the safety around the vehicle.
• Lift up the vehicle as necessary.
• When the diagnostic trouble code is input in the VDCCM, perform the Clear Memory operation.
1) Move the vehicle 2 to 3 meters (6.6 to 9.8 ft).
2) Check that the numbers from the speed sensor are displayed.
Standard value: Vehicle speed is to be shown in numbers.
OK: Normal
NG: If vehicle speed is not displayed, check the signal line connection. If there are no problems, the unit could be faulty.

4. Rearview Camera System

A: WIRING DIAGRAM

<Ref. to WI-164, WIRING DIAGRAM, Rearview Camera System.>

B: INSPECTION

- When the display does not come on

The screen of rear view camera is not displayed. (The navigation screen is displayed normally.)

1. Check the back sensor for each connection: Make sure that the back sensor is ON. <Ref. to ET-4, CHECK THE BACK SENSOR, INSPECTION, Navigation System.>
2. Check the rear view camera connection.
3. Check the rear view camera control module.

- When marker does not show

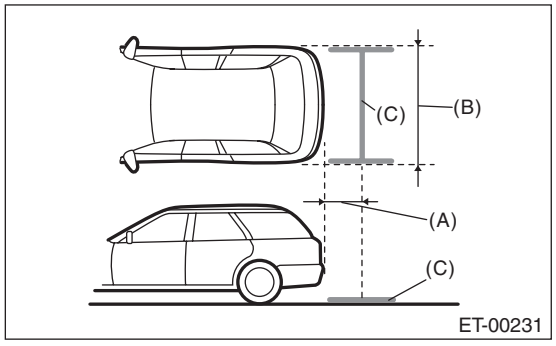
1. Check the rear view camera connection.
2. Check the rear view camera control module.

C: ADJUSTMENT

1. MARKER ADJUSTMENT MODE

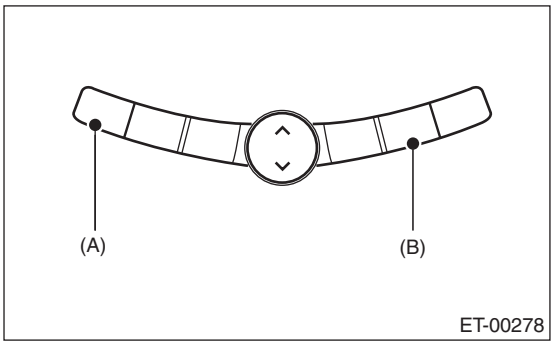
1) Park vehicle on a level surface with wide space around the vehicle rear side.
2) Adhere tapes on the floor of the vehicle rear side as shown in the figure, as the datum point of makers.

NOTE:
Use a tape of approx. 30 mm width in bright colors as a criterion.



(A) 500 mm (19.7 in)
(B) 2180 mm (85.8 in)
(C) Tapes as criteria

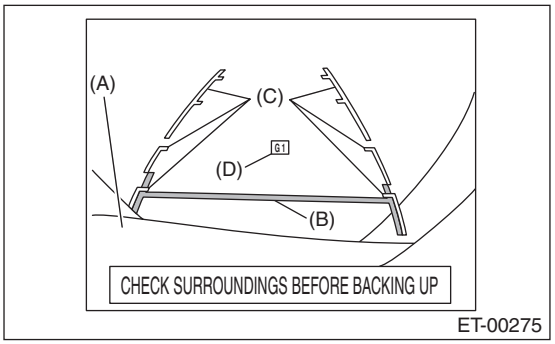
3) While pressing key (A) and key (B) of navigation switch, turn the ignition switch to ACC to enter the test mode.



4) Touch REAR CAMERA MODE in the monitor and go to the maker adjustment mode.

CAUTION:
Do not select other than REAR CAMERA MODE; the navigation system or the navigation monitor may not operate normally.

5) Touch the monitor to change maker pattern.
6) Marker pattern will be stored by turning ignition switch to OFF.



(A) Rear bumper
(B) Tapes adhered in step 2)
(C) Marker
(D) Marker No.

NOTE:
Adjust the marker so that the marker laps over the tape or is placed outside of the tape.

5. Multi-function Display (MFD) System

A: WIRING DIAGRAM

<Ref. to WI-165, WIRING DIAGRAM, Multi-function Display (MFD) System.>

B: INSPECTION

Symptom	Repair order
No power coming in. • Light does not illuminate. • Display does not come on.	1. Check the fuse and power supply for the display. 2. Check the ground circuit of the display. 3. Remove the display to repair.
A specific light or display does not come on.	1. Check the display. 2. Check the output circuit between unit and display.

1. MFD ERROR DISPLAY AND FAULT CONTENT

Display contents	Fault cause
CHECK_DISC	• During playback, it was not possible to read data from the CD due to scratches on the CD, etc. • Disc inserted upside-down, cannot detect disc. • Because of a focus error, cannot read disc. • An error occurred in the decoder section. • A problem occurred in the internal circuit during playback due to high temperature, etc.
MECHA_ERROR	• During disc loading, a problem occurred in the traverse drive. • Operation became impossible during disc change, loading, or eject.
NO_FILE	• After disc read operation is completed, the number of files was 0 • A disc with no data was inserted.
	• Disc is dirty, or is upside down. • Nothing is recorded. • Is not an audio disc. • There are scratches on the disk. • A disc that cannot be played back was used.
	A mechanical error/operational error of some sort occurred.
	No disc is inserted.

NOTE:
When the above errors are displayed, check the disc, and if no problems can be found, repair or replace the unit.

6. Rear Entertainment System

A: WIRING DIAGRAM

<Ref. to WI-167, WIRING DIAGRAM, Rear Entertainment System.>

B: INSPECTION

1. CHECK THE DVD-ROM.

Insert a region code 1 DVD-ROM, and check that the images from the DVD are displayed when playing back the media.

NOTE:
Region code 1 is a code for North American DVD-ROM discs. DVD-ROMs of different region codes will not be played back.
Standard value: Image from DVD should be displayed.
OK: Normal
NG: If the images from the DVD is not displayed, check whether the DVD-ROM is set in the rear entertainment system, whether the correct side is set, type of the DVD-ROM, the existence of any scratches, etc. If there are no problems on the DVD-ROM, the main body is defective.

NOTE:
The rear entertainment system is not compatible with MP3 files or DVD-Audio.

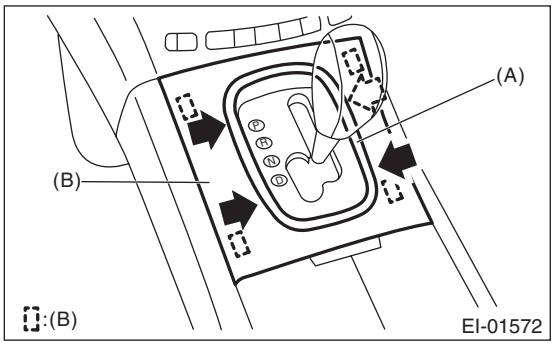
2. ERROR DISPLAY AND CONTENT

Screen display	Trouble contents
INCORRECT CODE	When an incorrect number is entered.
DISC ERROR	When it is not possible to read the disc due to scratches or insertion upside down.
REGION CODE ERROR	When the region code of the disc does not match (is a region code other than 1).
MECHA ERROR	Replace the rear entertainment system.
NO DISC	The DVD switch was pressed when there was no disc inside.

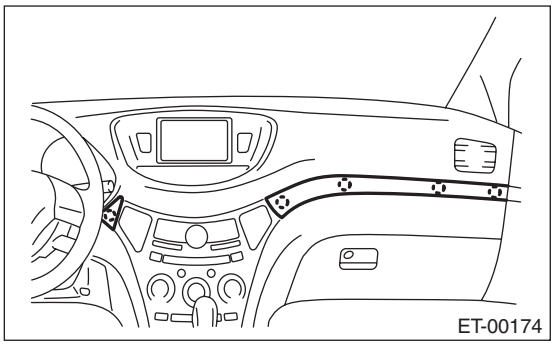
7. Control Panel

A: REMOVAL

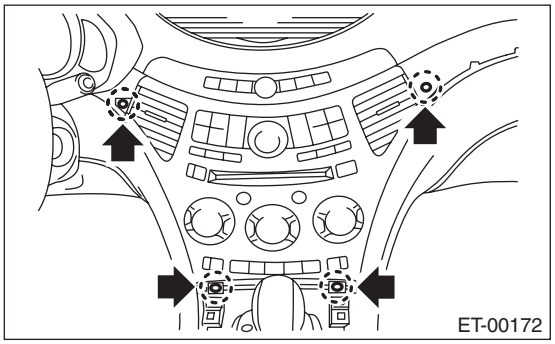
1) Disconnect the ground cable from the battery.
2) Remove the ring indicator (A) and console front panel (B).



3) Remove the instrument ornament on passenger's seat and inner panels on driver's seat.



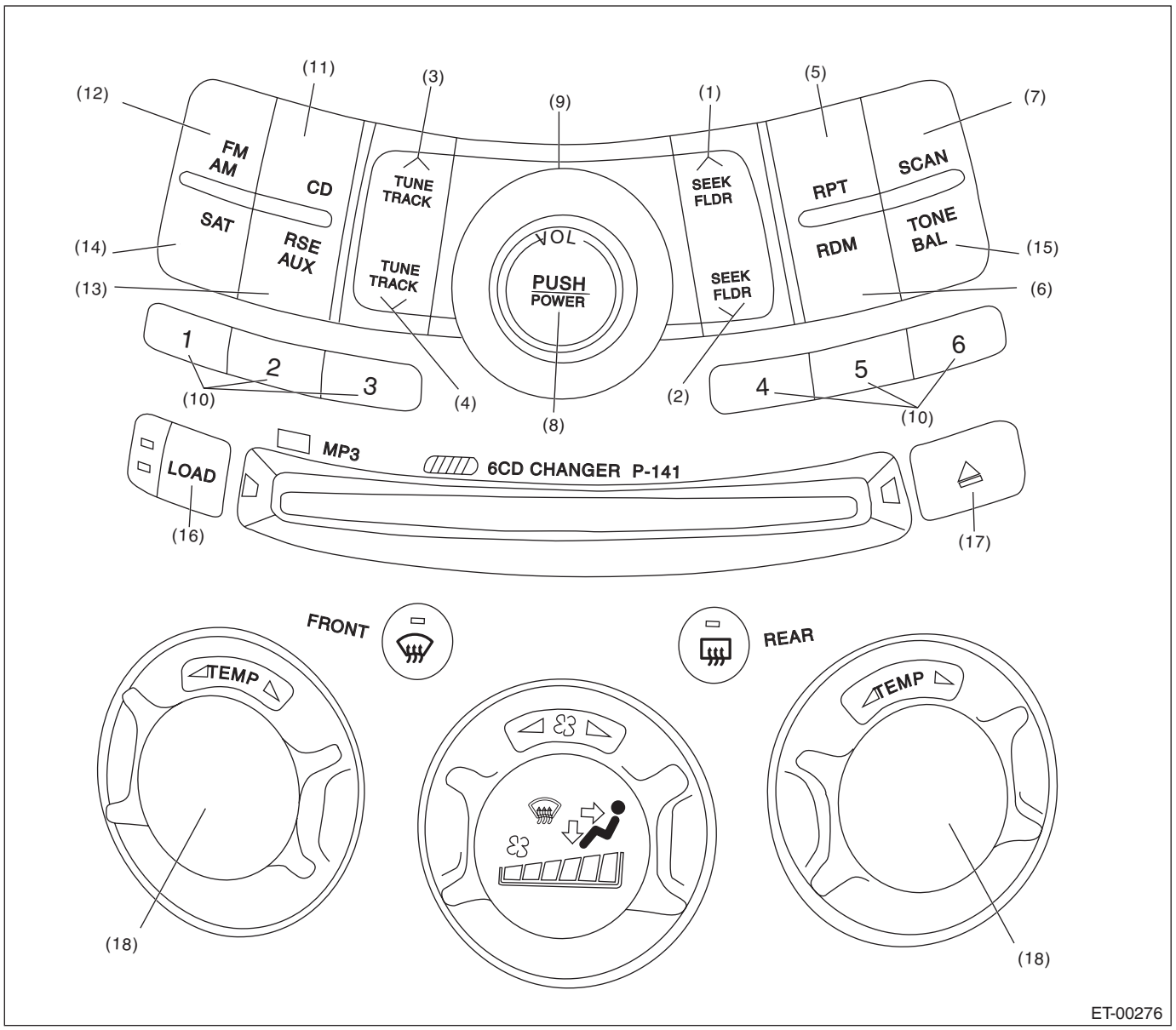
4) Remove the screws, and remove the control panel.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION



(1) SEEK/FLDR UP switch
(2) SEEK/FLDR DOWN switch
(3) TUNE TRACK UP switch
(4) TUNE TRACK DOWN switch
(5) RPT switch
(6) RDM switch
(7) SCAN switch
(8) PUSH/POWER switch
(9) VOLUME
(10) Presets 1 — 6
(11) CD switch
(12) FM/AM switch
(13) RSE AUX switch
(14) SAT switch
(15) TONE/BAL switch
(16) LOAD switch
(17) EJECT switch
(18) TEMP display section

NOTE:
• For self diagnosis of the audio system, there is a communications check (communication condition between the audio and the control panel) and a switch check. Perform a communications check first and make sure it is operating normally before proceeding to the inspection of switches.
• Complete operations from when the self diagnosis mode of step 1 operates and the buzzer sounds, to pressing the preset 1 switch in 3., within 15 seconds. If more than 15 seconds pass, a communications error will be displayed.
• During the diagnosis, do not press the “POWER (8), FM/AM (12), SAT (14), CD (11), RSE AUX (13)” switches. Pressing these switches will disengage the self diagnosis mode. However, CD, RSE, AUX and SAT will be canceled only with a disc loaded or unit connected.

1. SELF DIAGNOSIS OF THE CONTROL PANEL AND AUDIO

	Step	Check	Yes	No
1	**SETTING THE SELF-DIAGNOSIS MODE BY OPERATING THE CONTROL PANEL.** 1) Turn the audio system OFF with the ignition switch on ACC or ON. 2) With the TUNE UP switch and the SEEK DOWN switch held down, hold the RDM switch down for 2 seconds or more. 3) A buzzer will sound, and the unit will enter the diagnosis mode.	Does the self diagnosis mode of the control panel operate?	Go to step **3**.	Go to step **2**.
2	**CHECK BUZZER.**	Did the buzzer sound when going into the diagnosis mode?	Go to step **7**.	Check the connection of harness connector, and if there are no problems found, repair or replace the audio unit and control panel. <Ref. to ET-13, REMOVAL, Audio.> <Ref. to AC-34, REMOVAL, Control Panel.>
3	**CHECK VFD DISPLAY SECTION.**	Does whole VFD display section illuminate?	Go to step **4**.	Replace the audio unit. <Ref. to ET-13, REMOVAL, Audio.>
4	**CHECK THE COMMUNICATION STATUS.** Press the preset 1 switch, and confirm the TEMP display section of the control panel.	When the switch is pressed, is «88.8» displayed at the TEMP display section?	Go to step **5**.	Go to step **6**.
5	**CHECK THE COMMUNICATION STATUS.**	Was the display in step 3 on the left side TEMP display section?	Replace the audio unit. <Ref. to ET-13, REMOVAL, Audio.>	Replace the control panel. <Ref. to AC-34, REMOVAL, Control Panel.>
6	**CHECK SWITCH.** Operate the switches in the following list, and check the display content in the left and right TEMP displays.	Does the switch check list and the operated switches match? <Ref. to ET-12, SWITCH CHECK LIST, INSPECTION, Control Panel.>	Self diagnosis on audio main body is normally operated.	Replace the control panel. <Ref. to AC-34, REMOVAL, Control Panel.>
7	**CHECK THE MALFUNCTION DISPLAY.** 1) Reconnect the connector between the control panel and the audio. 2) Operate the control panel and switch to the self diagnosis mode.	Did the control panel switch to the malfunction diagnosis mode?	Go to step **4**.	Go to step **8**.
8	**CHECK THE MALFUNCTION DISPLAY.**	Did the buzzer sound when going into the self diagnosis mode?	<Ref. to ET-13, REMOVAL, Audio.>	<Ref. to ET-13, REMOVAL, Audio.> <Ref. to AC-34, REMOVAL, Control Panel.>

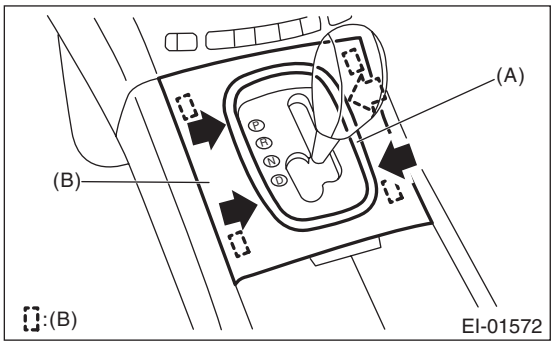
2. SWITCH CHECK LIST

Switch	TEMP display LH	TEMP display RH	Switch	TEMP display LH	TEMP display RH
TUNE/TRACK △	TR	UP	TONE/BAL	TO	—
TUNE/TRACK ▽	TR	DW	1 (Preset)	P1	—
SEEK/FLDR △	SK	UP	2 (Preset)	P2	—
SEEK/FLDR ▽	SK	DW	3 (Preset)	P3	—
SCAN	SC	—	4 (Preset)	P4	—
RPT	RP	—	5 (Preset)	P5	—
RDM	RD	—	6 (Preset)	P6	—
EJECT	EJ	—	VOL UP	VO	UP
LOAD	LO	—	VOL DOWN	VO	DW

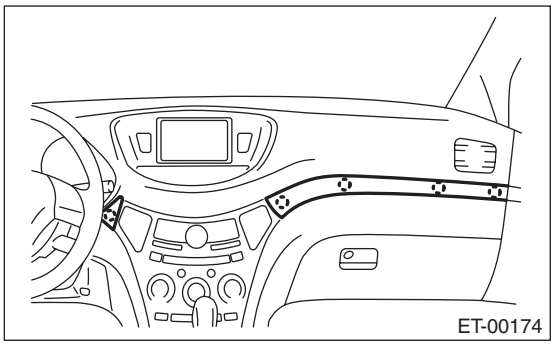
8. Audio

A: REMOVAL

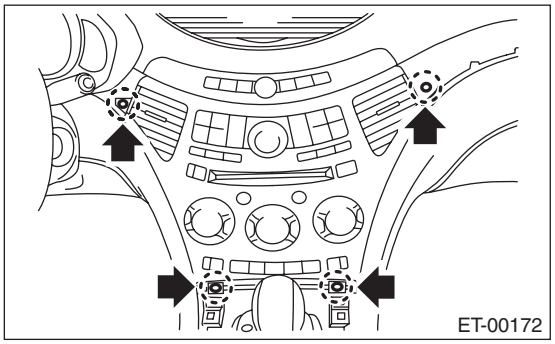
1) Disconnect the ground cable from the battery.
2) Remove the ring indicator (A) and console front panel (B).



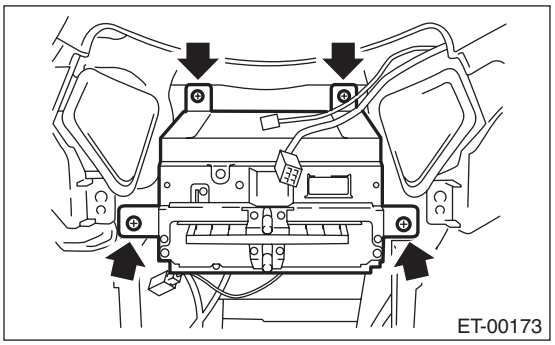
3) Remove the instrument ornament on passenger's seat and inner panels on driver's seat.



4) Remove the screws, and pull out the front control panel.



5) Disconnect the harness connectors and remove the front control panel.
6) Remove the screws, and partially pull the audio out from center console.



7) Disconnect the harness connector and antenna feeder cord, and then remove the audio.

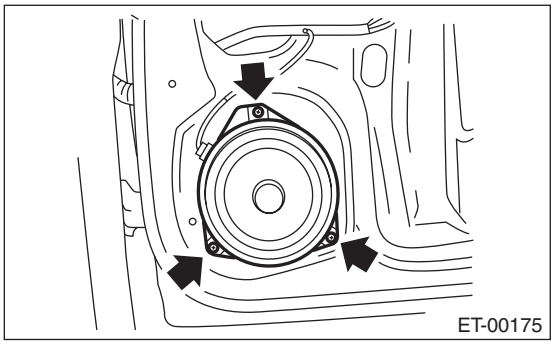
B: INSTALLATION

Install in the reverse order of removal.

9. Front Speaker

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the front speaker mounting screws.



4) Disconnect the harness connector and remove the front speaker.

B: INSTALLATION

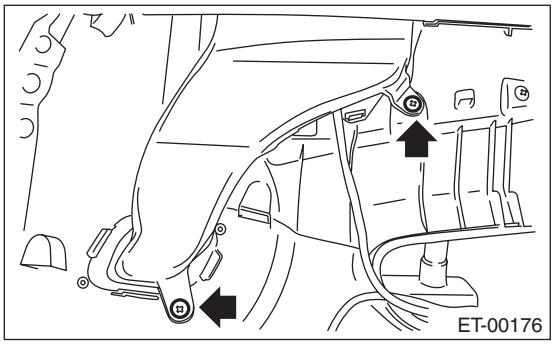
Install in the reverse order of removal.

10.Tweeter

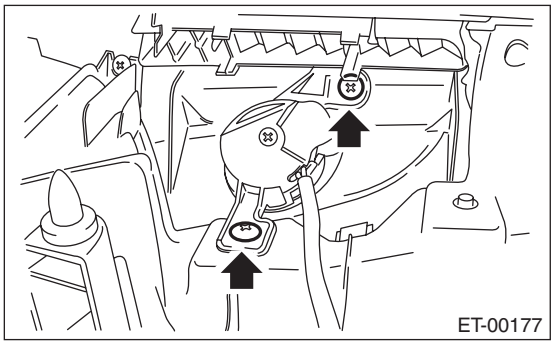
A: REMOVAL

1. FRONT

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the side deflector duct.



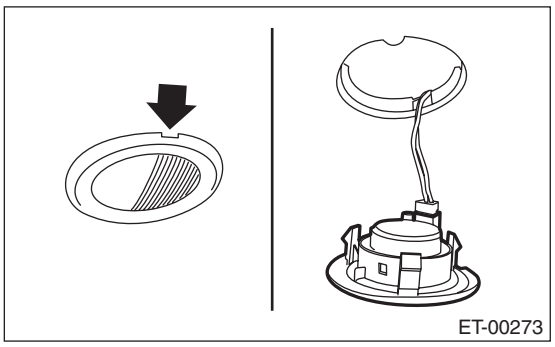
4) Remove the tweeter mounting screws.



5) Remove the tweeter.

2. REAR

1) Disconnect the ground cable from the battery.
2) Remove the tweeter from the roof trim.



3) Disconnect the harness connector.

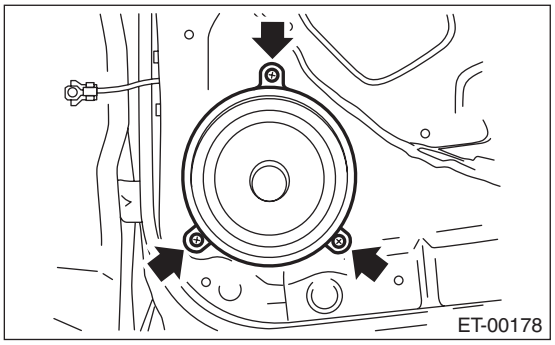
B: INSTALLATION

Install in the reverse order of removal.

11.Rear Speaker

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the rear speaker mounting screws.



4) Disconnect the harness connector and remove the rear speaker.

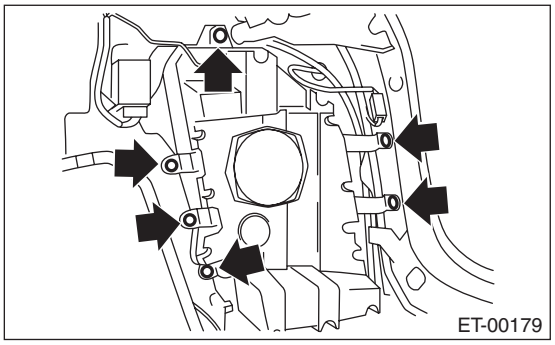
B: INSTALLATION

Install in the reverse order of removal.

12.Woofer

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
3) Remove the woofer bracket mounting screws.



4) Disconnect the harness connector and detach the woofers.

B: INSTALLATION

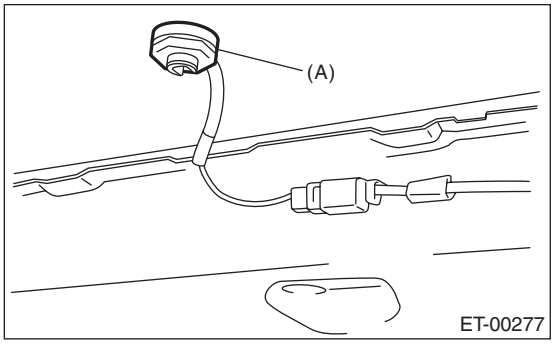
Install in the reverse order of removal.

13.Antenna

A: REMOVAL

1. ROOF ANTENNA (WITH XM SATELLITE RADIO)

1) Remove the roof trim. <Ref. to EI-52, REMOVAL, Roof Trim.>
2) Disconnect the harness connector and terminal and remove the mounting nut (A).



3) Pull the antenna off roof top.

B: INSTALLATION

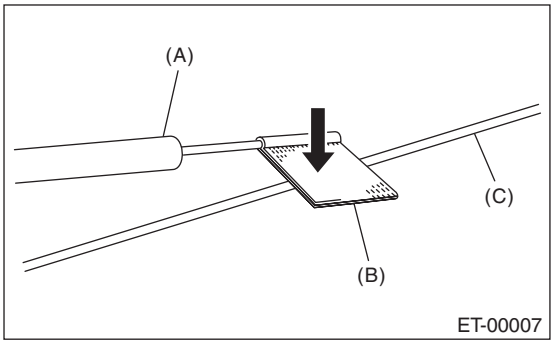
Install in the reverse order of removal.

C: INSPECTION

1. GLASS ANTENNA

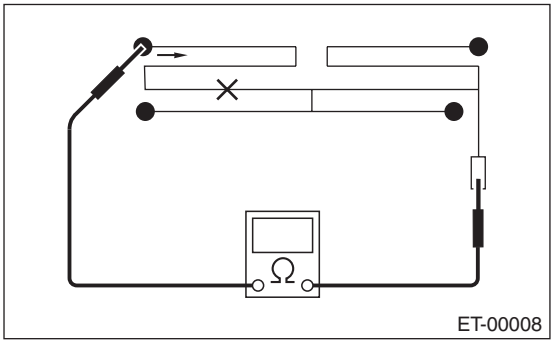
Measure the resistance between the antenna terminal and each antenna wire.
If an antenna wire is OK, resistance will be less than 1 Ω. If an antenna wire is broken, resistance will be more than 1 MΩ.

NOTE:
When checking the continuity, wind a piece of aluminum foil around the tip of tester probe and press foil against the antenna wire with your finger.



(A) Tester probe
(B) Aluminum foil
(C) Antenna wire

To locate the broken point, move the probe along antenna wire.



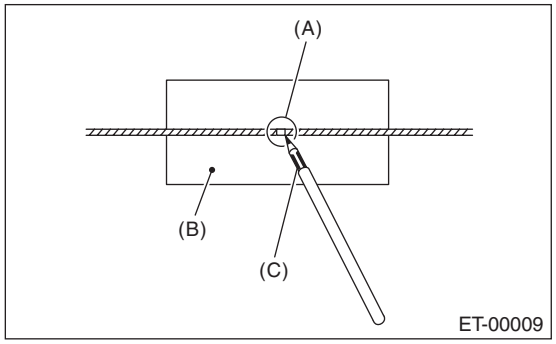
2. ROOF ANTENNA

Check for cracking or damage.
If any, replace the antenna.

D: REPAIR

1. GLASS ANTENNA

1) Clean the antenna wire and surrounding area with a cloth dampened by alcohol.
2) Paste a thin masking film on the glass along broken wire.
3) Apply the conductive silver composition (DUPONT No. 4817) on the broken portion with a drawing pen.



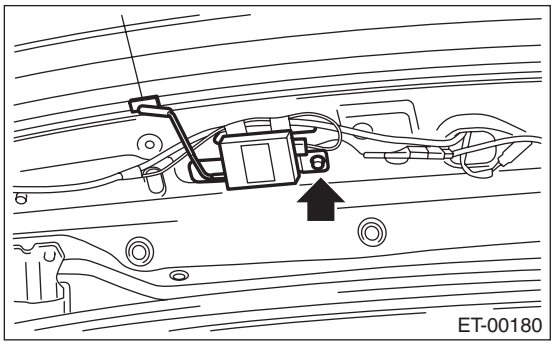
(A) Broken portion
(B) Masking film
(C) Conductive silver composition

4) Dry out the deposited portion.
5) After repair has been completed, measure the resistance in repaired wire.

14.Antenna Amplifier

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
3) Disconnect the harness connectors and terminals.
4) Remove the screws and detach the antenna amplifier.

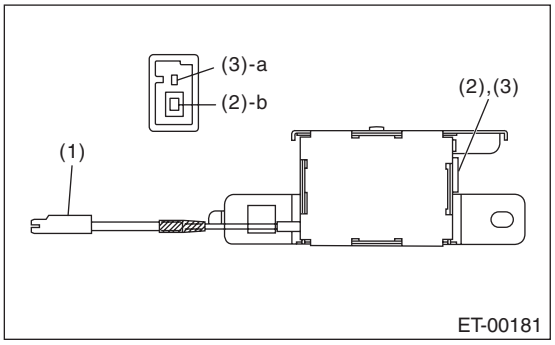


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance of antenna amplifier.

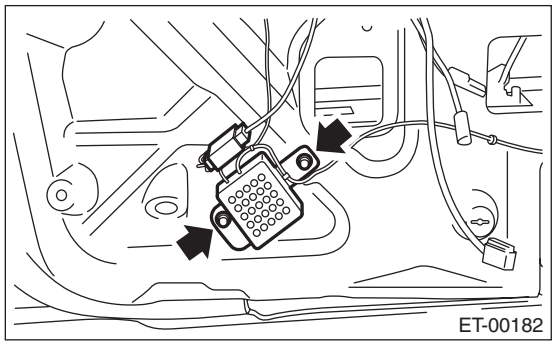


Terminal No.	Standard
(1) and amplifier body	10 kΩ or more
(2)-b and amplifier body	10 kΩ or more
(3)-a and amplifier body	10 kΩ or more

15.Noise Suppressor

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
3) Disconnect harness connector from noise suppressor.
4) Remove the screws and detach the noise suppressor.



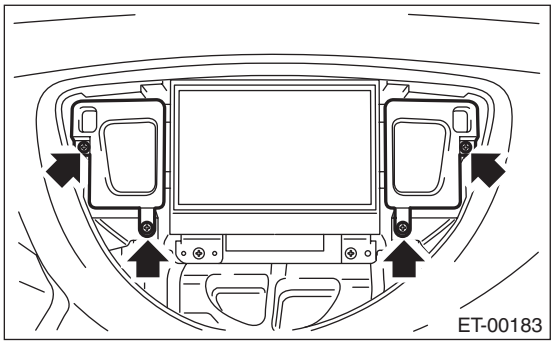
B: INSTALLATION

Install in the reverse order of removal.

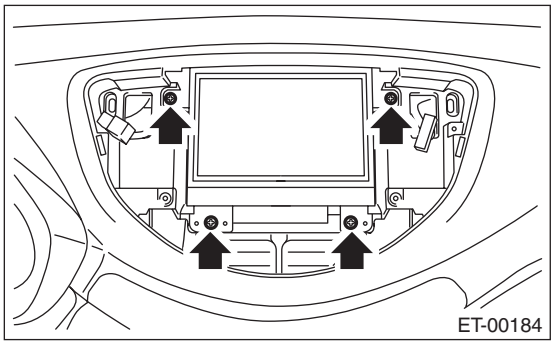
16.Navigation Display

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the upper grille. <Ref. to AC-51, UPPER GRILL, REMOVAL, Air Vent Grille.>
3) Remove the warning box.



4) Remove the screws and then remove the navigation display.



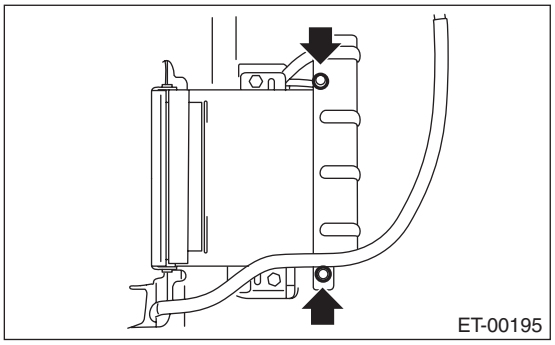
B: INSTALLATION

Install in the reverse order of removal.

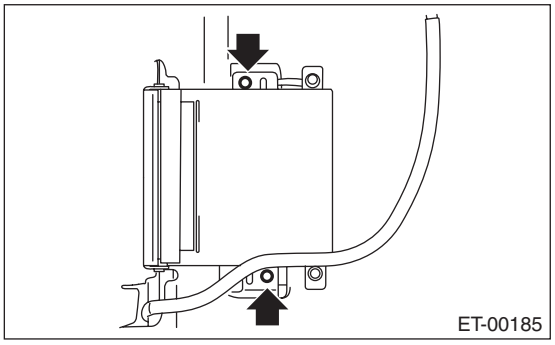
17.Navigation Body

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Slide the driver's seat to the forward position.
3) Remove the cover attachment bolts, and remove the cover.



4) Disconnect the connector.
5) Remove the bolts and then remove the navigation unit.



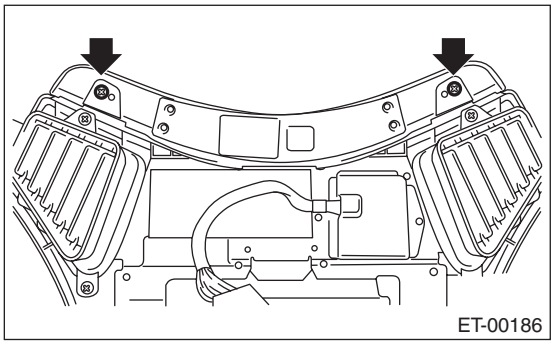
B: INSTALLATION

Install in the reverse order of removal.

18.Navigation Switch

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the control panel. <Ref. to ET-9, REMOVAL, Control Panel.>
3) Remove the screws and then remove the navigation switch.



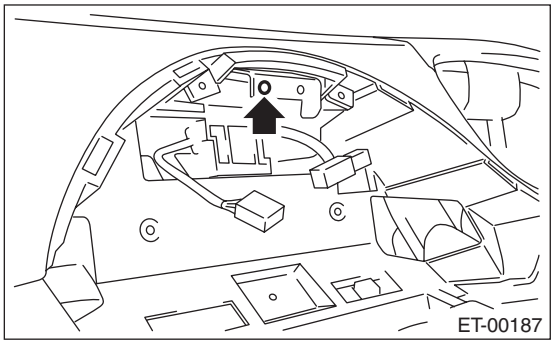
B: INSTALLATION

Install in the reverse order of removal.

19.GPS Antenna

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>
3) Remove the audio. <Ref. to ET-13, REMOVAL, Audio.>
4) Remove the navigation display. <Ref. to ET-22, REMOVAL, Navigation Display.>
5) Remove the screw to remove the GPS bracket.



6) Remove the GPS antenna cord connector from the steering support beam stay (on the driver's side).

B: INSTALLATION

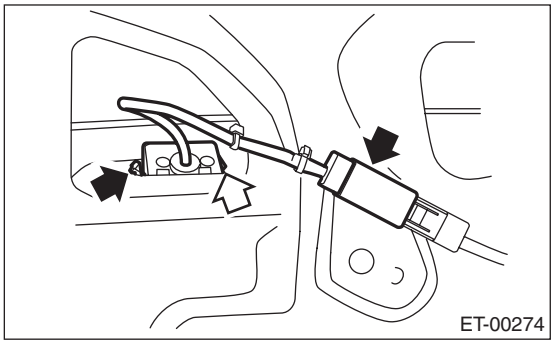
Install in the reverse order of removal.

20.Rearview Camera

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim and disconnect the rear view camera connector.
3) Press the pawls (black arrow side), remove the rear view camera.

NOTE:
Pawl indicated by white arrow is fixed. Press the ones indicated by black arrows.



B: INSTALLATION

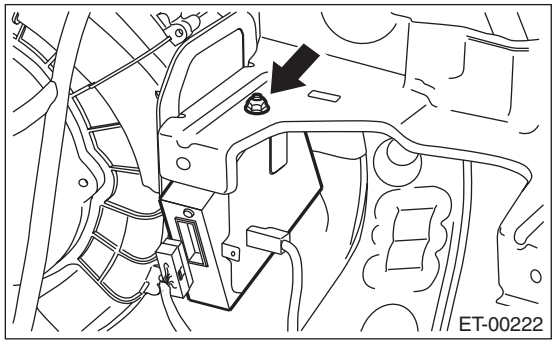
Install in the reverse order of removal.

NOTE:
Make sure the maker position of the rear view camera after installation. <Ref. to ET-6, ADJUSTMENT, Rearview Camera System.>

21.Rearview Camera Control Unit

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the left rear quarter lower trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
3) Remove the nut, disconnect the connector and remove the control unit.



B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the maker position of the rear view camera after installation. <Ref. to ET-6, ADJUSTMENT, Rearview Camera System.>

22.Multi-function Display (MFD)

A: NOTE

For removal/installation of the multi-function display, refer to the operation procedure for the navigation display. <Ref. to ET-22, Navigation Display.>

23.Multi-function Switch

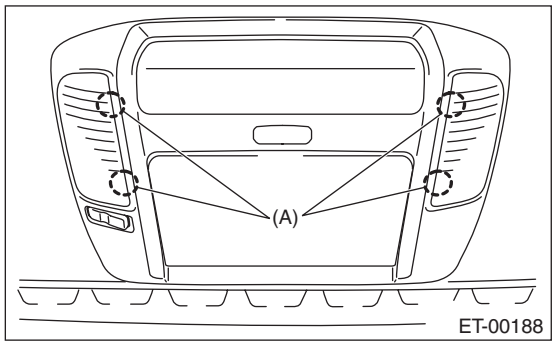
A: NOTE

For removal/installation of the multi-function switch, refer to the operation procedure for the navigation switch. <Ref. to ET-24, REMOVAL, Navigation Switch.>

24.Rear Entertainment

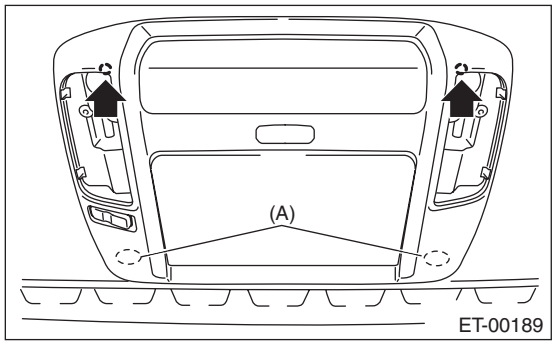
A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Insert a flat tip screw driver in the ○ section, and remove the room light lens.



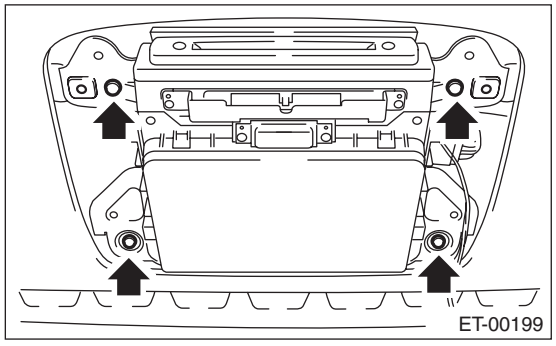
(A) Cutout

3) Remove the bolts, and then remove the monitor cover.

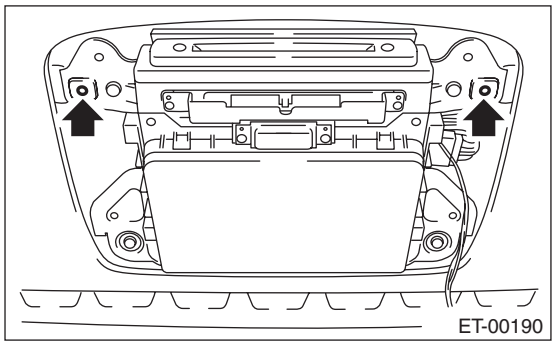


(A) Clip

4) Remove the 4 mounting bolts.



5) Remove the temporary screws and remove the monitor body.



NOTE:
Always support with one hand to prevent the unit from falling.
6) Remove the temporary clips from the roof brace.

B: INSTALLATION

1) Attach the temporary clip and temporary screw to the rear entertainment system body.

NOTE:
When installing a new rear entertainment system, a clip is supplied on the unit, and step 1) can be omitted.
2) Place the hook of the rear entertainment unit on the roof brace section.
3) Affix the temporary fixture clips on the roof brace.
4) Tighten the 4 attachment bolts, and connect the connector.
5) Connect the room light connector, attach the cover and affix with the bolts.
6) Attach the room light lens from the outside of the vehicle and snap into place.

25.AUX Input Terminal

A: REMOVAL

1. REAR ENTERTAINMENT INPUT TERMINAL

1) Disconnect the ground cable from the battery.
2) Remove the left rear quarter trim lower. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
3) Remove the AUX input terminal from the rear quarter trim.

2. AUDIO INPUT TERMINAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
3) Remove the AUX input terminal from the console box.

B: INSTALLATION

Install in the reverse order of removal.

26.Front Accessory Power Supply Socket

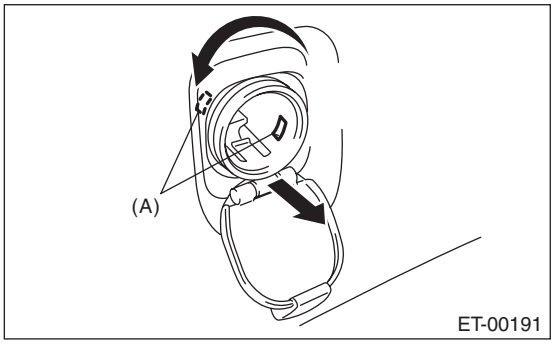
A: WIRING DIAGRAM

<Ref. to WI-170, WIRING DIAGRAM, Front Accessory Power Supply Socket System.>

B: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
3) Disconnect the harness connector, and remove the accessory power supply socket.

NOTE:
The socket can be pulled out by unlocking the accessory socket lock in 2 locations and turning the socket to the left.



C: INSTALLATION

Install in the reverse order of removal.

NOTE:
Confirm that the accessory socket is locked and can not be pulled out.

27.Rear Accessory Power Supply Socket

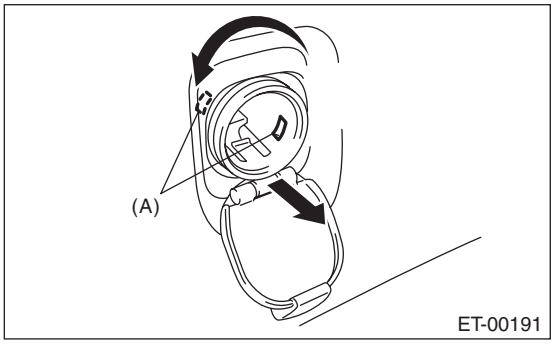
A: WIRING DIAGRAM

<Ref. to WI-171, WIRING DIAGRAM, Rear Accessory Power Supply Socket System.>

B: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the left rear quarter lower trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
3) Disconnect the harness connector, and remove the accessory power supply socket.

NOTE:
The socket can be pulled out by unlocking the accessory socket lock in 2 locations and turning the socket to the left.



C: INSTALLATION

Install in the reverse order of removal.

NOTE:
Confirm that the accessory socket is locked and can not be pulled out.

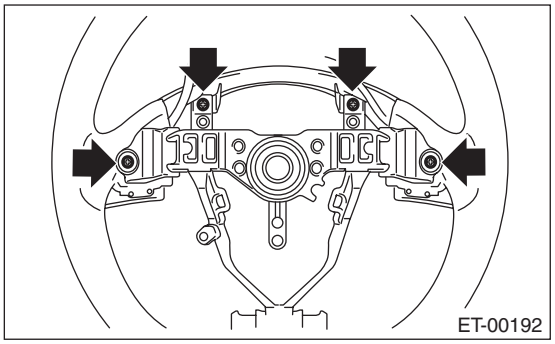
28.Steering Satellite Switch

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Set the tire to the straight-ahead position.
3) Remove the airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>

WARNING:
If there are airbag modules mounted, always refer to "Airbag System" when performing airbag module service. <Ref. to AB-14, INSPECTION, Driver's Airbag Module.>

4) Remove the steering wheel. <Ref. to PS-13, REMOVAL, Steering Wheel.>
5) Remove the cover from steering wheel.
6) Remove 2 satellite switch mounting screws each from the left and right sides.



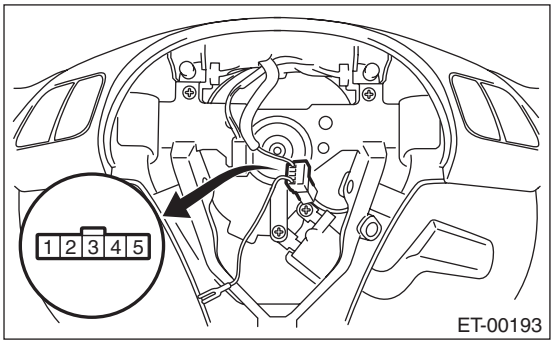
7) Remove the satellite switch.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance between satellite switch connector terminals.



Switch	Area	Terminal No.	Standard
Mute Volume (+) Volume (–) Mode Seek (/\) Seek (\/)	All OFF	1 and 2	Approx. 4.7 kΩ
Mute	ON	1 and 2	Approx. 22 Ω
Volume (+)	ON	1 and 2	Approx. 90 Ω
Volume (–)	ON	1 and 2	Approx. 200 Ω
Mode	ON	1 and 2	Approx. 360 Ω
Seek (/\)	ON	1 and 2	Approx. 690 Ω
Seek (\/)	ON	1 and 2	Approx. 1.5 kΩ

If NG, replace the cruise control command switch.

COMMUNICATION SYSTEM

COM

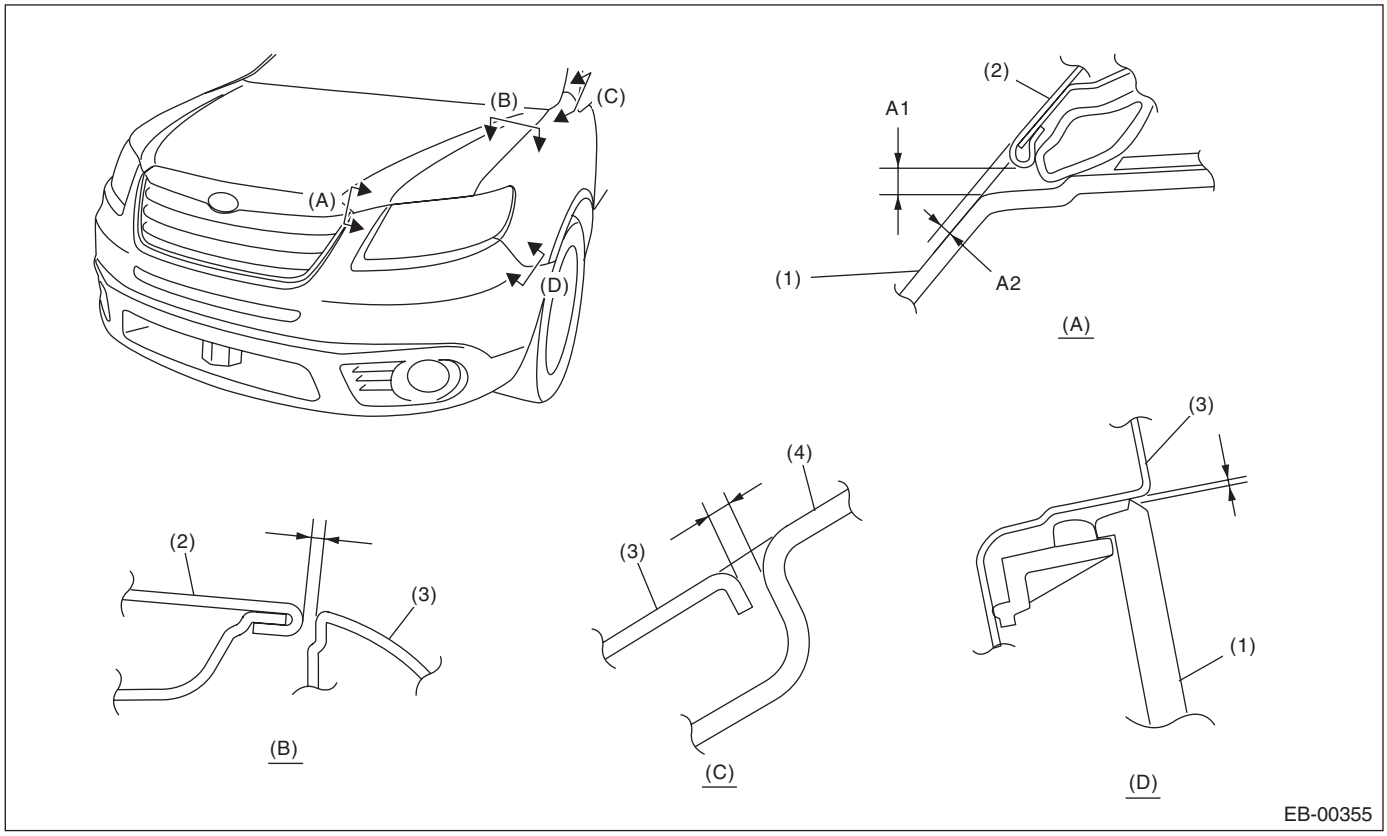
Page

1. General Description 2
2. Horn System 3
3. Horn 4
4. Horn Switch 5

1. General Description

A: SPECIFICATION

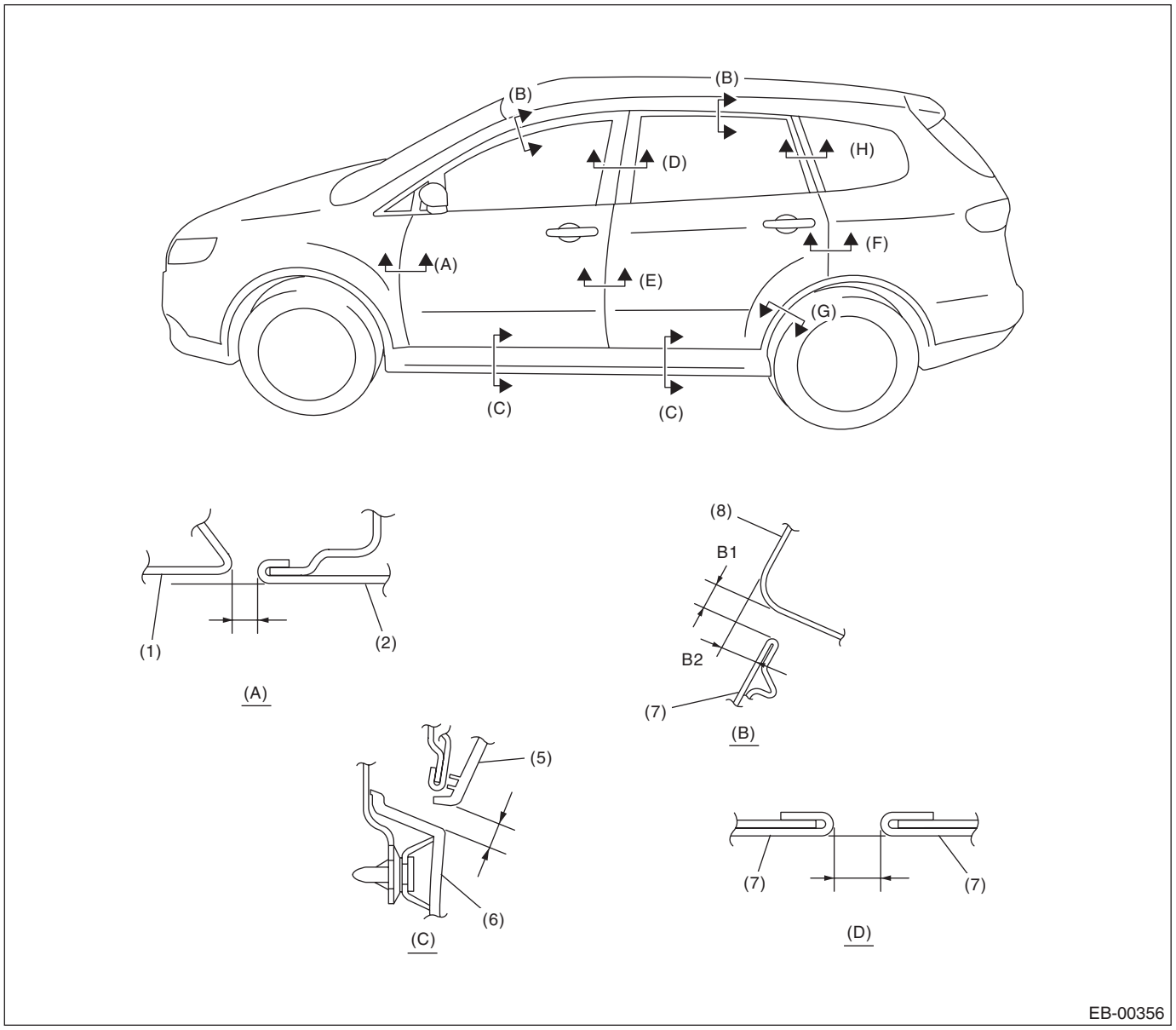
1. FRONT

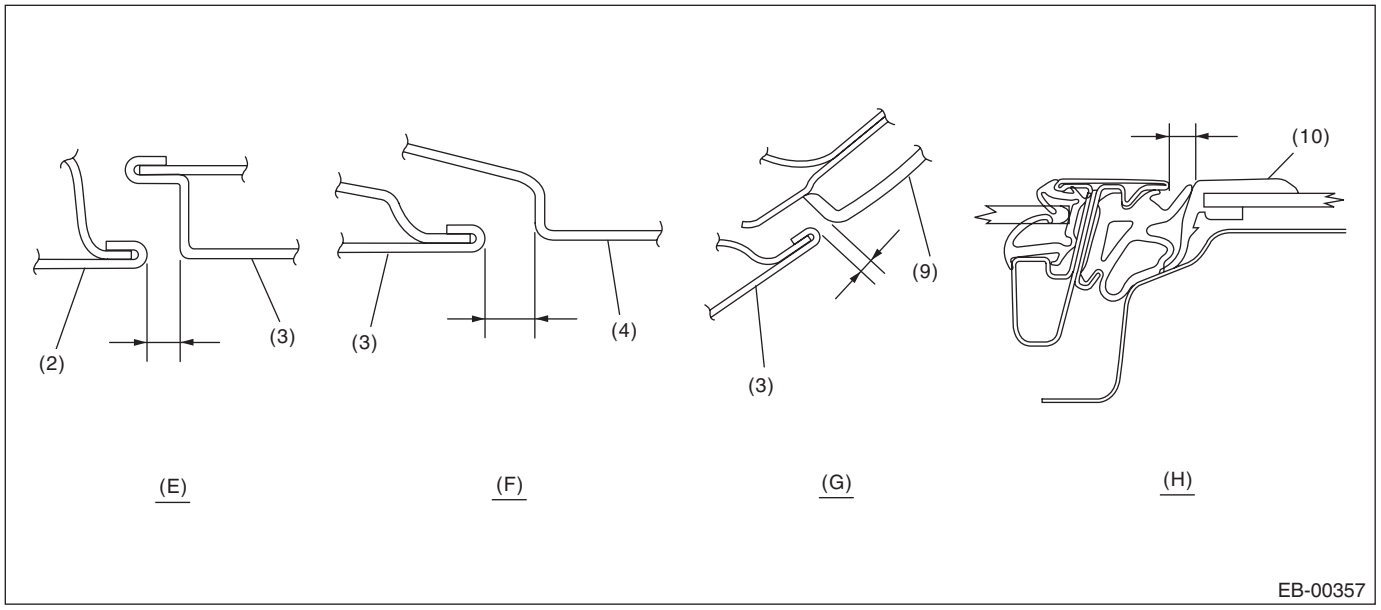


(1) Front bumper
(2) Front hood panel
(3) Front fender panel
(4) Front pillar

Section	Part	Specification
(A)	Front hood panel to Front bumper	A1: 5.0±1.0 mm (0.20±0.04 in) A2: 2.5±1.0 mm (0.10±0.04 in)
(B)	Front hood panel to Front bumper	3.5±1.0 mm (0.14±0.04 in)
(C)	Front fender panel to Front pillar	2.0±0.5 mm (0.08±0.02 in)
(D)	Front bumper to Front fender panel	0.3 + 1.0 mm (0.012 + 0.04 in)

2. SIDE

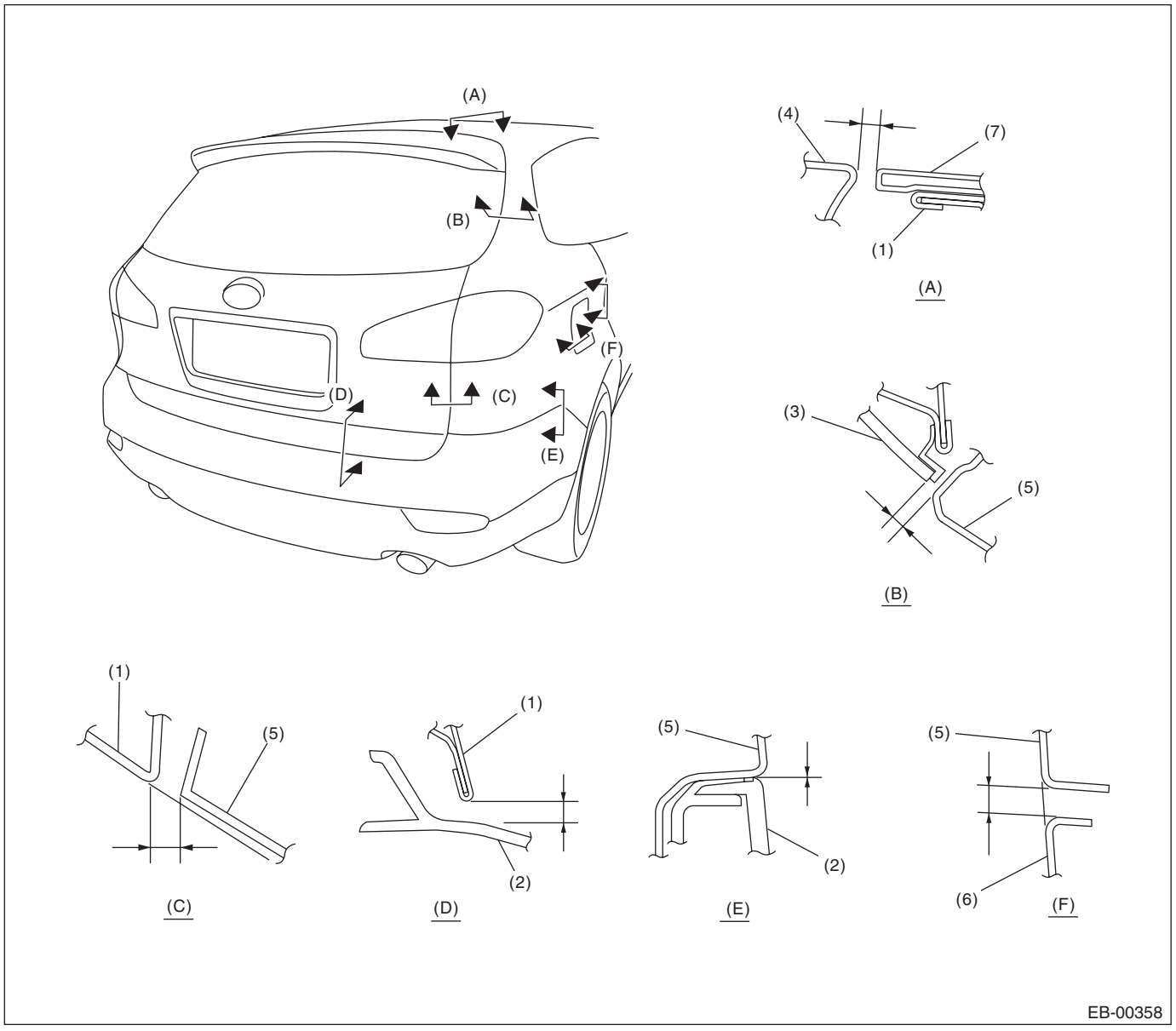




(1) Front fender panel
(2) Front door panel
(3) Rear door panel
(4) Rear quarter panel
(5) Door garnish
(6) Side sill garnish
(7) Door sash
(8) Roof panel
(9) Rear quarter garnish
(10) Rear quarter glass

Section	Part	Specification
(A)	Front fender panel to Front door panel	4.0±1.0 mm (0.16±0.04 in)
(B)	Door sash to Roof panel	C1: 5.0±1.0 mm (0.20±0.04 in) C2: 4.0±1.0 mm (0.16±0.04 in)
(C)	Door garnish to Side sill garnish	8.0±1.5 mm (0.31±0.06 in)
(D)	Front door sash to Rear door sash	5.6±1.0 mm (0.22±0.04 in)
(E)	Front door panel to Rear door panel	4.6±1.0 mm (0.18±0.04 in)
(F)	Rear door panel to Rear quarter panel	4.0±1.0 mm (0.16±0.04 in)
(G)	Rear quarter garnish to Rear door panel	4.0±1.0 mm (0.16±0.04 in)
(H)	Between rear door sash to Rear quarter glass	5.0±1.0 mm (0.20±0.04 in)

3. REAR

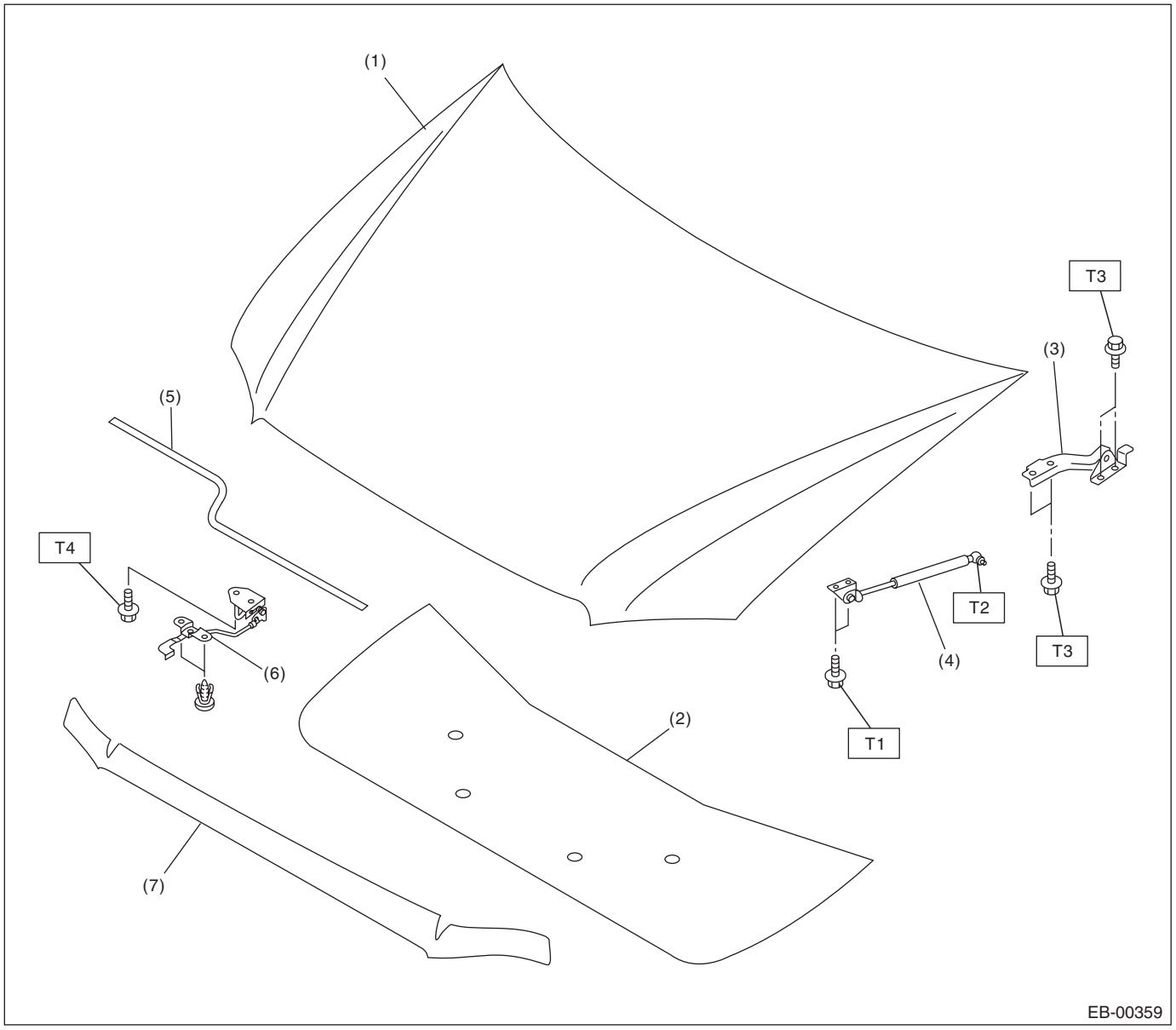


(1) Rear gate panel
(2) Rear bumper
(3) Rear gate glass
(4) Roof panel
(5) Rear quarter panel
(6) Fuel filler flap lid
(7) Roof spoiler

Section	Part	Specification
(A)	Roof panel to Roof spoiler	5.5±1.0 mm (0.22±0.04 in)
(B)	Rear gate glass to Rear quarter panel	5.5±1.5 mm (0.22±0.06 in)
(C)	Rear gate panel to Rear quarter panel	4.0±1.0 mm (0.16±0.04 in)
(D)	Rear gate panel to Rear bumper	7.0±1.5 mm (0.28±0.06 in)
(E)	Rear quarter panel to Rear bumper	0.3 + 1.0 mm (0.012 + 0.04 in)
(F)	Area around the Fuel filler flap lid to Quarter panel	3.5±0.5 mm (0.14±0.02 in)

B: COMPONENT

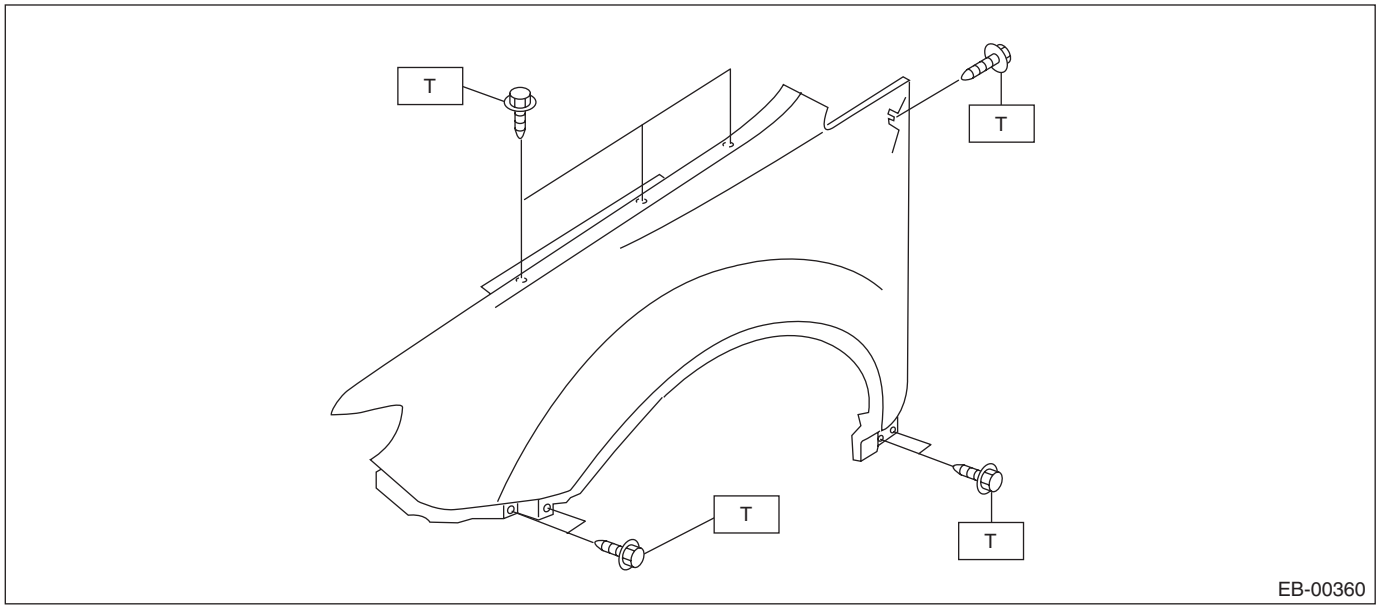
1. FRONT HOOD



(1)	Front hood panel	(6)	Front hood release handle ASSY
(2)	Front hood insulator	(7)	Front grille weatherstrip
(3)	Front hood hinge		
(4)	Front hood damper		
(5)	Front hood weather strip		

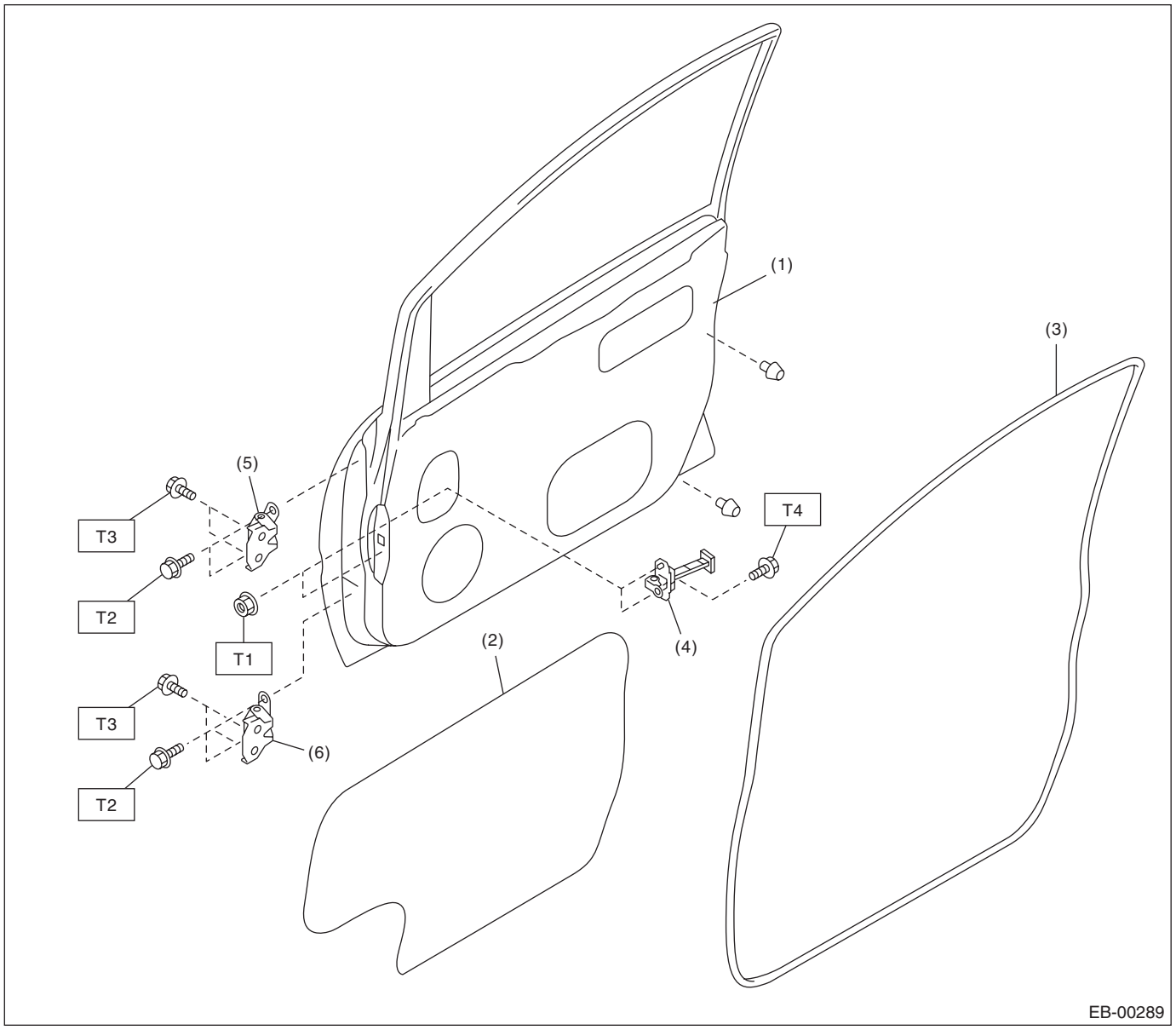
Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 20 (2.04, 14.5)
T3: 24.5 (2.5, 18.1)
T4: 33 (3.4, 24.5)

2. FRONT FENDER PANEL



Tightening torque:N·m (kgf-m, ft-lb)
T: 7.4 (0.75, 5.5)

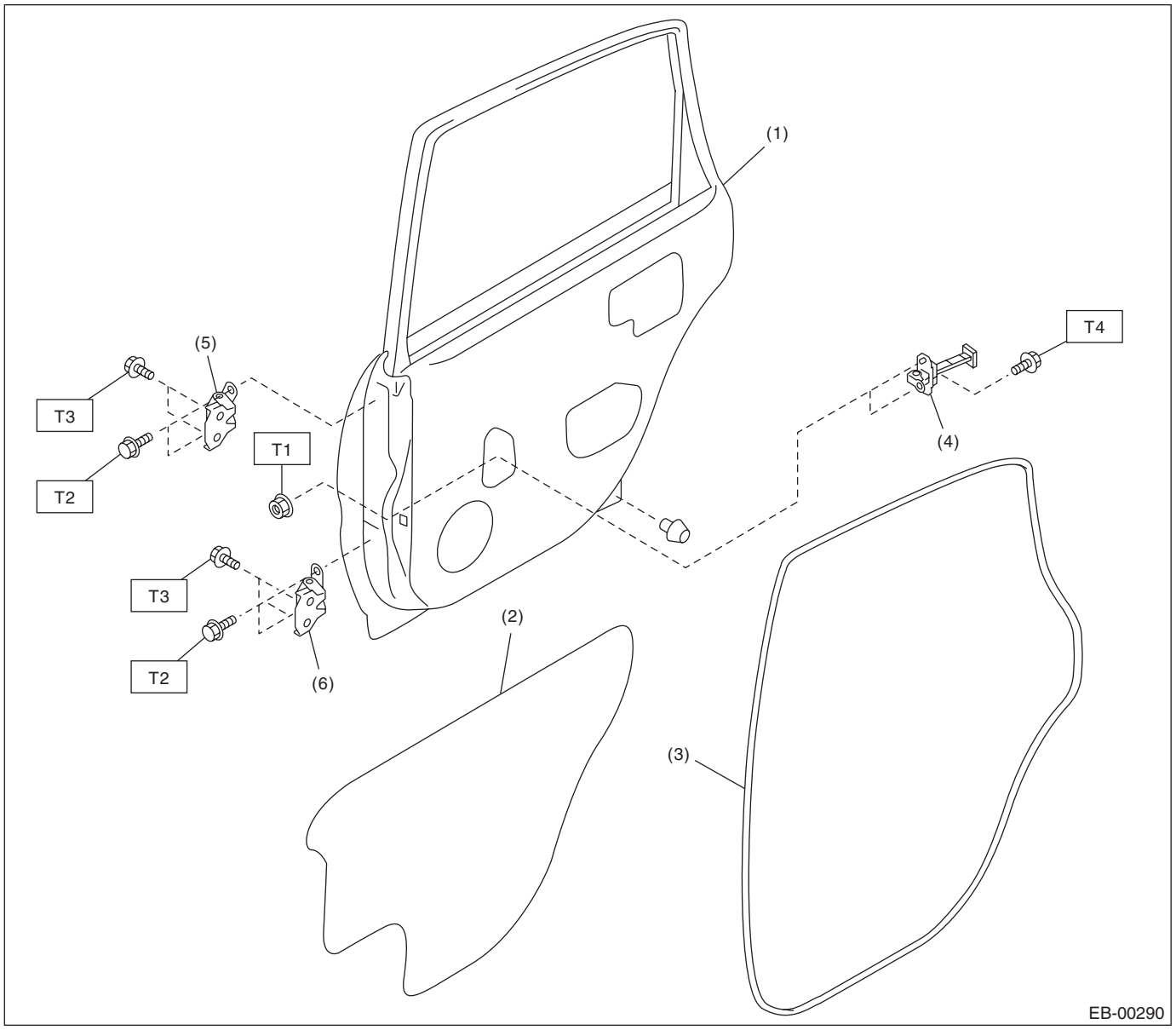
3. FRONT DOOR PANEL



(1)	Front door panel	(4)	Checker
(2)	Sealing cover	(5)	Upper hinge
(3)	Front door weather strip	(6)	Lower hinge

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.4 (0.75, 5.5)
T2: 24.5 (2.5, 18.1)
T3: 29.4 (3.0, 21.7)
T4: 32.3 (3.3, 23.8)

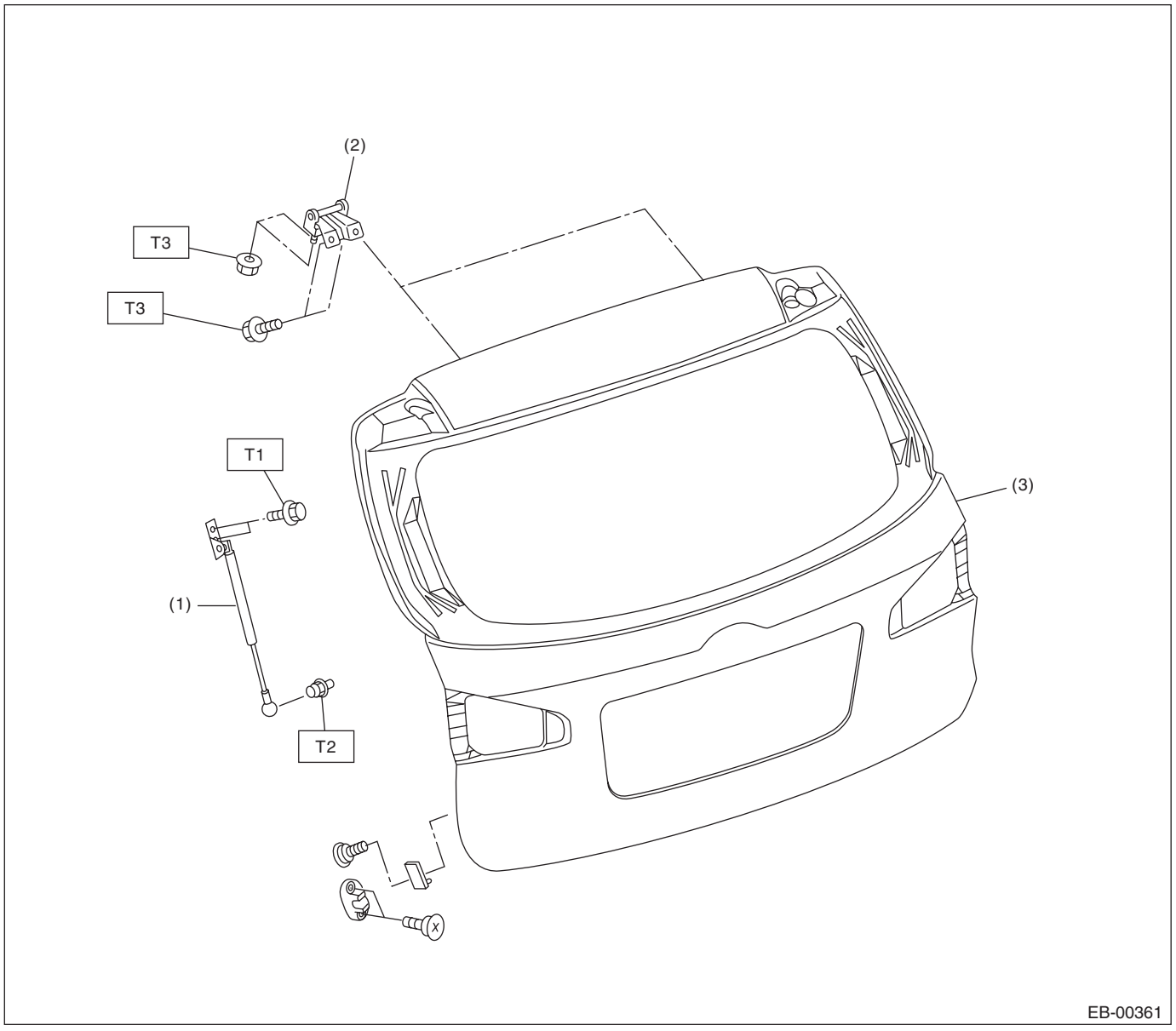
4. REAR DOOR PANEL



(1)	Rear door panel	(4)	Checker
(2)	Sealing cover	(5)	Upper hinge
(3)	Rear door weather strip	(6)	Lower hinge

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.4 (0.75, 5.5)
T2: 24.5 (2.5, 18.1)
T3: 29.4 (3.0, 21.7)
T4: 32.3 (3.3, 23.8)

5. REAR GATE PANEL



(1) Rear gate damper stay
(2) Hinge
(3) Rear gate panel

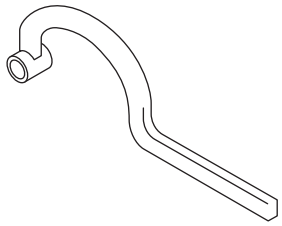
Tightening torque:N·m (kgf-m, ft-lb)
T1: 16 (1.63, 11.5)
T2: 20 (2.04, 14.5)
T3: 25 (2.6, 18.4)

C: CAUTION

- Exterior body panels are heavy. Do not drop and damage the panels. During removal and installation, do not damage the panel painting surface.
- While removing mounting bolts, using assistance devices such as a support jack will help support the panel.
- Be careful not to lose small parts.

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-925610000	925610000	WRENCH	Used for removing and installing door hinge.

2. GENERAL TOOL

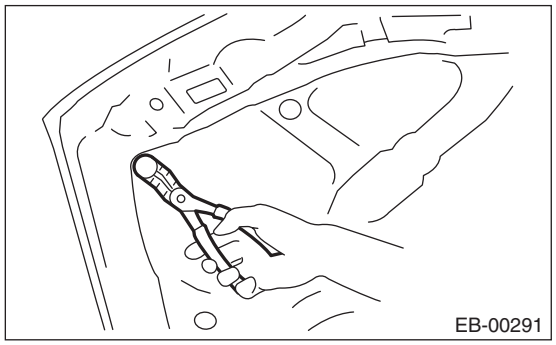
TOOL NAME	REMARKS
Support jack	Used for supporting door panel.
Clip remover	Used for removing various types of clips

2. Front Hood

A: REMOVAL

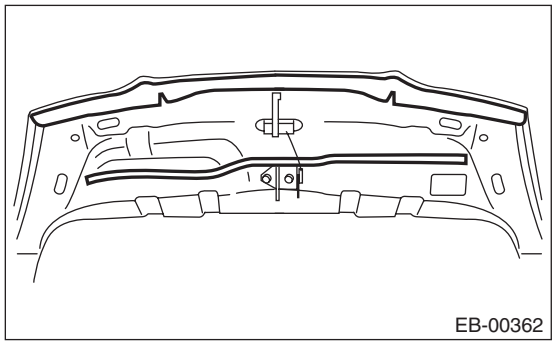
1. FRONT HOOD INSULATOR

1) Release the clips to remove the front hood insulator.

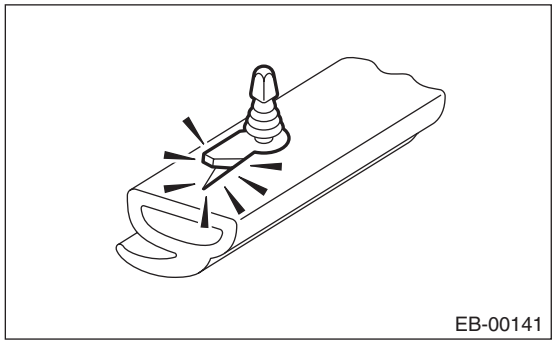


2. FRONT HOOD WEATHER STRIP

1) Remove the weather strip.

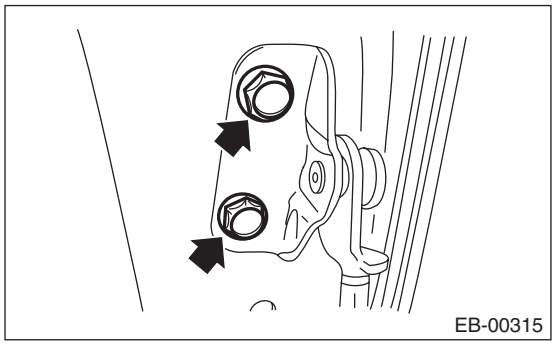


NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.

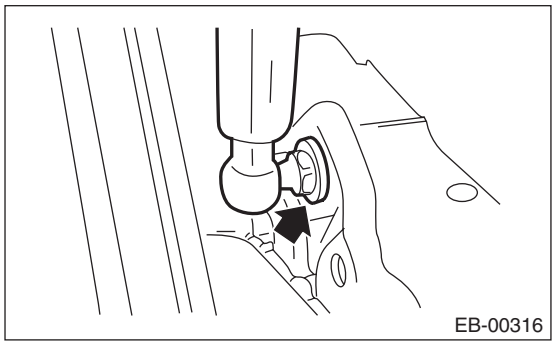


3. FRONT HOOD DAMPER

1) Remove the mounting bolts, and remove the damper stay.

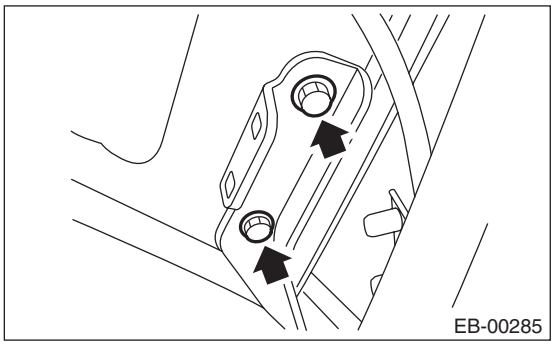


2) Remove the mounting bolt of front hood damper stay.

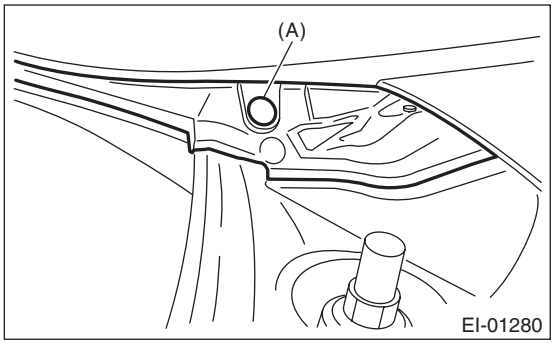


4. FRONT HOOD HINGE

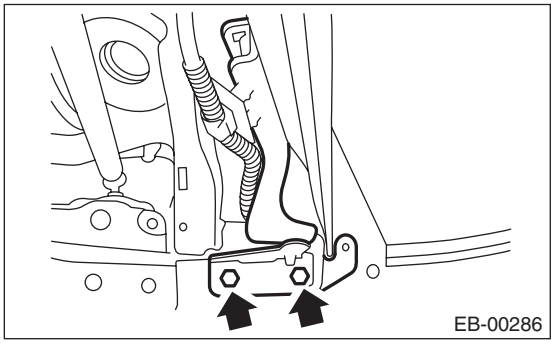
1) Remove the front hood damper.
2) Remove the bolt, and remove the front hood panel.



3) Remove the clip, and remove the cowl side panel front.



4) Remove the front fender. <Ref. to EB-15, REMOVAL, Front Fender.>
5) Remove the bolts of front hood hinge.

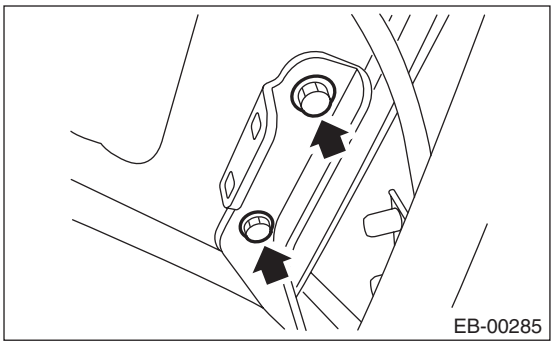


5. FRONT HOOD STRIKER

Refer to the front hood lock assembly of SL section. <Ref. to SL-43, Front Hood Lock Assembly.>

6. FRONT HOOD PANEL

1) Remove the front hood insulator.
2) Open the front hood to remove the window washer hose.
3) Remove the front hood weather strip.
4) Remove the hood lock assembly.
<Ref. to SL-43, REMOVAL, Front Hood Lock Assembly.>
5) Remove the window washer hose and nozzle. <Ref. to WW-18, REMOVAL, Front Washer Nozzle.>
6) Remove the front hood damper.
7) Remove the bolt, and remove the front hood panel from the front hood hinge.



B: INSTALLATION

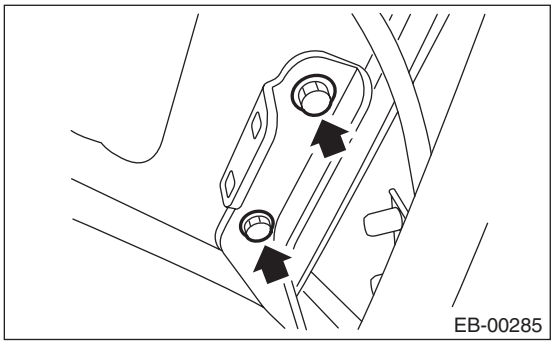
Install in the reverse order of removal.

NOTE:
Be careful not to catch the window washer hose in.

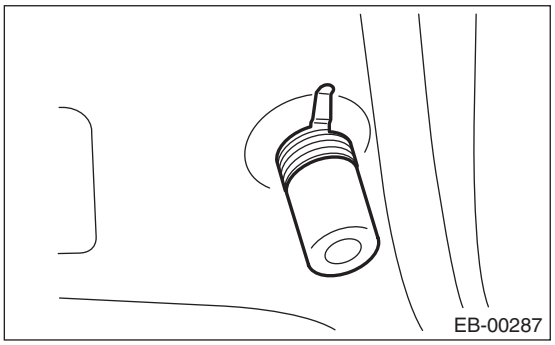
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EB-6, FRONT HOOD, COMPONENT, General Description.>

C: ADJUSTMENT

1) Adjust the clearance between front hood panel and front fender panel. Clearance must be equal at both sides. For the dimension of clearance, refer to “SPECIFICATION” in “General Description”. <Ref. to EB-2, SPECIFICATION, General Description.>
2) Use the hinge mounting bolts to align the front hood longitudinal and lateral position.



3) Adjust the height at the front end of hood. <Ref. to SL-43, ADJUSTMENT, Front Hood Lock Assembly.>
4) Rotate the hood buffer to adjust lateral height.



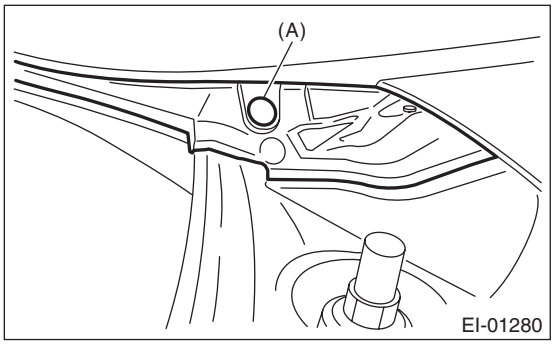
D: DISPOSAL

For the disposal procedures of front hood damper stay, refer to the disposal procedures of rear gate damper stay. <Ref. to EB-24, REAR GATE DAMPER STAY, DISPOSAL, Rear Gate.>

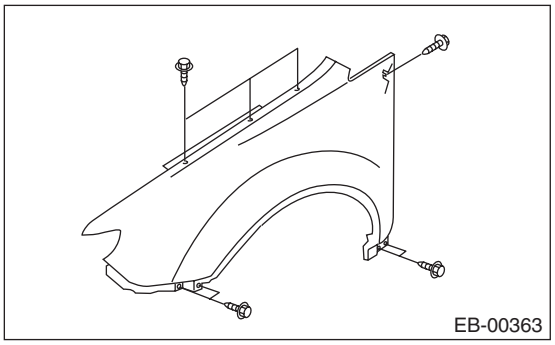
3. Front Fender

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the side sill garnish. <Ref. to EI-32, REMOVAL, Side Garnish.>
3) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
4) Remove the headlight assembly. <Ref. to LI-13, REMOVAL, Headlight Assembly.>
5) Remove the mud guard. <Ref. to EI-20, REMOVAL, Mud Guard.>
6) Remove the cowl panel side.



7) Remove the bolt, and remove the front fender panel.



B: INSTALLATION

1) Install in the reverse order of removal.
2) Install with attention to make uniform clearance between front fender panel and front hood panel. For the dimension of clearance, refer to “SPECIFICATION” in “General Description”. <Ref. to EB-2, SPECIFICATION, General Description.>

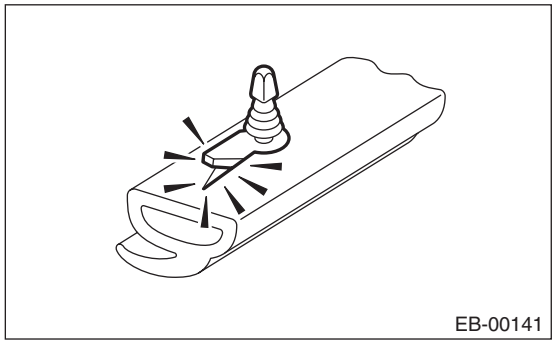
Tightening torque:
7.4 N·m (0.75 kgf-m, 5.5 ft-lb)

4. Front Door

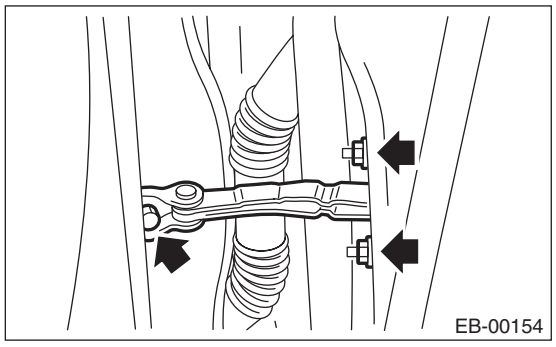
A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the outer mirror assembly. <Ref. to GW-14, REMOVAL, Outer Mirror Assembly.>
4) Remove the front door speaker. <Ref. to ET-14, REMOVAL, Front Speaker.>
5) Remove the sealing cover. <Ref. to EB-18, REMOVAL, Front Sealing Cover.>
6) Remove the front door glass. <Ref. to GW-10, REMOVAL, Front Door Glass.>
7) Remove the door sash, and remove the front door regulator and motor assemblies. <Ref. to GW-11, REMOVAL, Front Regulator and Motor Assembly.>
8) Remove the front inner remote. <Ref. to SL-33, REMOVAL, Front Inner Remote.>
9) Remove the front door latch assembly. <Ref. to SL-35, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
10) Remove the front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>
11) Remove the front door weather strip.

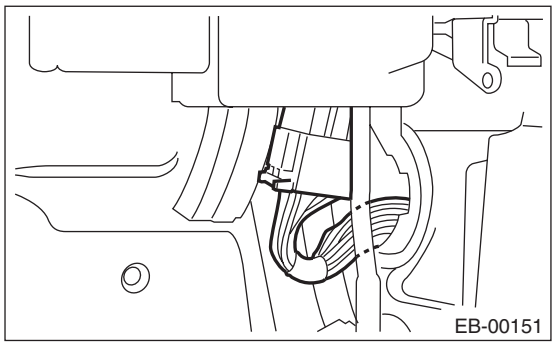
NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.


EB-00141

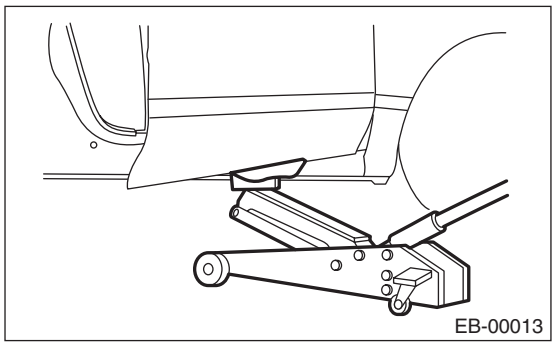
12) Remove the bolts and nuts to remove the door checker.


EB-00154

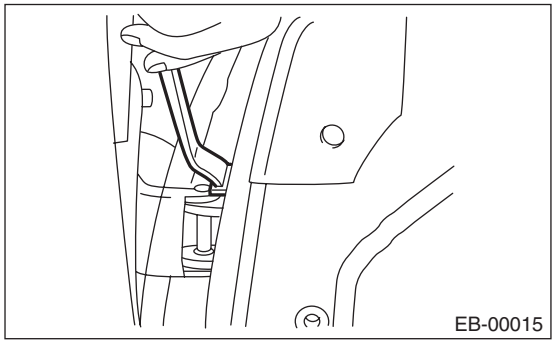
13) Remove the instrument panel lower cover or glove box lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.> or <Ref. to EI-39, REMOVAL, Glove Box.>
14) Disconnect the connector of door harness from body harness.


EB-00151

15) Put a wooden block on jack and place jack under the front door. Support the door with a jack to protect it from damage.


EB-00013

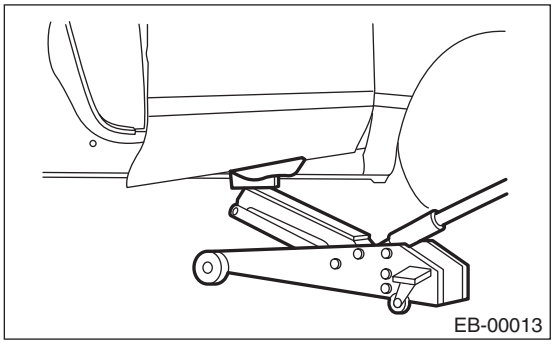
16) Remove the door-side bolts for upper and lower hinges to remove front door panel.


EB-00015

17) Remove the door hinge from vehicle.

B: INSTALLATION

1) Put a wooden block on jack and place the front door on that.

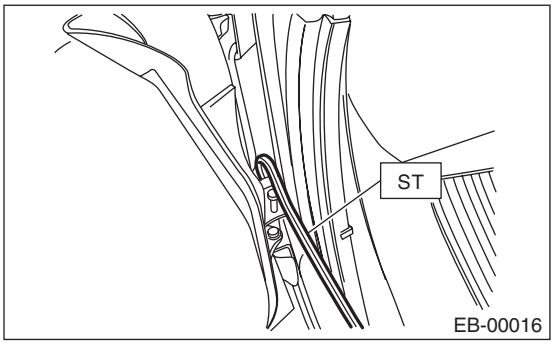


2) Apply grease to the sliding area of door hinges, and install the door hinge to vehicle.
3) Install the front door to upper hinge and lower hinge adjusting by jack.
4) Tighten bolt of door checker.
5) Connect door harness connector, and install the instrument panel lower cover.
6) Install the front pillar lower trim.

Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to EB-8, FRONT DOOR PANEL, COMPONENT, General Description.>

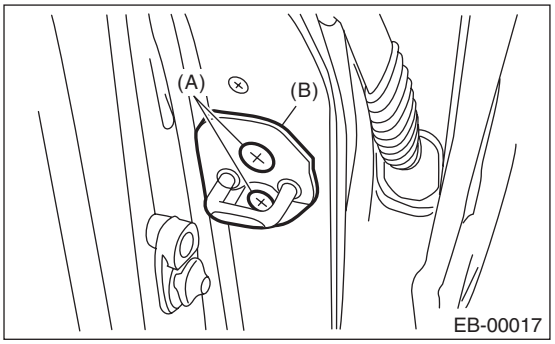
C: ADJUSTMENT

1) Using the ST, loosen the body-side bolts of upper and lower hinges to align the position for vertical and horizontal direction of the front door panel.
ST 925610000 DOOR HINGE WRENCH



2) Loosen the screw (A) and tap striker (B) using plastic hammer to adjust the gap between rear end surface of front door panel and front end surface of rear door.

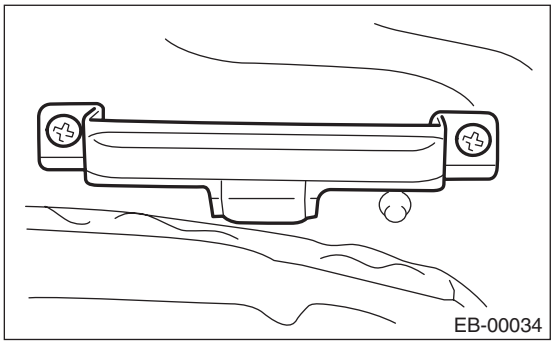
CAUTION:
Do not use an impact wrench. Welding area on the striker nut plate is easily broken.



5. Front Sealing Cover

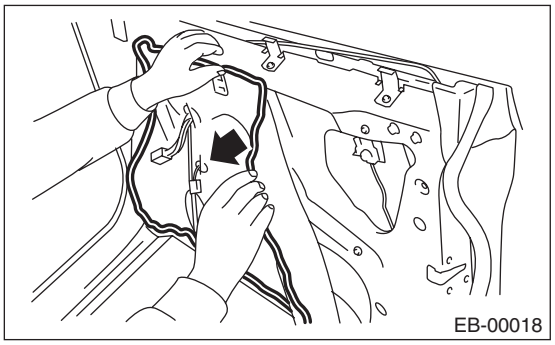
A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the door trim bracket.



4) Remove the sealing cover.

NOTE:
• Carefully remove the butyl tape. Excessive force will easily break the cover.
• If cover gets broken, replace it with a new part.



B: INSTALLATION

1) Install in the reverse order of removal.
2) When replacing the sealing cover, use the butyl tape.
3) Press the butyl tape-applied area firmly to prevent any floating on surface.

Butyl tape:
3M 8626 or equivalent

NOTE:
• Apply a uniform bead of butyl tape.
• Attach the sealing cover, keeping it from becoming wrinkled.
• Breaks in the bead will allow water leakage and contamination.

C: INSPECTION

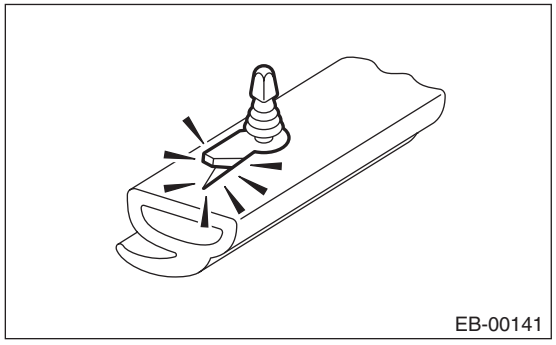
If the sealing cover gets damaged, replace it with a new part.

6. Rear Door

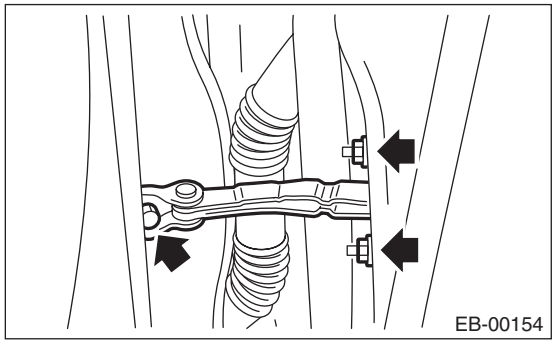
A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the rear speaker. <Ref. to ET-16, REMOVAL, Rear Speaker.>
4) Remove the sealing cover. <Ref. to EB-21, REMOVAL, Rear Sealing Cover.>
5) Remove the rear door glass. <Ref. to GW-17, REMOVAL, Rear Door Glass.>
6) Remove the door sash and rear door regulator and motor assemblies. <Ref. to GW-18, REMOVAL, Rear Regulator and Motor Assembly.>
7) Remove the rear inner remote. <Ref. to SL-37, REMOVAL, Rear Inner Remote.>
8) Remove the rear door latch. <Ref. to SL-39, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
9) Remove the rear outer handle. <Ref. to SL-38, REMOVAL, Rear Outer Handle.>
10) Remove the rear door inner weather strip.

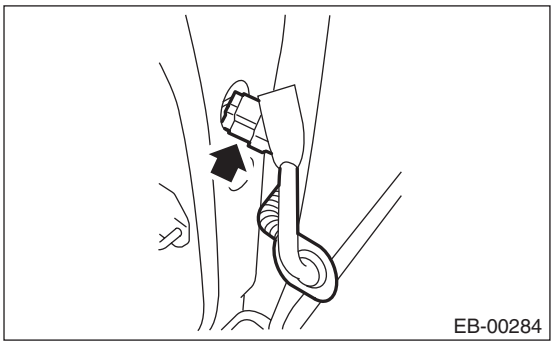
NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.


EB-00141

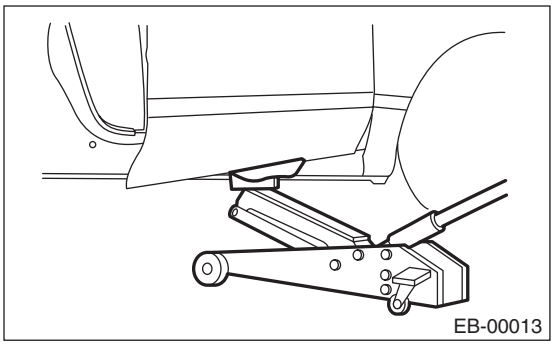
11) Remove the bolts and nuts to remove the door checker.


EB-00154

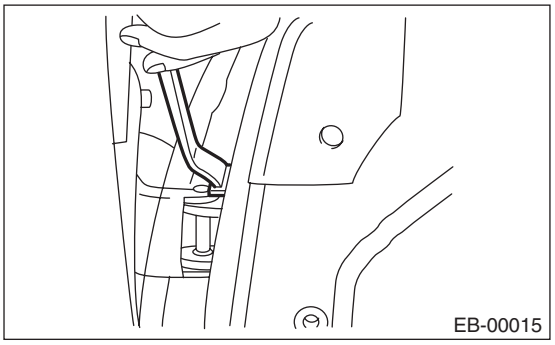
12) Pull the door harness connector inside the center pillar, then disconnect the connector.


EB-00284

13) Put a wooden block on jack and place jack under the rear door. Support the rear door with the jack to protect it from damage.


EB-00013

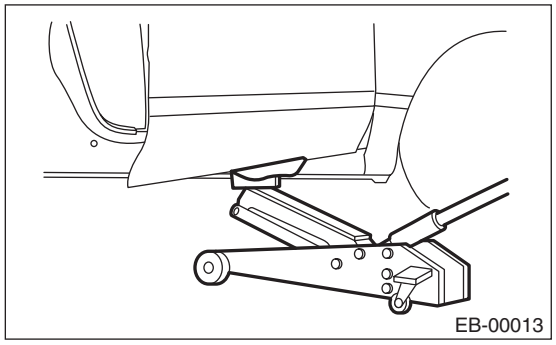
14) Remove the door-side bolts for upper and lower hinges to remove the rear door panel.


EB-00015

15) Remove the door hinge from vehicle.

B: INSTALLATION

1) Put a wooden block on jack and place the rear door on that.

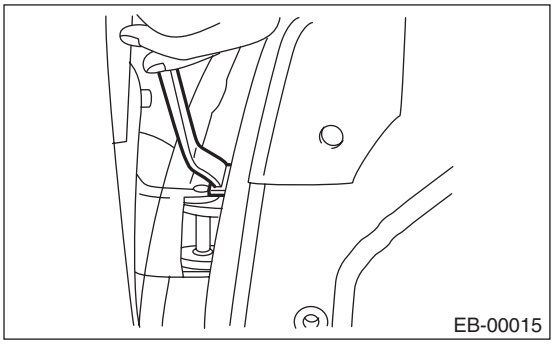


2) Apply grease to the moving part of door hinges.
3) Install the rear door to upper hinge and lower hinge adjusting by jack.
4) Tighten bolt of door checker.
5) Connect the door harness connector.

Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to EB-9, REAR DOOR PANEL, COMPONENT, General Description.>

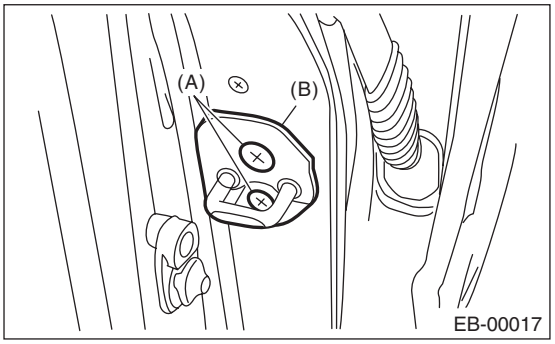
C: ADJUSTMENT

1) Open the rear door, loosen the door-side bolts of upper and lower hinges to align the position for vertical and horizontal direction of rear door panel.



2) Loosen the screw (A) and tap striker (B) using plastic hammer to adjust the gap between rear end surface of rear door panel and body surface.

CAUTION:
Do not use an impact wrench. Welding area on the striker nut plate is easily broken.



7. Rear Sealing Cover

A: REMOVAL

Refer to the front sealing cover. <Ref. to EB-18, REMOVAL, Front Sealing Cover.>

B: INSTALLATION

Refer to the front sealing cover. <Ref. to EB-18, INSTALLATION, Front Sealing Cover.>

C: INSPECTION

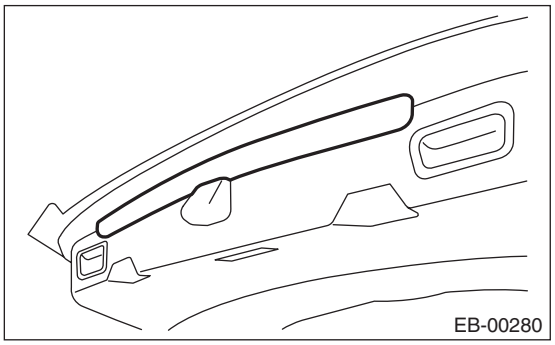
Refer to the front sealing cover. <Ref. to EB-18, INSPECTION, Front Sealing Cover.>

8. Rear Gate

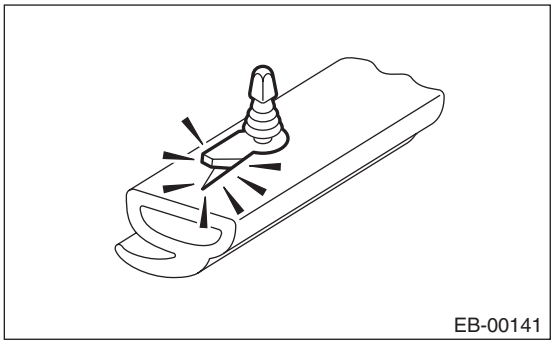
A: REMOVAL

1. REAR GATE PANEL

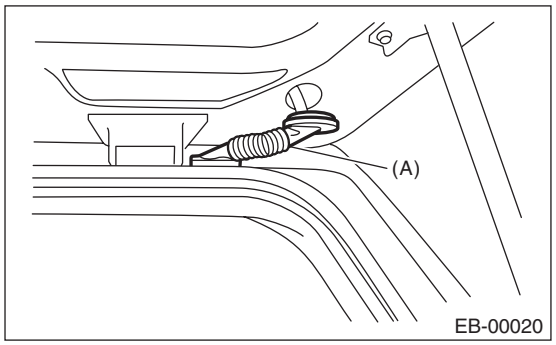
1) Remove the weather strip clip, and remove the rear gate panel weather strip.



NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use clip remover to remove.

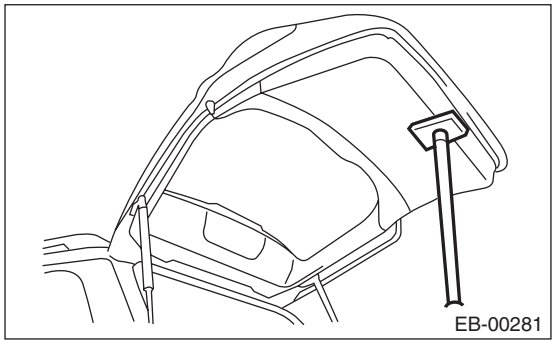


2) Remove the rear gate trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
3) Remove the rear gate garnish. <Ref. to EI-54, REMOVAL, Rear Gate Garnish.>
4) Remove the rear wiper arm. <Ref. to WW-19, REMOVAL, Rear Wiper Arm.>
5) Remove the rear wiper motor. <Ref. to WW-20, REMOVAL, Rear Wiper Motor.>
6) Remove the rear gate latch assembly. <Ref. to SL-42, REMOVAL, Rear Gate Latch Assembly.>
7) Detach the roof spoiler. <Ref. to EI-31, REMOVAL, Roof Spoiler.>
8) Remove the roof trim, and disconnect connector from the rear gate harness connector. <Ref. to EI-52, REMOVAL, Roof Trim.>
9) Disconnect the ground cable from the battery.
10) Remove harness clip of each connector from the rear gate panel.
11) Remove the rubber duct (A) connection, and pull out the harness and washer hose from the rear gate.

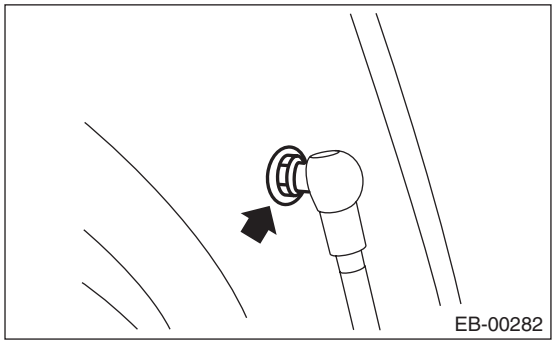


12) Before removing the rear gate damper stay, prevent the rear gate from closing using prop or the like.

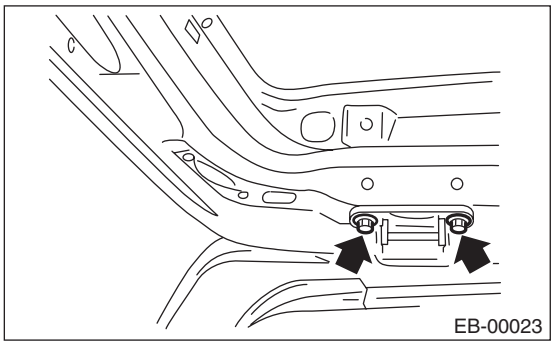
CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.



13) Remove the mounting bolt of rear gate damper stay.



14) Remove the rear gate hinge bolt, and remove the rear gate panel.


EB-00023

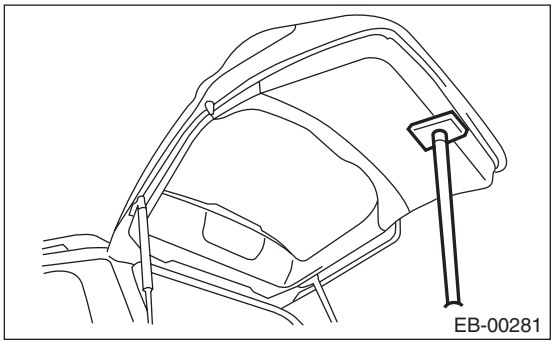
15) Remove the rear gate hinge from the vehicle.

2. REAR GATE DAMPER STAY

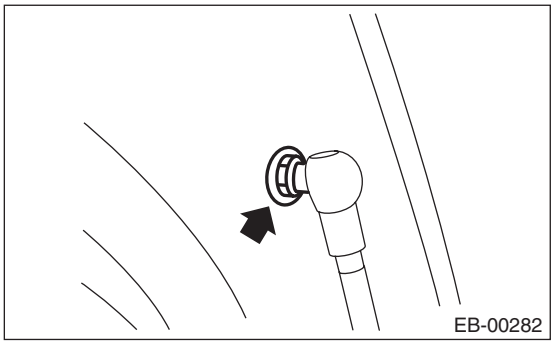
CAUTION:
- **Do not damage piston rods and oil seals.**
- **Never disassemble cylinders: They contain gas.**

1) Before removing the rear gate damper stay, prevent the rear gate from closing using prop or the like.

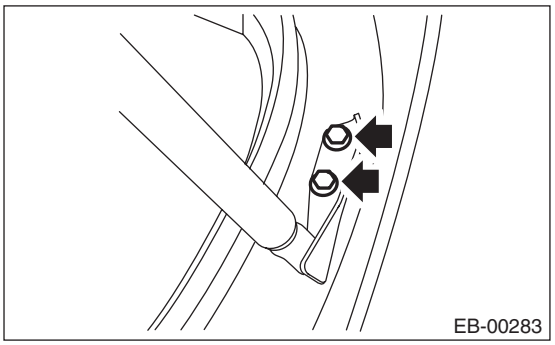
CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.


EB-00281

2) Remove the mounting bolt of rear gate damper stay.


EB-00282

3) Remove the mounting bolts, and remove the damper stay.


EB-00283

B: INSTALLATION

1. REAR GATE PANEL

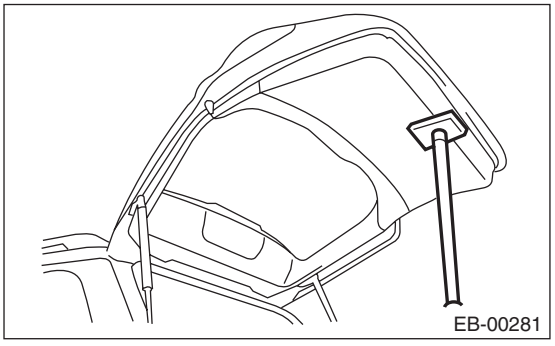
1) Install in the reverse order of removal.
2) Install with attention to make uniform clearance between rear gate panel and body. For the dimension of clearance, refer to “SPECIFICATION” in “General Description”. <Ref. to EB-2, SPECIFICATION, General Description.>

Tightening torque:
25 N·m (2.6 kgf-m, 18.4 ft-lb)

2. REAR GATE DAMPER STAY

1) Prevent the rear gate from closing using prop or the like.

CAUTION:
If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.


EB-00281

2) Install in the reverse order of removal.

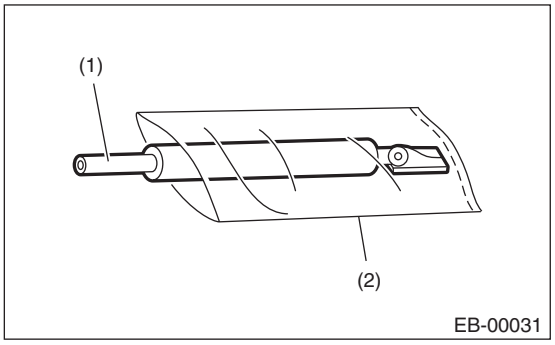
Tightening torque:
Refer to “COMPONENT” of “General Description”.
<Ref. to EB-10, REAR GATE PANEL, COMPONENT, General Description.>

C: DISPOSAL

1. REAR GATE DAMPER STAY

CAUTION:
Gas is colorless, odorless, and harmless. However, gas pressure may spray cutting powder or oil. Be sure to wear dust-resistant goggles.

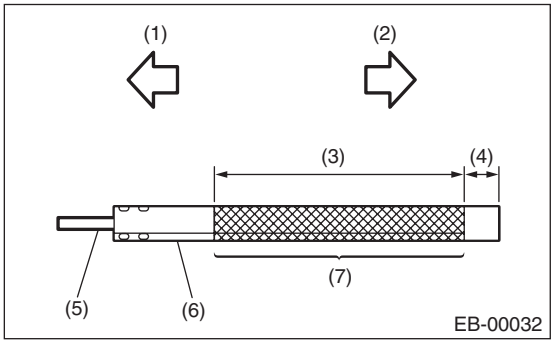
1) Cover with a vinyl sack as shown in the figure.



(1) Rear gate damper stay
(2) Vinyl sack

NOTE:
Prevent the vinyl sack from being caught by drill cutting edge

2) Lift the body side slightly with piston rods fully extended, and secure the body side with vise.
Drill a hole in 2 to 3 mm (0.08 to 0.12 in) diameter at a point 10 to 200 mm (0.39 to 7.87 in) from door side, and bleed rear gate damper stay gas stay completely.



(1) Body side
(2) Door side
(3) 190 mm (7.48 in)
(4) 10 mm (0.39 in)
(5) Piston rod
(6) Cylinder
(7) Portion to be drilled

CRUISE CONTROL SYSTEM

CC

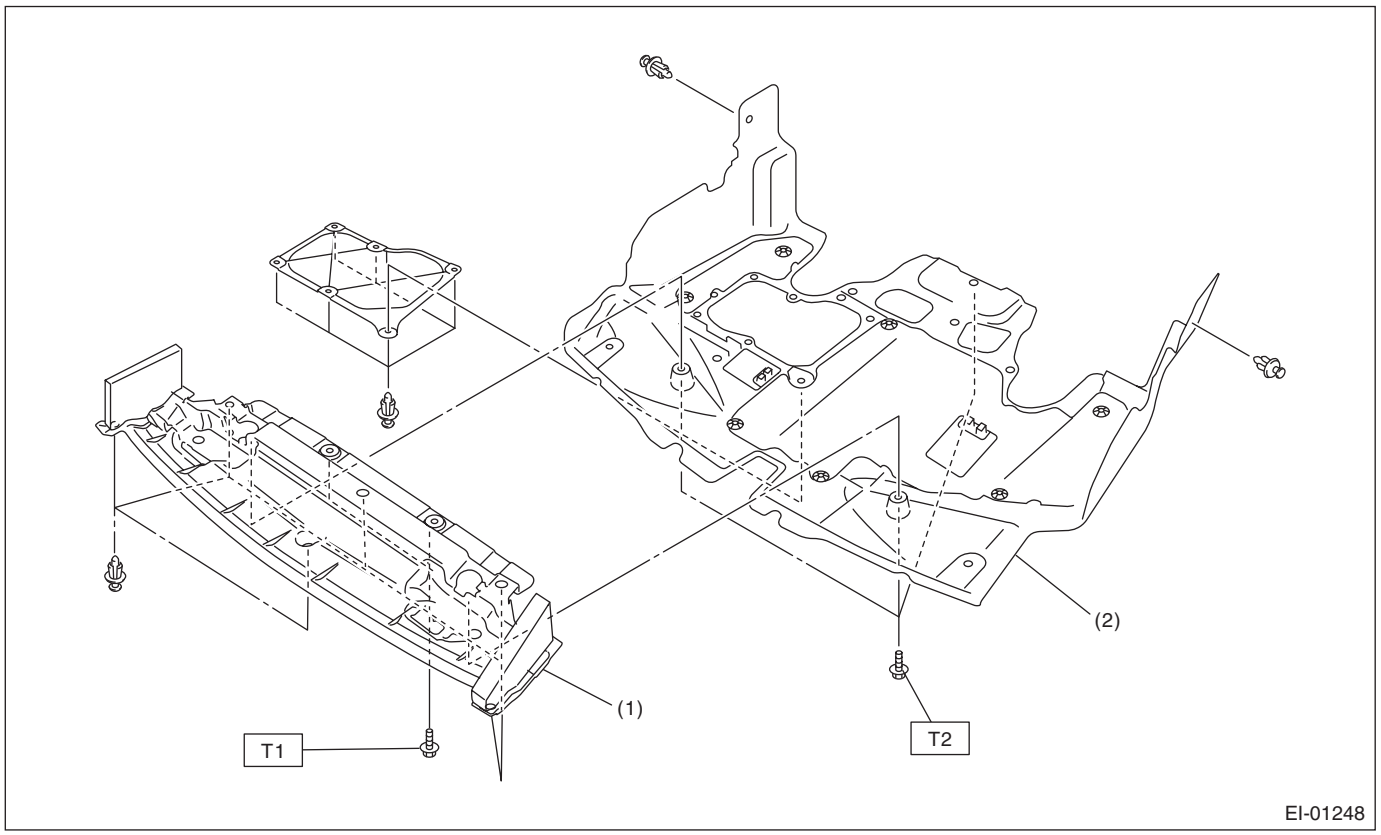
Page

1. General Description 2
2. Cruise Control Unit 4
3. Cruise Control Command Switch 5
4. Combination Meter 6
5. Stop Light & Brake Switch 7
6. Transmission Control Module (TCM) 8
7. Inhibitor Switch 9

1. General Description

A: COMPONENT

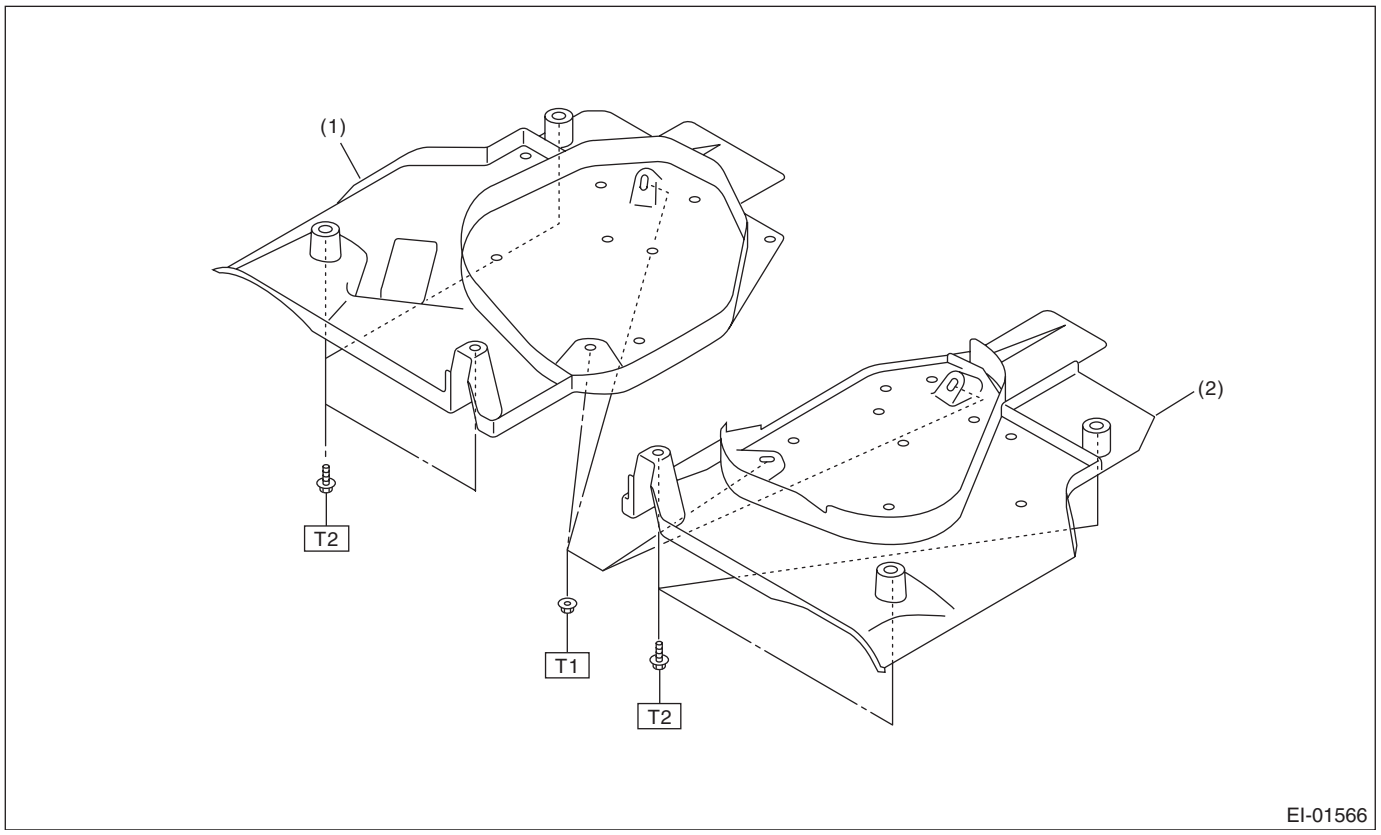
1. UNDER COVER



(1) Front lower cover
(2) Under cover

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.4)
T2: 17.5 (1.78, 12.7)

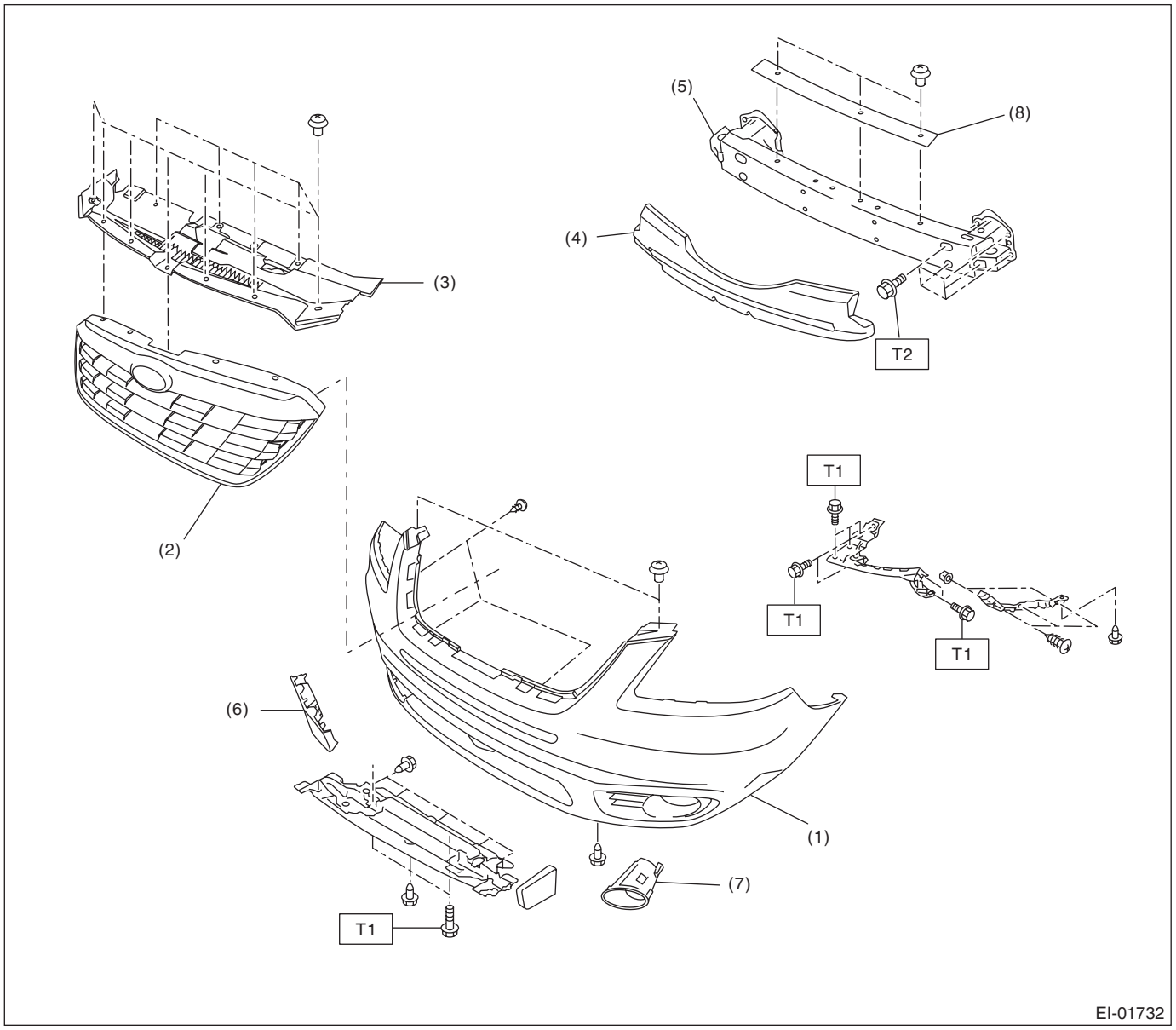
2. UNDER PROTECTOR



(1) Fuel tank protector RH
(2) Fuel tank protector LH

Tightening torque:N·m (kgf-m, ft-lb)
T1: 9.0 (0.92, 6.6)
T2: 17.5 (1.78, 12.9)

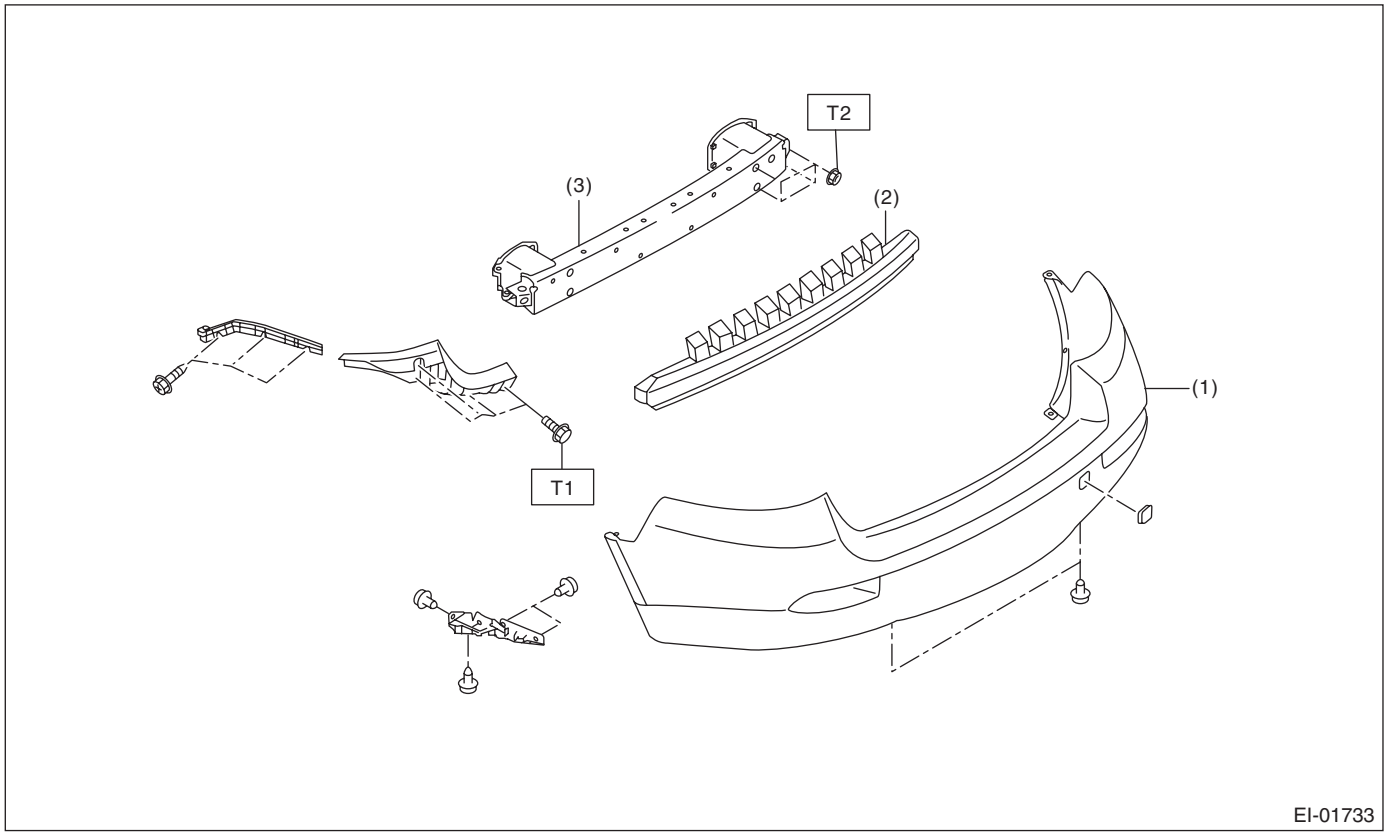
3. FRONT BUMPER



(1) Bumper face
(2) Front grille
(3) Front upper cover
(4) Energy absorber foam
(5) Bumper beam reinforcement
(6) Towing hook cover
(7) Fog light ASSY
(8) Bumper beam cover

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.4)
T2: 33 (3.4, 24)

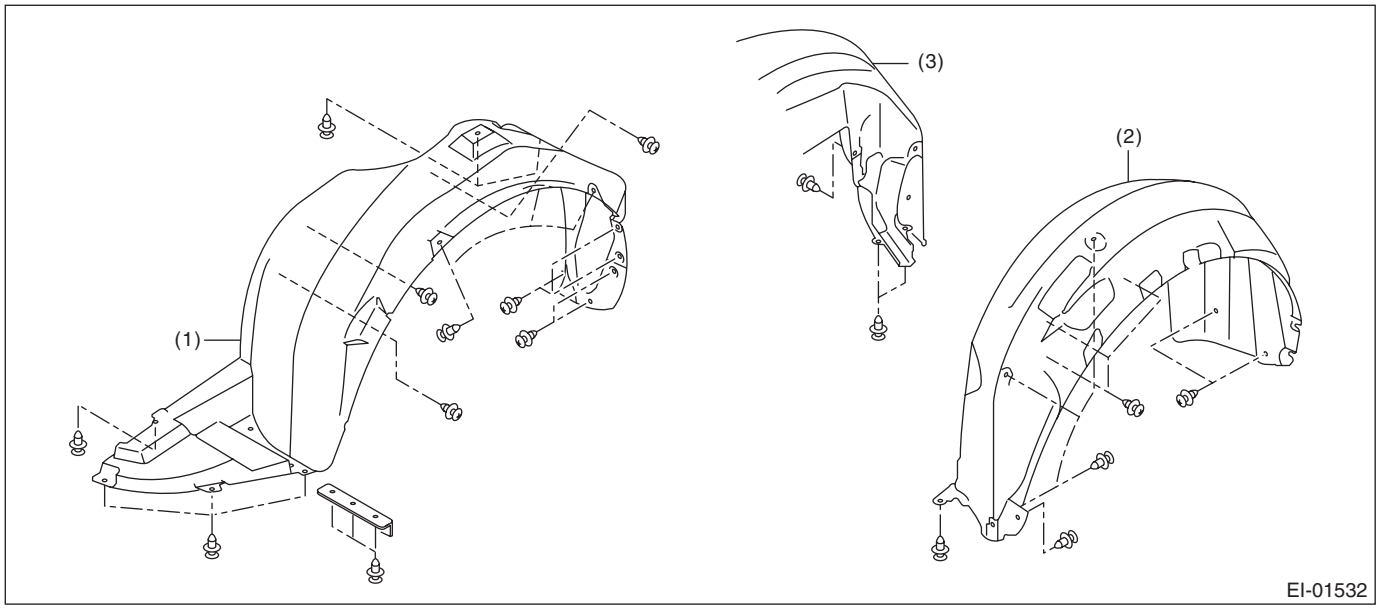
4. REAR BUMPER



(1) Bumper face
(2) Energy absorber foam
(3) Bumper beam reinforcement

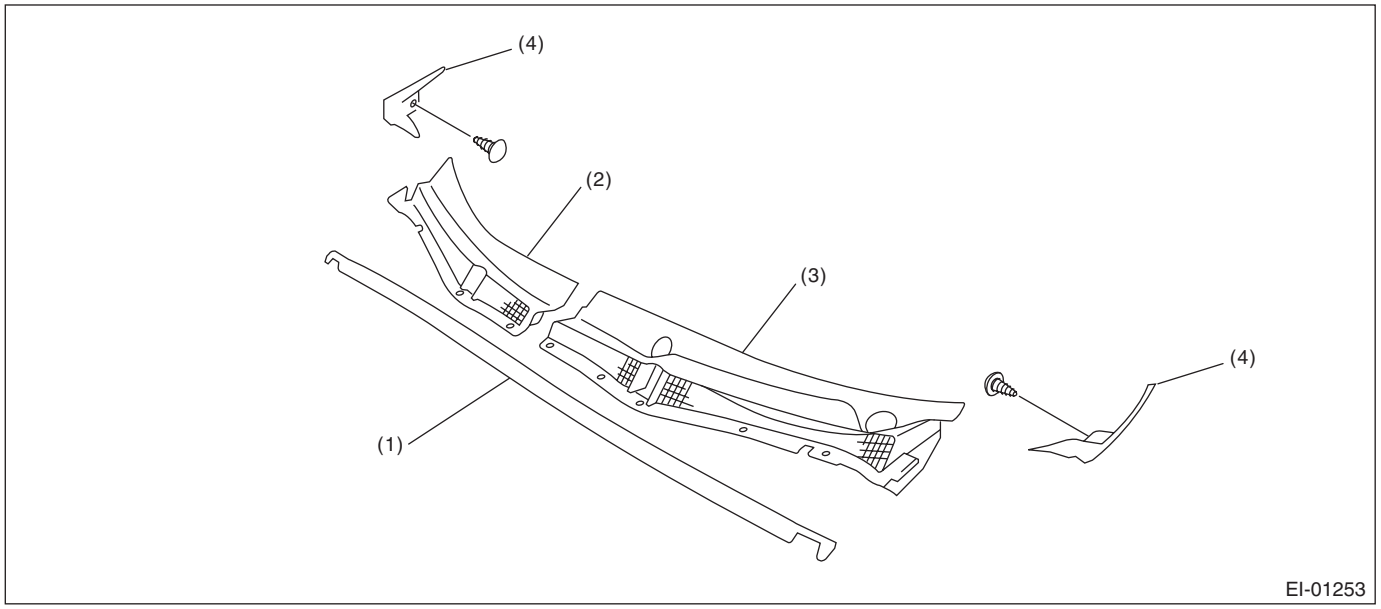
Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.4)
T2: 33 (3.4, 24)

5. MUD GUARD



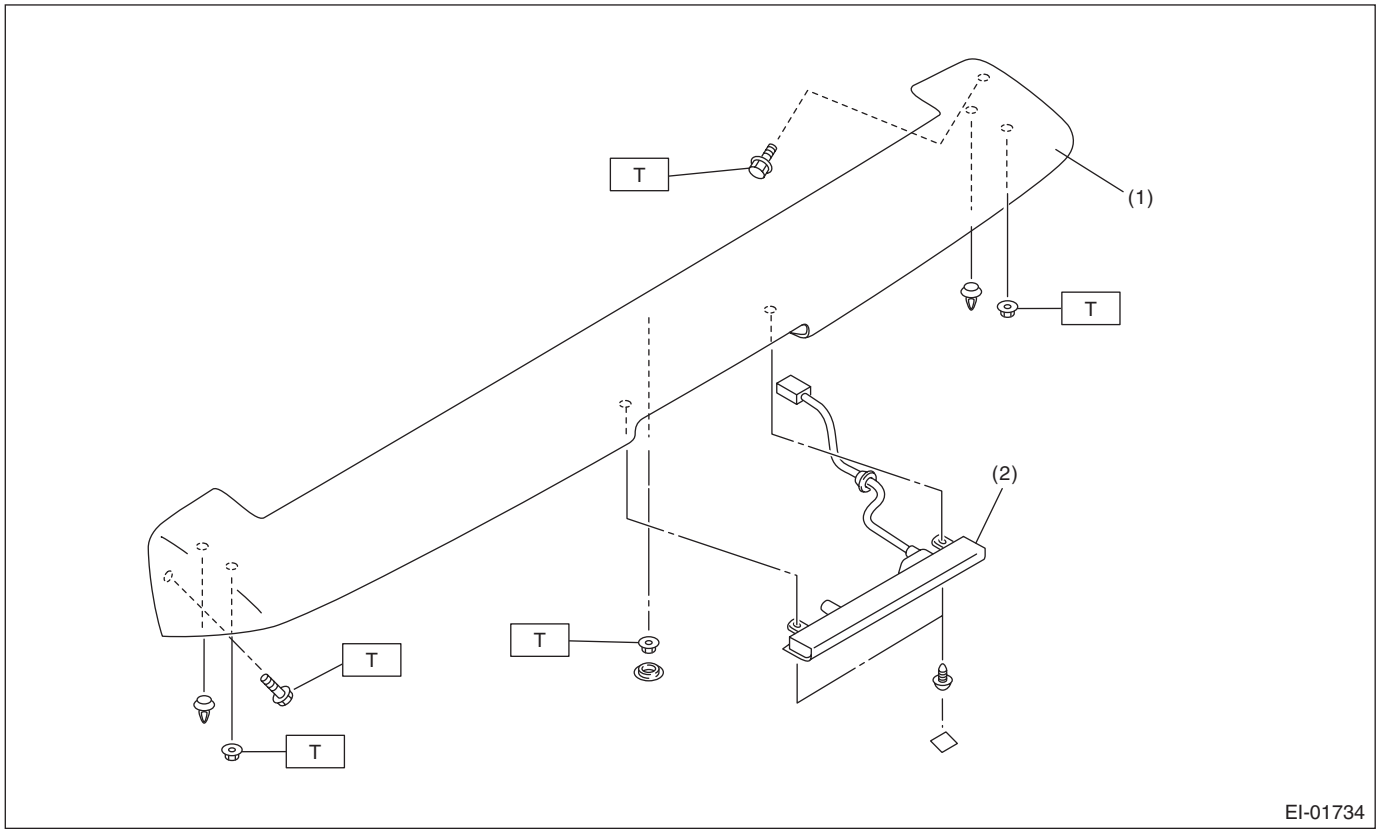
(1) Front mud guard
(2) Rear mud guard LH
(3) Rear mud guard RH

6. COWL PANEL



(1) Weather strip
(2) Cowl panel RH
(3) Cowl panel LH
(4) Cowl panel side

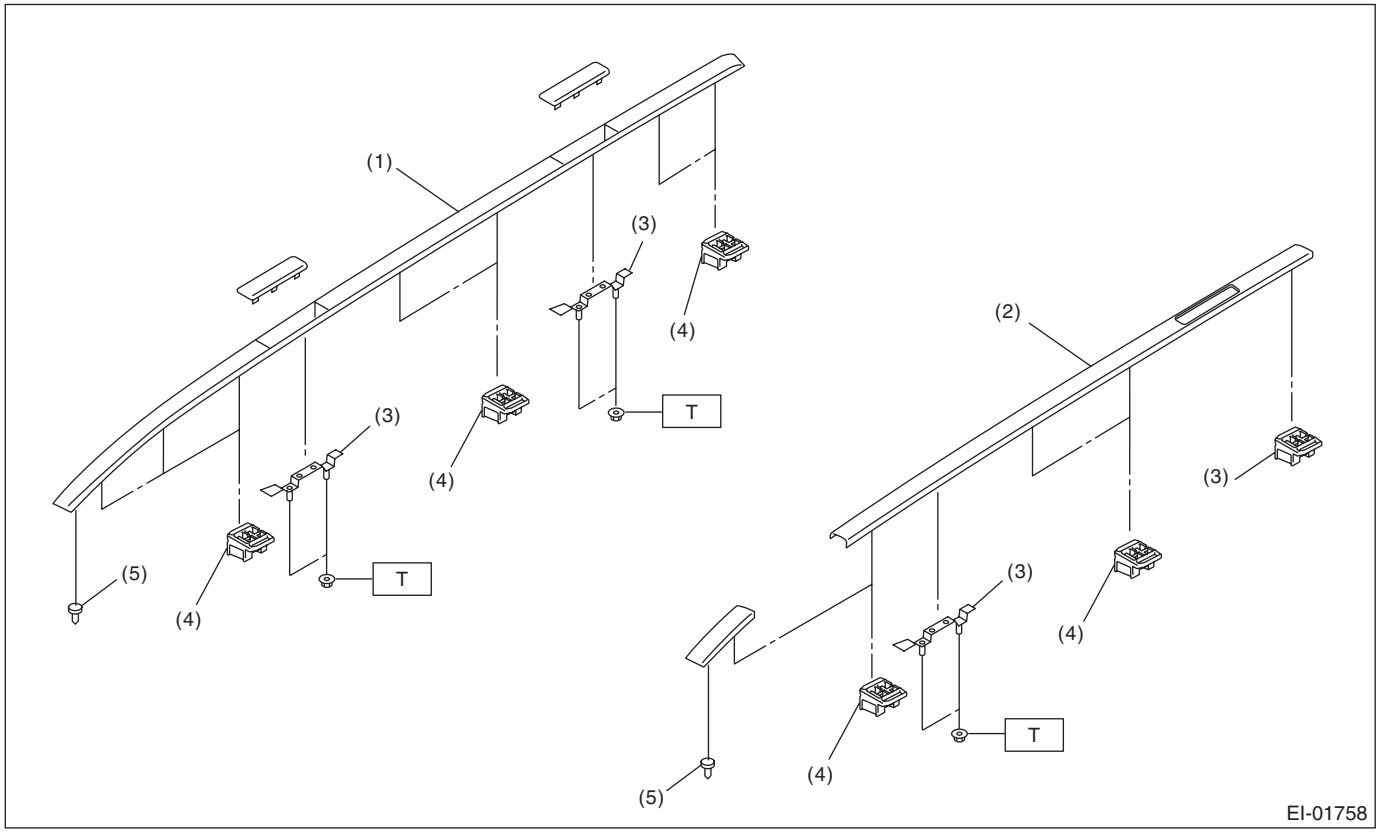
7. ROOF SPOILER



(1) Roof spoiler
(2) High-mounted stop light

Tightening torque:N·m (kgf-m, ft-lb)
T: 4.5 (0.46, 3.32)

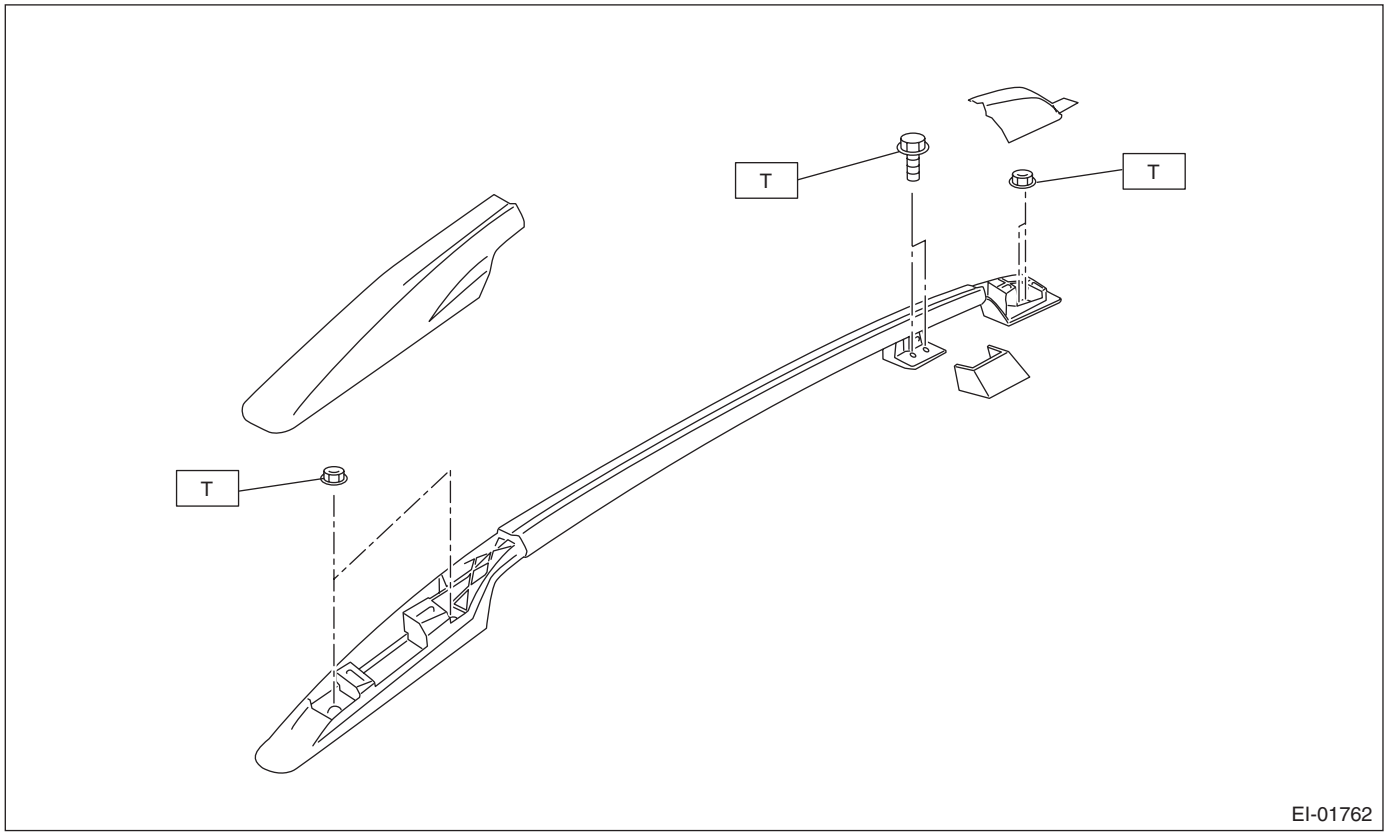
8. ROOF MOLDING



(1) Roof molding
(2) Roof molding (with roof rail)
(3) Roof carrier attachment
(4) Clip
(5) Rivet

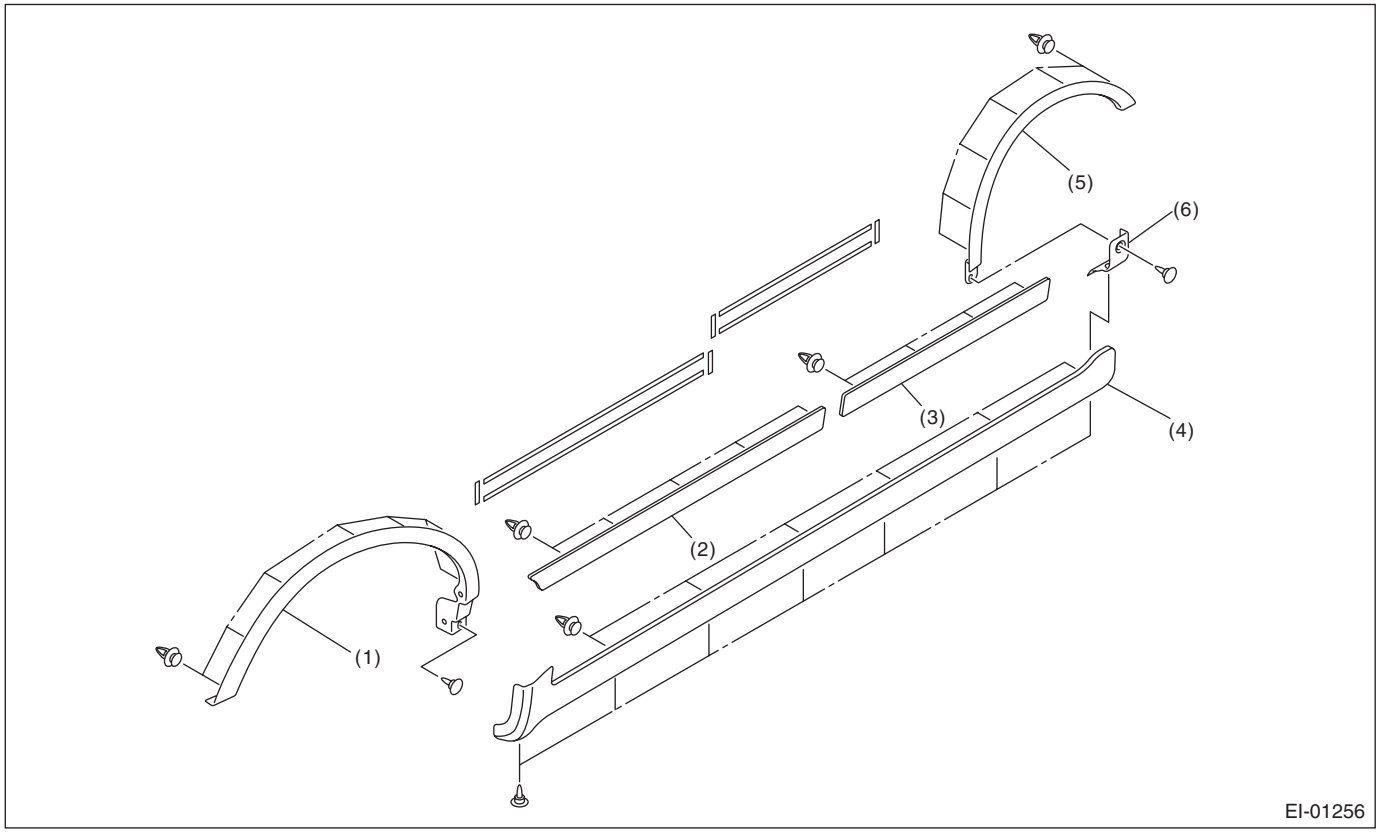
Tightening torque:N·m (kgf-m, ft-lb)
T: **10 (1.0, 7.23)**

9. ROOF RAIL



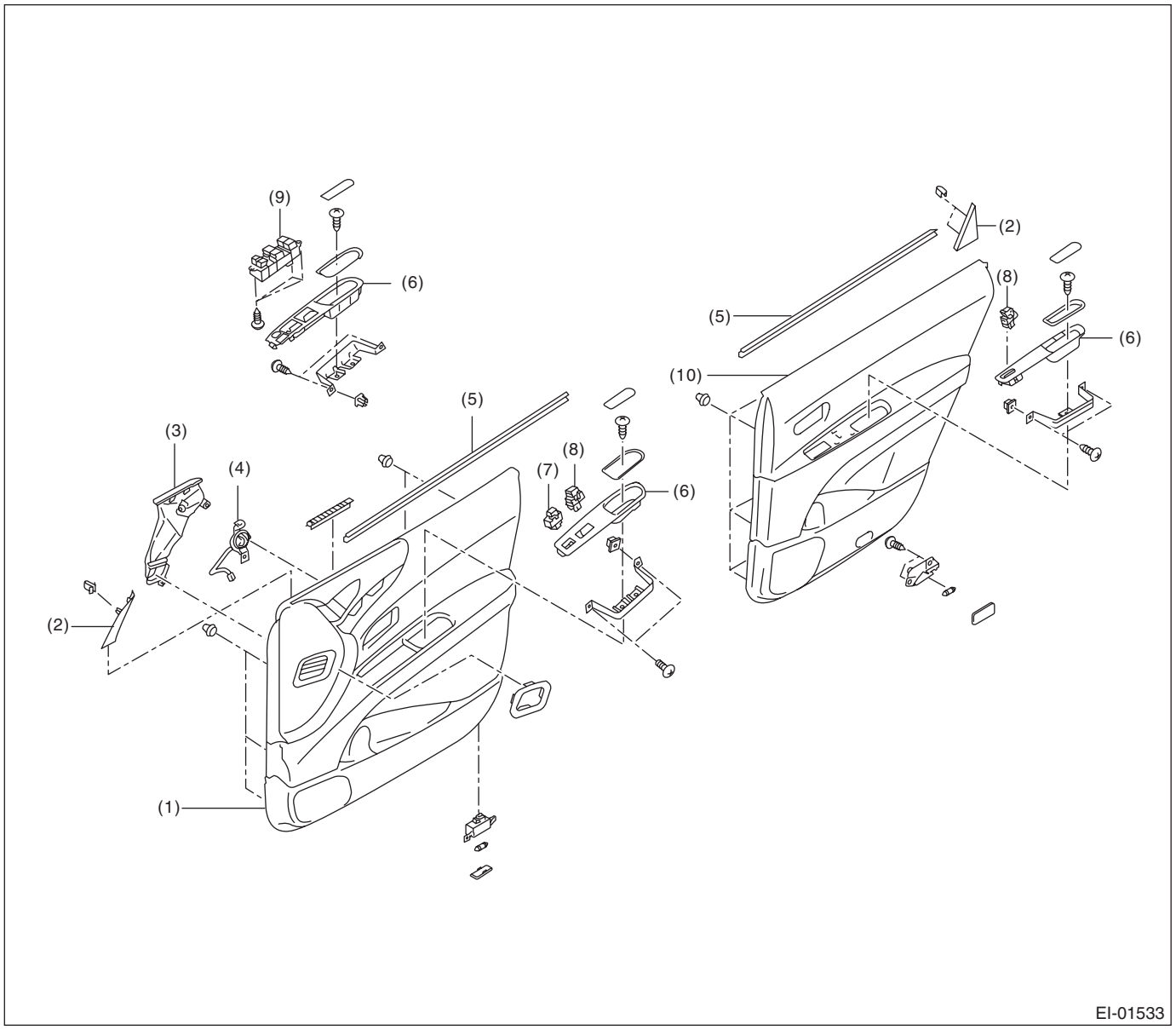
Tightening torque:N·m (kgf-m, ft-lb)	
T:	**7.5 (0.76, 5.4)**

10.SIDE GARNISH



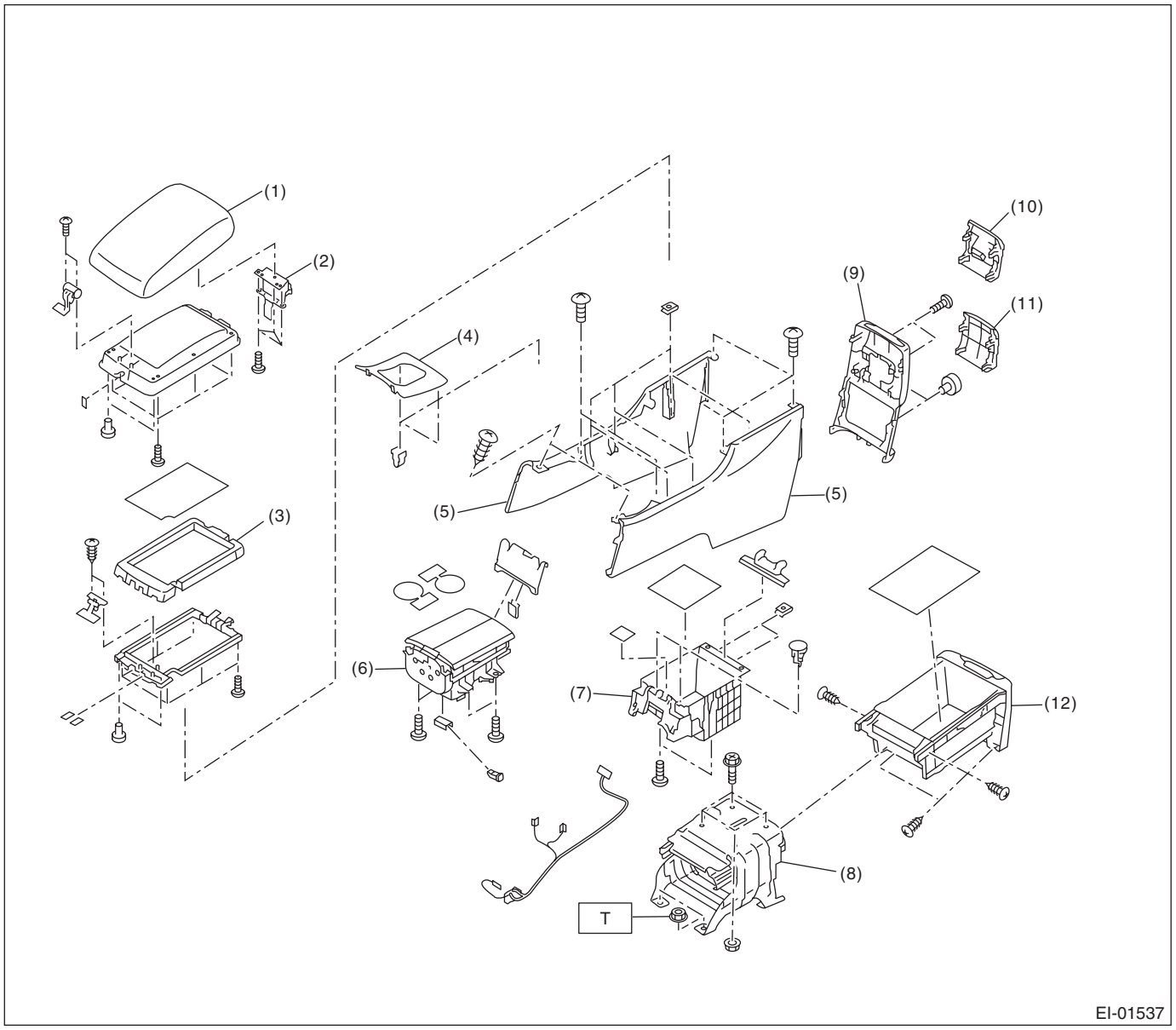
(1) Front fender garnish
(2) Front door garnish
(3) Rear door garnish
(4) Side sill garnish
(5) Rear quarter garnish
(6) Garnish end cover

11.DOOR TRIM



(1) Front door trim
(2) Gusset cover
(3) Defroster duct
(4) Tweeter
(5) Weather strip
(6) Power window switch cover
(7) Door lock switch
(8) Power window sub-switch
(9) Power window main switch ASSY
(10) Rear door trim

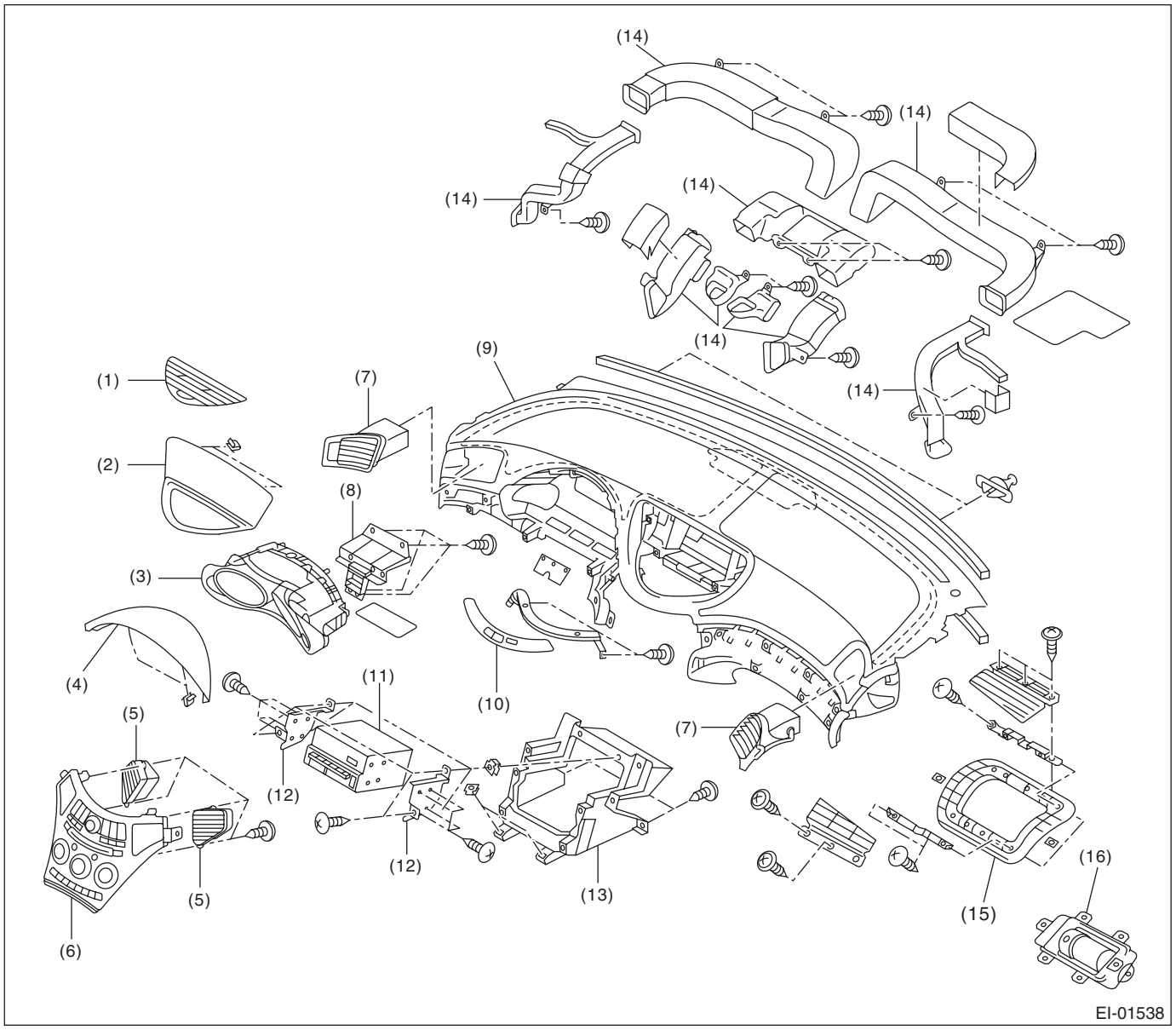
12.CONSOLE BOX



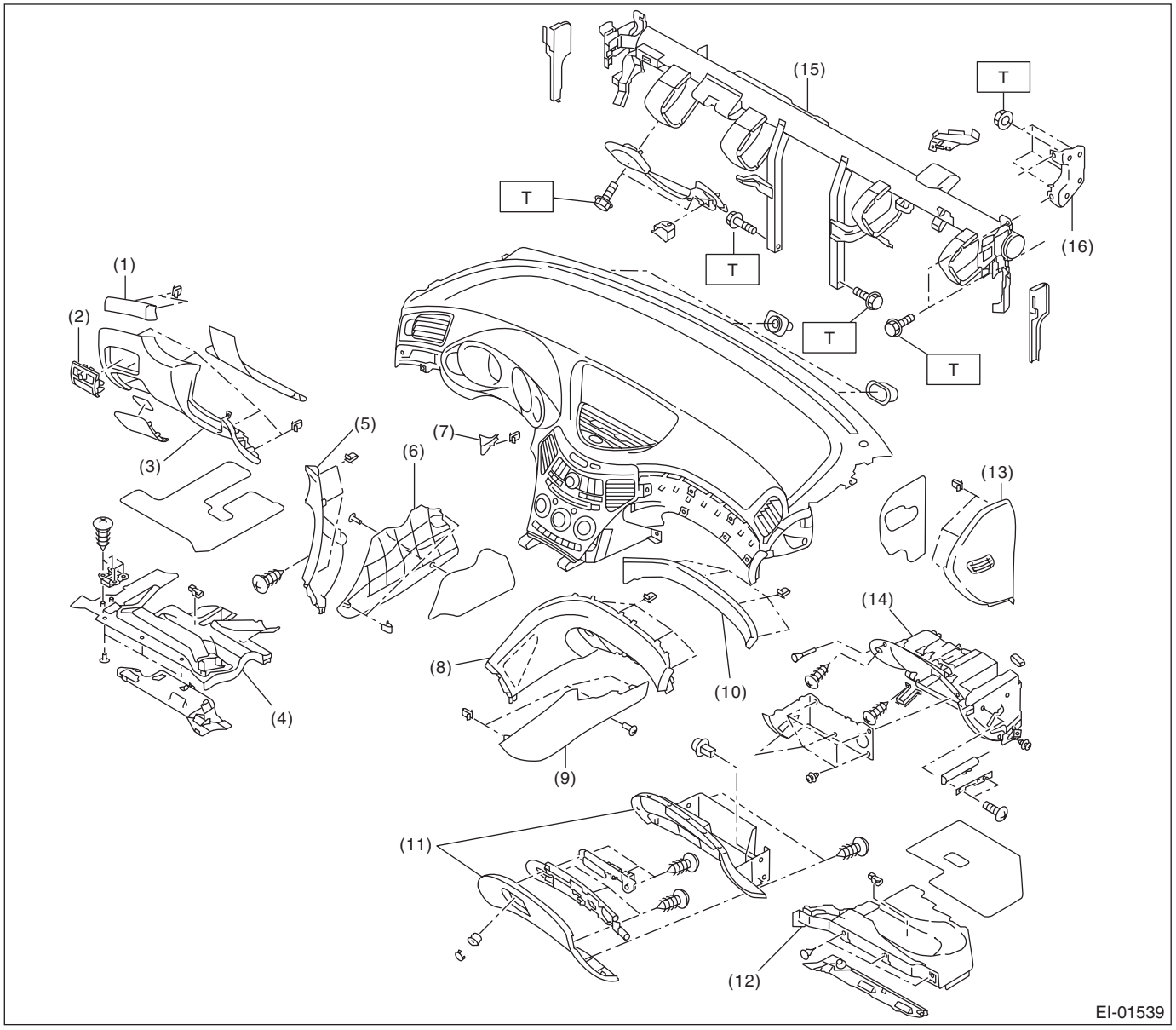
(1) Console upper lid
(2) Lid hinge
(3) Console lower lid
(4) Console front panel
(5) Console side panel
(6) Cup holder ASSY
(7) Console pocket
(8) Console frame
(9) Console rear panel
(10) Rear panel cover (with rear cooler)
(11) Rear panel cover
(12) Console lower pocket

Tightening torque:N·m (kgf-m, ft-lb)
T: 6.5 (0.66, 4.79)

13.INSTRUMENT PANEL



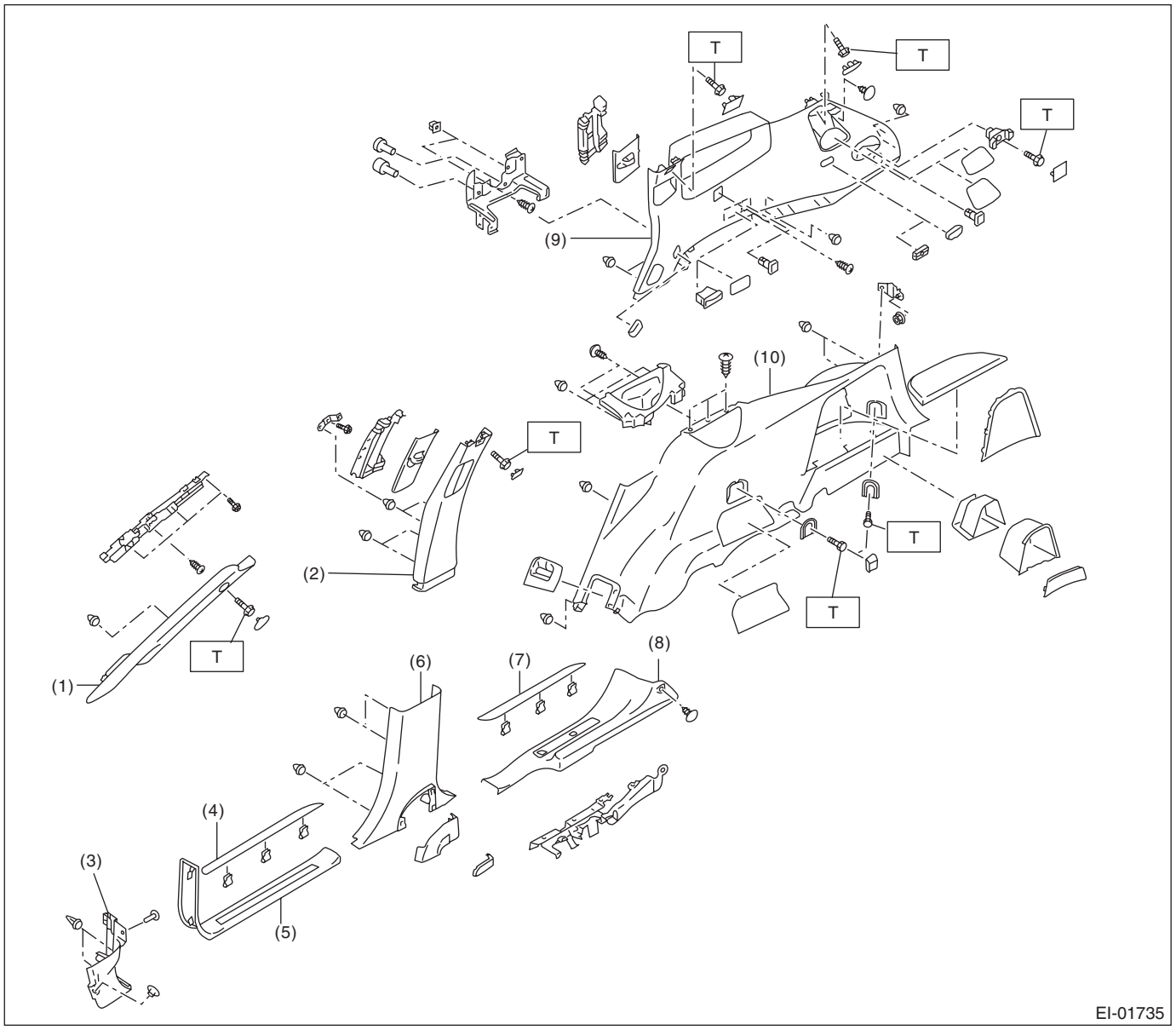
(1) Air vent upper grille
(2) Display cover
(3) Combination meter ASSY
(4) Meter visor
(5) Air vent center grille
(6) Control panel
(7) Air vent side grille
(8) Meter stay
(9) Instrument panel upper ASSY
(10) Upper control switch
(11) Audio ASSY
(12) Audio bracket
(13) Center console frame
(14) Air vent duct
(15) Passenger's airbag stay
(16) Passenger's airbag module ASSY



(1) Garnish LH
(2) Switch ASSY
(3) Instrument panel lower cover upper
(4) Instrument panel lower cover under
(5) Console side panel upper LH
(6) Console side panel lower LH
(7) Garnish CTR
(8) Console side panel upper RH
(9) Console side panel lower RH
(10) Garnish RH
(11) Glove box lid
(12) Glove box lower cover
(13) Instrument panel side cover
(14) Glove box panel
(15) Steering support beam ASSY
(16) Steering support beam bracket

Tightening torque:N·m (kgf-m, ft-lb)
T: 25 (25.5, 18)

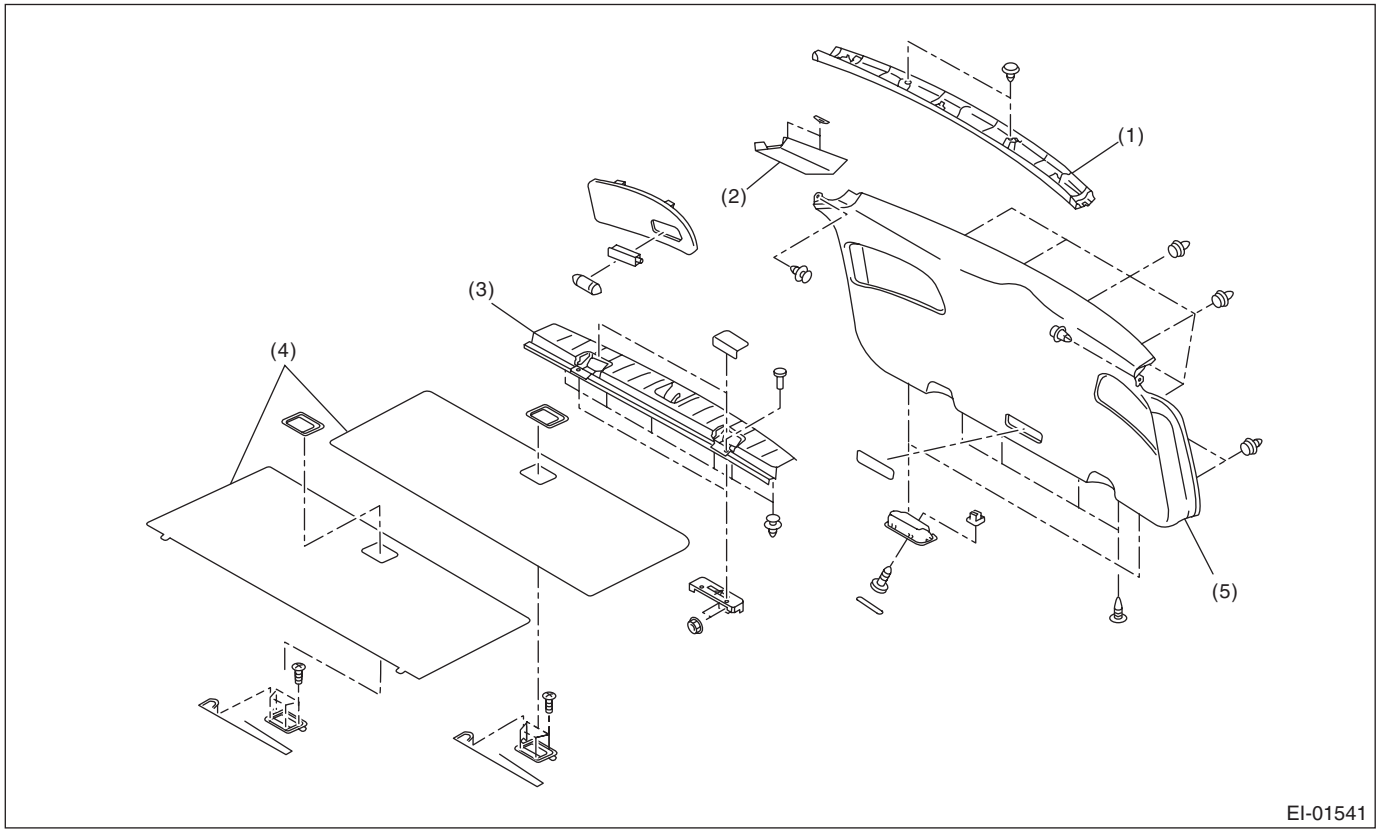
14.SIDE TRIM



(1) Front pillar upper trim
(2) Center pillar upper trim
(3) Front pillar lower trim
(4) Front scuff plate
(5) Front door scuff plate
(6) Center pillar lower trim
(7) Rear scuff plate
(8) Rear door scuff plate
(9) Rear quarter upper trim
(10) Rear quarter lower trim

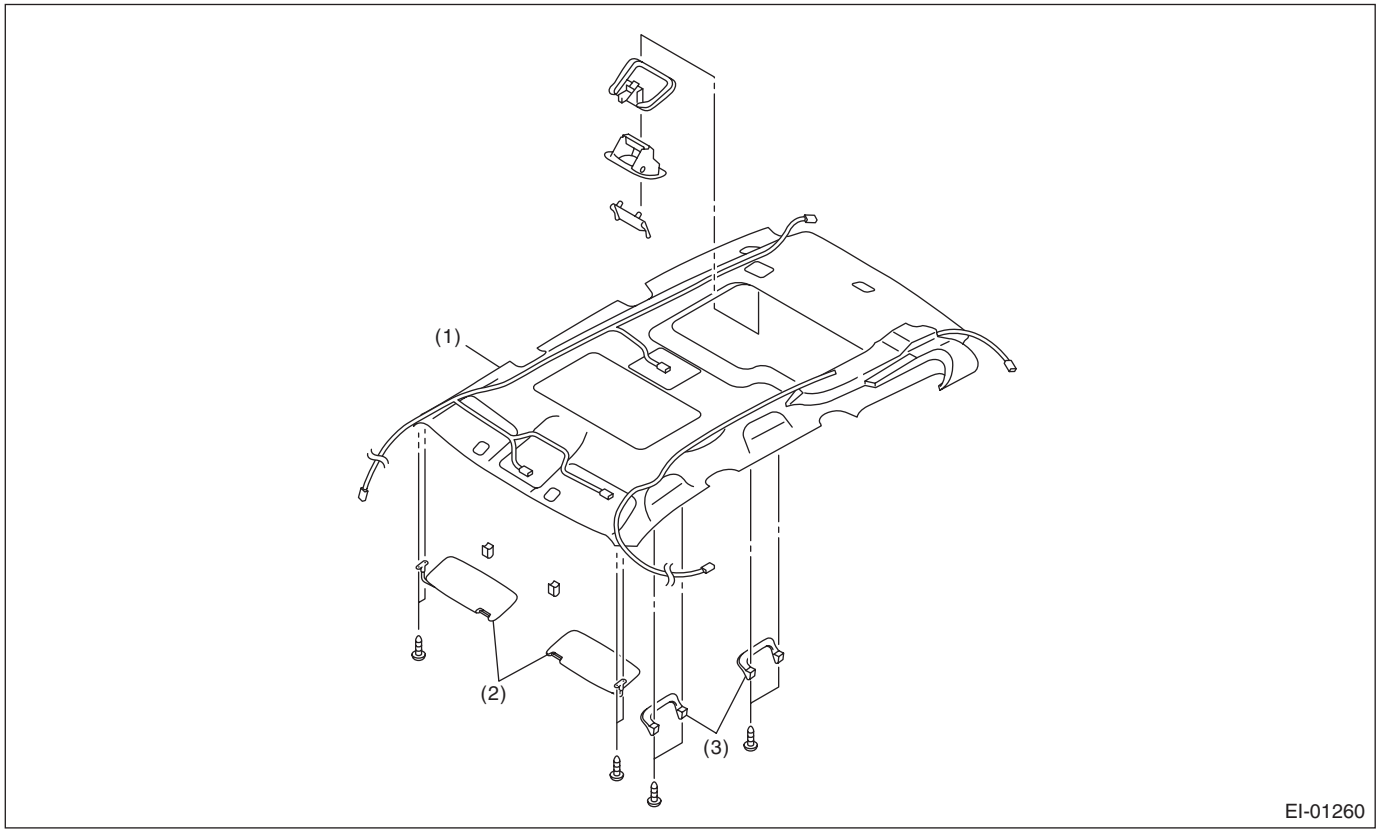
Tightening torque:N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.4)

15.REAR GATE TRIM



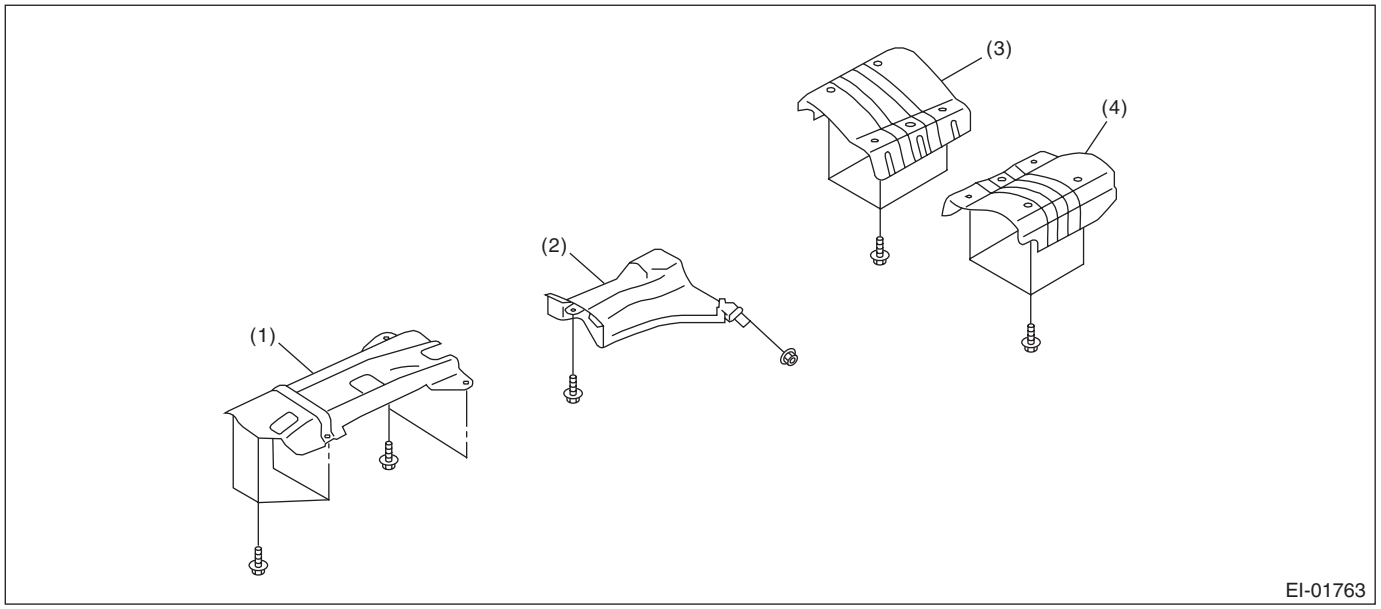
(1) Rear gate panel upper trim
(2) Rear gate panel pillar trim
(3) Luggage floor end cover
(4) Luggage floor mat
(5) Rear gate panel lower trim

16.ROOF TRIM



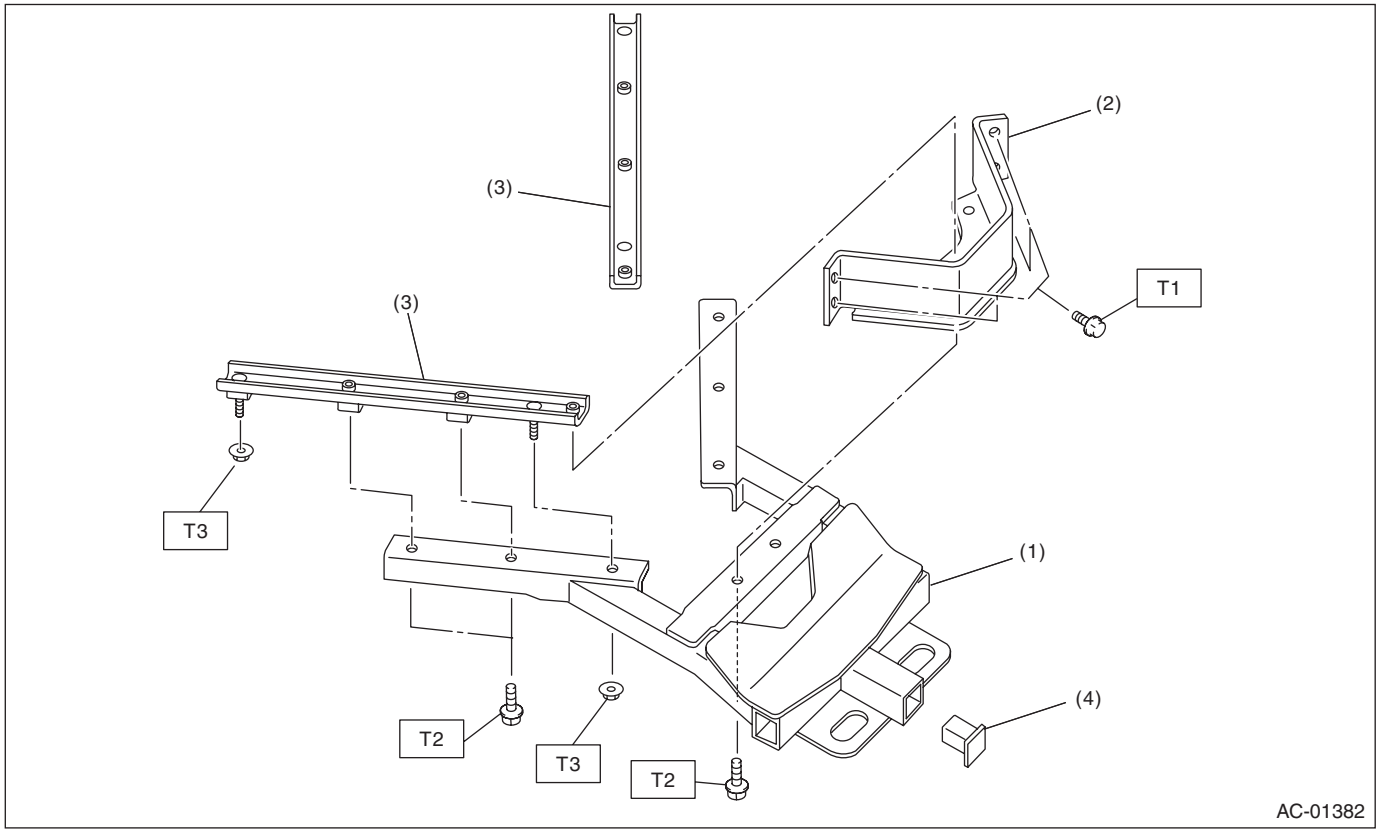
(1) Roof trim (2) Sun visor (3) Assist rail

17.HEAT SHIELD COVER



(1) Front heat shield cover (3) Rear heat shield cover RH (4) Rear heat shield cover LH
(2) Center heat shield cover

18.TRAILER HITCH



(1) Main frame
(2) Center frame
(3) Side frame
(4) Cover

Tightening torque:N·m (kgf-m, ft-lb)
T1: 13 (1.33, 9.4)
T2: 33 (3.37, 23.9)
T3: 53 (5.4 38.3)

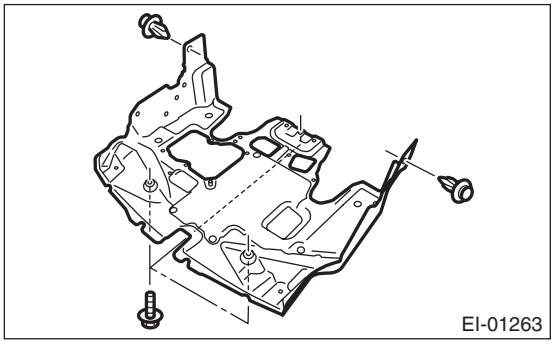
B: PREPARATION TOOL

TOOL NAME	REMARKS
Clip remover	Used for removing trim.
Clip clamp pliers	Used for removal of various clips and clamps.

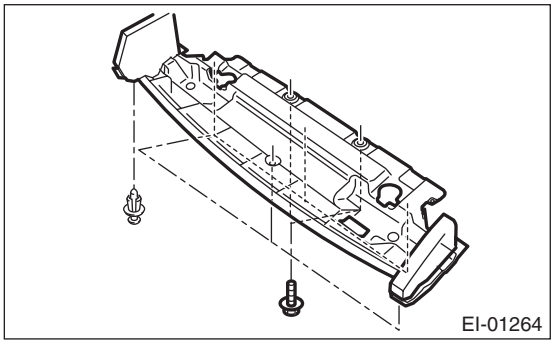
2. Front Under Cover

A: REMOVAL

1) Remove the clips and bolts, then remove the undercover.



2) Remove the clips and bolts, then remove the front lower cover.



B: INSTALLATION

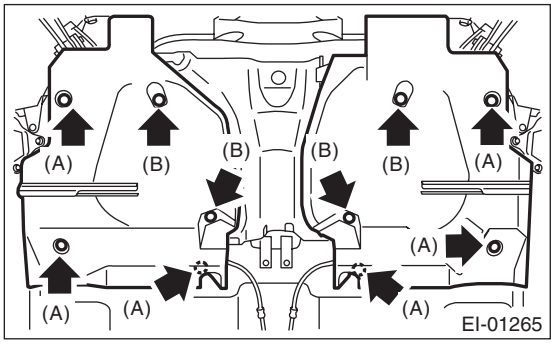
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EI-2, UNDER COVER, COMPONENT, General Description.>

3. Fuel Tank Protector

A: REMOVAL

1) Remove the bolts (A) and nuts (B), and then remove the fuel tank protector.



B: INSTALLATION

Install in the reverse order of removal.

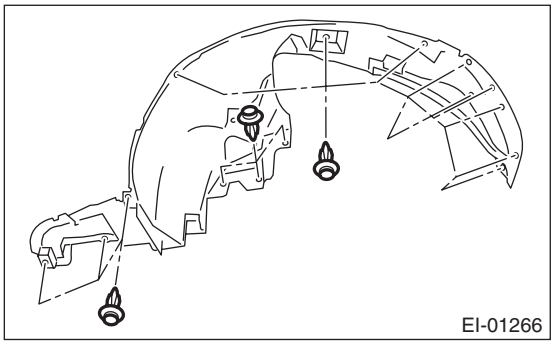
Tightening torque:
Bolt
17.5 N·m (1.78 kgf-m, 12.9 ft-lb)

4. Mud Guard

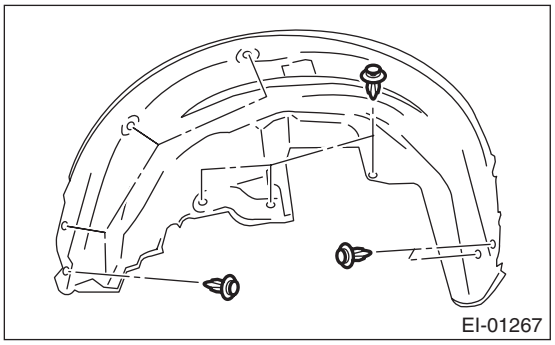
A: REMOVAL

1) Remove the wheels.
2) Loosen the screws and clips to remove mud guard.

- Front mud guard



- Rear mud guard



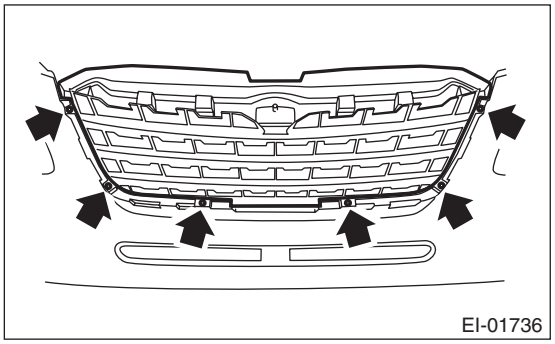
B: INSTALLATION

Install in the reverse order of removal.

5. Front Grille

A: REMOVAL

1) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
2) Remove the screws, and remove the front grille from bumper face.



B: INSTALLATION

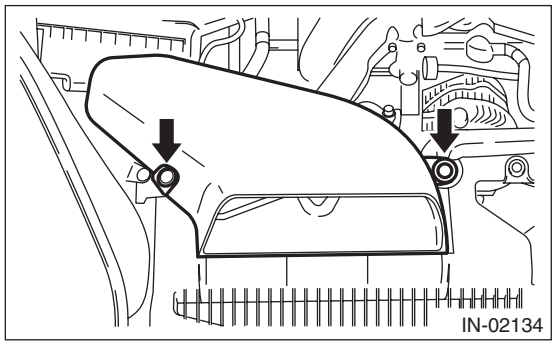
Install in the reverse order of removal.

6. Front Bumper

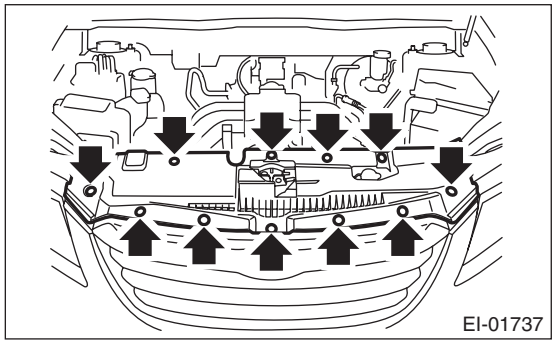
A: REMOVAL

1. FRONT BUMPER FACE

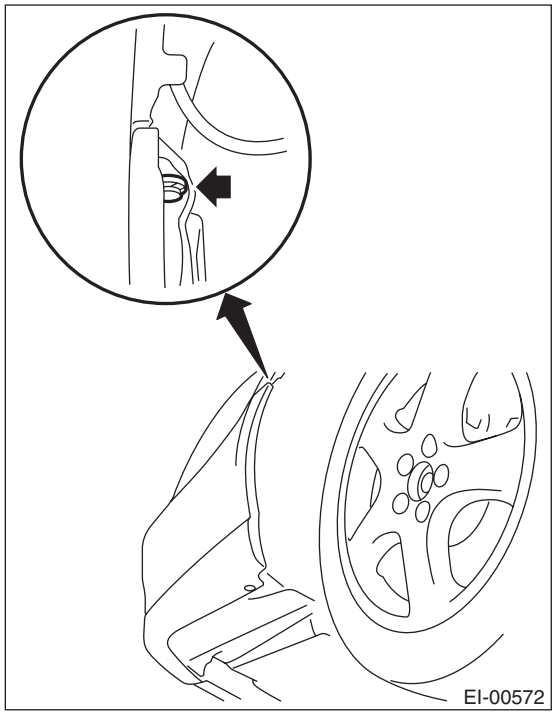
1) Remove the air intake duct.



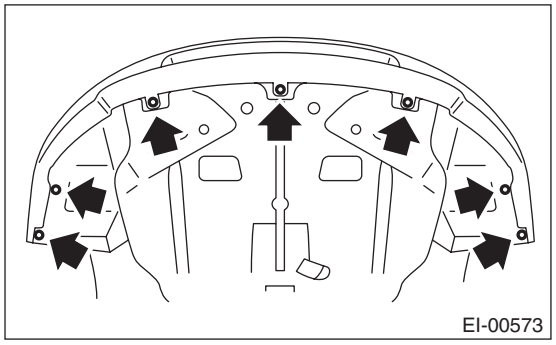
2) Remove the front upper cover.



3) Turn over the front mud guard, and remove the clips connecting the fender and bumper.



4) Remove the clips at the lower side of bumper.

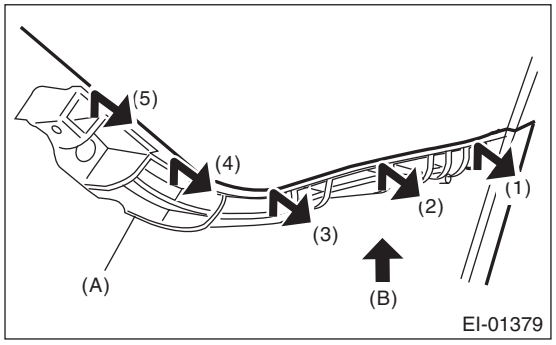


5) Disconnect the fog light connector. (Model with fog light)

6) Remove the notch on the bumper face side from guide bracket (A)

CAUTION:
Do not pull forcefully. It can damage the notch on the bumper face side.

NOTE:
Lifting the bumper face upward, and removing in the order of (B), (1)-(5) of the fender side, will make it easier to remove.

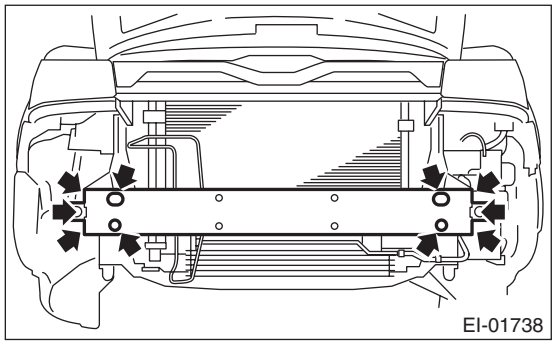


7) Remove the front grille from bumper face. <Ref. to EI-21, REMOVAL, Front Grille.>

8) Remove the fog light from bumper face. <Ref. to LI-20, REMOVAL, Front Fog Light Assembly.>

2. FRONT BUMPER BEAM ASSEMBLY

1) Remove the front bumper face.
2) Remove the energy absorber foam from bumper beam.
3) Remove the bolts, and remove the bumper beam assembly from vehicle body.

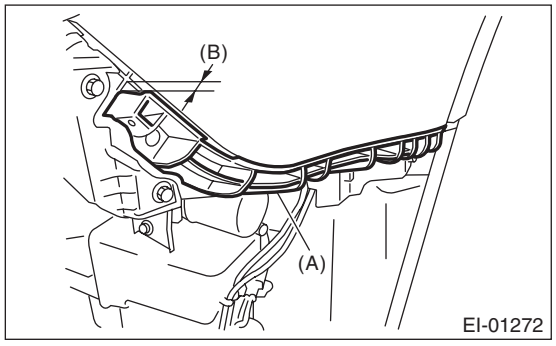


NOTE:
After all bolts are removed, lift the whole bumper beam a little to remove it from vehicle body.

B: INSTALLATION

1. FRONT BUMPER FACE

1) Mount the bumper face securely in the gap between guide bracket (A) and fender (B).



2) Install in the reverse order of removal.

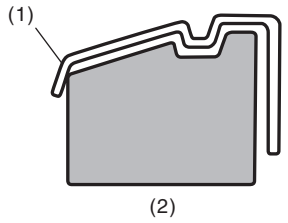
2. FRONT BUMPER BEAM ASSEMBLY

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to EI-4, FRONT BUMPER, COMPONENT, General Description.>

C: REPAIR

1. COATING METHOD FOR PP BUMPER

Process No.	Process name	Job contents	
1	Bumper installation	Place the bumper on a paint worktable as required. Use the paint worktable conforming to inner shape of bumper if possible.	 EI-00234 (1) Bumper (2) Set bumper section
2	Masking	Mask specified part (black base) with masking tape. Use masking tape for PP (example, Nichiban No. 533, etc.).	
3	Degreasing/ cleaning	Clean all parts to be painted with white gasoline, normal alcohol, etc. to remove dirt, oil, fat, etc.	
4	Primer paint	Apply primer to all parts to be painted, using spray gun. Use primer (clear).	
5	Drying	Dry at normal temperature [10 — 15 min. at 20°C (68°F)]. In half-dried condition, PP primer paint is dissolved by solvent, e.g. thinner, etc. Therefore, if dust or dirt must be removed, use ordinary alcohol etc.	
6	Top coat paint (I)	Non-colored	Metallic paint
		Use section (block) paint for top coat. • Paint to be used (for each color): Solid paint Hardener PB Thinner T-301 • Mixture ratio: Main agent : hardener = 4 : 1 • Viscosity: 10 — 13 sec./20°C (68°F) • Film thickness: 35 — 45 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kg/cm^2, 36 — 50 psi)	Use section (block) paint for top coat. • Paint to be used (for each color): Metallic paint Hardener PB Thinner T-306 • Mixture ratio: Main agent : hardener = 10 : 1 • Viscosity: 10 — 13 sec./20°C (68°F) • Film thickness: 15 — 20 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kg/cm^2, 36 — 50 psi)
7	Drying	Not required.	Dry at normal temperature [at least 10 min. at 20°C (68°F)]. In half-dried condition, avoid dust, dirt.
8	Top coat paint (II)	Not required.	Apply a clear coat to parts with top coat paint (I), three times at 5 — 7 minutes intervals. • Paint to be used: Metallic paint Hardener PB Thinner T-301 • Mixture ratio: Clear coat : hardener = 6 : 1 • Viscosity: 14 — 16 sec./20°C (68°F) • Film thickness: 25 — 30 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kg/cm^2, 36 — 50 psi)
9	Drying	60°C (140°F), 60 min. or 80°C (176°F), 30 min. If higher than 80°C (176°F), PP may become be deformed. Keep maximum temperature 80°C (176°F) or less.	
10	Inspection	Check paint.	
11	Removal of masking	Remove the masking tape applied in procedure 2.	

2. REPAIR INSTRUCTIONS FOR COLORED PP BUMPER

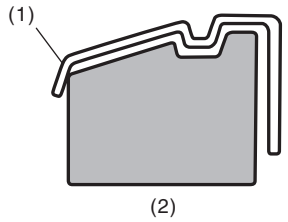
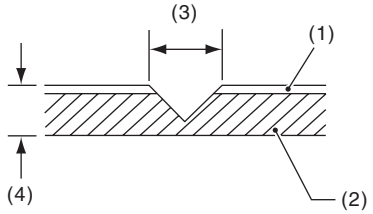
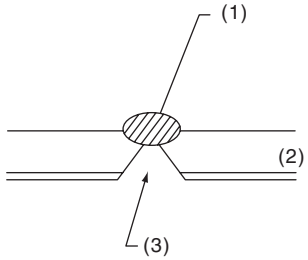
NOTE:
All PP bumpers are provided with a grained surface, and if the surface is damaged, it cannot normally be restored to its former condition. Damages limited to the shallow scratches that cause only a change in the luster of the base material or coating, can be almost fully restored. Before repairing a damaged area, explain this point to the customer and obtain an understanding about the matter. Repair methods are outlined below, based on a classification of the extent of damage.
1) Minor damage causing only a change in the luster of the bumper due to a light touch
Almost restorable.

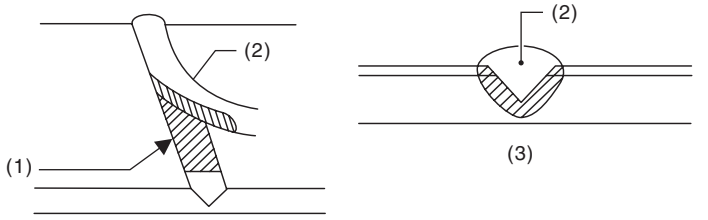
<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Cleaning</td><td colspan="2">Clean the area to be repaired using water.</td></tr>
<tr><td>2</td><td>Sanding</td><td colspan="2">Grind the repairing area with #500 sand paper in a “feathering” motion.</td></tr>
<tr><td rowspan="3">3</td><td rowspan="3">Finish</td><td>Resin section</td><td>Coated section</td></tr>
<tr><td>Repeatedly apply wax to the affected area using soft cloth (such as flannel). Recommended wax: NITTO KASEI Soft 99 TIRE WAX BLACK, or equivalent.</td><td rowspan="2">Perform either the same process as for the resin section or process No. 18 and subsequent in the 3) section, depending on the degree and nature of damage.</td></tr>
<tr><td>Polish the waxed area with clean cloth after 5 — 10 minutes.</td></tr>
</table>

2) Deep damage caused by scratching with fences etc.
A dent cannot be repaired but a whitened or swelled part can be removed.

<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Cleaning</td><td colspan="2">Clean the damaged area with water.</td></tr>
<tr><td>2</td><td>Removal of damaged area</td><td colspan="2">Cut off protruding area, if any, due to collision, using a putty knife.</td></tr>
<tr><td>3</td><td>Sanding</td><td colspan="2">Sand the affected area with #100 — #500 sand paper.</td></tr>
<tr><td rowspan="2">4</td><td rowspan="2">Finish</td><td>Resin section</td><td>Coated section</td></tr>
<tr><td>Same as step 3 in the “1)” section.</td><td>Perform step 12 and subsequent operations in the “3)” section.</td></tr>
</table>

3) Deep damage such as a break or hole that requires filling
Much of the peripheral grained surface must be sacrificed for repair. The degree of restoration is not really worth the expense. (The surface, however, will become almost flush with adjacent areas.)
Recommended repair kit: PP Part Repair Kit (NRM)

Process No.	Process name	Job contents	
1	Bumper removal	Remove the bumper as required.	
2	Removal of parts	Remove the parts built into bumper as required.	
3	Bumper placement	Place the bumper on a paint worktable as required. It is recommended to use the paint worktable conforming to internal shape of bumper.	 EI-00234 (1) Bumper (2) Set bumper section
4	Surface preparation	Remove dust, oil, etc. from areas to be repaired and surrounding areas, using a suitable solvent (NRM No. 900 Precleno, white gasoline, or alcohol, etc.).	
5	Cutting	If the damage is a crack or a hole, cut a guide slit of 20 — 30 mm (0.79 — 1.18 in) in length along the crack or hole up to the bumper base surface. Next, use a knife or grinder to carve a V-shaped groove in the area for repair.	 EI-00235 (1) Paint surface (2) PP base surface (3) 20 — 30 mm (0.79 — 1.18 in) (4) 3 mm (0.12 in)
6	Sanding (I)	Grind beveled surface with sand paper (#40 — #60) to smooth finish.	
7	Cleaning	Clean the sanded surface with the same solvent as used in Procedure 4.	
8	Temporary welding	Grind the side just opposite the beveled area with sand paper (#40 — #60) and clean using a solvent. Temporarily spot-weld the side, using PP welding rod and heater gun.	 EI-00236 (1) Welded point (Use heater gun and PP welding rod) (2) PP base surface (3) Beveled section NOTE: • Do not melt welding rod until it flows out. This results in reduced strength. • Leave the welded spot unattended until it cools completely.

Process No.	Process name	Job contents
9	Welding	Using a heater gun and PP welding rod, weld the beveled spot while melting both the rod and damaged area.  EI-00237 (1) Welding rod (2) Melt hatched area (3) Section NOTE: • Melt the sections indicated by hatched area. • Do not melt the welding rod until it flows out, in order to provide strength. • Always keep the heater gun 1 to 2 cm (0.4 to 0.8 in) away from the welding spot. • Leave the welded spot unattended until it cools completely.
10	Sanding (II)	Remove excess part of weld with a putty knife. If a drill or disc wheel is used instead of the knife, operate it at a rate lower than 1,500 rpm and grind the excess part little by little. A higher rpm will cause the PP substrate to melt from the heat. EI-00042 Sand the welded spot smooth with #240 sand paper.
11	Masking	Mask the black substrate section using masking tape. Recommended masking tape: Nichiban No. 533 or equivalent
12	Cleaning/ degreasing	Completely clean the entire coated area, using solvent similar to that used in Procedure 4.
13	Primer coating	Apply a coat of primer to the repaired surface and its surrounding areas. Mask these areas, if necessary. Recommended primer: Mp/ 364 PP Primer NOTE: Be sure to apply a coat of primer using a spray gun at a pressure of 245 — 343 kPa (2.5 — 3.5 kg/cm^2, 36 — 50 psi).
14	Leave unattended	Leave the repaired area unattended at 20°C (68°F) for 10 — 15 minutes until primer is half-dry. NOTE: If dirt or dust comes in contact with the coated area, wipe it off with a cloth dampened with alcohol. (Do not use thinner since the coated area tends to melt.)
15	Primer surfacer coating	Apply primer surfacer to the repaired area two or three times at an interval of 3 - 5 minutes. Recommended surfacer: • UPS 300 Flex Primer • No. 303 UPS 300 Exclusive hardener • NPS 725 Exclusive Reducer (thinner) • Mixture ratio: 2 : 1 (UPS 300 : No. 303) • Viscosity: 12 — 14 sec./20°C (68°F) • Coating film thickness: 40 — 50 µ
16	Drying	Allow the coated surface to dry for 20 minutes at 20°C (68°F) or 30 minutes at 60°C (140°F).

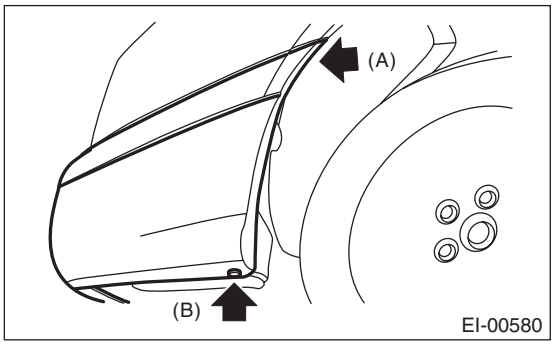
Process No.	Process name	Job contents	
17	Sanding (III)	Sand the coated surface and its surrounding areas using #400 sand paper and water.	
18	Cleaning/ degreasing	Same as Process No. 12.	
19	Top coat (I)	Non-colored	Metallic paint
		Use a “block” coating method. • Recommended paint: Suncryl (SC) No. 307 Flex Hardener SC Reducer (thinner) • Mixture ratio: Suncryl (SC) : No. 307 Flex Hardener = 3 : 1 • Viscosity: 11 — 13 sec./20°C (68°F) • Coating film thickness: 40 — 50 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kg/cm^2, 36 — 50 psi)	Use a “block” coating method. • Recommended paint: Suncryl (SC) No. 307 Flex Hardener SC Reducer (thinner) • Mixture ratio: Suncryl (SC) : No. 307 Flex Hardener = 3 : 1 • Viscosity: 11 — 13 sec./20°C (68°F) • Coating film thickness: 20 — 30 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kg/cm^2, 36 — 50 psi)
20	Leave unattended	Not required.	Leave unattended at 20°C (68°F) for at least 10 minutes until the topcoat area is half-dry. NOTE: Be careful to keep dust or dirt from coming in contact with the affected area.
21	Top coat (II)	Not required.	Apply a clear coat three times at an interval of 3 — 5 minutes. • Recommended paint: SC710 Overlay Clear No. 307 Flex Hardener SC Reducer (thinner) • Mixture ratio: Suncryl (SC) : No. 307 Flex Hardener = 3 : 1 • Viscosity: 10 — 13 sec./20°C (68°F) • Coating film thickness: 20 — 30 µ • Spraying pressure: 245 — 343 kPa (2.5 — 3.5 kg/cm^2, 36 — 50 psi)
22	Drying	Allow the coated surface to dry for two hours at 20°C (68°F) or 30 minutes at 60°C (140°F). NOTE: Do not allow the temperature to exceed 80°C (176°F) since this will deform the PP substrate.	
23	Inspection	Carefully check the condition of the repaired area.	
24	Removal of masking	Remove the masking tape applied in Process No. 11 and 13.	
25	Parts installation	Install parts on the bumper in reverse order of removal.	
26	Bumper installation	Install the bumper.	

7. Rear Bumper

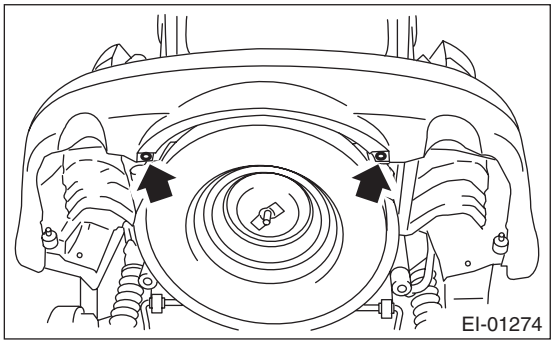
A: REMOVAL

1. REAR BUMPER FACE

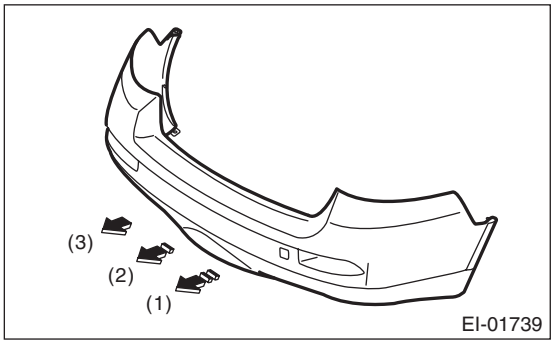
1) Turn over the mud guard, and remove the clip (A) and (B) inside wheel house and in the lower side of bumper.



2) Remove the clips on the lower side of rear bumper.



3) Remove the rear bumper from vehicle body.



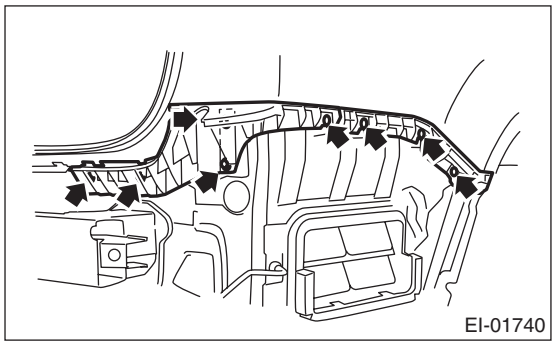
CAUTION:
Do not pull with a excessive force. Otherwise the bracket installation area may be damaged.

NOTE:
• Lifting the bumper face upward, and removing in the order of (B), (1)-(3) of the fender side, will make it easier to remove.
• When removing the bumper face from bracket, it is easier to remove from the end in order.

4) Remove the reflector or rear fog light.

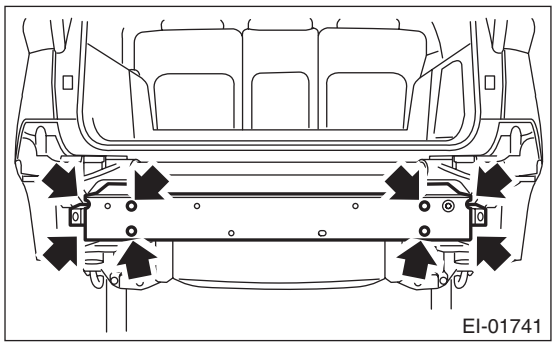
2. REAR BUMPER BRACKET

1) Remove the rear bumper face from vehicle body.
2) Remove the corner and side bracket.



3. REAR BUMPER BEAM ASSEMBLY

1) Remove the rear bumper face.
2) Remove the energy absorber foam.
3) Remove the nuts, and remove the bumper beam assembly from vehicle body.



B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to EI-5, REAR BUMPER, COMPONENT, General Description.>

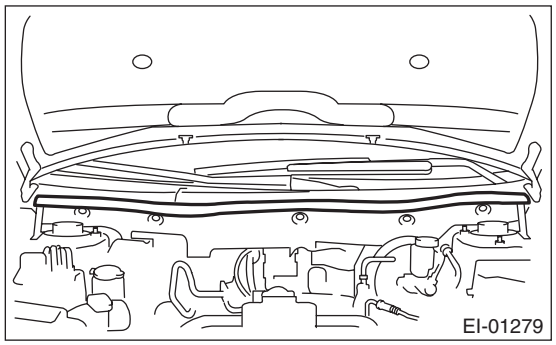
C: REPAIR

Refer to front bumper repair. <Ref. to EI-24, REPAIR, Front Bumper.>

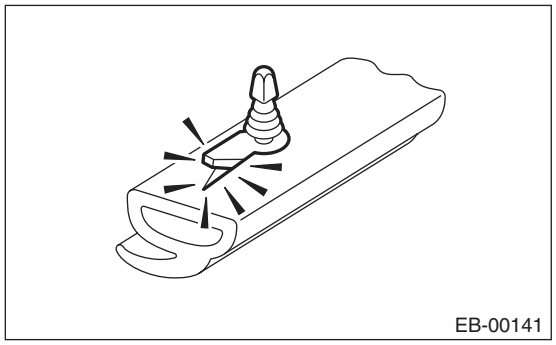
8. Cowl Panel

A: REMOVAL

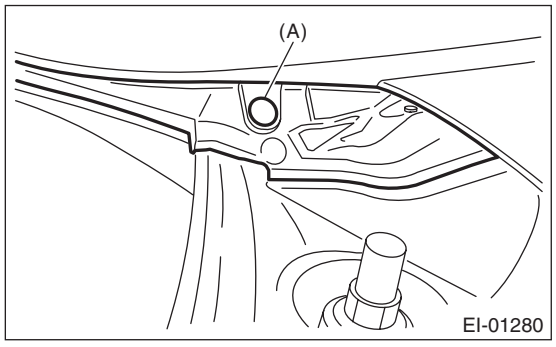
1) Remove the wiper arm. <Ref. to WW-16, REMOVAL, Front Wiper Arm.>
2) Remove the weather strip clips, and remove the weather strip.



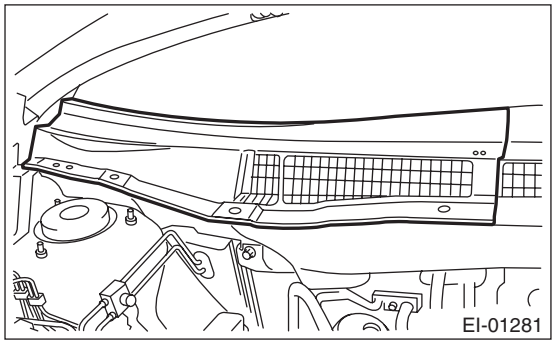
NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use a clip remover to remove.



3) Remove the clip and remove the cowl panel side.



4) Pull and remove the cowl panel RH.

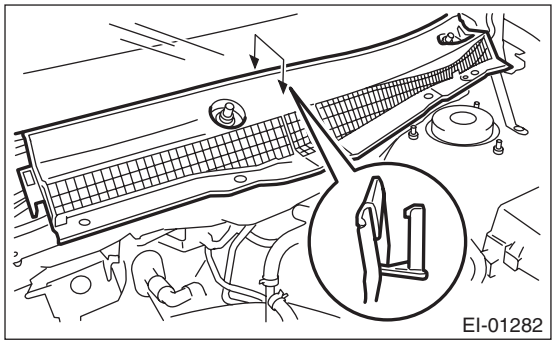


5) Remove the cowl panel LH.

B: INSTALLATION

Install in the reverse order of removal.

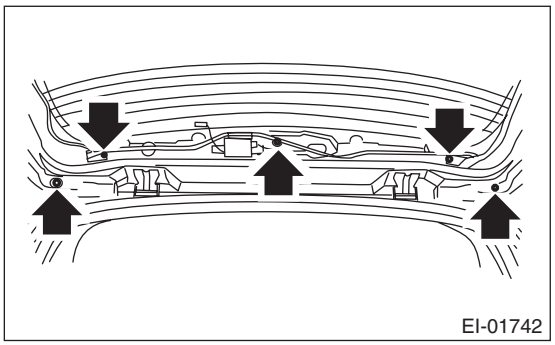
NOTE:
Hook the craw of cowl panel to the windshield.



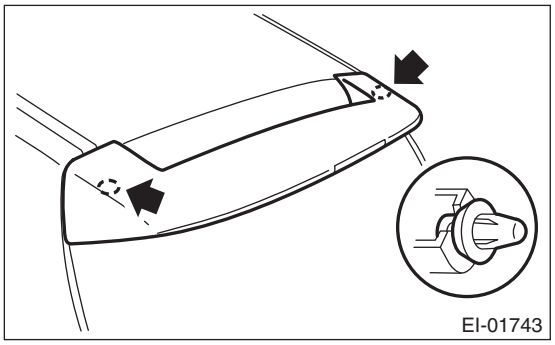
9. Roof Spoiler

A: REMOVAL

1) Remove the rear gate upper trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
2) Disconnect the connector of high-mounted stop light.
3) Remove the nut and bolt.



4) Remove the clips, and remove the roof spoiler.



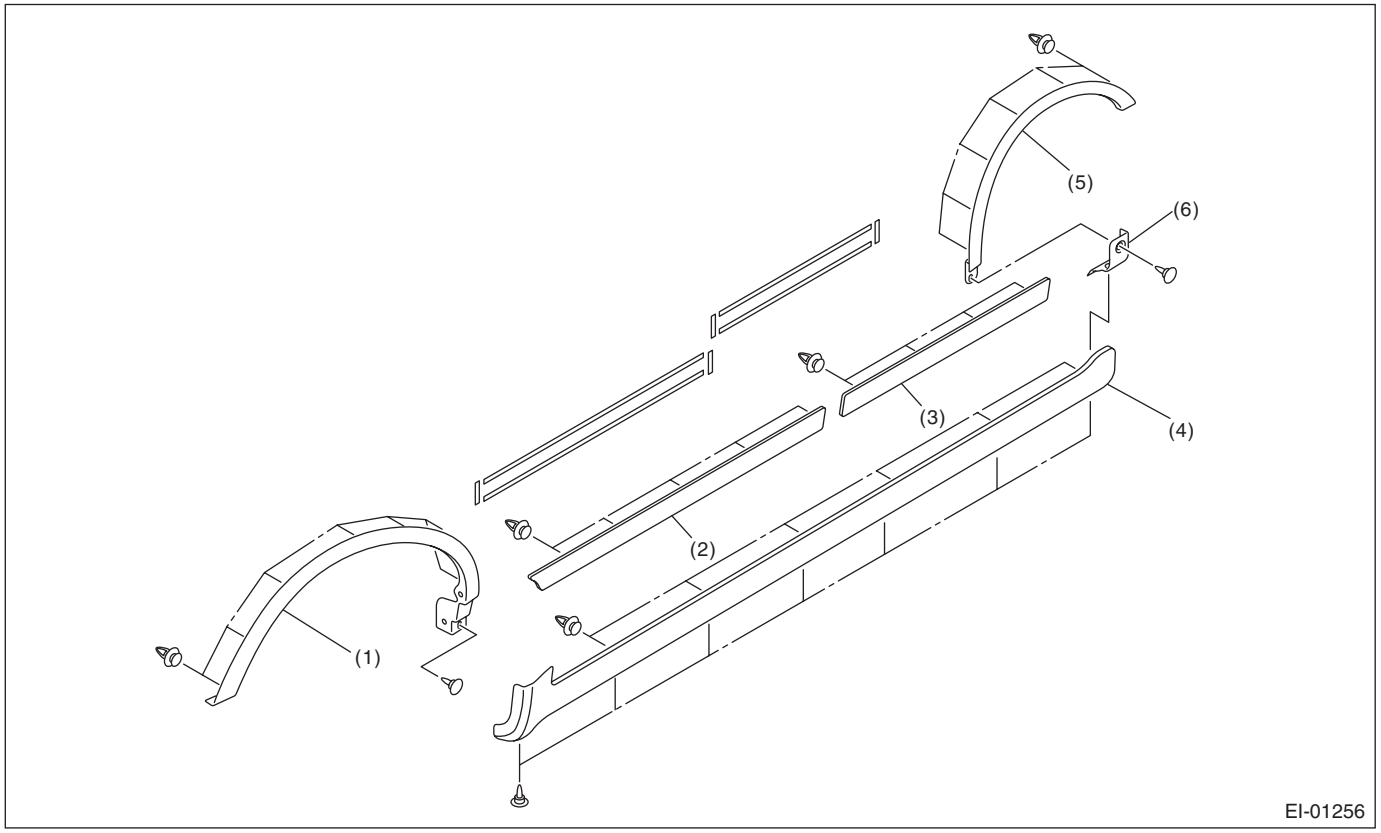
B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
4.5 N·m (0.46 kgf-m, 3.32 ft-lb)

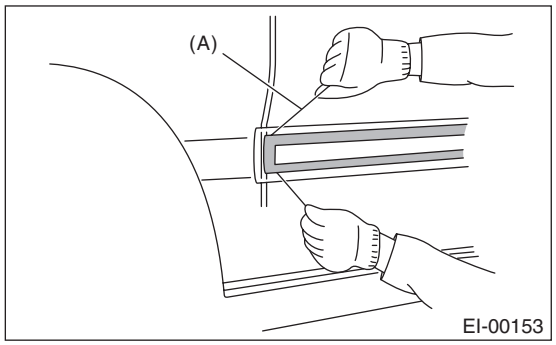
10.Side Garnish

A: REMOVAL

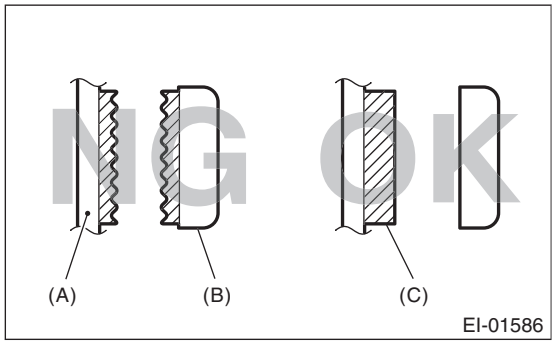


(1) Front fender garnish
(2) Front door garnish
(3) Rear door garnish
(4) Side sill garnish
(5) Rear quarter garnish
(6) Garnish end cover

1) Remove the clip on the bottom side of the vehicle body, and the clip that is attached with the front and rear mudguards.
2) Remove the double sided tape and the clip on the vehicle side, and remove the side sill spoiler.
(1) Insert a thin piece of string (A) of 0.8 mm (0.031 in) or less (fishing line, etc.) between the vehicle body and the door garnish.
(2) Cut the double sided tape, and remove the clip using a clip remover.



NOTE:
• To optimize the effect of solvent, slide the thread along body without removing the double-sided tape on the surface of body and spoiler.
• If it is difficult to remove the double-sided tape, warm it up to approx. 40°C (104°F).
• If the double-sided tape remains thick on the surface due to interfacial peeling, apply solvent after slicing off the double-sided tape using a cutter.



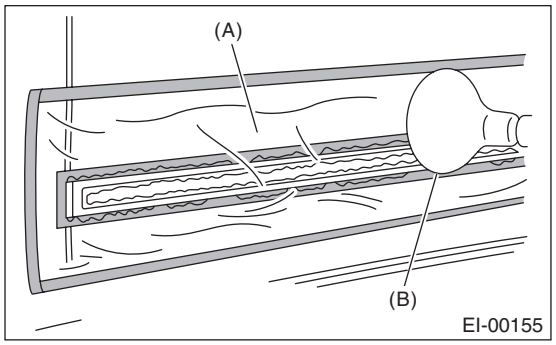
(A) Panel
(B) Door garnish
(C) Double-sided tape

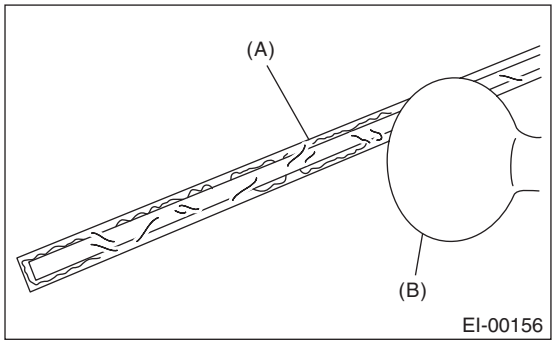
(3) Apply masking tape around the double-sided tape remaining on the surface of body or spoiler.
(4) Apply solvent uniformly on the double-sided tape using a brush.

CAUTION:
• Do not use solvent to the body which has been repaired with lacquer paint.
• Wipe off immediately when the solvent is attached on surface of the body or spoiler.

Solvent:
3M 8907 or equivalent

(5) Cover the area where solvent is applied using plastic wrap (A), and then heat the double-sided tape for 5 to 10 minutes in 40 — 60°C (104 — 140°F) using a heat light (B).



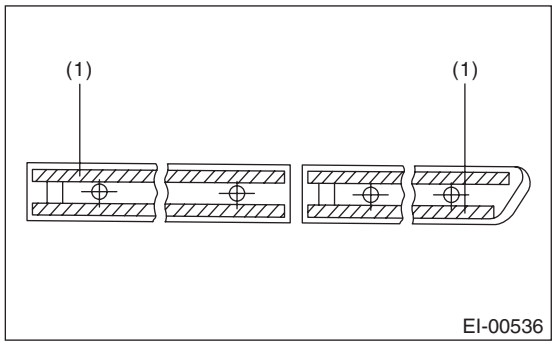


CAUTION:
Do not heat the double-sided tape until the surface becomes white and excessively dried.

(6) Remove the double-sided tape using a plastic spatula.
(7) After completely removing the double-sided tape, detach the masking tape and clean the surface using a cotton cloth damped with white gasoline.
3) Remove the front fender garnish and rear quarter garnish.
4) Remove the door garnish.

B: INSTALLATION

1) Apply primer to the door garnish surface where the double-sided tape is to be adhered, and then adhere the double-sided tape as shown in the figure.



(1) Double-sided tape:
Thickness = 1.2 mm (0.047 in)
Width 5 m (0.197 n)

Primer:
3M K-500 or equivalent

Double-sided tape:
3M 5531-5 or equivalent

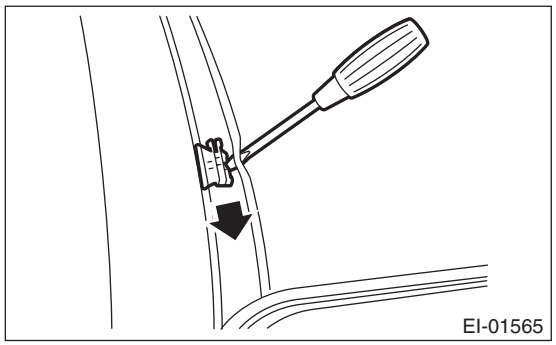
2) Heat the adhering part using a heat light.
Body side: 40 — 60°C (104 — 140°F)
Door garnish side: 20 — 30°C (68 — 86°F)
3) Peel off the backing sheet of double-sided tape, align the clip position, and then adhere the tape to the body while taking care to avoid air entering.

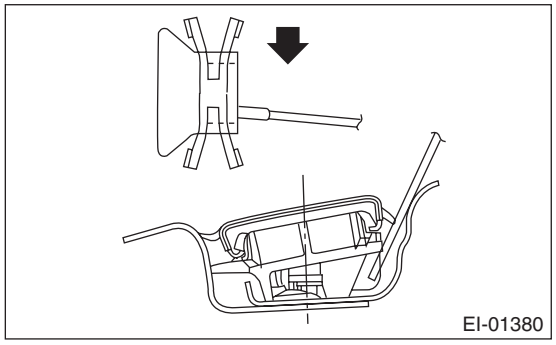
CAUTION:
To keep the adhesion, do not wash the vehicle within 24 hours from installation.

11.Roof Molding

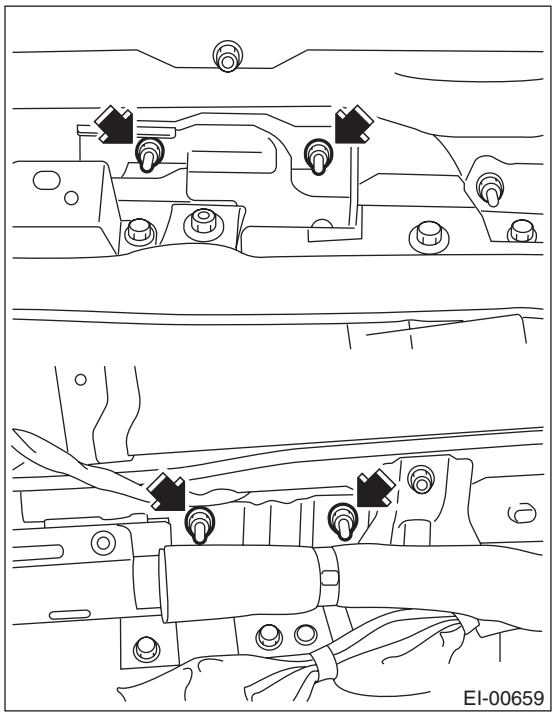
A: REMOVAL

1) Turn over the edge of the roof molding, and remove the inside clips with flat tip screwdriver by sliding as arrow indicates.
Right side: slide towards the front of the vehicle.
Left side: slide towards the rear of the vehicle.





2) Pull the roof molding upward, and remove it from vehicle body.
3) Remove the roof trim. <Ref. to EI-52, Roof Trim.>
4) Remove the nuts, and remove the roof carrier attachment.



B: INSTALLATION

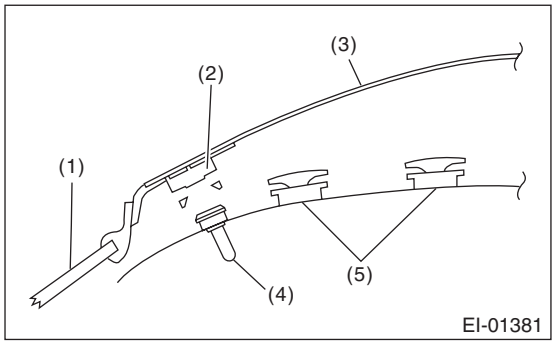
1) Install the roof carrier attachment.

Tightening torque:
10 N·m (1.0 kgf-m, 7.23 ft-lb)

2) Remove each clip from the roof molding, and install them to the vehicle side.

CAUTION:
Always replace clips damaged during removal of the roof moulding with new clips.

3) Push the front edge of roof molding against the front window, and install the positioning clip on the front end to the rivet on the vehicle side.

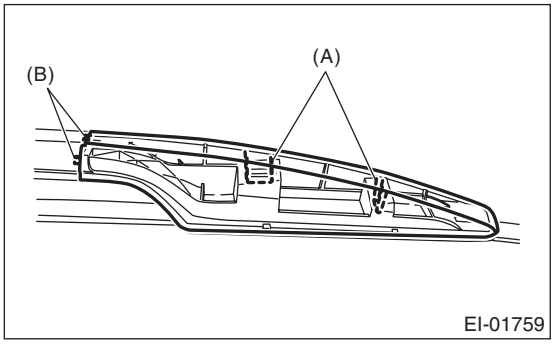


(1) Windshield
(2) Positioning clips
(3) Roof molding
(4) Rivet
(5) Clip

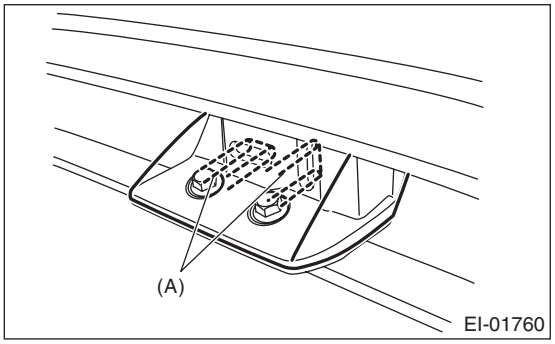
12.Roof Rail

A: REMOVAL

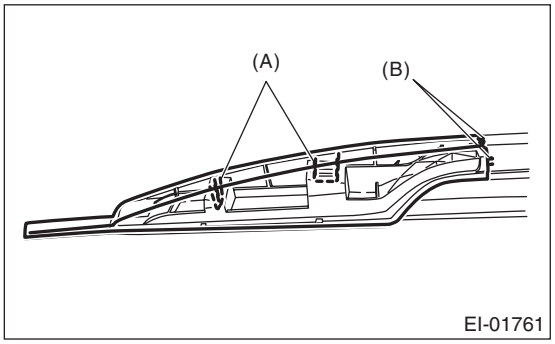
1) Remove the clips (A) and claws (B), and remove the roof rail cover front.



2) Remove the clips (A), and then remove the roof rail cover center.



3) Remove the clips (A) and claws (B), and remove the roof rail cover rear.



B: INSTALLATION

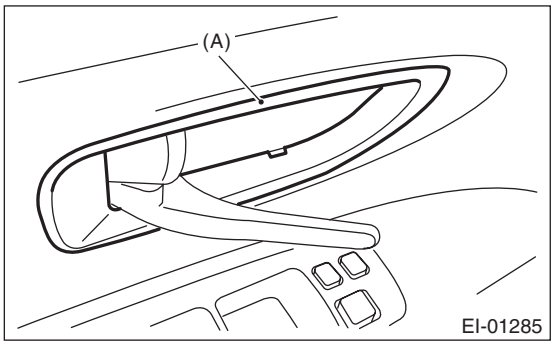
Install in the reverse order of removal.

Tightening torque:
7.5 N·m (0.77 kgf-m, 5.53 ft-lb)

13.Door Trim

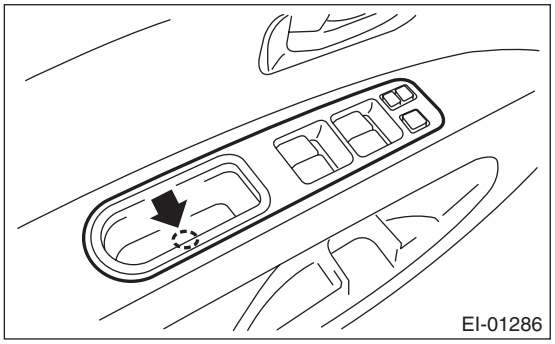
A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the cover (A) at inner remote.

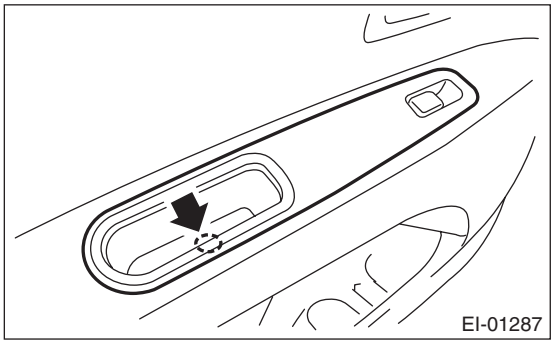


3) Remove the bottom cover at the pull handle.
4) Remove the screw to remove the power window switch assembly.

- Front door

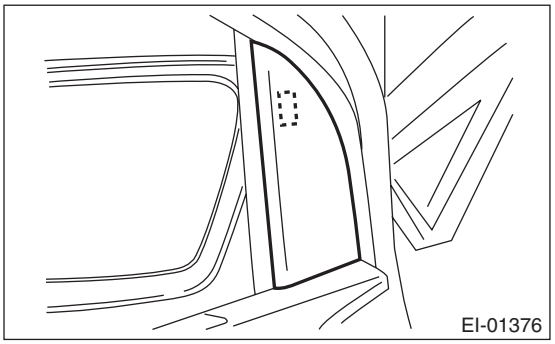


- Rear door

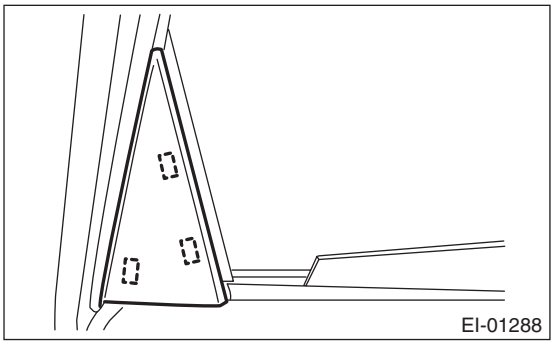


5) Remove the gusset cover.

- Front door

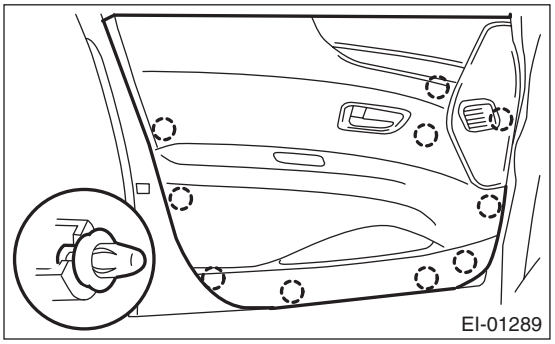


- Rear door

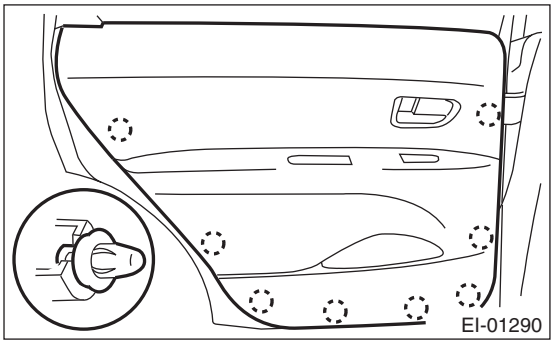


6) Remove the clip, and disconnect the each connector to remove the door trim.

- Front door trim



- Rear door trim



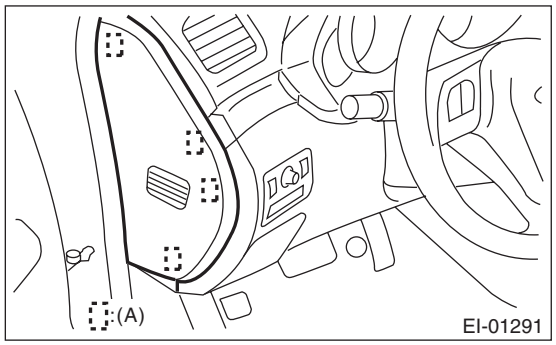
B: INSTALLATION

Install in the reverse order of removal.

14. Instrument Panel Lower Cover

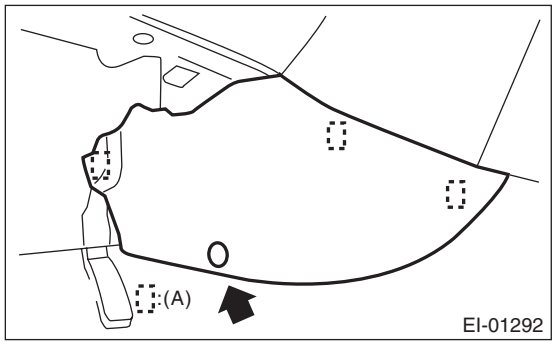
A: REMOVAL

1) Remove the front door scuff plate and front pillar lower trim. <Ref. to EI-45, REMOVAL, Side Trim.>
2) Remove the instrument panel side cover LH.



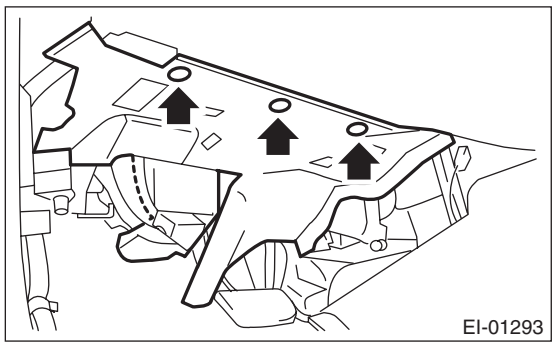
(A) Hook

3) Remove the clips, and remove the console side panel lower LH.

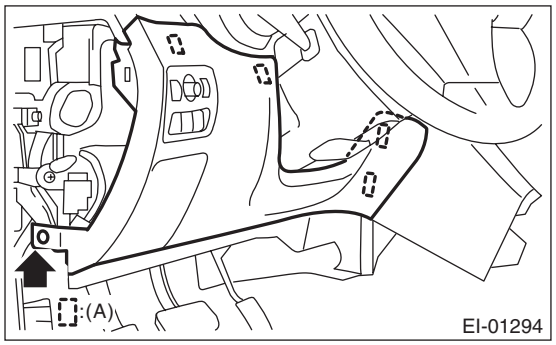


(A) Hook

4) Remove the clips, and remove the instrument panel lower cover under.



5) Remove the clips and hooks, disconnect the connectors, and then remove the instrument panel lower cover upper.



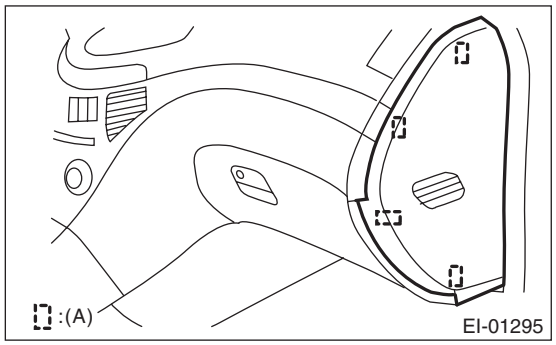
B: INSTALLATION

Install in the reverse order of removal.

15.Glove Box

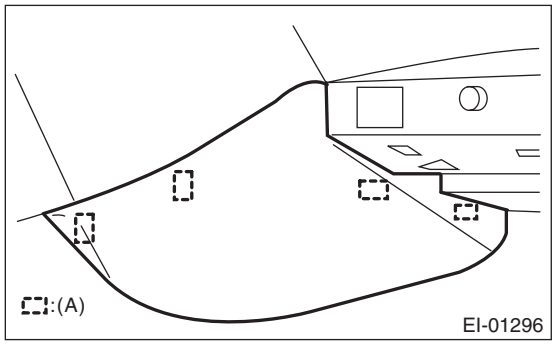
A: REMOVAL

1) Remove the front door scuff plate and front pillar lower trim. <Ref. to EI-45, REMOVAL, Side Trim.>
2) Remove the instrument panel side cover RH.



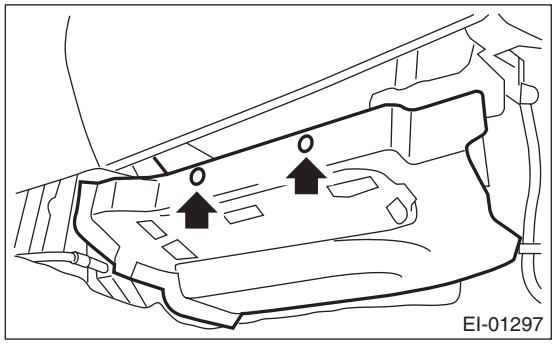
(A) Hook

3) Remove the console side panel lower RH.

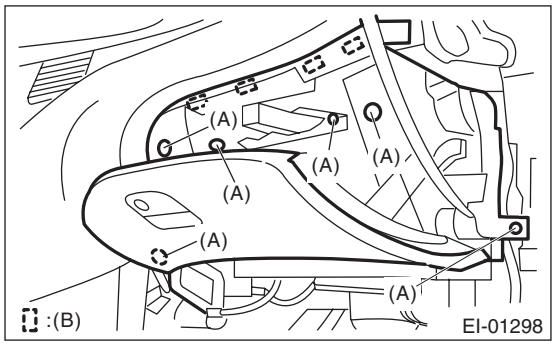


(A) Hook

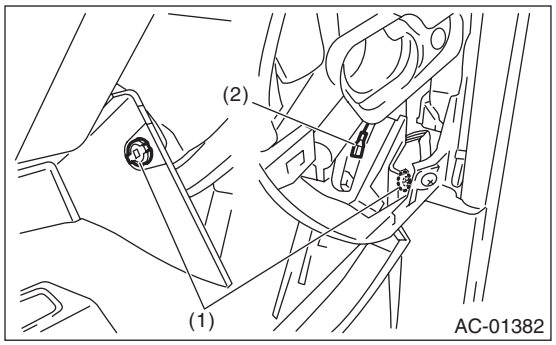
4) Remove the clips, and remove the glove box lower cover.



5) Remove the screws (A) and hooks (B), and disconnect the connector, and then remove the glove box assembly.



6) Remove the clip (A) in the glove box and damper strap.



7) Remove the left and right stoppers of glove box lid, and then remove the glove box lid.

NOTE:
The glove box lid can be removed without using the glove box assembly.

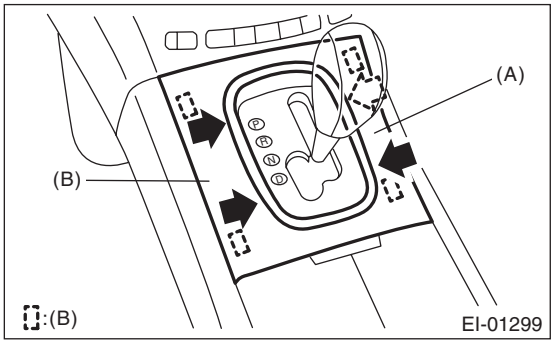
B: INSTALLATION

Install in the reverse order of removal.

16.Console Box

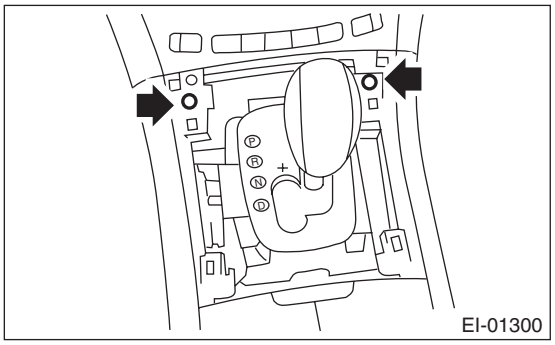
A: REMOVAL

1) Remove the ring indicator (A) and console front panel (B).

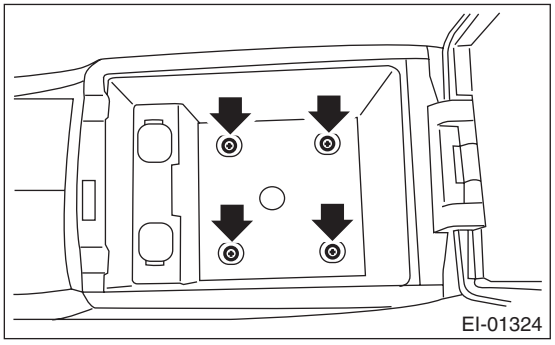


NOTE:
The ring indicator can be easily removed by inserting the clip remover or equivalent into the positions indicated by arrows.

2) Remove the screws.



3) Remove the bolts inside the upper pocket.



4) Pull out the console lower pocket, and remove the console box.

B: INSTALLATION

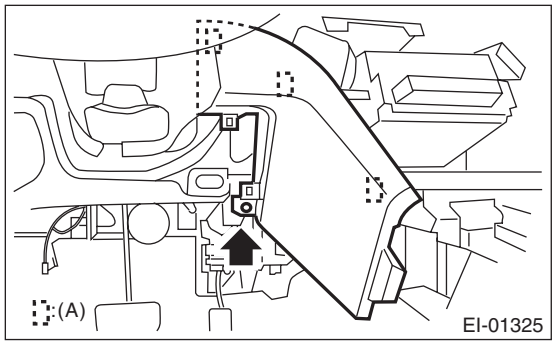
Install in the reverse order of removal.

17.Center Console

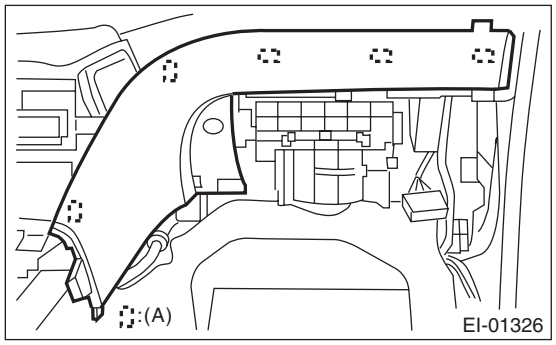
A: REMOVAL

1) Remove the control panel. <Ref. to AC-34, REMOVAL, Control Panel.>
2) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
4) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
5) Remove the screws and clips (A) to remove the console side panel upper.

- Driver's side



- Passenger's side



B: INSTALLATION

Install in the reverse order of removal.

18.Instrument Panel Assembly

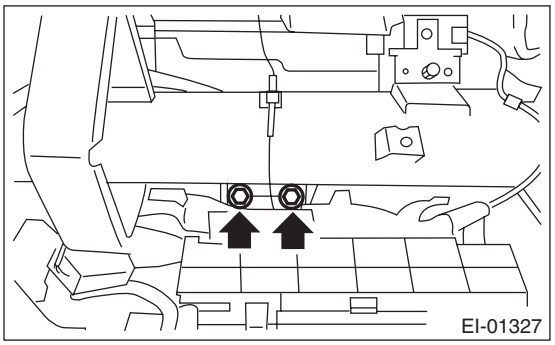
A: REMOVAL

CAUTION:
Take care of the following when removing the instrument panel from the vehicle body.
• Refer to "CAUTION" of "General Description" before starting the work. <Ref. to AB-4, CAUTION, General Description.>
• Be sure to disconnect each harness connector. Applying excessive force may damage the harness.
• Be careful to the harness of airbag system. Damage of the harness may cause the airbag system malfunction.
• Take care not to damage the interior trims when removing the instrument panel from the vehicle body.

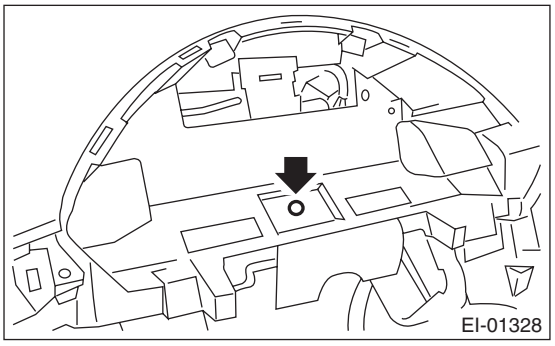
NOTE:
• Putting alignment marks to each connector as necessary facilitates the reassembly work.
• When storing the removed instrument panel, be sure to prepare a table or the like to put the instrument panel on in order to prevent damage.

1. INSTRUMENT PANEL UPPER

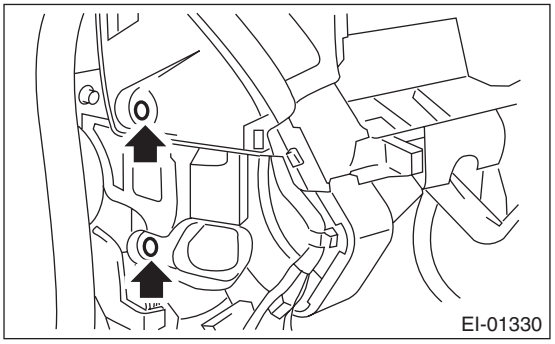
1) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
2) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
3) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
5) Remove the center console. <Ref. to EI-41, REMOVAL, Center Console.>
6) Remove the audio unit. <Ref. to ET-13, REMOVAL, Audio.>
7) Remove the combination meter assembly. <Ref. to IDI-12, REMOVAL, Combination Meter.>
8) Remove the upper grille. <Ref. to AC-51, UPPER GRILL, REMOVAL, Air Vent Grille.>
9) Remove the multi function display or navigation monitor, and warning box. <Ref. to ET-22, REMOVAL, Navigation Display.>
10) Remove the front pillar upper trim. <Ref. to EI-45, REMOVAL, Side Trim.>
11) Remove the mounting bolts of the passenger's side airbag module.


EI-01327

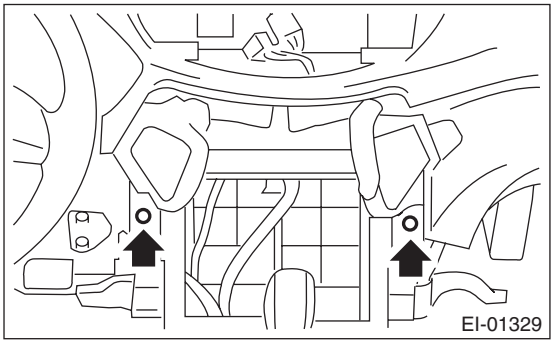
12) Remove the following screws.
• In combination meter house


EI-01328

• At the sides (left and right) of instrument panel


EI-01330

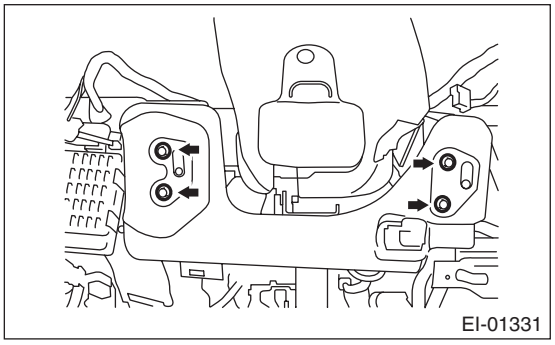
• Instrument panel center


EI-01329

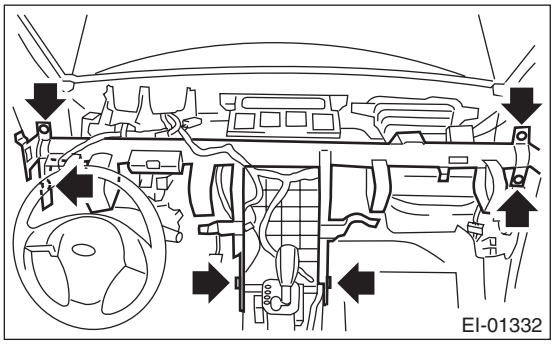
13) Make sure that the instrument panel upper is removed from the steering support beam
14) Disconnect the connectors, and remove the instrument panel from vehicle body.
15) Remove the heater vent duct. <Ref. to AC-53, REMOVAL, Heater Vent Duct.>
16) Remove the air vent grille. <Ref. to AC-51, REMOVAL, Air Vent Grille.>
17) Remove the passenger airbag module. <Ref. to AB-15, REMOVAL, Passenger's Airbag Module.>

2. STEERING SUPPORT BEAM

1) Remove the instrument panel upper.
2) Remove the bolts, and then remove the knee guard plate.


EI-01331

3) Remove the steering shaft from the steering support beam. <Ref. to PS-16, REMOVAL, Tilt Steering Column.>
4) Remove the bolts and remove the steering support beam.


EI-01332

3. INSTRUMENT PANEL ASSEMBLY

1) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
2) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
3) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
5) Remove the center console. <Ref. to EI-41, REMOVAL, Center Console.>
6) Remove the front pillar upper trim. <Ref. to EI-45, REMOVAL, Side Trim.>
7) Remove the steering shaft from the steering support beam. <Ref. to PS-16, REMOVAL, Tilt Steering Column.>
8) Disconnect the connectors, and remove the instrument panel from vehicle body.
9) Remove the bolts and remove the steering support beam.

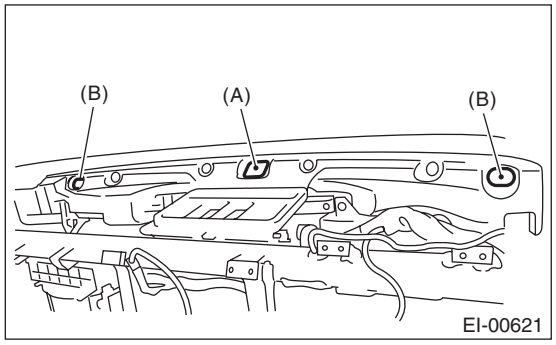
NOTE:
For positions of the mounting bolt of steering support beam, refer to the removal procedure of the steering support beam.
10) Make sure that the each harness connector is disconnected, and remove the instrument panel assembly from the vehicle body.

NOTE:
Remove the passenger's side door trim to facilitate the work.

B: INSTALLATION

1. INSTRUMENT PANEL UPPER

1) Insert the matching pins (three places) on the instrument panel tip into the grommet (A) and (B) on the body panel side.

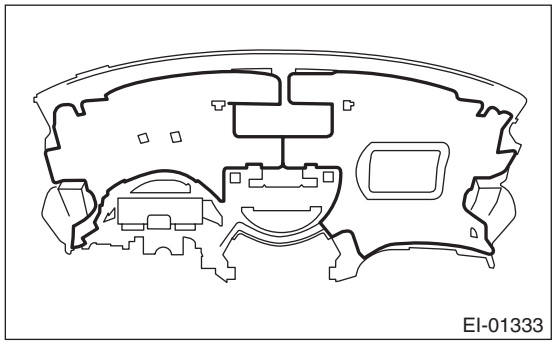


2) Check that the matching pins are inserted securely, and then route the harness.
3) Tighten the instrument panel with screws, and recheck the installation condition of instrument panel and harness routing.
4) Install in the reverse order of removal.

NOTE:
How to install insulator and pad;
- Adhesive

Use polyurethane adhesive. When assembling the instrument panel assembly, wait until the adhesive has evaporated to prevent filling of the smell in the compartment.
- Double-sided tape

Use commercial double-sided tape. (Use strong double-sided adhesive tape.)
- Install locations



2. STEERING SUPPORT BEAM

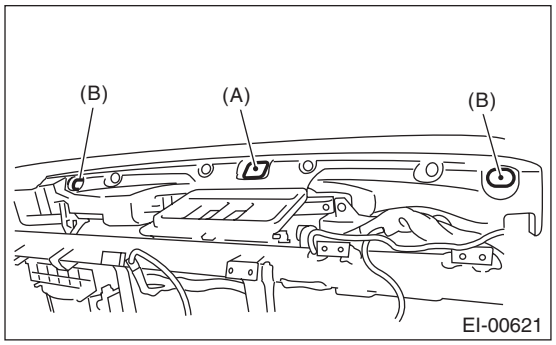
1) Temporarily tighten the steering support beam with bolts, and then route the harness.
2) Make sure that there is no mutual interference in each pedal, and then tighten each bolt.

Tightening torque:
25 N·m (25.5 kgf-m, 18 ft-lb)

3) Install in the reverse order of removal.

3. INSTRUMENT PANEL ASSEMBLY

1) Insert the matching pins (three places) on the instrument panel tip into the grommet (A) and (B) on the body panel side.



2) Check that the matching pins are inserted securely, and then route the harness.
3) Temporarily tighten the steering support beam with bolts, and then route the harness.
4) Make sure that there is no mutual interference in each pedal, and then tighten each bolt.

Tightening torque:
25 N·m (25.5 kgf-m, 18 ft-lb)

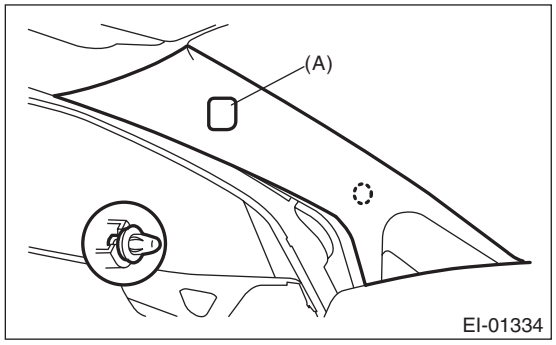
5) Install in the reverse order of removal.

19.Side Trim

A: REMOVAL

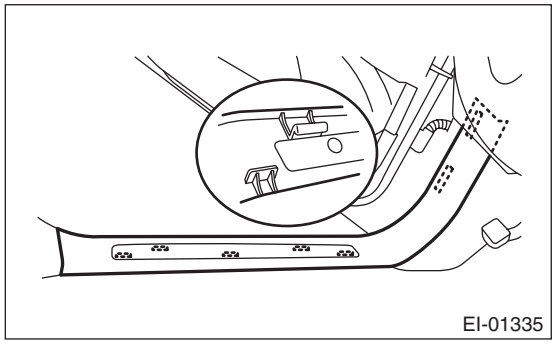
1. FRONT PILLAR UPPER TRIM

1) Remove the cap (A) on the upper side of pillar trim, and remove the bolt inside.
2) Remove the front pillar upper trim.



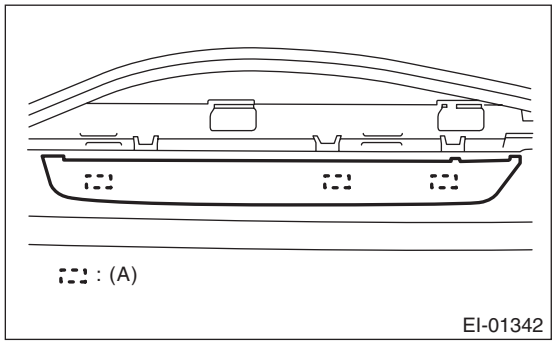
2. FRONT DOOR SCUFF PLATE

1) Remove the front door scuff plate.



(A) Claw

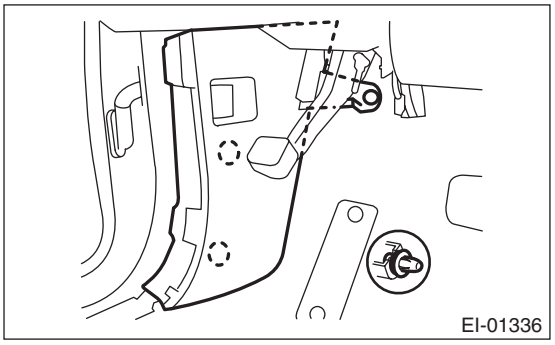
2) Remove the scuff plate outer.



(A) Claw

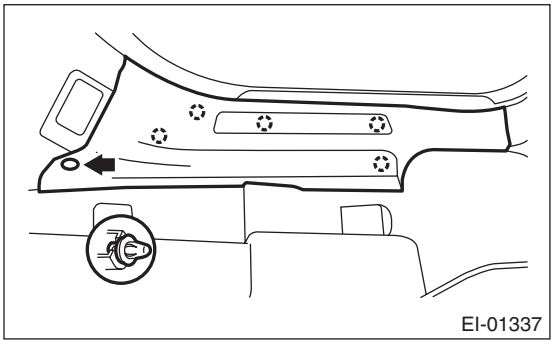
3. FRONT PILLAR LOWER TRIM

1) Remove the front door scuff plate.
2) Remove the clip, and remove the front pillar trim.

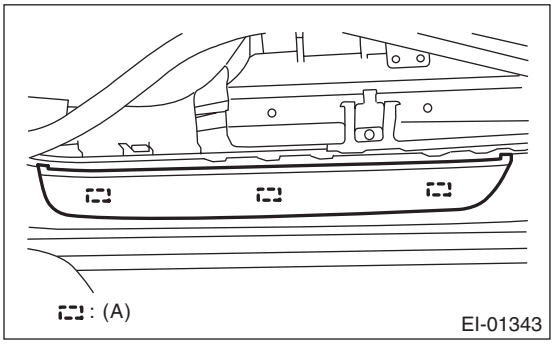


4. REAR DOOR SCUFF PLATE

1) Remove the clips and disengage the claws on the rear side of scuff plate, and then remove the rear door scuff plate.



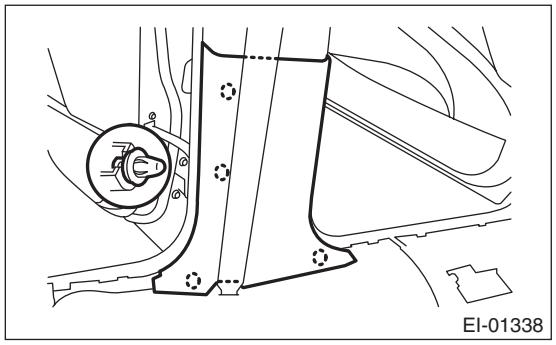
2) Remove the scuff plate outer.



(A) Claw

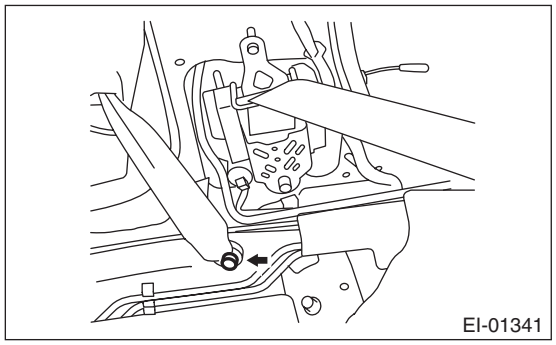
5. CENTER PILLAR LOWER TRIM

1) Remove the front door scuff plate.
2) Remove the rear door scuff plate.
3) Remove the clip, and remove the center pillar lower trim.

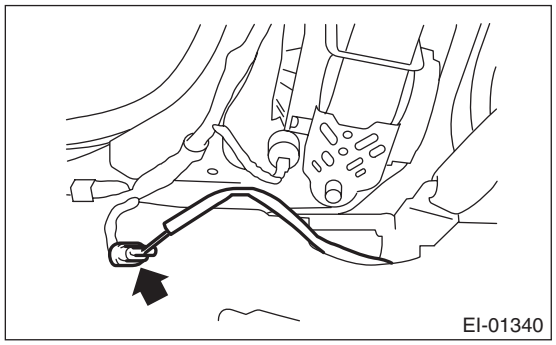


6. CENTER PILLAR UPPER TRIM

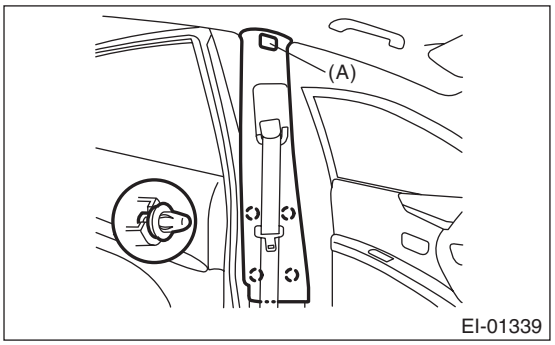
1) When removing the parts of passenger's side, disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
2) Remove the front door scuff plate.
3) Remove the rear door scuff plate.
4) Remove the center pillar lower trim.
5) Turn over the floor mat to remove the seat belt lower anchor bolt.



6) Disconnect the connector of belt tension sensor on passenger's side.



7) Remove the cap (A) on the upper side of pillar trim, and remove the bolt inside.
8) Remove the clip, and remove the center pillar upper trim.



B: INSTALLATION

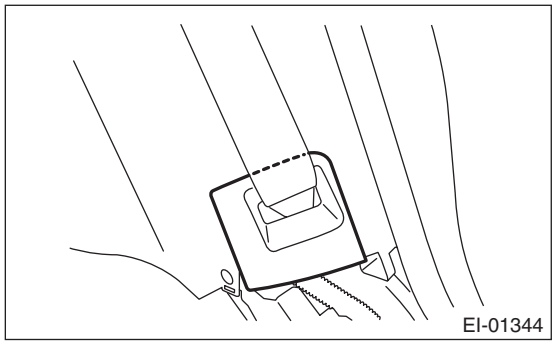
Install each side trim in the reverse order of removal.

NOTE:
When installing the side trim, make sure that the clips and hooks match the holes of vehicle body before pushing the parts.

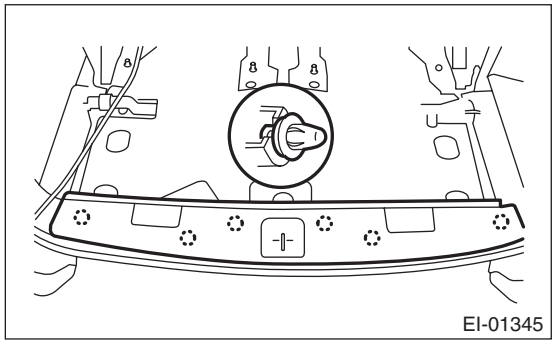
20.Rear Quarter Trim

A: REMOVAL

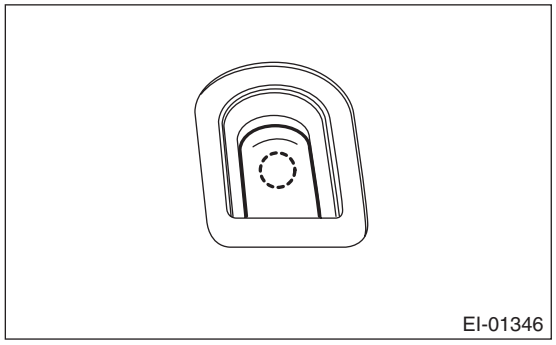
1) Remove the third-row seats. <Ref. to SE-19, REMOVAL, Third Seat.>
2) Remove the rear door scuff plate. <Ref. to EI-45, REAR DOOR SCUFF PLATE, REMOVAL, Side Trim.>
3) Remove the lower anchor cover.


EI-01344

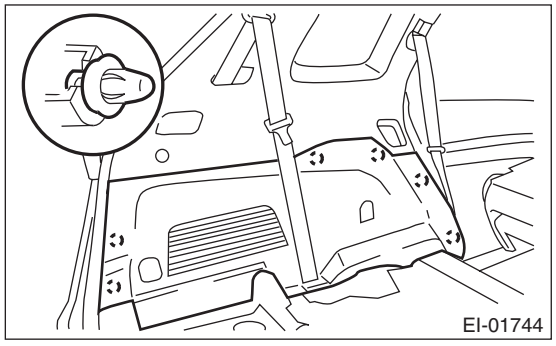
4) Remove the luggage floor mat and utility box.
5) Remove the luggage floor end cover.


EI-01345

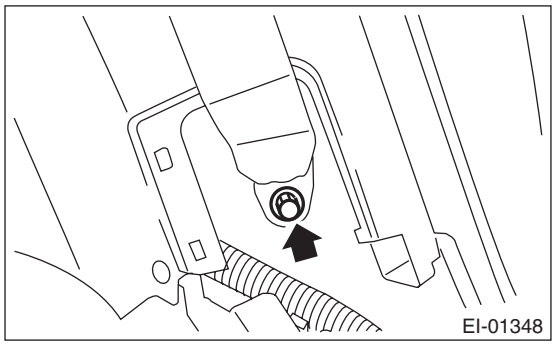
6) Remove the cover, and remove the bolts inside.


EI-01346

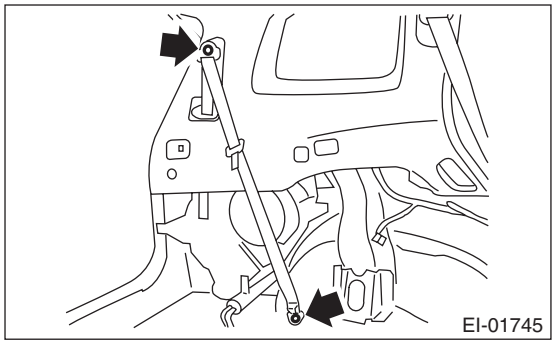
7) Remove the rear quarter lower trim.


EI-01744

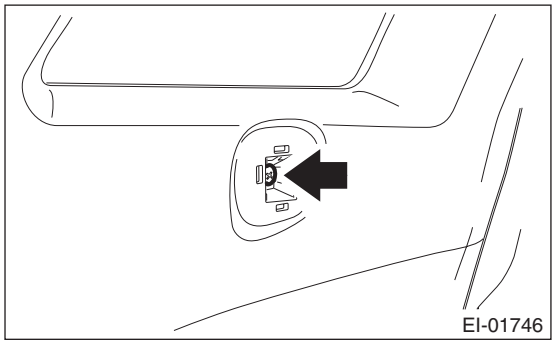
8) Remove the lower anchor bolts of second-row seat belts.


EI-01348

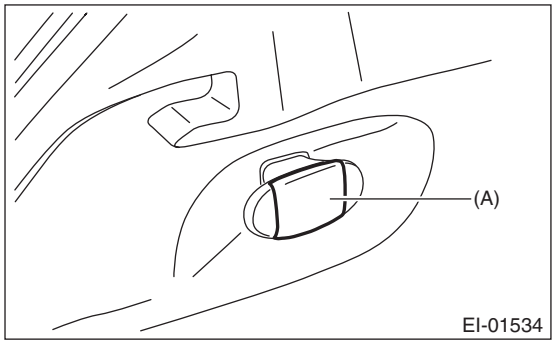
9) Remove the upper and lower anchor bolts of third-row seat belts.


EI-01745

10) Remove the screws.


EI-01746

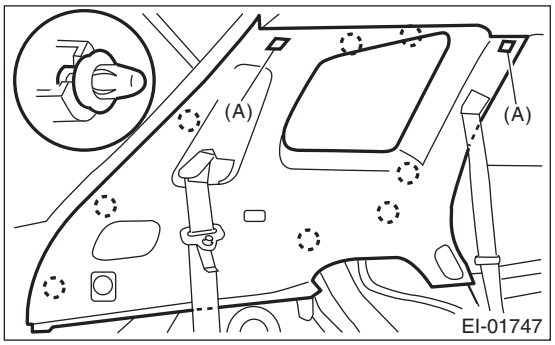
NOTE:
For models equipped with a third-row seat, there is a cap.
11) Remove the cover (A), and remove the bolts inside.



EI-01534

12) Remove the cap (A) on the upper side of pillar trim, and remove the bolt inside.

13) Disconnect each connector, and remove the rear quarter upper trim.



B: INSTALLATION

Install in the reverse order of removal.

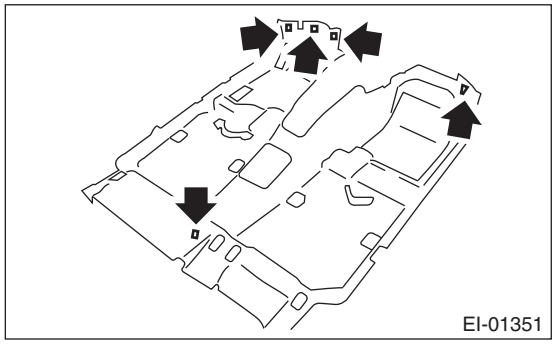
21.Floor Mat

A: REMOVAL

1. FRONT FLOOR MAT

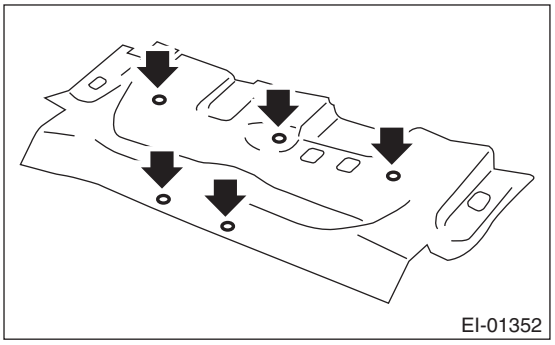
1) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
2) Remove the second row seats. <Ref. to SE-13, REMOVAL, Second Seat.>
3) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
4) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
5) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
6) Remove the following trims. <Ref. to EI-45, REMOVAL, Side Trim.>
- Front door scuff plate
- Rear door scuff plate
- Front pillar lower trim
- Center pillar lower trim

7) Remove the remote opener cover. <Ref. to SL-44, REMOVAL, Remote Openers.>
8) Remove the navigation unit. <Ref. to ET-23, REMOVAL, Navigation Body.>
9) Remove the clips, then remove the front floor mats.


EI-01351

2. REAR FLOOR MAT

1) Remove the second row seats. <Ref. to SE-13, REMOVAL, Second Seat.>
2) Remove the third-row seats. (7 seater model) <Ref. to SE-19, REMOVAL, Third Seat.>
3) Remove the luggage box (front). (5 seater model)
4) Remove the rear quarter lower trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
5) Remove the clips, then remove the rear floor mats.


EI-01352

B: INSTALLATION

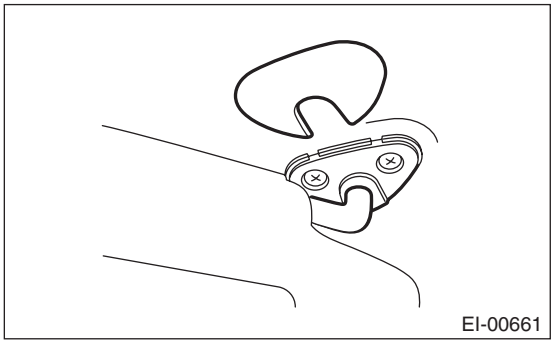
Install in the reverse order of removal.

NOTE:
- Secure the mat firmly with hook and clip.
- Insert the mat edge firmly into the groove of side sill cover.

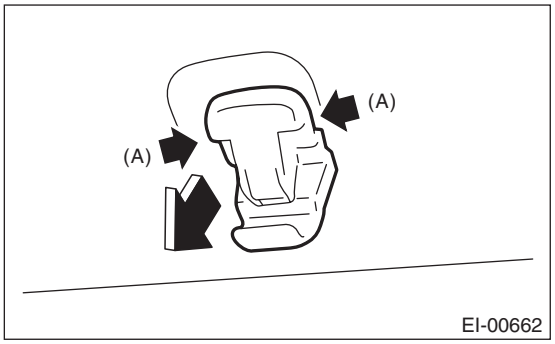
22.Sun Visor

A: REMOVAL

1) Remove the cover, loosen the mounting screws, and remove the sun visor.



2) Disconnect the connector. (Model with vanity mirror light)
3) While pressing the (A) on the both side using flat tip screwdriver, pull the sun visor hook to remove it.



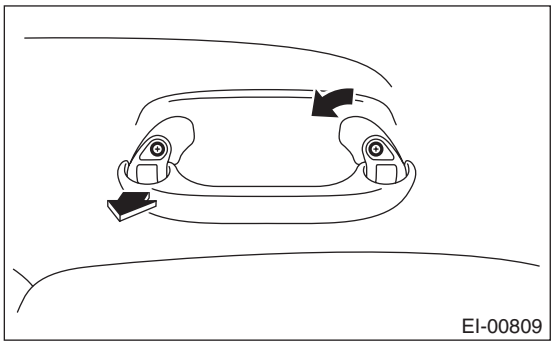
B: INSTALLATION

Install in the reverse order of removal.

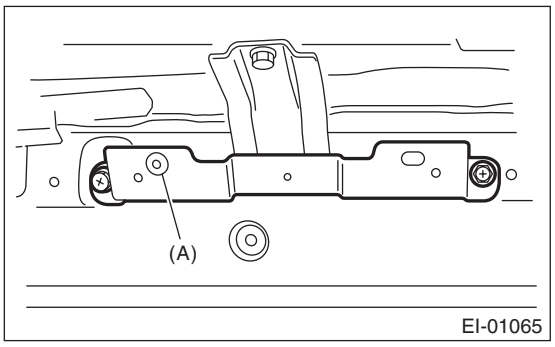
23.Assist Grip

A: REMOVAL

1) Remove the screw cover, and remove the screw inside.
2) Pull the left side of assist grip, and rotate the right side of it counterclockwise to remove.



3) Remove the roof trim. <Ref. to EI-52, REMOVAL, Roof Trim.>
4) Remove the bolts, and remove the assist grip bracket.



(A) Grommet

B: INSTALLATION

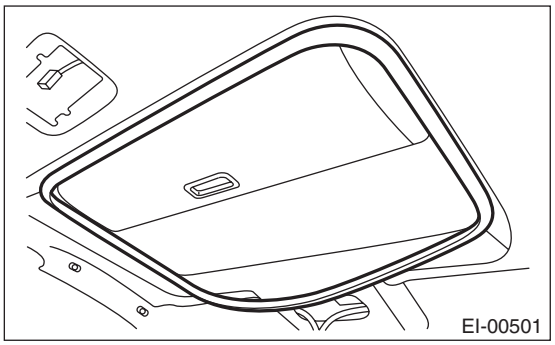
Install in the reverse order of removal.

CAUTION:
Be sure to install the grommet to assist grip bracket.
When the assist grip is installed with no grommet, it ill cause the grip to not return properly.

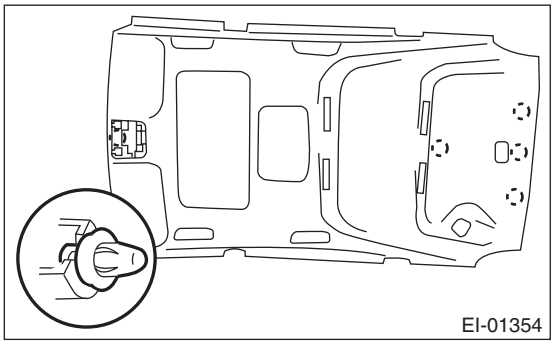
24.Roof Trim

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the spot map light. <Ref. to LI-33, REMOVAL, Spot Map Light.>
3) Remove the room light or rear entertainment. (Model with rear entertainment system) <Ref. to LI-34, REMOVAL, Room Light.>
4) Remove the sun visor. <Ref. to EI-50, REMOVAL, Sun Visor.>
5) Remove the assist grip. <Ref. to EI-51, REMOVAL, Assist Grip.>
6) Remove the front pillar upper trim and center pillar upper trim. <Ref. to EI-45, REMOVAL, Side Trim.>
7) Remove the rear quarter upper trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
8) Remove the sunroof opening trim. (Model with sunroof)


EI-00501

9) Remove the clips and each harness, pull out the rear center seat belt, and remove the roof trim.


EI-01354

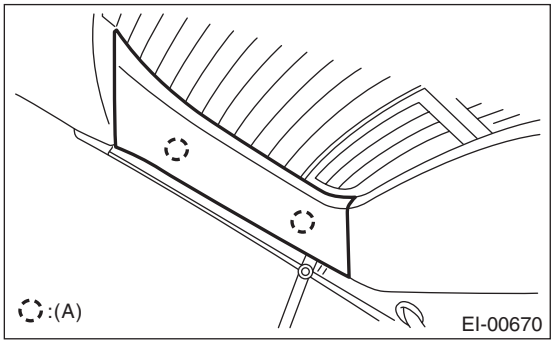
B: INSTALLATION

Install in the reverse order of removal.

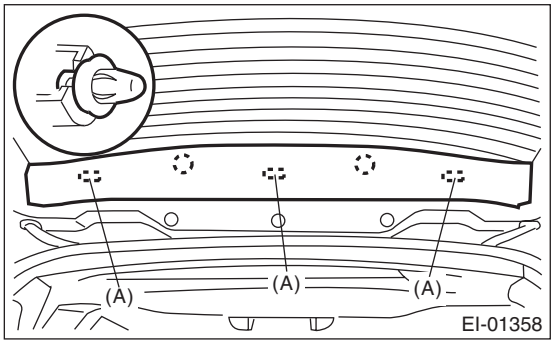
25.Rear Gate Trim

A: REMOVAL

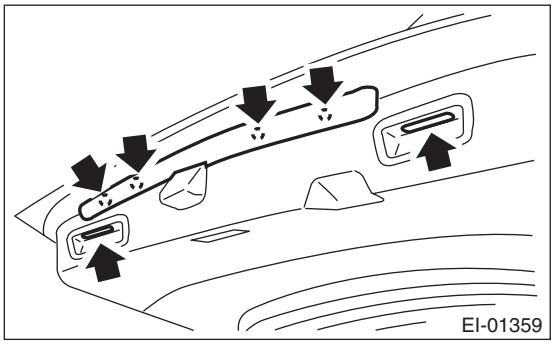
1) Remove the claws (A), and remove the rear gate pillar trim.



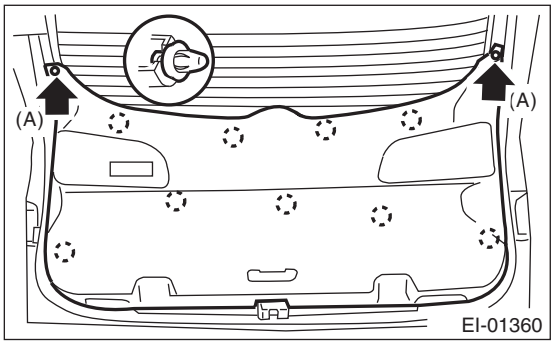
2) Remove the clips and claws (A), and remove the rear gate upper trim.



3) Remove the cover in the inner handle, and loosen the inside screw.
4) Turn over the weather strip, and remove the clips.



5) Remove the clips (A), and remove the rear gate lower trim.



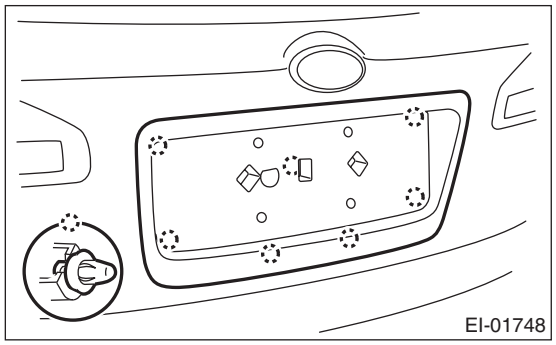
B: INSTALLATION

Install in the reverse order of removal.

26.Rear Gate Garnish

A: REMOVAL

1) Remove the rear gate trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
2) Disconnect the connector of license plate light and rear camera.
3) Remove the nut from the back of the rear gate garnish.
4) Remove the rear gate garnish.



B: INSTALLATION

Install in the reverse order of removal.

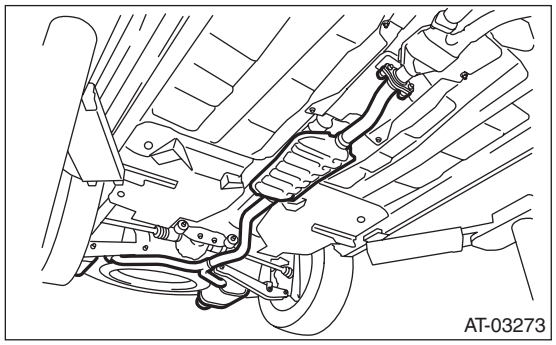
Tightening torque:
4.5 N·m (0.46 kgf-m, 3.32 ft-lb)

27.Heat Shield Cover

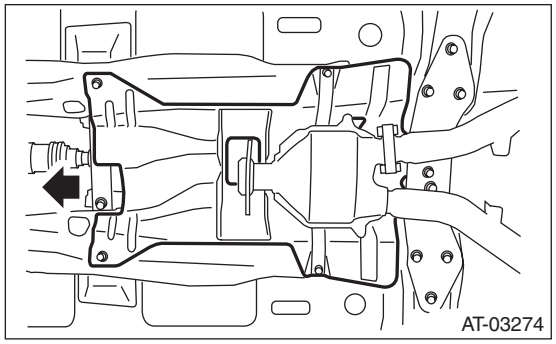
A: REMOVAL

1. FRONT HEAT SHIELD COVER

1) Remove the rear exhaust pipe and muffler.

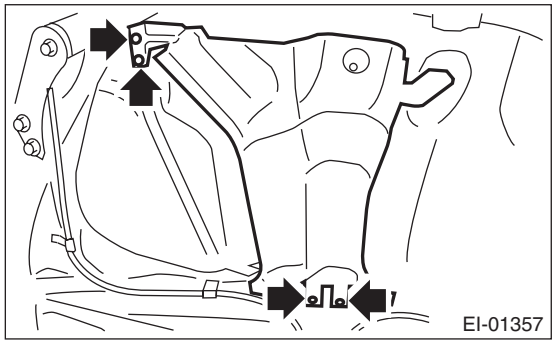


2) Remove the bolts to remove the front heat shield cover.



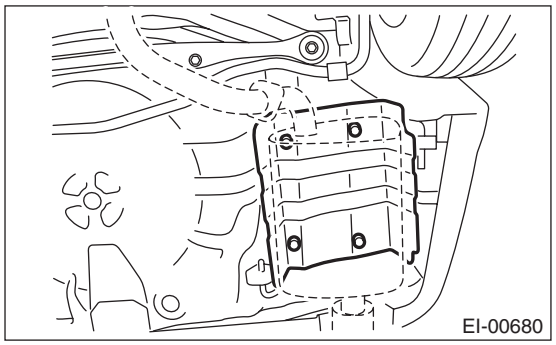
2. CENTER HEAT SHIELD COVER

1) Remove the fuel tank protector. <Ref. to EI-19, REMOVAL, Fuel Tank Protector.>
2) Remove the nut and bolt to remove center heat shield cover.



3. REAR HEAT SHIELD COVER

1) Remove the muffler. <Ref. to EX(H6DO)-7, REMOVAL, Rear Exhaust Pipe.>
2) Remove the rear heat shield cover.



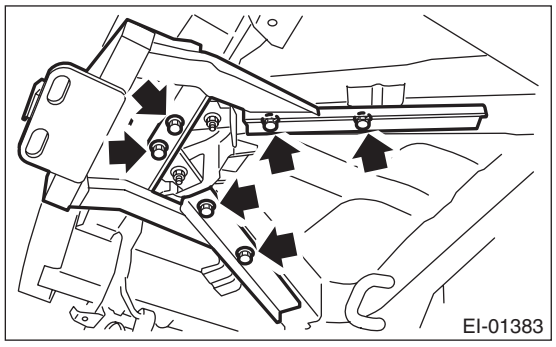
B: INSTALLATION

Install in the reverse order of removal.

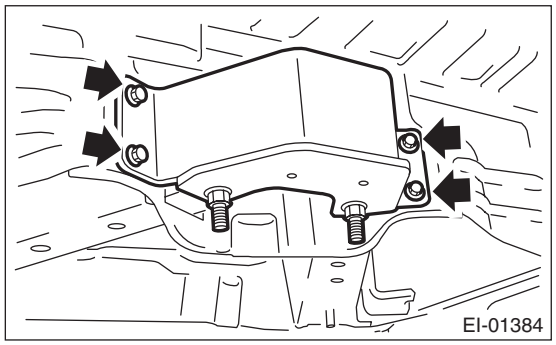
28.Trailer Hitch

A: REMOVAL

1) Remove the spare tire hoist. <Ref. to WT-14, REMOVAL, Spare Tire Hoist.>
2) Remove the bolt, and then detach the main frame.



CAUTION:
The trailer hitch main frame is heavy. Be careful when removing.
3) Remove the bolts, and then remove the center frame.



4) Remove the side frame from the vehicle.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to EI-17, TRAILER HITCH, COMPONENT, General Description.>

EXTERIOR BODY PANELS

EB

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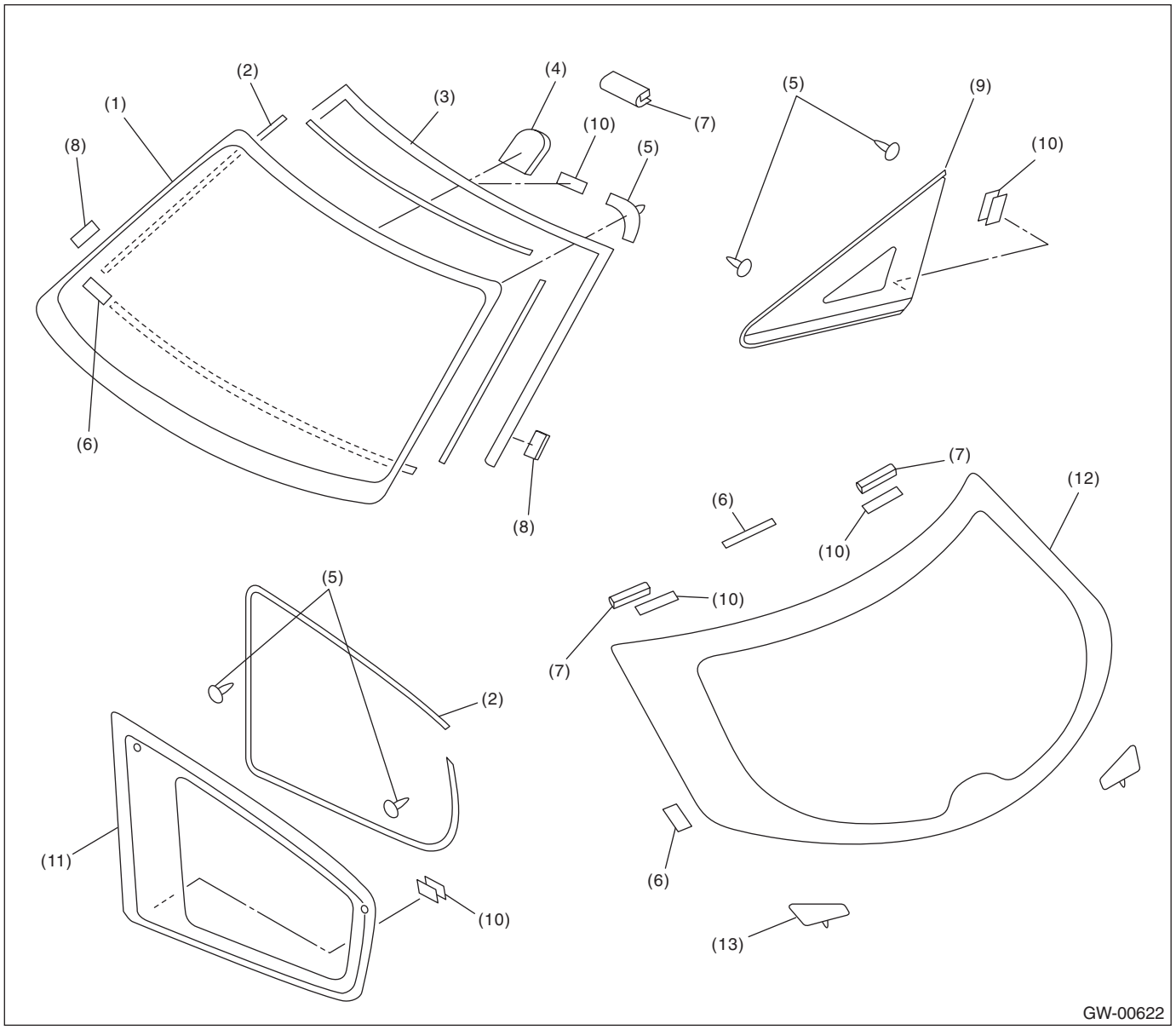
2. Front Hood 12
3. Front Fender 15
4. Front Door 16
5. Front Sealing Cover 18
6. Rear Door 19
7. Rear Sealing Cover 21
8. Rear Gate 22

1. General Description

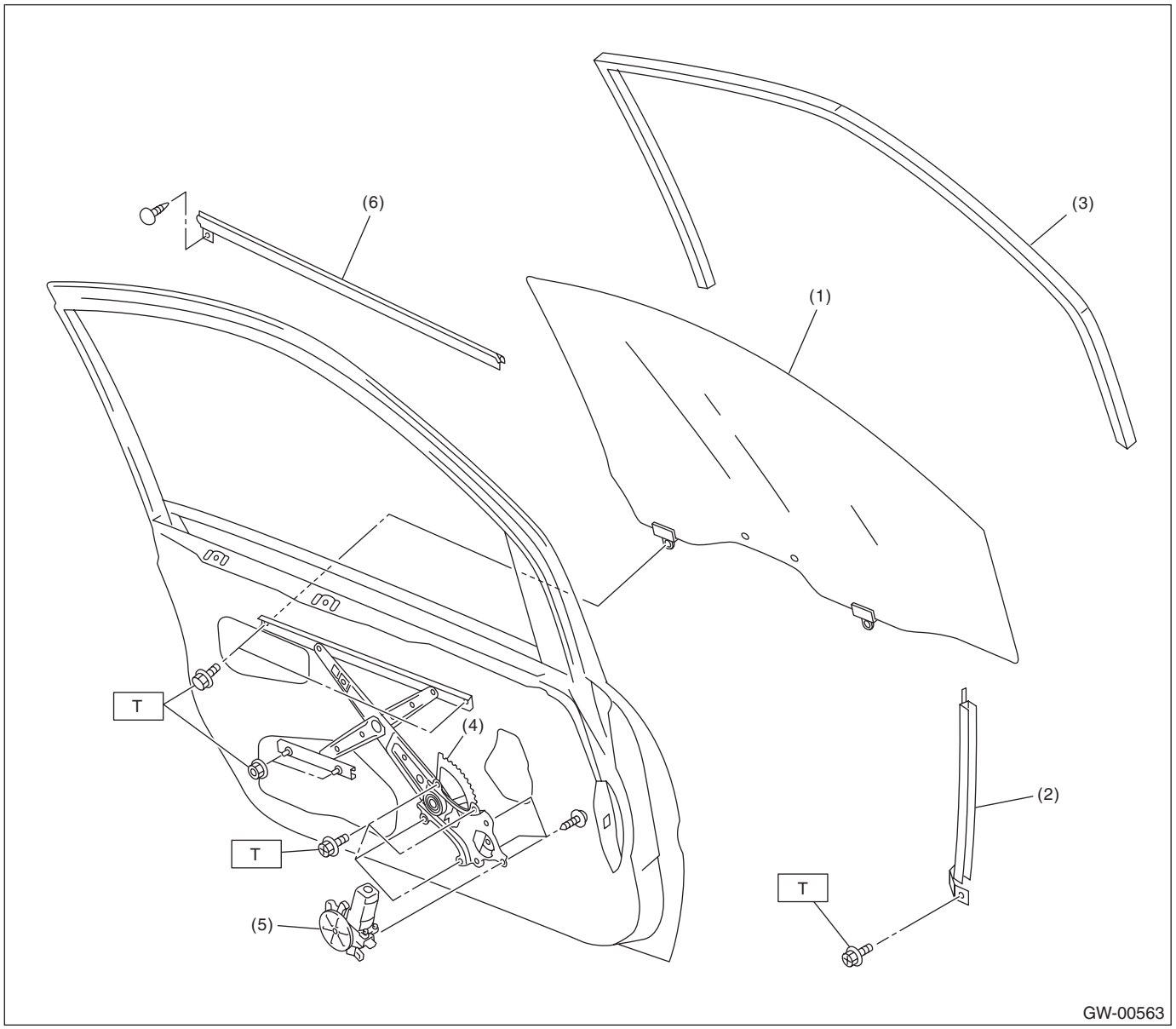
A: COMPONENT

1. FIXED GLASS



(1) Windshield glass
(2) Dam rubber
(3) Molding front
(4) Rearview mirror mount
(5) Locating pin
(6) Spacer
(7) Fastener
(8) Seal
(9) Front quarter glass
(10) Fastener
(11) Rear quarter glass
(12) Rear gate glass
(13) Glass clip pin

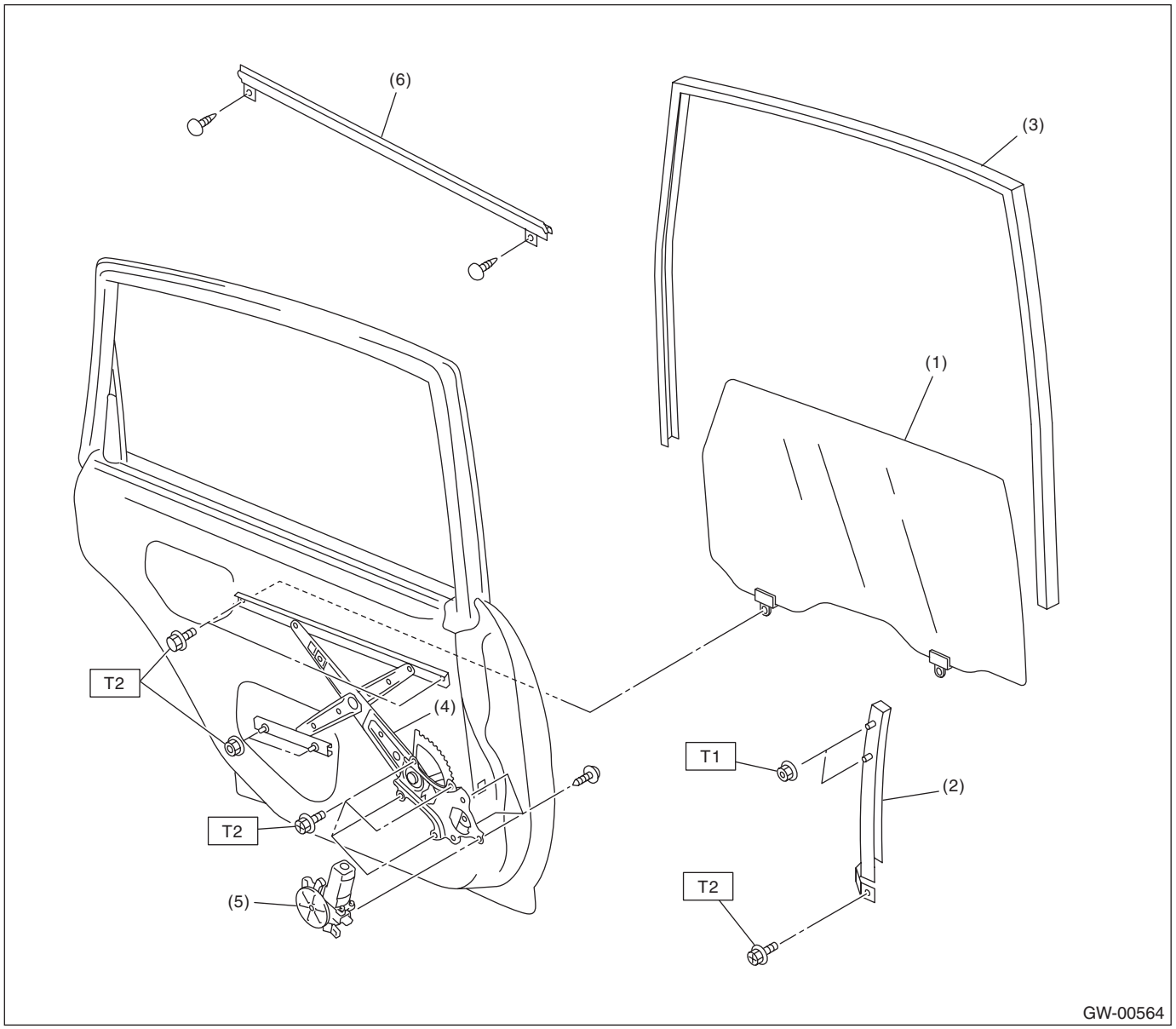
2. FRONT DOOR GLASS



(1) Glass
(2) Door sash
(3) Glass run rubber
(4) Regulator ASSY
(5) Motor ASSY
(6) Weather strip

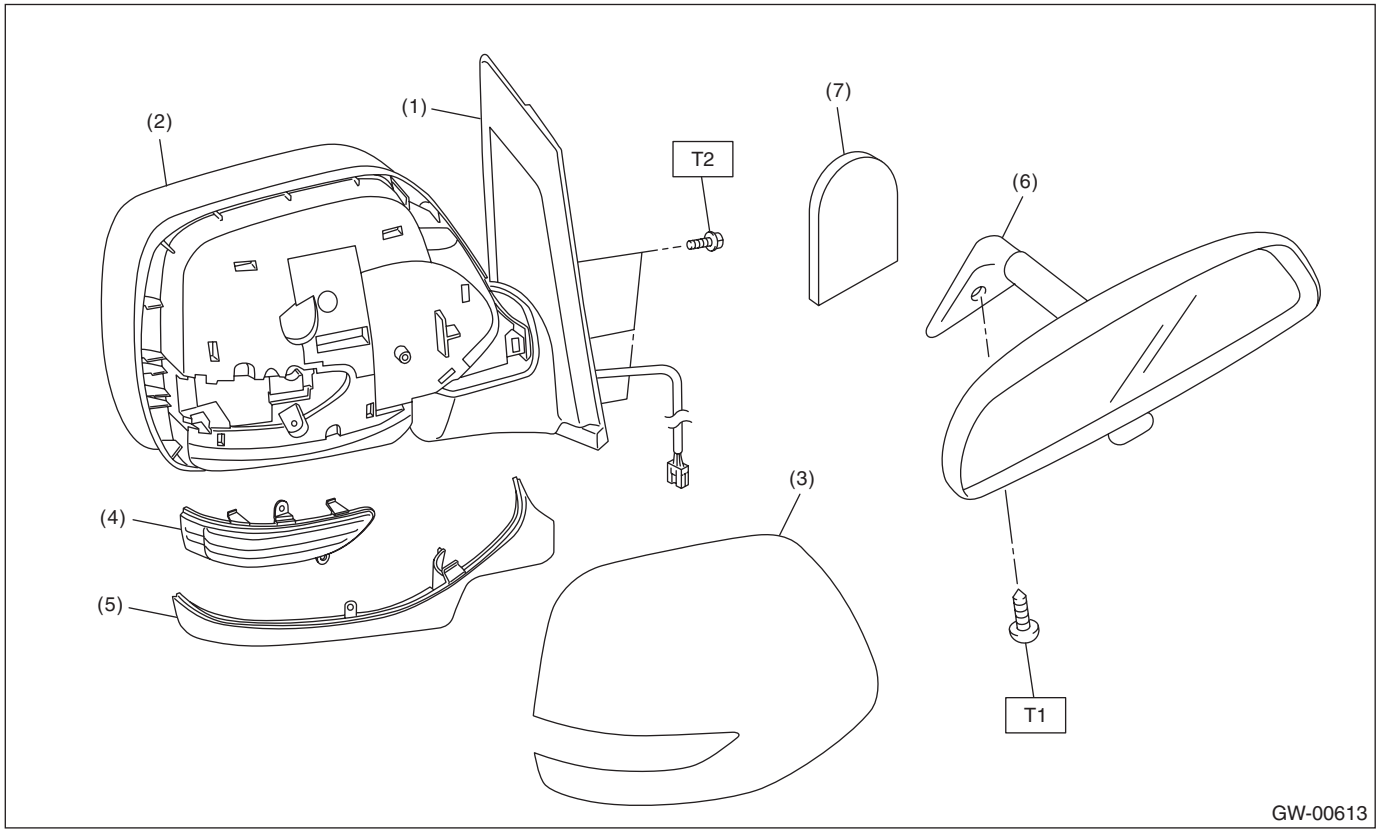
Tightening torque:N·m (kgf-m, ft-lb)
T: 7.4 (0.75, 5.5)

3. REAR DOOR GLASS



(1)	Glass	(4)	Regulator ASSY	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Door sash	(5)	Motor ASSY	***T1: 4.4 (0.45, 3.3)***
(3)	Glass run rubber	(6)	Weather strip	***T2: 7.4 (0.75, 5.5)***

4. MIRROR



(1) Outer mirror
(2) Mirror
(3) Scalp cap
(4) Side turn signal light
(5) Mirror body cover
(6) Rearview mirror
(7) Mount

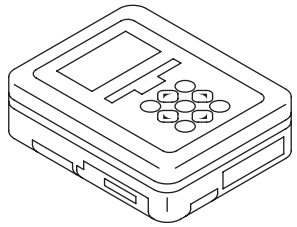
Tightening torque:N·m (kgf-m, ft-lb)
T1: 2 (0.2, 1.5)
T2: 4.5 (0.46, 3.32)

B: CAUTION

- When electrical connectors are disconnected, always conduct an operational check after connecting them again.
- Avoid impact and damage to the glass.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for checking voltage and continuity.
Piano wire	Used for removing the window glass.
Windshield glass knife	Used for removing the window glass.
TORX® T20	Used for removing and installing the rearview mirror.

2. Power Window System

A: WIRING DIAGRAM

<Ref. to WI-173, Power Window System.>

B: INSPECTION

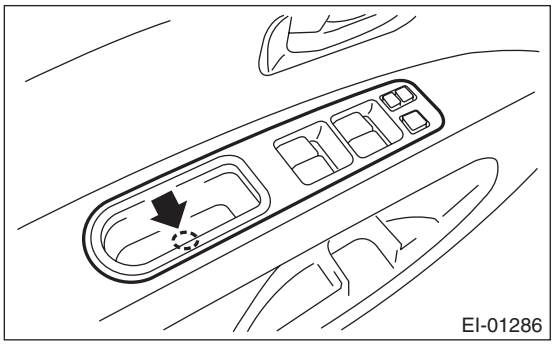
Symptom	Repair order
All power windows do not operate.	1. Fuse (SBF-4) 2. Power window circuit breaker 3. Power window relay 4. Wiring harness 5. Body integrated unit
Particular window does not operate.	1. Power window main switch 2. Power window sub-switch 3. Power window motor 4. Wiring harness
“Window Lock” does not operate.	Power window main switch

3. Power Window Control Switch

A: REMOVAL

1. MAIN SWITCH

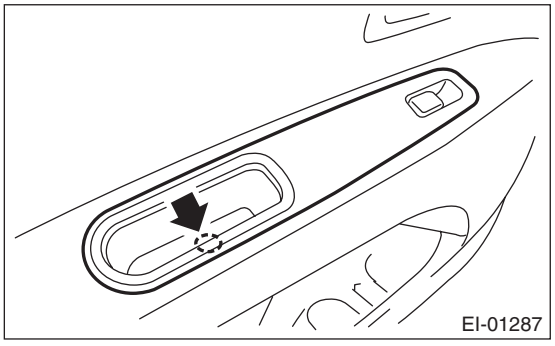
1) Disconnect the ground cable from the battery.
2) Peel the cover inside the hand grip, and remove the screw.
3) Remove the power window switch cover assembly.



4) Disconnect the harness connector.
5) Remove the clip, and remove the power window main switch assembly.

2. SUB-SWITCH

1) Disconnect the ground cable from the battery.
2) Peel the cover inside the hand grip, and remove the screw.
3) Remove the power window switch cover assembly.



4) Disconnect the connector.
5) Detach the claw and remove the power window sub-switch.

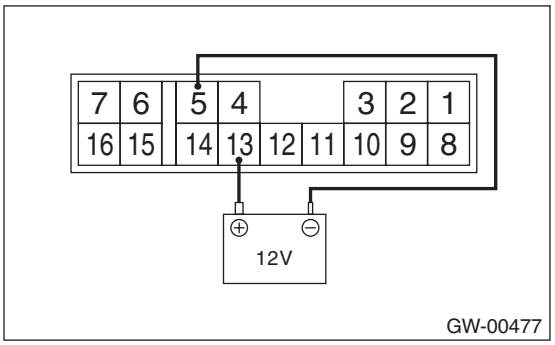
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. MAIN SWITCH

Measure the switch resistance.

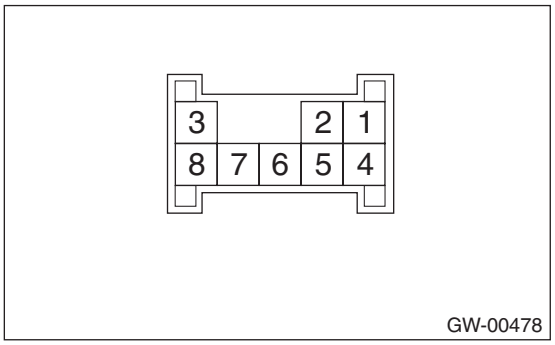


NOTE:
• Make sure the battery voltage is applied to the terminal No. 13(+) and 5(–) when measuring resistance, because the main switch is controlled by microcomputer.
• Make sure that the window lock switch is measured in the UNLOCK position.

	Switch position	Terminal No.	Standard
Driver's seat	UP	13 and 2 5 and 1	Less than 1 Ω
	OFF	2 and 5 1 and 5	Less than 1 Ω
	DOWN	13 and 1 5 and 2	Less than 1 Ω
	AUTO DOWN	13 and 1 5 and 2	Less than 1 Ω
Passenger's side	UP	13 and 6 5 and 7	Less than 1 Ω
	OFF	5 and 6 5 and 7	Less than 1 Ω
	DOWN	13 and 7 5 and 6	Less than 1 Ω
Rear RH seat	UP	13 and 16 5 and 15	Less than 1 Ω
	OFF	5 and 16 5 and 15	Less than 1 Ω
	DOWN	13 and 15 5 and 16	Less than 1 Ω
Rear LH seat	UP	13 and 11 5 and 10	Less than 1 Ω
	OFF	5 and 11 5 and 10	Less than 1 Ω
	DOWN	13 and 10 5 and 11	Less than 1 Ω

2. SUB-SWITCH

Measure the switch resistance.



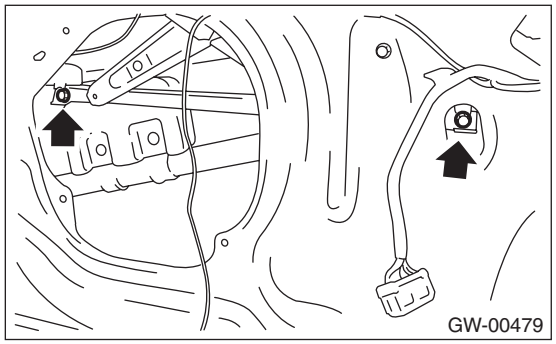
	Switch position	Terminal No.	Standard
Passenger's seat and rear seat	UP	5 and 8 7 and 4	Less than 1 Ω
	OFF	6 and 5 7 and 4	Less than 1 Ω
	DOWN	8 and 7 6 and 5	Less than 1 Ω

Replace the sub-switch if faulty.

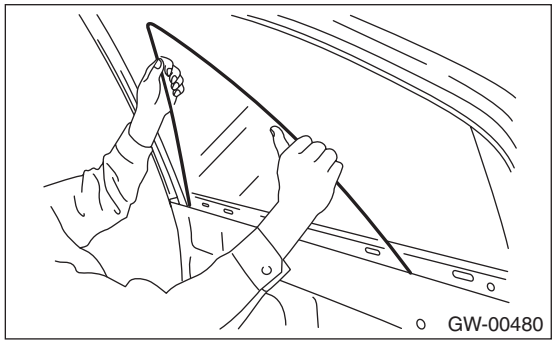
4. Front Door Glass

A: REMOVAL

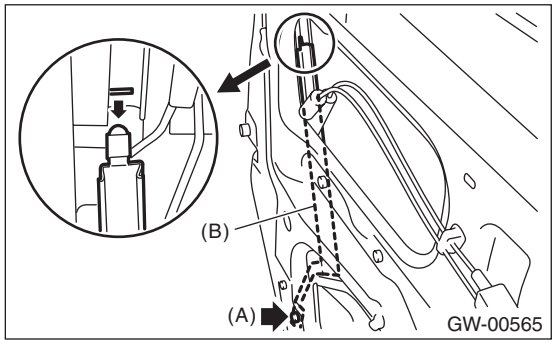
1) Remove the front door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-18, REMOVAL, Front Sealing Cover.>
3) Operate the power window switch to move the glass to the position shown in the figure, and then remove the two bolts through service holes.



4) Tilt the door glass forward, then remove the door glass from the glass run rubber.
5) Remove the door glass.



CAUTION:
• Since the gear may be disengaged, do not turn regulator in the closing direction after removing glass.
• Avoid impact and damage to the glass.
6) Remove the bolt (A), and then remove the door sash (B).



B: INSTALLATION

Install in the reverse order of removal.

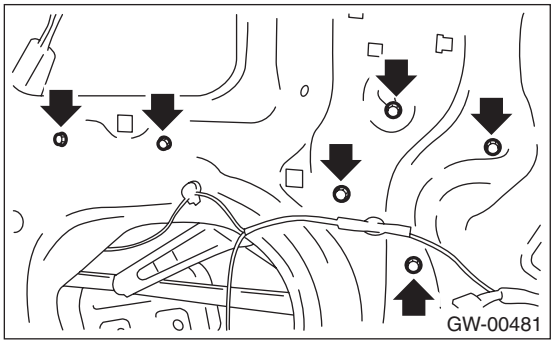
CAUTION:
Make sure that the glass run rubber is placed securely in door frame and sash.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-3, FRONT DOOR GLASS, COMPONENT, General Description.>

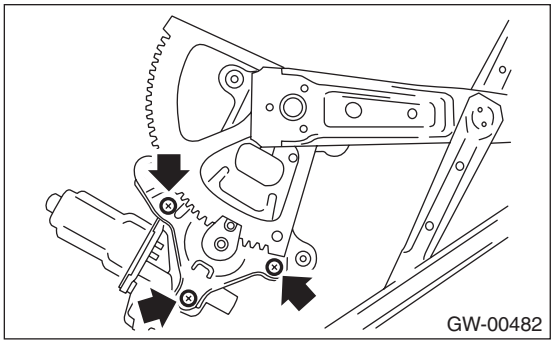
5. Front Regulator and Motor Assembly

A: REMOVAL

1) Remove the door glass. <Ref. to GW-10, REMOVAL, Front Door Glass.>
2) Disconnect the motor connector.
3) Remove the four bolts and two nuts to remove regulator assembly.



4) Remove the screws to remove motor assembly.



NOTE:
When removing the motor assembly, secure the arm correctly. Otherwise the regulator arm moves with the force of balancing spring.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-3, FRONT DOOR GLASS, COMPONENT, General Description.>

C: INSPECTION

1) Make sure that the power window motor rotates properly when the battery voltage is applied to the terminals of motor connector.
2) Change polarity of battery connection to terminals to ensure that the motor rotates in reverse direction.

6. Remote Control Mirror System

A: WIRING DIAGRAM

<Ref. to WI-178, Remote Control Mirror System.>

B: INSPECTION

Symptom	Repair order
All function does not operate.	1. Fuse (F/B No. 6) 2. Mirror switch 3. Wiring harness
One side of the mirror motor does not operate.	1. Mirror switch 2. Mirror motor 3. Wiring harness
Mirror heater does not operate.	1. Mirror switch 2. Mirror heater 3. Wiring harness

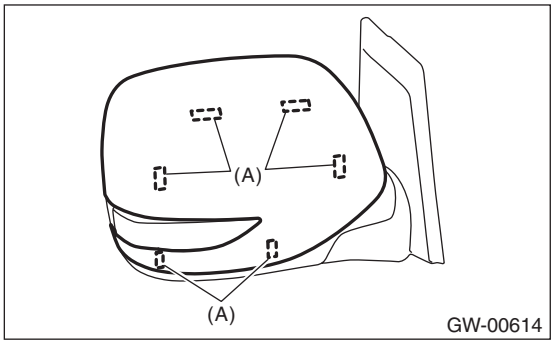
7. Scalp Cap

A: REPLACEMENT

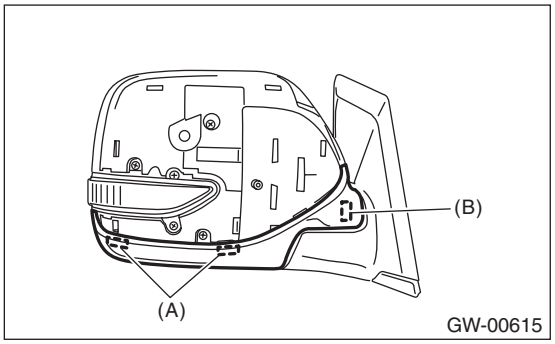
CAUTION:
Do not remove caps such as scalp cap forcibly. The lower hooks may be damaged.

1) Remove the outer mirror. <Ref. to GW-15, REPLACEMENT, Outer Mirror.>

2) Disengage the claws (A) from inside of the outer mirror, and remove the scalp cap.



3) Disengage the claws (A) and (B) from inside of the outer mirror, and remove the mirror body cover.



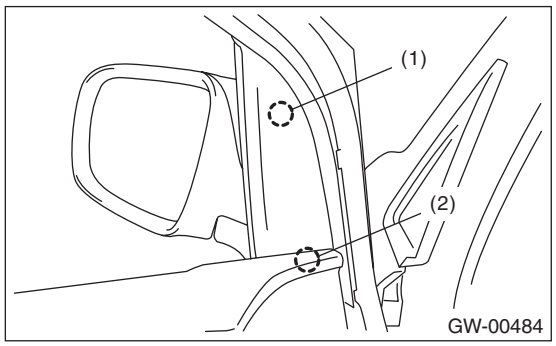
CAUTION:
Claw (B) cannot be disengaged from the inside of the outer mirror. When removing, be careful not to damage the parts.

4) Install the scalp cap and mirror body cover clips (A) securely.

8. Outer Mirror Assembly

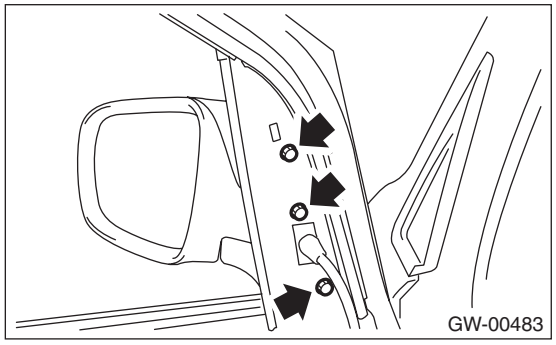
A: REMOVAL

1) Remove the mirror gusset cover.

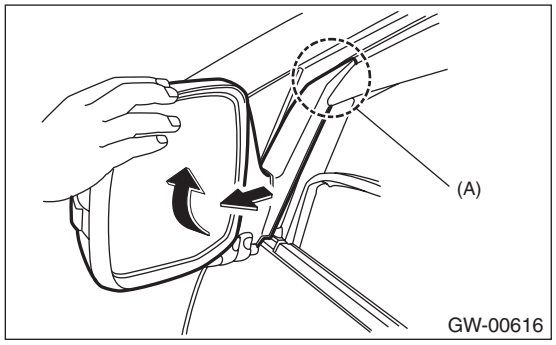


(1) Clip
(2) Hook

2) Remove the door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Disconnect the mirror connector.
4) Remove the screws to remove outer mirror assembly.

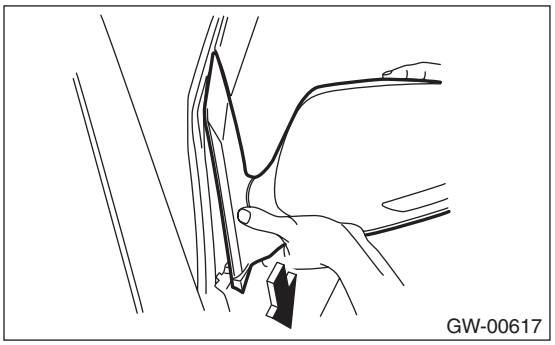


5) Remove the outer mirror assembly. (Model without door visor)
6) Using the upper part of the mirror assembly (A) as a supporting point, pull it upward while drawing the lower part. (Model with door visor)



CAUTION:
• Do not remove forcibly, otherwise door visor may be damaged.
• Apply protective tape as necessary in order to avoid scratching the door visor and mirror assembly.

7) Remove the mirror assembly from the vehicle body by pulling it downward. (Model with door visor)

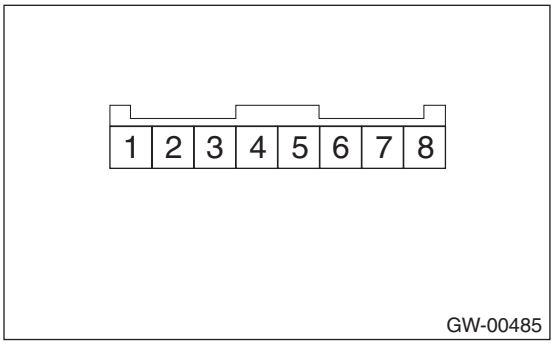


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Check that the rearview mirror moves properly when the battery voltage is applied to terminals.



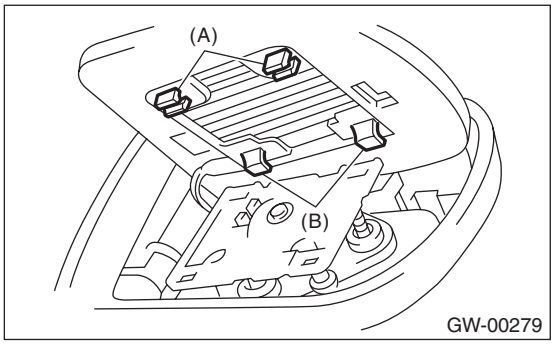
Mirror movement	Terminal No.
OFF	—
UP	5 (+) and 6 (–)
DOWN	6 (+) or 5 (–)
LEFT	8 (+) and 7 (–)
RIGHT	7 (+) or 8 (–)

Replace the outer mirror assembly if defective.

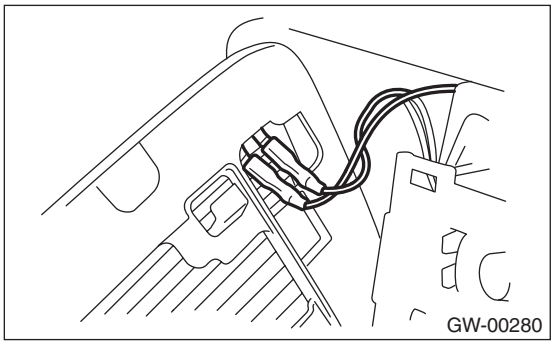
9. Outer Mirror

A: REPLACEMENT

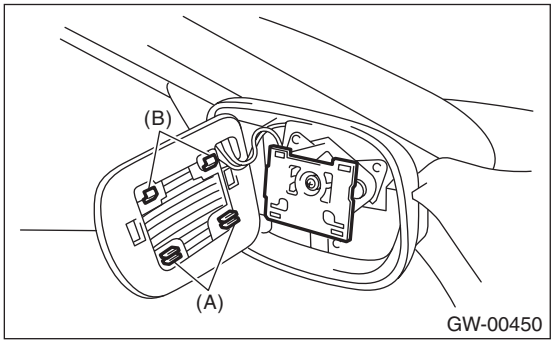
1) Face the mirror upward.
2) Use a flat tip screwdriver to remove clip (A).
3) Lift the lower mirror up to remove hooks (B).



4) Disconnect the mirror heater connector from side of the mirror. (Model with mirror heater)



5) Catch the hooks (B) and install clips (A).

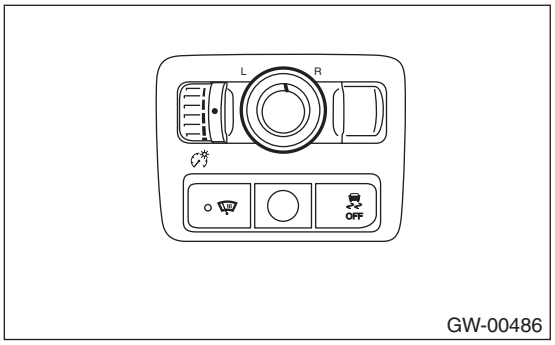


CAUTION:
• When removing the mirror, be careful not to damage the back surface of mirror with a flat tip screwdriver.
• When installing the mirror, insert the hook and clip securely.

10.Remote Control Mirror Switch

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the connector.



3) Remove the remote control mirror switch from instrument panel lower cover.

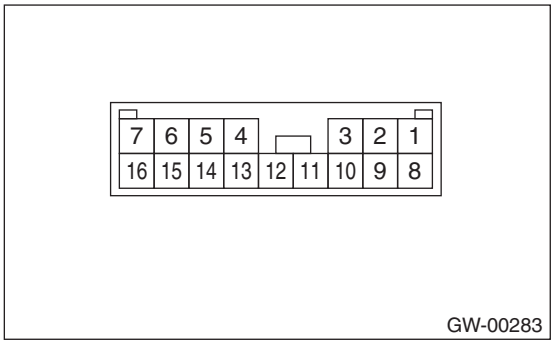
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. REMOTE CONTROL MIRROR SWITCH

Move the remote control mirror switch to each position and check continuity between terminals.



- Change over switch R

Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
UP	10 and 12 15 and 14	Less than 1 Ω
DOWN	10 and 15 12 and 14	Less than 1 Ω
LEFT	10 and 11 15 and 14	Less than 1 Ω
RIGHT	10 and 15 11 and 14	Less than 1 Ω

- Change over switch L

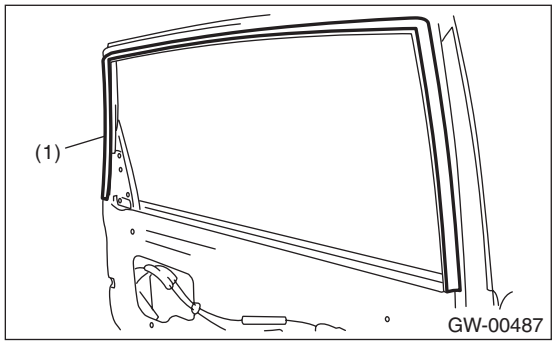
Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
UP	10 and 8 15 and 14	Less than 1 Ω
DOWN	10 and 15 8 and 14	Less than 1 Ω
LEFT	10 and 9 15 and 14	Less than 1 Ω
RIGHT	10 and 15 9 and 14	Less than 1 Ω

Replace the remote control mirror switch if defective.

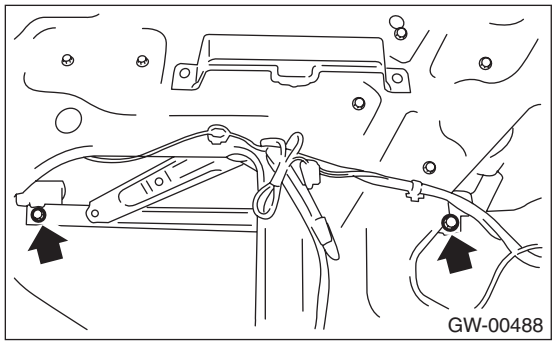
11.Rear Door Glass

A: REMOVAL

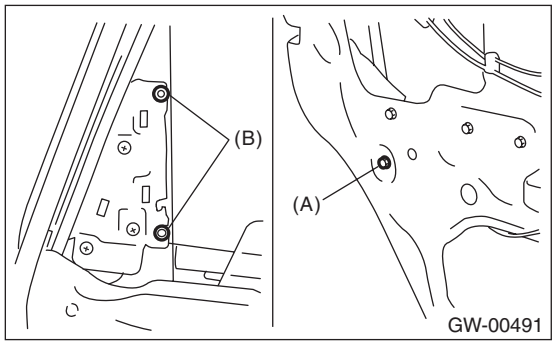
1) Remove the rear door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-21, REMOVAL, Rear Sealing Cover.>
3) Apply the protective tape (1) to the areas as shown in the figure.



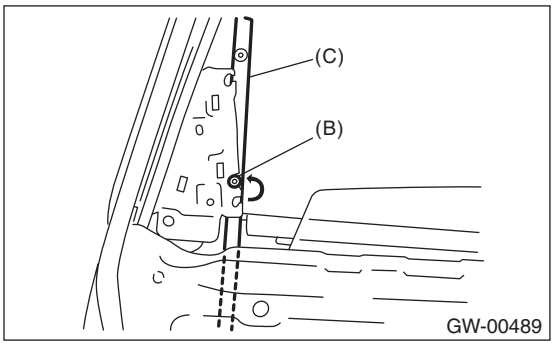
4) Operate the power window switch to move the glass to the position shown in the figure, and then remove the two bolts through service holes.



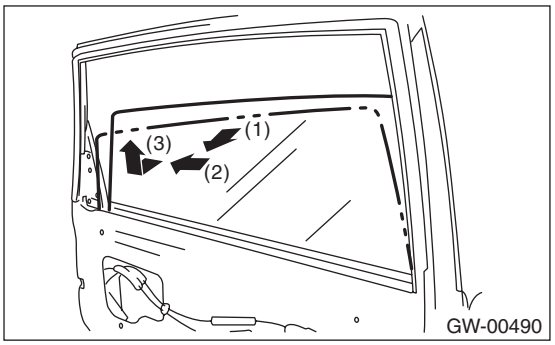
5) Remove the sash retaining bolts (A), and loosen the retaining nuts (B).



6) Move the sash (C) upward, and move the nut (B) to the position on rear door as shown in the figure.



7) Detach the rear part of door glass from sash (1), and move it backward (2). Tilt the door glass inward, and move it upward to remove (3).



CAUTION:
• Since the gear may be disengaged, do not turn regulator in the closing direction after removing glass.
• Avoid impact and damage to the glass.
8) Remove the glass run rubber.
9) Remove the door sash.

B: INSTALLATION

Install in the reverse order of removal.

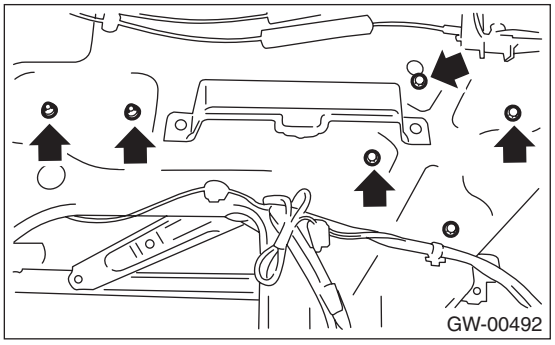
CAUTION:
Make sure that the glass run rubber is placed securely in door frame and sash.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-4, REAR DOOR GLASS, COMPONENT, General Description.>

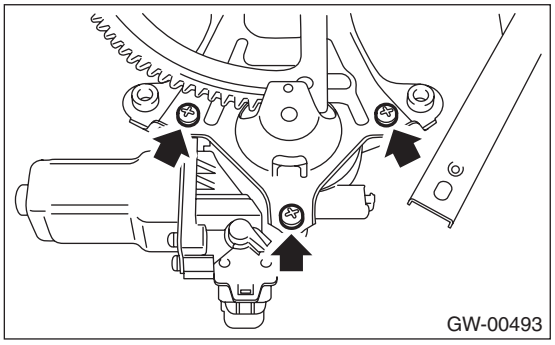
12.Rear Regulator and Motor Assembly

A: REMOVAL

1) Remove the rear door glass. <Ref. to GW-17, REMOVAL, Rear Door Glass.>
2) Disconnect the motor connector.
3) Remove the four bolts and two nuts to remove regulator assembly.



4) Remove the screws to remove motor assembly.



B: INSTALLATION

1) Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-4, REAR DOOR GLASS, COMPONENT, General Description.>

C: INSPECTION

1) Make sure that the power window motor rotates properly when the battery voltage is applied to the terminals of motor connector.
2) Change polarity of battery connection to terminals to ensure that the motor rotates in reverse direction.

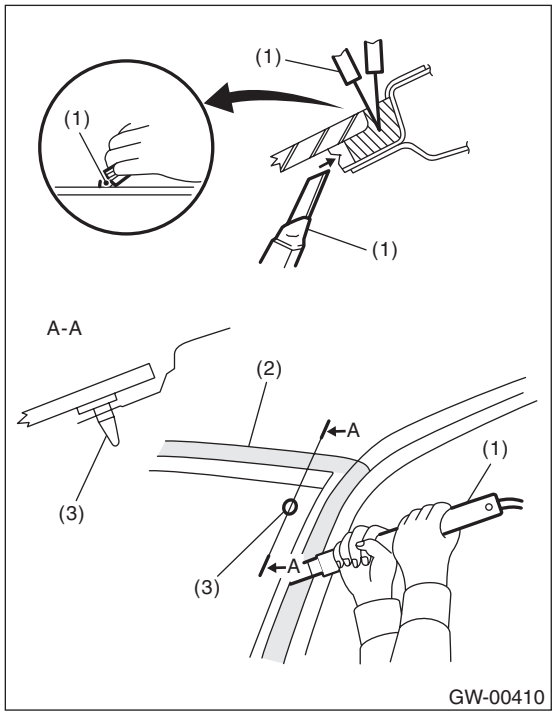
13.Windshield Glass

A: REMOVAL

1. WHEN USING THE WINDSHIELD GLASS KNIFE

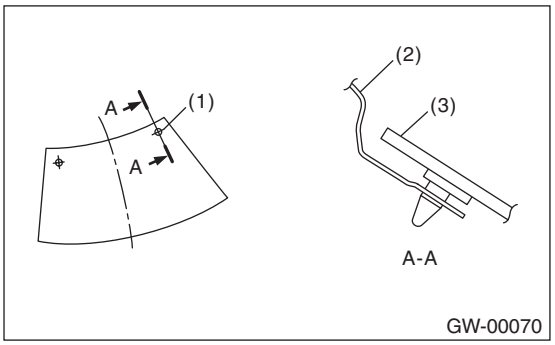
1) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
2) Remove the molding front.
3) Apply protective tape to the body panel side to enclose the windshield glass.
4) Apply sufficient amount of soapy water to the adhesive part.
5) Insert the windshield glass knife into adhesive part.
6) While holding the knife edge and windshield glass edge at a right angle, move the windshield glass knife in parallel to the windshield glass edge along the surface and edge of windshield glass to cut the adhesive part.

NOTE:
• Do not twist the windshield glass knife.
• Cutting of adhesive part shall be started with wider gap between windshield glass and body.



(1) Windshield glass knife
(2) Tape for protection
(3) Locating pin

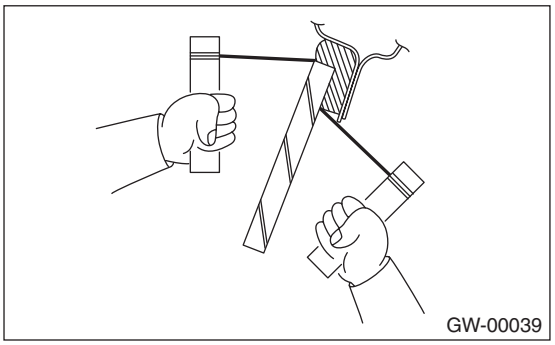
• The locating pins are bonded to the corners of glass. Use piano wire to disconnect the pins.



(1) Locating pin
(2) Body panel
(3) Windshield glass

2. USING PIANO WIRE

1) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
2) Remove the molding front.
3) Apply protective tape to the body panel side to enclose the windshield glass.
4) Make a hole in the adhesive part using drill or knife.
5) Pass the piano wire through the hole, and attach both the wire ends securely to pieces of wood.



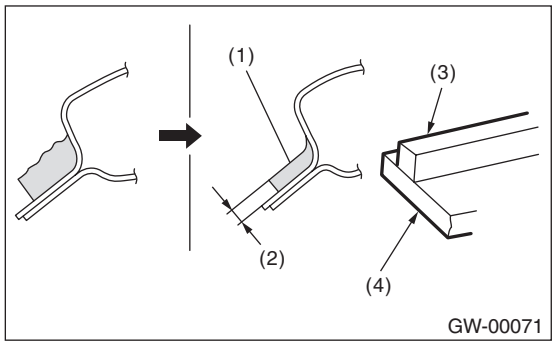
6) Pull the wire ends alternately to cut off the adhesive part.

CAUTION:
• Do not tightly pull the piano wire against the windshield glass edge.
• Be careful not to damage interior and exterior parts.
• When removal is made with area close to instrument panel, place a protection plate over it. Pay particular attention to the removal.
• Do not cross piano wires. Otherwise they may be cut.

B: INSTALLATION

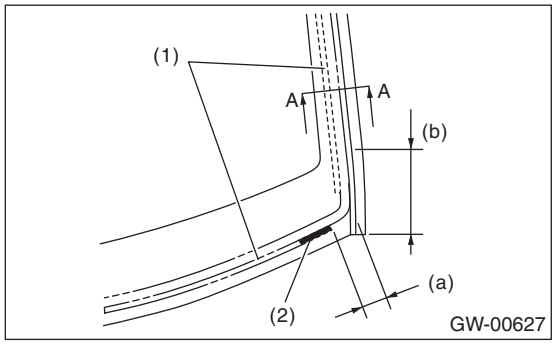
1) Clean the external circumference of windshield glass with alcohol or white gasoline.
2) Remove the adhesive layer on the body using cutter knife to obtain smooth face of 2 mm (0.08 in) thick.

CAUTION:
Be careful not to damage the body and paint surface.



(1) Adhesive
(2) 2 mm (0.08 in)
(3) Dam rubber
(4) Glass

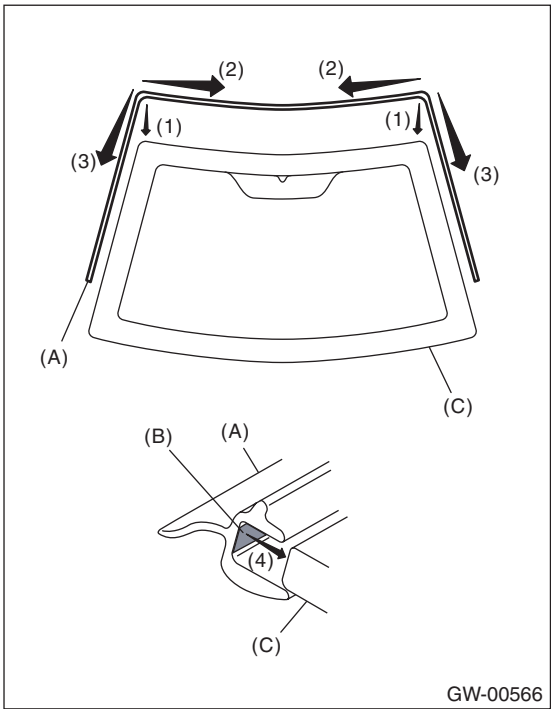
3) Clean the body with alcohol or white gasoline to eliminate cutting powder, dust and dirt completely from body.
4) Attach the dam rubber to the backside of the glass.
5) Attach the spacer to the lower end of the glass on passenger's side only



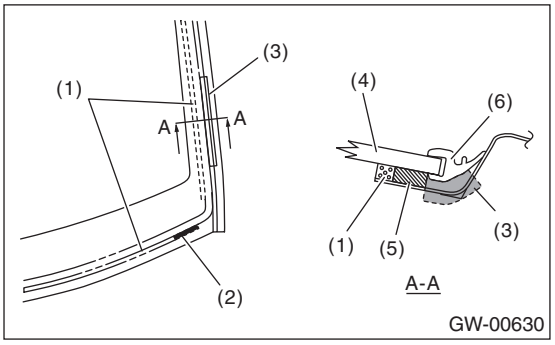
(a) 15 mm (0.59 in)
(b) 86.4 mm (3.4 in)

(1) Dam rubber
(2) Spacer

6) Attach the molding to glass.

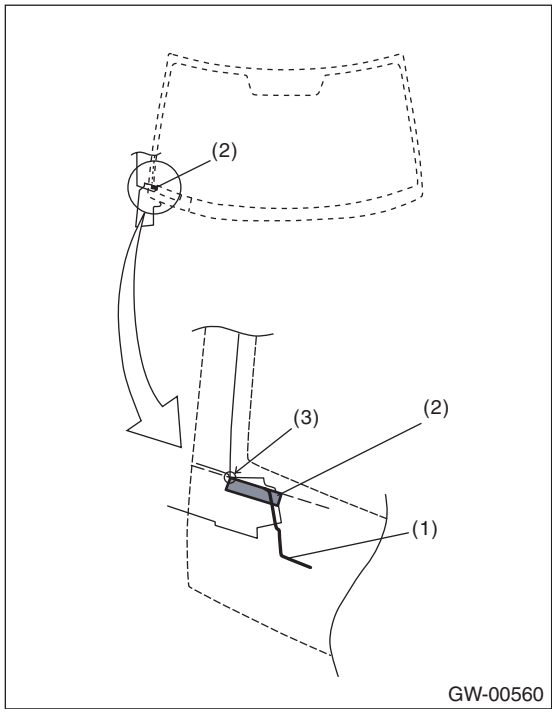


(1) Align the molding (A) to both the upper edge ends of windowshield glass (C).
(2) Install the molding from upper corners towards center.
(3) Install the molding from upper corners downward.
(4) Apply the double-sided tape (B) uniformly on the side section of glass.
(5) Attach the seal A (3) to the backside of the molding.



(1) Dam rubber
(2) Spacer
(3) Seal A
(4) Glass
(5) Adhesive
(6) Molding

7) Apply the seal B (2) to terminal section of front reinforce side panel (1) and the intersection point (3) of front reinforce side panel and front pillar out panel.



(1) Front reinforce side panel
(2) Seal B
(3) Intersection point of front reinforce side panel and front pillar out panel

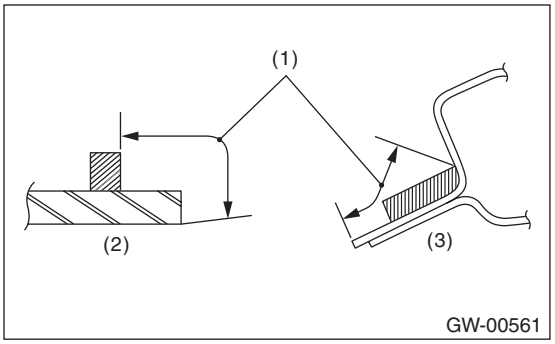
8) Apply two types of primers to the adhesive layer of glass using sponge.

Glass primer:
Dow Automotive
ESSEX U-401, U-402

9) Apply the primer to the adhesive layer of body.

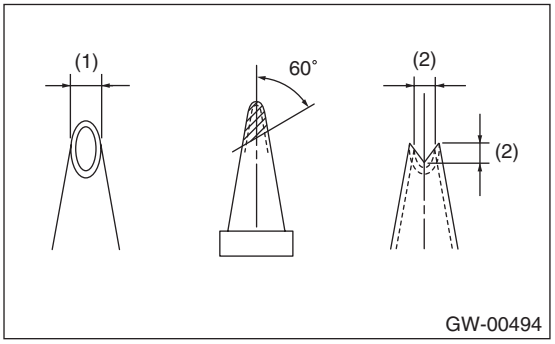
Painted surface primer:
Dow Automotive
ESSEX U-413

NOTE:
• Primer once attached to the painted surface of the body and internal trim is hard to wipe off. Mask the circumference of such area.
• Let primer dry for about ten minutes before installing the glass.
• Do not touch the surface coated with primer.



(1) Application of primer
(2) Glass side
(3) Body side

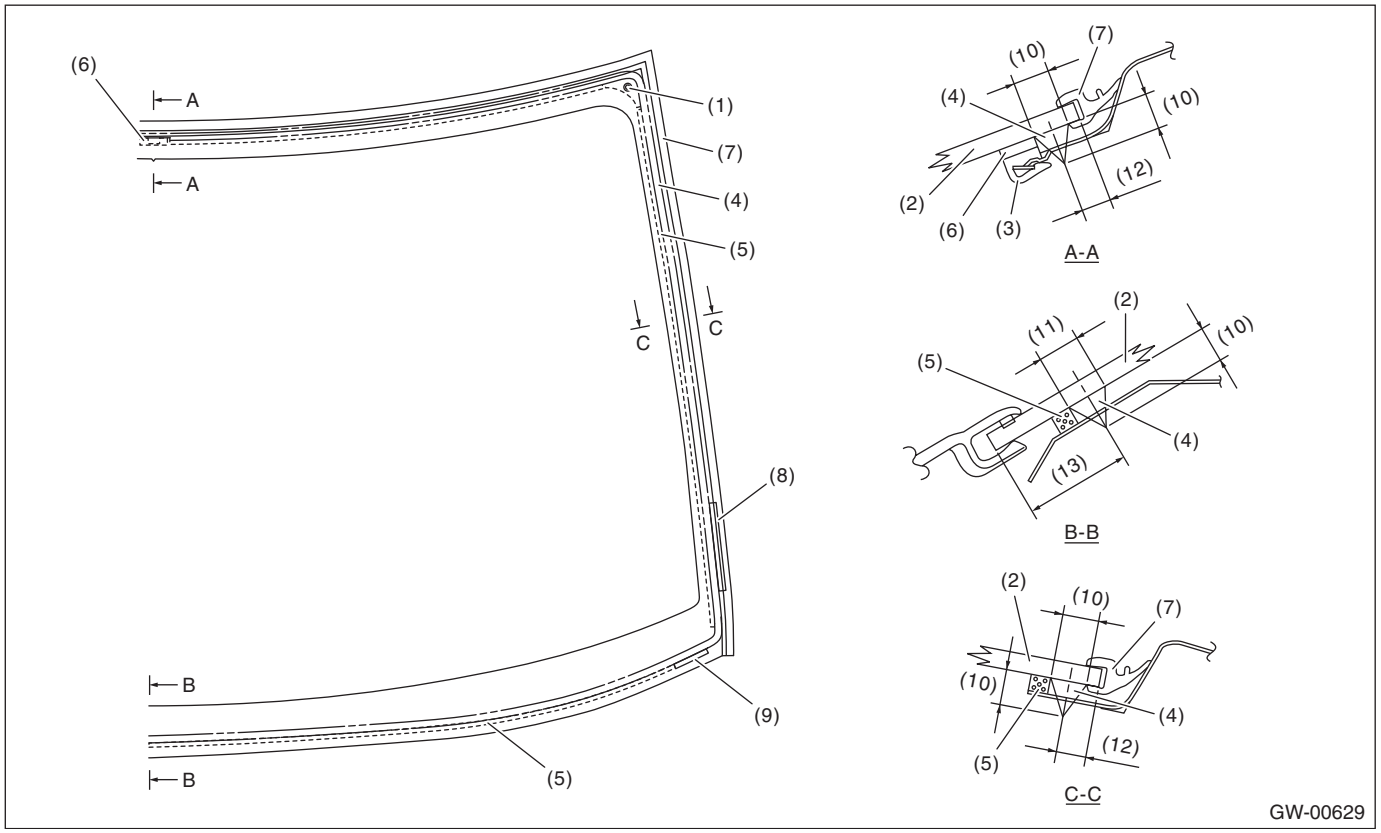
10) Cut off the cartridge nozzle tip as shown and set it in sealant gun.



(1) 10 mm (0.39 in)
(2) 9 mm (0.35 in)

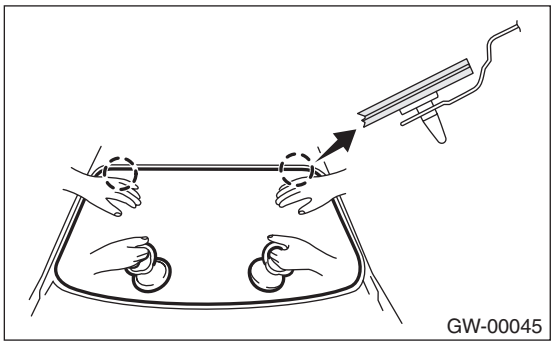
11) Apply adhesive to the glass end surface as shown.

Adhesive:
Dow Automotive
ESSEX U-400HV or equivalent



(1) Locating pin
(2) Glass
(3) Fastener
(4) Adhesive
(5) Dam rubber
(6) Fastener
(7) Molding front
(8) Seal A
(9) Spacer
(10) 9 mm (0.35 in)
(11) 10 mm (0.39 in)
(12) 7.5 mm (0.29 in)
(13) 25 mm (0.98 in)

12) Fit the locating pins, and install windshield glass using suction rubber cup.



13) Lightly press the windshield glass for tight fit.
14) Make flush the adhesive surface jutted out using spatula.
15) After completion of all work, allow the vehicle to stand for about 24 hours.

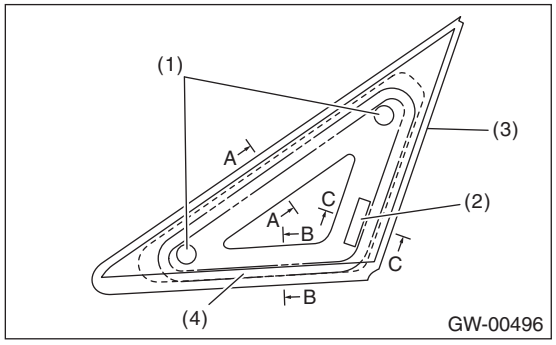
NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.
16) 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.
17) Install the cowl panel. <Ref. to EI-30, INSTALLATION, Cowl Panel.>

14.Front Quarter Glass

A: REMOVAL

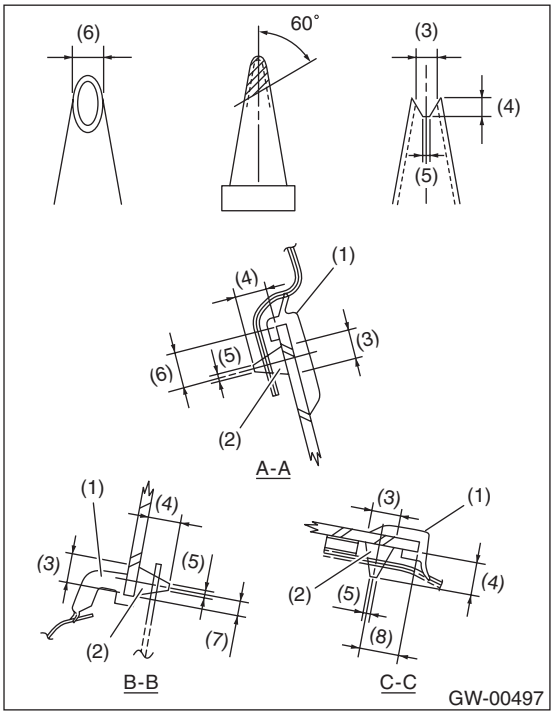
Remove the glass in the same procedure as for windshield glass. <Ref. to GW-19, REMOVAL, Windshield Glass.>



(1) Locating pin
(2) Fastener
(3) Encap molding
(4) Adhesive

B: INSTALLATION

1) Cut out the nozzle head and apply adhesive to the glass end surface as shown.



(1) Encap molding
(2) Adhesive
(3) 8 mm (0.31 in)
(4) 9 mm (0.35 in)
(5) 2 mm (0.07 in)
(6) 10 mm (0.39 in)
(7) 4.5 mm (0.17 in)
(8) 11 mm (0.43 in)

2) Install the glass in the same procedure as for windshield glass. <Ref. to GW-20, INSTALLATION, Windshield Glass.>
3) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
- When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
- Move the vehicle slowly.
- For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

4) 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.

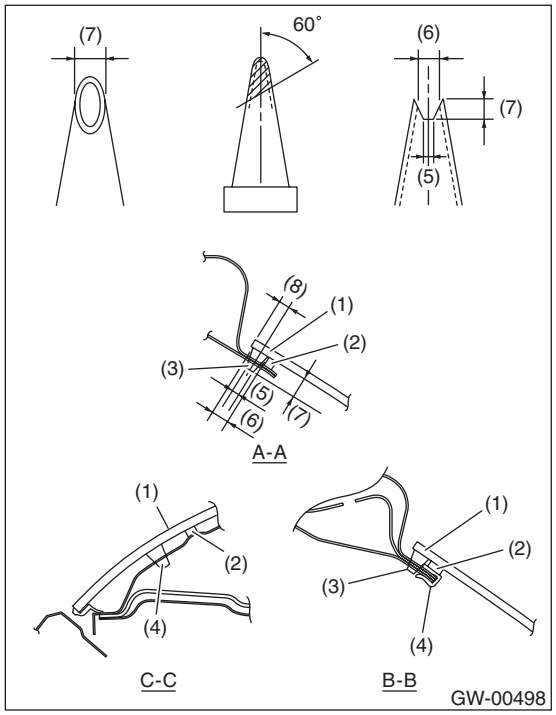
15.Rear Gate Glass

A: REMOVAL

1) Remove the rear wiper motor. <Ref. to WW-20, REMOVAL, Rear Wiper Motor.>
2) Disconnect the electrical connectors from rear defogger terminal.
3) Remove the glass in the same procedure as for windshield glass. <Ref. to GW-19, REMOVAL, Windshield Glass.>

B: INSTALLATION

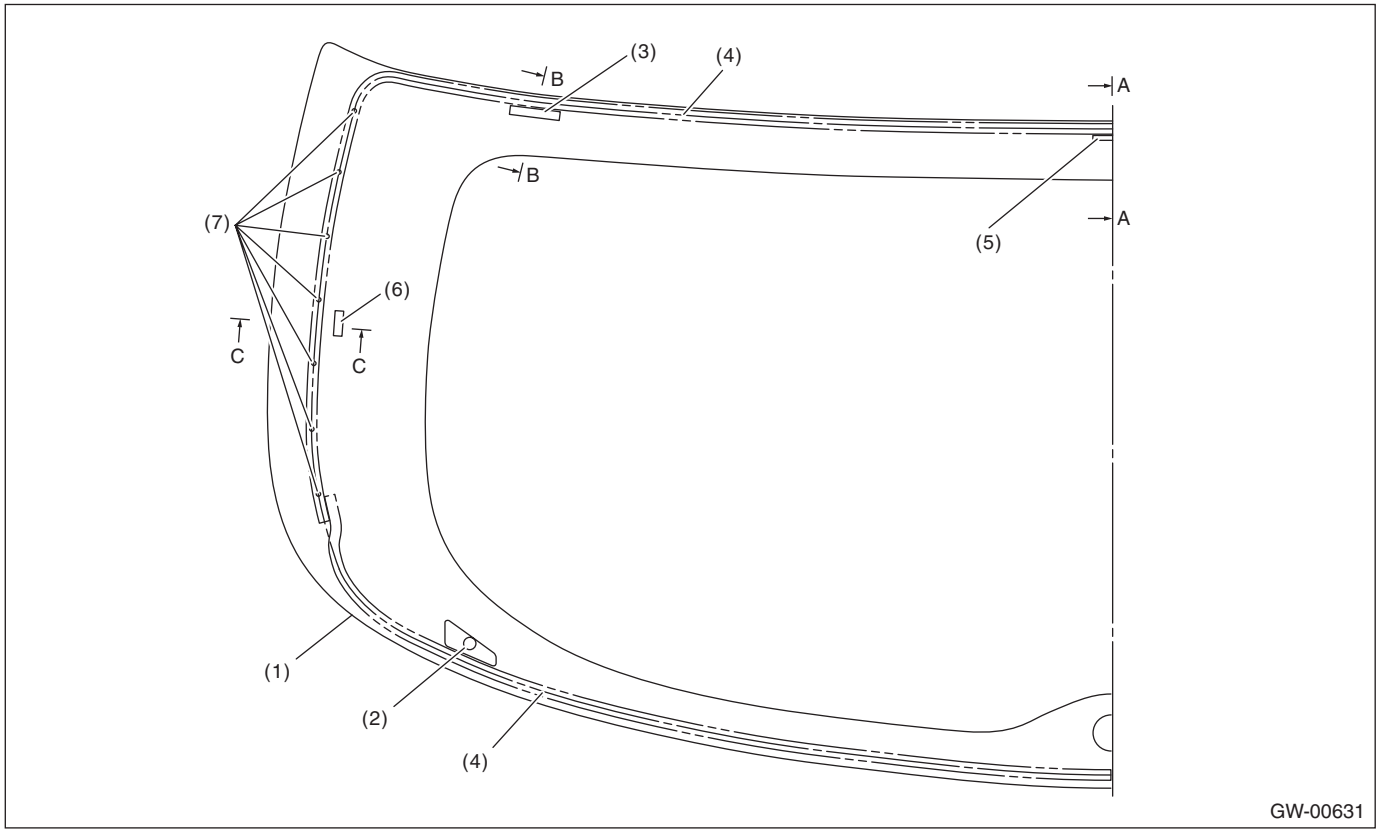
1) Mount the fastener on the body.
2) Cut off the cartridge nozzle tip as shown and set it in sealant gun.



(1) Glass
(2) Spacer
(3) Adhesive
(4) Fastener
(5) 4 mm (0.15 in)
(6) 8 mm (0.31 in)
(7) 10 mm (0.39 in)
(8) 5.5 mm (0.22 in)

3) Apply adhesive in the same procedure as for windshield glass. <Ref. to GW-20, INSTALLATION, Windshield Glass.>
4) Insert the glass clip pin into rear gate hole, push on the area around the clip pin to secure it, and then push lightly all around the area to seal it.

5) About one hour after installation, conduct a leak test.



(1) Glass
(2) Glass clip pin
(3) Fastener
(4) Adhesive
(5) Dam rubber
(6) Spacer
(7) Marks for applying the primer

6) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.
• When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

7) Connect the rear defogger terminals.
8) Install the rear wiper. <Ref. to WW-20, INSTALLATION, Rear Wiper Motor.>

16. Rear Window Defogger System

A: WIRING DIAGRAM

<Ref. to WI-177, Rear Defogger System.>

B: INSPECTION

Symptom	Repair order
Rear window defogger does not operate.	1. Fuse (M/B No. 10) (F/B No. 22) 2. Rear defogger relay 3. Defogger switch 4. Rear defogger condenser 5. Defogger wire 6. Wiring harness 7. Body integrated unit

NOTE:
Rear window defogger system can be customized on the Subaru Select Monitor.

System name	Initial setting	Customize setting
Rear window defogger timer	OFF after 15 min.	Repeat 15 min. operation and 2 min. stop.

17.Rear Window Defogger

A: INSPECTION

1. CHECK WITH SUBARU SELECT MONITOR

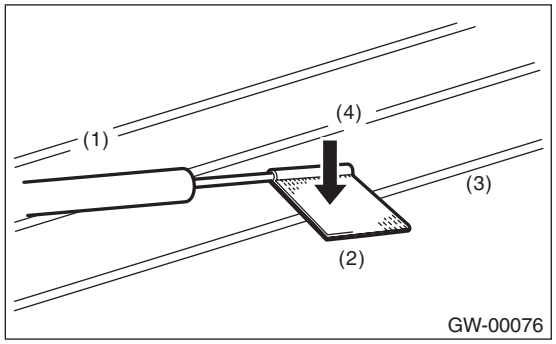
CAUTION:
Check that the rear window defogger timer is in initial setting or customize setting before performing inspection.

1) Check the input signal when the rear window defogger switch is operated using Subaru Select Monitor.
   (1) Prepare the Subaru Select Monitor kit. <Ref. to GW-6, PREPARATION TOOL, General Description.>
   (2) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor".
   (3) On the «System Selection Menu» display screen, select the {Integ. Unit mode}.
   (4) Select the {Current Data Display & Save}.
   (5) Display the data of rear window defogger switch.
2) After rear defogger switch is set to ON, make sure that it turns to OFF in 15 minutes or does it repeat 15 minutes operation and 2 minutes stop.
3) If it turns to OFF in step 2) above, it is normal. If it repeats 15 minutes operation and 2 minutes stop, replace the body integrated unit.

2. HEAT WIRE INSPECTION

CAUTION:
Use a dry and soft cloth when wiping dirt off the glass. Move the cloth along the heat wire to avoid damaging it.

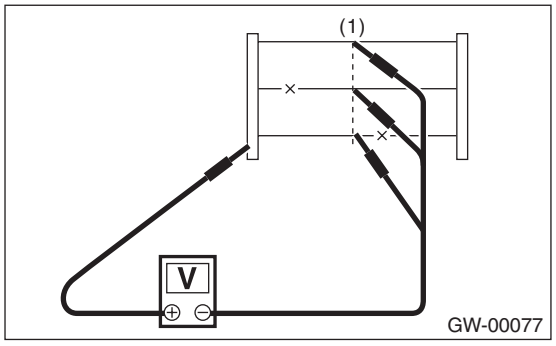
1) Turn the ignition switch to ON.
2) Turn the defogger switch to ON.
3) Wrap the tips of tester probe with aluminum foil to avoid damage to heat wire.



(1) Tester probe
(2) Aluminum foil
(3) Heat wire
(4) Press

4) Measure the voltage at heat wire center with DC voltmeter.

Standard voltage:
Approx. 6 V



(1) Center of heat wire

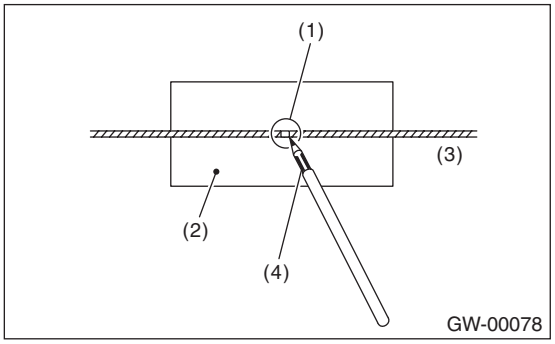
Voltage	Criteria
Approx. 6 V	Normal
Approx. 12 V or 0 V	Open

NOTE:
• If the measured value is 12 V, heat wire is open between heat wire center and positive (+) terminal of tester probe.
• If it is 0 V, the circuit is open between heat wire center and ground.

5) Connect the tester probe of positive lead of voltmeter to positive terminal of heat wire and move tester probe of negative lead along the heat wire up to the negative terminal end. If voltage changes from zero to several volts during movement of tester probe, heat wire is open at the voltage change point.

B: REPAIR

1) Clean the broken portion with alcohol or white gasoline.
2) Mask both side of wire with thin film.
3) Apply the conductive silver composition (DUPONT No. 4817) to the broken portion.



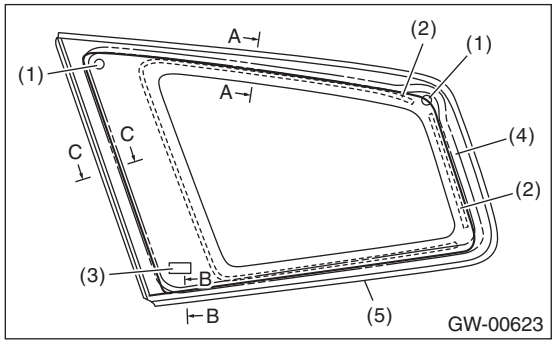
(1) Broken portion
(2) Thin film
(3) Broken wire
(4) Conductive silver composition (DUPONT No. 4817)

4) After repair, check the wire.

18.Rear Quarter Glass

A: REMOVAL

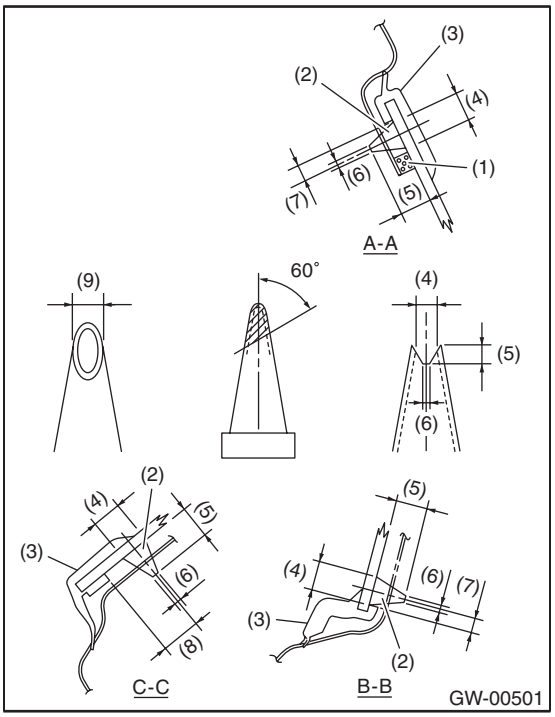
Remove the glass in the same procedure as for windshield glass. <Ref. to GW-19, REMOVAL, Windshield Glass.>



(1) Locating pin
(2) Dam rubber
(3) Fastener
(4) Adhesive
(5) Encap molding

B: INSTALLATION

1) Install the dam rubber.
2) Cut out the nozzle head and apply adhesive to the glass end surface as shown.



(1) Dam rubber
(2) Adhesive
(3) Encap molding
(4) 8 mm (0.31 in)
(5) 9 mm (0.35 in)
(6) 2 mm (0.07 in)
(7) 4 mm (0.15 in)
(8) 11 mm (0.43 in)
(9) 10 mm (0.39 in)

3) Install the glass in the same procedure as for windshield glass. <Ref. to GW-20, INSTALLATION, Windshield Glass.>

4) After completion of all work, allow the vehicle to stand for about 24 hours.

NOTE:
• When door is opened/closed after glass is bonded, always lower the door glass first, and then open/close it carefully.
• Move the vehicle slowly.
• For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.

5) 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.

19.Sunroof Glass

A: PROCEDURE

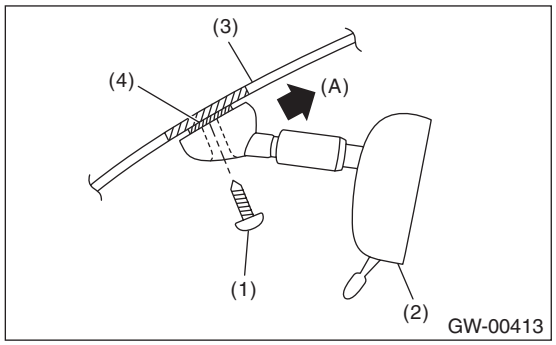
For removal, installation and adjustment of the sun roof glass, refer to Sun Roof section.

- Removal <Ref. to SR-5, REMOVAL, Glass Lid.>
- Installation <Ref. to SR-5, INSTALLATION, Glass Lid.>
- Adjustment <Ref. to SR-5, ADJUSTMENT, Glass Lid.>

20.Rearview Mirror

A: REMOVAL

1) Remove the TORX® screw (1).
2) Slide the rearview mirror (2) to the upper side (A) of windshield glass (3), and remove the mirror from mount (4).



CAUTION:
- **Be careful not to damage the mirror surface.**
- **Be careful not to damage the windshield glass.**

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to GW-5, MIRROR, COMPONENT, General Description.>

CAUTION:
When tightening the mounting TORX® screw, be sure to observe the tightening torque. Otherwise, the mount may be damaged in over-torque conditions.

C: INSPECTION

Check that the mirror is not damaged.

21.Wiper Deicer System

A: WIRING DIAGRAM

<Ref. to WI-149, Wiper Deicer System.>

B: INSPECTION

Symptom	Repair order
Wiper deicer does not operate.	1. Fuse (F/B No. 4, 9) 2. Wiper deicer relay 3. Wiper deicer switch 4. Wiring harness 5. Body integrated unit

Refer to “Rear Window Defogger” for inspection.
<Ref. to GW-28, INSPECTION, Rear Window Defogger.>

NOTE:
Wiper deicer system can be customized on the Subaru Select Monitor.

System name	Initial setting	Customize setting
Wiper deicer timer	OFF after 15 min.	Continuous operation*

*: When one of the following conditions occurs, continuous operation is suspended and turned off after 15 min.

- Ambient temperature at 5°C (41°F) or more continues for 10 seconds
- Malfunction occurs on ambient sensor.
- Vehicle speed below 15 km/h (9 MPH) continues 15 min.
- Malfunction occurs in CAN communication.

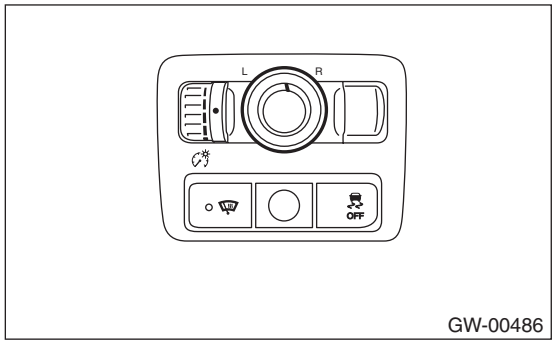
C: REPAIR

Refer to “Rear Window Defogger” for repair.
<Ref. to GW-29, REPAIR, Rear Window Defogger.>

22.Wiper Deicer Switch

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the harness connector and remove wiper deicer switch.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

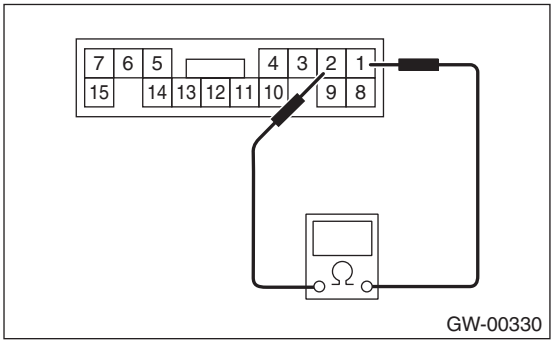
1. CHECK WITH SUBARU SELECT MONITOR

CAUTION:
Check whether the wiper deicer timer is in initial setting or customize setting before performing inspection.

1) Check the input signal when the wiper deicer switch is operated using Subaru Select Monitor.
   (1) Prepare the Subaru Select Monitor kit. <Ref. to GW-6, PREPARATION TOOL, General Description.>
   (2) Turn the ignition switch to ON (engine OFF), and run the “PC application for Subaru Select Monitor”.
   (3) On the «System Selection Menu» display screen, select the {Integ. Unit mode}.
   (4) Select the {Current Data Display & Save}.
   (5) Display the data of the wiper deicer switch.
2) When wiper deicer switch is turned to ON, check whether it turns to OFF in 15 minutes, or it operates continuously.
3) If it turns to OFF in step 2) above, it is normal. When it operates continuously, replace the body integrated unit.

2. CHECK SWITCH

Remove the wiper deicer switch, and measure the switch resistance.



Switch position	Terminal No.	Standard
OFF	1 and 2	1 MΩ or more
ON		Less than 1 Ω

Replace the wiper deicer switch if faulty.

BODY STRUCTURE

BS

		Page
1.	General Description	2
2.	Datum Dimensions	3
3.	Body Sealing	23
4.	Anticorrosion Wax	31
5.	Under Coat	39
6.	Galvanized Sheet Metal	43
7.	Aluminium Sheet Metal	44

1. Basic Diagnostic Procedure

A: PROCEDURE

Step		Check	Yes	No
1	**START INSPECTIONS.** 1) Perform the pre-inspection. <Ref. to AC(diag)-3, INSPECTION, General Description.> 2) Perform the self-diagnosis. <Ref. to AC(diag)-10, OPERATION, Diagnostic Chart for Self-diagnosis.>	Does the self-diagnosis operate?	Go to step **2**.	<Ref. to AC(diag)-15, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**IDENTIFY MALFUNCTION PART.** Identify the malfunction part with self-diagnosis.	Can the malfunction part be confirmed?	Repair the malfunction part in accordance with each diagnostic chart.	Go to step **3**.
3	**CHECK COMPARTMENT TEMPERATURE.** 1) Turn on the A/C switch. 2) Turn the temperature control dial at maximum cool position. 3) Check the compartment temperature change.	Does the compartment temperature change?	Go to step **4**.	<Ref. to AC(diag)-19, COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY, Diagnostics for A/C System Malfunction.>
4	**CHECK A/C SYSTEM RESPONSE.** Change the temperature setting, and check the response of A/C system.	Does the A/C system respond quickly?	A/C system is normal.	<Ref. to AC(diag)-19, COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY, Diagnostics for A/C System Malfunction.>

2. General Description

A: CAUTION

1) Never connect the battery in reverse polarity.
Auto A/C control module may be destroyed instantly.
2) Do not disconnect the battery terminals while the engine is running.
A large counter electromotive force will be generated in the generator, and this voltage may damage electronic parts such as auto A/C control module etc.
3) Before disconnecting the connectors of each sensor and the auto A/C control module, be sure to turn the ignition switch to OFF.
Auto A/C control module may be damaged.
4) Every A/C-related part is a precision part. Do not drop them.
5) Airbag system wiring harness is routed near the A/C control panel and junction box.

CAUTION:
• For airbag system, yellow-colored wiring harness and connectors are all used. Do not use the electrical test equipment on these circuits.
• Be careful not to damage the airbag system wiring harness when servicing the A/C control panel and junction box.

B: INSPECTION

Before performing the diagnosis, check the following items which might affect A/C system problems.

1. BATTERY

1) Measure the battery voltage and specific gravity of electrolyte.

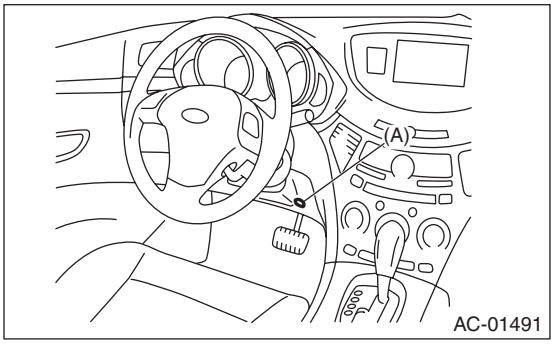
Standard voltage: 12 V

Specific gravity: Above 1.260
2) Check the condition of the fuses for A/C system power supply and other fuses.
3) Check the condition of harness and harness connector connections.

2. ASPIRATOR HOSE

1) Turn the ignition switch to ON, and press the A/C switch.
2) Turn the temperature control dial to maximum hot position.
3) Turn the air flow control dial to “DEF” position.
4) Turn the fan speed control dial to MAX (6 speed) position.
5) Put a strip of paper close to the front side of in-vehicle sensor suction port (A) located in the driver’s side console side panel, and check that air is being sucked into the port by seeing the paper moving towards the port.

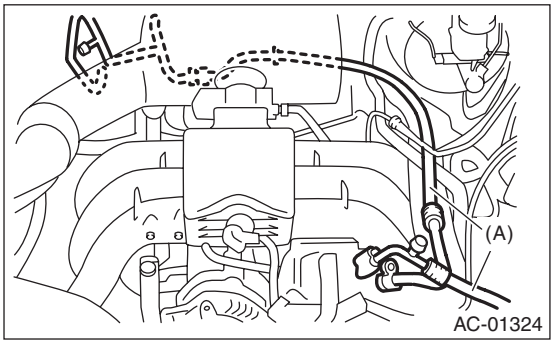
NOTE:
Be careful not to let the paper get sucked into the port.



6) If the paper does not move at all, remove the driver’s side console side panel <Ref. to EI-41, REMOVAL, Center Console.> and check for improper connection of the aspirator hose, in-vehicle sensor and heater unit, and repair them if necessary.

3. A/C LINE

Check the connection for A/C line (A) and lower side high-pressure pipe.



4. CONTROL SWITCHES

Start the engine and warm-up completely.

1) Inspection using switches

No.	Point to check	Switch operation	Judgment standard
1	OFF switch	Press the OFF switch.	Setting temperature display goes out. • Blower fan: OFF • Inlet opening: FRESH • Compressor: OFF
2	AUTO switch, driver's side temperature control dial and passenger's side temperature control dial	1) Press the AUTO switch. 2) Turn the temperature control dial to the left fully, and set to 18°C (65°F) (maximum cool position).	AUTO display illuminates. • Outlet air temperature: COOL • Blower fan: HI (AUTO) • Outlet opening: FACE • Inlet opening: AUTO • Compressor: AUTO
		3) Turn the temperature control dial to the right slowly, and change the setting from 18°C (65°F) (maximum cool position) to 32°C (85°F).	• Outlet air temperature: COOL → HOT • Blower fan: AUTO • Outlet opening: FACE → B/L → FOOTHEAT • Inlet opening: AUTO • Compressor: AUTO
		4) Turn the temperature control dial to the right fully, and set to 32°C (85°F) (maximum hot position).	• Outlet air temperature: HOT • Blower fan: HI (AUTO) • Outlet opening: HEAT • Inlet opening: FRESH (AUTO) • Compressor: AUTO
3	Defroster switch	Press the defroster switch.	Defroster switch indicator illuminates. • Outlet air temperature: AUTO • Blower fan: AUTO • Outlet opening: DEF • Inlet opening: FRESH • Compressor: ON
4	FRESH/RECIRC switch	Press the FRESH/RECIRC switch.	Inlet opening switches RECIRC → FRESH or FRESH → RECIRC each time pressing the switch.
5	MODE switch	Press the MODE switch.	Outlet opening switches FACE → B/L → HEAT → D/H each time pressing the switch.
6	FAN switch	Turn the FAN switch.	Blower fan switches OFF → LO → M1 → M2 → M3 → M4 → HI each time turning the switch and it switches in reverse order when turned backward.

2) Compressor operation inspection

No.	Point to check	Switch operation	Judgment standard
1	Compressor	1) Turn the A/C switch to ON. 2) Set the FAN switch between LO and HI.	Compressor: ON

3) Inspection of illumination control

No.	Point to check	Switch operation	Judgment standard
1	Illumination	Turn the lighting switch to ON.	Illumination comes on.

4) Inspection of the rear cooler switch

No.	Point to check	Switch operation	Judgment standard
1	FAN switch	Turn the FAN switch.	Blower fan switches OFF → LO → ML → MH → HI each time turning the switch and it switches in reverse order when turned backward.

5) Inspection of rear cooler

No.	Point to check	Switch operation	Judgment standard
1	Roof grille	Turn the FAN switch.	Front A/C ON (compressor operating): COOL Front A/C OFF (compressor not operating): Blower ON

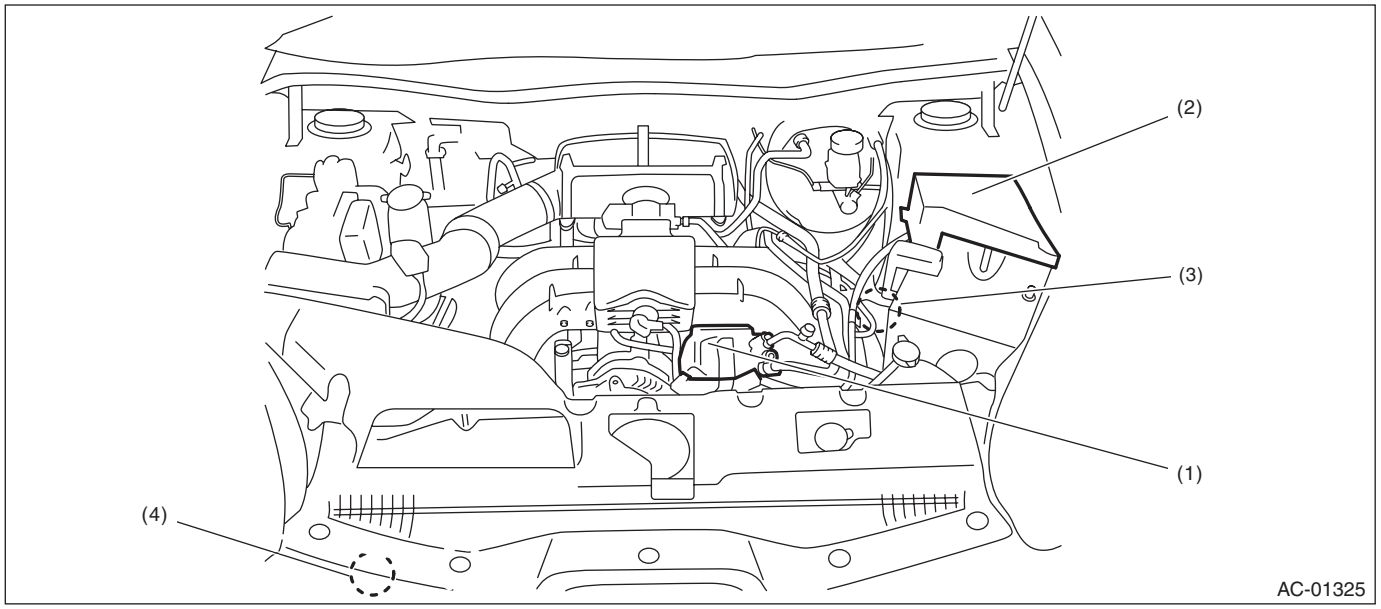
6) Inspection of illumination control

No.	Point to check	Switch operation	Judgment standard
1	Illumination	Turn the lighting switch to ON.	Illumination comes on.

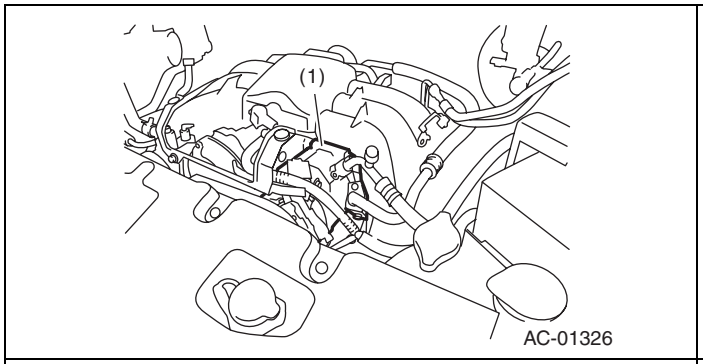
3. Electrical Component Location

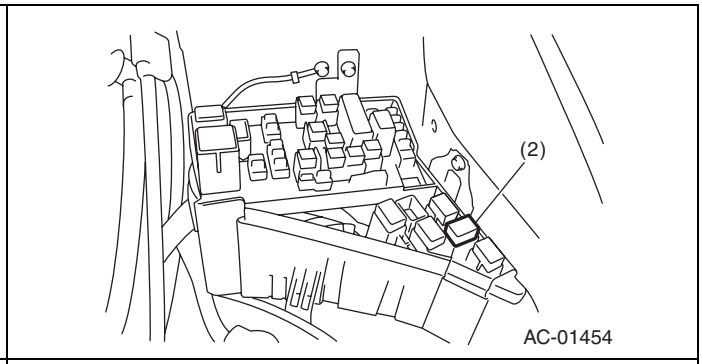
A: LOCATION

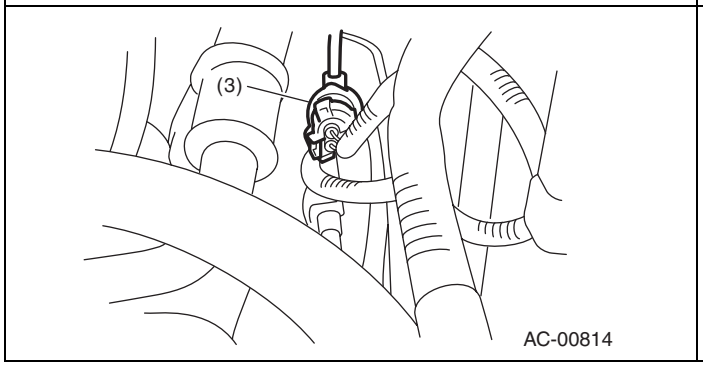
1. ENGINE COMPARTMENT

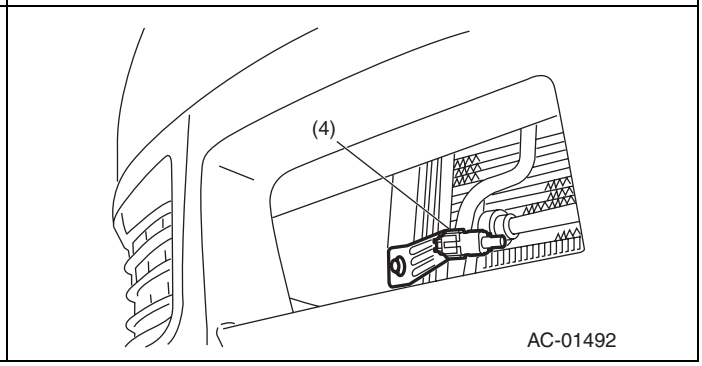


(1) A/C compressor
(2) A/C relay
(3) Pressure switch
(4) Ambient sensor

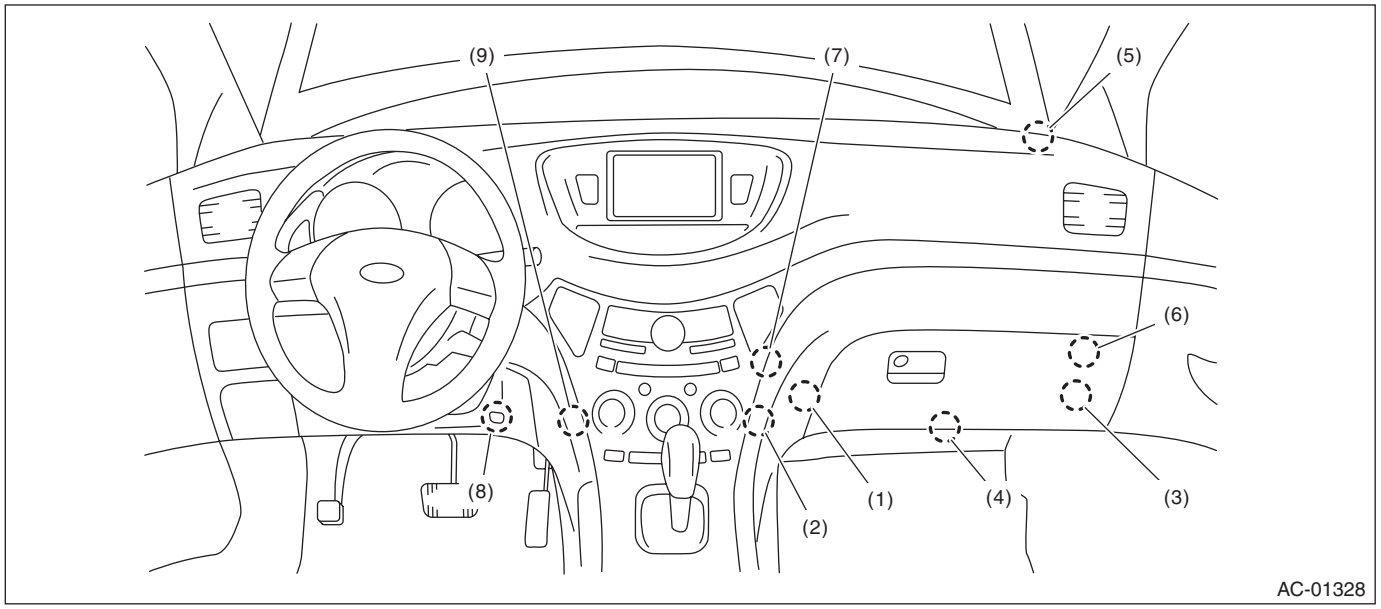




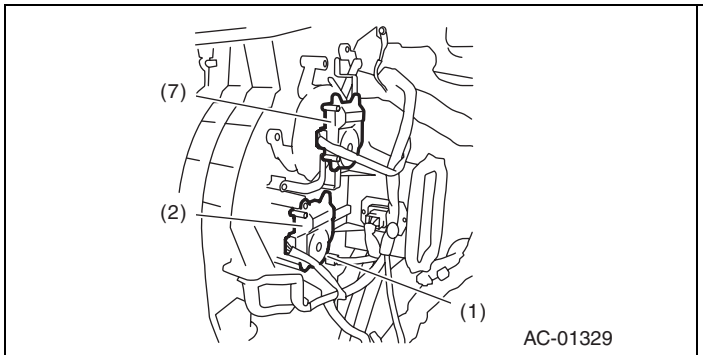


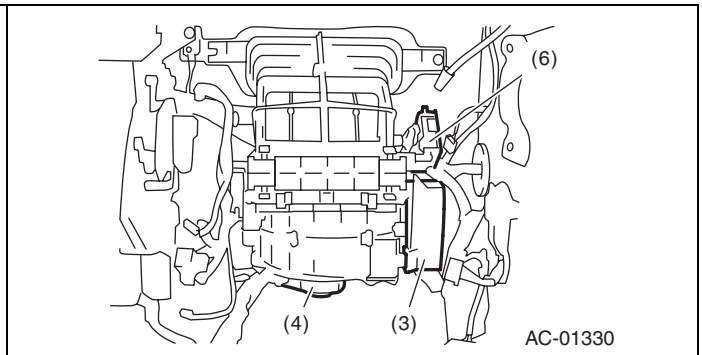


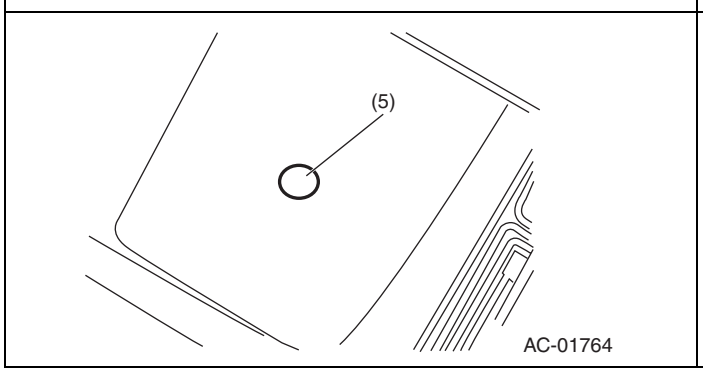
2. PASSENGER COMPARTMENT

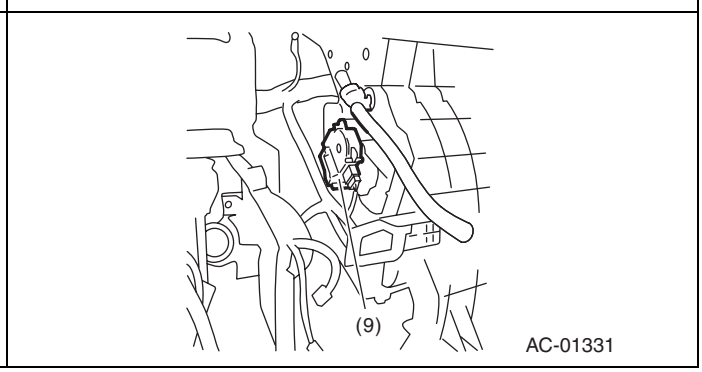


(1) Evaporator sensor
(2) Passenger's side air mix door actuator
(3) Auto A/C control module
(4) Blower motor
(5) Sunload sensor
(6) Intake door actuator
(7) Mode door actuator
(8) In-vehicle sensor
(9) Driver's side air mix door actuator



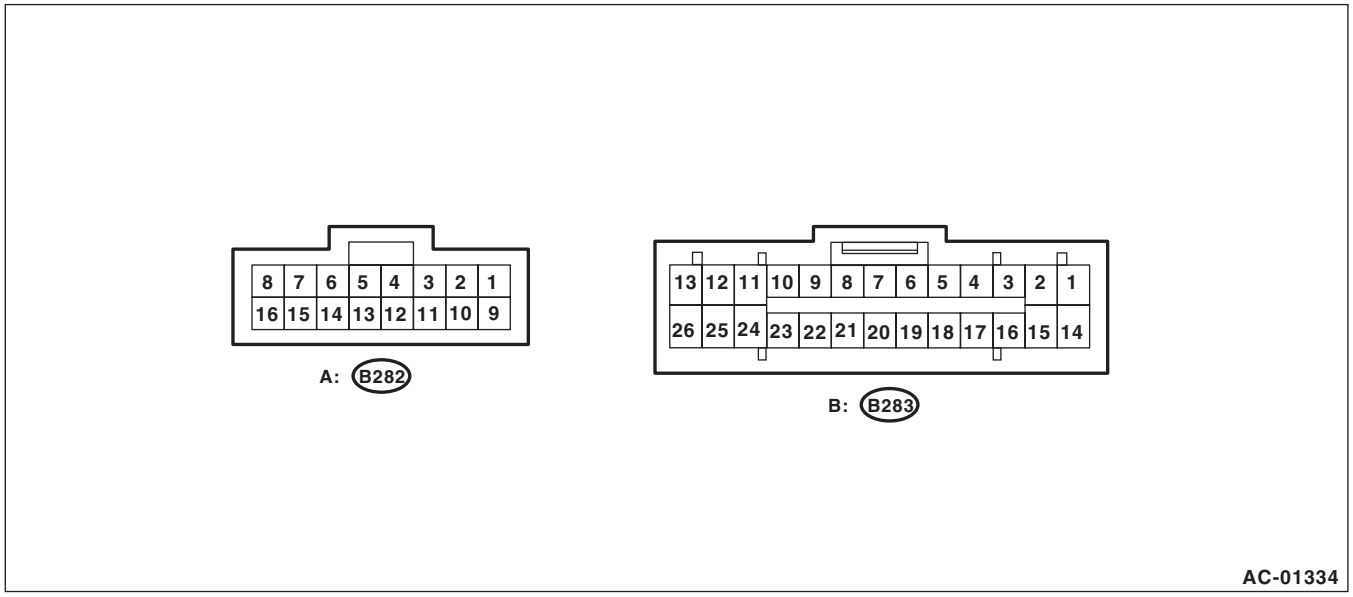






4. Auto A/C Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Terminal No.	Description	Measuring condition	Specification
A1	Battery power supply	Ignition switch: OFF	Battery voltage
A2	ACC power supply	Ignition switch: ACC	Battery voltage
A3	Mode door actuator position signal	Mode door: FACE position	4 V
		Mode door: DEF position	1 V
A4	Passenger's side air mix door actuator position signal	Air mix door: Maximum cool position	4 V
		Air mix door: Maximum hot position	1 V
A5	In-vehicle sensor	Ignition switch: ON	Less than 5 V
A6	Sunload sensor	Ignition switch: ON, With Sunload (No sunload: 0.8 V)	3 V
A7	Driver's seat heater temperature sensor	Ignition switch: ON	Less than 5 V
A8	Sensor power supply	Ignition switch: ON	5 V
A9	Ignition power supply	Ignition switch: ON	Battery voltage
A10	A/C cut signal	Ignition switch: ON	Battery voltage
		When pressure SW is operating	0 V
A12	Driver's side air mix door actuator position signal	Air mix door: Maximum cool position	4 V
		Air mix door: Maximum hot position	1 V
A13	Evaporator sensor	Ignition switch: ON	Less than 5 V
A14	Passenger's seat heater temperature sensor	Ignition switch: ON	Less than 5 V
A15	Sensor ground	Continuity to chassis ground	0 Ω
A16	Ground	Continuity to chassis ground	0 Ω
B1	CAN communication (HI side)	Ignition switch: ON	Pulse signal *1
B2	Blower motor voltage feedback signal	Blower level: Manual Lo	7.6 V
		Blower level: Manual M3	3.7 V
		Blower level: Manual Hi	Less than 1 V
B3	Blower motor power MOS gate control signal	Ignition switch : ON, Blower switch : ON	1 V — battery voltage
B6	Magnet clutch signal	Temperature setting: Maximum COOL, MODE: Manual DEF, A/C: ON	Battery voltage

Terminal No.	Description	Measuring condition	Specification
B7	Mode door actuator power supply (FACE)	When switching mode door from DEF → FACE	Battery voltage — 2.5 V or more *2
		When switching mode door from FACE → DEF	Less than 1 V *2
B8	Passenger's side air mix door actuator power supply (COOL side)	When switching air mix door from HOT → COOL	Battery voltage — 2.5 V or more *2
		When switching air mix door from COOL → HOT	Less than 1 V *2
B9	Driver's side air mix door actuator power supply (COOL side)	When switching air mix door from HOT → COOL	Battery voltage — 2.5 V or more *2
		When switching air mix door from COOL → HOT	Less than 1 V *2
B10	Inlet opening motor (FRESH side)	FRESH	Less than 1 V
		RECIRC	Battery voltage
B11	Driver's seat heater	Driver's seat heater: ON (3 stages)	Less than 1 V *3
B13	Passenger's seat heater	Passenger's seat heater: ON (3 stages)	Less than 1 V *3
B14	CAN communication (Lo side)	Ignition switch: ON	Pulse signal *1
B16	Blower motor relay	Blower motor: Stopped	Battery voltage
		Blower motor: Operated	Less than 1 V
B18	Panel communication (transmitter side)	Ignition switch: ON	Pulse signal *1
B19	Panel communication (receiver side)	Ignition switch: ON	Pulse signal *1
B20	Mode door (DEF) side	Mode: DEF ⇒ FACE	Less than 1 V
		Mode: FACE ⇒ DEF	Battery voltage — 2.5 V or more
B21	Passenger's side air mix door	Air mix: Maximum HOT ⇒ maximum COOL	Less than 1 V
		Air mix: Maximum COOL ⇒ maximum HOT	Battery voltage — 2.5 V or more
B22	Driver's side air mix door	Air mix: Maximum HOT ⇒ maximum COOL	Less than 1 V
		Air mix: Maximum COOL ⇒ maximum HOT	Battery voltage — 2.5 V or more
B23	Inlet opening motor (RECIRC side)	RECIRC	Less than 1 V
		FRESH	Battery voltage
B24	Driver's seat heater ground	Continuity to chassis ground	0 Ω
B26	Passenger's seat heater ground	Continuity to chassis ground	0 Ω

*1: Unable to measure the voltage for digital signal.
*2: Voltage immediately after switching FACE ⇔ DEF or maximum COOL ⇔ maximum HOT (when the damper door is operating.) for mode door and air mix door
*3: Voltage immediately after the operation for the seat heater (Always measure the voltage immediately after turning the seat heater to ON because once reached to the target value, it switches to ON/OFF action.)

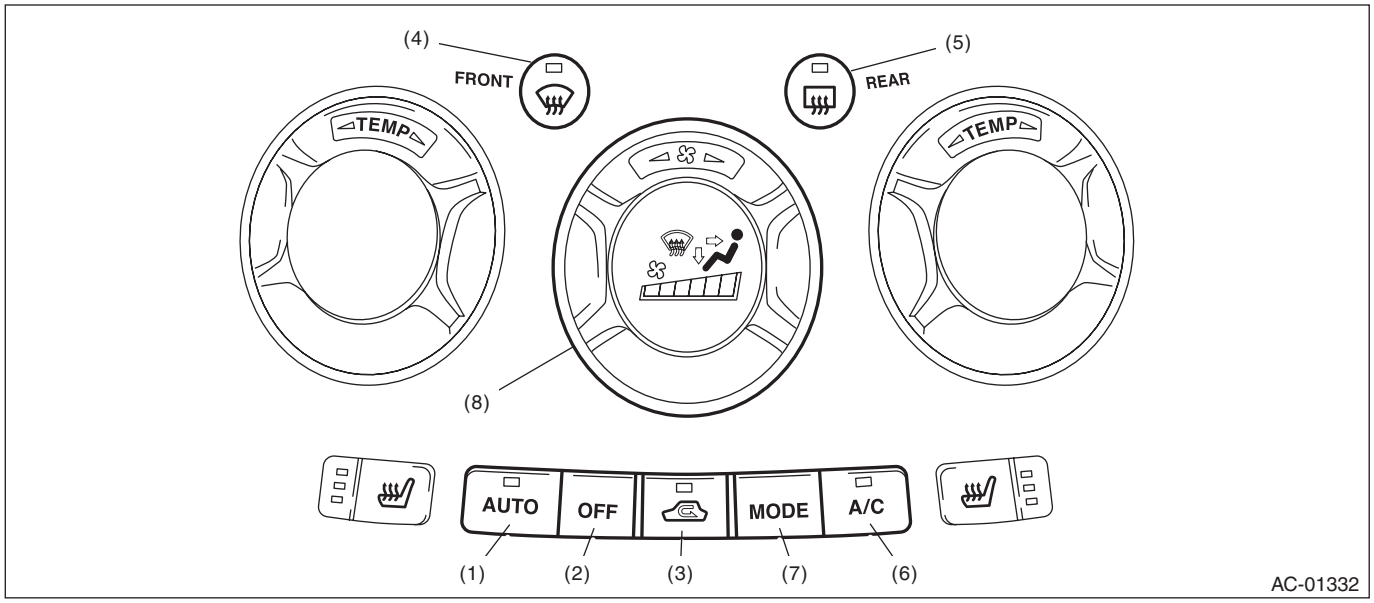
B: WIRING DIAGRAM

1. AIR CONDITIONER AUTO A/C MODEL

<Ref. to WI-94, WIRING DIAGRAM, Air Conditioning System.>

5. Diagnostic Chart for Self-diagnosis

A: OPERATION



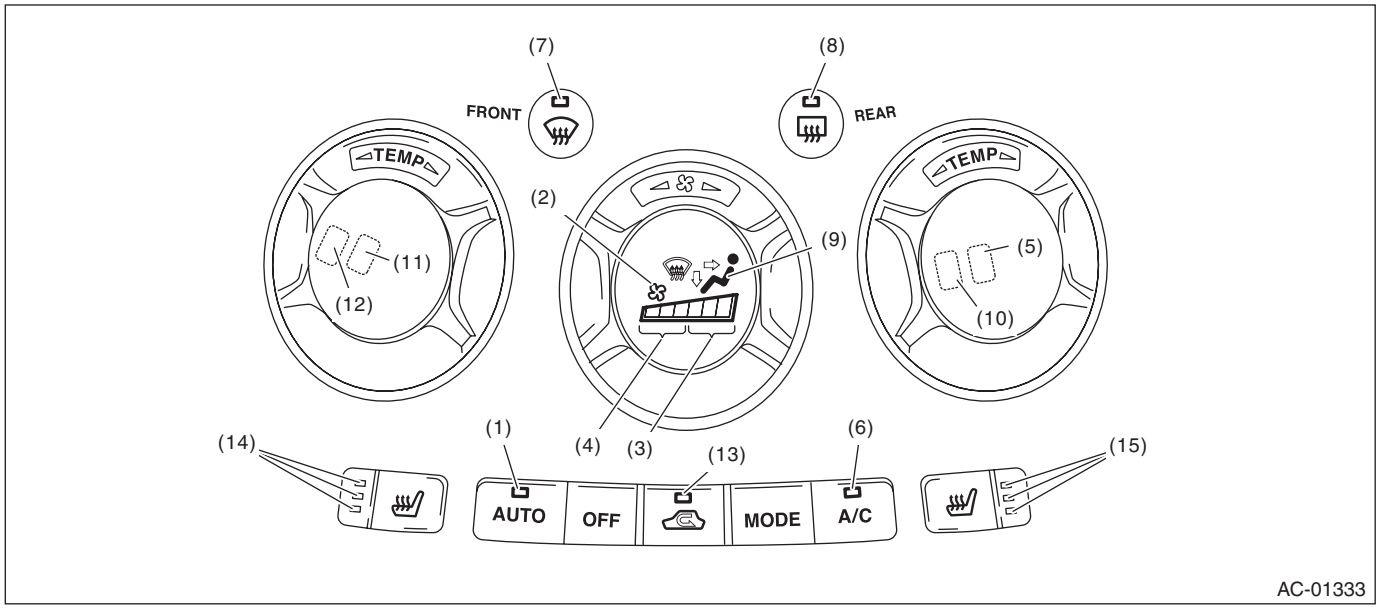
(1) AUTO switch
(2) OFF switch
(3) FRESH/RECIRC switch
(4) Defroster switch
(5) Rear window defogger switch
(6) A/C switch
(7) Air flow control switch
(8) FAN switch

NOTE:
For A/C system self-diagnosis, there is one that checks the control panel, and the other that checks the whole control system (sensor, actuator, blower motor, etc.). Perform the self-diagnosis for control panel first, and then perform the self-diagnosis for control system.

1. A/C CONTROL PANEL SELF-DIAGNOSIS

	Step	Check	Yes	No
1	**SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.** 1) Turn the ignition switch to ON with the AUTO switch and MODE switch pressed. 2) The status of communication with the A/C ECM is displayed in the left TEMP display field.	Does the self-diagnosis function operate?	Go to step **2**.	<Ref. to AC(diag)-15, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**CHECK DISPLAY AND INDICATOR.** Check if all the screen display and indicators come on and then go off. NOTE: "11" — "14" is displayed on the screen when malfunction occurs.	Do all the screen display and indicators come on then go off?	Go to step **3**.	Replace the A/C control panel.
3	**CHECK SWITCH AND TEMPERATURE CONTROL DIAL INPUT.** According to the switch check table, press each switch or turn the temperature control dial, and check the relative screen display and indicators illuminate. <Ref. to AC(diag)-12, SWITCH CHECK TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.>	Does the screen display related to each switch and dial input illuminate?	Go to step **4**.	Replace the A/C control panel.
4	**CHECK A/C CONTROL PANEL COMMUNICATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C control module harness connector. 3) Using a suitable lead wire, short the terminal No. 18 and No. 19 of auto A/C control module harness connector (B283). 4) Turn the ignition switch from OFF to ACC, and wait for 2 seconds. 5) Turn the ignition switch to ON while pressing the AUTO switch and A/C switch. 6) Press any switch on A/C control panel. 7) When no malfunction occurs in the control panel communication, "CL" (no open line) is displayed in the left side TEMP display field on the screen; and when a malfunction occurs, "OP" (open line exists) is displayed.	Is "CL" displayed on the screen?	A/C control panel is normal. Turn the ignition switch to OFF, and connect the auto A/C control module harness connector.	Replace the A/C control panel.

2. SWITCH CHECK TABLE



Switch	Display screen	Switch	Display screen
A/C switch	(6)	FAN switch (+)	(4)
AUTO switch	(1)	FAN switch (–)	(3)
Air flow control switch	(9)	Driver's side temperature control dial	Right rotation (11) Left rotation (12)
FRESH/RECIRC	(13)	Passenger's side temperature control dial	Right rotation (5) Left rotation (10)
Defroster switch	(7)	OFF switch	(2)
Rear defogger switch	(8)	Driver's seat heater switch	(14)
Passenger's seat heater switch	(15)		

3. A/C CONTROL SYSTEM SELF-DIAGNOSIS

	Step	Check	Yes	No
1	**SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.** 1) Start the engine with the AUTO switch and FRESH/RECIRC switch pressed. NOTE: Self-diagnosis can also be performed with ignition switch ON, but start the engine because observing the magnet clutch operation is difficult. 2) All the indicators blink four times.	Does the self-diagnosis function operate?	Go to step **2**.	<Ref. to AC(diag)-15, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.>
2	**CHECK EACH SENSOR AND POTENTIOMETER.** 1) After the indicators stop blinking, automatically change to the Inspection Mode of sensor and potentiometer. NOTE: Display items can be changed each time the A/C switch is pressed. (Step Operation) 2) When malfunction occurs in each sensor and potentiometer, codes are displayed on the screen. When no malfunction occurs in each sensor and potentiometer, code “20” is displayed on the screen. 3) Identify the defective sensor according to the sensor check table. <Ref. to AC(diag)-14, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.>	Are other codes except “20” displayed?	Repair the defective sensor. <Ref. to AC(diag)-30, Diagnostic Procedure for Sensors.>	Go to step **3**.
3	**CHECK EACH ACTUATOR, BLOWER FAN AND MAGNET CLUTCH.** 1) After completing each sensor and potentiometer inspection, change to the Inspection Mode of actuator, blower fan and magnet clutch by pressing the defroster switch. 2) Each mode will change and operate automatically every four seconds. NOTE: Operation mode items can be changed each time the A/C switch is pressed. (Step Operation) 3) Check the operation of actuator, blower fan and magnet clutch in each mode according to the operating mode table. <Ref. to AC(diag)-14, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.>	Do the actuator, blower fan and magnet clutch operate as described in the operating mode table?	A/C control system is normal. Press the OFF switch and complete the self-diagnosis function.	Repair the defective part in accordance with each diagnostic chart. <Ref. to AC(diag)-15, Diagnostics for A/C System Malfunction.>or <Ref. to AC(diag)-23, Diagnostic Procedure for Actuators.>

4. SENSOR CHECK TABLE

NOTE:
When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor with the sun shining on it.

Display screen (Malfunction at present) *1	Sensor	Trouble contents
21/AUTO Blink	In-vehicle sensor	Open
–21/AUTO Blink		Short
22/AUTO Blink	Ambient sensor	Sensor trouble or communication failure
23/AUTO Blink	Evaporator sensor	Open
–23/AUTO Blink		Short
24/AUTO Blink	Engine coolant temperature sensor	Sensor trouble or communication failure
25 Blink	Sunload sensor	Open *2
–25/AUTO Blink		Short
26/AUTO Blink	Driver's side air mix door actuator potentiometer	COOL
27/AUTO Blink		HOT
–26/AUTO Blink	Passenger's side air mix door actuator potentiometer	COOL
–27/AUTO Blink		HOT
28/AUTO Blink	Mode door actuator potentiometer	FACE
29/AUTO Blink		DEF
41/AUTO Blink	Seat heater thermistor (Driver's side)	Open
–41/AUTO Blink		Short
42/AUTO Blink	Seat heater thermistor (Passenger's side)	Open
–42/AUTO Blink		Short
20 Blink	When all conditions are normal	

*1: "AUTO" display does not blink when past malfunction occurred. Past malfunction means that abnormal signals were continuously input for a certain time in the past.
*2: Present malfunction only is displayed for sunload sensor open circuit.

5. OPERATING MODE TABLE

Display screen	FRESH/RECIRC door	Mode door	Air mix door*	Blower fan	A/C compressor (Magnet clutch)
31	FRESH	FACE	Maximum cool	LO	OFF
32	RECIRC	FACE	Maximum cool	LO	ON
33	RECIRC	FACE	Maximum cool	M1	ON
34	FRESH	B/L	50%	M1	ON
35	FRESH	HEAT	50%	M1	ON
36	FRESH	HEAT	Maximum hot	M3	ON
37	FRESH	D/H	Maximum hot	M3	ON
38	FRESH	DEF	Maximum hot	HI	ON

*Same opening angle for both driver's and passenger's side

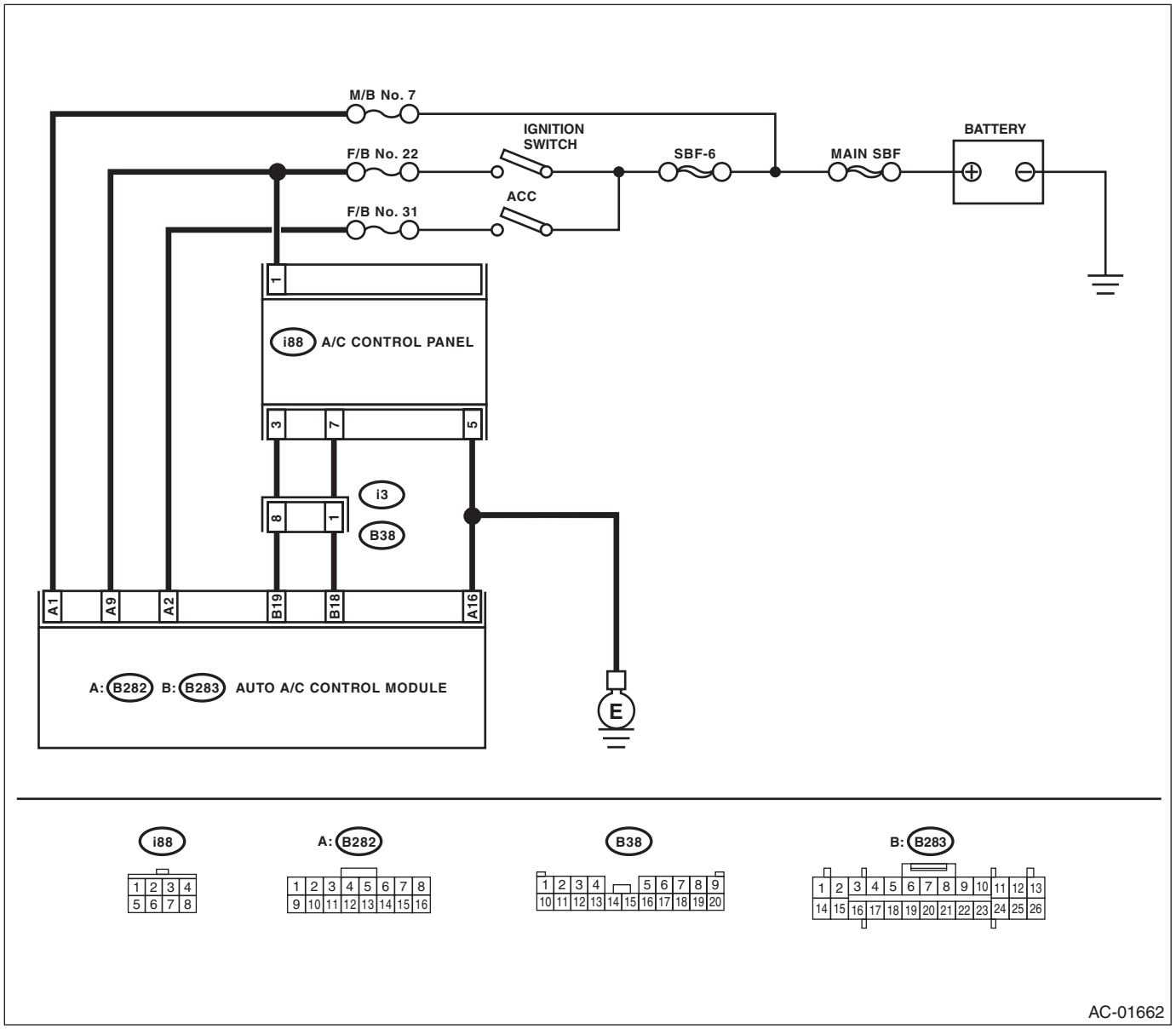
6. Diagnostics for A/C System Malfunction

A: A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE

TROUBLE SYMPTOM:

- Set temperature is not indicated on the display, switch LEDs are faulty and switches do not operate.
- Self-diagnosis system does not operate.

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 7 from main fuse box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **2**.
2	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 and No. 31 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **3**.

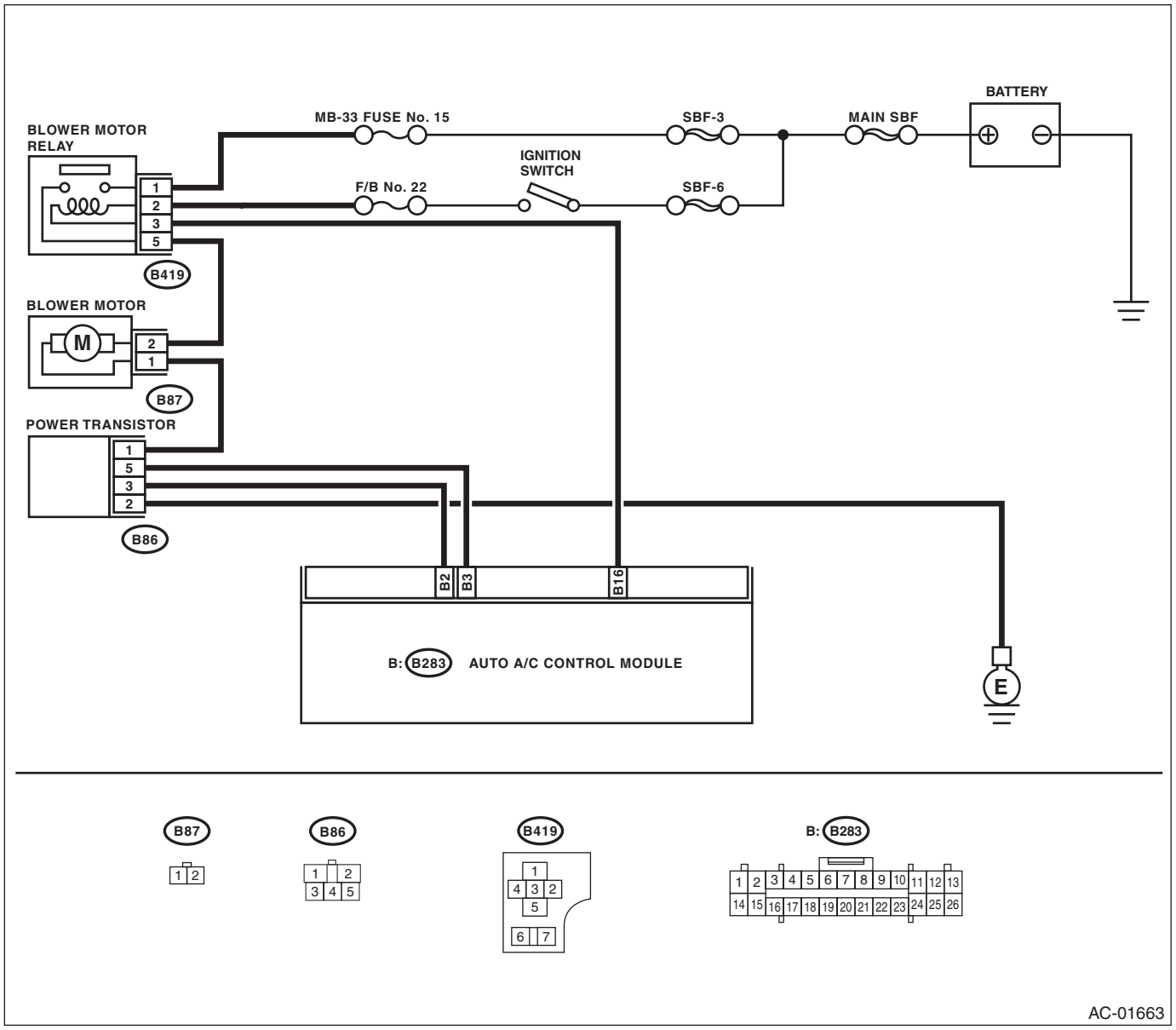
	Step	Check	Yes	No
3	**CHECK A/C CONTROL PANEL POWER CIRCUIT.** Measure the voltage between A/C control panel harness connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***(i88) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go 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 POWER 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. 5 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the harness for ground line.
5	**CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to OFF. ***Connector & terminal*** ***(B282) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **6**.	Check open or short circuit of harness between auto A/C control module and fuse.
6	**CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to ACC. ***Connector & terminal*** ***(B282) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **7**.	Check open or short circuit of harness between auto A/C control module and fuse.
7	**CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.** Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to ON. ***Connector & terminal*** ***(B282) No. 9 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **8**.	Check open or short circuit of harness between auto A/C control module and fuse.
8	**CHECK AUTO A/C CONTROL MODULE GROUND CIRCUIT.** Measure the resistance of harness between auto A/C control module and chassis ground. ***Connector & terminal*** ***(B282) No. 16 — Chassis ground:***	Is the resistance less than 5 Ω?	Go to step **9**.	Repair the harness for ground line.
9	**CHECK COMMUNICATION CIRCUIT.** Measure the resistance of harness between A/C control panel and auto A/C control module. ***Connector & terminal*** ***(i88) No. 3 — (B283) No. 19:*** ***(i88) No. 7 — (B283) No. 18:***	Is the resistance less than 1 Ω?	Go to step **10**.	Repair the harness.
10	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

B: BLOWER FAN DOES NOT ROTATE

TROUBLE SYMPTOM:

- Blower motor does not rotate.
- Blower motor does not rotate in “HI”.

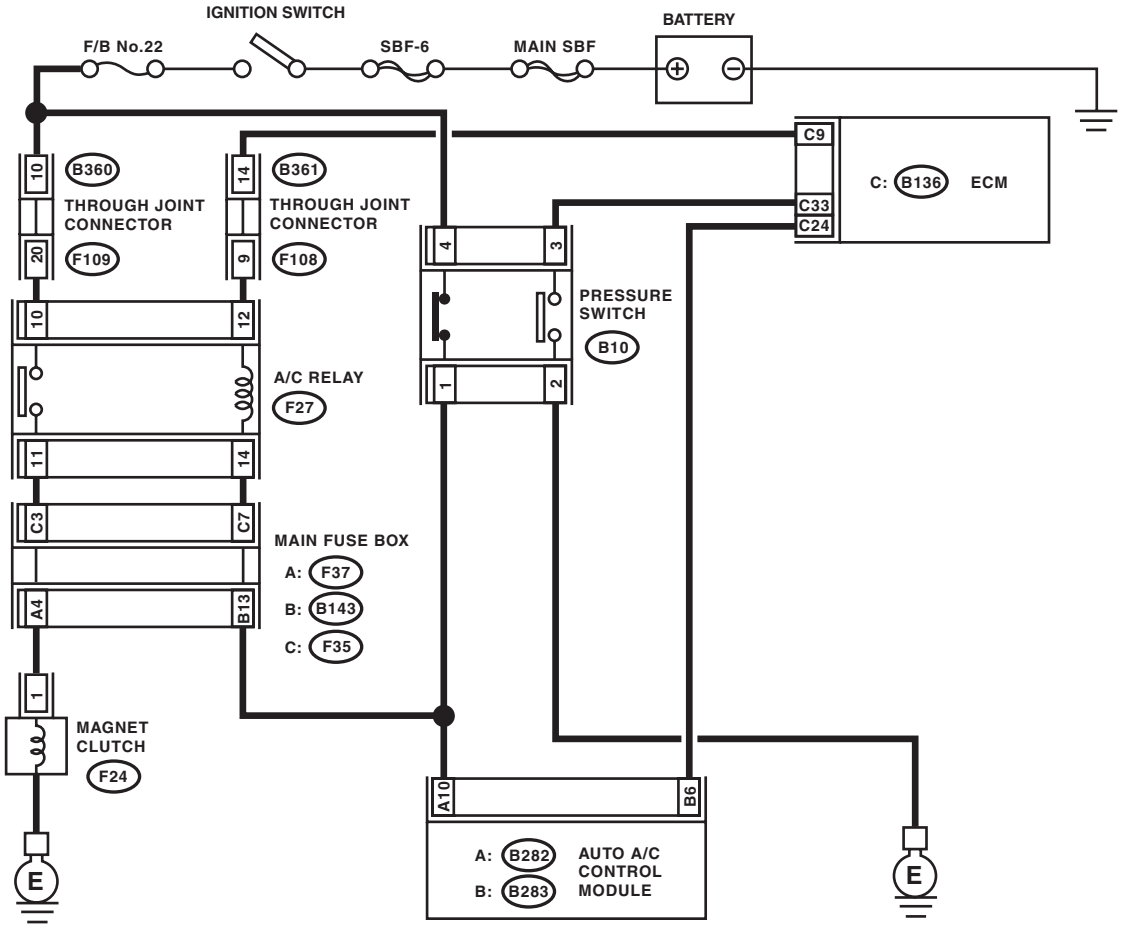
WIRING DIAGRAM:

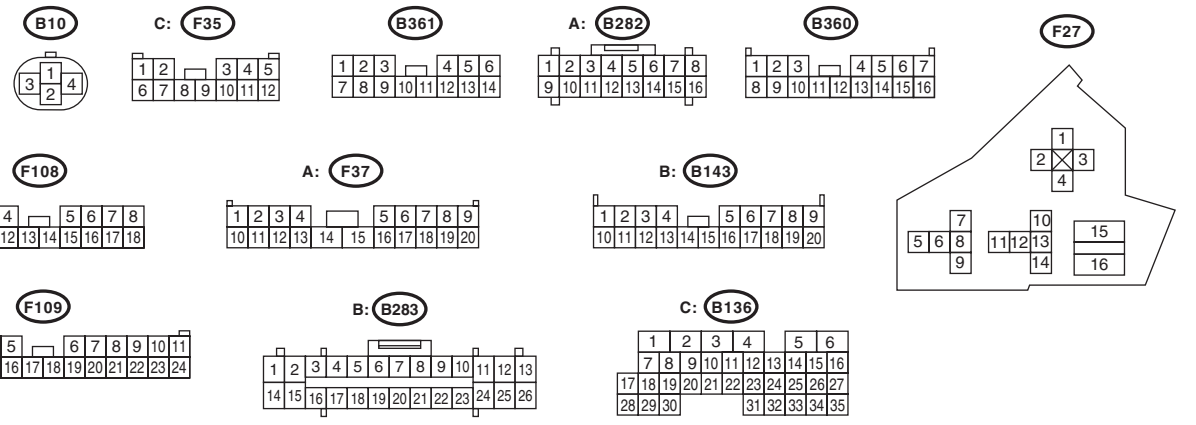


	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Remove the fuse No. 22 in fuse & relay box, and the fuse No. 15 in main fuse box. 2) Check the condition of fuse.	Is any fuse blown out?	Replace the fuse.	Go to step **2**.
2	**CHECK POWER SUPPLY FOR BLOWER MOTOR.** 1) Turn the ignition switch to ON. 2) Turn the blower switch to ON. 3) Measure the voltage between blower motor and chassis ground. ***Connector & terminal*** ***(B87) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	Repair the open circuit of blower motor power supply line harness.
3	**CHECK BLOWER MOTOR RELAY.** 1) Turn the ignition switch to OFF. 2) Remove the blower motor relay. 3) Connect the battery positive (+) terminal to terminal No. 2 of blower motor relay, and negative (–) terminal to terminal No. 3. 4) Measure the resistance between terminals No. 1 and No. 5. ***Terminals*** ***(B419) No. 1 — (B419) No. 5:***	Is the resistance less than 1 Ω?	Go to step **4**.	Replace the blower motor relay.
4	**CHECK BLOWER MOTOR.** 1) Disconnect the connector from blower motor. 2) Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (–) terminal to terminal No. 1. 3) Make sure the blower motor runs.	Does the blower motor run?	Go to step **5**.	Replace the blower motor. <Ref. to AC-30, REMOVAL, Blower Motor.>
5	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

C: COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY

WIRING DIAGRAM:





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	Step	Check	Yes	No
1	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Remove the fuse No. 22 from fuse & relay box. 3) Check the condition of fuse.	Is the fuse blown out?	Replace the fuse.	Go to step **2**.
2	**CHECK SIGNAL TO A/C RELAY AND A/C CONTROL MODULE.** 1) Disconnect the A/C relay and auto A/C control module harness connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between A/C relay connector terminal and chassis ground. 4) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(F27) No. 14 (+) — Chassis ground (–):*** ***(B282) No. 10 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **5**.	Go to step **3**.
3	**CHECK POWER SUPPLY FOR PRESSURE SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the pressure switch harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between pressure switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B10) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **4**.	Check for open or short circuit in the harness between fuse and pressure switch.
4	**CHECK HARNESS BETWEEN PRESSURE SWITCH AND A/C RELAY, AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between pressure switch connector and A/C relay connector. 3) Measure the resistance of harness between pressure switch connector and auto A/C control module connector. ***Connector & terminal*** ***(B10) No. 1 — (F27) No. 14:*** ***(B10) No. 1 — (B282) No. 10:***	Is the resistance less than 1 Ω?	Check the pressure switch. <Ref. to AC-46, INSPECTION, Pressure Switch (Triple Pressure Switch).>	Repair the harness.
5	**CHECK POWER SUPPLY FOR A/C RELAY.** Measure the voltage between A/C relay connector terminal and chassis ground. ***Connector & terminal*** ***(F27) No. 10 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **6**.	Check open or short circuit of harness between fuse and A/C relay.
6	**CHECK A/C RELAY.** Check the A/C relay. <Ref. to AC-45, INSPECTION, Relay and Fuse.>	Is there a malfunction in the A/C relay?	Replace the A/C relay.	Go to step **7**.

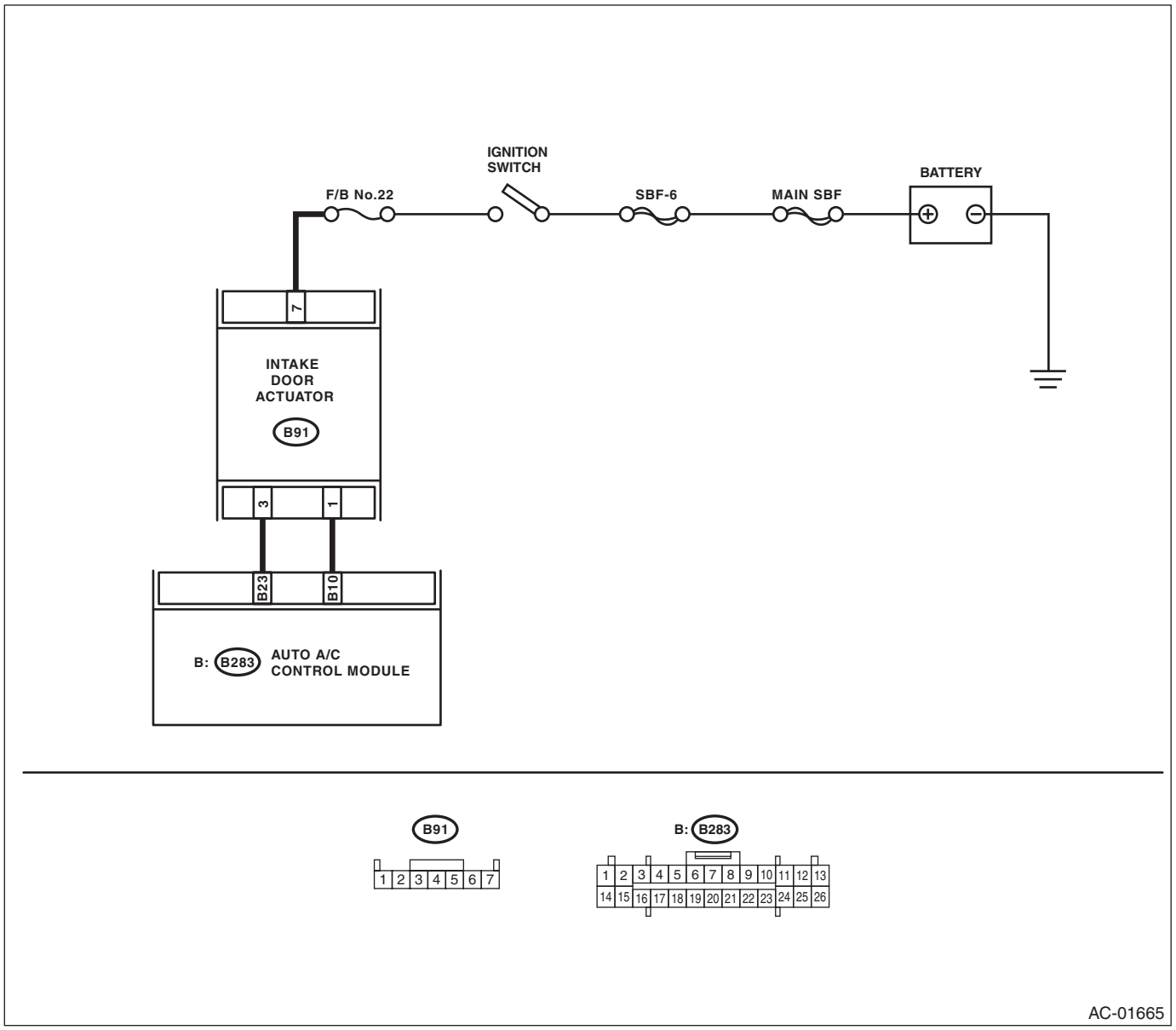
	Step	Check	Yes	No
7	**CHECK A/C ON SIGNAL.** 1) Turn the ignition switch to OFF. 2) Connect the A/C relay and all disconnected connectors. 3) Start the engine and turn the AUTO switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between auto A/C control module harness connector terminal and chassis ground. ***Connector & terminal*** ***(B283) No. 6 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **9**.	Go to step **8**.
8	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of auto A/C control module and ECM. 3) Measure the resistance of harness between auto A/C control module connector and ECM connector. ***Connector & terminal*** ***(B283) No. 6 — (B136) No. 24:***	Is the resistance less than 1 Ω?	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>	Repair the harness.
9	**CHECK MAGNET CLUTCH ON SIGNAL.** 1) Stop the engine, and turn the AUTO switch to OFF. 2) Turn the ignition switch to ON. 3) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***(B136) No. 9 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **10**.	Check for open or short circuit in the harness between A/C relay and ECM.
10	**CHECK MAGNET CLUTCH ON SIGNAL.** 1) Start the engine and turn the AUTO switch to ON. 2) Turn the temperature control dial at maximum cool position. 3) Measure the voltage between ECM connector terminal and chassis ground. ***Connector & terminal*** ***(B136) No. 9 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **11**.	Replace the ECM. <Ref. to FU(H6DO)-37, REMOVAL, Engine Control Module (ECM).>
11	**CHECK POWER SUPPLY FOR MAGNET CLUTCH.** 1) Stop the engine, and turn the AUTO switch to OFF. 2) Disconnect the harness connector of magnet clutch. 3) Start the engine and turn the AUTO switch to ON. 4) Turn the temperature control dial at maximum cool position. 5) Measure the voltage between magnet clutch harness connector terminal and chassis ground. ***Connector & terminal*** ***(F24) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **12**.	Check for open or short circuit in the harness between A/C relay and magnet clutch.

	Step	Check	Yes	No
12	**CHECK THE MAGNET CLUTCH.** 1) Stop the engine, and turn the AUTO switch to OFF. 2) Disconnect the harness connector of magnet clutch. ***Connector & terminal*** ***(F24) No. 2 — Chassis ground:*** 3) Connect the battery positive (+) terminal to terminal No. 1 of the magnet clutch, and negative (–) terminal to the compressor body.	Is the magnetic clutch operating?	Magnetic clutch is normal.	Replace the compressor. <Ref. to AC-36, REMOVAL, Compressor.>

7. Diagnostic Procedure for Actuators

A: INTAKE DOOR ACTUATOR

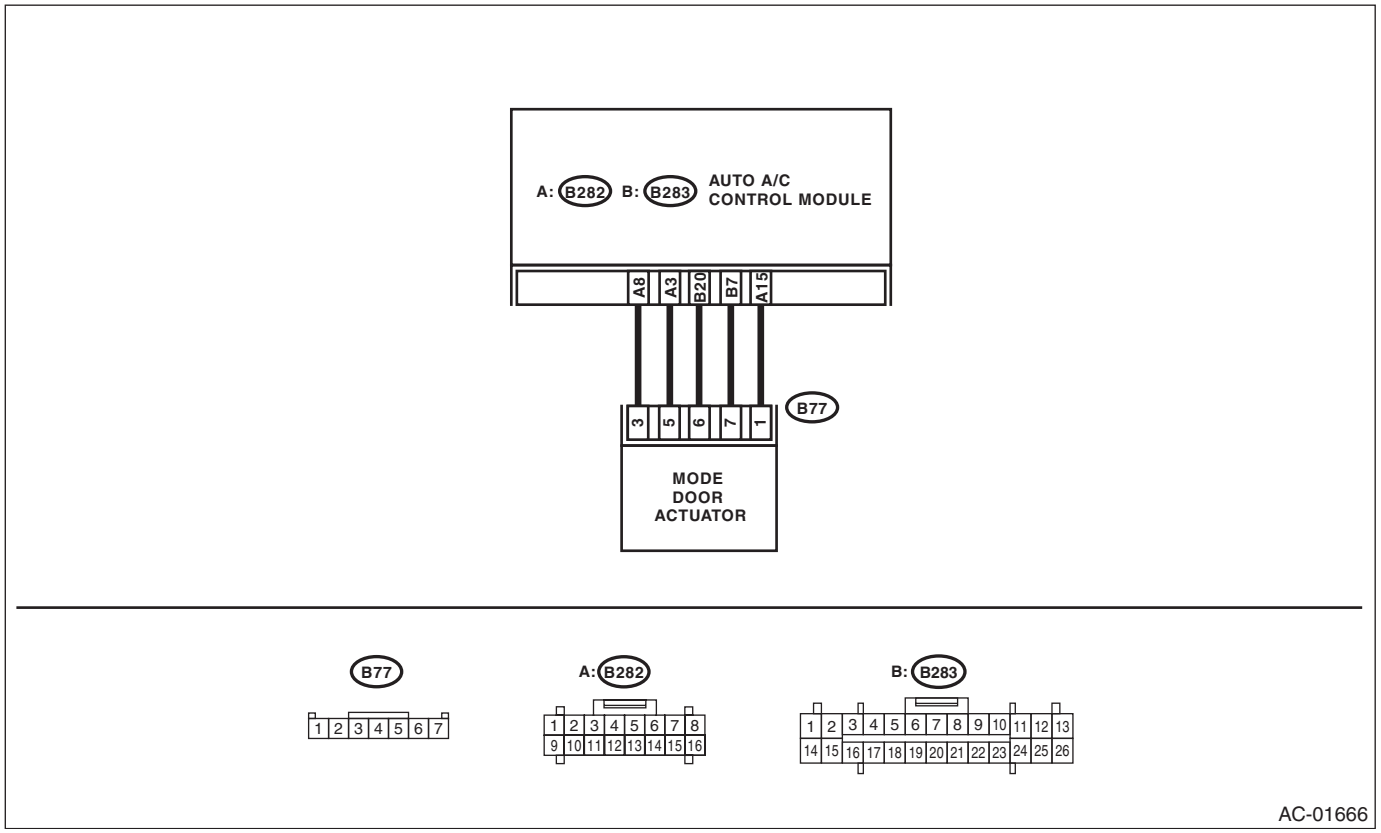
TROUBLE SYMPTOM:
FRESH/RECIRC mode is not changed.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the intake door actuator connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between intake door actuator connector and chassis ground. ***Connector & terminal*** ***(B91) No. 7 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **2**.	Check for open or short circuit in the harness between intake door actuator and fuse.
2	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between intake door actuator connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 10 — (B91) No. 1:*** ***(B283) No. 23 — (B91) No. 3:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the harness between auto A/C control module and intake door actuator.
3	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Connect the intake door actuator connector. 2) Ground the auto A/C control module connector with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal*** ***(B283) No. 10 — Chassis ground:***	Does the actuator move to the FRESH side?	Go to step **4**.	Replace the intake door actuator. <Ref. to AC-47, INTAKE DOOR ACTUATOR, REMOVAL, Actuator.>
4	**CHECK OPERATION OF INTAKE DOOR ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Ground the auto A/C control module connector with a suitable wire. 3) Turn the ignition switch to ON, and check the operation of intake door actuator. ***Connector & terminal:*** ***(B283) No. 23 — Chassis ground:***	Does the actuator move to the RECIRC side?	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>	Replace the intake door actuator. <Ref. to AC-47, INTAKE DOOR ACTUATOR, REMOVAL, Actuator.>

B: MODE DOOR ACTUATOR

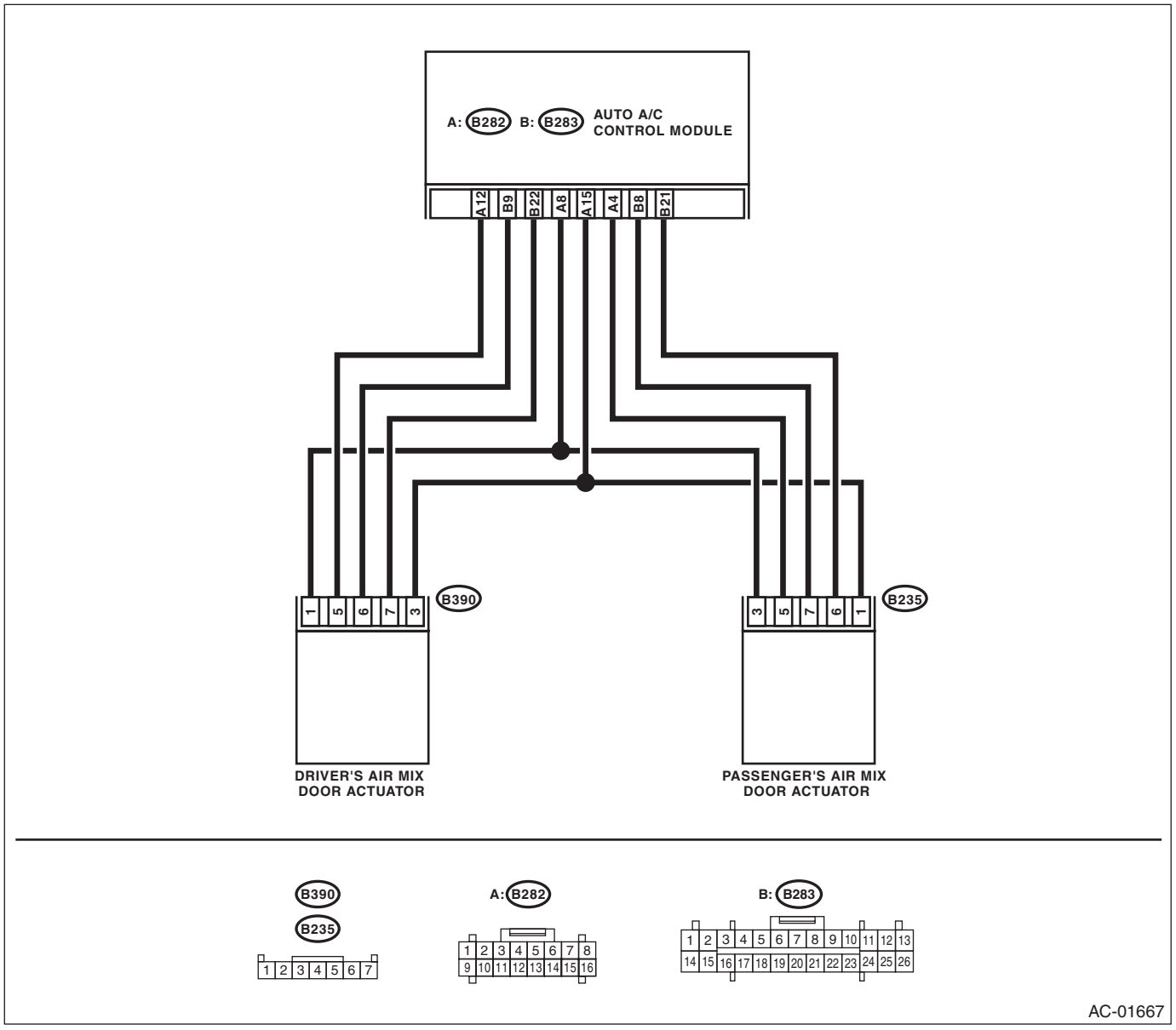
TROUBLE SYMPTOM:
Air flow outlet is not changed.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR POSITION SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the mode door actuator connector. 3) Turn the ignition switch and AUTO switch to ON. 4) Measure the voltage between auto A/C control module connector terminals. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **2**.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>
2	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to FACE position. ***Connector & terminal*** ***(B283) No. 7 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **3**.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>
3	**CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to DEF position. ***Connector & terminal*** ***(B283) No. 20 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **4**.	Replace the auto A/C control module.
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND MODE DOOR ACTUATOR.** 1) Turn the A/C and ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between auto A/C control module and mode door actuator connector. ***Connector & terminal*** ***(B77) No. 1 — (B282) No. 15:*** ***(B77) No. 3 — (B282) No. 8:*** ***(B77) No. 5 — (B282) No. 3:*** ***(B77) No. 6 — (B283) No. 20:*** ***(B77) No. 7 — (B283) No. 7:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the harness between auto A/C control module and mode door actuator.
5	**CHECK MODE DOOR ACTUATOR POSITION SWITCH SIGNAL.** 1) Connect the connector of auto A/C control module and mode door actuator. 2) Turn the ignition switch and AUTO switch to ON. 3) Check the voltage between auto A/C control module connector terminals while changing the mode between DEF and FACE. ***Connector & terminal*** ***(B282) No. 3 (+) — (B282) No. 15 (–):***	Does the voltage change between 1 V (DEF) and 4 V (FACE)?	Go to step **6**.	Replace the mode door actuator. <Ref. to AC-47, MODE DOOR ACTUATOR, REMOVAL, Actuator.>
6	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module and connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

C: AIR MIX DOOR ACTUATOR

TROUBLE SYMPTOM:
Outlet air temperature does not change.
WIRING DIAGRAM:



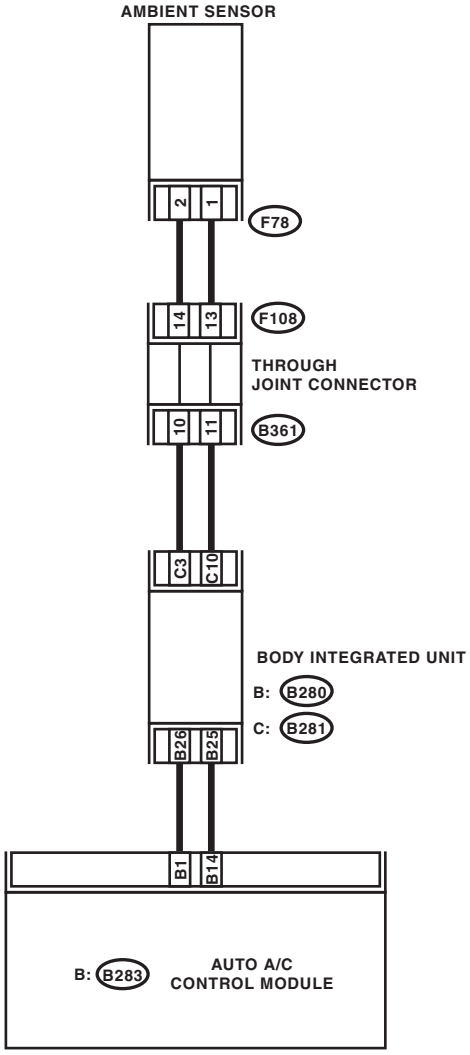
	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR POSITION SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the air mix door actuator connector. 3) Turn the ignition switch and AUTO switch to ON. 4) Measure the voltage between auto A/C control module connector terminals. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **2**.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>
2	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum COOL position. ***Connector & terminal*** ***Driver's side*** ***(B283) No. 22 (+) — Chassis ground (–):*** ***Passenger's side*** ***(B283) No. 21 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **3**.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>
3	**CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.** Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum HOT position. ***Connector & terminal*** ***Driver's side*** ***(B283) No. 9 (+) — Chassis ground (–):*** ***Passenger's side*** ***(B283) No. 4 (+) — Chassis ground (–):***	Is the voltage 8 V (at normal temperature)?	Go to step **4**.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND AIR MIX DOOR ACTUATOR.** 1) Turn the A/C and ignition switch to OFF. 2) Disconnect the auto A/C control module connector. 3) Measure the resistance between auto A/C control module and air mix door actuator connector. ***Connector & terminal*** ***Driver's side*** ***(B390) No. 1 — (B282) No. 15:*** ***(B390) No. 3 — (B282) No. 8:*** ***(B390) No. 5 — (B282) No. 12:*** ***(B390) No. 6 — (B283) No. 9:*** ***(B390) No. 7 — (B283) No. 22:*** ***Passenger's side*** ***(B235) No. 1 — (B282) No. 8:*** ***(B235) No. 3 — (B282) No. 15:*** ***(B235) No. 5 — (B282) No. 4:*** ***(B235) No. 7 — (B283) No. 8:*** ***(B235) No. 6 — (B283) No. 21:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the harness between auto A/C control module and air mix door actuator.

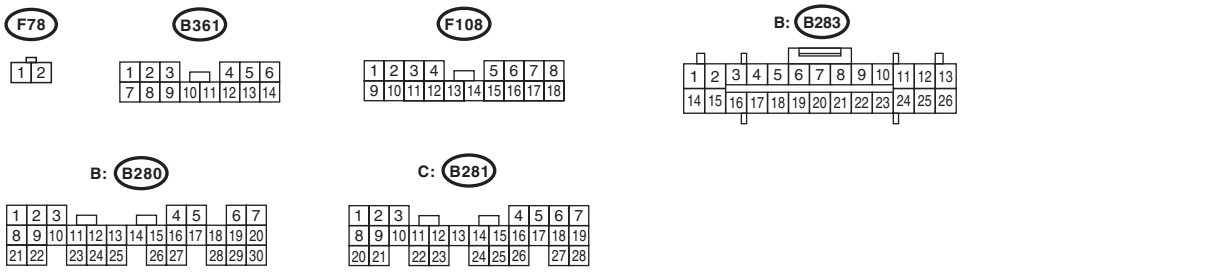
	Step	Check	Yes	No
5	**CHECK AIR MIX DOOR ACTUATOR POSITION SWITCH SIGNAL.** 1) Connect the connector of auto A/C control module and air mix door actuator. 2) Turn the ignition switch and AUTO switch to ON. 3) Check the voltage between auto A/C control module connector terminals while changing the setting temperature between maximum COOL and maximum HOT. ***Connector & terminal*** ***Driver's side*** ***(B282) No. 12 (+) — (B282) No. 15 (–):*** ***Passenger's side*** ***(B282) No. 4 (+) — (B282) No. 15 (–):***	Does the voltage change between 1 V (Max. HOT) and 4 V (Max. COOL)?	Go to step **6**.	Replace the air mix door actuator. <Ref. to AC-47, AIR MIX DOOR ACTUATOR (AUTO A/C MODEL), REMOVAL, Actuator.>
6	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module and connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

8. Diagnostic Procedure for Sensors

A: AMBIENT SENSOR

TROUBLE SYMPTOM:
Fan speed is not switched when the fan speed control dial is in AUTO position.
WIRING DIAGRAM:





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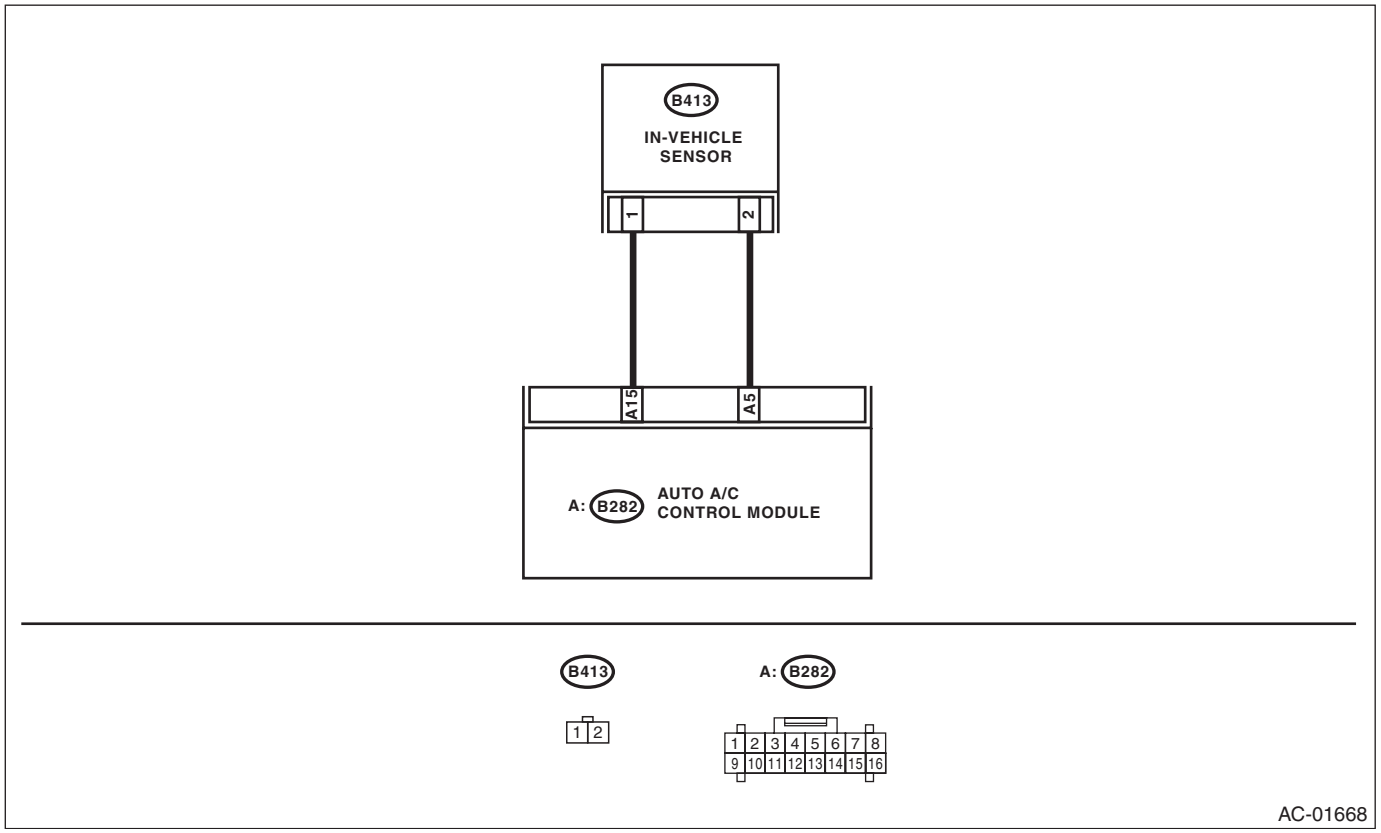
	Step	Check	Yes	No
1	**CHECK AMBIENT SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ambient sensor. 3) Measure the resistance between connector terminals of ambient sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approximately 1.7 kΩ at 25°C (77°F)?	Go to step **2**.	Replace the ambient sensor.
2	**CHECK INPUT SIGNAL FOR AMBIENT SENSOR.** 1) Turn the ignition to ON. 2) Measure the voltage between connector (F78) terminals. ***Connector & terminal*** ***(F78) No. 1 (+) — No. 2 (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Go to step **3**.
3	**CHECK OUTPUT SIGNAL OF BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Draw out the body integrated unit. 3) Disconnect the connector from ambient sensor. 4) Turn the ignition switch to ON. 5) Measure the voltage between connector terminals of body integrated unit. ***Connector & terminal*** ***(B281) No. 3 (+) — No. 10 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.
4	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND AMBIENT SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit. 3) Measure the resistance of harness between body integrated unit and ambient sensor. ***Connector & terminal*** ***(F78) No. 1 — (B281) No. 10:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of harness between body integrated unit and ambient sensor.
5	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND AMBIENT SENSOR.** Measure the resistance of harness between body integrated unit and ambient sensor. ***Connector & terminal*** ***(F78) No. 2 — (B281) No. 3:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair the open circuit of harness between body integrated unit and ambient sensor.
6	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Connect the connectors of body integrated unit and ambient sensor as originally connected. 2) Check if “Er xx” is displayed on the Odo/Trip meter in combination meter after turning the ignition switch to ON.	Is “Er xx” displayed?	Check the communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Go to step **7**.
7	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

B: IN-VEHICLE SENSOR

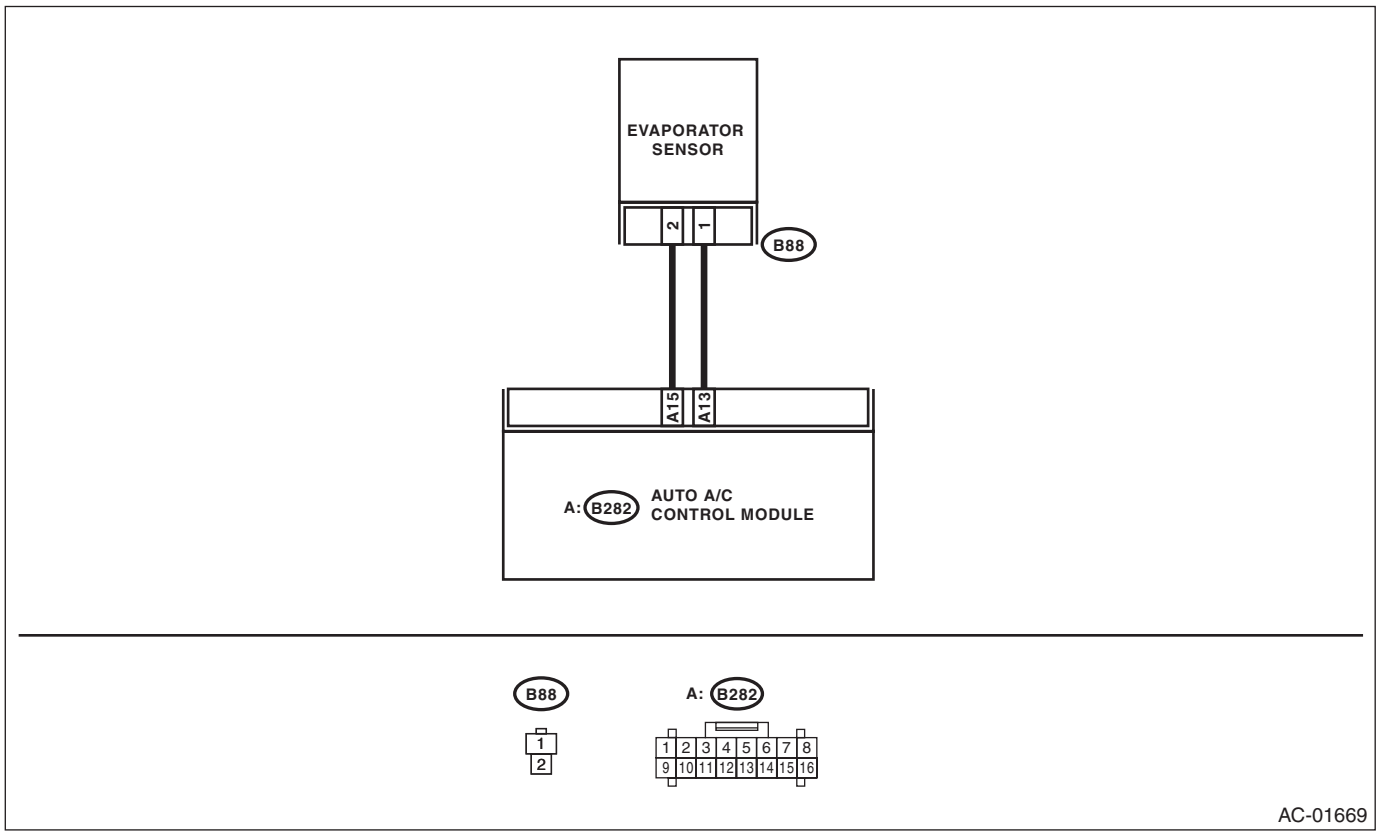
TROUBLE SYMPTOM:
Blower fan speed, outlet port and inlet port do not change after turning the AUTO switch to ON
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Remove the driver's side lower cover. 3) Disconnect the connector from in-vehicle sensor. 4) Measure the resistance between connector terminals of in-vehicle sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approx. 1.7 kΩ at 20°C (68°F)?	Go to step **2**.	Replace the in-vehicle sensor.
2	**CHECK INPUT SIGNAL FOR IN-VEHICLE SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between in-vehicle sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(i55) No. 2 (+) — Chassis ground (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Go to step **3**.
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Remove the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 5 (+) — (B282) No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.
4	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from auto A/C control module. 3) Measure the resistance of harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(i55) No. 2 — (B282) No. 5:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the harness between auto A/C control module and in-vehicle sensor.
5	**CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND IN-VEHICLE SENSOR.** Measure the resistance of harness between auto A/C control module and in-vehicle sensor. ***Connector & terminal*** ***(i55) No. 1 — (B282) No. 15:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair the harness between auto A/C control module and in-vehicle sensor.
6	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

C: EVAPORATOR SENSOR

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK EVAPORATOR SENSOR.** 1) Turn the ignition switch to OFF. 2) Remove the glove box. 3) Disconnect the connector from evaporator sensor. 4) Measure the resistance between connector terminals of evaporator sensor. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance approximately 1.9 kΩ at 20°C (68°F)?	Go to step **2**.	Replace the evaporator sensor. <Ref. to AC-39, REMOVAL, Evaporator.>
2	**CHECK INPUT SIGNAL FOR EVAPORATOR SENSOR.** 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (B88) terminal and chassis ground. ***Connector & terminal*** ***(B88) No. 1 (+) — Chassis ground (–):***	Is the voltage approx. 5 V?	Go to step **6**.	Go to step **3**.
3	**CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.** 1) Turn the ignition switch to OFF. 2) Remove the auto A/C control module. 3) Turn the ignition switch to ON. 4) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 13 (+) — No. 15 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **6**.
4	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from auto A/C control module. 3) Measure the resistance of harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B88) No. 2 — (B282) No. 15:***	Is the resistance less than 1 Ω?	Go to step **5**.	Repair the open circuit of harness between auto A/C control module and evaporator sensor.
5	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND EVAPORATOR SENSOR.** Measure the resistance of harness between auto A/C control module and evaporator sensor. ***Connector & terminal*** ***(B88) No. 1 — (B282) No. 13:***	Is the resistance less than 1 Ω?	Go to step **6**.	Repair the open circuit of harness between auto A/C control module and evaporator sensor.
6	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

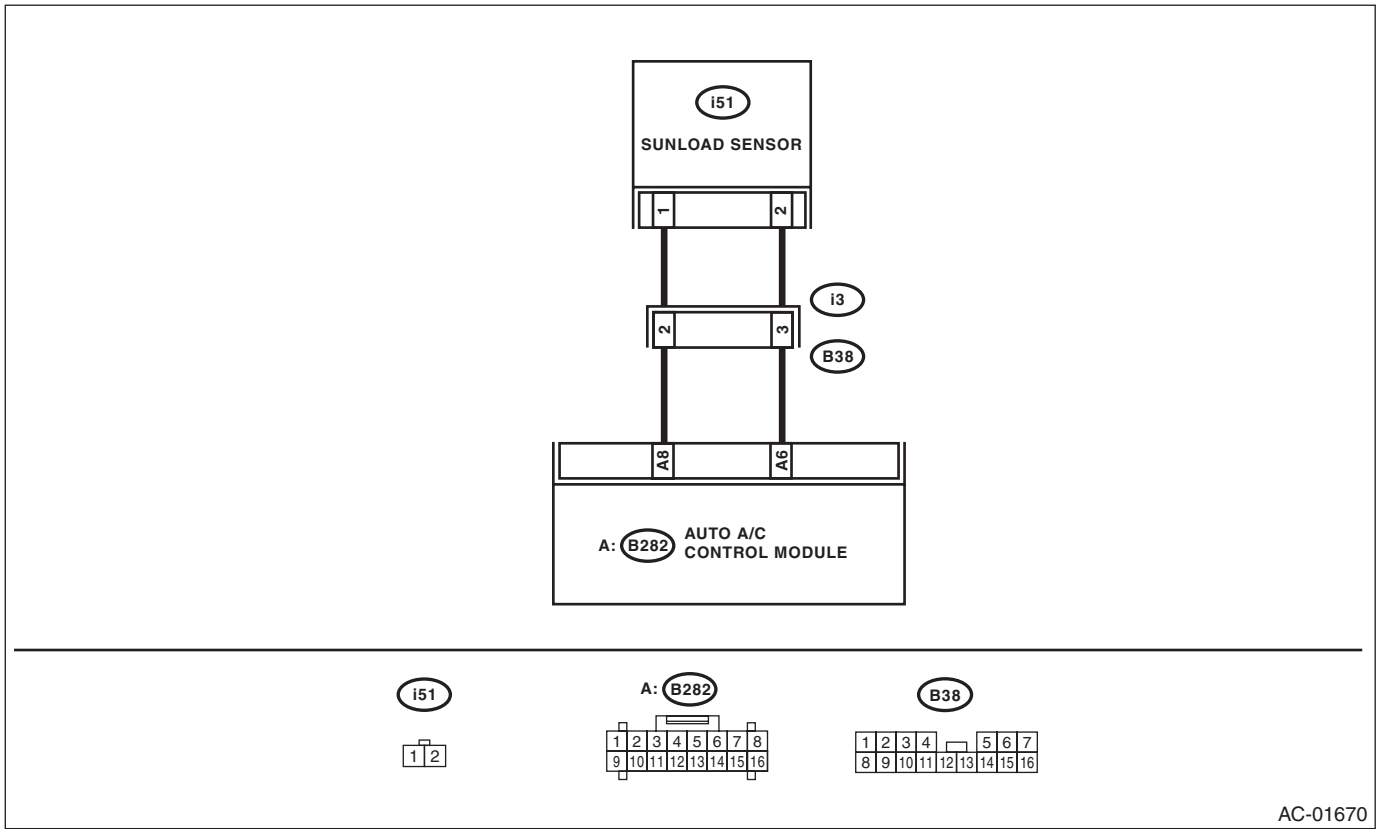
D: SUNLOAD SENSOR

TROUBLE SYMPTOM:

- Sensor identifies that sunlight is at maximum. Then, A/C system is controlled to COOL side.
- Sensor identifies that sunlight is at minimum. Then, A/C system is controlled to HOT side.

NOTE:
When the sunload sensor check is performed indoors or in the shade, it could be diagnosed as having an open circuit. Always check the sunload sensor with the sun shining on it.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POWER SUPPLY VOLTAGE FOR SUNLOAD SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from sunload sensor. 3) Turn the ignition switch to ON. 4) Measure the power supply voltage for sunload sensor. ***Connector & terminal*** ***(i51) No. 1 (+) — No. 2 (–):***	Is the voltage approx. 5 V?	Go to step **4**.	Go to step **2**.
2	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from auto A/C control module. 3) Measure the resistance of harness between auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 2 — (B282) No. 6:***	Is the resistance less than 1 Ω?	Go to step **3**.	Repair the harness between auto A/C control module and sunload sensor.
3	**CHECK HARNESS CONNECTOR BETWEEN AUTO A/C CONTROL MODULE AND SUNLOAD SENSOR.** Measure the resistance of harness between auto A/C control module and sunload sensor. ***Connector & terminal*** ***(i51) No. 1 — (B282) No. 8:***	Is the resistance less than 1 Ω?	Go to step **4**.	Repair the harness between auto A/C control module and sunload sensor.
4	**CHECK INPUT VOLTAGE FOR AUTO A/C CONTROL MODULE.** 1) Connect the connectors of sunload sensor and auto A/C control module. 2) Turn the ignition switch to ON. 3) Measure the voltage between connector terminals of auto A/C control module. ***Connector & terminal*** ***(B282) No. 8 (+) — (B282) No. 6 (–):***	Is the voltage approx. 3.0 V?	Go to step **5**.	Replace the sunload sensor. <Ref. to AC-49, REMOVAL, Sunload Sensor (Auto A/C Model).>
5	**CHECK POOR CONTACT.** Check poor contact of auto A/C control module connector.	Is there poor contact in connector?	Repair the connector.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>

9. Diagnostics with Phenomenon

A: INSPECTION

Symptom	Problem parts
A/C system fails to operate.	• Fuse (M/B No. 15, F/B No. 7, 22, 31) • Connector (Poor contact) • Ground • Auto A/C control module • Blower fan motor • Blower fan relay • A/C relay • Compressor (Magnet clutch) • Evaporator sensor
Fuse is blown out.	• Fuse (M/B No. 8, F/B No. 22, 31) • Connector (Poor contact)
Illumination cannot dim.	• Fuse (M/B No. 8, F/B No. 22, 31) • Connector (Poor contact) • Illumination control switch • Auto A/C control module • Body integrated unit
Blower fan does not rotate or fan speed cannot be controlled.	• Fuse (F/B No. 22, 27, 28) • Connector (Poor contact) • Ground • Auto A/C control module • Blower fan motor • Blower fan relay • Power transistor or blower resistor
Unable to switch suction vents.	• Connector (Poor contact) • Auto A/C control module • Intake door actuator
Unable to switch blow vents.	• Connector (Poor contact) • Auto A/C control module • Mode door actuator
The compartment temperature does not rise. (Warm air not emitted.)	• Connector (Poor contact) • Auto A/C control module • Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body
The compartment temperature does not lower. (Cold air not emitted.)	• Connector (Poor contact) • Auto A/C control module • Air mix door actuator • A/C relay • Compressor (Magnet clutch) • Radiator fan motor • Radiator fan relay • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body
Compartment temperature is higher or lower than setting temperature.	• Auto A/C control module • Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body

Symptom	Problem parts
Compartment temperature does not quickly respond to setting temperature.	• Air mix door actuator • In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor • In-vehicle sensor aspirator hose • Aspirator body
Radiator fan does not rotate during A/C operation.	• Radiator fan motor • Radiator fan relay
Seat heater does not run.	• Seat thermistor • Seat heater relay • Seat heater • Auto A/C control module • Front control panel

AIRBAG SYSTEM

AB

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3.	Inspection Locations After a Collision	11
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7.	Curtain Airbag Module	18
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10.	Curtain Airbag Sensor	21
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1. General Description

A: SPECIFICATION

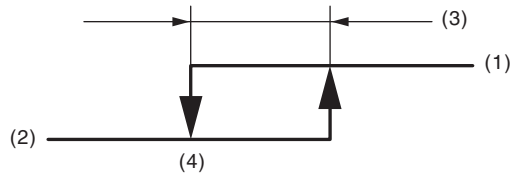
1. HEATER SYSTEM

Item		Specification	Condition
Heating capacity		5.2 kW (4,471 kcal/h, 17,743 BTU/h) or more	• Mode selector switch: HEAT • Temperature control switch: FULL 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		340 m^3 (11,301 cu ft)/h	Heat mode (FRESH), FULL HOT at 12.5 V
Max air flow rate		550 m^3 (16,245 cu ft)/h	• Temperature control switch: FULL COLD • Blower fan speed: 6th position • Mode selector lever: RECIRC
Heater core size (height × length × width)		264 × 110 × 27 mm (10.4 × 4.33 × 1.06 in)	—
Blower motor	Type	Brush motor 260 W or less	12 V
	Fan type and size (diameter × width)	Sirocco fan type 165 × 70 mm (6.50 × 2.76 in)	—

2. A/C SYSTEM

- Single A/C model (front only)

Item			Specification
Type of air conditioner			Reheat air-mix type
Cooling capacity			6.2 kW (5,331 kcal/h, 21,154 BTU/h)
Refrigerant			HFC-134a (CH_2FCF_3) 20 — 22 oz (0.57 — 0.63 kg, 1.26 — 1.39 lb)
Compressor		Type	Inclined plate (SWASH PLATE), fixed capacity (10SR17), Temperature fuse
		Exhaust	177 cc (10.80 cu in)/rev
		Max. permissible speed	6,000 rpm
Magnet clutch		Type	Dry, single-disc type
		Power consumption	35 W
		Type of belt	V-belt 6 PK
		Pulley dia. (effective dia.)	115 mm (4.53 in)
		Pulley ratio	1.24
Condenser		Type	Corrugated fin (Sub cool type)
		Core face area	0.29 m^2 (3.122 sq ft)
		Core thickness	16 mm (0.63 in)
		Radiation area	7.65 m^2 (82.35 sq ft)
Receiver drier		Effective inner capacity	280 cm^3 (17.1 cu in)
Expansion valve		Type	Box time (external pressure equalizing type)
Evaporator		Type	Single tank
		Dimensions (W × H × T)	293.1 × 211 × 38 mm (11.54 × 8.31 × 1.50 in)
Blower fan		Fan type	Sirocco fan
		Outer diameter × width	165 × 70 mm (6.50 × 2.76 in)
		Power consumption	260 W
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Idling speed (A/C ON)		MPFI model	800±100 rpm
Triple switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	196±20 kPa (2.00±0.20 kg/cm^2, 28.4±2.9 psi)
		OFF → ON	225^{+25}_{-29} kPa ($2.29^{+0.25}_{-0.30}$ kg/cm^2, $32.6^{+3.6}_{-4.2}$ psi)
	High-pressure switch operating pressure	ON → OFF	$3{,}140^{+50}_{-200}$ kPa ($32.02^{+0.51}_{-2.04}$ kg/cm^2, $455.4^{+7.25}_{-29.0}$ psi)
		OFF → ON	2,550±200 kPa (26.00±2.04 kg/cm^2, 369.8±29.0 psi)
	Middle-pressure switch operating pressure	ON → OFF	1,370±120 kPa (13.97±1.22 kg/cm^2, 198.65±17.35 psi)
		OFF → ON	1,770±80 kPa (18.05±0.82 kg/cm^2, 256.81±11.60 psi)

Item	Specification
Thermo-control amplifier working temperature (Evaporator outlet air)	 AC-00601 (1) ON (2) OFF (3) 1°C (33.8°F) (4) $1.5^{+8.0}$°C ($34.7^{+46.4}$°F)

- Dual A/C model (Front A/C and Rear cooler)

Item			Specification
Type of air conditioner		Front	Reheat air-mix type
		Rear	Cooler
Cooling capacity			7.2 kW (6,191 kcal/h, 24.56 BTU/h)
Refrigerant			HFC-134a (CH_2FCF_3) 30 — 32 oz (0.84 — 0.90 kg, 1.85 — 1.98 lb)
Compressor		Type	Inclined plate (SWASH PLATE), fixed capacity (10SR17), Temperature fuse
		Exhaust	177 cc (10.80 cu in)/rev
		Max. permissible speed	6,000 rpm
Magnet clutch		Type	Dry, single-disc type
		Power consumption	35 W
		Type of belt	V-belt 6 PK
		Pulley dia. (effective dia.)	115 mm (4.53 in)
		Pulley ratio	1.24
Condenser		Type	Corrugated fin (Sub cool type)
		Core face area	0.29 m^2 (3.122 sq ft)
		Core thickness	16 mm (0.63 in)
		Radiation area	7.65 m^2 (82.35 sq ft)
Receiver drier		Effective inner capacity	280 cc (17.1 cu in)
Expansion valve	Front	Type	Box time (external pressure equalizing type)
	Rear	Type	
Evaporator	Front	Type	Single tank
		Dimensions (W × H × T)	293.1 × 211 × 38 mm (11.54 × 8.31 × 1.50 in)
	Rear	Type	Single tank
		Dimensions (W × H × T)	132.1 × 181 × 38 mm (5.2 × 7.13 × 1.50 in)
Blower fan	Front	Fan type	Sirocco fan
		Outer diameter × width	165 × 70 mm (6.49 × 2.76 in)
		Power consumption	260 W
	Rear	Fan type	Sirocco fan
		Outer diameter × width	150 × 70 mm (5.91 × 2.76 in)
		Power consumption	150 W or less
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	200 W
		Fan outer diameter	320 mm (12.6 in)
Idling speed (A/C ON)		MPFI model	800±100 rpm

<table>
<tr><th colspan="3">Item</th><th>Specification</th></tr>
<tr><td rowspan="6">Triple switch (Pressure switch)</td><td rowspan="2">Low-pressure switch operating pressure</td><td>ON → OFF</td><td>196±20 kPa
(2.00±0.20 kg/cm^2, 28.4±2.9 psi)</td></tr>
<tr><td>OFF → ON</td><td>225^{+25}_{-29} kPa
($2.29^{+0.25}_{-0.30}$ kg/cm^2, $32.6^{+3.6}_{-4.2}$ psi)</td></tr>
<tr><td rowspan="2">High-pressure switch operating pressure</td><td>ON → OFF</td><td>$3{,}140^{+50}_{-200}$ kPa
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(13.97±1.22 kg/cm^2, 198.65±17.35 psi)</td></tr>
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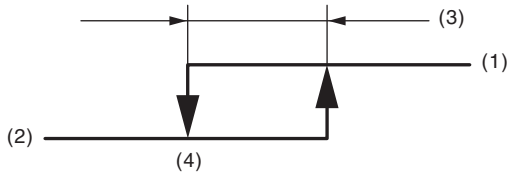
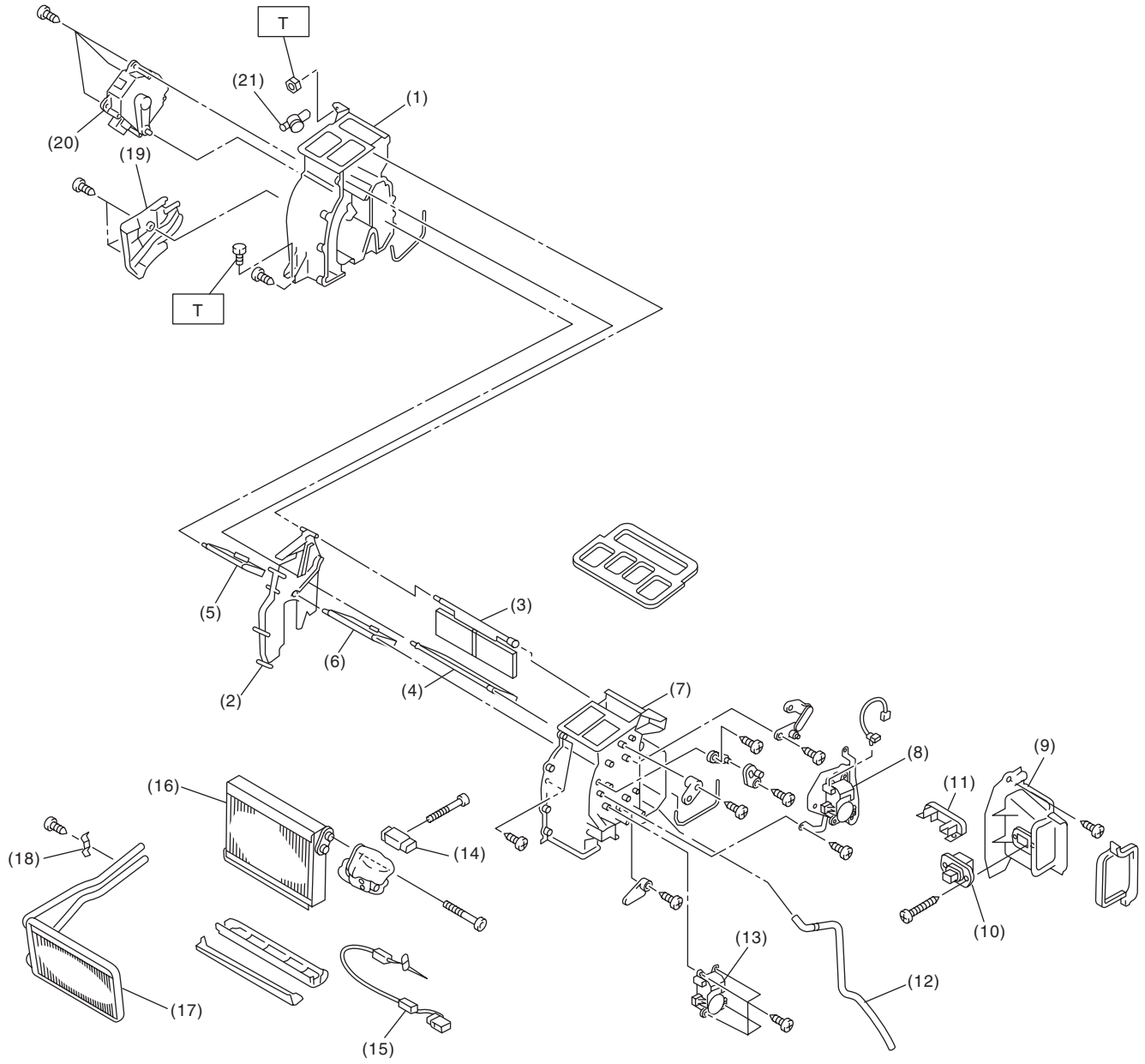
(18.05±0.82 kg/cm^2, 256.81±11.60 psi)</td></tr>
<tr><td colspan="3">Thermo-control amplifier working temperature
(Evaporator outlet air)</td><td> 

AC-00601
(1) ON
(2) OFF
(3) 1°C (33.8°F)
(4) $1.5^{+0.8}$°C ($34.7^{+46.4}$°F)</td></tr>
</table>

B: COMPONENT

1. HEATER COOLING UNIT



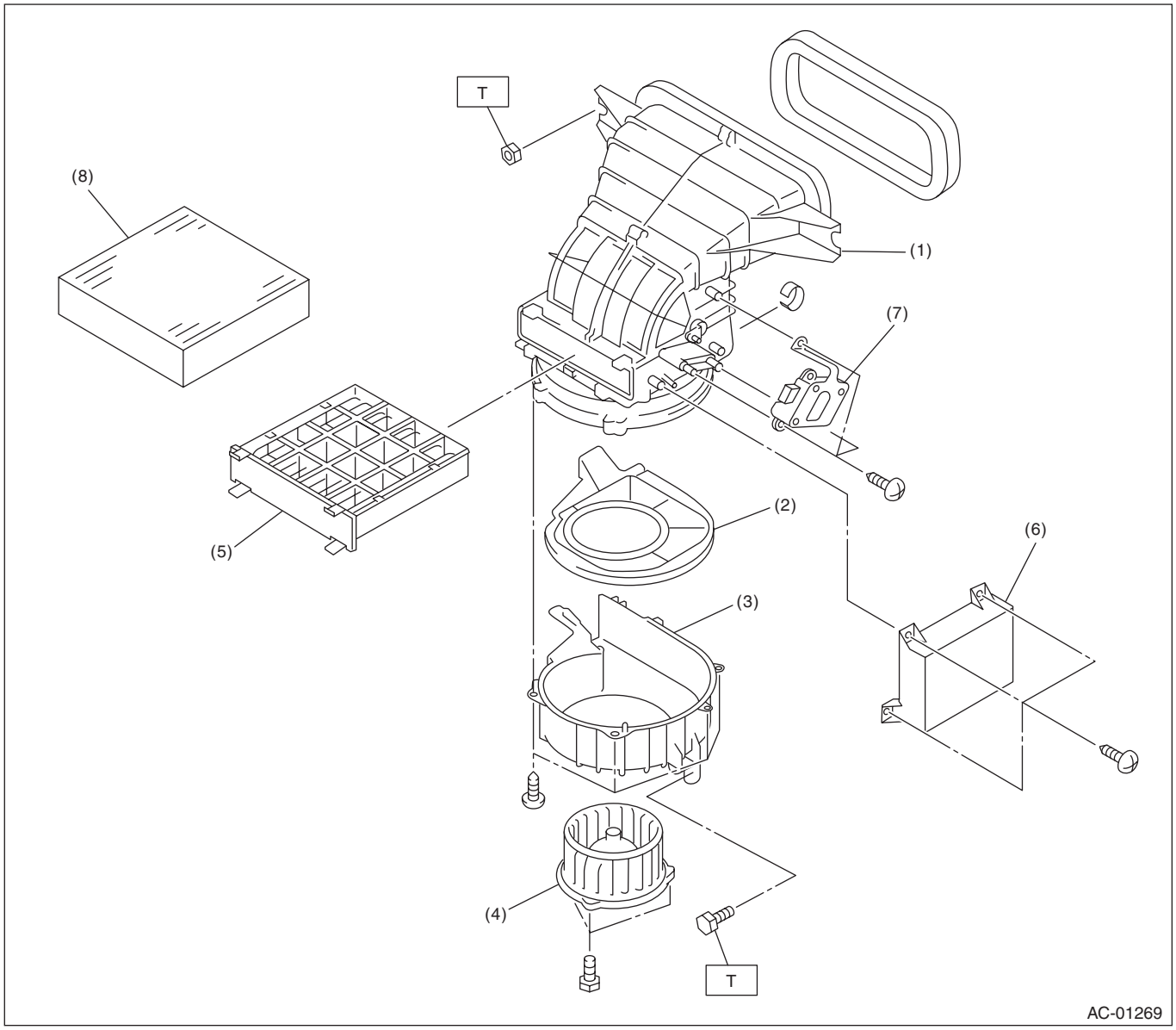
AC-01268

(1) Heater unit case LH
(2) Separator
(3) Mode door RR
(4) Mode door FR
(5) Air mix door LH
(6) Air mix door RH
(7) Heater unit case RH
(8) Mode door actuator
(9) Evaporator cover
(10) Power transistor
(11) Pipe cover
(12) Drain hose
(13) Air mix door actuator RH
(14) Expansion valve
(15) Evaporator sensor
(16) Evaporator
(17) Heater Core
(18) Heater pipe clamp
(19) Heater core cover
(20) Air mix door actuator LH
(21) Aspirator

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

2. BLOWER MOTOR UNIT

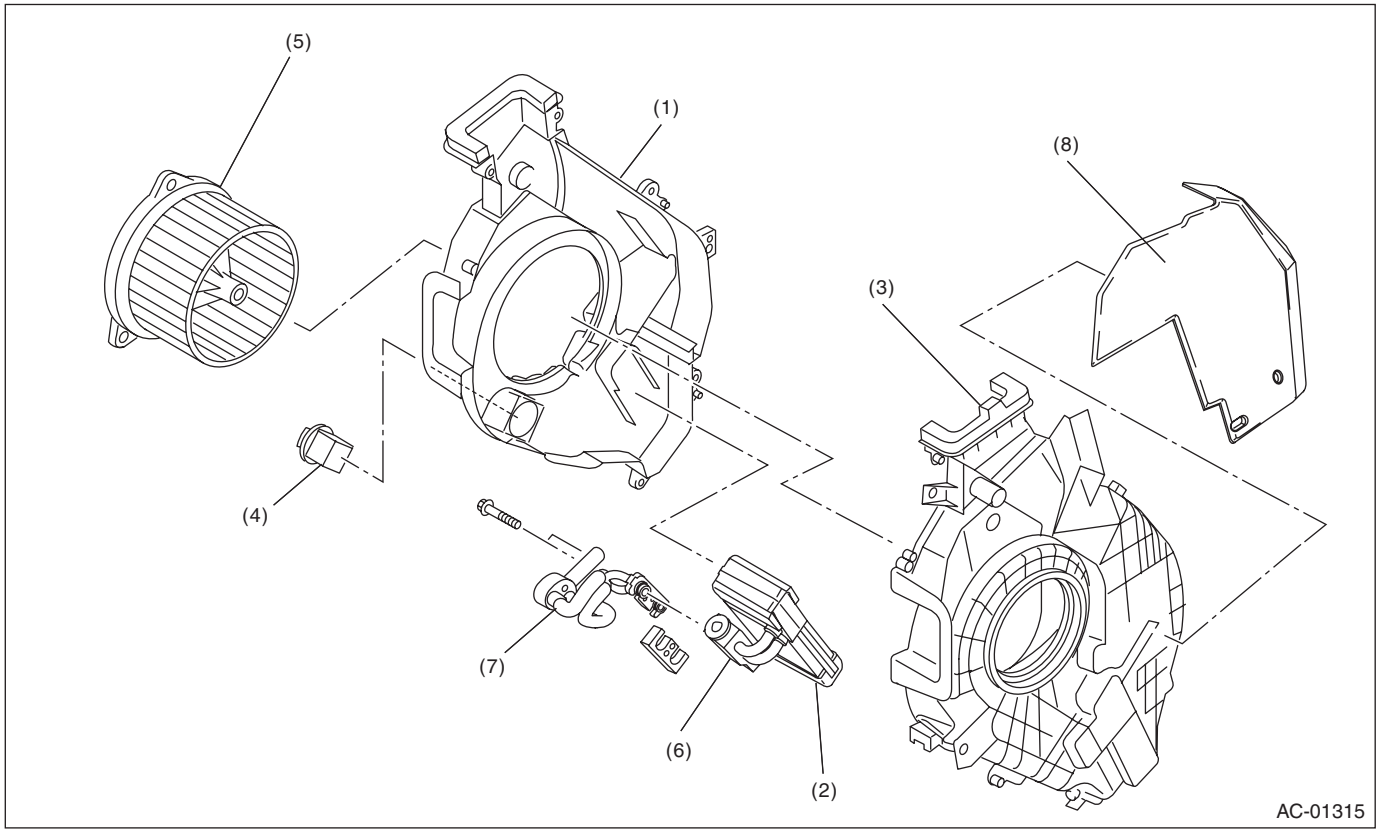
Front



(1) Upper case
(2) Blower plate
(3) Lower case
(4) Blower motor
(5) Filter cover
(6) Control unit (Auto A/C model)
(7) Intake door actuator
(8) Filter

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

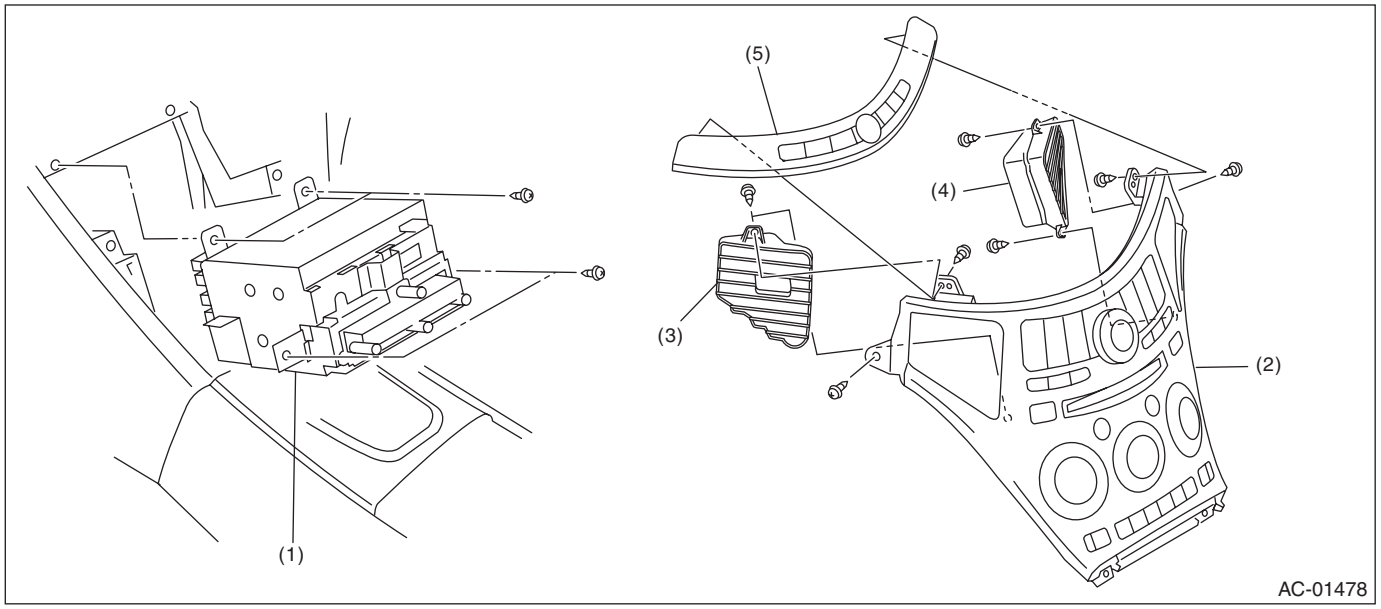
Rear



(1) Inner case
(2) Evaporator
(3) Outer case
(4) Blower resistor
(5) Blower motor
(6) Expansion valve
(7) Expansion tube
(8) Cover

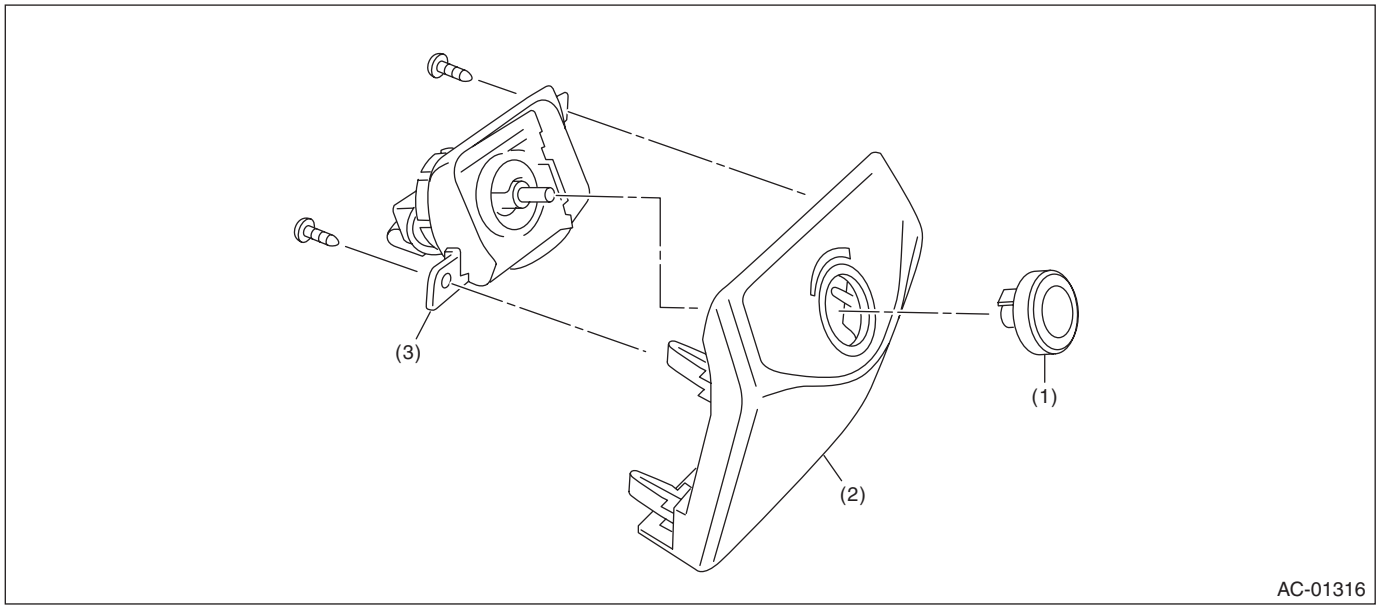
Tightening torque:N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

3. CONTROL PANEL



(1) Audio ASSY
(2) Control panel
(3) Center duct (RH)
(4) Center duct (LH)
(5) Navigation, MFD control switch

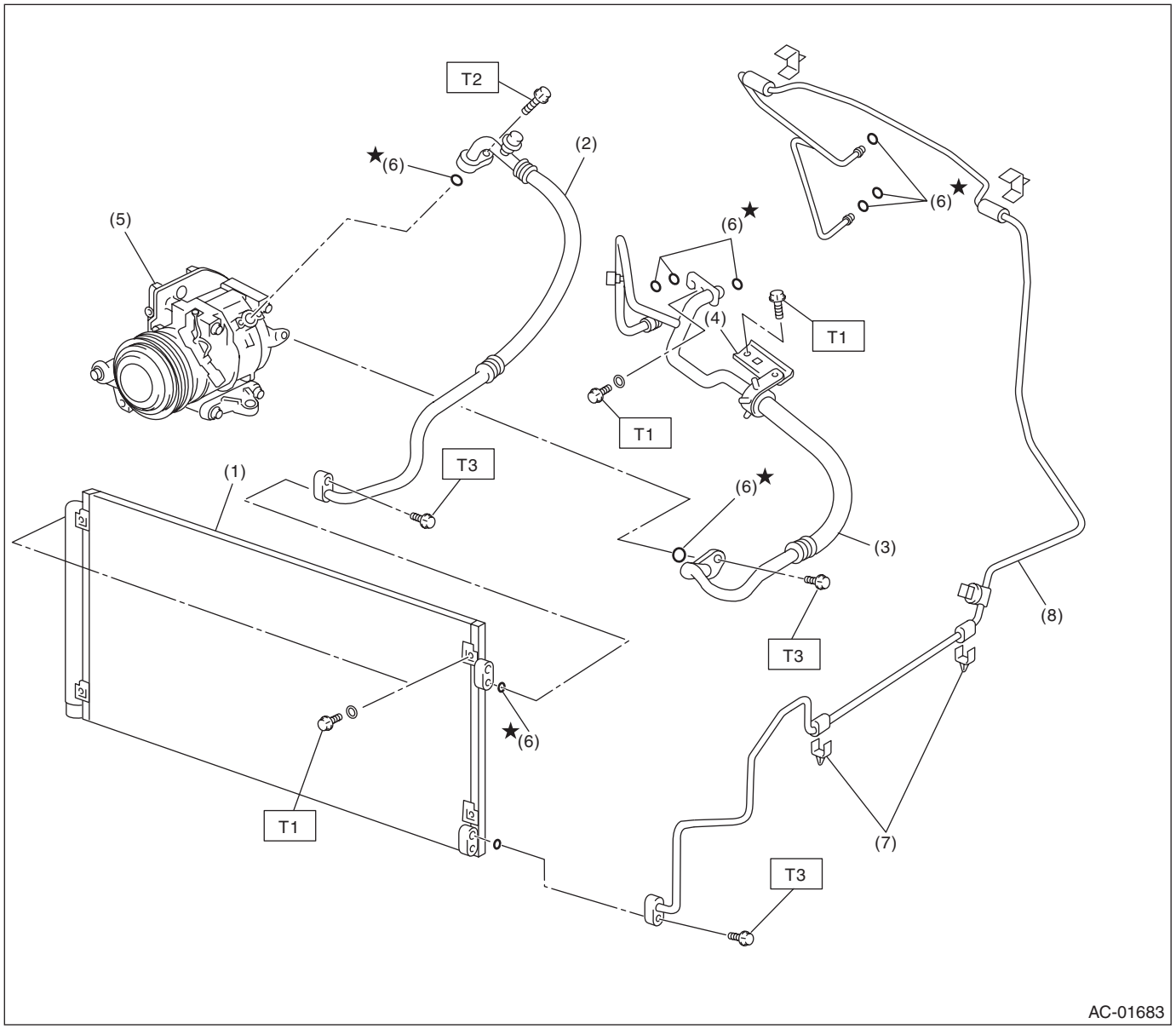
Rear cooler model



(1) Dial
(2) Control panel
(3) Blower switch

4. AIR CONDITIONING UNIT

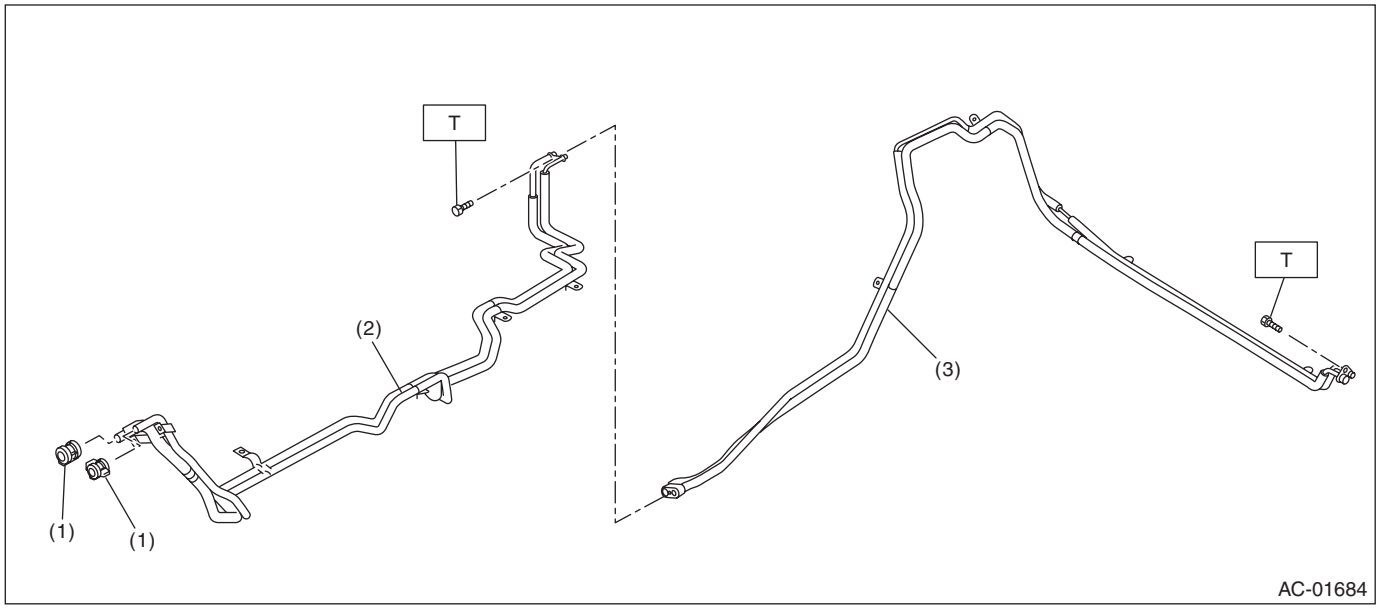
Front



(1)	Condenser	(5)	Compressor
(2)	Hose (High-pressure)	(6)	O-ring
(3)	Hose (Low-pressure)	(7)	Clamp
(4)	Bracket	(8)	Tube

Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 10 (1.0, 7.4)
T3: 5 (0.5, 3.7)

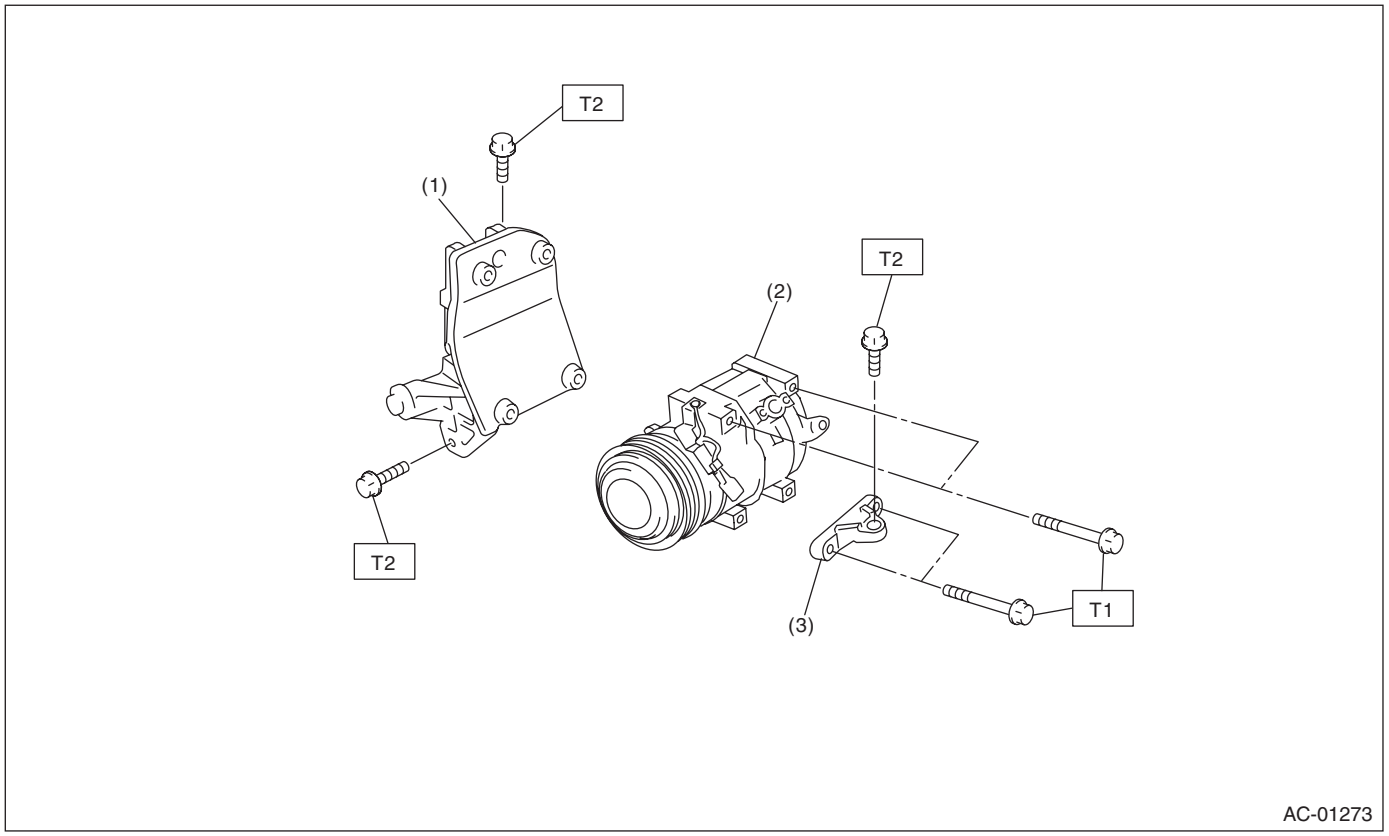
Rear



(1) Quick connector
(2) Front tube
(3) Rear tube

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

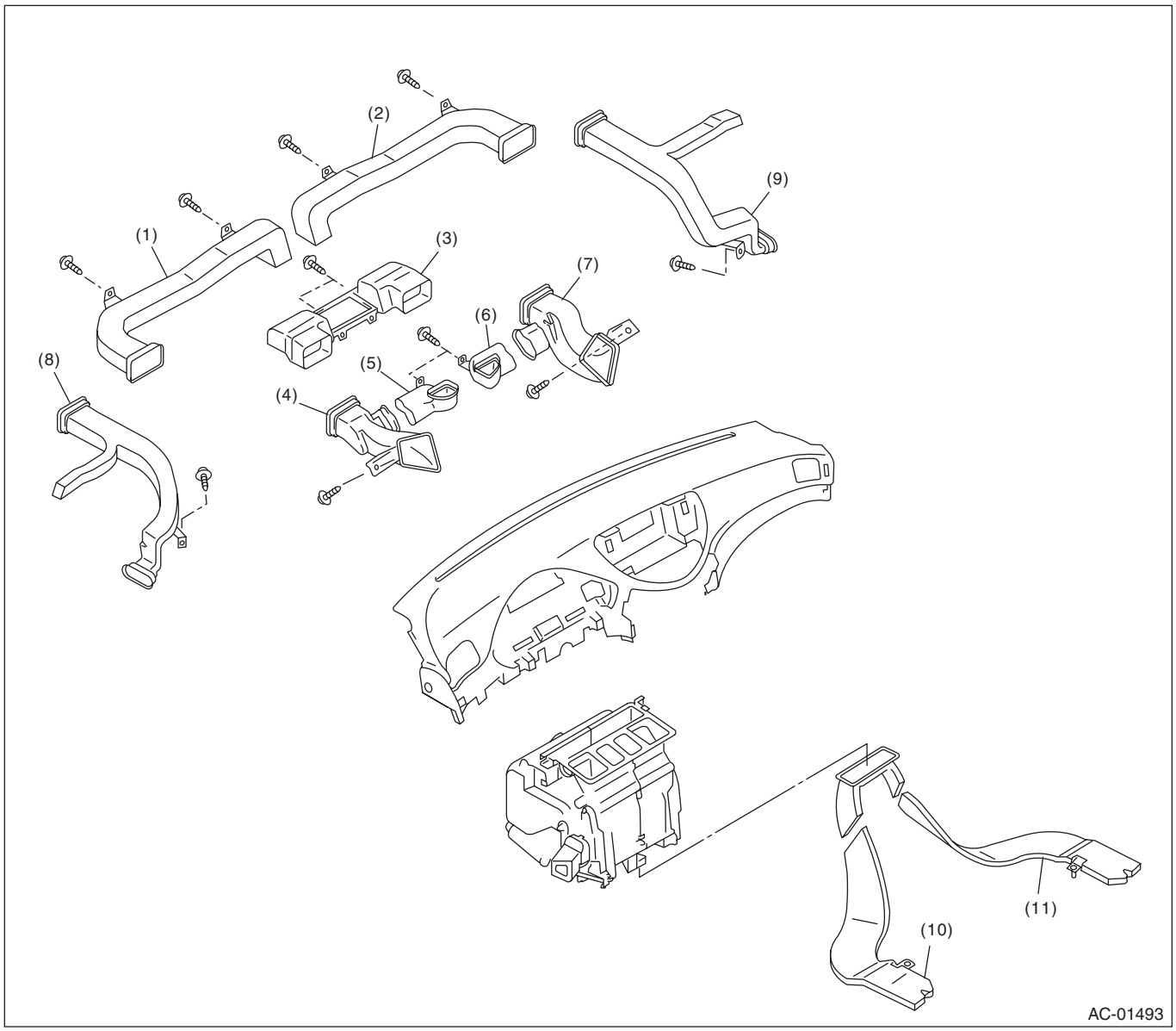
5. COMPRESSOR



(1) Compressor upper bracket
(2) Compressor
(3) Compressor lower bracket

Tightening torque:N·m (kgf-m, ft-lb)
T1: 26.5 (2.95, 21.3)
T2: 36 (3.7, 26.6)

6. HEATER DUCT

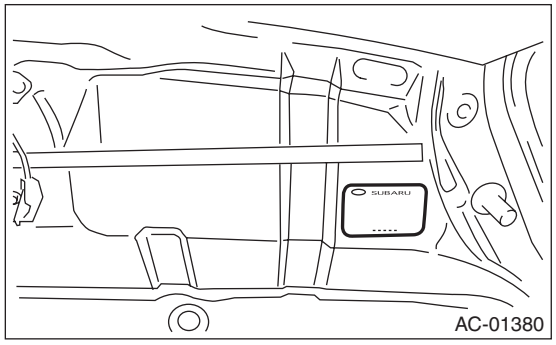


(1) Side ventilation duct (LH)
(2) Side ventilation duct (RH)
(3) Center ventilation duct
(4) Center duct (LH)
(5) Upper duct (LH)
(6) Upper duct (RH)
(7) Center duct (RH)
(8) Side defroster duct (LH)
(9) Side defroster duct (RH)
(10) Rear heater duct (LH)
(11) Rear heater duct (RH)

C: CAUTION

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 which A/C system is installed to the vehicle.



2. COMPRESSOR OIL

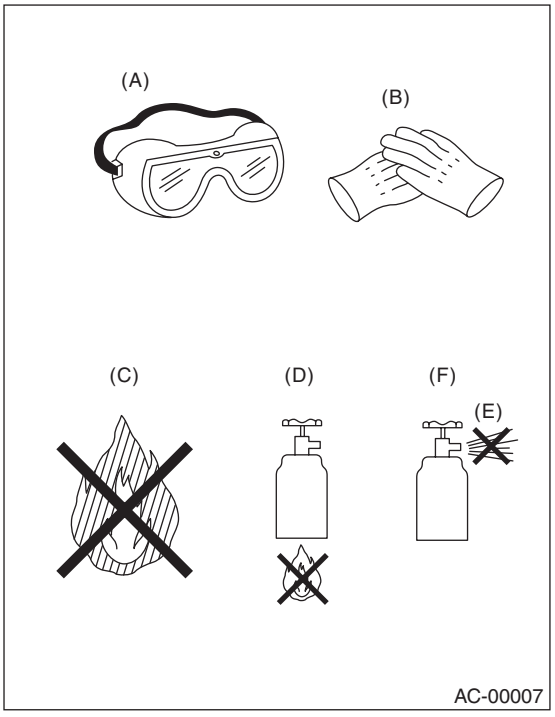
• HFC-134a compressor oil has no compatibility with that of CFC-12 system.
• Use only Denso Oil 8, the manufacturer-authorized compressor oil for the HFC-134a system.
• Do not mix multiple compressor oils.
If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may become stuck due to poor lubrication, or the refrigerant may leak due to swelling of rubber parts.
On the other hand, if HFC-134a compressor oil is used in a CFC-12 A/C system, the durability of the A/C system will be lowered.
• HFC-134a compressor oil is very hygroscopic. When replacing or installing/removing A/C parts, immediately isolate the oil from atmosphere using a plug or tape. In order to avoid moisture, store the oil in a container with its cap tightly closed.

3. REFRIGERANT

• CFC-12 refrigerant cannot be used in a HFC-134a A/C system. HFC-134a refrigerant, also cannot be used in a CFC-12 A/C system.
• If an incorrect or no refrigerant is used, it will result in poor lubrication and the compressor itself may be damaged.

4. HANDLING OF REFRIGERANT

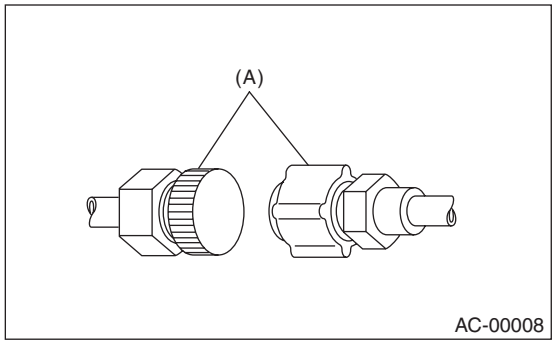
• The refrigerant boils at approx. –30°C (–22°F). When handling it, be sure to wear protective goggles and protective gloves. Direct contact of the refrigerant with skin may cause frostbite.
If the refrigerant gets into your eye, avoid rubbing your eyes with your hands. Wash your eye with plenty of water, and receive medical treatment from an eye doctor.
• Do not heat a service can. If a service can is directly heated, or put into boiling water, the inside pressure will become extremely high. This may cause the can to explode. If a service can must be warmed up, use warm water of 40°C (104°F) or less.
• Do not drop or subject a service can to impacts. (Observe the precautions and operation procedure described on the refrigerant can.)
• When the engine is running, do not open the high-pressure valve of the manifold gauge. High-pressure gas can 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) Avoid open flame
(D) No direct heat on container
(E) Do not discharge
(F) Loosen

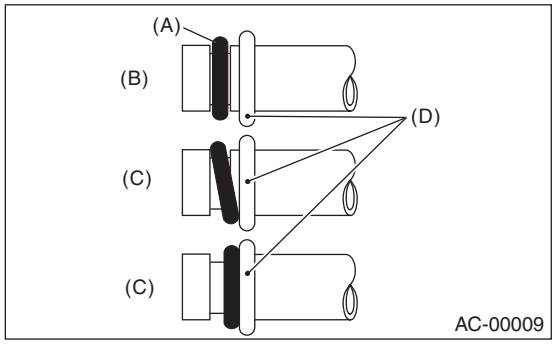
5. O-RING CONNECTIONS

- Always use a new O-ring.
- In order to keep the O-rings free of lint which can cause a refrigerant gas leak, perform operations without gloves and cloth.
- Apply compressor oil to O-rings to avoid sticking, before installation.
- Use a torque wrench to tighten the O-ring fittings. Over-tightening will cause damage to the O-ring and cause tube end distortion.
- If the work is interrupted before completing pipe connections, recap the tubes, components and fittings with a plug or tape to prevent foreign matter from entering.



(A) Seal

- 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 at a right angle to tube beads.

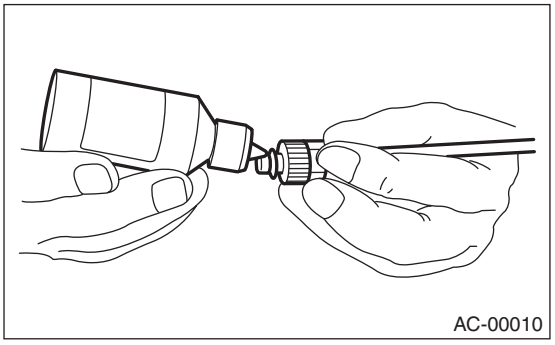


(A) O-ring
(B) OK
(C) NG
(D) Groove

- 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 grooves of the tube.



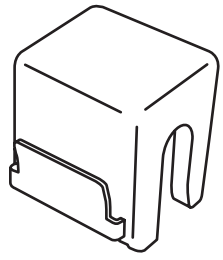
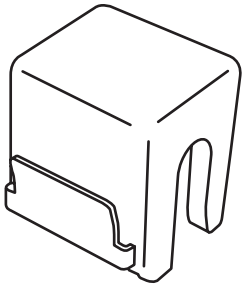
- After tightening, use a clean cloth to remove excess compressor oil from the connections and any oil which may have run on the vehicle body or other parts.
- If any leakage is suspected after tightening, do not tighten the connections further, but disconnect the connections, remove the O-rings, and check the O-rings, threads, and connections.

D: PREPARATION 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 tool and screw type and the type of service 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

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST73499XA00A	73499XA00A	S/T REMOVER PD	Used to disconnect the connector for a quick joint type air conditioner piping (high pressure side).
 ST73499XA01A	73499XA01A	S/T REMOVER PS	Used to disconnect the connector for a quick joint type air conditioner piping (high pressure side).

2. GENERAL TOOL

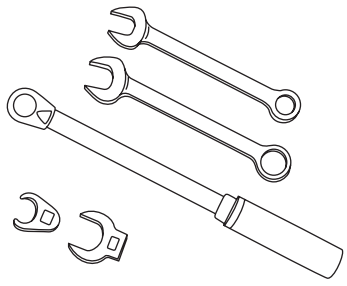
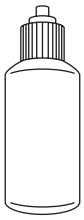
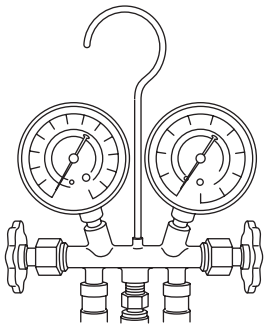
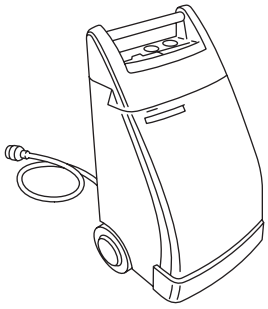
ILLUSTRATION	Name and Function
 AC-00213	Wrench Various **WRENCHES** will be required to service any A/C system. A 7 to 40 N·m (0.7 to 4.1 kg-m, 5 to 30 ft-lb) torque wrench and various crow-foot wrenches will be needed. Open end or flare nut wrenches will be needed to hold the tube and hose fittings.
 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 or drug store.
 AC-00013	Manifold gauge set A **MANIFOLD GAUGE SET** (with hoses) is available either from 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.

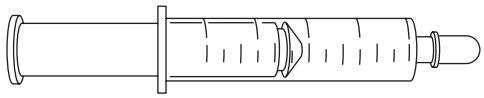
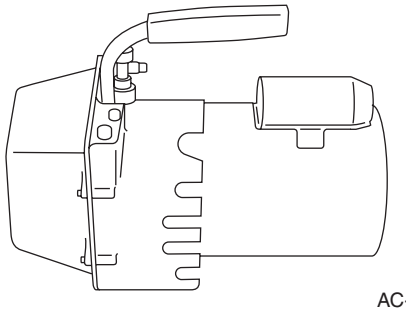
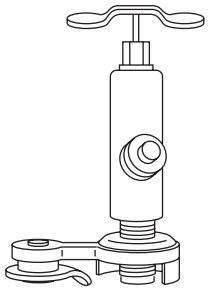
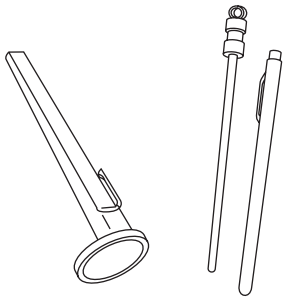
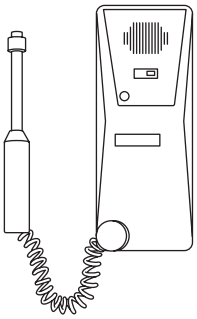
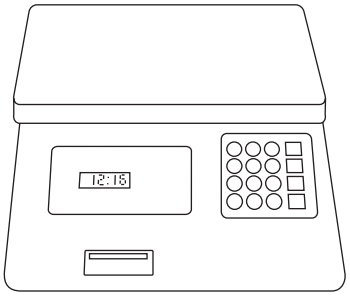
ILLUSTRATION	Name and Function
 AC-00015	Syringe A graduated plastic **SYRINGE** will be needed to add oil into the system again. A syringe can be available at a pharmacy or drug store.
 AC-00016	Vacuum pump A **VACUUM PUMP** is necessary (for a good working condition), and may be available either from a refrigerant supplier or an automotive equipment supplier.
 AC-00017	Can tap A **CAN TAP** for the 397 g (14 oz.) can is available from an automotive equipment supplier.
 AC-00018	Thermometer A pocket **THERMOMETER** is available either at a industrial hardware store or from a refrigerant supplier.
 AC-00019	Electronic leak detector An **ELECTRONIC LEAK DETECTOR** can be available either from a specialty tool supplier or an A/C equipment supplier.

ILLUSTRATION	Name and Function
 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. Refrigerant Pressure with Manifold Gauge Set

A: PROCEDURE

1) Place the vehicle in the shade and windless condition.
2) Connect the manifold gauge set.
3) Open all windows and close all doors.
4) Increase the engine to 1,500 rpm.
5) Turn on the A/C switch.
6) Turn the temperature control switch to MAX COOL.
7) Put in RECIRC position.
8) Turn the blower control switch to HI.
9) Read the gauge.

Standard:
Low pressure: 127 — 196 kPa
(1.3 — 2.0 kg/cm^2, 18 — 28 psi)
High pressure: 1,471 — 1,667 kPa
(15 — 17 kg/cm^2, 213 — 242 psi)
Ambient temperature: 30 — 35°C (86 — 95°F)

B: INSPECTION

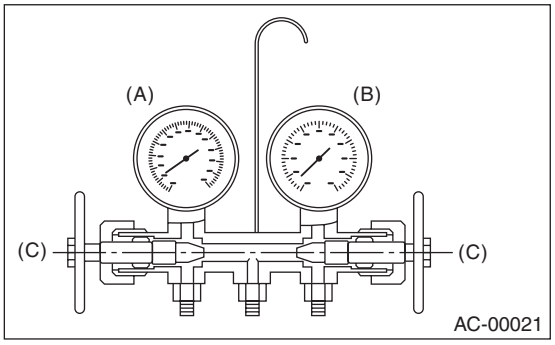
Symptom	Probable cause	Repair order
High-pressure side is unusually high.	• Defective condenser fan motor • Clogged condenser fin • Too much refrigerant • Air inside the system • Defective receiver dryer	• Replace the fan motor. • Clean the condenser fin. • Discharge refrigerant. • Replace the receiver dryer. • After evacuating again, charge an appropriate amount of refrigerant.
High-pressure side is unusually low.	• Defective compressor • Not enough refrigerant • Clogged expansion valve • Expansion valve frozen temporarily by moisture.	• Replace the compressor. • Check for leaks. • Replace the expansion valve. • Fully evacuate the expansion valve.
Low-pressure side is unusually high.	• Defective compressor • Defective expansion valve • Too much refrigerant	• Replace the compressor. • Replace the expansion valve. • Discharge refrigerant.
Low-pressure side is unusually low.	• Not enough refrigerant • Clogged expansion valve • Expansion valve frozen temporarily by moisture. • Saturated receiver dryer	• Check for leaks. • Replace the expansion valve. • Replace the receiver dryer.

3. Refrigerant Recovery Procedure

A: PROCEDURE

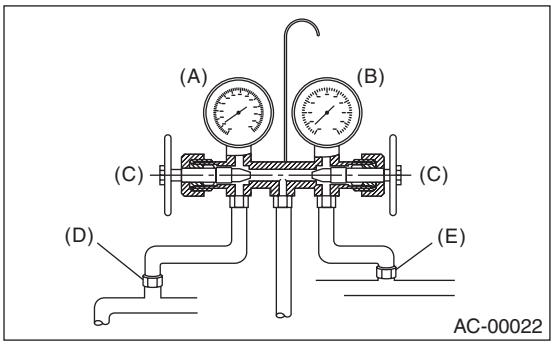
CAUTION:
• During operation, be sure to wear protective goggles and protective gloves.
• Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and recycle the gas.
• When recycling the discharged refrigerant, keep service cans on hand. Because 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) Perform the compressor oil return operation. <Ref. to AC-28, PROCEDURE, Compressor Oil.>
2) Stop the engine.
3) Make sure the valves on low-/high-pressure sides of manifold gauge set are fully closed.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

4) Install the low-/high-pressure hoses to the service ports on the low-/high-pressure sides of the vehicle respectively.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Low-pressure side service port
(E) High-pressure side service port

5) Connect the center hose to the refrigerant recovery system.
6) Follow the operation manual to activate the refrigerant recovery system.

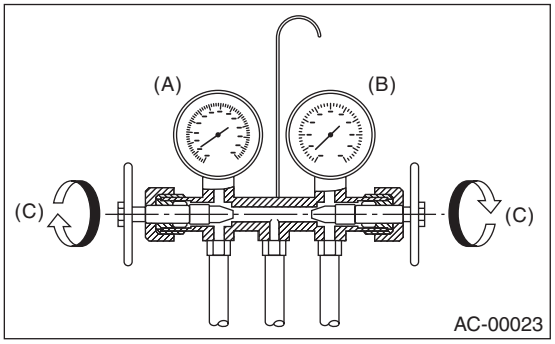
4. Refrigerant Charging Procedure

A: PROCEDURE

CAUTION:
• During operation, be sure to wear protective goggles and protective gloves.
• Before charging the refrigerant, evacuate the system to remove small amounts of moisture remaining in the system.
The moisture in the system can be completely evacuated only under the minimum vacuum level. The minimum vacuum level affects the temperature in the system.
• The list below shows the vacuum values necessary to boil water at various temperatures. In addition, the vacuum levels indicated on the gauge are approx. 3.3 kPa (25 mmHg, 0.98 inHg) lower than those measured at 304.8 m (1,000 ft) above sea level.

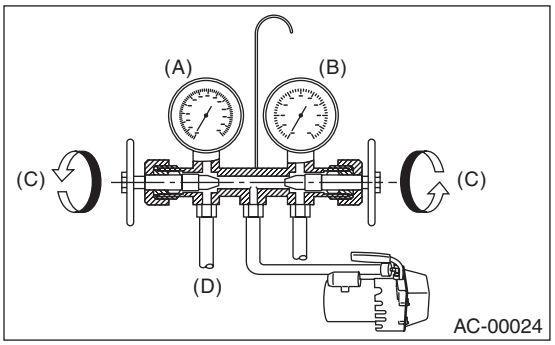
Vacuum level required to boil water (at sea level)	
Temperature	Vacuum
1.7°C (35°F)	100.9 kPa (757 mmHg, 29.8 inHg)
7.2°C (45°F)	100.5 kPa (754 mmHg, 29.7 inHg)
12.8°C (55°F)	99.8 kPa (749 mmHg, 29.5 inHg)
18.3°C (65°F)	99.2 kPa (744 mmHg, 29.3 inHg)
23.9°C (75°F)	98.5 kPa (739 mmHg, 29.1 inHg)
29.4°C (85°F)	97.2 kPa (729 mmHg, 28.7 inHg)
35°C (95°F)	95.8 kPa (719 mmHg, 28.3 inHg)

1) Close the valves on low-/high-pressure sides of the manifold gauge.



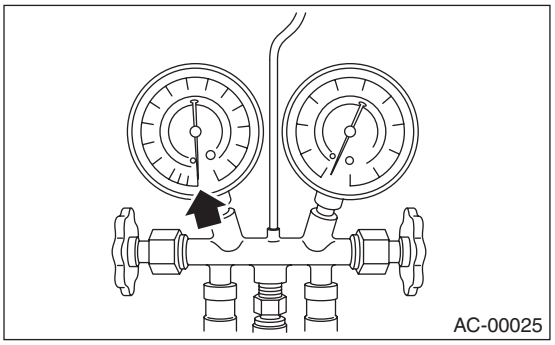
(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

2) Install the low-/high-pressure hoses to the corresponding service ports on the vehicle.
3) Connect the center hose of the manifold gauge set with the vacuum pump.
4) Carefully open the valves on the low-/high-pressure sides to activate the vacuum pump.

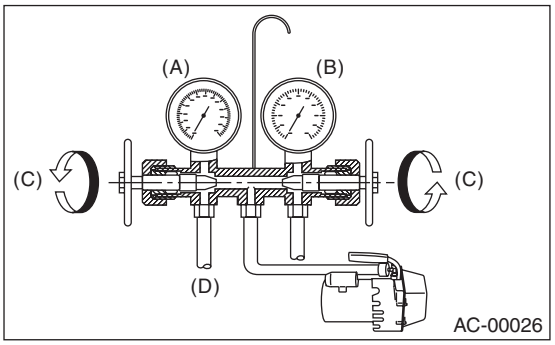


(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Slowly open
(D) Vacuum pump turn on

5) After the low-pressure gauge reaches 100.0 kPa (750 mmHg, 29.5 inHg) or higher, evacuate the system for approx. 15 minutes. (Continue evacuation).

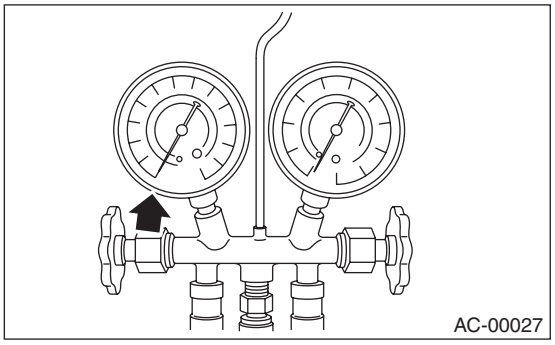


6) After 15 minutes of evacuation, if the reading shows 100.0 kPa (750 mmHg, 29.5 inHg) or higher, close the valves on the both sides to stop the vacuum pump.

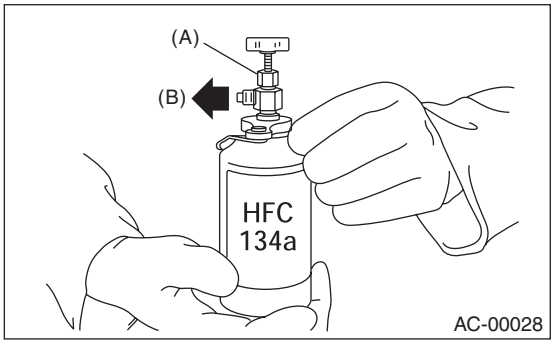


(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Vacuum pump turn off

7) Note the low-pressure gauge reading.

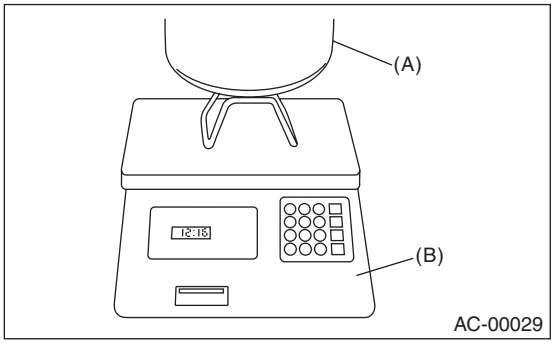


8) Leave it at least 5 minutes, and then check the low-pressure gauge reading for any changes.
If the gauge indicator shows near zero point, it is a sign of leakage. Check pipe connector points, repair them, and make sure there is no leakage.
9) Follow the can tap operation manual, install to the refrigerant can.



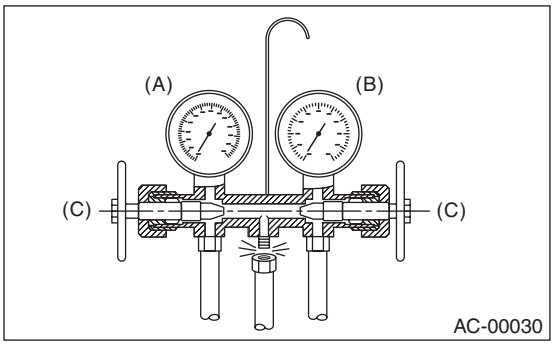
(A) Tap valve
(B) Center manifold hose

10) Disconnect the center manifold hose from the vacuum pump, and connect the hose to the tap valve.
11) When a 13.6 kg (30 lb) refrigerant container is used, measure the weight of the refrigerant amount to use using a scale.



(A) Refrigerant container (HFC-134a)
(B) Scale

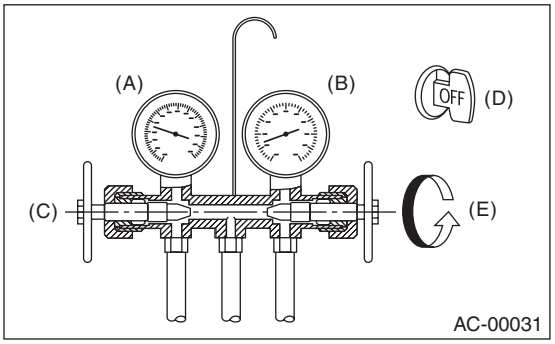
12) Confirm that all the 3 hoses are connected securely to the manifold gauge set.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

13) Open the valve on the HFC-134a source.
14) Loosen the center hose connection on the manifold gauge set (if applicable, press a purge valve on the manifold gauge set) for a few seconds to discharge the air in the center hose by the refrigerant pressure.
15) Stop the engine and carefully open the high-pressure valve.

CAUTION:
Do not open the low-pressure valve.

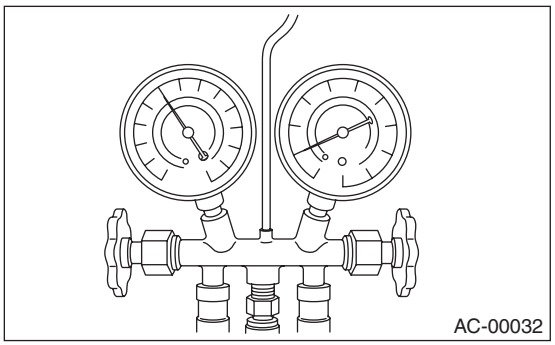


(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Ignition switch OFF
(E) Slowly open

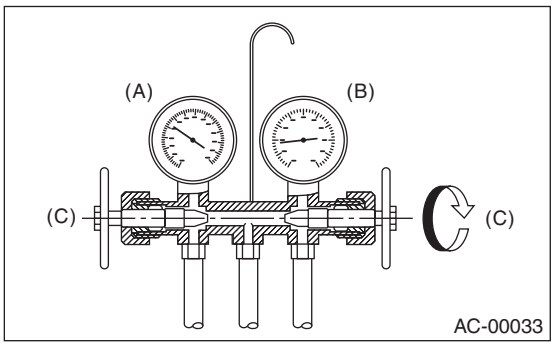
CAUTION:
Never run the engine while charging from the high-pressure side.

16) Close the high-pressure valve when the low-pressure gauge reaches 98 kPa (1 kg/cm^2, 14 psi). Using a leak tester, check the system for leaks.
If any leakage is found after the refrigerant recovery is completed, repair the applicable area.
17) After confirming that there are no leaks with the leak test, charge the required amount of refrigerant.

CAUTION:
Never run the engine while charging from the high-pressure side.
18) Close the high-pressure valve when;
• the readings of low- / high-pressure gauges become almost equal, after the charging speed is reduced,
• the HFC-134a source becomes empty, or the system is full with the gas.



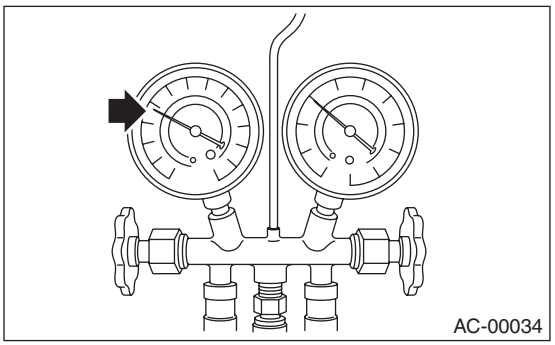
19) If the HFC-134a source is empty, close the high-pressure valve, close the valve on the can tap, and replace the HFC-134a source with a new part to restart the operation.



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

NOTE:
When replacing HFC-134a source with a new part, loosen the center hose connection on the manifold gauge set (if applicable, press a purge valve on the manifold gauge set) for a few seconds to discharge the air in the center hose by the refrigerant pressure.
20) Confirm that both the low- / high-pressure valves can be closed. Start the engine with the A/C switch OFF.
21) Quickly repeat ON-OFF cycles a few times to prevent initial compressor damage.
22) Set up the vehicle as follows:
• A/C switch ON
• Engine running at 1,500 rpm
• Blower setting speed “HI” (For models with rear coolers, also turn the rear cooler fan switch to “HI”)
• Temperature setting to “MAX COOL”
• Air inlet setting to “RECIRC”
• Window open
23) While reading the low-pressure gauge, carefully open the low-pressure valve with the refrigerant source connected and the service hose purged.

CAUTION:
Never open the high-pressure valve with the engine running. The high-pressure gas will backflow resulting in an explosion of the can.



24) Adjust the refrigerant flow to maintain the pressure on the low-pressure side at 276 kPa (2.81 kg/cm^2, 40 psi) max.
25) After the system is fully charged, close the low-pressure valve.
26) Close the valve on the refrigerant source.

Refrigerant amount		
Refrigerant (HFC-134a)	Minimum	Maximum
Single A/C model	20 OZ (0.57 kg, 1.26 lb)	22 OZ (0.63 kg, 1.39 lb)
Dual A/C model	30 OZ (0.84 kg, 1.85 lb)	32 OZ (0.90 kg, 1.98 lb)

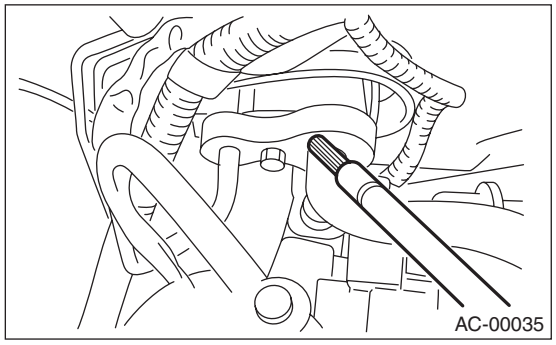
27) Disconnect the hose from the service port, and install the service port cap.

5. Refrigerant Leak Check

A: INSPECTION

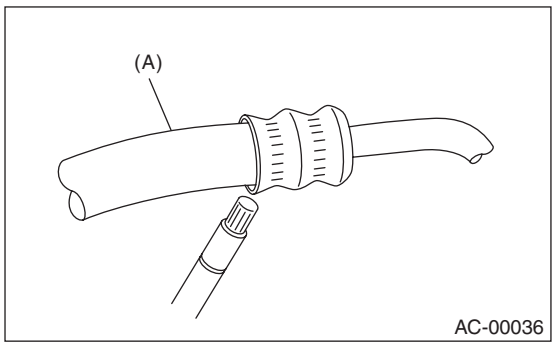
1) At engine speed below 1500 rpm, operate the A/C system for approx. 10 minutes, and confirm that the high-side pressure shows at least 690 kPa (7.03 kg/cm^2, 100 psi). Then stop the engine to start the leak test.
2) Starting from the connection between high-pressure pipe and evaporator, check the system for leaks along the high-pressure side through the compressor. The following items must be checked thoroughly.
3) Check the joint and seam between pressure switch (triple pressure switch) and high-pressure pipe.
4) Check the connections between condenser and pipes, and welded joints on the condenser.
The leak tester may detect the oil on the condenser fins as a leak.
5) Check the joint between compressor and hoses.
6) Check the machined area of the compressor and other joints on the compressor.
7) Check the compressor shaft seal at the area near the center of compressor clutch pulley.
Some shaft seals show a slight amount of leakage, about 3 g (0.1 oz) per year. This is not a problem.
8) Starting from the connection between low-pressure pipe and evaporator, check the system for leakage along the low-pressure side through the compressor. The following items must be checked thoroughly.

- Connection between 2 parts
- Connection between pipe and plate
- Connection between pipes



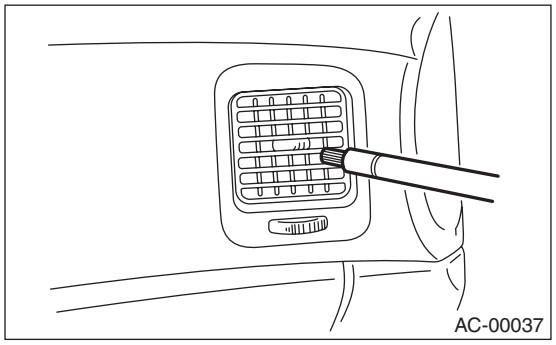
9) Visually check the rubber area of the flexible hose for cracks.
Check the entire length of the flexible hose, especially the connection with the metal hose end.

CAUTION:
Carefully check the external surface of hoses and tubes at approx. 25 mm (0.98 in) per second.



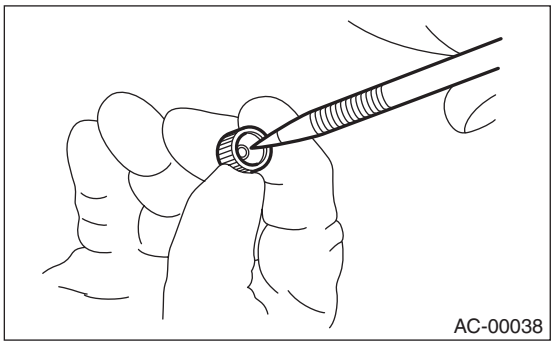
(A) Flexible hose

10) Disconnect the drain hose from the heater case, and check the hose end for at least 10 seconds.
After the test is finished, reconnect the drain hose.
11) Turn the ignition key to the ON position, and run the blower at high speed for approx. 1 minute. Stop the blower to check the ventilation 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 point for at least 10 seconds.



12) Check the valve in the service port.

13) Visually check the rubber seal in the service port cap.



6. Compressor Oil

A: PROCEDURE

NOTE:
Before making repairs, perform the oil return operation to return the compressor oil in circulation with the refrigerant to the compressor.
1) Increase the engine to 1,500 rpm.
2) Turn on the A/C switch.
3) Turn the temperature control switch to MAX COOL.
4) Put in RECIRC position.
5) Turn the blower control switch to HI. (For models with rear coolers, also turn the rear cooler fan switch to HI)
6) Leave in this condition for 10 minutes.

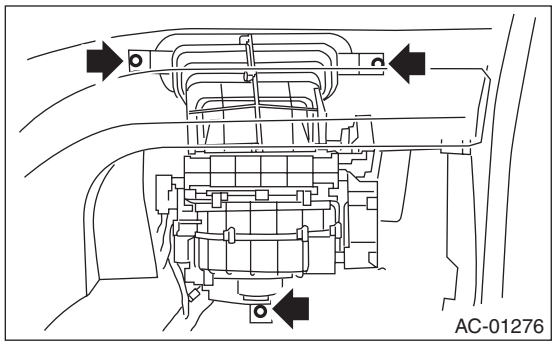
B: REPLACEMENT

NOTE:
• If a component has been replaced, add an appropriate amount of compressor oil (same as the amount of remaining oil in removed component).
• When replacing the compressor, the new compressor will already have the specified amount of oil in it. Install the new compressor after removing the same amount of oil that is remaining in the compressor removed.

7. Blower Motor Unit Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
3) Disconnect the connectors of the A/C control module, intake door actuator, blower motor, power transistor and blower resistor.
4) Lift the floor mat.
5) Loosen the bolt and nut to remove blower motor unit assembly.



B: INSTALLATION

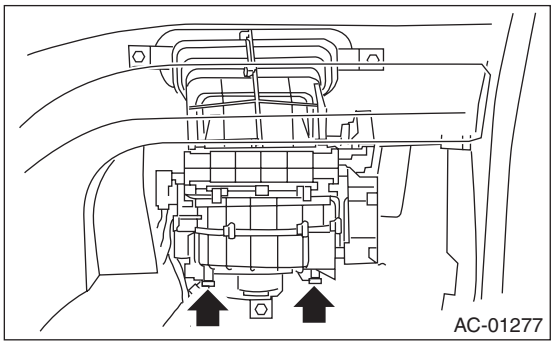
Install in the reverse order of removal.

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-7, HEATER COOLING UNIT, COMPONENT, General Description.> <Ref. to AC-9, BLOWER MOTOR UNIT, COMPONENT, General Description.>

8. Blower Motor

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box lower cover. <Ref. to EI-39, REMOVAL, Glove Box.>
3) Disconnect the connector of the blower motor.
4) Loosen the screw to remove the blower motor.

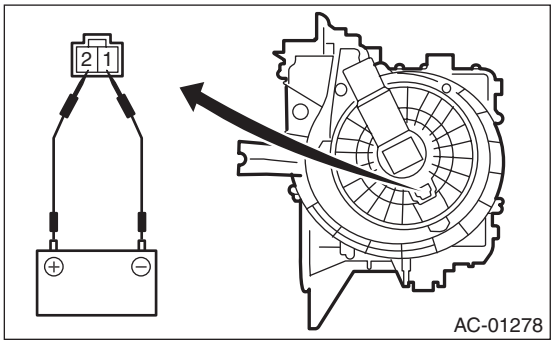


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

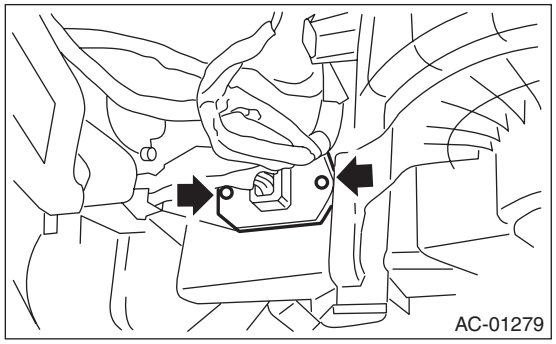
Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (–) terminal to terminal No. 1. Check the blower motor for smooth rotation.



9. Power Transistor (Auto A/C Model)

A: REMOVAL

1) Remove the glove box lower cover on the passenger's side. <Ref. to EI-39, REMOVAL, Glove Box.>
2) Disconnect the power transistor connector.
3) Remove the two screws and remove the power transistor.



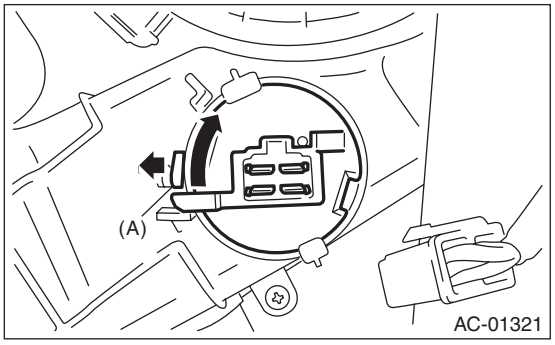
B: INSTALLATION

Install in the reverse order of removal.

10.Blower Resistor (Dual A/C Model)

A: REMOVAL

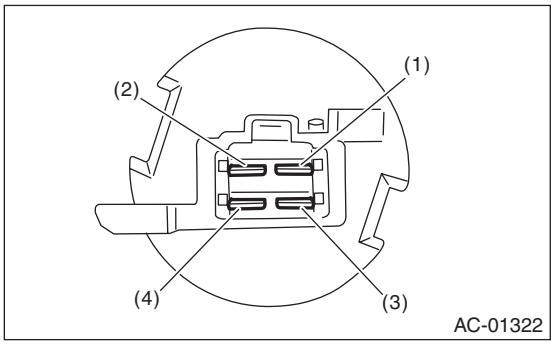
1) Remove the left rear quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
2) Disconnect the blower resistor connector.
3) Remove the lock (A) and rotate it to the right to remove the blower resistor.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION



Measure the blower resistor resistance.

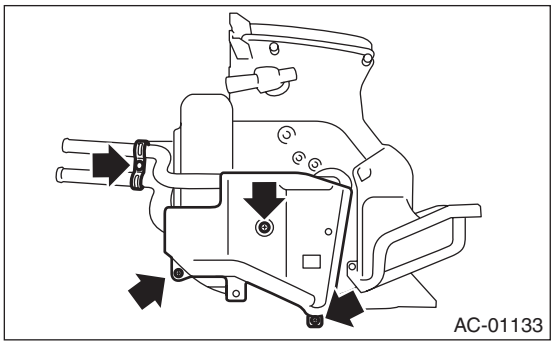
Terminal No.	Standard
1 and 3	Approximately 0.42 Ω
1 and 2	Approximately 1.42 Ω
4 and 1	Approximately 3.4 Ω

If NG, replace the blower resistor.

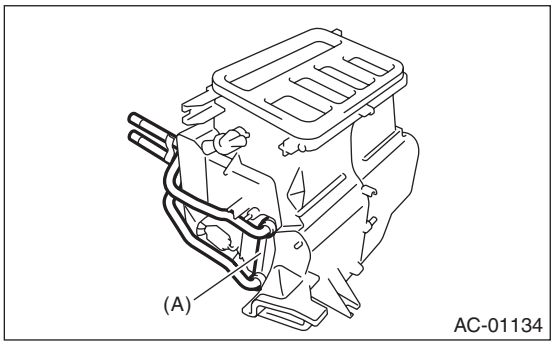
11.Heater Core

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Draw out the refrigerant with the refrigerant recovery unit. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the heater and cooling unit. <Ref. to AC-38, REMOVAL, Heater and Cooling Unit.>
4) Remove the screws and remove the heater core cover and pipe clamp.



5) Remove the heater core (A).



B: INSTALLATION

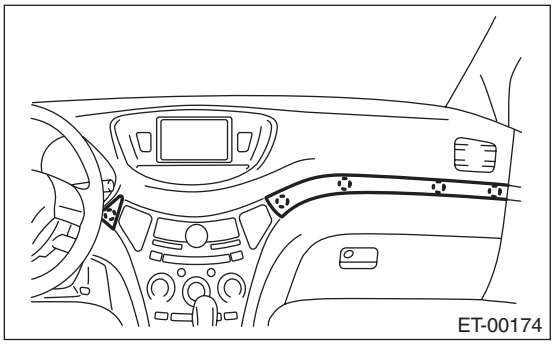
Install in the reverse order of removal.

12.Control Panel

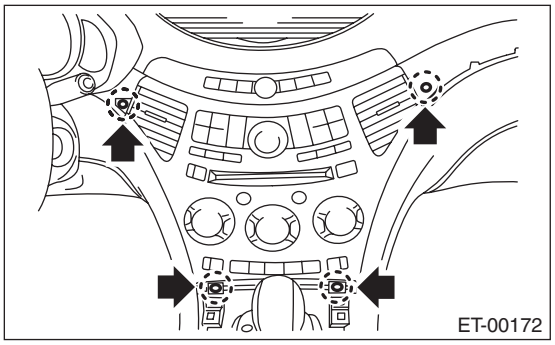
A: REMOVAL

1. FRONT

1) Disconnect the ground cable from the battery.
2) Remove the front console panel. <Ref. to ET-13, REMOVAL, Audio.>
3) Remove the instrument panel ornament and the driver's side and passenger's side inner panels.



4) Remove the screws, and pull out the control panel.



5) Disconnect the harness connectors and remove the front control panel.

2. REAR

1) Disconnect the ground cable from the battery.
2) Pull out the storage box from underneath the rear control panel.
3) Push out the panel from the back side.
4) Detach the connectors and remove the rear control panel.

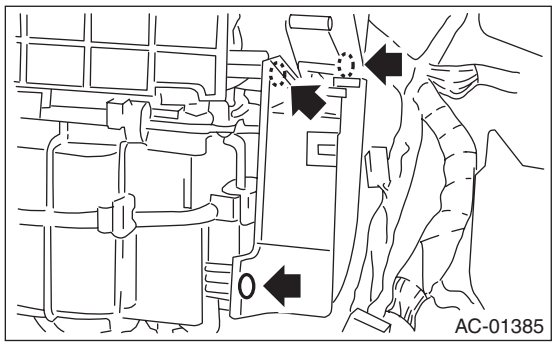
B: INSTALLATION

Install in the reverse order of removal.

13.Control Unit (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
3) Remove the screw, disconnect the connector and remove the control unit.



B: INSTALLATION

Install in the reverse order of removal.

14.Compressor

A: INSPECTION

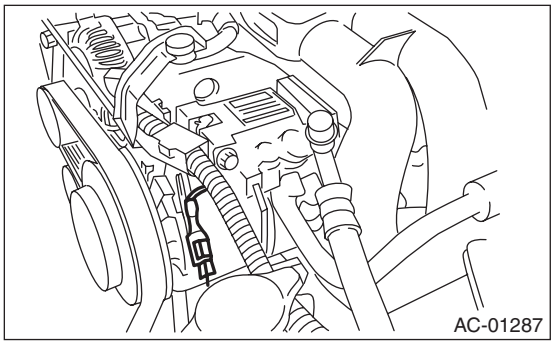
1. MAGNETIC CLUTCH CLEARANCE

Check the clearance of the entire circumference around the drive plate and pulley.

Standard:
0.45±0.15 mm (0.0177 ±0.0059 in)

2. MAGNETIC CLUTCH OPERATION

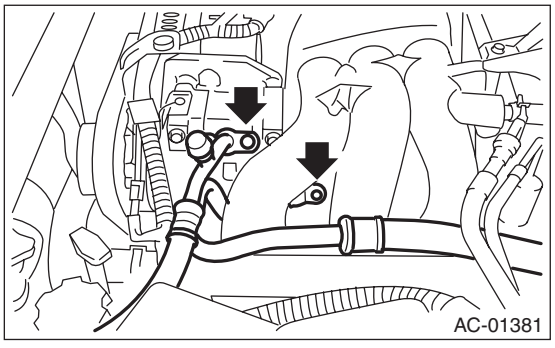
1) Disconnect the compressor connector.
2) Connect the battery positive (+) terminal to the compressor connector terminal, and the negative (–) terminal to the compressor body.


AC-01287

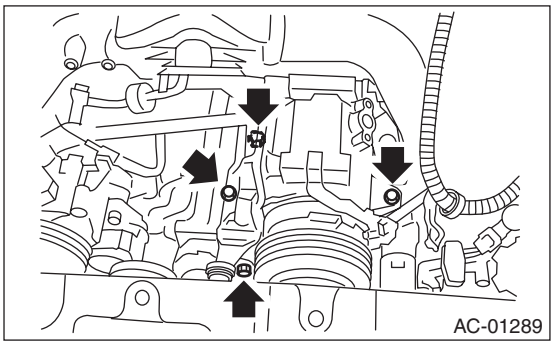
3) Check the magnet clutch engagement.
If there is a problem, replace the compressor.

B: REMOVAL

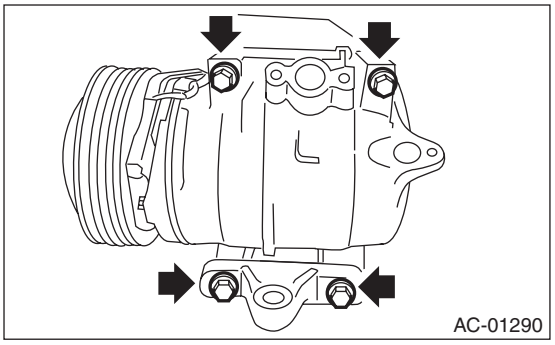
1) Perform the compressor oil return operation. <Ref. to AC-28, PROCEDURE, Compressor Oil.>
2) Turn the A/C switch to OFF and stop the engine.
3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from the battery.
5) Remove the V-belts. <Ref. to ME(H6DO)-46, REMOVAL, V-belt.>
6) Remove the generator. <Ref. to SC(H6DO)-17, REMOVAL, Generator.>
7) Remove the bolt and remove the low-pressure hose and high-pressure hose.


AC-01381

8) Disconnect the compressor harness from the body harness.
9) Remove the bolts and remove the compressor bracket.


AC-01289

10) Remove the bolts, then remove the bracket from the compressor.


AC-01290

C: INSTALLATION

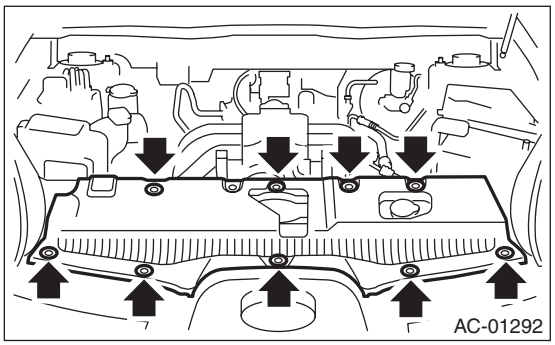
1) Install in the reverse order of removal.
2) Replace the O-rings on low-/high-pressure hoses with new parts, then apply compressor oil.
3) After replacing the compressor, adjust the amount of compressor oil. <Ref. to AC-28, PROCEDURE, Compressor Oil.>
4) Charge refrigerant. <Ref. to AC-23, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to AC-13, COMPRESSOR, COMPONENT, General Description.>

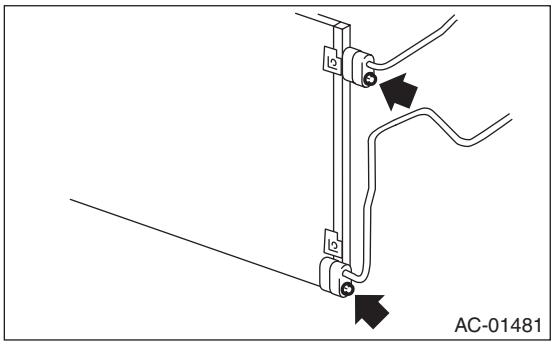
15.Condenser

A: REMOVAL

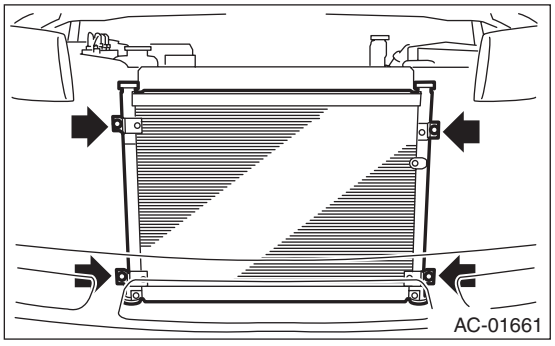
1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from the battery.
3) Remove the bumper upper cover.


AC-01292

4) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
5) Disconnect the pressure hose and pipe from the condenser.


AC-01481

6) Remove the 4 bolts, lift the condenser and pull out from the space between the radiator and bumper.


AC-01661

CAUTION:
• Be careful not to damage the condenser fins. If a damaged fin is found, repair it using a thin screwdriver.
• If the condenser is replaced, add an appropriate amount of compressor oil to the compressor. <Ref. to AC-28, REPLACEMENT, Compressor Oil.>

B: INSTALLATION

1) Install in the reverse order of removal.

CAUTION:
Replace the O-rings on hoses or pipes with new parts, and then apply compressor oil.
2) Charge refrigerant. <Ref. to AC-23, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>

C: INSPECTION

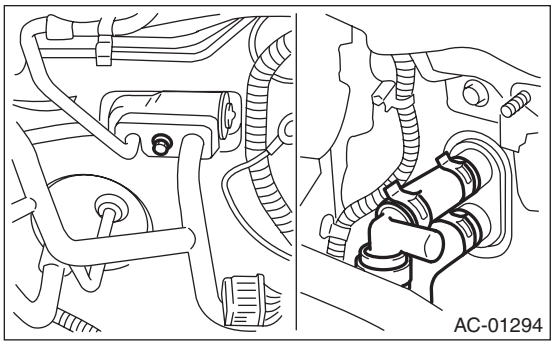
1) Check to see that the condenser fins are not clogged with debris or insects. Blow with compressed air or flush fins with water as needed.
2) Inspect for oil leakage from the condenser. If a failure is found, replace the condenser with a new part.

16.Heater and Cooling Unit

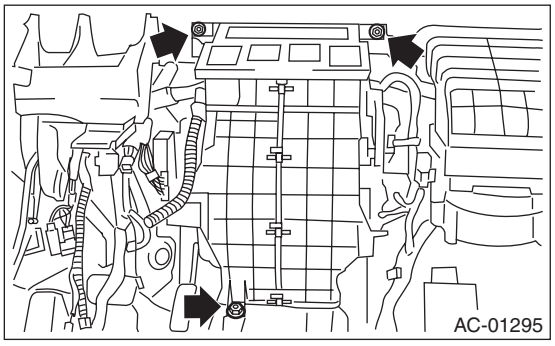
A: REMOVAL

1. FRONT

1) Disconnect the ground cable from the battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
3) Drain engine coolant from the radiator.
4) Remove the bolts securing expansion valve and pipe in engine compartment. Release the heater hose clamps in engine compartment to remove the hoses.



5) Remove the instrument panel. <Ref. to EI-42, REMOVAL, Instrument Panel Assembly.>
6) Remove the support beam.
7) Remove the blower motor unit assembly. <Ref. to AC-29, REMOVAL, Blower Motor Unit Assembly.>
8) Disconnect the actuator connector.
9) Remove the bolt and nuts and remove the heater and cooling unit.



2. REAR

1) Disconnect the ground cable from the battery.
2) Using the refrigerant recovery system, discharge the refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the left rear quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
4) Remove the bolts, then disconnect the rear tube.
5) Disconnect the harness connector.
6) Remove the nuts, then remove the cooler unit.

B: INSTALLATION

1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-23, PROCEDURE, Refrigerant Charging Procedure.>

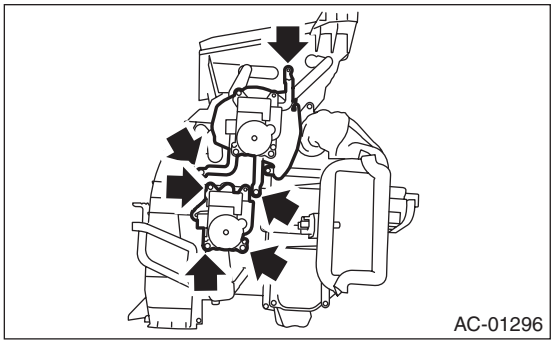
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-7, HEATER COOLING UNIT, COMPONENT, General Description.>

17.Evaporator

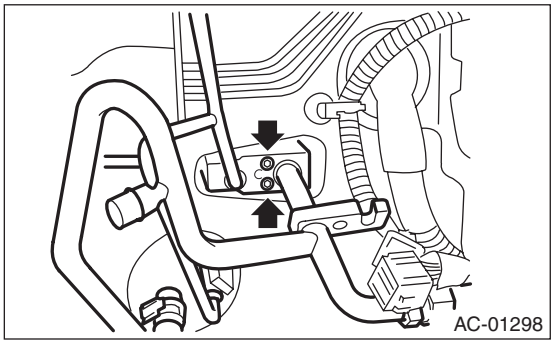
A: REMOVAL

1. FRONT

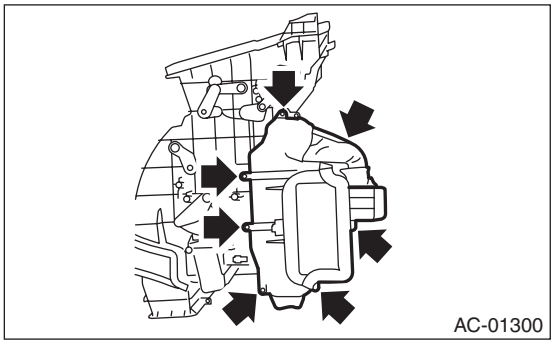
1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from the battery.
3) Remove the blower motor unit assembly. <Ref. to AC-29, REMOVAL, Blower Motor Unit Assembly.>
4) Disconnect the connector, remove the screw and then remove the air-mix door actuator and mode door actuator.


AC-01296

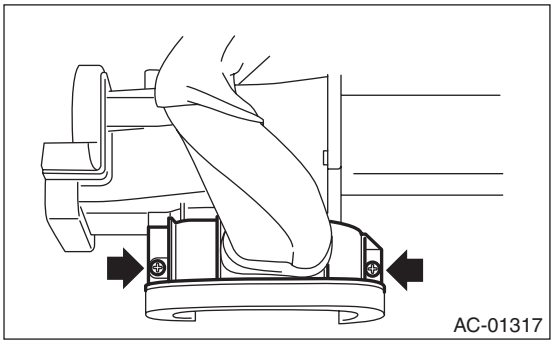
5) Remove the bolts holding the expansion valve, and remove the expansion valve.


AC-01298

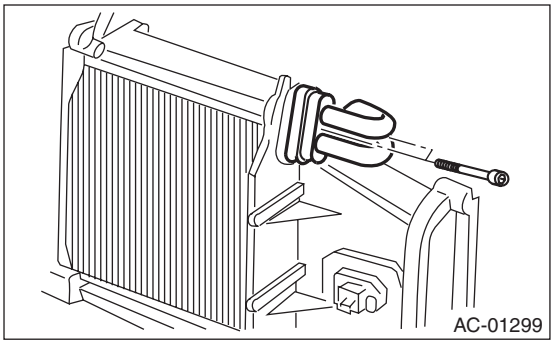
6) Remove the screws and pull out the evaporator.


AC-01300

7) Remove the pipe cover from the evaporator.


AC-01317

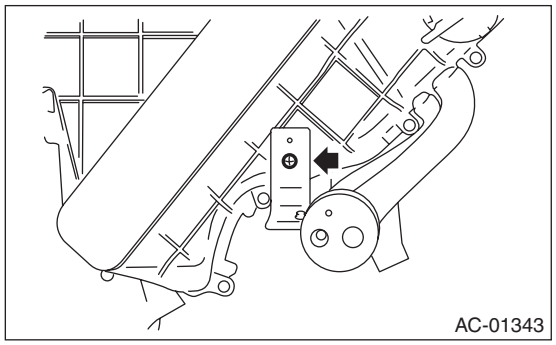
8) Remove the bolt which holds the pipe to evaporator, and remove the evaporator.


AC-01299

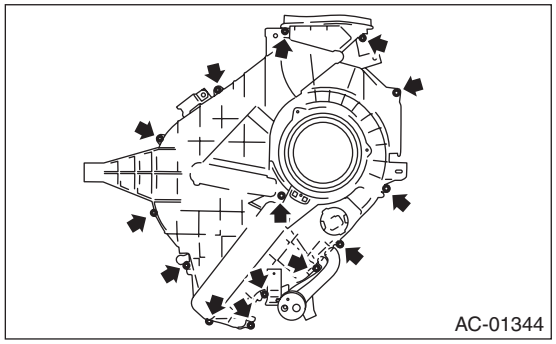
CAUTION:
When replacing the evaporator, add an appropriate amount of compressor oil to the evaporator. <Ref. to AC-28, REPLACEMENT, Compressor Oil.>

2. REAR

1) Using the refrigerant recovery system, discharge the refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from the battery.
3) Remove the rear cooler unit. <Ref. to AC-38, REAR, REMOVAL, Heater and Cooling Unit.>
4) Remove the pipe bracket bolts and remove the bracket.


AC-01343

5) Remove the screws, and then remove the cooler unit.


AC-01344

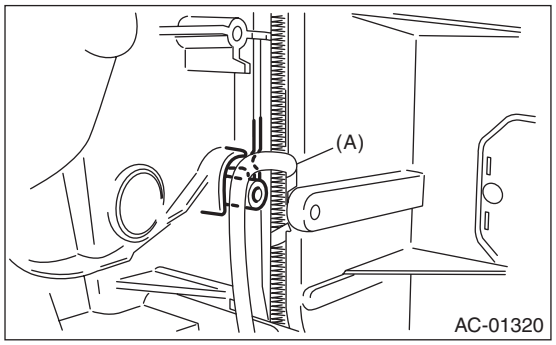
6) Remove from the cooler unit and disconnect the tube from the evaporator.

CAUTION:
When replacing the evaporator, add an appropriate amount of compressor oil to the evaporator. <Ref. to AC-28, REPLACEMENT, Compressor Oil.>

B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
Route the cord (A) of the evaporator through the location shown on the illustration.



AC-01320

(A) Code

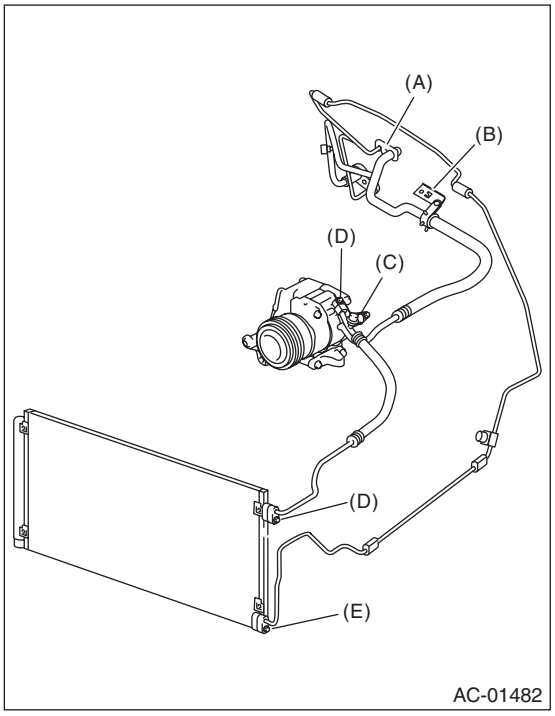
18.Hose and Tube

A: REMOVAL

CAUTION:
• When disconnecting/connecting hoses, do not apply an excessive force to them. After installing, check that no torsion or excessive tension applied to the hoses.
• Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.

1. FRONT

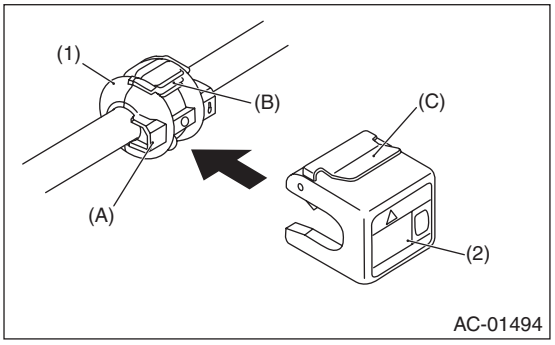
1) Disconnect the ground cable from the battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the evaporator unit mounting bolt (A) and low-pressure hose bracket bolt (B).
4) Remove the low-pressure hose attaching bolts (C).
5) Disconnect the low-pressure hose from evaporator unit.
6) Disconnect the low-pressure hose from compressor.
7) Remove the low-pressure hose from vehicle.
8) Remove the high-pressure hose attaching bolt (D).
9) Disconnect the high-pressure hose from compressor.
10) Disconnect the high-pressure hose from condenser.
11) Remove the high-pressure hose from vehicle.
12) Remove the high-pressure tube attaching bolt (E).
13) Remove the high-pressure tube from vehicle.



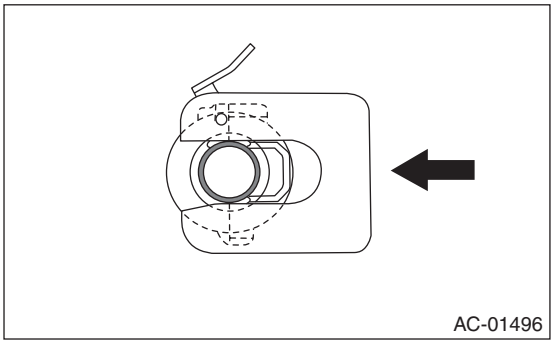
2. REAR

1) Disconnect the ground cable from the battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-22, PROCEDURE, Refrigerant Recovery Procedure.>
3) Remove the sheet and floor mat. <Ref. to EI-49, REMOVAL, Floor Mat.>
4) Remove the ECM bracket. <Ref. to FU(H6DO)-37, REMOVAL, Engine Control Module (ECM).>
5) Remove the quick connectors (A and B).
ST REMOVER PS73499XA01A
ST REMOVER PD73499XA00A

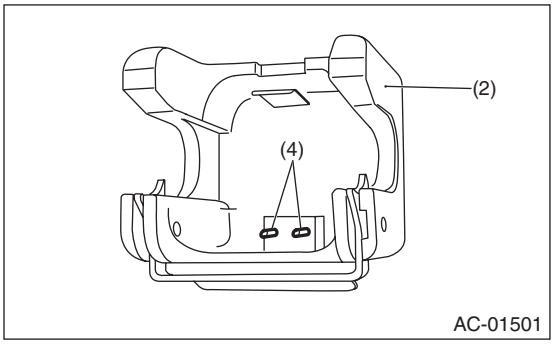
NOTE:
Description for handling the special tool
1. Face collar side (A) of the quick connector (1) to the remover (2), and set lock part (B) on the stopper side (C) of the remover.



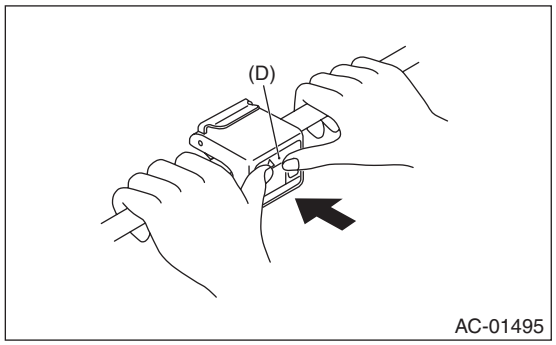
2. Insert the remover.

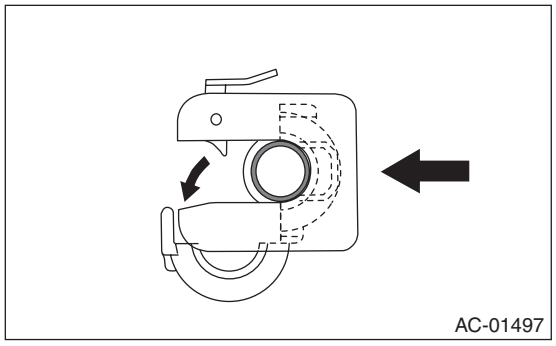


Do not bend the needle (4) in the remover.

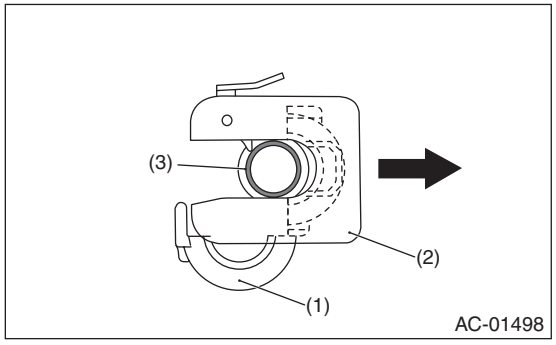


3. With the tube secured, press the label part (D) of the remover with a thumb. Connector is unlocked and the quick connector opens.

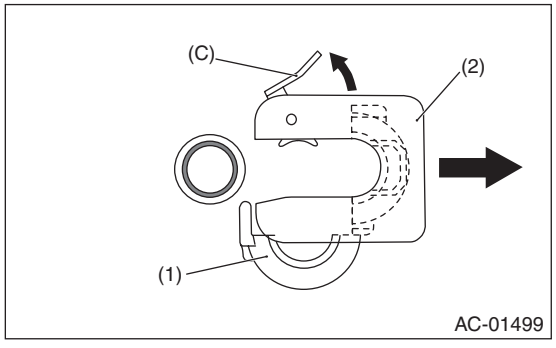




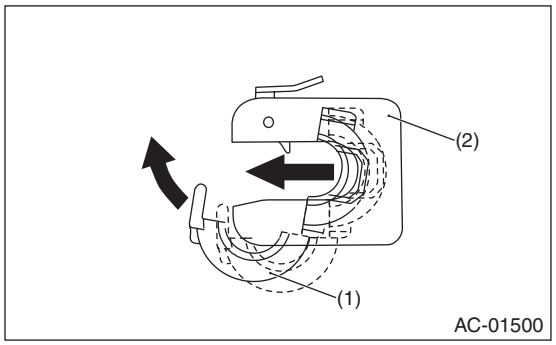
4. Pull the remover (2) and separate the tube (3) from the quick connector (1).



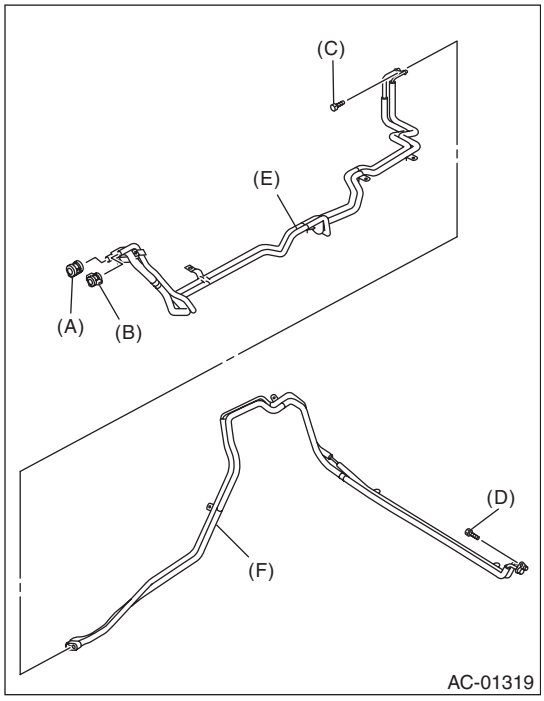
5. Pull up the stopper (C) and remove the remover (2) and quick connector (1) from the tube.



6. Disconnect the quick connector (1) from the remover (2).



6) Remove the tube bracket.
7) Remove the front tube and rear tube connecting bolts (C).
8) Remove the connecting bolts (D) of the rear cooler unit.
9) Remove the front tube (E) and rear tube (F).



B: INSTALLATION

CAUTION:
• When disconnecting or connecting the hoses, do not apply excessive force. After installing, check that no torsion or excessive tension applied to the hoses.
• Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.
1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-23, PROCEDURE, Refrigerant Charging Procedure.>

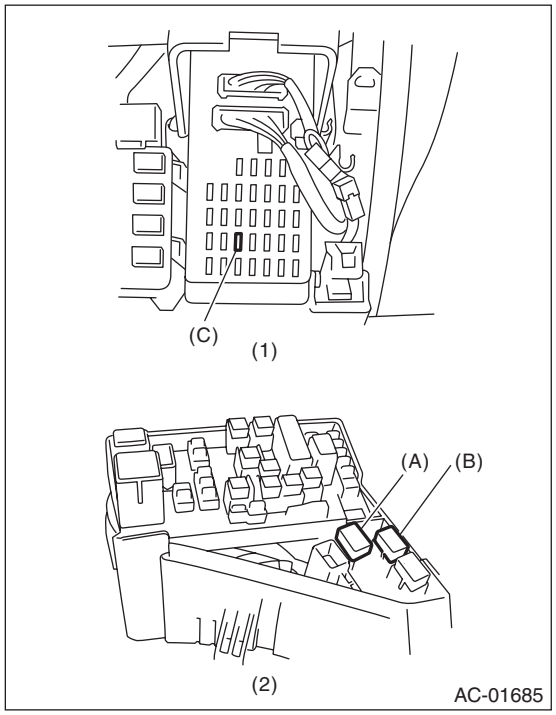
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to AC-12, AIR CONDITIONING UNIT, COMPONENT, General Description.>

C: INSPECTION

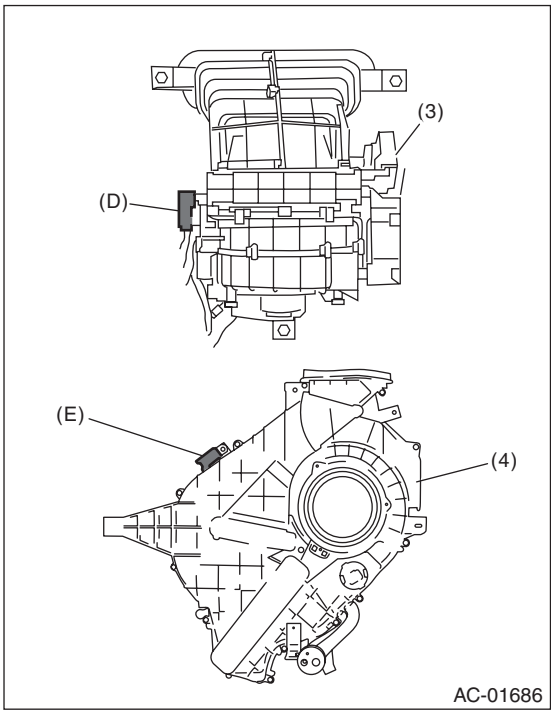
Check the hoses for cracks, damage and expansion. If any fault is found, replace with new parts.

19.Relay and Fuse

A: LOCATION



(1) Joint box
(2) Main fuse box

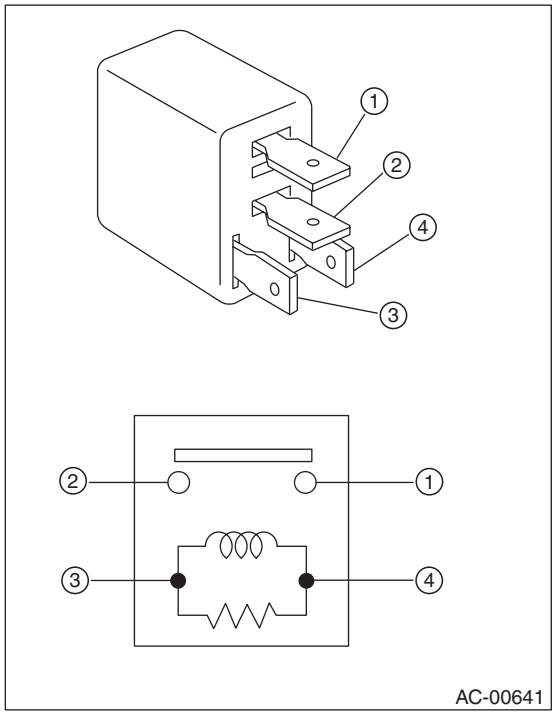


(3) Blower motor unit
(4) Rear cooler unit

Main fan relay 1	(A)
A/C relay	(B)
A/C Fuse	(C)
Front blower relay	(D)
Rear blower relay	(E)

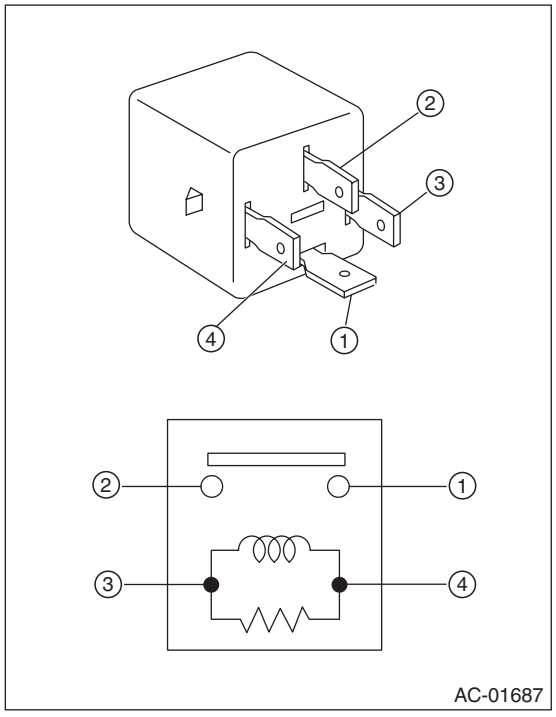
B: INSPECTION

- A/C relay



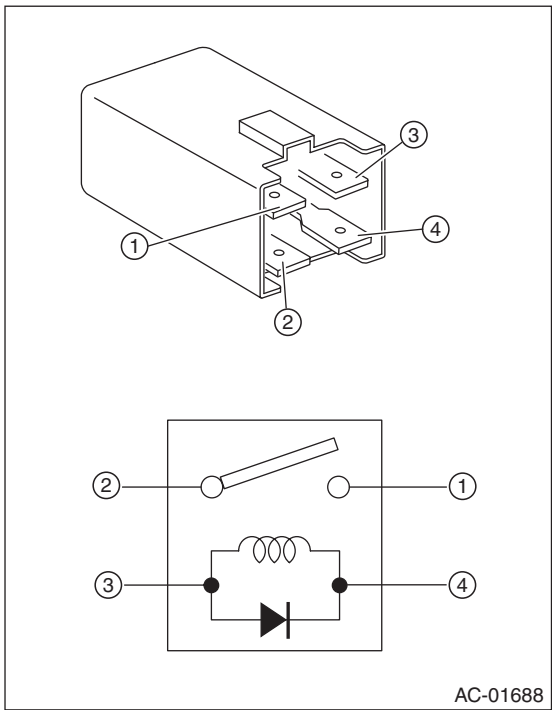
(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

- Main fan relay 1, Front blower relay



(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

- Rear blower relay



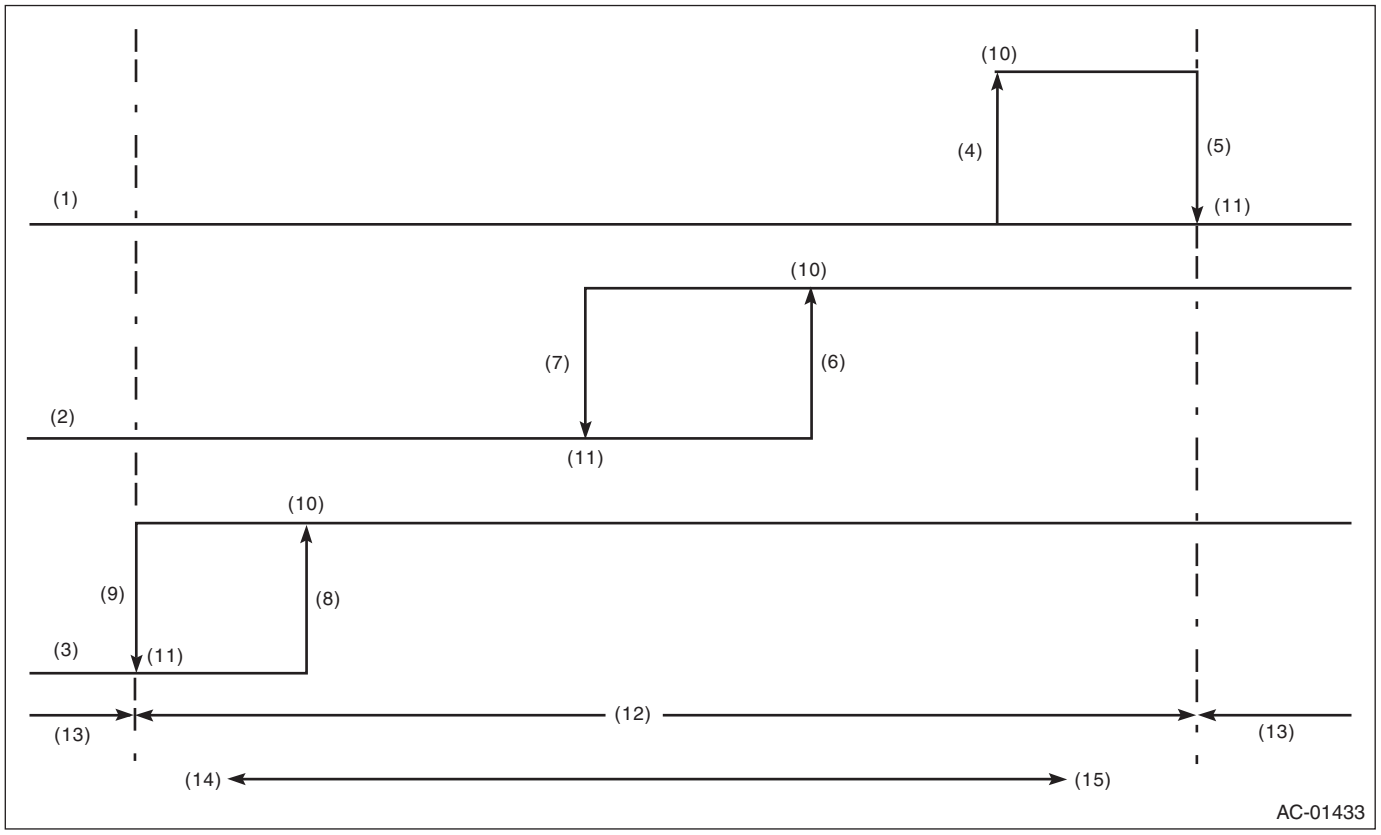
(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

While applying battery voltage to the terminal between (3) and (4), check continuity between (1) and (2).
If no continuity exists, replace the relay with a new part.

20.Pressure Switch (Triple Pressure Switch)

A: INSPECTION

1) Connect the manifold gauge to the service valve on the high-pressure side.
2) Operate the air conditioner, and check the switch operating pressure on ON/OFF in the compressor (magnet clutch). Each switch operates as follows.



(1) High pressure switch
(2) Middle pressure switch
(3) Low pressure switch
(4) 2,550±200 kPa (26.00±2.04 kg/cm^2, 369.8±29.0 psi)
(5) $3{,}140^{+50}_{-200}$ kPa ($32.02^{+0.51}_{-2.04}$ kg/cm^2, $455.4^{+7.25}_{-29.0}$ psi)
(6) 1,770±80 kPa (18±1 kg/cm^2, 256±14 psi)
(7) 1,370±120 kPa (14±1 kg/cm^2, 199±14 psi)
(8) 225^{+25}_{-29} kPa ($2.29^{+0.25}_{-0.30}$ kg/cm^2, $32.6^{+3.6}_{-4.2}$ psi)
(9) 196±20 kPa (2.00±0.20 kg/cm^2, 28.4±2.9 psi)
(10) ON
(11) OFF
(12) Range that compressor operates
(13) Range that compressor does not operate
(14) Pressure is low
(15) Pressure is high

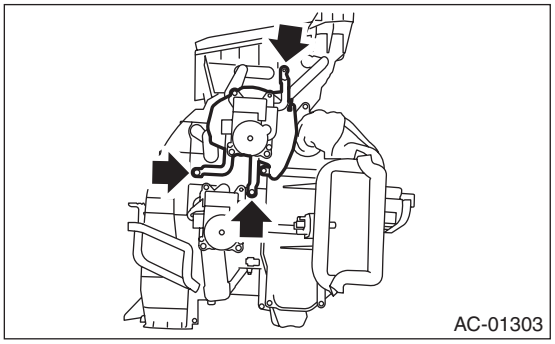
NOTE:
• High pressure switch turns the compressor (magnet clutch) to OFF when the refrigerant pressure becomes extremely high, in order to prevent the evaporator, air conditioner piping and expansion valve from getting damaged or frozen.
• Middle pressure switch effectively controls the radiator fan output by judging high load/low load in normal pressure range.
• Low pressure switch turns the compressor (magnet clutch) to OFF, judging as low refrigerant level when the refrigerant pressure becomes extremely low, in order to prevent the possible seizure when the compressor rotates.

21.Actuator

A: REMOVAL

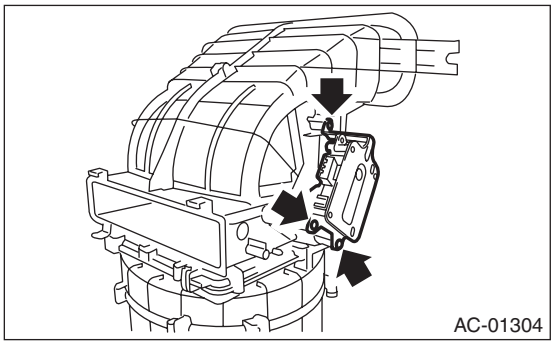
1. MODE DOOR ACTUATOR

Disconnect the connector, remove the screw, and then remove the mode door actuator from the heater and cooling unit.



2. INTAKE DOOR ACTUATOR

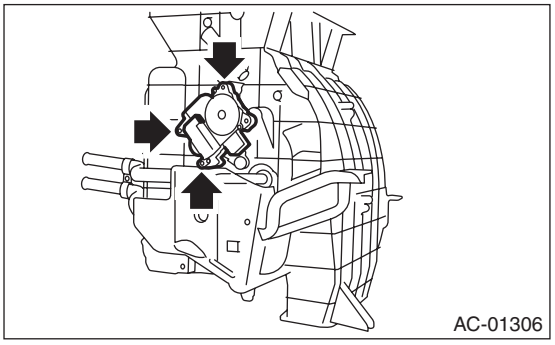
Disconnect the connector, remove the screw, and then remove the intake door actuator from the blower motor unit.



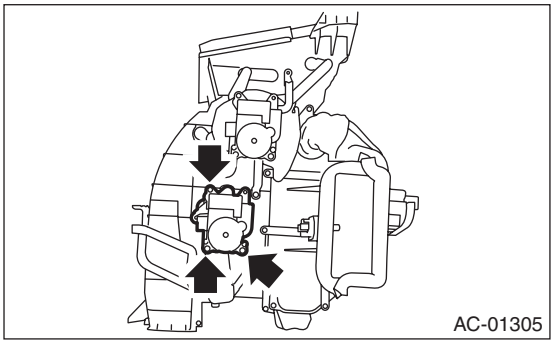
3. AIR MIX DOOR ACTUATOR (AUTO A/C MODEL)

Disconnect the connector, remove the screw, and then remove the air mix door actuator from the heater and cooling unit.

- Driver's side



- Passenger's side



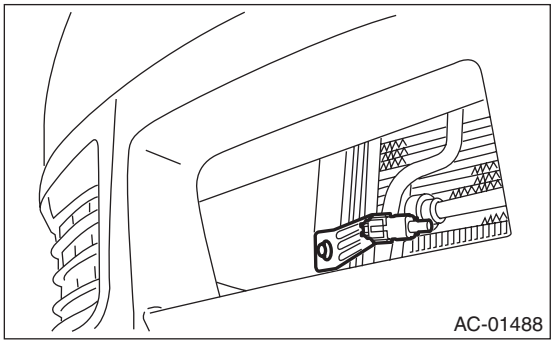
B: INSTALLATION

Install in the reverse order of removal.

22.Ambient Sensor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disconnect the ambient sensor connector.
3) Remove the ambient sensor from the radiator lower panel.



B: INSTALLATION

Install in the reverse order of removal.

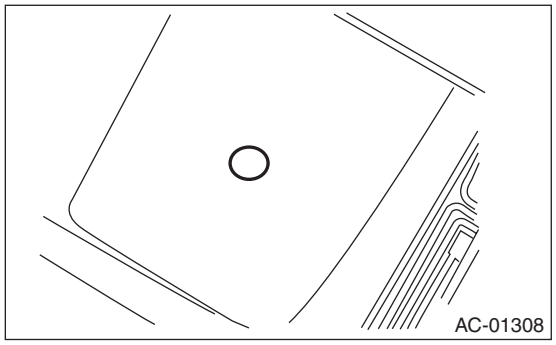
C: INSPECTION

<Ref. to AC(diag)-30, AMBIENT SENSOR, Diagnostic Procedure for Sensors.>

23.Sunload Sensor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disconnect the connector and remove the sunload sensor.



CAUTION:
Be careful not to damage the interior trims when removing the sensor.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

<Ref. to AC(diag)-36, SUNLOAD SENSOR, Diagnostic Procedure for Sensors.>

24.In-vehicle Sensor (Auto A/C Model)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the instrument panel lower panel on driver's side. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
3) Disconnect the connector and aspirator hose, remove the catch hook and remove the interior temperature sensor from the knee guard plate.

CAUTION:
Be careful not to damage the sensors and interior trim when removing.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

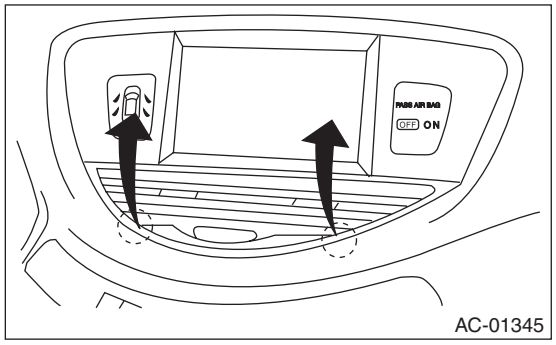
<Ref. to AC(diag)-32, IN-VEHICLE SENSOR, Diagnostic Procedure for Sensors.>

25.Air Vent Grille

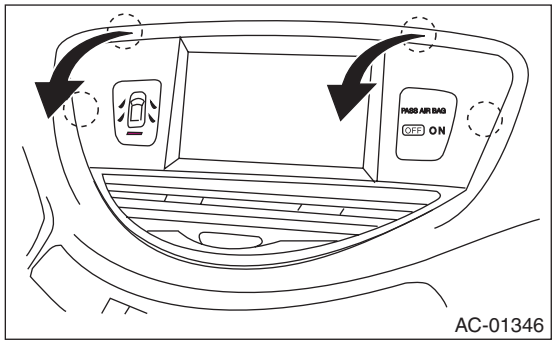
A: REMOVAL

1. UPPER GRILLE

1) Disconnect the ground cable from the battery.
2) Lift the upper grille, and remove the catch on the hazard switch side.



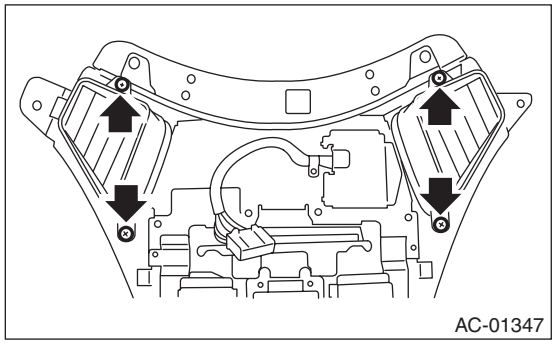
3) Hold the side of the monitor and remove the catch on the upper, right and left sides.



4) Detach the connectors and remove the panel.

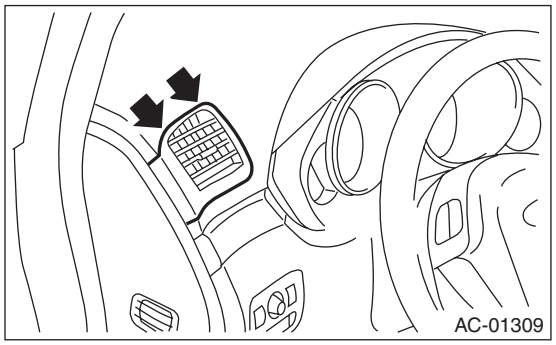
2. CENTER GRILLE

1) Disconnect the ground cable from the battery.
2) Remove the front control panel. <Ref. to AC-34, FRONT, REMOVAL, Control Panel.>
3) Remove the screw, and remove the center grille



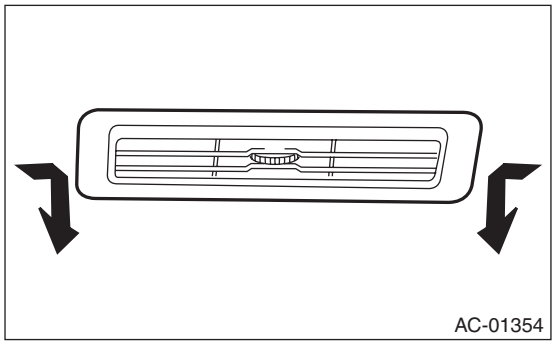
3. SIDE GRILLE

Remove the catch in 2 locations to remove the side air vent grille.



4. ROOF GRILLE

Remove the catch, and remove the roof air vent grille.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

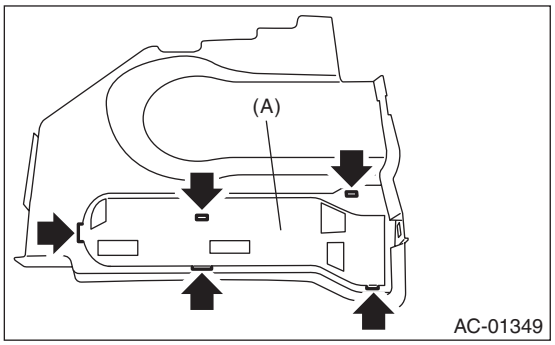
1) Check that the direction and amount of air can be adjusted smoothly.
2) Check that the adjustment can be maintained in each position.

26.Heater Duct

A: REMOVAL

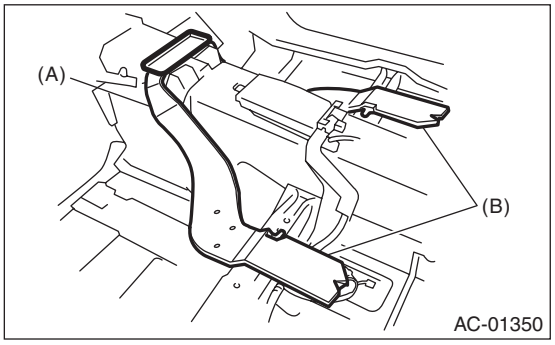
1. FRONT HEATER DUCT

1) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the catch and detach the front heater duct (A).



2. REAR HEATER DUCT

1) Remove the heater cooling unit. <Ref. to AC-38, REMOVAL, Heater and Cooling Unit.>
2) Remove the front seats. <Ref. to SE-7, REMOVAL, Front Seat.>
3) Remove the front side sill cover.
4) Pull off the floor mat to remove the rear center heater duct (A) and rear heater duct LH, RH (B).



B: INSTALLATION

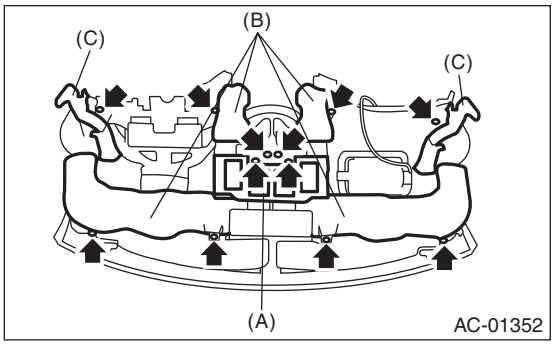
Install in the reverse order of removal.

27.Heater Vent Duct

A: REMOVAL

1. INSTRUMENT

1) Remove the instrument panel. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the screws and detach the center vent duct (A).
3) Remove the screws and detach the side vent duct (B).
4) Remove the screws and detach the side defroster duct (C).



2. ROOF DUCT

Remove the roof trim. <Ref. to EI-52, REMOVAL, Roof Trim.>

NOTE:
The roof duct is one piece with the roof trim. If it requires replacement, replace the roof trim.

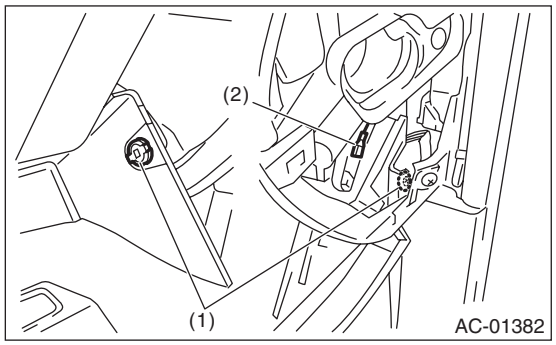
B: INSTALLATION

Install in the reverse order of removal.

28.A/C Filter

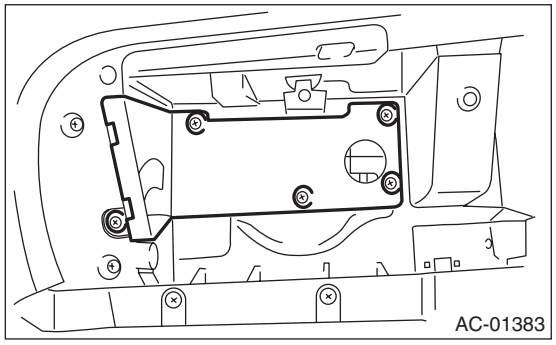
A: REPLACEMENT

1) Remove the instrument panel lower cover. <Ref. to EI-39, REMOVAL, Glove Box.>
2) Remove the 2 clips and the damper (string).

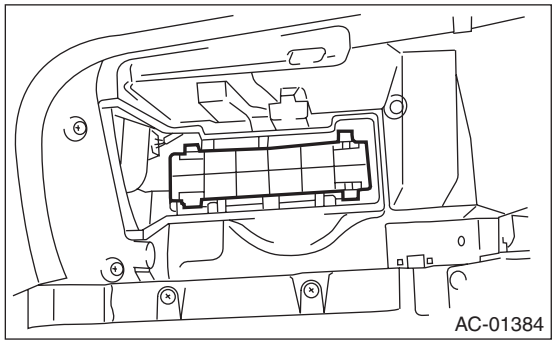


(1) Clip
(2) Damper (String)

3) Remove the glove box.
4) Remove the service hole cover.



5) Remove the A/C filter.



6) Install in the reverse order of removal.

29.General Diagnostic Table

A: INSPECTION

Symptom		Repair order
Blower motor	Does not operate.	Fuse
		Blower motor relay
		Blower motor
		Blower motor resistor
		Blower switch
		Wiring harness
	Strange noise	Blower motor
		Air conditioner filter
Compressor	Does not operate.	Refrigerant
		Fuse
		Air conditioning relay
		Magnet clutch
		Compressor
		Pressure switch
		A/C switch
		Blower switch
		Wiring harness
	Strange noise	V-belt
		Magnet clutch
		Compressor
		Belt tensioner
Cold air is not emitted.		Refrigerant
		V-belt
		Magnet clutch
		Compressor
		Pressure switch
		Expansion valve
		A/C switch
		Blower switch
		Wiring harness
		Heater duct
		Heater Vent Duct
		Temperature control door actuator
Warm air is not emitted.		Engine coolant
		Blower switch
		Heater Core
		Temperature control door actuator
Temperature of air from vents does not change.		Engine coolant
		Air mix door actuator (Auto A/C)
		Wiring harness (Auto A/C)
Unable to switch blow vents.		Mode door actuator
		Air flow switch
		Wiring harness
Unable to switch suction vents.		Air inlet select switch
		Intake door actuator
		Wiring harness

Symptom	Repair order
Air is not emitted from the rear A/C.	Rear cooler blower
	Rear cooler blower resistor
	Rear A/C switch
	Wiring harness
Cold air is not emitted from the rear A/C.	A/C switch
	Compressor
	Rear A/C switch
	Rear cooler expansion valve

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

AC(diag)

Page

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4. Auto A/C Control Module I/O Signal 8
5. Diagnostic Chart for Self-diagnosis 10
6. Diagnostics for A/C System Malfunction 15
7. Diagnostic Procedure for Actuators 23
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1. Basic Diagnostic Procedure

A: PROCEDURE

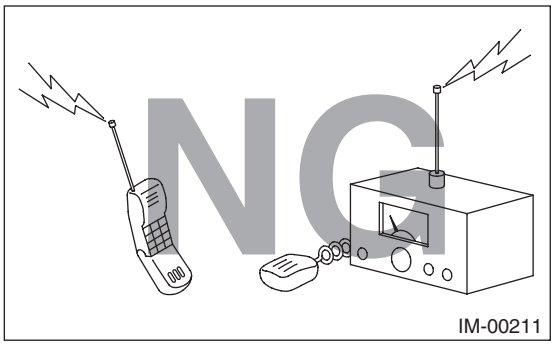
	Step	Check	Yes	No
1	**CHECK SECURITY INDICATOR LIGHT.** 1) Turn the ignition switch to “OFF” or “ACC”. 2) Wait for 60 seconds or more.	Does the security indicator light blink?	Go to step **2**.	Check the security indicator light circuit. <Ref. to IM(diag)-10, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Diagnostics Chart for Security Indicator Light.>
2	**CHECK KEY SWITCH.** Remove the key from ignition switch.	Does the security indicator light blink within 1 second after removing the key?	Go to step **3**.	Check the key switch circuit. <Ref. to IM(diag)-12, CHECK KEY SWITCH CIRCUIT, INSPECTION, Diagnostics Chart for Security Indicator Light.>
3	**CHECK SECURITY INDICATOR LIGHT.** Turn the ignition switch to ON.	Does the security indicator light go off?	Go to step **5**.	Go to step **4**.
4	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the DTC display (body integrated unit). Go to step **7**.
5	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the starter operate?	Go to step **6**.	Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
6	**CHECK ENGINE START.** Turn the ignition switch to START.	Does the engine start?	Immobilizer system is OK.	Check the DTC display (ECM). Go to step **7**.
7	**CHECK ANY OTHER DTC ON DISPLAY.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. <Ref. to IM(diag)-7, Subaru Select Monitor.> 3) Turn the ignition switch to ON and run the Subaru Select Monitor. 4) Read DTC on display.	Is the DTC displayed on screen?	Go to step **8**.	Repair the related parts.
8	**PERFORM THE DIAGNOSIS.** 1) Inspect using the “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Repair the trouble cause. 3) Perform the Clear Memory Mode. 4) Read DTC again.	Is the DTC displayed on screen?	Inspect using the “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Finish the diagnosis.

2. General Description

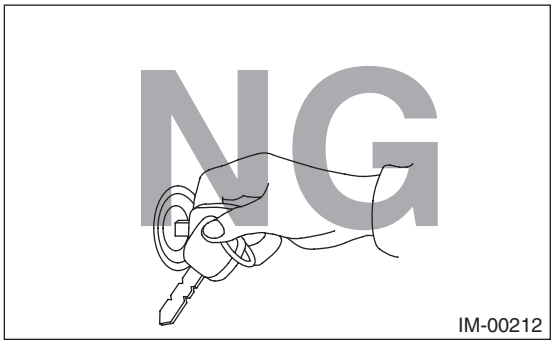
A: CAUTION

CAUTION:

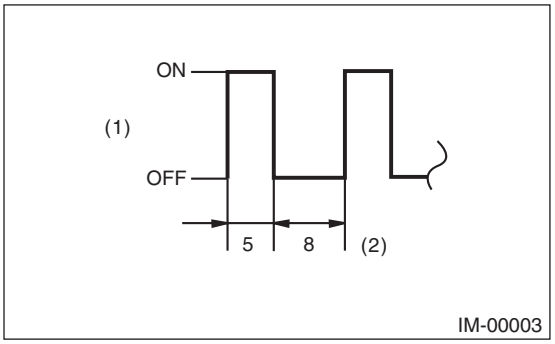
- **The airbag system wiring harnesses and connectors are yellow. Do not use electrical test equipment on these circuits.**
- **Be careful not to damage the airbag system wiring harness.**
- **While diagnostic items are being checked, do not operate radios, portable telephones, etc. which emit electromagnetic waves near or inside the vehicle.**



- **When turning the ignition switch to ON or OFF while diagnostic items are being checked, do not allow keys with different ID codes close to the ignition switch. If the ignition key is in a key holder, remove it from the holder before carrying out diagnosis.**



- **When repeatedly turning the ignition switch to ON or OFF while diagnostic items are being checked, it should be switched in cycles of "ON" for at least 5 seconds → "OFF" for at least 8 seconds.**

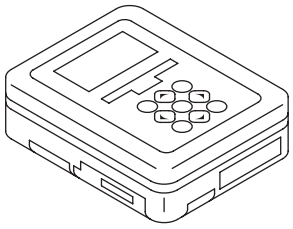


(1) Ignition switch position
(2) Sec.

- **If the engine fails to start with a registered ignition key, detach the ignition key from ignition switch and wait for approx. 1 second until security indicator light begins to flash. And then start the engine again.**
- **Before checking the diagnostic items, obtain all keys for the vehicle to be checked possessed by owner.**
- **Do not install or register a body integrated unit of another registered vehicle to diagnose failures or inspect functions.**

B: PREPARATION TOOL

1. SPECIAL TOOL

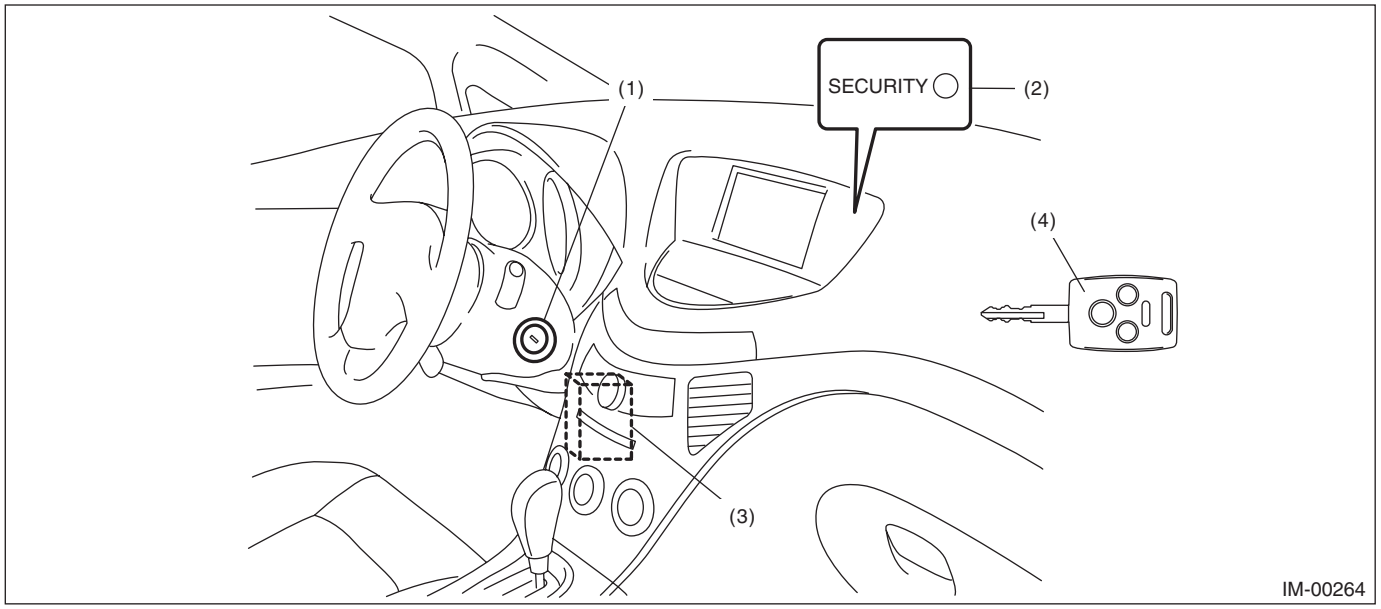
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Troubleshooting for the electrical system.

2. GENERAL TOOL

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

3. Electrical Component Location

A: LOCATION



(1) Antenna
(2) Security indicator light (LED bulb)
(3) Body integrated unit
(4) Transponder

4. Immobilizer Control Module I/O Signal

A: WIRING DIAGRAM

1. IMMOBILIZER

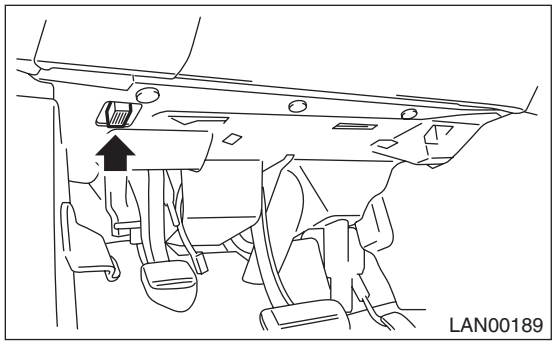
<Ref. to WI-105, WIRING DIAGRAM, Immobilizer System.>

5. Subaru Select Monitor

A: OPERATION

1. HOW TO USE SUBARU SELECT MONITOR

1) Prepare the Subaru Select Monitor kit.
2) Connect the diagnosis cable to Subaru Select Monitor.
3) Connect the Subaru Select Monitor to the data link connector.
(1) Data link connector is located in the lower portion of the instrument panel (on the driver's side).



(2) Connect the diagnosis cable to the data link connector.

CAUTION:
Do not connect the scan tools except for Subaru Select Monitor.
4) Turn the ignition switch to ON (engine OFF) and run the Subaru Select Monitor.
5) Using the Subaru Select Monitor, call up DTC and various data, then record them.

2. READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE AND BODY INTEGRATED UNIT

Refer to "Read Diagnostic Trouble Code" for information about how to indicate DTC. <Ref. to IM(diag)-8, Read Diagnostic Trouble Code (DTC).>

3. COMMUNICATION LINE CHECK

NOTE:
The communication line between ECM and body integrated unit can be checked in "System Operation Check Mode". This is referred to as "Communication line check".
1) Connect the Subaru Select Monitor.
2) On the «Main Menu» display screen, select the {Each System Check}.
3) On the «System Selection Menu», select the {Engine Control System}.
4) Select the [OK] after the information of engine type is displayed.
5) On the «Engine Diagnosis» display screen, select the {System Operation Check Mode}.
6) On the «System operation check mode» display, select the {security system}.
7) Start the communication line check.
8) Is «OK» displayed on screen?
If displayed, go to step 9).
If «NO», go to step 10).
9) After diagnostic results, it is determined that the circuit is not shorted. Finish the communication line check.
10) If a problem is detected, repair the trouble cause. <Ref. to IM(diag)-20, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

6. Read Diagnostic Trouble Code (DTC)

A: OPERATION

1. ECM

1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu», select the {Engine Control System}.
3) Select the [OK] after the information of engine type is displayed.
4) On the «Engine Diagnosis» screen, select the {DTC Display}.
5) On the «Diagnostic Code(s) Display» screen, select the {Current Diagnostic Code(s)} or {History Diagnostic Code(s)}.

NOTE:
• For detailed operation procedure, refer to the “PC application for Subaru Select Monitor”.
• For detailed concerning DTC, refer to the List of DTC. <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED UNIT

1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. Unit}.
3) Select the [OK] after the {Integ. Unit} is displayed.
4) On the «Integ. Unit failure diag» display screen, select the {Diagnostic Code(s) Display}.

NOTE:
• For detailed operation procedure, refer to the “PC application for Subaru Select Monitor”.
• For detailed concerning DTC, refer to the List of DTC. <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

7. Clear Memory Mode

A: OPERATION

1. ECM

1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu», select the {Engine Control System}.
3) Select the [OK] after the information of engine type is displayed.
4) On the «Engine Diagnosis» display screen, select the {Clear Memory}.
5) When the “Done” is shown on the display screen, end the Subaru Select Monitor and turn the ignition switch to OFF.

NOTE:
• After the memory has been cleared, the idle air control solenoid valve must be initialized. To execute this procedure, turn the ignition switch to ON. Wait for 3 seconds before starting the engine.
• For detailed operation procedure, refer to the “PC application for Subaru Select Monitor”.

2. BODY INTEGRATED UNIT

1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. Unit}.
3) Select the [OK] after the {Integ. Unit} is displayed.
4) On the «Integ. unit mode» display screen, select the {Clear Memory}.
5) When the “Done” is shown on the display screen, end the Subaru Select Monitor and turn the ignition switch to OFF.

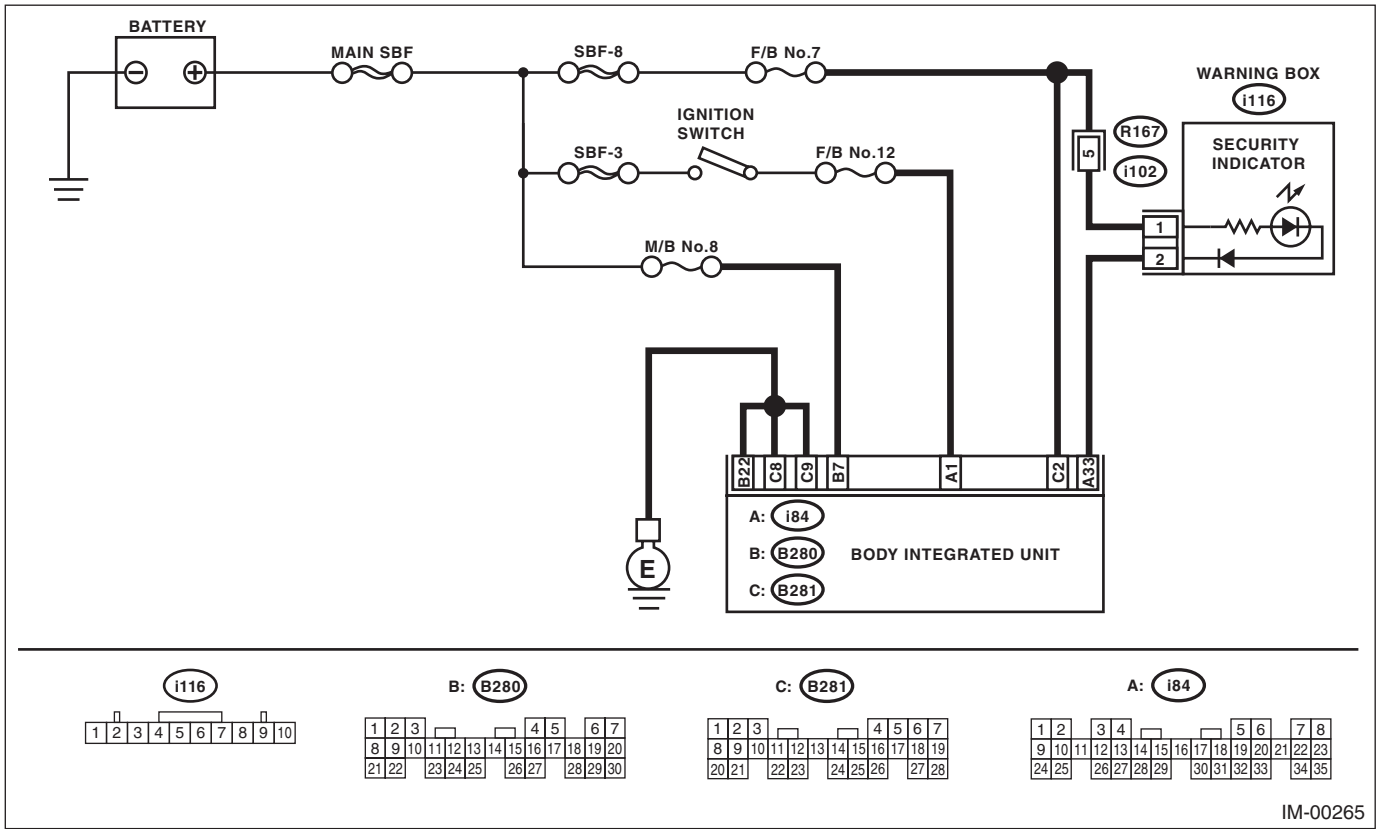
NOTE:
For detailed operation procedure, refer to the “PC application for Subaru Select Monitor”.

8. Diagnostics Chart for Security Indicator Light

A: INSPECTION

1. CHECK SECURITY INDICATOR LIGHT CIRCUIT

WIRING DIAGRAM:

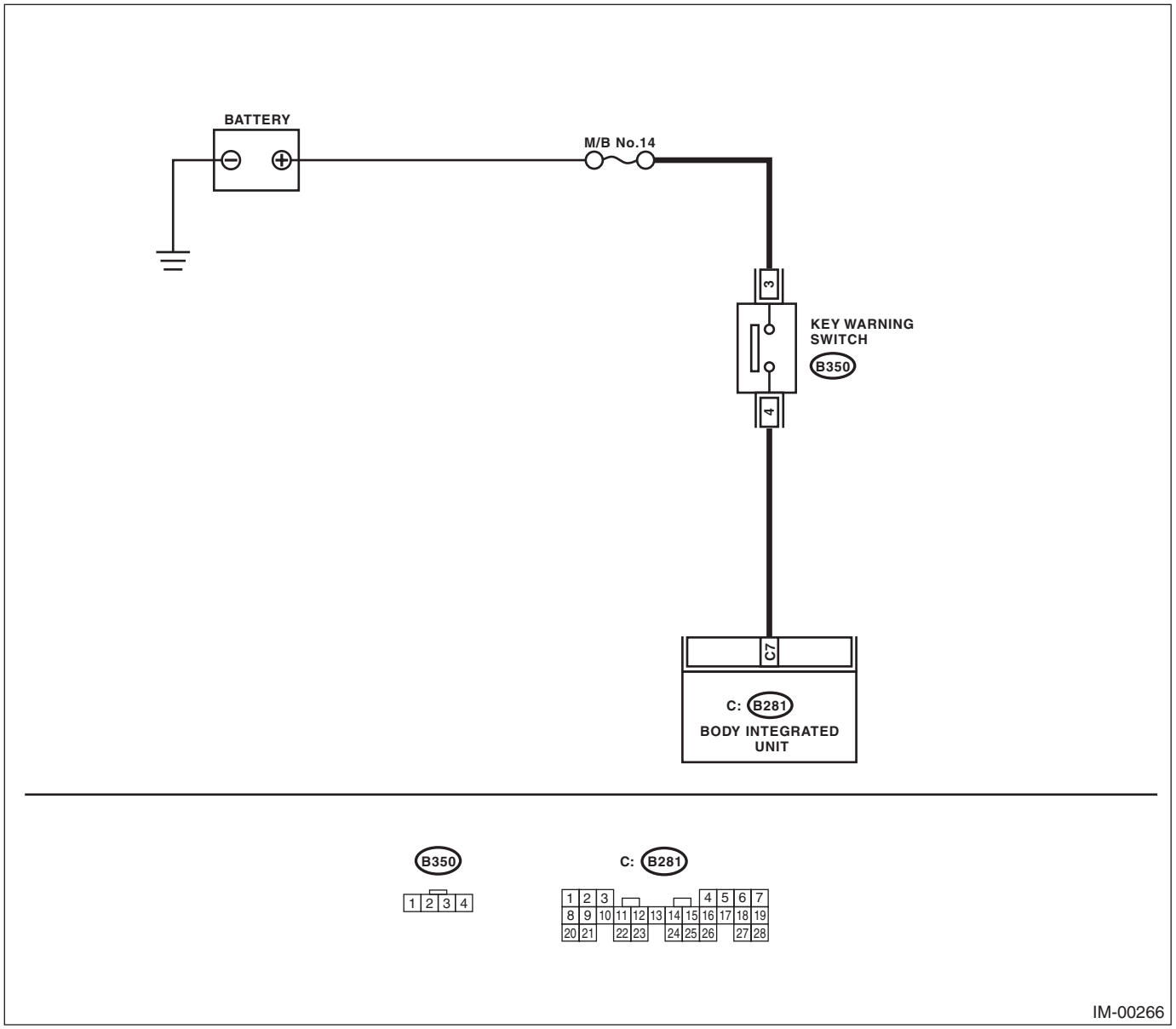


Diagnostics Chart for Security Indicator Light

	Step	Check	Yes	No
1	**CHECK SECURITY INDICATOR LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from body integrated unit. 3) Connect the resistor (100 Ω) between body integrated unit harness connector terminal (i84) No. 33 and chassis ground.	Does the security indicator light illuminate?	Go to step **2**.	Go to step **5**.
2	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** Measure the resistance between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the open circuit of body integrated unit ground circuit.
3	**CHECK BODY INTEGRATED UNIT IGNITION CIRCUIT.** 1) Turn the ignition switch to ON. (Engine OFF) 2) Measure the voltage between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check the harness for open or short circuit between body integrated unit and ignition switch.
4	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the voltage between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (–):*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Check the harness for open or short circuit between body integrated unit and fuse.
5	**INSPECT WARNING BOX CIRCUIT.** 1) Remove the warning box. <Ref. to IDI-18, REMOVAL, Warning Box.> 2) Measure the voltage between the warning box harness connector terminal and chassis ground. ***Connector & terminal*** ***(i116) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **6**.	Check the harness for open or short circuit between warning box and fuse.
6	**INSPECT WARNING BOX CIRCUIT.** Measure the resistance between body integrated unit harness connector terminal and warning box harness connector terminal. ***Connector & terminal*** ***(i84) No. 33 — (i116) No. 2:***	Is the resistance less than 10 Ω?	LED bulb malfunction. Replace the warning box. <Ref. to IDI-18, REMOVAL, Warning Box.>	Repair the harness or connector.

2. CHECK KEY SWITCH CIRCUIT

WIRING DIAGRAM:



Diagnostics Chart for Security Indicator Light

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the harness connector from key warning switch. 2) Turn the ignition switch to “ACC” or “LOCK” (with key inserted). 3) Measure the voltage between key warning switch harness connector terminal and chassis ground. ***Connector & terminal*** ***(B350) No. 3 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check the harness for open or short circuit between key warning switch and fuse.
2	**CHECK KEY WARNING SWITCH.** 1) Insert the ignition key to ignition switch. (OFF or ACC) 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **3**.	Replace the key warning switch.
3	**CHECK KEY WARNING SWITCH.** 1) Remove the ignition key from ignition switch. 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***No. 3 — No. 4:***	Is the resistance 1 MΩ or more?	Go to step **4**.	Replace the key warning switch.
4	**CHECK HARNESS BETWEEN KEY WARNING SWITCH AND BODY INTEGRATED UNIT.** 1) Disconnect the harness connector from key warning switch. 2) Disconnect the harness connector from body integrated unit. 3) Measure the resistance between key warning switch harness connector terminal and body integrated unit harness connector terminal. ***Connector & terminal*** ***(B350) No. 4 — (B281) No. 7:***	Is the resistance less than 10 Ω?	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Repair the harness between key warning switch and body integrated unit.

9. List of Diagnostic Trouble Code (DTC)

A: LIST

1. ECM

DTC	Item	Contents of diagnosis	Index No.
P0513	Incorrect Immobilizer Key	Incorrect immobilizer key (Use of unregistered key in body integrated unit)	<Ref. to IM(diag)-16, DTC P0513 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1570	Antenna	Faulty antenna	<Ref. to IM(diag)-17, DTC P1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1571	Reference Code Incompatibility	Reference code incompatibility between body integrated unit and ECM	<Ref. to IM(diag)-19, DTC P1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1572	IMM Circuit Failure (Except Antenna Circuit)	Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-20, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1574	Key Communication Failure	Failure of body integrated unit to verify key (transponder) ID code or transponder key failure	<Ref. to IM(diag)-22, DTC P1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to IM(diag)-22, DTC P1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1577	IMM Control Module EEPROM	Body integrated unit malfunctioning	<Ref. to IM(diag)-23, DTC P1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
P1578	Meter Failure	• Reference code incompatibility between body integrated unit and combination meter • Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-23, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

NOTE:
Perform the diagnosis of engine DTC when the DTC except for immobilizer DTC is detected. <Ref. to EN(H6DO)(diag)-84, List of Diagnostic Trouble Code (DTC).>

2. BODY INTEGRATED UNIT

DTC	Item	Contents of diagnosis	Index No.	Relation between ECM and DTC
B1401	M collation NG	Reference code incompatibility between body integrated unit and combination meter	<Ref. to IM(diag)-23, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	P1578
B1402	Immobilizer Key collation NG	• Incorrect immobilizer key (Use of unregistered key in body integrated unit) • Faulty antenna	<Ref. to IM(diag)-16, DTC P0513 INCORRECT IMMOBILIZER KEY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to IM(diag)-17, DTC P1570 ANTENNA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> or <Ref. to IM(diag)-22, DTC P1574 KEY COMMUNICATION FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	• P0513 • P1570 • P1574
B1403	E/G request NG	Communication failure between body integrated unit and ECM	<Ref. to IM(diag)-20, DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	P1572

NOTE:
In immobilizer system, performing the starter relay control. When the body integrated unit detect the inconformity of reference code, immediately out put the starter relay cut signal to ECM, and then ECM stop the starter relay operation. In this case, engine does not start, and DTC is not recorded in ECM. Check that the engine does not start on the DTC of body integrated unit.

10.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC P0513 INCORRECT IMMOBILIZER KEY

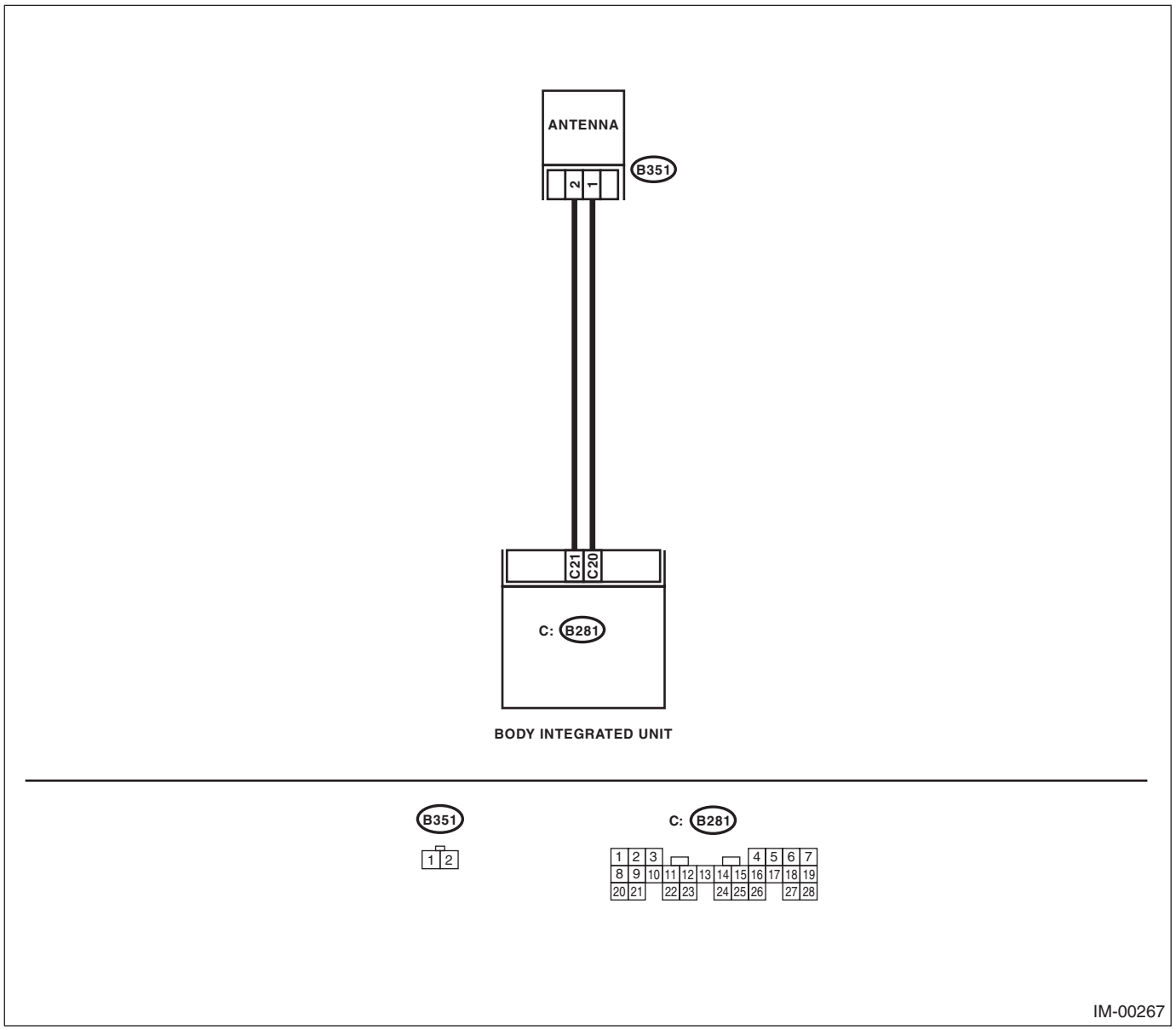
DTC DETECTING CONDITION:

Incorrect immobilizer key (Use of unregistered key in body integrated unit)

	Step	Check	Yes	No
1	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is the teaching operation for all keys completed?	END.	Replace the ignition keys (including transponder) which cannot be registered. Go to step **2**.
2	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is the teaching operation for all keys completed?	END.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

B: DTC P1570 ANTENNA

DTC DETECTING CONDITION:
Faulty antenna
WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK ANTENNA CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from antenna. <Ref. to SL-56, Immobilizer Antenna.> 3) Measure the resistance of antenna circuit. ***Connector & terminal*** ***(B351) No. 1 — No. 2:***	Is the resistance less than 10 Ω?	Go to step **2**.	Replace the antenna. <Ref. to SL-56, Immobilizer Antenna.>
2	**CHECK ANTENNA CIRCUIT.** 1) Disconnect the harness connector from body integrated unit. 2) Measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 21 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair the harness.	Go to step **3**.

	Step	Check	Yes	No
3	**CHECK ANTENNA CIRCUIT.** Measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 20 — Chassis ground:***	Is the resistance less than 10 Ω?	Repair the harness.	Go to step **4**.
4	**CHECK ANTENNA CIRCUIT.** 1) Turn the ignition switch to ON. (engine OFF) 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 21 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **5**.	Repair the harness.
5	**CHECK ANTENNA CIRCUIT.** Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(B281) No. 20 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **6**.	Repair the harness between body integrated unit and antenna, because there is short circuit with battery voltage line or ignition switch “ON” line.
6	**CHECK BODY INTEGRATED UNIT FUNCTION.** 1) Turn the ignition switch to OFF. 2) Connect the harness connector to body integrated unit. 3) Insert the key to ignition switch, and measure the changes in voltage between antenna harness connectors. ***Connector & terminal*** ***(B281) No. 20 (+) — Chassis ground (–):***	Is the voltage –30 to 30 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **7**.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.
7	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

C: DTC P1571 REFERENCE CODE INCOMPATIBILITY

DTC DETECTING CONDITION:

Reference code incompatibility between body integrated unit and ECM

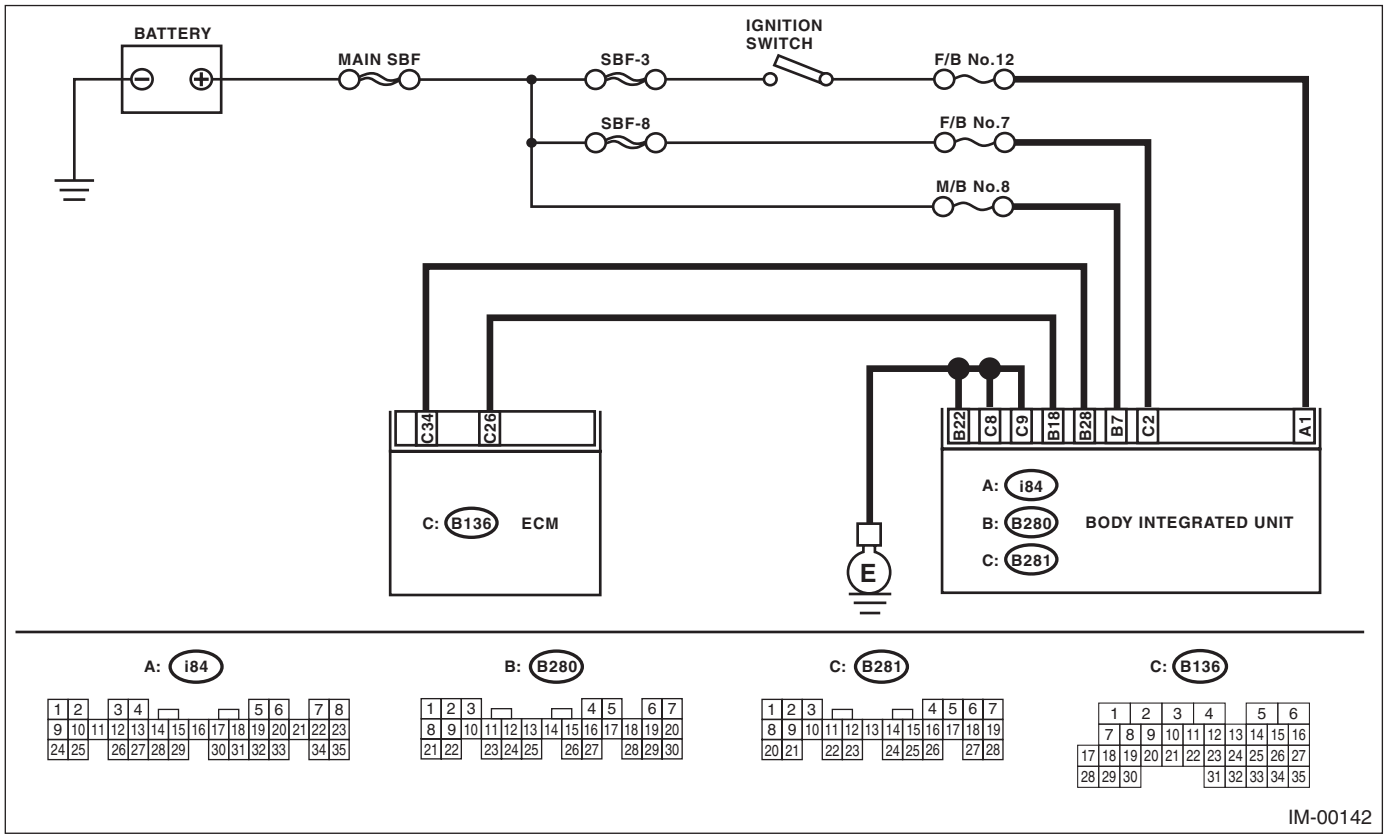
	Step	Check	Yes	No
1	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is the teaching operation for all keys completed?	END.	Go to step **2**.
2	**CHECK ANY OTHER DTC ON DISPLAY.**	Is any other immobilizer DTC displayed?	Check the appropriate DTC using the “List of Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-14, List of Diagnostic Trouble Code (DTC).>Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

D: DTC P1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

DTC DETECTING CONDITION:

Communication failure between body integrated unit and ECM

WIRING DIAGRAM:



Step		Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector from body integrated unit. 3) Measure the voltage between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (–):*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	Check the harness for open or short circuit between body integrated unit and fuse.
2	**CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. (Engine OFF) 2) Measure the voltage between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3**.	Check the harness for open or short circuit between body integrated unit and ignition switch.

	Step	Check	Yes	No
3	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of body integrated unit ground circuit.
4	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND ECM.** 1) Disconnect the harness connector from body integrated unit and ECM. 2) Measure the resistance between body integrated unit harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B280) No. 18 — (B136) No. 26:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the open circuit of harness between body integrated unit and ECM.
5	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND ECM.** Measure the resistance between body integrated unit harness connector terminal and ECM harness connector terminal. ***Connector & terminal*** ***(B280) No. 28 — (B136) No. 34:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the open circuit of harness between body integrated unit and ECM.
6	**CHECK HARNESS OF COMMUNICATION LINE.** 1) Turn the ignition switch to ON. (engine OFF) 2) Measure the voltage between body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 18 (+) — Chassis ground (–):*** ***(B280) No. 28 (+) — Chassis ground (–):***	Is the voltage 0 V?	Go to step **7**.	Repair the harness between body integrated unit and ECM, because there is short circuit with battery voltage line or ignition switch “ON” line.
7	**CHECK HARNESS OF COMMUNICATION LINE.** Measure the voltage between harness connector terminal and engine ground. ***Connector & terminal*** ***(B136) No. 26 (+) — Engine ground (–):*** ***(B136) No. 34 (+) — Engine ground (–):***	Is the voltage 0 V?	Go to step **8**.	Repair the harness between body integrated unit and ECM, because there is short circuit with battery voltage line or ignition switch “ON” line.
8	**CHECK ECM BY COMMUNICATION LINE CHECK.** 1) Connect the harness connector to ECM. 2) Disconnect the harness connector from body integrated unit. 3) Start the communication line check. <Ref. to IM(diag)-7, COMMUNICATION LINE CHECK, OPERATION, Subaru Select Monitor.>	Does “Communication Line not Shorted” appear on the screen?	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>Perform the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

E: DTC P1574 KEY COMMUNICATION FAILURE

DTC DETECTING CONDITION:

Failure of body integrated unit to verify key (transponder) ID code or transponder key failure

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT FUNCTION.** Insert the key to ignition switch (LOCK position), and measure the changes in voltage between antenna connectors. ***Connector & terminal*** ***(B351) No. 1 (+) — Chassis ground (–):***	Is the voltage –30 to 30 V? (Approx. 0.1 second after inserting the key) Is the voltage 0 V? (Approx. 1 second after inserting the key)	Go to step **2**.	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
2	**CHECK IGNITION KEY (TRANSPONDER).** 1) Remove the key from ignition switch. 2) Start the engine using other key which is already registered.	Does the engine start?	Replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Replace the body integrated unit <Ref. to SL-52, Body Integrated Unit.> and replace all the ignition keys (including transponder). Execute the registration procedure next. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

F: DTC P1576 EGI CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- ECM malfunctioning
- Failed to access ROM inside ECM, while performing teaching operation on the keys.

	Step	Check	Yes	No
1	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is the teaching operation for all keys completed?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **2**.
2	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is the teaching operation for all keys completed?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **3**.
3	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is the teaching operation for all keys completed?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>

G: DTC P1577 IMM CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- Body integrated unit malfunctioning
- Failed to access ROM inside the body integrated unit.

	Step	Check	Yes	No
1	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is the teaching operation for all keys completed?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **2**.
2	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is the teaching operation for all keys completed?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Go to step **3**.
3	**PERFORM TEACHING OPERATION OF IGNITION KEY.** Perform teaching operation on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.	Is the teaching operation for all keys completed?	Make sure it is possible to start the engine with all keys that have been taught. This completes the work.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

H: DTC P1578 METER FAILURE

DTC DETECTING CONDITION:

Reference code incompatibility between body integrated unit and combination meter

1. CHECK LAN COMMUNICATION SYSTEM

Inspect LAN communication system in the following situation. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

- DTC of body integrated unit B0300, B0301, B0302, B0111 or B0321 is displayed.
- “Er IU” or “Er LC” is displayed in combination meter odo/trip meter.

2. REGISTER THE IMMOBILIZER

Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

3. REPLACE COMBINATION METER

Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>Execute the registration procedure of all immobilizer part (combination meter and etc.) next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

NOTE:
When the combination meter has been replaced, be sure to perform the registration procedure of immobilizer.

LAN SYSTEM (DIAGNOSTICS)

LAN(diag)

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1. General Description

A: SPECIFICATION

Combination meter	Speedometer	Stepping motor type
	Tachometer	
	Malfunction indicator light	LED
	Oil pressure warning light	
	ABS warning light	
	Airbag warning light	
	Seat belt warning light	
	Brake fluid and parking brake warning light	
	Low fuel warning light	
	Charge warning light	
	ATF temperature warning light	
	AWD warning light	
	Tire pressure warning light	
	Low washer fluid warning light	
	Rear differential oil temperature warning light	
	Vehicle dynamics control (VDC) warning light	
	Vehicle dynamics control (VDC) indicator light	
	Turn signal indicator light	
	HI-beam indicator light	
	Cruise indicator light	
	Cruise set indicator light	
	Front fog light indicator light	
	SPORT indicator light	
	Light illumination indicator light	
	Meter illumination light	
	LCD back light	
	Engine coolant temperature gauge	LCD
	Fuel gauge	
	AT select lever position indicator light, SPORT shift indicator	
	Odo/Trip indicator	
Warning box	Door open warning light	LED
	Security indicator	
	Passenger's seat airbag indicator	
	Passenger's seat belt warning light	

B: CAUTION

- Be careful not to damage the meters and instrument panel.
- Be careful not to damage the meter glass.
- Make sure the electrical connector is connected securely.
- After installation, make sure that each meter operates normally.
- 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.
- When the combination meter of model with immobilizer has been replaced, be sure to perform the registration of immobilizer.

C: PREPARATION TOOL

1. GENERAL TOOL

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

2. Combination Meter System

A: WIRING DIAGRAM

1. COMBINATION METER

<Ref. to WI-180, WIRING DIAGRAM, Combination Meter System.>

B: INSPECTION

1. SELF-DIAGNOSIS

The self-diagnosis (checking of each meter, warning light, indicator, illumination, LCD, buzzer sound) of combination meter can be performed in the following procedure.
1) Turn the ignition switch to ON while turning the small light to OFF.
2) Turn the small light switch to ON within 3 seconds after step 1), then press the odo/trip meter knob three times.
3) Turn the small light switch to OFF, and press the odo/trip knob three times.
4) Turn the small light switch to ON, and press the odo/trip knob three times.

NOTE:
• Perform the steps described in 2) and 4) within 10 seconds after the ignition switch is turned to ON.
• When pressing the odo/trip meter knob four times, the display changes to DTC display mode (ECM, TCM). <Ref. to IDI-11, DTC DISPLAY MODE, INSPECTION, Combination Meter System.> When the self-diagnosis function operates, the warning light, indicator, and LCD display checks are performed. After this, operation checks are performed in the order of meter, illumination, and buzzer for each press of the odo/trip meter knob button. <Ref. to IDI-5, LIST OF SELF-DIAGNOSIS MODE OPERATION, INSPECTION, Combination Meter System.> 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 cancelled automatically for safety.

2. LIST OF SELF-DIAGNOSIS MODE OPERATION

Speedometer, tachometer, fuel gauge, engine coolant temperature gauge	Microcomputer running type warning light, indicator light	AT select lever position indicator light	Odo/Trip indicator	SPORT shift indicator	Illumination (indicator needle, plate, ring, LCD)	Buzzer (SPORT shift buzzer)
Step 0. Processing to self-diagnosis function						
Operating initial operation	Initial illuminating	Normal	Normal	Initial illuminating	Initial illuminating	Not beep.
Step 1-1. Check each indication after initial operation						
Repeat the sweep operation (After holding on lowest position for one second, reaches to highest position within 5 seconds, and after holding on highest position for one second, reaches to lowest position within 5 seconds).	Light ON	With the highest brightness, illuminate the position sequentially at a cycle of 1.5 seconds. For the illumination order, refer to the illumination order table.	Perform the segment check. For the illumination order, refer to the illumination order table.	Perform the segment check. For the illumination order, refer to the illumination order table.	Illuminate at the highest brightness.	Not beep.
Step 1-2. Press the trip knob (trip knob input is not accepted till the meter indicator needle reaches the highest position): sweep complete, AT select lever position indicator display is set						
After completing sweep in step 1-1, back to lowest position.	Light ON	Keep the position indicated when the trip knob is pressed.	Underbar " _ " is displayed.	"1" is displayed.	Illuminate at the highest brightness.	Not beep.
Step 2-1. Press the trip knob, and hold it: Check each meter						
All meters are moved simultaneously in every 0.5 seconds from the lowest position to highest position. Speedometer/ Tachometer: Approx. 5 degrees at every movement. Water temperature /Fuel gauge: Moves 1 segment at a time.	Light OFF	Keep the position indicated that set in step 1-2.	Display the current meter directing angle on odometer. Ex.) Displays 135017 when Speedometer/ Tachometer: 135 degrees, Engine coolant temperature gauge/Fuel gauge: 17 segments.	"▼2" is displayed.	Illuminate at the highest brightness.	Not beep.
Step 2-2. Release the trip knob: Specifying the meter directing position						
Stop at directing position when the trip knob is released.	Light OFF	Keep the position indicated that set in step 1-2.	Display the current meter directing angle on odometer.	"2" is displayed.	Illuminate at the highest brightness.	Not beep.

Speedometer, tachometer, fuel gauge, engine coolant temperature gauge	Microcomputer running type warning light, indicator light	AT select lever position indicator light	Odo/Trip indicator	SPORT shift indicator	Illumination (indicator needle, plate, ring, LCD)	Buzzer (SPORT shift buzzer)
Step 3-1. Press the trip knob, and hold it: Check illumination						
Keep the position that specified at step 2-2.	Light OFF	Varying from the highest brightness (ILL6) to the lowest luminescence (ILL1) every second. After reaching at ILL1, repeat it from ILL6.	Illumination brightness is displayed in the trip meter. (From ILL6 to ILL1)	"▼ 3" is displayed.	Varying from the highest brightness (ILL6) to the lowest luminescence (ILL1) every second. After reaching at ILL1, repeat it from ILL6.	Not beep.
Step 3-2. Release the trip knob: Specifying the illumination brightness						
Keep the position that specified at step 2-2.	Light OFF	Keep the brightness at the time when the trip knob is released.	Illumination brightness is displayed in the trip meter.	"3" is displayed.	Keep the brightness at the time when the trip knob is released.	Not beep.
Step 4-1. Press the trip knob: Check the beeping of SPORT shift buzzer (For AT model)						
All meter indicator needle returns to lowest position.	Light OFF	Illuminate at the highest brightness. Keep the position indicated that set in step 1-2.	Illumination brightness is displayed in the trip meter.	"▲ ▼8" is displayed. Blinks with buzzer.	Illuminate at the highest brightness.	SPORT shift buzzer beeps.
Step 5. Press the trip knob: Complete the self-diagnosis 1 cycle						
All meter indicator needle returns to lowest position, and go back to step 1 after completion.						

- Illuminating order table

Illuminating order	1	2	3	4	5	6	7	8	9	10	11	
Trip meter A/B	AB	A	B	A	B	A	B	A	B	A	B	
Odo/trip meter	8888.8 888888	0000.0 000000	1111.1 111111	2222.2 222222	3333.3 333333	4444.4 444444	5555.5 555555	6666.6 666666	7777.7 777777	8888.8 888888	9999.9 999999	
SPORT shift indicator	All lights ON	1	2	3	4	5	E	P	R	N	D	Go back to 1 and repeat
▲ ▼	▲ ▼	▲	▼	▲	▼	▲	▼	▲	▼	▲	▼	
Display time (seconds)	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	

3. SYMPTOM CHART

Symptom	Repair order	Note
Combination meter assembly does not operate.	1. Power supply 2. Ground circuit 3. Combination meter	<Ref. to IDI-7, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.>
Speedometer does not operate.	1. VDCCM 2. Harness 3. Combination meter	<Ref. to IDI-8, CHECK VDCCM, INSPECTION, Combination Meter System.>
Tachometer does not operate.	1. ECM 2. Harness 3. Combination meter	<Ref. to IDI-8, CHECK ENGINE CONTROL MODULE (ECM), INSPECTION, Combination Meter System.>
Fuel gauge does not operate.	1. Communication circuit 2. Fuel level sensor 3. Harness 4. Combination meter	<Ref. to IDI-9, CHECK FUEL LEVEL SENSOR, INSPECTION, Combination Meter System.>
Engine coolant temperature gauge does not operate.	1. Communication circuit 2. Engine coolant temperature sensor 3. Harness 4. Combination meter	<Ref. to IDI-10, CHECK ENGINE COOLANT TEMPERATURE SENSOR, INSPECTION, Combination Meter System.>
Error display is shown on the odo/trip meter.	Communication circuit	<Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>

CAUTION:
When measuring the voltage and resistance of each control module or sensor, use a tapered pin with a diameter of less than 0.64 mm (0.025 in) in order to avoid poor contact. Do not insert the pin more than 2 mm (0.08 in).

4. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR COMBINATION METER.** 1) Remove the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.> 2) Disconnect the combination meter harness connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short between the ignition switch and combination meter.
2	**CHECK POWER SUPPLY FOR COMBINATION METER.** Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short between the fuse and combination meter.
3	**CHECK GROUND CIRCUIT OF COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 15 — Chassis ground:*** ***(i10) No. 16 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

5. CHECK VDCCM

	Step	Check	Yes	No
1	**CHECK VEHICLE SPEED SIGNAL.** 1) Lift up the vehicle and support it with rigid racks. 2) Drive the vehicle faster than 10 km/h (6 MPH). **WARNING:** **Be careful not to be dragged in by the rotating wheel.** 3) Measure the voltage between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. 27 (+) — Chassis ground (–):***	Is the voltage less than 1 V ←→ 5 V or more?	Replace the meter case assembly.	Go to step **2**.
2	**CHECK HARNESS BETWEEN VDCCM AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM and combination meter. 3) Measure the resistance between VDCCM harness connector and combination meter harness connector. ***Connector & terminal*** ***VDC control module identification mark W2*** ***(B310) No. 33 — (i10) No. 27:*** ***VDC control module identification mark W3*** ***(B310) No. 10 — (i10) No. 27:***	Is the resistance less than 10 Ω?	Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Repair the wiring harness.

6. CHECK ENGINE CONTROL MODULE (ECM)

	Step	Check	Yes	No
1	**CHECK ECM SIGNAL.** 1) Start the engine. 2) Measure the voltage between ECM connector and chassis ground. ***Connector & terminal*** ***(B136) No. 22 (+) — Chassis ground (–):***	Is the voltage 0 ←→ 14 V or more?	Go to step **2**.	Inspect the ECM. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>
2	**CHECK HARNESS BETWEEN COMBINATION METER AND ECM.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM and combination meter. 3) Measure the resistance between ECM harness connector and combination meter harness connector. ***Connector & terminal*** ***(B136) No. 22 — (i10) No. 28:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

7. CHECK FUEL LEVEL SENSOR

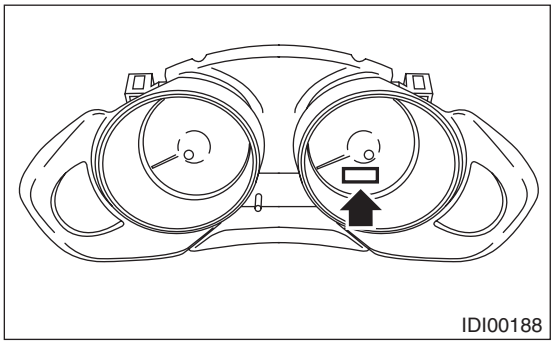
	Step	Check	Yes	No
1	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Turn the ignition switch to ON. 2) Check that the error code is displayed in odo/trip meter.	Is the error code "Er xx" displayed on odo/trip meter?	Check the communication circuit. <Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>	Go to step **2**.
2	**CHECK FUEL LEVEL SENSOR.** 1) Remove the fuel level sensor. <Ref. to FU(H6DO)-51, REMOVAL, Fuel Level Sensor.> 2) Measure the resistance between fuel level sensor terminals when the float is in FULL or EMPTY position. ***Terminals*** ***No. 1 — No. 4:***	Is the resistance 1.0 to 3.0 Ω (FULL) and 31 to 33 Ω (EMPTY)?	Go to step **3**.	Replace the fuel level sensor.
3	**CHECK FUEL SUB LEVEL SENSOR.** 1) Remove the fuel sub level sensor. <Ref. to FU(H6DO)-52, REMOVAL, Fuel Sub Level Sensor.> 2) Measure the resistance between fuel sub level sensor terminals when the float is in FULL or EMPTY position. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance 1.0 to 3.0 Ω (FULL) and 61 to 63 Ω (EMPTY)?	Go to step **4**.	Replace the fuel sub level sensor.
4	**CHECK HARNESS BETWEEN FUEL SUB-LEVEL SENSOR AND BODY INTEGRATED UNIT.** 1) Disconnect the connector from body integrated unit. 2) Measure the resistance between fuel sub level sensor harness connector terminal and body integrated unit harness connector terminal. ***Connector & terminal*** ***(R59) No. 1 — (B281) No. 19:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the wiring harness.
5	**CHECK HARNESS BETWEEN FUEL LEVEL SENSOR AND FUEL SUB LEVEL SENSOR.** Measure the resistance between fuel level sensor harness connector terminal and fuel sub level sensor harness connector terminal. ***Connector & terminal*** ***(R58) No. 1 — (R59) No. 2:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair the wiring harness.
6	**CHECK FUEL LEVEL SENSOR GROUND CIRCUIT.** Measure the resistance between fuel level sensor harness connector terminal and chassis ground. ***Connector & terminal*** ***(R58) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the meter case assembly.	Repair the wiring harness.

8. CHECK ENGINE COOLANT TEMPERATURE SENSOR

	Step	Check	Yes	No
1	**CHECK COMMUNICATION ERROR DISPLAY.** 1) Turn the ignition switch to ON. 2) Check that the error code is displayed in odo/trip meter.	Is the error code “Er xx” displayed on odo/trip meter?	Check the communication circuit. <Ref. to IDI-10, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.>	Go to step **2**.
2	**CHECK ENGINE COOLANT TEMPERATURE SENSOR.** Check the engine coolant temperature sensor. <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.>	Is the engine coolant temperature sensor OK?	Replace the meter case assembly.	Replace the engine coolant temperature sensor.

9. COMMUNICATION ERROR DISPLAY

When the following error code is displayed in the odo/trip meter, inspect the communication circuit since the communication malfunction is generated between each control module. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>



Error code	Remarks
Er IU	Malfunction in integrated module
Er —	Simultaneous malfunction of high/low speed CAN communication
Er HC	High speed CAN communication failure
Er LC	Malfunction of low-speed CAN communication
Er EG	EGI Communication failure
Er tC	TCM Communication failure
Er Ab	VDCCM communication failure
Er SP	VDCCM DTC information and vehicle speed pulse malfunction
Er SS	Wheel speed data malfunction
Er bb	Vacuum pump system malfunction

10.DTC DISPLAY MODE

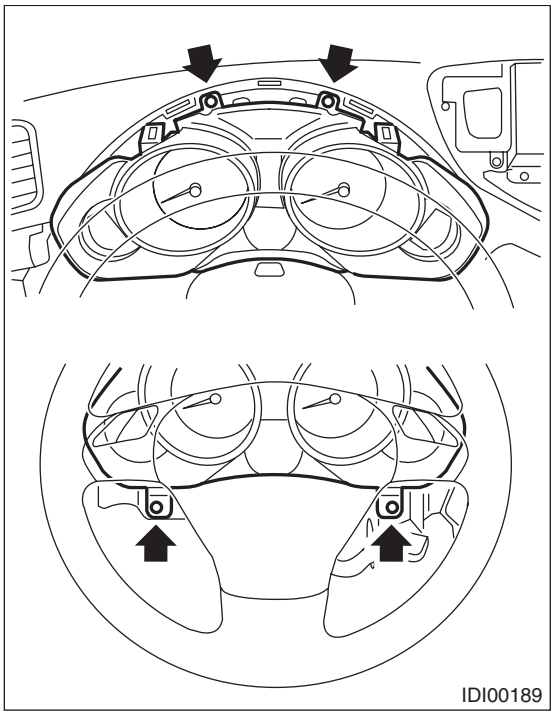
When DTC display mode is operated, {ECM}, {TCM} is displayed repeatedly in this order by pressing the trip knob. DTC is displayed in the following table according to type of control module, receiving DTC, DTC detected, No DTC. If CAN communication has some trouble, "-----" is displayed.

Control module	Condition	Display
ECM	Receiving DTC	Trip "A" + "P (Blink)"
	DTC detected	Trip "A" + "P xxxx"
	No DTC	Trip "A" + "P ----"
TCM	Receiving DTC	Trip "B" + "P (Blink)"
	DTC detected	Trip "B" + "P xxxx"
	No DTC	Trip "B" + "P ----"
ABS/VDCCM	Receiving DTC	Trip "A" + "C (Blink)"
	DTC detected	Trip "A" + "C xxxx"
	No DTC	Trip "A" + "C ----"
When CAN communication error is occurred	—	"-----"

3. Combination Meter

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Set the tilt steering at the lowest position.
3) Remove the console box. <Ref. to EI-40, REMOVAL, Console Box.>
4) Remove the control panel. <Ref. to AC-34, REMOVAL, Control Panel.>
5) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
6) Remove the console side panel. <Ref. to EI-41, REMOVAL, Center Console.>
7) Remove the meter hood.
8) Remove the screws of combination meter (two for upper side, two for lower side) and pull the combination meter.



9) Disconnect the connector in the rear side of combination meter to remove meter.

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

B: INSTALLATION

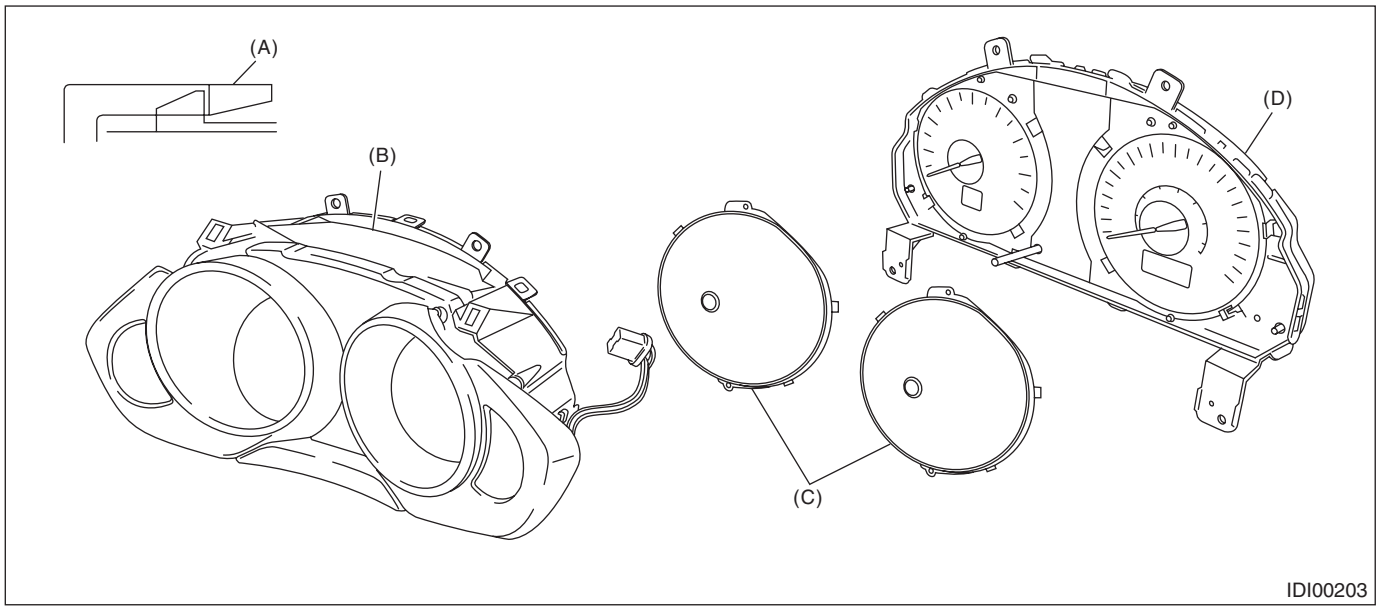
Install in the reverse order of removal.

CAUTION:
• Make sure the electrical connector is connected securely.
• Make sure that each meter operates normally.
• When the combination meter of model with immobilizer has been replaced, be sure to perform the registration of immobilizer.

C: DISASSEMBLY

CAUTION:
- **Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.**
- **Be careful not to apply excessive force to the trip knob.**
- **Be sure not to touch the meter indicator needle.**

Disengage the claw (A), and remove the visor assembly and meter case cover (B), and cover glass (C) from the meter panel assembly (D).



1. BULB REPLACEMENT

LEDs are used for all of warning lights and indicator lights of combination meters, replace the meter case assembly if faulty.

D: ASSEMBLY

Assemble in the reverse order of disassembly.

4. Speedometer

A: SPECIFICATION

Since the meter panel assembly cannot be disassembled, do not remove or inspect the speedometer alone. (Do not remove the cover on the back surface.)

5. Tachometer

A: SPECIFICATION

Since the meter panel assembly cannot be disassembled, do not remove or inspect the tachometer alone. (Do not remove the cover on the back surface.)

6. Fuel Gauge

A: SPECIFICATION

Since the visor assembly cannot be disassembled, do not remove or inspect the fuel gauge as alone. (Do not remove the cover on the back surface.)

7. Engine Coolant Temperature Gauge

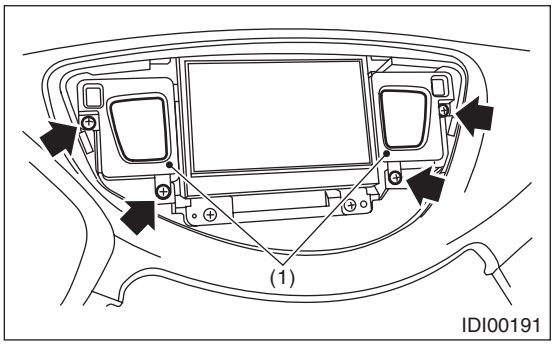
A: SPECIFICATION

Since the visor assembly cannot be disassembled, do not remove or inspect the temperature gauge alone. (Do not remove the cover on the back surface.)

8. Warning Box

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the upper grille. <Ref. to AC-51, UPPER GRILLE, REMOVAL, Air Vent Grille.>
3) Remove the screws of warning box (1) and pull out the warning box.



4) Disconnect the connector in the rear side of warning box to remove the warning box.

B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
• Make sure the electrical connector is connected securely.
• Make sure that each indicator operates normally.

SEATS

SE

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4. Third Seat 19
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1. Basic Diagnostic Procedure

A: PROCEDURE

1. WITH SUBARU SELECT MONITOR

CAUTION:
• Subaru Select Monitor is required for reading DTC, performing diagnosis and reading current data.
• Remove foreign matter (dust, water, oil, etc.) from the body integrated unit connector during removal and installation.
• For model with immobilizer, registration of immobilizer may be needed after the replacement of controller etc. For details, refer to the "PC application help for Subaru Select Monitor".

NOTE:
• To check harness for open or short circuits, shake the suspected trouble spot or connector.
• Check List for Interview <Ref. to LAN(diag)-3, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK PRE-INSPECTION.** Ask the customer when and how the trouble occurred using the interview check list. <Ref. to LAN(diag)-3, Check List for Interview.>	Did you interview the customer?	Go to step **2**.	Interview the customer.
2	**BASIC INSPECTION.** Check components which might affect body control. <Ref. to LAN(diag)-5, INSPECTION, General Description.>	Is the component that might influence the body control problem normal?	Go to step **3**.	Repair or replace each component.
3	**CHECK INDICATION OF DTC.** 1) Read DTC of all systems. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> NOTE: • The LAN system is for the overall vehicle, so read the DTC of all systems. • If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to LAN(diag)-31, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> 2) Record all DTC.	Is a DTC other than CAN communication displayed in the output code? ECM: P0600 TCM: P1718 VDCCM: C0047 or C0057, etc.	Refer to the DTC related table. <Ref. to LAN(diag)-30, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).> Go to step **5**.	Go to step **4**.
4	**PERFORM GENERAL DIAGNOSIS.** Inspect using the "General Diagnostics Table". <Ref. to LAN(diag)-100, General Diagnostic Table.>	Is the result of inspection OK?	LAN system is normal.	Go to step **5**.
5	**PERFORM DIAGNOSIS.** 1) Correct the cause of trouble. 2) Perform the Clear Memory Mode. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.> 3) Read the DTC. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>	Is DTC displayed?	Repeat step 5 until DTC is not shown.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Inspect the following item about the vehicle's state.

1. DISPLAY OF COMMUNICATION ERROR

Communication error is displayed in odo/trip meter.	When and how often are they displayed? ❑ Always ❑ Sometimes ❑ Only once
	Which communication error is displayed? (Record them all) ❑ Er IU (Fail in the body integrated unit) ❑ Er HC (Fail of high-speed CAN) ❑ Er LC (Fail of low-speed CAN) ❑ Er — (Fails of both high-speed and low-speed CAN) ❑ Er EG (Fail of EGI communication data) ❑ Er TC (Fail of TCM communication data) ❑ Er Ab (Fail of vehicle dynamics control (VDC)/ABS communication data) ❑ Er bb (Fail of brake vacuum system)
Ignition key position	❑ OFF ❑ ACC ❑ ON (before starting engine) ❑ START ❑ ON (after starting engine, while engine is running) ❑ ON (after starting engine, engine is stopped)
Timing	❑ Immediately after turning the ignition ON. ❑ Immediately after turning the ignition to START.

2. DISPLAY STATUS IN THE COMBINATION METER

Display status in the combination meter	a) Engine coolant temperature gauge display	❑ OK / ❑ NG
	b) Fuel gauge display	❑ OK / ❑ NG
Display of other indicators	c) Malfunction indicator light	❑ ON / ❑ OFF
	d) SPORT indicator light (AT warning light)	❑ ON / ❑ OFF
	e) ABS warning light/Vehicle dynamics control (VDC) warning light	❑ ON / ❑ OFF
	f) Security indicator light	❑ ON / ❑ Blink / ❑ OFF
	g) Seat belt warning light (Driver's seat)	❑ ON / ❑ OFF
	h) Seat belt warning light (Passenger's seat)	❑ ON / ❑ OFF

3. SYMPTOM

Vehicle condition	a) Lighting adjustment is not possible by the illumination volume control.	❑ Yes / ❑ No
	b) Rear wiper does not operate.	❑ Yes / ❑ No
	c) Wiper deicer does not operate.	❑ Yes / ❑ No
	d) Rear defogger does not operate.	❑ Yes / ❑ No
	e) All door locks do not operate.	❑ Yes / ❑ No
	f) Trunk/rear gate lock does not operate.	❑ Yes / ❑ No
	g) Driver's door lock does not operate.	❑ Yes / ❑ No
	h) Shift lock does not operate.	❑ Yes / ❑ No
	i) Key illumination blinks.	❑ Yes / ❑ No

4. CONDITIONS UNDER WHICH TROUBLE OCCURS

Driving condition	❑ At standstill (While idling)				
	❑ When the vehicle is running	Vehicle speed	km/h (MPH)		
	❑ While accelerating	Acceleration	km/h (MPH) to	km/h (MPH)	
	❑ While decelerating (With braking)	Deceleration	km/h (MPH) to	km/h (MPH)	
	❑ While decelerating (Without braking)	Deceleration	km/h (MPH) to	km/h (MPH)	
	❑ Flat road ❑ Uphill ❑ Downhill ❑ Gravel road ❑ Bumpy road ❑ Snowy road				
	Does it occur when operating any part? Operated part: Trouble symptom				
	Are there any other troubles occurred? From where: Trouble symptom				

3. General Description

A: CAUTION

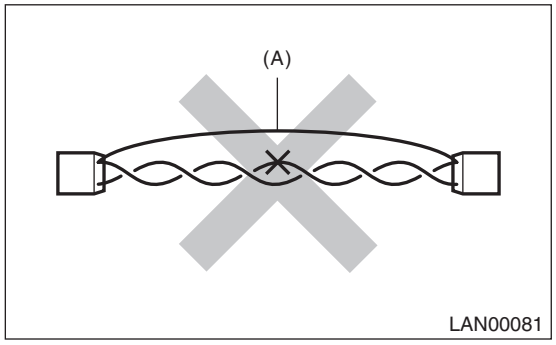
1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

Airbag system wiring harness is routed near the body integrated unit and twisted pair line.

CAUTION:
• Do not use electrical test equipment on any airbag system wiring harnesses.
• Be careful not to damage the airbag system wiring harness when servicing the body integrated unit and LAN system.
• When disconnecting the airbag system connectors, refer to the cautions regarding the airbag system. <Ref. to AB-4, CAUTION, General Description.>

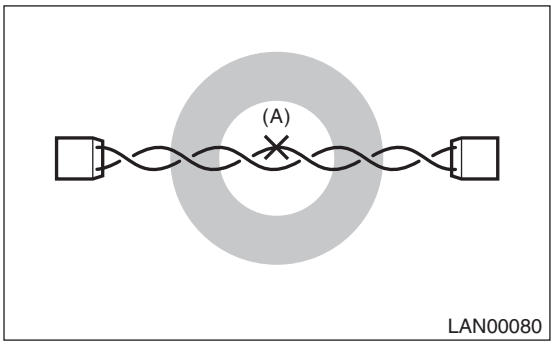
2. LAN SYSTEM

• Bus line of LAN system is twisted pair line. Be careful not to bypass or partly unbind the twisted pair line.
• Do not make clearance between bus lines (CAN High, CAN Low).
• Difference of bus line length should be within 10 cm (3.94 in).
• Fray near the connector should be within 8 cm (3.14 in).



(A) Bypass wire connection

• If the characteristics of the twisted pair line are changed, it may extremely weaken against noise.
• When repairing the harness, connect the wires using soldering and protect it with insulating tape etc.



(A) Soldering and protection with insulating tape

B: INSPECTION

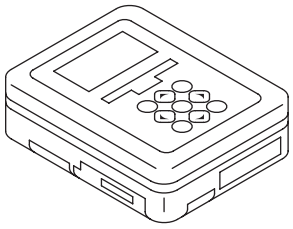
Before performing diagnostics, check the following item which might affect body integrated unit malfunctions.
1) Measure the battery voltage and check electrolyte.

Standard voltage: 12 V or more

Specific gravity: Above 1.260
2) Check the fuse condition. (Includes the backup fuse.)
Make sure that ampere of the fuse is setting value, and it is not blown out.
3) Check the connecting condition of harness and harness connector.
4) Confirm that a setting that does not match the vehicle equipment, is not set in the body integrated unit. <Ref. to LAN(diag)-18, REGISTRATION BODY INTEGRATED UNIT (EQUIPMENT SETTING), OPERATION, Subaru Select Monitor.>
5) Make sure that a setting that does not match the vehicle equipment, is not set in the function setting (ECM customizing) of the body integrated unit. <Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>
6) Confirm "Factory or Market setting" of body integrated unit registrations is "Market".
7) Confirm key illumination does not blink with ignition switch turned to ON.

C: PREPARATION TOOL

1. SPECIAL TOOL

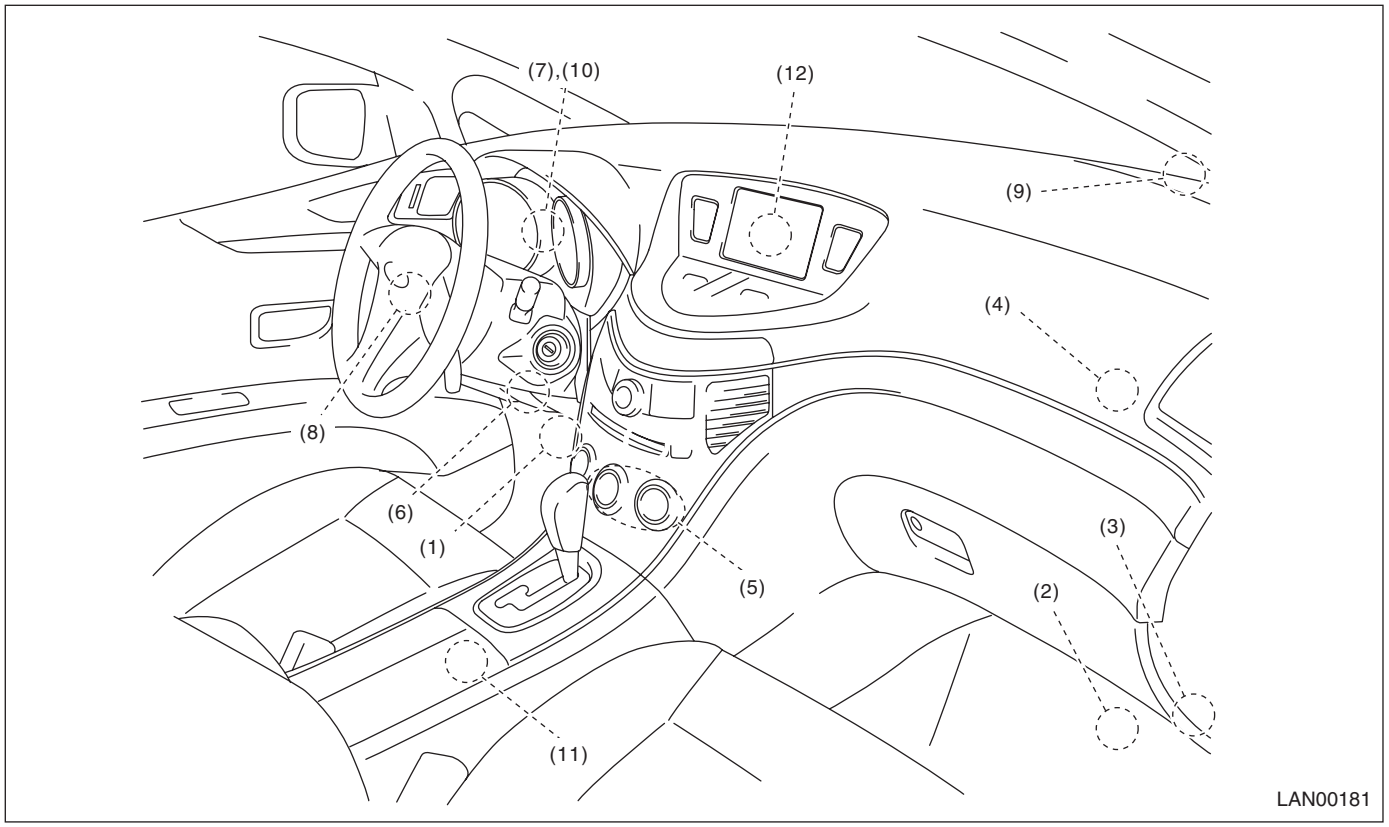
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0 (Newly adopted tool)	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

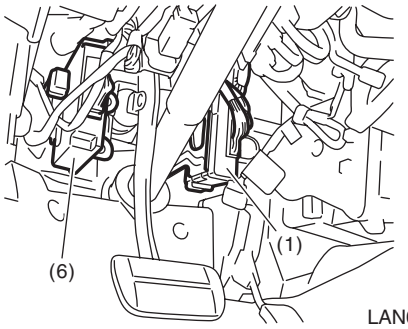
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

4. Electrical Component Location

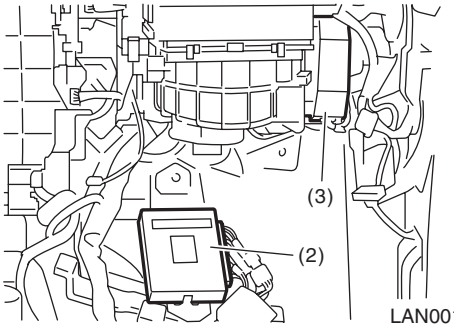
A: LOCATION



(1) Body integrated unit
(2) Engine control module (ECM)
(3) Auto A/C control module
(4) Keyless entry control module (Antenna)
(5) A/C control panel
(6) Transmission control module (TCM)
(7) Combination meter
(8) Steering angle sensor
(9) VDCCM&H/U (In engine compartment)
(10) Odo/trip meter
(11) Yaw rate sensor
(12) Center monitor (navigation monitor or MFD)



LAN00182



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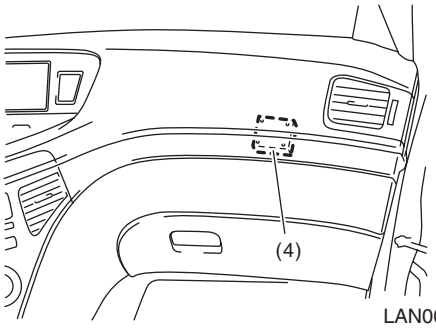

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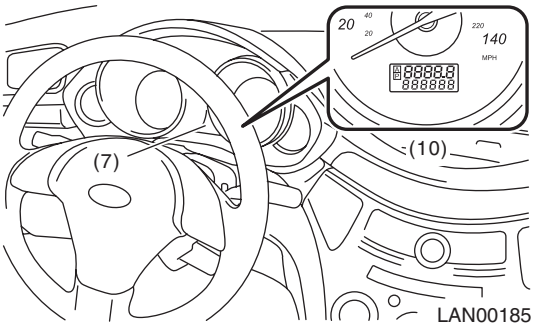

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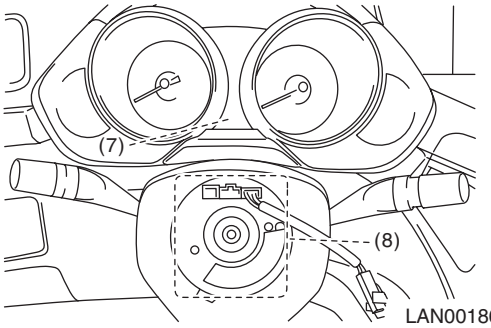

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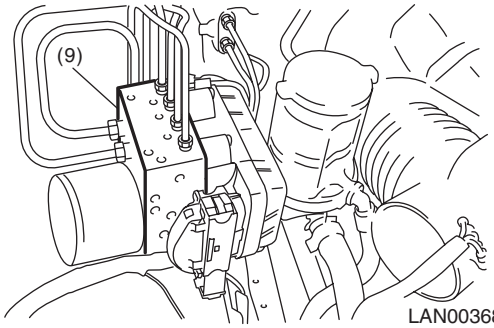
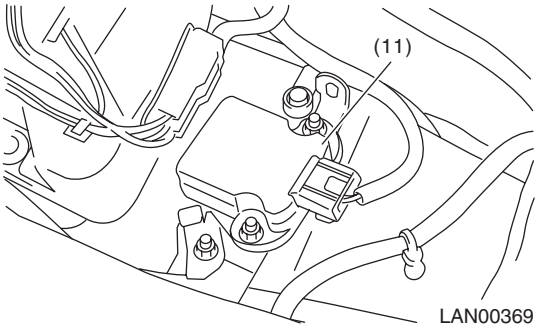


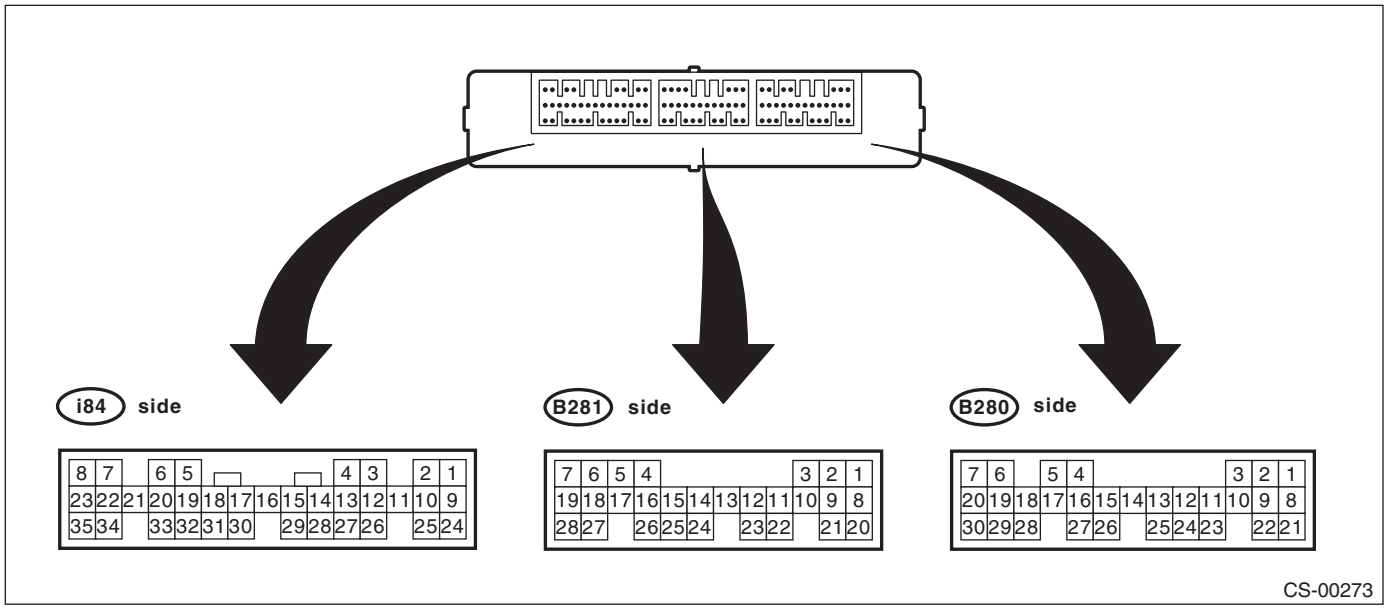
LAN00368



LAN00369

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Description	Connector No.	Terminal No.	Signal (V)	Note
			Ignition switch ON (engine OFF)	
System control power supply	B281	2	10 — 13 V	Always
Backup power supply	B280	7	10 — 13 V	Always
Ignition power supply	i84	1	10 — 13 V	Ignition ON
ACC power supply	i84	24	10 — 13 V	ACC ON
Ground	i84	21	0 V	Always
	B281	9		
	B281	8		
	B280	22		
Key warning switch	B281	7	10 — 13 V	When ignition key is inserted
Stop light switch	B281	23	10 — 13 V	When brake pedal is depressed
Illumination control switch (Bright switch)	i84	30	10 — 13 V (at dimmer ON)	Cancel the extinction of the clock and audio illumination
Illumination control switch	i84	30	10 — 13 V (at dimmer ON)	Extinct the clock and audio illumination
Illumination volume (Vi1)	i84	10	4.5 — 5.5 V	Small light ON
Illumination volume (Vi2)	i84	2	0.5 — 4.5 V	—
Illumination volume (Vi3)	i84	25	0 V	Ground circuit
Illumination output	i84	5	10 — 13 V	Small light ON
Front fog light input	B281	17	10 — 13 V	Front fog light ON
Door switch input driver's seat	i84	19	Less than 1 V (10 — 13 V at OFF)	Driver's door open (ON)
Door switch input passenger's seat	i84	32	Less than 1 V (10 — 13 V at OFF)	Passenger's door open (ON)
Door switch input rear RH seat	i84	18	Less than 1 V (10 — 13 V at OFF)	Rear RH door open (ON)
Door switch input rear LH seat	i84	31	Less than 1 V (10 — 13 V at OFF)	Rear LH door open (ON)
Door switch trunk/rear gate	i84	17	Less than 1 V (10 — 13 V at OFF)	Trunk/rear gate open (ON)

Description	Connector No.	Terminal No.	Signal (V)	Note
			Ignition switch ON (engine OFF)	
Manual switch (LOCK)	i84	15	Less than 1 Ω	Door lock switch ON
Manual switch (UNLOCK)	i84	29	Less than 1 Ω	Door unlock switch ON
Door lock power supply	i84	34	10 — 13 V	Always
All door lock output	i84	7	10 — 13 V	Manual lock switch, door key switch ON
Driver's door UNLOCK output	i84	23	10 — 13 V	Driver's seat unlock signal ON
All door UNLOCK output	i84	8	10 — 13 V	ALL door unlock signals ON
Rear gate UNLOCK output	i84	22	10 — 13 V	When the rear gate release switch is ON with all seats unlocked
Rear gate release switch	B281	22	0 V	Rear gate release switch ON
Key/shift lock power supply	B281	1	10 — 13 V	Always
Shift lock output	B280	6	10 — 13 V	Key-lock warning SW ON, ignition switch ON, shift position "P" range, foot brake ON (AT Only)
Key locking output	B280	5	10 — 13 V	Other than "P" range, ignition switch ON
Wiper deicer switch	i84	14	0 V	Wiper deicer switch ON
Wiper deicer relay output	B280	14	0 V	Wiper deicer relay ON
Rear defogger switch	i84	28	0 V	Rear defogger switch ON
Rear defogger relay output	B281	16	0 V	Rear defogger relay ON
Shift switch (ON)	B281	26	0 V	At shift lever manual mode
Shift switch (UP)	B281	15	0 V	At shift lever manual mode UP
Shift switch (DOWN)	B281	25	0 V	At shift lever manual mode DOWN
Shift button switch	B281	14	0 V	When shift lever release button is operated
P range switch	B281	13	0 V	Shift range P position
Impact sensor	B281	5	8 V or more	Impact sensor ON (Model with impact sensor)
Fuel level sensor	B281	19	0 — 102.3 Ω	Resistance differs according to the fuel level (Displays resistance combining level gauge main and sub)
Ambient sensor	B281	3	0.5 — 4.5 V	SIG
	B281	10	0 V	GND
Seat belt switch (Driver's seat)	i84	4	0 V	When driver's seat belt is worn
Seat belt switch (Passenger's seat)	i84	13	0 V	When passenger's seat belt is worn
Seat belt warning light (Driver's seat)	i84	20	0 V	When driver's seat belt is worn
Seat belt warning light (Passenger's seat)	B280	27	0 V	When passenger's seat belt is worn
Rear wiper switch (ON)	B281	6	0 V	Rear wiper switch ON
Rear wiper switch (INT)	B281	18	0 V	Rear wiper switch ON
Rear washer switch	B281	27	0 V	Rear washer switch ON
Rear wiper power supply	B280	21	10 — 13 V	Ignition switch ON
Rear wiper ON output	B280	1	10 — 13 V	Rear wiper switch ON
Rear wiper return	B280	8	0 V	At wiper reversing
		1 — 8	0 V	
Room light output	B280	3	0 V	When LOCK, UNLOCK with keyless entry

Description	Connector No.	Terminal No.	Signal (V)	Note
			Ignition switch ON (engine OFF)	
Map light output	B280	2	0 V	When using map light
		9	0 V	When using map light
Key ring illumination output	B280	4	0 V	Ignition key removed, driver's door open
Turn hazard output	B280	12	0 V	When operating keyless entry answer back
Keyless buzzer output	i84	6	10 — 13 V	When operating keyless entry answer back
Security horn output	B280	11	0 V	When operating security horn
Security indicator light	i84	33	0 V	At ignition key removed, immobilizer operating
TPMS registration check signal input	B281	4	0 V	When inputting registration check signal
Keyless communication	i84	9	Serial communication	At keyless entry signal received
High-speed CAN circuit (Hi)	B280	20	Between B20 — B30 Serial communication	At communicating (Sending and receiving)
High-speed CAN circuit (Lo)	B280	30		
Low-speed CAN circuit 1 (Hi)	i84	27	Between A25 — A26 Serial communication	At communicating (Sending and receiving)
Low-speed CAN circuit 1 (Lo)	i84	26		
Low-speed CAN circuit 2 (Hi)	B280	26	Between B25 — B27 Serial communication	At communicating (Sending and receiving) (Model with auto A/C)
Low-speed CAN circuit 2 (Lo)	B280	25		
Immobilizer antenna	B281	20 — 21	Serial communication	
Immobilizer communication (Main)	B280	18 (Back-up 28)	Serial communication	
Subaru Select Monitor communication	B280	19	Serial communication	

B: WIRING DIAGRAM

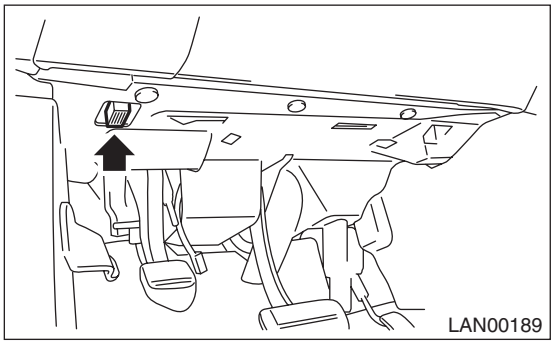
Refer to the electrical wiring diagram. <Ref. to WI-109, WIRING DIAGRAM, CAN Communication System.>

6. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

NOTE:
• DTC is displayed in the sequence of inputting. (When entering two DTCs or more simultaneously, they are displayed in the sequence of priority.)
• When more than two DTCs are displayed, perform the diagnosis of top one.
1) Prepare the Subaru Select Monitor kit.
2) Connect the diagnosis cable to the Subaru Select Monitor.
3) Connect the Subaru Select Monitor to data link connector.
The data link connector is located in the lower portion of the instrument panel (on the driver's side).



CAUTION:
Do not connect the scan tools except for Subaru Select Monitor.
4) Turn the ignition switch to ON (engine OFF) and run the Subaru Select Monitor.
5) On the «Main Menu» display screen, select {Each System Check}.
6) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
7) On the «Integ. unit mode failure diag.» display screen, select the {Diagnostic Code(s) Display}.

NOTE:
It is possible to read the DTC at the {All System Diagnosis} on the «Main Menu», and then find the contents to check from the DTC table. <Ref. to LAN(diag)-30, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

NOTE:
• For details concerning the operation procedure, refer to the "PC application help for Subaru Select Monitor".
• For details concerning DTCs, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to LAN(diag)-28, List of Diagnostic Trouble Code (DTC).>

2. READ CURRENT DATA

1) Select {Each System Check} in «Main Menu» display screen.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag.» display screen, select the {Current Data Display & Save}.
4) Using the scroll key, scroll the display screen up or down until the desired data is shown.
• A support list contains both of analog and digital data, and they are shown in the following table.

3. DISPLAY OF ANALOG DATA

Items to be displayed	Unit of measure	Description	Note
BATT voltage (control)	10 — 15 V	Body integrated unit input value	Always
BATT voltage (BACKUP)	10 — 15 V	Body integrated unit input value	Always
ABS_CM Power Voltage	10 — 15 V	Body integrated unit input value	Ignition switch ON
ACC voltage	10 — 15 V	Body integrated unit input value	Ignition switch ACC
Illumination VR Voltage	0 — 5 V	Body integrated unit output value	Small light switch ON
Illumi. output d-ratio	0 — 100%	Body integrated unit input value	Small light ON Illumination volume is other than bright.
Ambient temp sensor V	0 — 5 V	Body integrated unit input value	Ignition switch ON
Ambient Temperature	–40 — 87.5°C	Body integrated unit output value	Ignition switch ON
Fuel level voltage	0 — 8 V	Body integrated unit input value	Ignition switch ON
Fuel level resistance	0 — 102.3 Ω	Body integrated unit input value	Ignition switch ON
key-lock solenoid V	6 — 12 V	Body integrated unit output value	Key warning switch ON, other than parking range Ignition ON
number of regist.	0 — 4	Number of keyless key registered	
Front Wheel Speed	km/h	CAN data input value	Reception from VDC unit
VDC/ABS latest f-code	DTC display (Temporarily)	CAN data input value	It is normal when DTC is not been input even if this code is displayed. Reception from VDC
Blower Fan Steps	0 — 2 levels	CAN data input value	0: OFF, 1: Low, 2: 2 levels or more Reception from air conditioner ECM
Fuel level resistance 2	0 — 102.3 Ω	CAN data output value	Reception from body integrated unit
Fuel consumption	cc/s	CAN data input value	Reception from ECM and transmission to center monitor
Coolant Temp.	–40 — 130°C	CAN data input value	Reception from ECM
Vehicle longitudinal G	m/s^2	CAN data input value	Reception from VDC unit
SPORT Shift Stages	0 — 7 levels	CAN data input value	Manual mode operating information (0: Light OFF; 1 — 5: Gear display; 6: Fail; 7: ATF temperature High/Low) Reception from TCM
Shift Position	0 — 7 levels	CAN data input value	0: 1; 1: 2; 2: 3; 3: 4; 4: D; 5: N; 6: R; 7: P shift position (There is no 8 input.) 8 is displayed in manual mode. Reception from TCM
Off delay time	OFF, Short, Normal, Long	Body integrated unit setting items	Customize setting
Auto lock time	20, 30, 40, 50, 60 seconds	Body integrated unit setting items	Customize setting

4. DISPLAY OF ON/OFF DATA

Items to be displayed	Unit of measure	Description	Note
key-lock warning SW	ON/OFF	Body integrated unit input value	ON when ignition key is inserted
Stop Light Switch	ON/OFF	Body integrated unit input value	ON when brake pedal is depressed
Front fog lamp SW input	ON/OFF	Body integrated unit input value	When front fog light switch is ON
TPMS input	ON/OFF	Body integrated unit input value	ON when TPMS registration completed
lighting SW input	ON/OFF	Body integrated unit input value	ON when headlight is ON from the combination switch
Door key-lock SW input	ON/OFF	Body integrated unit input value	Not supported by North American specifications
Door unlock SW input	ON/OFF	Body integrated unit input value	ON when door key cylinder is moved to the UNLOCK side
Driver's door SW input	ON/OFF	Body integrated unit input value	ON when driver's door is open
P-door SW input	ON/OFF	Body integrated unit input value	ON when passenger's door is open
Rear right door SW input	ON/OFF	Body integrated unit input value	ON when rear right door is open
Rear left door SW input	ON/OFF	Body integrated unit input value	ON when rear left door is open
R Gate SW input	ON/OFF	Body integrated unit input value	ON when rear gate/trunk is open
Manual lock SW input	ON/OFF	Body integrated unit input value	Manual lock switch ON
Manual unlock SW input	ON/OFF	Body integrated unit input value	Manual unlock switch ON
Lock SW (front hood)	ON/OFF	Body integrated unit input value	Not supported by North American specifications
Bright SW input	ON/OFF	Body integrated unit input value	ON when bright switch is ON Except for automatic A/C
Shift Button SW Input	ON/OFF	Body integrated unit input value	ON when shift lever lock button is operated
Tiptronic Mode Switch	ON/OFF	Body integrated unit input value	SPORT shift mode ON
TIP UP SW input	ON/OFF	Body integrated unit input value	SPORT shift ON and ON at up operation
TIP DOWN SW input	ON/OFF	Body integrated unit input value	SPORT shift ON and ON at down operation
P SW	ON/OFF	Body integrated unit input value	ON when shift range is in parking Shift lever P SW signal
R wiper ON SW input	ON/OFF	Body integrated unit input value	Rear wiper switch ON
R wiper INT SW input	ON/OFF	Body integrated unit input value	Rear wiper switch INT ON
R washer SW input	ON/OFF	Body integrated unit input value	Rear washer switch ON
wiper deicer SW input	ON/OFF	Body integrated unit input value	Wiper deicer switch ON
Rear Defogger SW	ON/OFF	Body integrated unit input value	Rear defogger switch ON
Driver's Seat SW input	ON/OFF	Body integrated unit input value	Driver's seat buckle switch ON
P seatbelt SW input	ON/OFF	Body integrated unit input value	With passenger's seat occupied and buckle switch ON
Fr wiper input	ON/OFF	Body integrated unit input value	ON when front wiper is operating
Identification SW input	ON/OFF	Body integrated unit input value	ON when the body type is a wagon
Rr defogger output	ON/OFF	Body integrated unit output value	ON when rear defogger relay is operating
lock actuat. LOCK output	ON/OFF	Body integrated unit output value	ON when lock signal is output
All seat UNLOCK output	ON/OFF	Body integrated unit output value	ON when unlock signal is output
D-seat UNLOCK output	ON/OFF	Body integrated unit output value	ON when unlock signal is output
R gate/trunk UNLK output	ON/OFF	Body integrated unit output value	ON when rear gate/trunk unlock signal is output
R wiper output	ON/OFF	Body integrated unit output value	ON when rear wiper motor is operating
Shift Lock Solenoid	ON/OFF	Body integrated unit output value	ON when shift lock solenoid is operating
Key locking output	ON/OFF	Body integrated unit output value	Not supported by North American specifications
wiper deicer output	ON/OFF	Body integrated unit output value	ON when wiper deicer relay is operating
Starter cutting output	ON/OFF	Body integrated unit output value	ON when immobilizer is operating
Hazard Output	ON/OFF	Body integrated unit output value	ON when keyless answer back signal is received or when hazard is operating
Keyless Buzzer Output	ON/OFF	Body integrated unit output value	ON when keyless lock/unlock signal is received
Belt buzzer output	ON/OFF	Body integrated unit output value	ON when signal is output to the belt buzzer
Horn Output	ON/OFF	Body integrated unit output value	ON when security warning is operating

Items to be displayed	Unit of measure	Description	Note
Siren Output	ON/OFF	Body integrated unit output value	On when siren is installed, customize settings are enabled, and security warning is operating
D-belt warning light O/P	ON/OFF	Body integrated unit output value	ON when ignition switch is turned to ON, and buckle switch is turned to OFF
P-belt warning light O/P	ON/OFF	Body integrated unit output value	ON when ignition switch is turned to ON, occupant is seated, and buckle switch is turned to OFF
Illumination lamp O/P	ON/OFF	Body integrated unit output value	ON when illumination is illuminated
Room lamp output	ON/OFF	Body integrated unit output value	ON when keyless lock/unlock signal is received (When keyless switch connector is removed)
key illumi. lamp o/p	ON/OFF	Body integrated unit output value	ON when key illumination light is illuminated
Immobilizer lamp output	ON/OFF	Body integrated unit output value	ON when immobilizer pilot light blinks
TL alarm output	ON/OFF	Body integrated unit output value	Alarm output of the door alarm function. ON when the locked door is improperly opened
CC Main Lamp	On/Off	CAN data input value	Cruise control switch ON Reception from ECM and transmission to combination meter
CC Set Lamp	On/Off	CAN data input value	ON when cruise control vehicle speed is set Reception from ECM and transmission to combination meter
SPORT Lamp	On/Off	CAN data input value	SPORT mode switch ON Reception from TCM and transmission to combination meter
SPORT Blink	Blink/Off	CAN data input value	Blinks when there is an AT failure Reception from TCM and transmission to combination meter
ATF Temperature Lamp	On/Off	CAN data input value	Not supported by North American specifications
ATF Blink	Blink/Off	CAN data input value	Blinks when there is an AT failure Reception from TCM and transmission to combination meter
Tire diameter abnormal 1	On/Off	CAN data input value	Not supported by North American specifications
Tire diameter abnormal 2	Blink/Off	CAN data input value	Blinks when the difference in rotation between front and rear wheels is 4% or more Reception from TCM and transmission to combination meter
Shift Up Indication	UP/OFF	Body integrated unit input value	ON when shift lever can be operated up
Shift Down Indication	DOWN/OFF	Body integrated unit input value	ON when shift lever can be operated down
SPORT Shift (buzzer 1)	ON/OFF	CAN data input value	ON while the shift change prohibited warning buzzer is operating Reception from TCM and transmission to combination meter
SPORT Shift (buzzer 2)	ON/OFF	CAN data input value	ON when the ATF high temperature warning buzzer is operating Reception from TCM and transmission to combination meter
ABS/VDC Judging	ABS/VDC	CAN data input value	Transmission from vehicle dynamic control (VDC) to high speed control module
ADA Existence Judging	Yes/No	CAN data input value	Not supported by North American specifications
Small Light SW	ON/OFF	Body integrated unit input value	ON when small light is illuminated
Rr Defogger SW	ON/OFF	Body integrated unit output value	Rear defogger switch ON
Australia Judging Flag	Australia/Others	Body integrated unit output value	North American specifications have others
Large Diameter Tire	Large diameter/ others	Body integrated unit output value	When standard tire is large (18 in. or more) Reception from combination meter
Number of cylinders	4 cylinders/ 6 cylinders	CAN data input value	6 cylinders
Cam shaft specification	SOHC/DOHC	CAN data input value	DOHC

Items to be displayed	Unit of measure	Description	Note
Turbo	Turbo/Non-turbo	CAN data input value	OFF
E/G displacement (2.5L)	2.5 L/ OFF	CAN data input value	OFF
E/G displacement (3.0L)	3.0 L/ OFF	CAN data input value	3.0 L
AT Vehicle ID Signal	AT model / MT model	CAN data input value	AT
Blower fan information	ON/OFF	CAN data input value	ON when blower fan is operating Reception from ECM
Keyless buzzer	ON/OFF	Body integrated unit output value	ON when keyless answer-back buzzer operates (When keyless switch connector is removed)
Bright Request	ON/OFF	CAN data input value	ON when operating illumination SW or BRIGHT SW while small light is ON
Door lock SW (Open)	ON/OFF	Body integrated unit input value	Not supported by North American specifications
Door lock SW (Close)	ON/OFF	Body integrated unit input value	Not supported by North American specifications
Unlock request	ON/OFF	Body integrated unit input value	Not supported by North American specifications
Center display failure	OK/NG	CAN data input value	NG when there is a center display failure Reception from center display (NAVI monitor and MFD)
NAVI Failure	OK/NG	CAN data input value	NG when there is a navigation system failure Reception from Center Display
IE Bus failure	Can not use	CAN data input value	Reception from center display
Auto A/C failure	OK/NG	CAN data input value	NG when there is a failure in auto air conditioning system Reception from auto A/C module
EBD Warning Light	OK/OFF	CAN data input value	OK when EBD warning light is illuminated Reception from VDC/ABS and transmission to combination meter
ABS Warning Light	OK/OFF	CAN data input value	OK when ABS warning light is illuminated Reception from VDC/ABS and transmission to combination meter
VDC OFF flag	ON/OFF	CAN data input value	Vehicle dynamics control OFF SW is ON Reception from VDC/ABS and transmission to combination meter
VDC/ABS OK B	OK/NG	CAN data input value	NG when there is an error in VDC/ABS system Reception from VDC/ABS
VDC/ABS condition	0 — 4	CAN data input value	Reception from VDC/ABS and transmission to combination meter
Destination:	0 — 16	CAN data input value	Reception from combination meter
Touch SW	0 — 64	CAN data input value	Displays the number when operating the navigation monitor touch switch Reception from monitor (Except for MFD)

NOTE:
For details concerning the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

5. CONFIRMATION OF CURRENT SETTING

1) On the «Main Menu» display screen, select {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag.» display screen, select the {Current Data Display & Save}.
4) On the «Current Data Display & Save» display screen, select the {Data Display}.
5) Using the scroll key, scroll the display screen up or down until the desired data is shown.
6) Display the following item and record the settings.

Required items for new registration (Except for system not equipped)

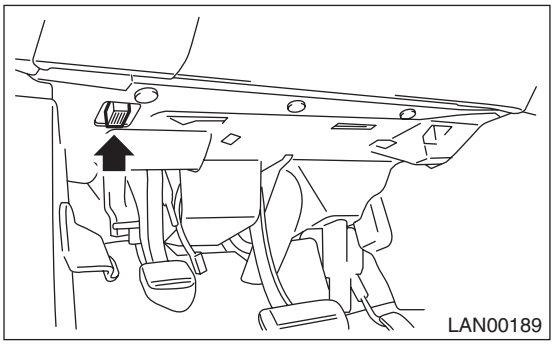
Item	Item to confirm				Remarks
# of reg key	1	2	3	4	Registered ID type
Off delay time	OFF	Long	Normal	Short	Setting for lighting off time
Auto lock	60, 50, 40, 30, 20		OFF		Not supported by North American specifications (Unit: seconds)
Rr defogger op. mode	normal		continuous		Normal: Off at 15 minutes of operation Continuous: Operations from switch ON to OFF
Wiper deicer op. mode	normal		continuous		Normal: Off at 15 minutes of operation Continuous: Operations from switch ON to OFF, repeats ON for 15 minutes, OFF for 2 minutes
Security Alarm Setup	ON		OFF		ON: Warning device operation possible OFF: Warning device not operated
Impact Sensor Setup	ON		OFF		ON: Impact sensor operation possible OFF: Impact sensor not operated Turn OFF for vehicles not equipped with an impact sensor
Alarm delay setup	ON		OFF		ON: Monitor after a fixed period of time from reception of the keyless lock signal OFF: Monitor after reception of the keyless lock signal
Lockout prevention	ON		OFF		Not supported by North American specifications
Impact sensor	support		no support		Yes: Impact sensor equipped No: Impact sensor not equipped Always set to NO for vehicles not equipped with the impact sensor.
Siren setting	support		no support		Not supported by North American specifications
Answer-back buzzer setup	ON		OFF		ON: Answer-back buzzer operation possible OFF: Answer-back buzzer not operated
Hazard answer-back setup	ON		OFF		ON: Hazard answer-back operation possible OFF: Hazard answer-back not operated
Automatic locking setup	ON		OFF		Not supported by North American specifications
Ans.-back Buzzer	support		no support		Yes: Vehicle equipped with answer-back buzzer No: Vehicle not equipped with answer-back buzzer
Auto locking	support		no support		Not supported by North American specifications (Set to No)
Door open warning (prevention of battery run-out)	support		no support		Yes: Door interlocked room light goes off when door is open for 10 minutes consecutively. No: Room light remains illuminated until door is closed.
Dome Light Alarm Setting	support		no support		Yes: Room light continuously lit while the alarm is triggered. No: Even if the alarm is triggered, the room light illuminates and then turns off.
Map Light Setting	support		no support		Yes: The map light illuminates together with the door interlocked room light. No: Does not illuminate together with the door interlocked room light.
A/C ECM setting	support		no support		Model with auto A/C (Set to 'Yes')
P/W ECM setting	support		no support		Not supported in North American specifications (Set to No)
Center display setting	support		no support		Yes: Vehicle equipped with MFD and navigation display No: Vehicle not equipped with MFD nor navigation display

Item	Item to confirm		Remarks
Wiper deicer	support	no support	Yes: Vehicle equipped with wiper deicer No: Vehicle not equipped with wiper deicer
Rear fog light setting	support	no support	Not supported in North American specifications (Set to No)
Factory or Market setting	factory	market	Do not change to the factory mode. Set to market when using normally.
Security setup	support	no support	Not supported by North American specifications

6. REGISTRATION BODY INTEGRATED UNIT (EQUIPMENT SETTING)

CAUTION:
Body integrated unit is core of LAN system, and also can select the function of all vehicle system control. To perform normal operation of vehicle and diagnosis, the above settings must match the actual vehicle equipment.
If registrations and function setting are different from vehicle equipment, vehicle system does not operate normally and diagnosis cannot be performed correctly. Pay attention to following item.
• Be sure to correspond registrations and function settings to vehicle equipment.
• Do not change the settings of vehicle improperly.
• Confirm key illumination does not blink or "Factory or Market setting" of body integrated unit registrations is "Market". If "Factory or Market setting" is set to "Factory", key illumination blinks when ignition key is turned ON to notify that the settings are unconfirmed.
• Key illumination does not blink with ignition switch turned to ON and go off with door closed.
• Be sure to register immobilizer if body integrated unit is replaced with a new part. (Model with immobilizer)
• Make a registration of immobilizer when the parts related to immobilizer have been replaced. Refer to the "PC application help for Subaru Select Monitor".
• Do not install or register an immobilizer related module of other registered vehicles in order to diagnose failures or inspect functions.

1) Turn the ignition switch to OFF.
2) Connect the Subaru Select Monitor to data link connector.



3) Turn the ignition switch and the run the Subaru Select Monitor.
4) On the «Main Menu» display screen, select {Each System Check}.
5) On the «Each System Check» display screen, select the {Integ. Unit mode} and then select the «ECM customizing».

6) Change the setting with UP/DOWN key and select the [OK].
Also, it is possible to set by changing to factory mode and pressing the wiper deicer switch, rear defogger switch, rear fog light switch and door lock switch.

NOTE:
Center display setting can be set only by the Select Monitor.
- List of body integrated unit registration item

NOTE:
Setting is different depending on grade of vehicle and what is equipped.

Data	Initial setting	Registration	Remarks
A/C ECM setting	OFF	ON	Illumination control does not operate if A/C ECM setting is set to “OFF” in case of model with auto A/C.
		OFF	If A/C ECM setting is set to “ON” in case of model without auto A/C, illumination change to night illumination and it is difficult to be recognized.
P/W ECM setting	OFF	ON	Set to “OFF”.
		OFF	
Center display setting	OFF	ON	If center display setting is set to “OFF”, diagnosis for MFD and navigation display cannot be performed.
		OFF	
wiperdeicer	OFF	ON	ON signal does not output with operation of wiper deicer switch if wiper deicer is set to “OFF” in models with a wiper deicer.
		OFF	
Rear fog light setting	OFF	ON	Set to “OFF”.
		OFF	
Factory or Market setting (Reset of body integrated unit)	Factory	Factory (Reset)	If Factory or Market setting is set to “Factory”, registrations of items above is changed to “OFF”. After setting, be sure to set to “Market”.
		Market (Confirmed)	

CAUTION:
- **To perform normal operation of vehicle and diagnosis, the above settings must match the actual vehicle equipment.**
- **When body integrated unit is a new part or “Factory” mode, key illumination blinks to show equipment settings have not been completed.**
- **Be sure not to change Factory or Market setting except installation of new body integrated unit.**

NOTE:
“Factory” mode:
- Body integrated unit has not been set yet. It can be recognized by key illumination blinking with ignition switch turned to ON.
- All replacement body integrated units are set to “Factory” mode. When replacing a body integrated unit, be sure to perform the registration operation.

“Market” mode:
Each settings have been set. It can be recognized by key illumination coming on in concocting with room light and going off with ignition switch turned to ON.
7) Perform the Factory or Market setting. On the «ECU customizing» display screen of Subaru Select Monitor, select the {Factory or Market setting}.
8) Change the mode from Factory to Market.
9) Register the immobilizer key.
10) Perform the operation according to the “PC application help for Subaru Select Monitor”.
11) When the key registration is completed, perform the function setting (ECM customizing). <Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

7. CLEAR MEMORY MODE

1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) Select the [OK] after the information of body integrated unit type is displayed.
4) On the «Integ. unit mode failure diag.» display screen, select the {Clear Memory}.

Display	Contents to be displayed
Clear Memory ?	Clear function of DTC and freeze frame data

5) When “Done” is shown on the display screen, turn the ignition switch to OFF.

NOTE:
For details concerning the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

8. FUNCTION SETTING (ECM CUSTOMIZING)

1) On the «Main Menu» display screen, select {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag.» display screen, select the {ECU customizing}.
4) Change the setting.

- List of function setting item (ECM customizing)

NOTE:
Even if changes are made to items that are not equipped, the contents are not confirmed and do not operate.

Data	Initial setting value	Customize setting	Remarks		Destination Specifications
Off delay time	Normal		Delay time below can be selected by setting.		
			After door closed	After keyless unlock	
		OFF	0 seconds	0 seconds	
		Short	3 seconds	10 seconds	
		Normal	5 seconds	20 seconds	
		Long	8 seconds	30 seconds	
Auto lock time	30 seconds	0 — 60 sec.	Workable when Auto locking is set to “ON” and Automatic locking setup is “ON”. Time can be changed by 10 seconds: 0 (OFF) — 60 (maximum).		Not supported by North American specifications
Rr defogger op. mode	15 min.	15 min.	Wiper deicer stops in 15 minutes automatically after switch is turned to ON.		
		Continuous	The wiper deicer activates for 15 minutes and turns inactive for 2 minutes repeatedly until the switch is turned OFF.		
Wiper deicer op. mode	15 min.	15 min.	Wiper deicer stops in 15 minutes automatically after switch is turned to ON.		
		Continuous	The wiper deicer activates for 15 minutes and turns inactive for 2 minutes repeatedly until the switch is turned OFF.		
Security Alarm Setup	ON	ON	Security alarm (hazard, horn or siren) in active condition		
		OFF	Security alarm in inactive condition		
Impact Sensor Setup	OFF	ON	Enabled when the Impact Sensor Setup is set to “ON”. Impact sensor function becomes activated.		
		OFF	Impact sensor in inactive condition (Set Impact Sensor Setup of model without impact sensor to “OFF”.)		
Alarm delay setup	ON		After the keyless lock operation, the alarm monitor starts after the following delay time has passed.		
		ON	Delay time is 30 seconds.		
		OFF	Delay time is 0 seconds.		
Lockout prevention	ON	ON	Lockout prevention in inactive condition (Lockout prevention does not operate if safety knob is locked by hand.)		
		OFF	Lockout prevention in inactive condition		
Impact sensor	OFF	ON	Vehicle is controlled in impact sensor equipped mode. (Set impact sensor to “OFF” in model without impact sensor. When set to ON, hazard, the horn or siren will operate after doors are locked by the keyless entry system operation (Alarm monitor start).)		Set to “ON” when an optional impact sensor is installed.
		OFF	Vehicle is controlled in no impact sensor mode.		
Siren setting	OFF	ON	Siren sounds when alarm operates. (Set siren setting to “OFF” in model without siren. When alarm operates horn does not sound if siren setting is set to “ON”.)		Not supported by North American specifications
		OFF	Horn sounds when alarm operates.		

Data	Initial setting value	Customize setting	Remarks	Destination Specifications
Answer-back buzzer setup	ON	ON	Workable when answer-back buzzer setup is set to “ON”. When lock/unlock is selected by keyless entry system operated, hazard answer-back buzzer operates.	
		OFF	When lock/unlock is selected by keyless entry system operated, answer-back buzzer does not sound.	
Hazard answer-back setup	ON	ON	Workable when hazard answer-back setup is set to “ON” When lock/unlock is selected by keyless entry system operated, hazard answer-back buzzer operates.	
		OFF	When lock/unlock is selected by keyless entry system operated, hazard answer-back does not operate.	
Automatic locking setup	ON	ON	Workable when Automatic locking setup is set to “ON” Automatic locking operates.	Not supported by North American specifications
		OFF	Automatic locking does not operate.	
Ans.-back Buzzer	ON	ON	Vehicle is controlled in answer-back buzzer equipped mode.	Not supported by North American specifications
		OFF	Vehicle is controlled in answer-back buzzer non-equipped mode. (Set Ans.-back Buzzer to “OFF” in model without answer back buzzer.)	
Auto locking	ON	ON	Vehicle is controlled in auto locking equipped mode.	Not supported by North American specifications
		OFF	Vehicle is controlled in auto locking non-equipped mode. (Set Auto locking to “OFF” in model without auto locking.)	
Initial Keyless Setting	—	—	—	
		Execution	Settings of keyless entry system are initialized. (Auto-lock time: 30 sec., Answer-back buzzer setup: ON, Hazard answer-back setup: ON, Automatic locking setup: ON, Ans.-back Buzzer: ON)	
Initial button setting	—	—	—	(Off delay time: Normal, Rr defogger op. mode: 15 min., Wiper deicer op. mode: 15 min., Lockout prevention: ON)
		Execution	Settings of each function are initialized.	
Initial Security setting	—	—	—	Not supported by North American specifications
		Execution	Settings of security system are initialized.	
Passive Alarm	OFF	ON	Enabled when passive arming is set to “ON”.	
		OFF		
Door open warning (prevention of battery run-out)	OFF	ON	If detecting door open for 30 minutes, room light, key illumination and door warning light are turned off to prevent battery run-out.	
		OFF	Room light, key illumination and door warning light is not turned off.	
Dome Light Alarm Setting	OFF	ON	The room light lights by being interlocked with the activation of the alarm.	
		OFF	Room light does not illuminate even if the alarm is activated.	

5) After setting, make sure that vehicle equipment matches the changed settings in the {Current Data Display & Save}.

CAUTION:
- **The above settings must match the actual vehicle equipment for proper operation.**
- **Do not change settings other than the above while setting the functions.**
- **Be sure not to change Factory or Market setting except installation of new body integrated unit.**

NOTE:
For details concerning the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

9. FUNCTION CHECK

In order to check the body integrated unit function, inspect the body integrated unit and actuator using Subaru Select Monitor without operating switches.
1) On the «Main Menu» display screen, select {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag.» display screen, select the {Function check}.
4) Select the item to be operated on the «Function check» display screen and select the [OK].
5) Pressing [OK] starts, [NO] cancels the operation and [OK] returns to the System Operation Check Mode display screen.

NOTE:
If not equipped (based on area or condition), process will not go on.

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details concerning DTC reading procedure, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

8. Clear Memory Mode

A: OPERATION

For details concerning DTC clear operation, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-20, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

9. Read Current Data

A: OPERATION

1) On the «Main Menu» display screen, select {Each System Check}.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) On the «Integ. unit mode failure diag» display screen, select the {Current Data Display & Save}.
4) On the «Data Display Menu» display screen, Select the {Data Display}.
5) Using the scroll key, scroll the display screen up or down until the desired data is shown.
<Ref. to LAN(diag)-13, DISPLAY OF ANALOG DATA, OPERATION, Subaru Select Monitor.> <Ref. to LAN(diag)-14, DISPLAY OF ON/OFF DATA, OPERATION, Subaru Select Monitor.> <Ref. to LAN(diag)-17, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>

10.Function Setting (Customize)

A: OPERATION

For detailed procedures of function setting (ECM customizing), refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-21, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

11.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Item	Content of diagnosis	Note
None	Communication for Initializing Impossible	• Open or short in Subaru Select Monitor communication line • Back-up power supply circuit malfunction	<Ref. to LAN(diag)-31, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1100	Integ. Unit System Error	Body integrated unit internal error	<Ref. to LAN(diag)-33, DTC B1100 INTEG. UNIT SYSTEM ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1101	BATT p/supply malfunction cont.	• Open or short in battery power supply control circuit • Voltage malfunction caused by poor contact	<Ref. to LAN(diag)-34, DTC B1101 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1102	BATT p/supply malfunction backup	Voltage malfunction caused by poor contact of battery power supply backup circuits	<Ref. to LAN(diag)-36, DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1103	Ignition power failure	Voltage malfunction caused by poor contact of IGN power supply circuits	<Ref. to LAN(diag)-38, DTC B1103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1104	ACC power failure	Voltage malfunction caused by poor contact of ACC power supply circuits	<Ref. to LAN(diag)-40, DTC B1104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1105	Key interlock circuit abnormal	Ground short of key interlock circuit	<Ref. to LAN(diag)-42, DTC B1105 KEY INTERLOCK CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1106	Shift lock circuit failure	Open or short in shift lock circuit	<Ref. to LAN(diag)-44, DTC B1106 SHIFT LOCK CIRCUIT FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1201	CAN-HS counter abnormal	Communication is unstable because of high speed CAN communication error.	<Ref. to LAN(diag)-47, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1202	CAN-HS bus off	• Open or power supply-output short, GND-output short occurs in CAN line. • End resistance malfunction • Internal error in each control module	<Ref. to LAN(diag)-53, DTC U1202 CAN-HS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1211	CAN-HS ECM FRC abnormal	Received error data from ECM.	<Ref. to LAN(diag)-59, DTC U1211 CAN-HS ECM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1212	CAN-HS TEM FRC abnormal	Received error data from TCM.	<Ref. to LAN(diag)-63, DTC U1212 CAN-HS TCM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1213	CAN-HS VDC/ABS data abnormal	Received error data from VDC/ABS module.	<Ref. to LAN(diag)-67, DTC U1213 CAN-HS VDC/ABS DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1221	CAN-HS ECM no-receive data	Not received error data from ECM.	<Ref. to LAN(diag)-71, DTC U1221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1222	CAN-HS TCM no-receive data	Not received error data from TCM.	<Ref. to LAN(diag)-75, DTC U1222 CAN-HS TCM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1223	CAN-HS VDC/ABS no-receive data	Not received error data from VDC/ABS CM.	<Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Item	Content of diagnosis	Note
U1300	CAN-LS malfunction	Open or short in CAN-LS circuit, on ether side	<Ref. to LAN(diag)-83, DTC U1300 CAN-LS MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1301	CAN-LS counter abnormal	Communication is unstable because of low speed CAN communication error.	<Ref. to LAN(diag)-86, DTC U1301 CAN-LS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1302	CAN-LS bus off	• Open or power supply-output short, GND-output short occurs in both CAN line. • Internal error in each control module	<Ref. to LAN(diag)-89, DTC U1302 CAN-LS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1311	CAN-LS meter unit FRC abnormal	Received error data from meter.	<Ref. to LAN(diag)-92, DTC U1311 CAN-LS METER UNIT DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1313	CAN-LS monitor data abnormal	Received error data from monitor.	<Ref. to LAN(diag)-94, DTC U1313 CAN-LS MONITOR DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U1321	CAN-LS meter no-receive data	Not received error data from meter.	<Ref. to LAN(diag)-96, DTC U1321 CAN-LS METER NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1401	M collation NG	Malfunction related immobilizer	<Ref. to IM(diag)-14, List of Diagnostic Trouble Code (DTC).>
B1402	Immobirizer Key collation NG	Malfunction related immobilizer	<Ref. to IM(diag)-14, List of Diagnostic Trouble Code (DTC).>
B1403	E/G request NG	Malfunction related immobilizer	<Ref. to IM(diag)-14, List of Diagnostic Trouble Code (DTC).>
B1500	Keyless UART com. Malfunction	Open or short circuit in keyless UART circuit	<Ref. to LAN(diag)-98, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

1. DTC TABLE

NOTE:
When more than two DTC codes are recorded, referring to their combination will make it easy to identify the possible cause. Refer to the list for typical examples.

DTC to Check	Diagnostic Code that was displayed.					Probable cause
	Body integrated unit	ECM	TCM	VDC/ ABS CM	Combination meter display	
B1100 <Ref. to LAN(diag)-33, DTC B1100 INTEG. UNIT SYSTEM ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1100	—	—	—	Er IU	There could be a problem in the body integrated unit.
B1101 <Ref. to LAN(diag)-34, DTC B1101 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1101	—	—	—	Er IU	It is possible that power supply voltage is low (battery, generator is faulty).
B1102 <Ref. to LAN(diag)-36, DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1102	—	—	—	Er IU	
B1013 <Ref. to LAN(diag)-38, DTC B1103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1103	—	—	—	Er IU	
B1014 <Ref. to LAN(diag)-40, DTC B1104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1104	—	—	—	Er IU	
U1221 <Ref. to LAN(diag)-71, DTC U1221 CAN-HS ECM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1221	—	P1718	C0057	Er HC	It is possible that the ECM is faulty.
U1222 <Ref. to LAN(diag)-75, DTC U1222 CAN-HS TCM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1222	P0600	—	C0057	Er HC	It's possible that there is an internal problem in the TCM, and a open circuit in the harness.
U1223 <Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1223	P0600	P1718	—	Er HC	It is possible that the VDC/ABS CM is faulty.
U1321 <Ref. to LAN(diag)-96, DTC U1321 CAN-LS METER NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1321	—	—	—	—	It is possible that the combination meter is faulty.
U1313 <Ref. to LAN(diag)-94, DTC U1313 CAN-LS MONITOR DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	U1313	—	—	—	—	It is possible that the navigation monitor or MFD is faulty.
B1500 <Ref. to LAN(diag)-98, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	B1500	—	—	—	—	It is possible that the keyless entry module is faulty.

12.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

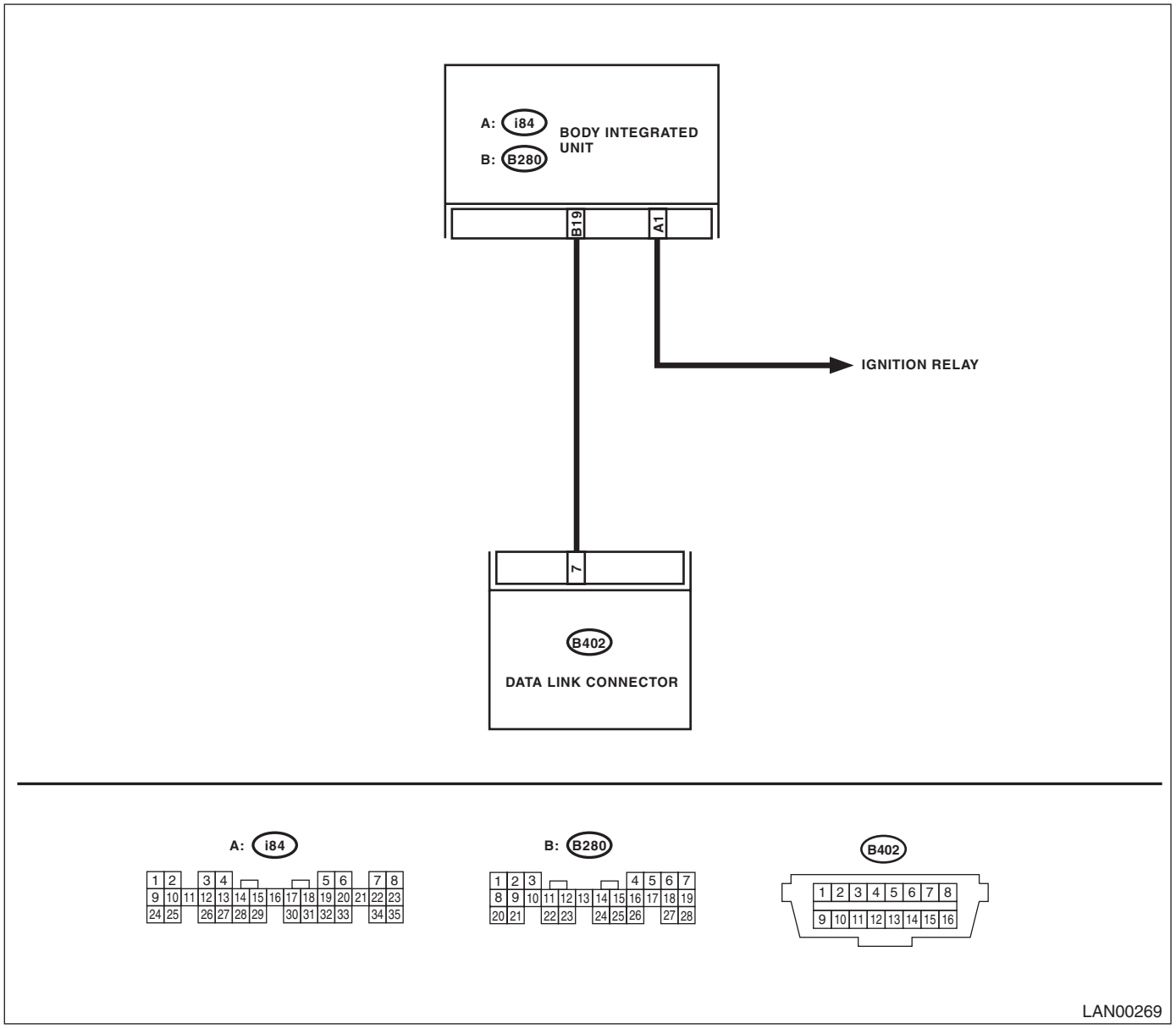
A: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

NOTE:
- DTC is displayed in the sequence of the amount of counter numbers.
- When more than two DTCs are displayed, perform the diagnosis of top one.

DIAGNOSIS:
- Subaru Select Monitor communication line is open or shorted.
- Back-up power supply circuit malfunction

TROUBLE SYMPTOM:
Not communicable with Subaru Select Monitor.

WIRING DIAGRAM:



	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 Integ. unit mode using Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 11 V or more?	Go to step **3**.	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at the battery terminal?	Repair or tighten the battery terminal.	Go to step **4**.
4	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other system can be executed normally.	Is the system name displayed?	Go to step **7**.	Go to step **5**.
5	**CHECK COMMUNICATION OF SUBARU SELECT MONITOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other system can be executed normally.	Is the system name displayed?	Go to step **7**.	Go to step **6**.
6	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND SUBARU SELECT MONITOR.** 1) Turn the ignition switch to ON. 2) Disconnect the body integrated unit connector. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 7 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Repair the harness and connector between each control module and Subaru Select Monitor.
7	**CHECK OUTPUT SIGNAL TO BODY INTEGRATED UNIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated unit and chassis ground. ***Connector & terminal*** ***(B402) No. 7 (+) — Chassis ground (–):***	Is the voltage less than 1 V?	Go to step **8**.	Repair the harness and connector between each control module and Subaru Select Monitor.
8	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND DATA LINK CONNECTOR.** Measure the resistance between body integrated unit and data link connector. ***Connector & terminal*** ***(B402) No. 7 — (B280) No. 19:***	Is the resistance less than 1 Ω?	Go to step **9**.	Repair the harness and connector between body integrated unit and Subaru Select Monitor.
9	**CHECK INSTALLATION OF BODY INTEGRATED UNIT CONNECTOR.** Turn the ignition switch to OFF.	Is the body integrated unit connector inserted into body integrated unit until the clamp locks onto it?	Go to step **10**.	Insert the body integrated unit connector into body integrated unit.
10	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON (engine OFF). 2) Measure the ignition voltage between body integrated unit connector and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **11**.	Repair the open circuit of harness between body integrated unit and battery.

	Step	Check	Yes	No
11	**CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit. 3) Measure the resistance of harness between the body integrated unit and chassis ground. ***Connector & terminal*** ***(B280) No. 19 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **12**.	Repair the poor contact of harness between body integrated unit and ground.
12	**CHECK POOR CONTACT OF CONNECTORS.**	Is there poor contact at control module ground and Subaru Select Monitor?	Repair the poor contact of connector.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

CAUTION:
When replacing body integrated unit on the model with immobilizer system, refer to the "PC application help for Subaru Select Monitor".

B: DTC B1100 INTEG. UNIT SYSTEM ERROR

DTC DETECTING CONDITION:
System error in body integrated unit
TROUBLE SYMPTOM:
- Check light comes on in the combination meter, and displays communication error display "Er IU".
- LAN communication immobilizer function may not be executed normally.

	Step	Check	Yes	No
1	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is the DTC B1100 displayed currently malfunctioning?	Go to step **2**.	Temporary EEPROM access error occurred.
2	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is the DTC B1100 displayed currently malfunctioning?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Temporary EEPROM access error occurred.

C: DTC B1101 BATT P/SUPPLY MALFUNCTION CONT

DTC DETECTING CONDITION:

- Battery power supply backup circuit is open or shorted.
- Battery voltage is too high or too low.

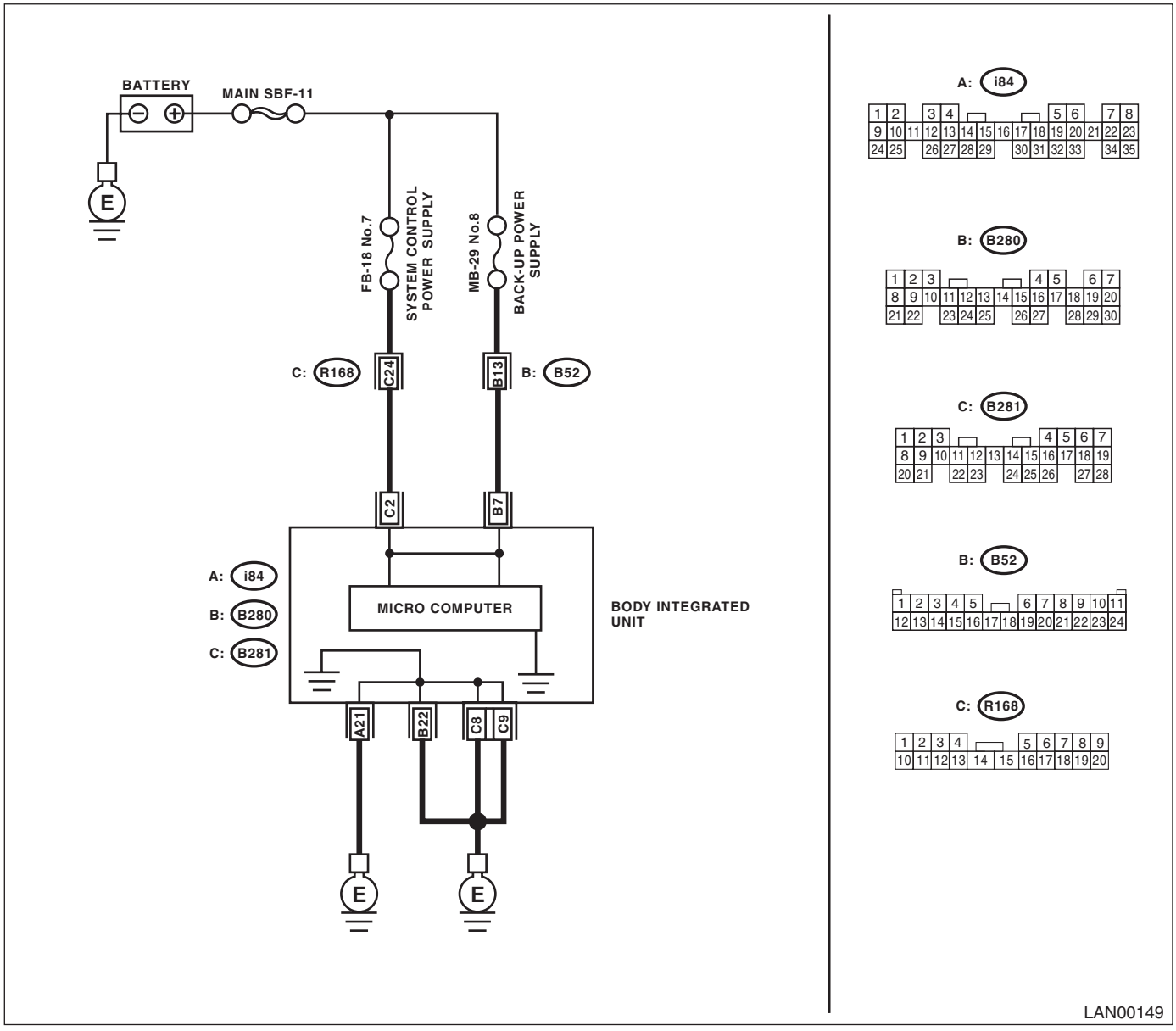
TROUBLE SYMPTOM:

Each function stops operation.

NOTE:

When B1102 BATT p/supply (backup) malfunction is output at the same time, all the function of body integrated unit may not operate.

WIRING DIAGRAM:

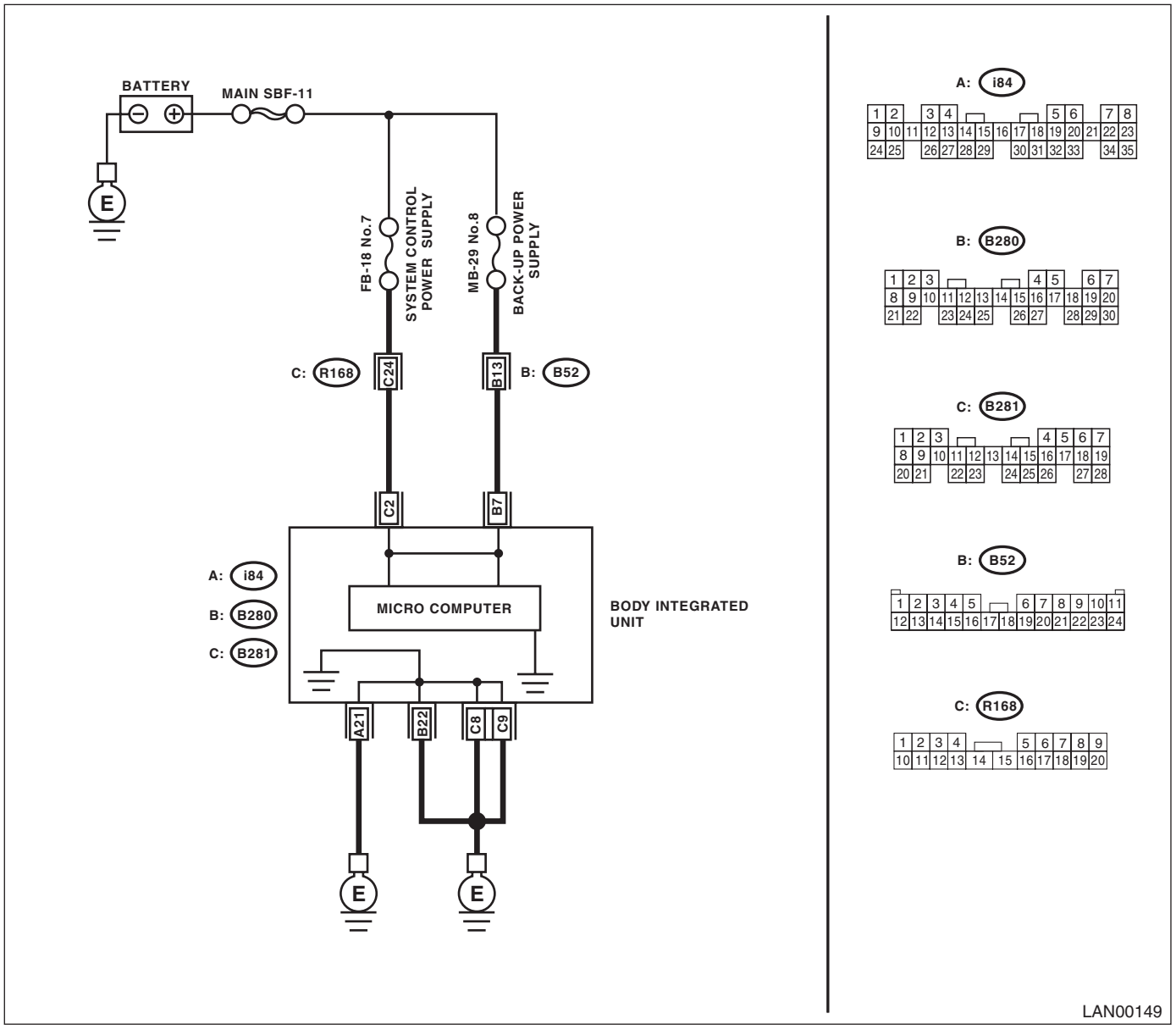


	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1101 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Wait approx. 2 minutes. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1101 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B281). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B281).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

D: DTC B1102 BATT P/SUPPLY MALFUNCTION BACKUP

DTC DETECTING CONDITION:
Back-up power supply circuit input voltage is too high or too low.
TROUBLE SYMPTOM:
No influence.

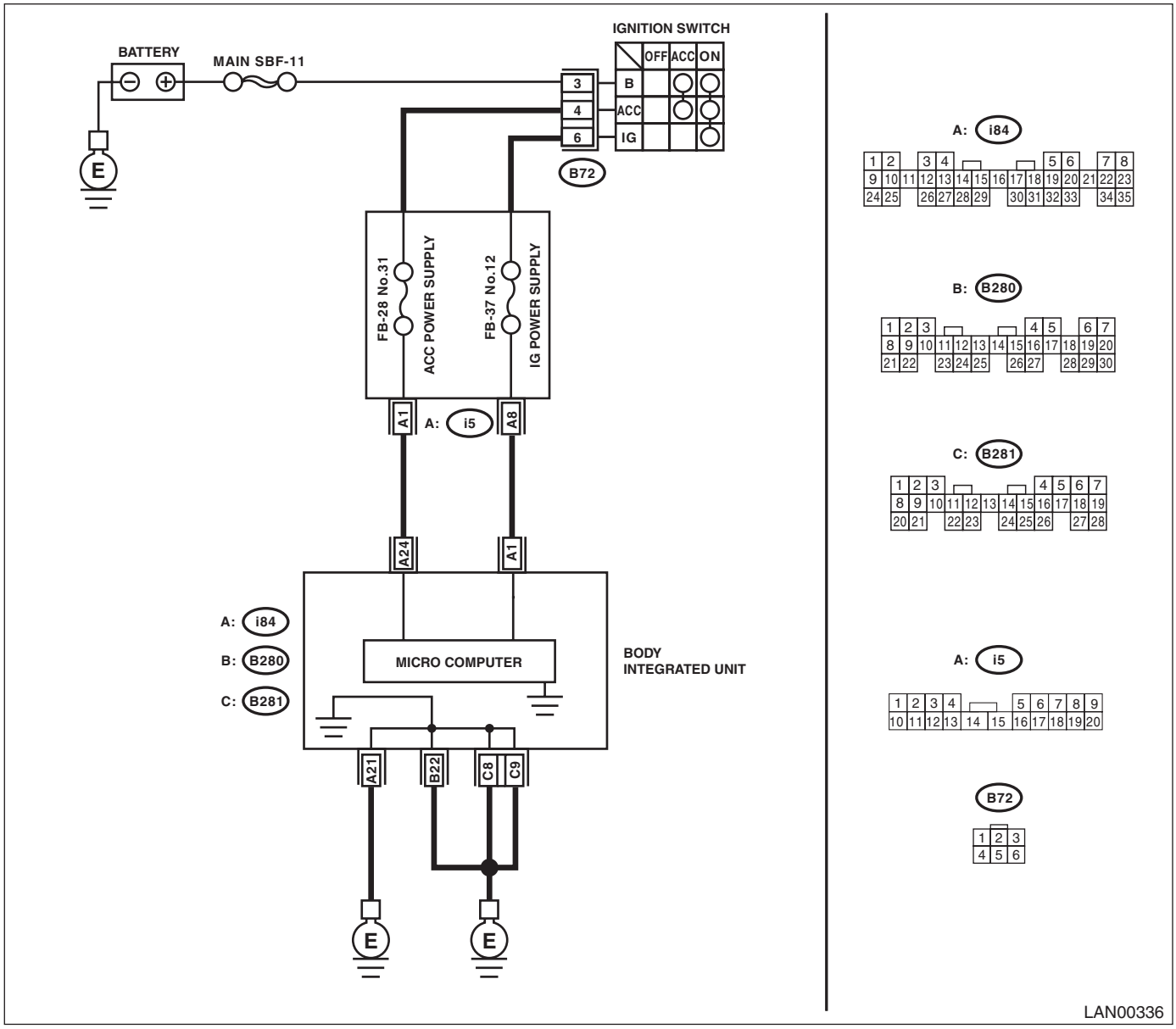
NOTE:
When some B1101 BATT p/supply (control) malfunction cont. are output at the same time, all function of body integrated unit may not function.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1102 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Wait approx. 2 minutes. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1102 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B281). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

E: DTC B1103 IGNITION POWER FAILURE

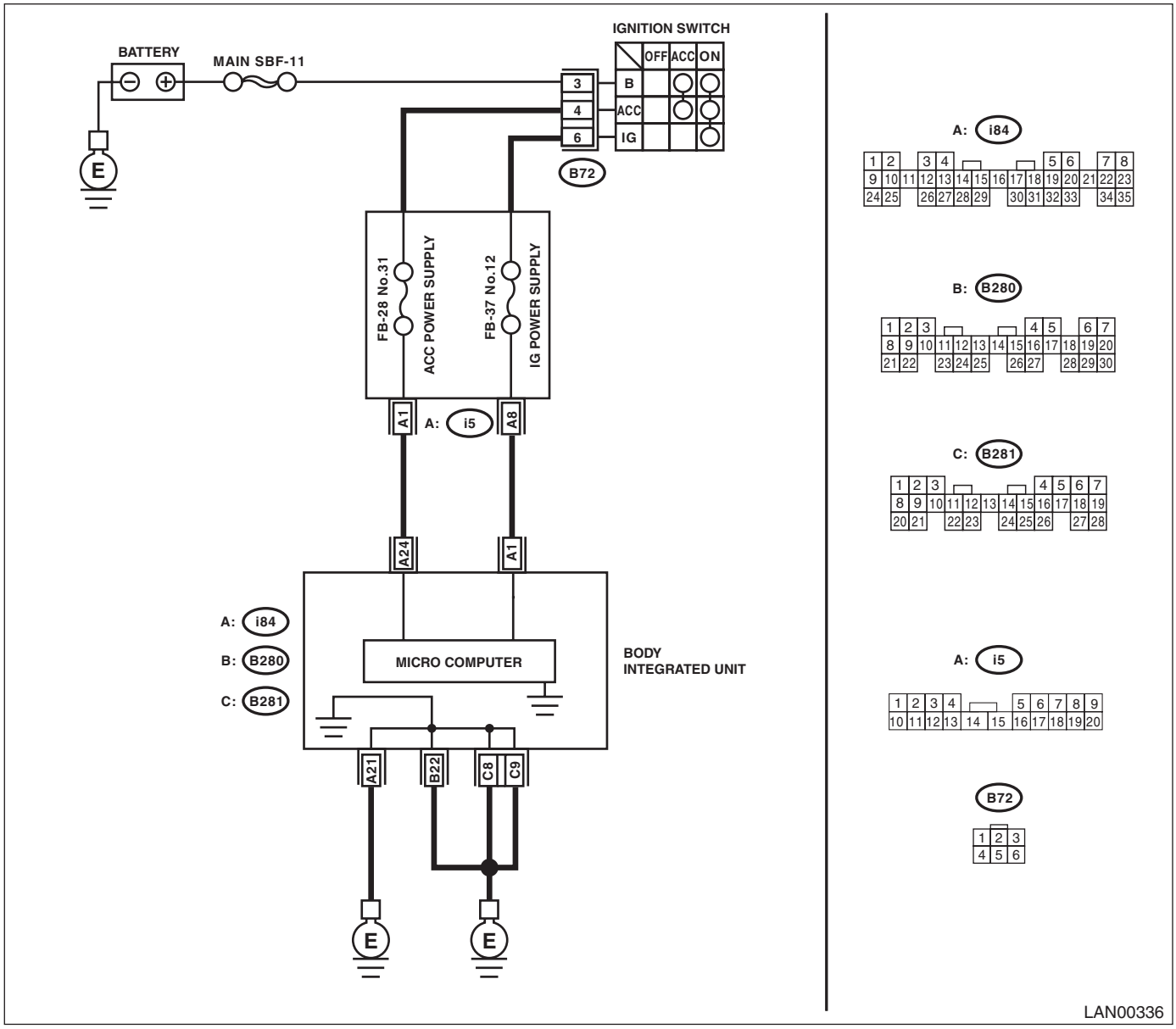
DTC DETECTING CONDITION:
IGN power supply circuit input voltage is too high or too low.
TROUBLE SYMPTOM:
Error related to LAN system will not be detected.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1103 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Turn the ignition switch to ON. 4) Wait approx. 2 minutes. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1103 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 1 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

F: DTC B1104 ACC POWER FAILURE

DTC DETECTING CONDITION:
ACC power supply circuit input voltage is too high or too low.
TROUBLE SYMPTOM:
Rear wiper may not operate at ACC position.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1104 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from body integrated unit and reconnect. 3) Turn the ignition switch to ACC. 4) Wait approx. 2 minutes. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1104 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Inspect the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (i84). 2) Measure the voltage between body integrated unit connector and chassis ground using tester. ***Connector & terminal*** ***(i84) No. 24 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair or replace the open or shorted circuit between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280).	Is there poor contact in connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

G: DTC B1105 KEY INTERLOCK CIRCUIT ABNORMAL

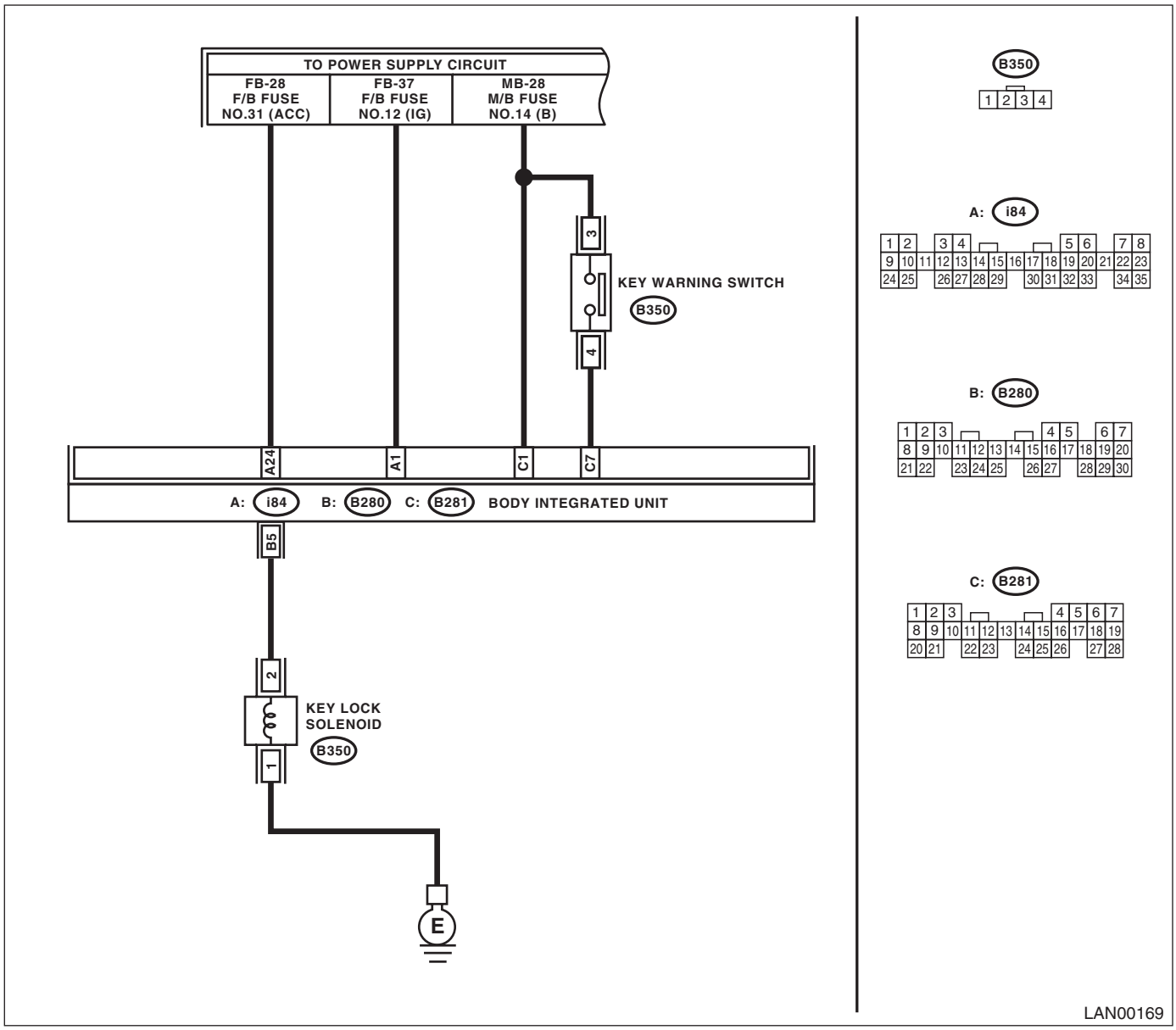
DTC DETECTING CONDITION:

Key interlock circuit is shorted to ground.

TROUBLE SYMPTOM:

- There is no key interlock power supply.
- Key interlock does not release or does not keep lock condition.

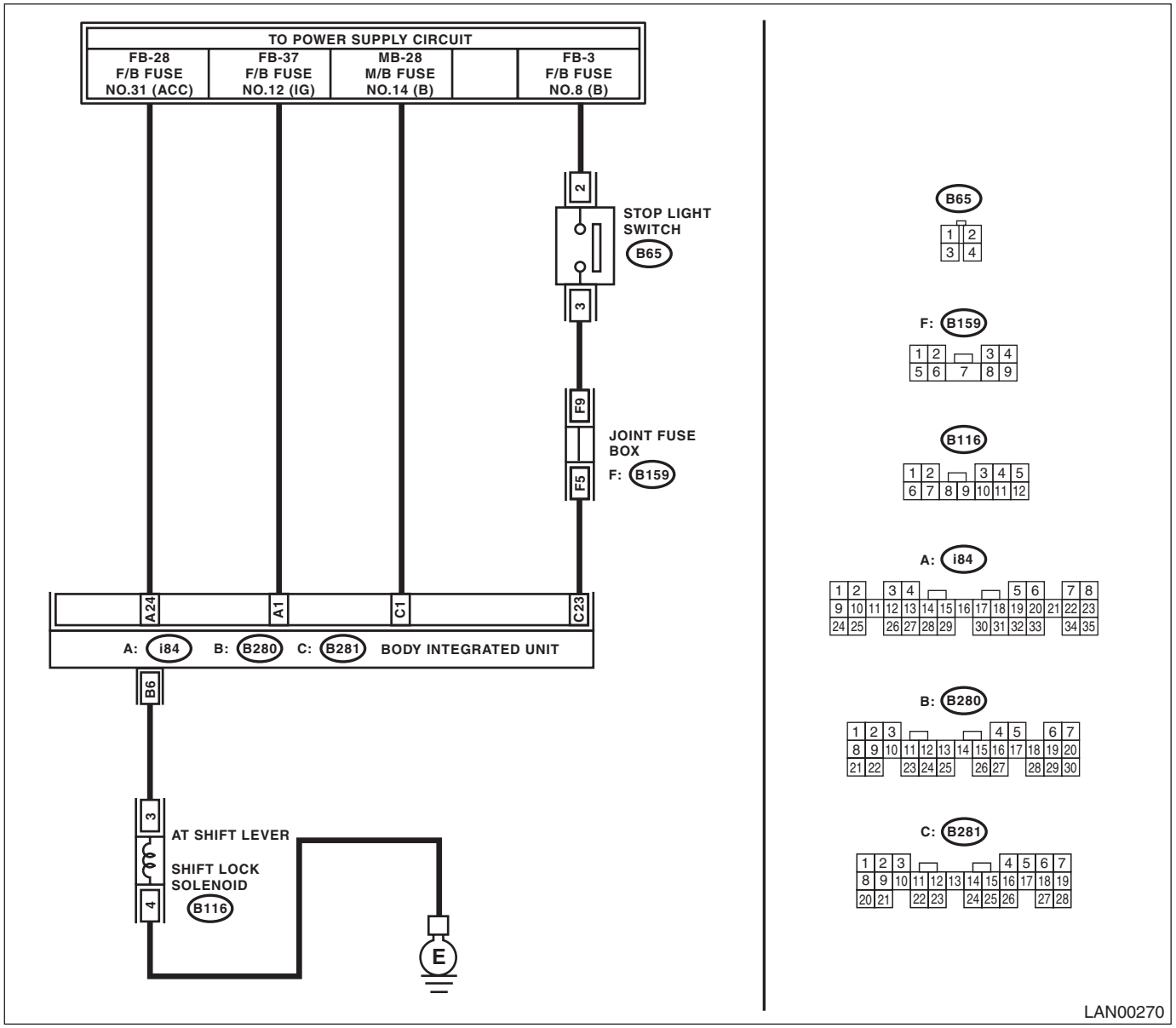
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** 1) Insert the ignition key. 2) Shift to the Neutral range. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1105 current malfunction?	Go to step **2**.	Go to step **8**.
2	**CHECK DTC.** 1) Remove the ignition key. 2) Disconnect the key lock solenoid connector (B350) and body integrated unit connector (B280). 3) Connect the disconnected connectors. 4) Insert the key and shift into Neutral. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1105 current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK KEY LOCK SOLENOID.** 1) Disconnect the key lock solenoid connector (B350). 2) Measure the resistance between the key lock solenoid connector. ***Connector & terminal*** ***(B350) No. 1 — No. 2:***	Is the resistance between 12 — 14.5 Ω?	Go to step **4**.	Replace the key lock solenoid.
4	**CHECK KEY LOCK SOLENOID.** 1) Turn the ignition switch to OFF. 2) Disconnect the key lock solenoid connector. 3) Connect the battery terminal to key lock solenoid. ***Terminals*** ***(B350) No. 2 — positive terminal:*** ***(B350) No. 1 — ground terminal:***	Is the solenoid activated and then key locked?	Go to step **5**.	Replace the key lock solenoid.
5	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the resistance between body integrated unit and key lock solenoid using tester. ***Connector & terminal*** ***(B350) No. 2 — (B280) No. 5:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** Measure the resistance between body integrated unit and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 5 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Repair or replace the short circuit of the harness.
7	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Measure the voltage between body integrated unit and chassis ground using tester. ***Connector & terminal*** ***(B280) No. 5 (+) — Chassis ground (–):***	Is the voltage 1.5 V or more?	Repair or replace the short circuit of the harness.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280) and key lock solenoid connector (B350).	Is there poor contact at disconnected connector terminal?	Repair the terminal where poor contact exists, or replace harness.	It is possible that temporary poor contact occurs.

H: DTC B1106 SHIFT LOCK CIRCUIT FAILURE

DTC DETECTING CONDITION:
Shift lock circuit is shorted to ground.
TROUBLE SYMPTOM:
Shift lock does not be released or remain locked.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Keep the Parking range for approx. 5 seconds. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **2**.	Go to step **7**.
2	**CHECK DTC.** 1) Disconnect the body integrated unit connector (B280) and shift lock solenoid connector (B116). 2) Connect the disconnected connectors. 3) Turn the ignition switch to ON, then keep the Parking range for approx. 5 seconds. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **3**.	Repair or replace the open or short circuit of harness.
3	**CHECK HARNESS.** 1) Disconnect the shift lock solenoid connector (B116). 2) Measure the resistance between shift lock solenoid unit and chassis ground using tester. ***Connector & terminal*** ***(B116) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the shift lock solenoid.
4	**CHECK SHIFT LOCK SOLENOID.** 1) Disconnect the shift lock solenoid connector. 2) Measure the resistance between the shift lock solenoid connector. ***Connector & terminal*** ***(B116) No. 4 — No. 3:***	Is the resistance between 19 — 25 Ω?	Go to step **5**.	Replace the shift lock solenoid.
5	**CHECK SHIFT LOCK SOLENOID.** 1) Turn the ignition switch to OFF. 2) Disconnect the shift lock solenoid connector. 3) Connect the battery terminal to shift lock solenoid. ***Terminals*** ***(B116) No. 3 — positive terminal:*** ***(B116) No. 4 — ground terminal:***	Is the solenoid activated, and then the shift lock released?	Go to step **6**.	Replace the shift lock solenoid.
6	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280). 2) Measure the resistance between body integrated unit connector (B280) and chassis ground. ***Connector & terminal*** ***(B280) No. 6 — Chassis ground:***	Is the resistance 1 MΩ or more?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Repair the short circuit of harness or replace harness.
7	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) With Parking range, depress the brake pedal and keep it at depressed condition. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **8**.	Go to step **9**.

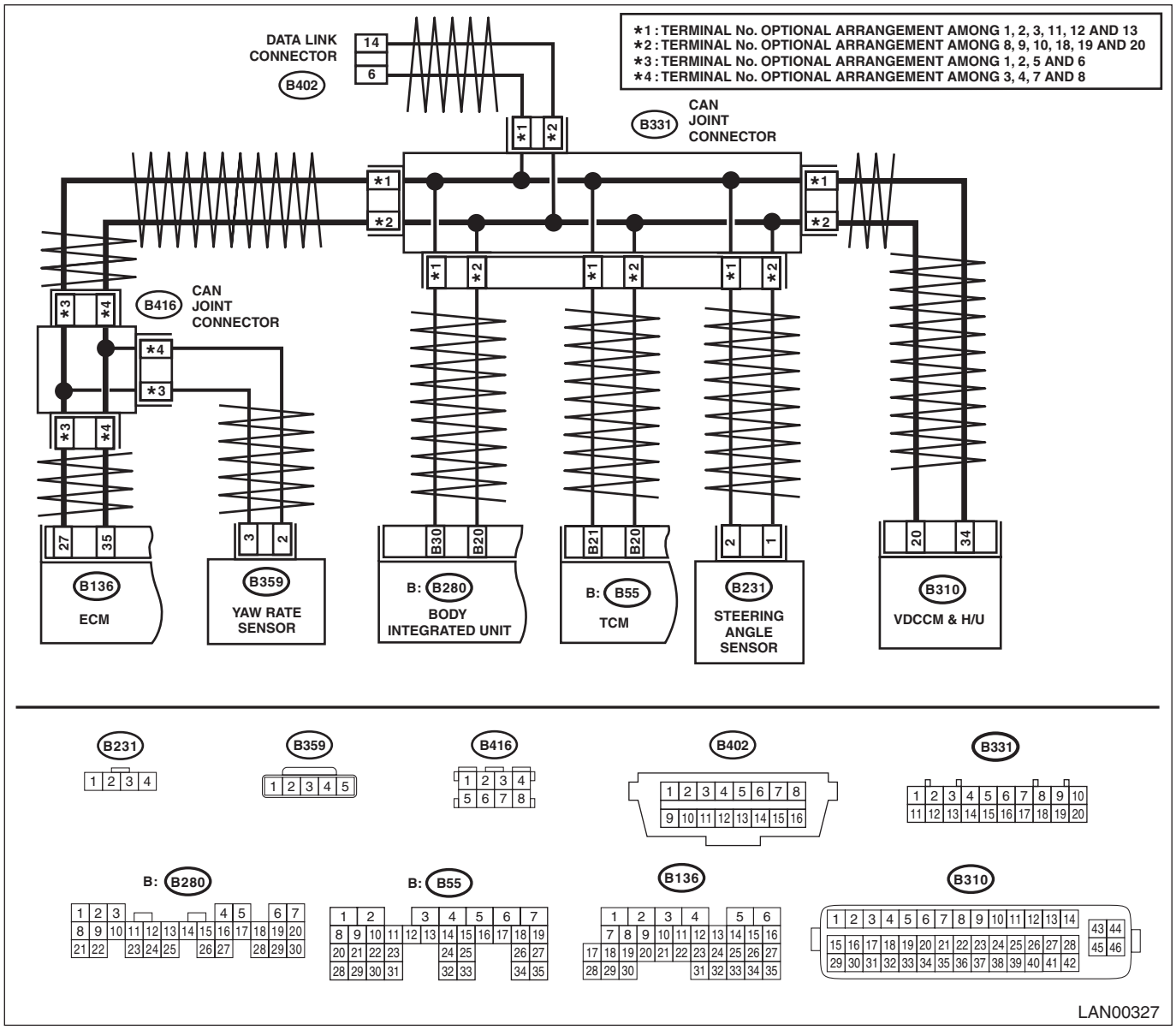
	Step	Check	Yes	No
8	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280) and shift lock solenoid connector (B116). 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Shift into Parking range, then depress the brake pedal. 6) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1106 current malfunction?	Go to step **4**.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B280) and shift lock solenoid connector (B116).	Is there poor contact in connector terminal?	Repair the poor contact of the terminal or replace the harness.	It is possible that temporary poor contact occurs.

I: DTC U1201 CAN-HS COUNTER ABNORMAL

DTC DETECTING CONDITION:
High speed CAN communication becomes unstable.
TROUBLE SYMPTOM:
- "Er HC" is displayed in odo/trip meter.
- Malfunction indicator light illuminates.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

WIRING DIAGRAM:

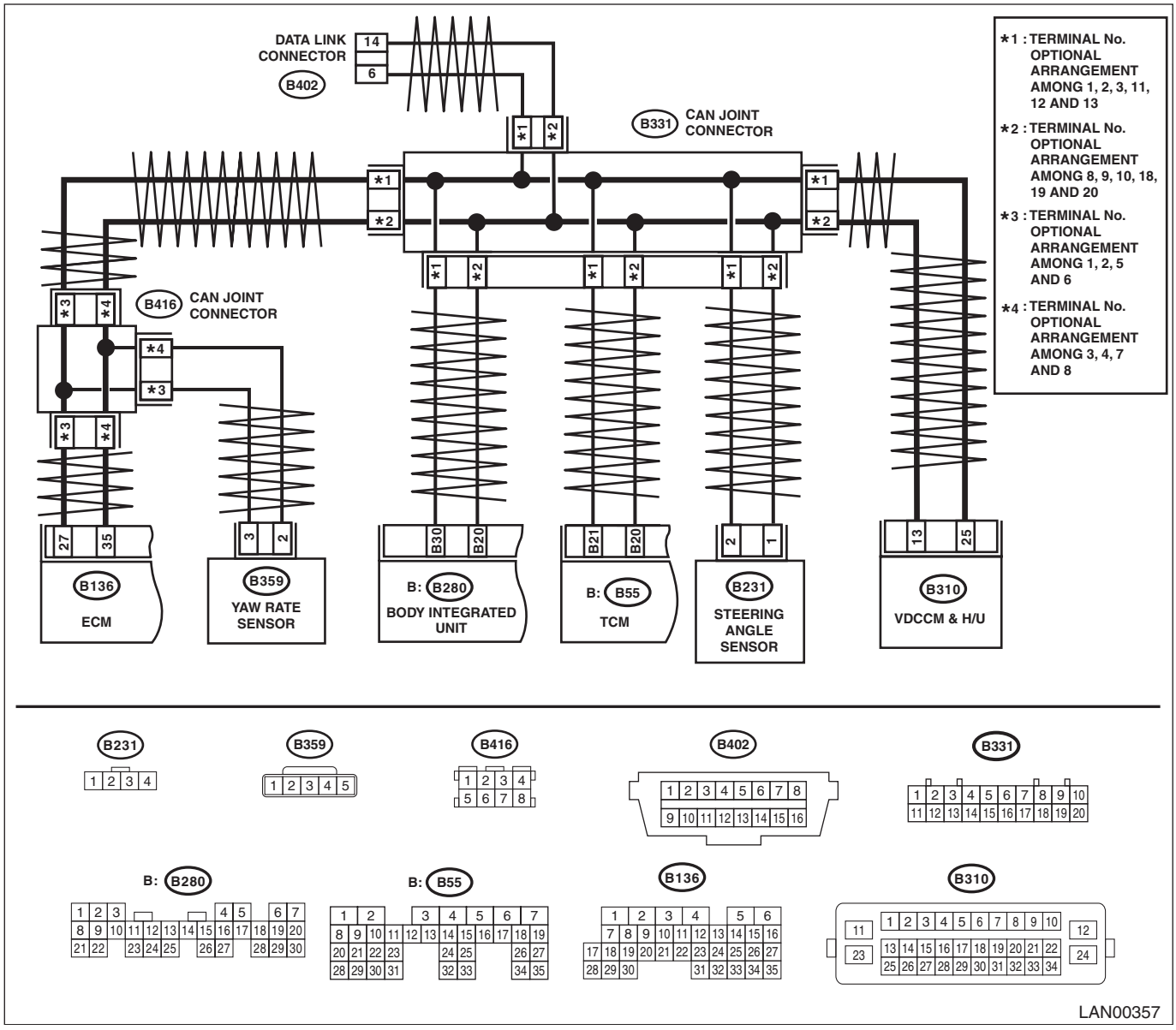


	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC U1202?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1201 a current malfunction?	Go to step **3**.	Go to step **14**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect all the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **4**.	Go to step **14**.
4	**CHECK TCM.** 1) Turn the ignition switch to OFF. 2) Disconnect the TCM connector (B55). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **5**.	Go to step **16**.
5	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the TCM connector. 3) Disconnect the steering angle sensor connector (B231). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **6**.	Go to step **17**.
6	**CHECK YAW RATE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the steering angle sensor connector. 3) Disconnect the yaw rate sensor connector (B359). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **7**.	Go to step **18**.
7	**CHECK HARNESS VDC CM.** 1) Turn the ignition switch to OFF. 2) Connect the yaw rate sensor connector. 3) Disconnect the VDCCM connector (B310). 4) Install the 120 Ω resistance to VDCCM connector terminals. ***Terminals*** ***(B310) No. 20 — No. 34:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Terminals*** ***(B402) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **8**.	Go to step **10**.
8	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **16**.	Go to step **9**.
9	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the VDCCM. <Ref. to VDC-10, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **10**.

	Step	Check	Yes	No
10	**CHECK ECM.** 1) Turn the ignition switch to OFF. 2) Connect the VDCCM. 3) Disconnect the ECM connector (B136). 4) Install the 120 Ω resistance to ECM connector. ***Terminals*** ***(B136) No. 27 — No. 35:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **11**.	Repair or replace the open circuit of harness.
11	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **12**.	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>
12	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Go to step **13**.
13	**CHECK DTC.** 1) Reconnect all the disconnected connectors. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Go to step **14**.
14	**CHECK HARNESS.** 1) Shake the instrument harness and bulkhead harness, rear harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Repair or replace the harness.	Go to step **15**.
15	**CHECK CONNECTOR.** 1) Disconnect the connector used for CAN circuit. 2) Check the connector terminal.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.
16	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and TCM. ***Connector & terminal*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 6 — (B55) No. 21:***	Is the resistance less than 10 Ω?	Go to step **17**.	Repair or replace the harness.
17	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and steering angle sensor. ***Connector & terminal*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 6 — (B231) No. 2:***	Is the resistance less than 10 Ω?	Go to step **18**.	Repair or replace the harness.
18	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and yaw rate sensor. ***Connector & terminal*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 6 — (B359) No. 3:***	Is the resistance less than 10 Ω?	Replace the yaw rate sensor.	Repair or replace the harness.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



LAN00357

	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is there DTC U1202?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1201 a current malfunction?	Go to step **3**.	Go to step **14**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect all the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **4**.	Go to step **14**.
4	**CHECK TCM.** 1) Turn the ignition switch to OFF. 2) Disconnect the TCM connector (B55). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **5**.	Go to step **16**.
5	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the TCM connector. 3) Disconnect the steering angle sensor connector (B231). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **6**.	Go to step **17**.
6	**CHECK YAW RATE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect the steering angle sensor connector. 3) Disconnect the yaw rate sensor connector (B359). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **7**.	Go to step **18**.
7	**CHECK HARNESS VDC CM.** 1) Turn the ignition switch to OFF. 2) Connect the yaw rate sensor connector. 3) Disconnect the VDCCM connector (B310). 4) Install the 120 Ω resistance to VDCCM connector terminals. ***Terminals*** ***(B310) No. 13 — No. 25:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Terminals*** ***(B402) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **8**.	Go to step **10**.
8	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **16**.	Go to step **9**.
9	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the VDCCM. <Ref. to VDC-10, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **10**.

	Step	Check	Yes	No
10	**CHECK ECM.** 1) Turn the ignition switch to OFF. 2) Connect the VDCCM. 3) Disconnect the ECM connector (B136). 4) Install the 120 Ω resistance to ECM connector. ***Terminals*** ***(B136) No. 27 — No. 35:*** 5) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 60 Ω?	Go to step **11**.	Repair or replace the open circuit of harness.
11	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Go to step **12**.	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>
12	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Go to step **13**.
13	**CHECK DTC.** 1) Reconnect all the disconnected connectors. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Go to step **14**.
14	**CHECK HARNESS.** 1) Shake the instrument harness and bulkhead harness, rear harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1201 a current malfunction?	Repair or replace the harness.	Go to step **15**.
15	**CHECK CONNECTOR.** 1) Disconnect the connector used for CAN circuit. 2) Check the connector terminal.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.
16	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and TCM. ***Connector & terminal*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 6 — (B55) No. 21:***	Is the resistance less than 10 Ω?	Go to step **17**.	Repair or replace the harness.
17	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and steering angle sensor. ***Connector & terminal*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 6 — (B231) No. 2:***	Is the resistance less than 10 Ω?	Go to step **18**.	Repair or replace the harness.
18	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of data link connector and yaw rate sensor. ***Connector & terminal*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 6 — (B359) No. 3:***	Is the resistance less than 10 Ω?	Replace the yaw rate sensor.	Repair or replace the harness.

J: DTC U1202 CAN-HS BUS OFF

DTC DETECTING CONDITION:

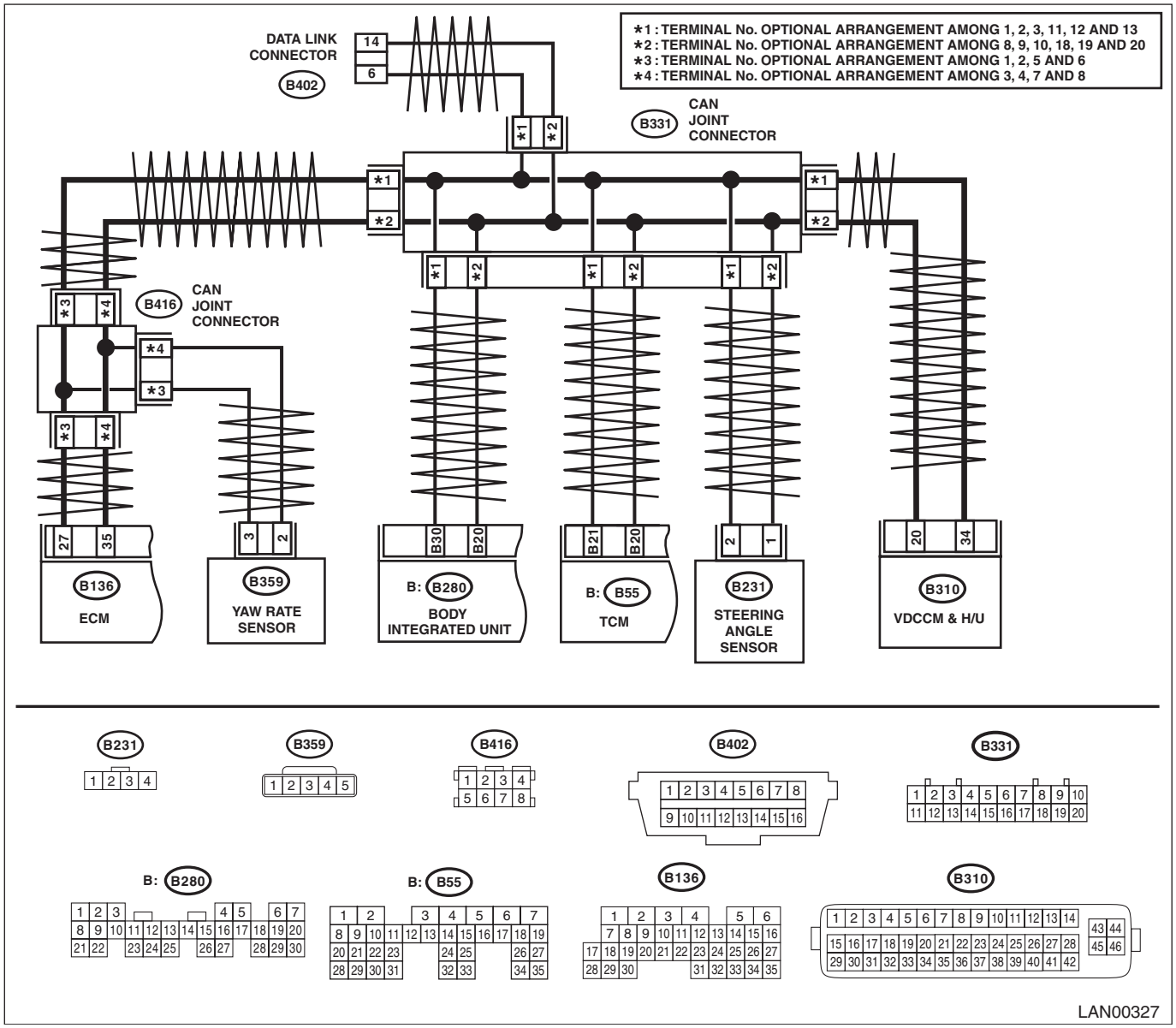
- Open or power supply-output short, GND-output short occurs in CAN line.
- End resistance malfunction
- Internal error in each control module

TROUBLE SYMPTOM:

"Er HC" is displayed in odo/trip meter.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

WIRING DIAGRAM:

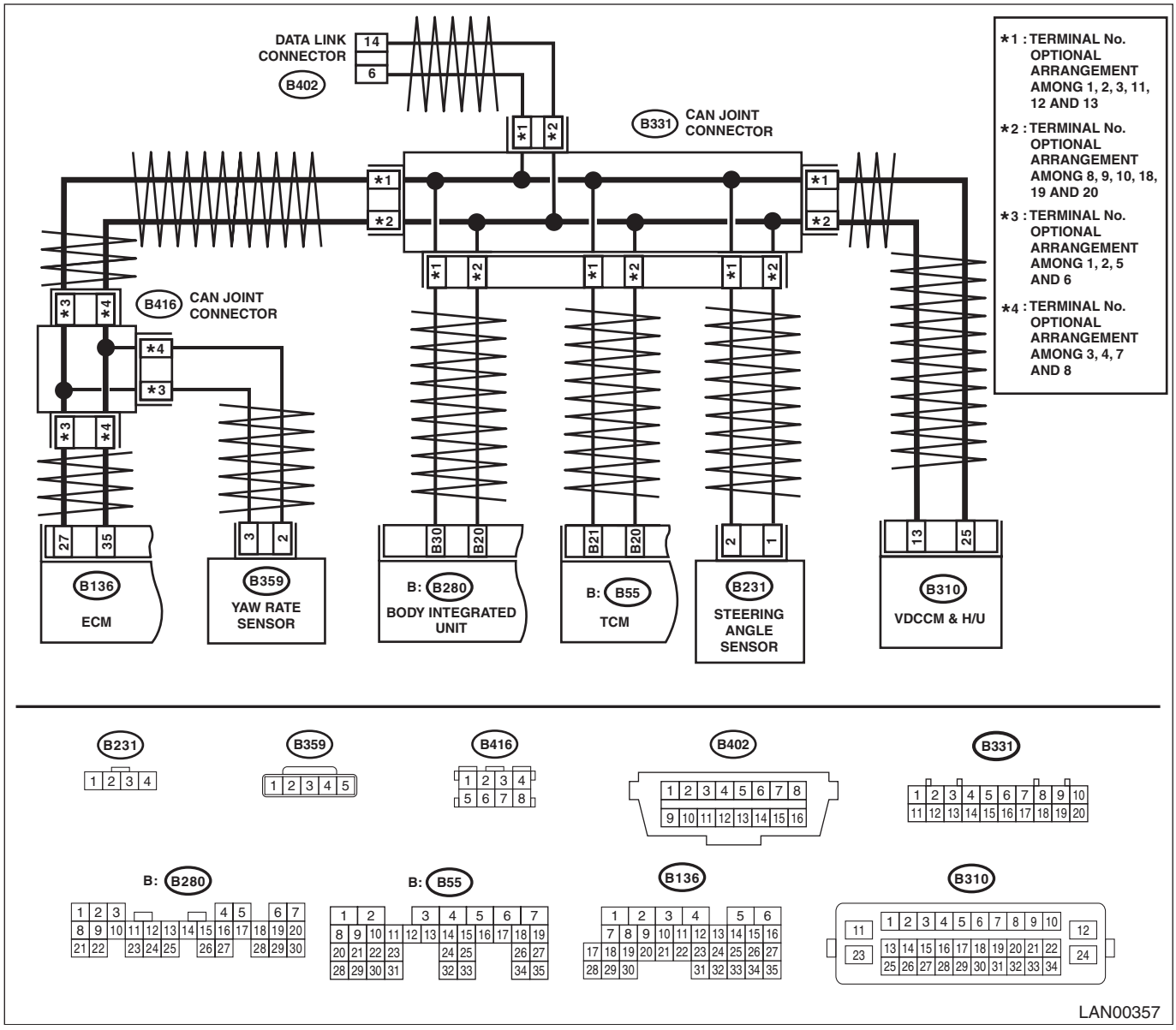


	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, confirm all DTCs.	Is any DTC other than for the body integrated unit displayed?	Perform the diagnosis according to displayed DTC.	Go to step **2**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **3**.	Go to step **10**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **4**.	Go to step **10**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 6 — (B136) No. 27:*** ***(B402) No. 6 — (B310) No. 34:*** ***(B402) No. 6 — (B359) No. 3:*** ***(B402) No. 6 — (B231) No. 2:*** ***(B402) No. 6 — (B55) No. 21:*** ***(B402) No. 6 — (B280) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 14 — (B136) No. 35:*** ***(B402) No. 14 — (B310) No. 20:*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 14 — (B280) No. 9:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK ECM.** 1) Connect the ECM. 2) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **7**.	Inspect the ECM. <Ref. to EN(H6DO)(diag)-34, HOW TO USE THE SUBARU SELECT MONITOR, OPERATION, Subaru Select Monitor.>
7	**CHECK VDC/ABS CM.** 1) Disconnect the ECM connector (B136). 2) Connect the VDC/ABS CM. 3) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **8**.	Replace the VDC/ABS CM.

	Step	Check	Yes	No
8	**CHECK HARNESS.** 1) Connect the disconnected connectors. 2) Using the tester, measure the resistance between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 6 — Chassis ground:*** ***(B402) No. 14 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **9**.	Go to step **12**.
9	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 6 — Chassis ground:*** ***(B402) No. 14 — Chassis ground:***	Is the voltage 6 V or more?	Go to step **13**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
10	**CHECK HARNESS.** 1) Shake the harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Repair or replace the harness.	Go to step **11**.
11	**CHECK CONNECTOR.** Disconnect the connector used for high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor contact occurs.
12	**CHECK CONTROL MODULE.** With the tester connected, disconnect each control module connector.	Is there any control module whose resistance has changed?	Replace the control module whose resistance has changed.	Repair or replace the open or short circuit of the harness.
13	**CHECK ECM.** With the tester connected, disconnect each control module connector.	Is there any control module whose voltage has changed?	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the harness.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, confirm all DTCs.	Is any DTC other than for the body integrated unit displayed?	Perform the diagnosis according to displayed DTC.	Go to step **2**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **3**.	Go to step **10**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Go to step **4**.	Go to step **10**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 6 — (B136) No. 27:*** ***(B402) No. 6 — (B310) No. 25:*** ***(B402) No. 6 — (B359) No. 3:*** ***(B402) No. 6 — (B231) No. 2:*** ***(B402) No. 6 — (B55) No. 21:*** ***(B402) No. 6 — (B280) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of harness.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 14 — (B136) No. 35:*** ***(B402) No. 14 — (B310) No. 13:*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 14 — (B280) No. 9:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK ECM.** 1) Connect the ECM. 2) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **7**.	Inspect the ECM. <Ref. to EN(H6DO)(diag)-34, HOW TO USE THE SUBARU SELECT MONITOR, OPERATION, Subaru Select Monitor.>
7	**CHECK VDC/ABS CM.** 1) Disconnect the ECM connector (B136). 2) Connect the VDC/ABS CM. 3) Using the tester, measure the resistance between terminals of data link connector. ***Connector & terminal*** ***(B402) No. 6 — No. 14:***	Is the resistance 120±5 Ω?	Go to step **8**.	Replace the VDC/ABS CM.

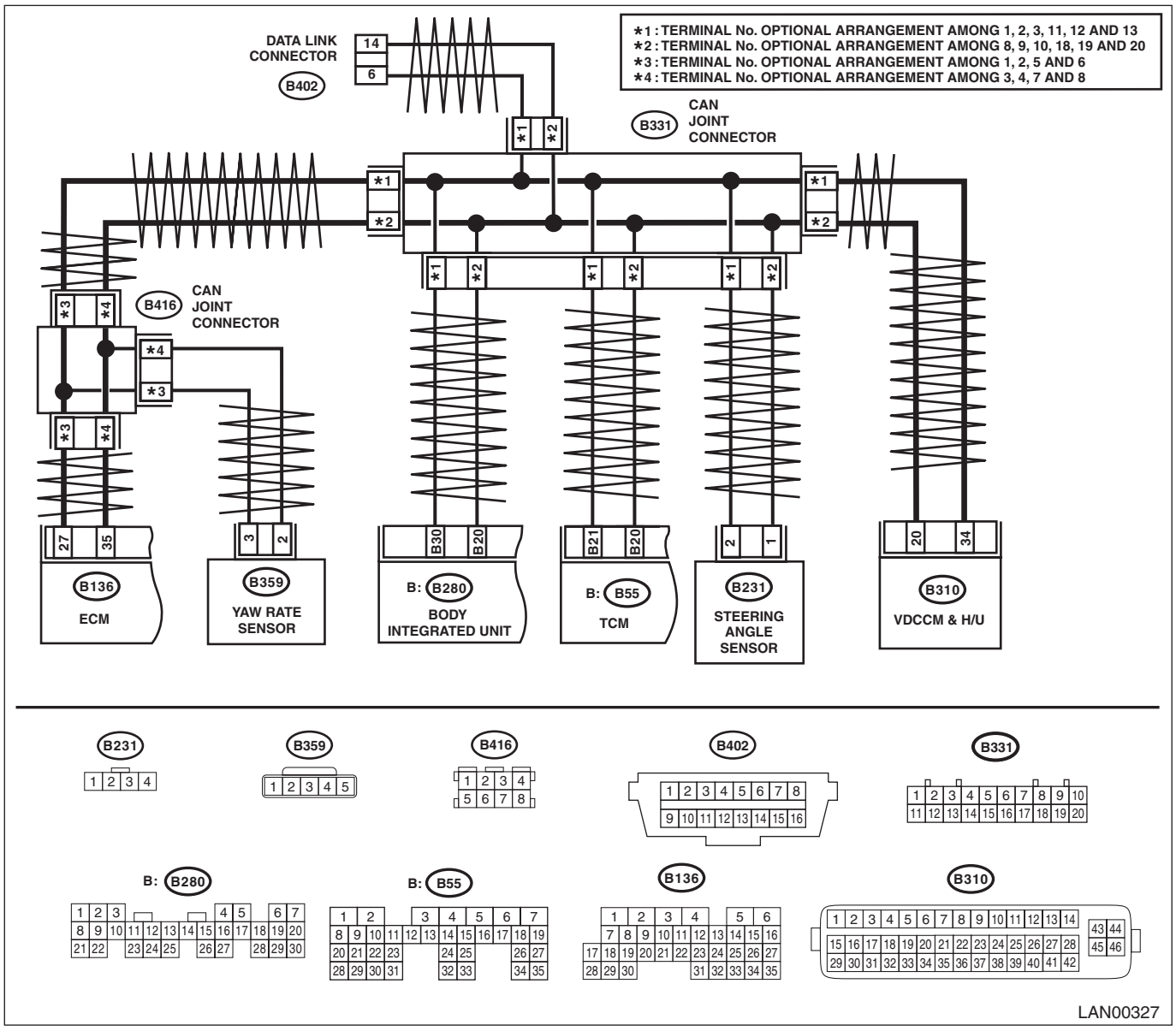
	Step	Check	Yes	No
8	**CHECK HARNESS.** 1) Connect the disconnected connectors. 2) Using the tester, measure the resistance between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 6 — Chassis ground:*** ***(B402) No. 14 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **9**.	Go to step **12**.
9	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between terminals of data link connector and chassis ground. ***Connector & terminal*** ***(B402) No. 6 — Chassis ground:*** ***(B402) No. 14 — Chassis ground:***	Is the voltage 6 V or more?	Go to step **13**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
10	**CHECK HARNESS.** 1) Shake the harness. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1202 a current malfunction?	Repair or replace the harness.	Go to step **11**.
11	**CHECK CONNECTOR.** Disconnect the connector used for high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor contact occurs.
12	**CHECK CONTROL MODULE.** With the tester connected, disconnect each control module connector.	Is there any control module whose resistance has changed?	Replace the control module whose resistance has changed.	Repair or replace the open or short circuit of the harness.
13	**CHECK ECM.** With the tester connected, disconnect each control module connector.	Is there any control module whose voltage has changed?	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the harness.

K: DTC U1211 CAN-HS ECM DATA ABNORMAL

DTC DETECTING CONDITION:
Defective data from ECM.
TROUBLE SYMPTOM:
“Er HC” or “Er EG” is displayed in odo/trip meter.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

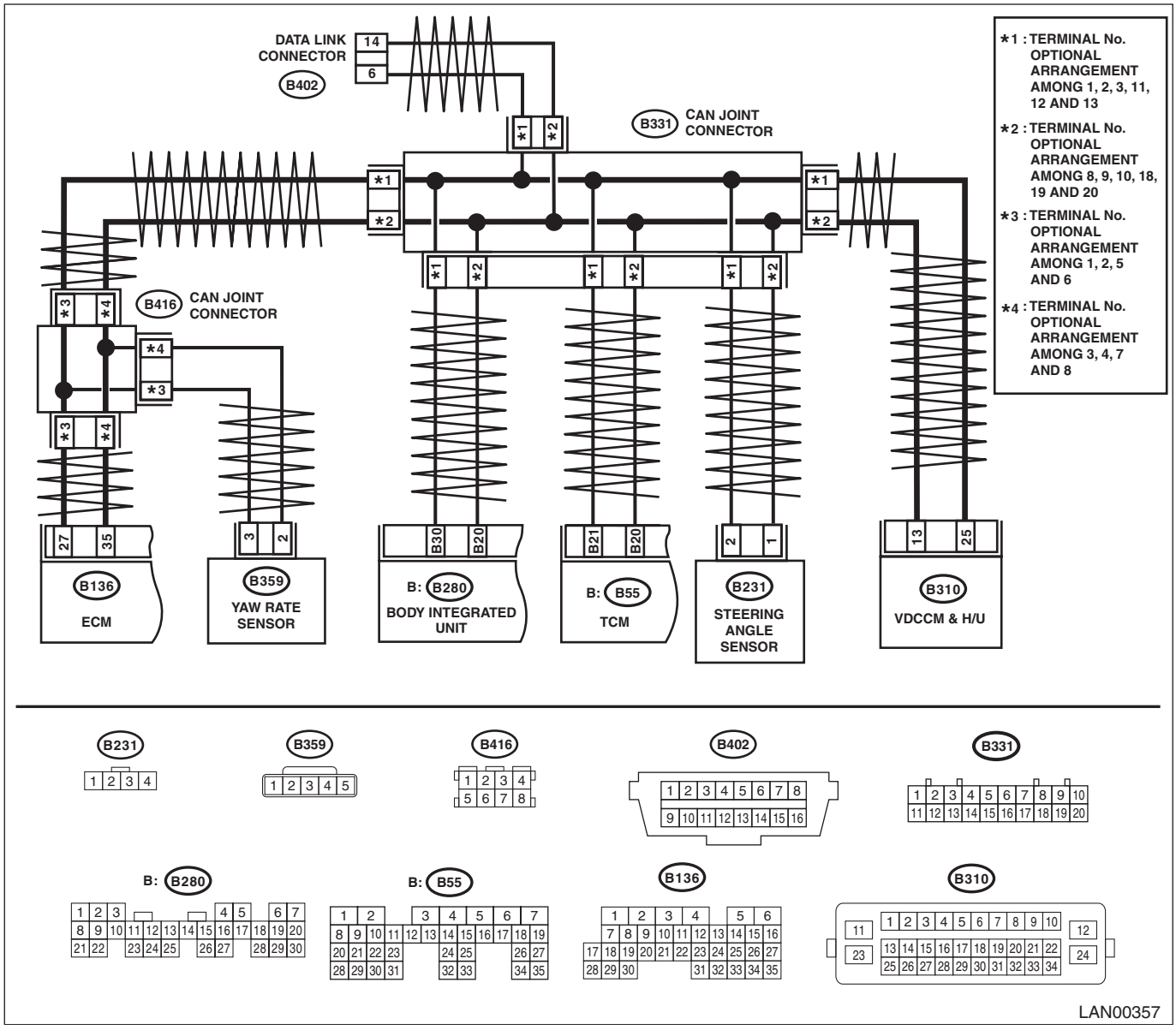
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1211 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Repair the poor contact or temporary open circuit of harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector?	Repair the connector terminal where poor contact exists, or replace harness.	It is possible that temporary poor contact occurs.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1211 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from ECM. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1211 a current malfunction?	Repair the poor contact or temporary open circuit of harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector?	Repair the connector terminal where poor contact exists, or replace harness.	It is possible that temporary poor contact occurs.

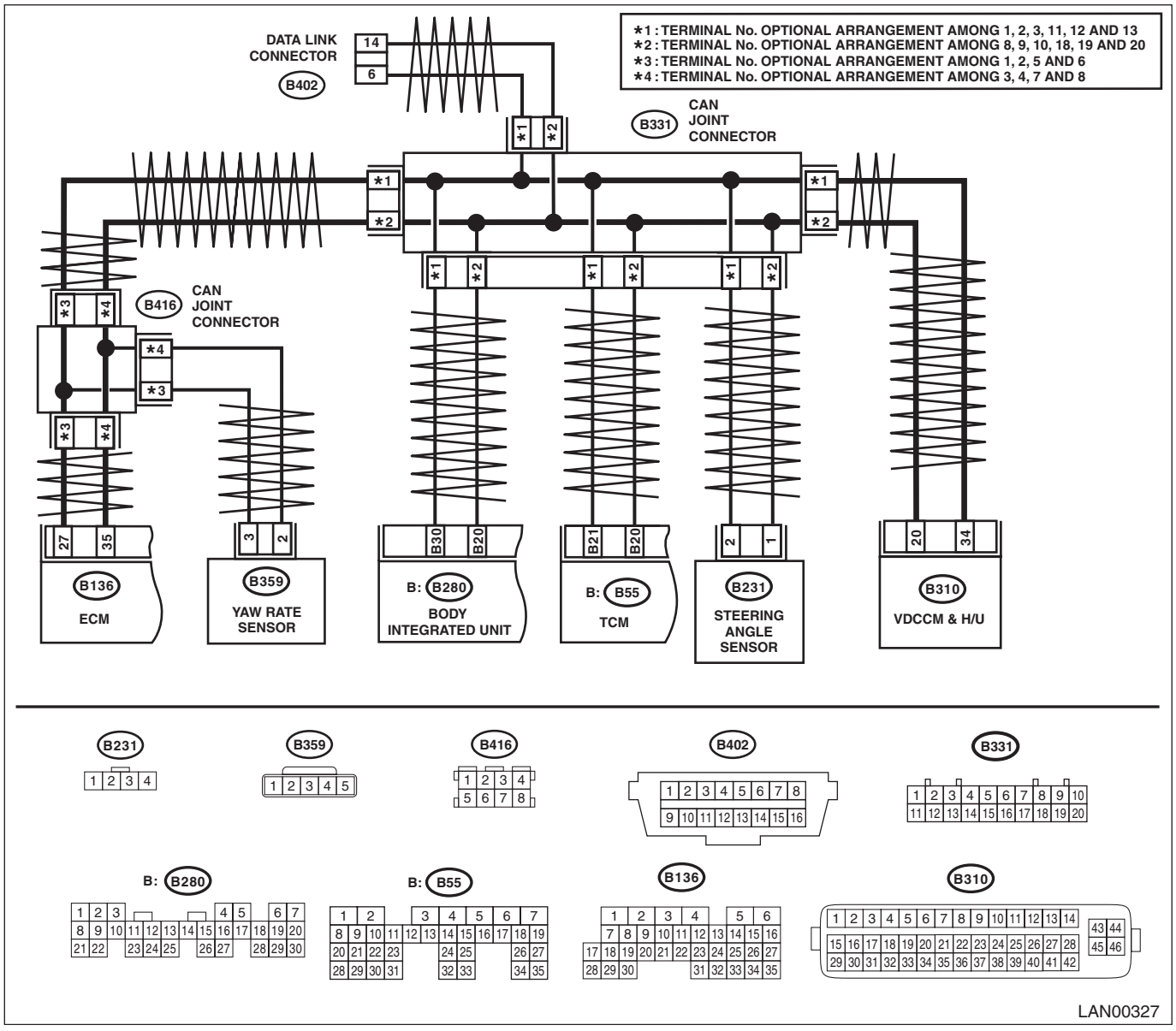
L: DTC U1212 CAN-HS TCM DATA ABNORMAL

DTC DETECTING CONDITION:
Malfunction of TCM itself or, defective data from TCM.

TROUBLE SYMPTOM:
- SPORT indicator light blinks.
- “Er HC” or “Er tC” is displayed in odo/trip meter.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

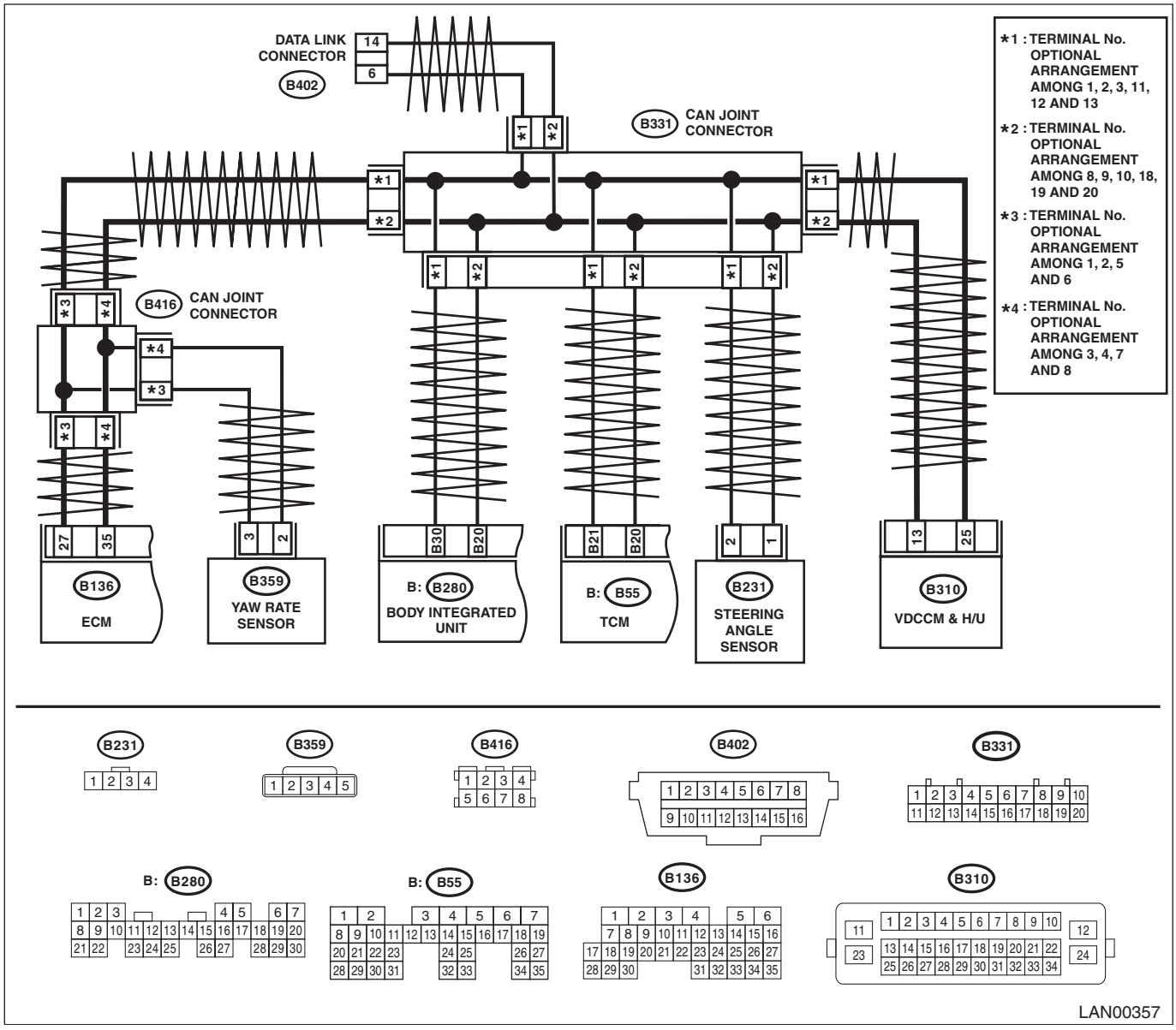
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from TCM. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Replace the TCM. <Ref. to 5AT-60, Transmission Control Module (TCM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from TCM. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Replace the TCM. <Ref. to 5AT-60, Transmission Control Module (TCM).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1212 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

M: DTC U1213 CAN-HS VDC/ABS DATA ABNORMAL

DTC DETECTING CONDITION:

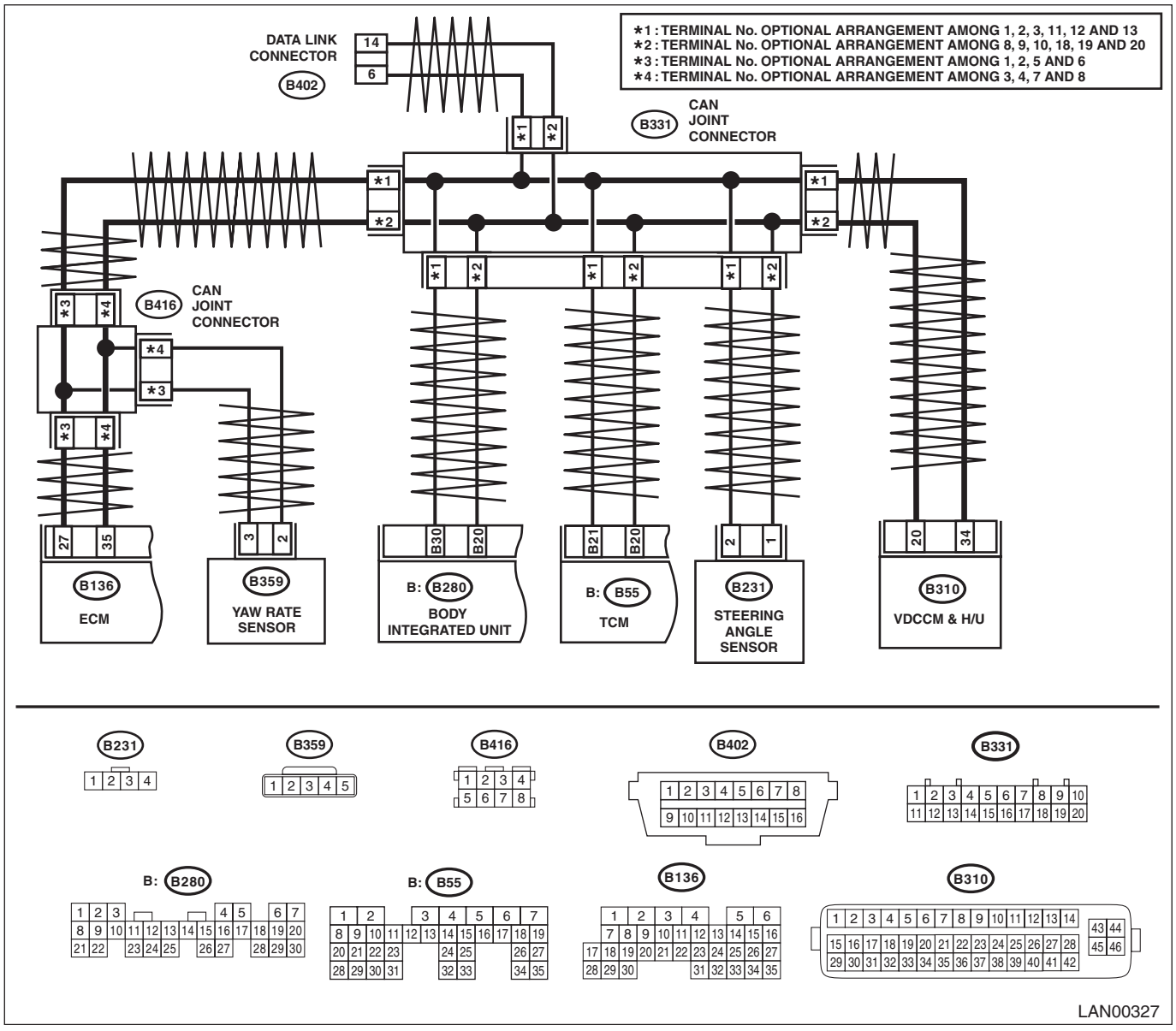
Malfunction of VDCCM itself or, defective data from VDCCM

TROUBLE SYMPTOM:

- ABS warning light and VDC warning light illuminate.
- “Er HC” or “Er Ab” is displayed in odo/trip meter.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

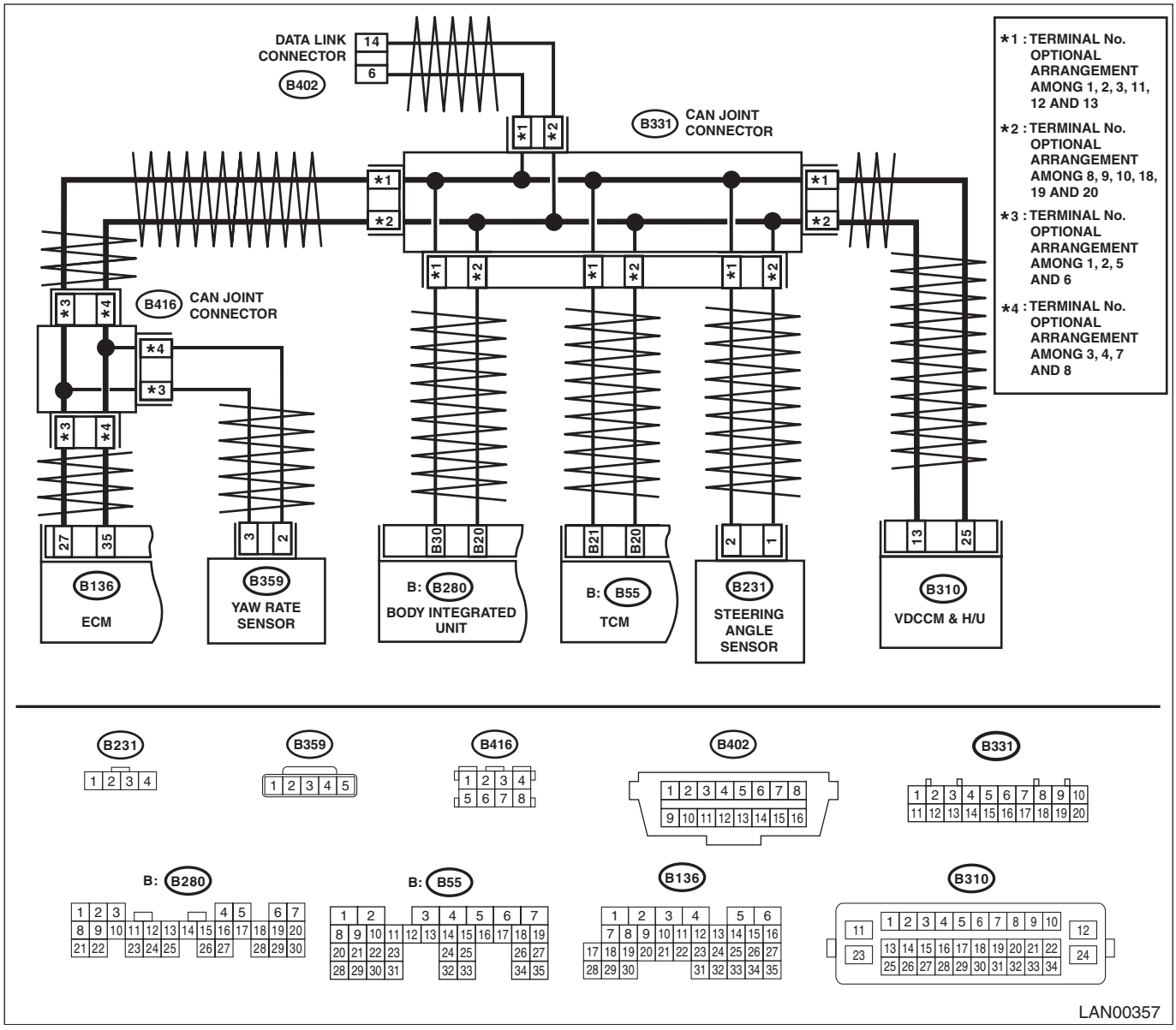
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1213 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDC/ABS CM connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Replace the VDCCM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor contact occurs.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1213 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDC/ABS CM connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Replace the VDCCM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1213 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor contact occurs.

N: DTC U1221 CAN-HS ECM NO-RECEIVE DATA

DTC DETECTING CONDITION:

Not received error data from ECM. (If error is in the main harness, DTC P0600 CAN communication link is input simultaneously.)

NOTE:

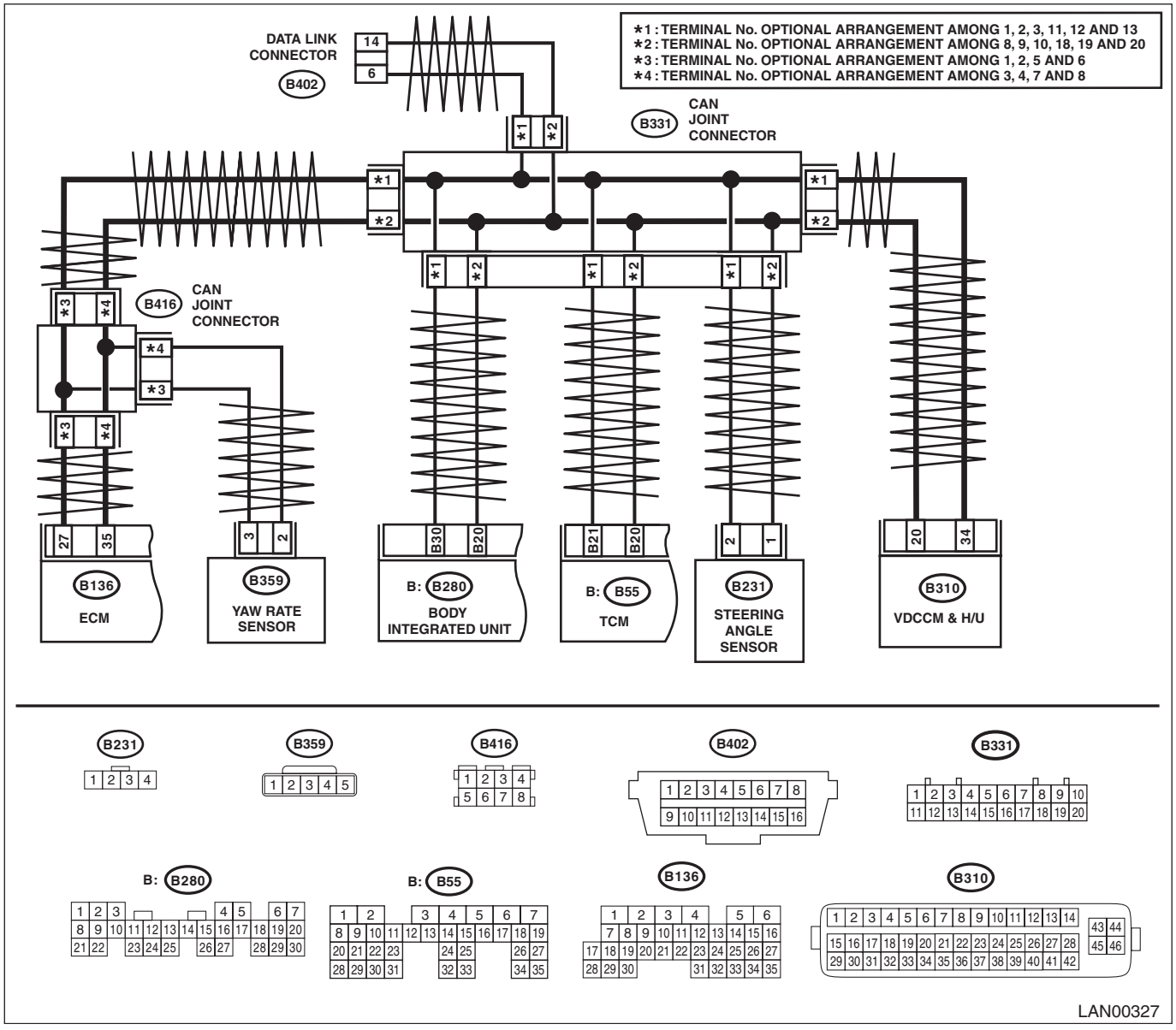
When more than two DTCs are displayed. <Ref. to LAN(diag)-30, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

TROUBLE SYMPTOM:

- Malfunction indicator light illuminates.
- "Er HC" is displayed in odo/trip meter.
- P1718 (TCM) and C0057 (VDCCM) are output.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

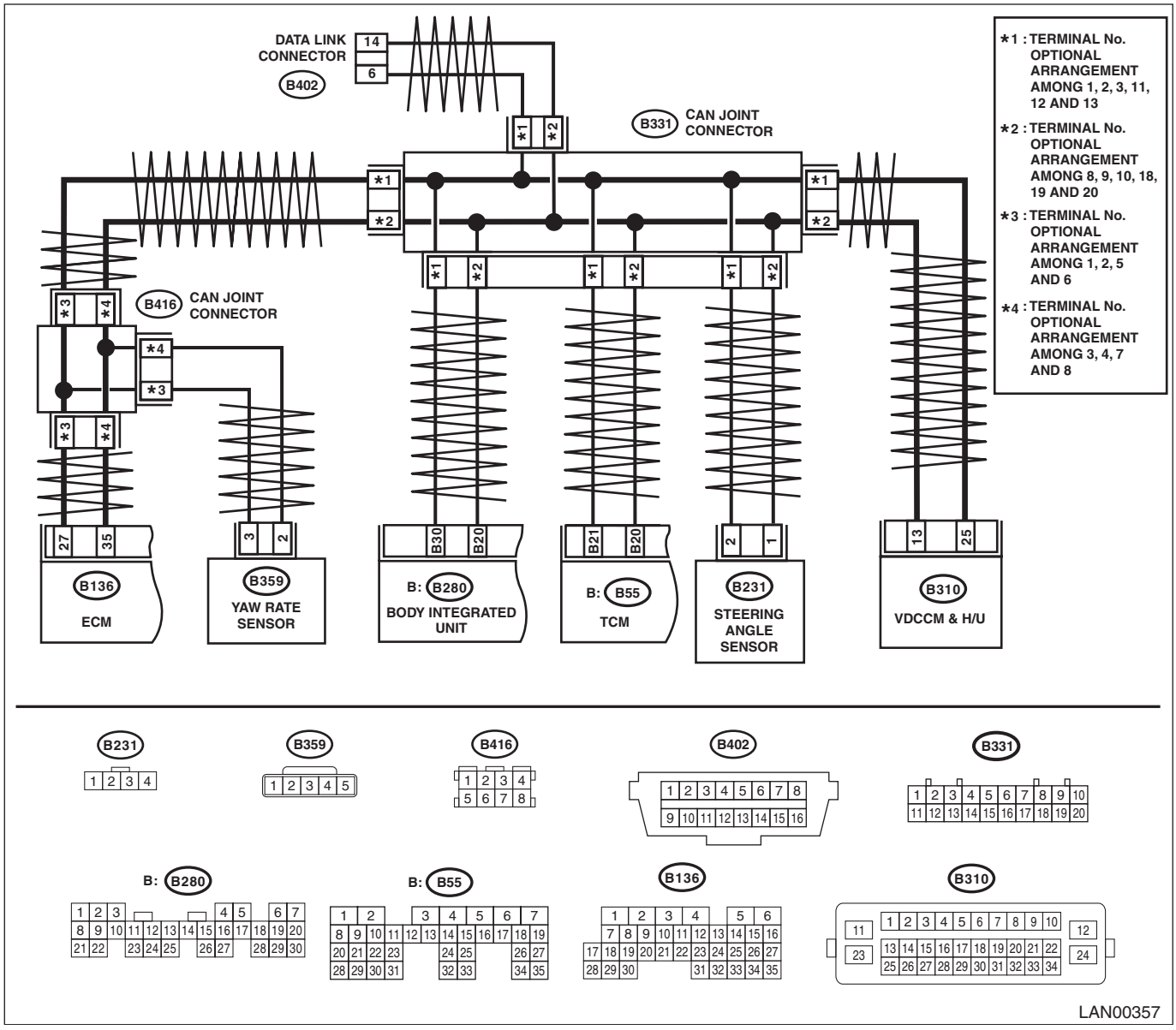
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1221 a current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 6 — (B136) No. 27:*** ***(B402) No. 6 — (B310) No. 34:*** ***(B402) No. 6 — (B359) No. 3:*** ***(B402) No. 6 — (B231) No. 2:*** ***(B402) No. 6 — (B55) No. 21:*** ***(B402) No. 6 — (B280) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of the harness.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***VDC model:*** ***(B402) No. 14 — (B136) No. 35:*** ***(B402) No. 14 — (B310) No. 20:*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 14 — (B280) No. 9:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of the harness.
6	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Start the engine and stop. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **7**.	Go to step **8**.
7	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are DTCs P1718 or P0044, P0045 detected?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
8	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Repair or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1221 a current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **4**.	Go to step **8**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 6 — (B136) No. 27:*** ***(B402) No. 6 — (B310) No. 25:*** ***(B402) No. 6 — (B359) No. 3:*** ***(B402) No. 6 — (B231) No. 2:*** ***(B402) No. 6 — (B55) No. 21:*** ***(B402) No. 6 — (B280) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the open circuit of the harness.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***VDC model:*** ***(B402) No. 14 — (B136) No. 35:*** ***(B402) No. 14 — (B310) No. 13:*** ***(B402) No. 14 — (B359) No. 2:*** ***(B402) No. 14 — (B231) No. 1:*** ***(B402) No. 14 — (B55) No. 20:*** ***(B402) No. 14 — (B280) No. 9:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of the harness.
6	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Start the engine and stop. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Go to step **7**.	Go to step **8**.
7	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are DTCs P1718 or P0044, P0045 detected?	Replace the ECM. <Ref. to FU(H6DO)-37, Engine Control Module (ECM).>	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
8	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1221 a current malfunction?	Repair or replace the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

O: DTC U1222 CAN-HS TCM NO-RECEIVE DATA

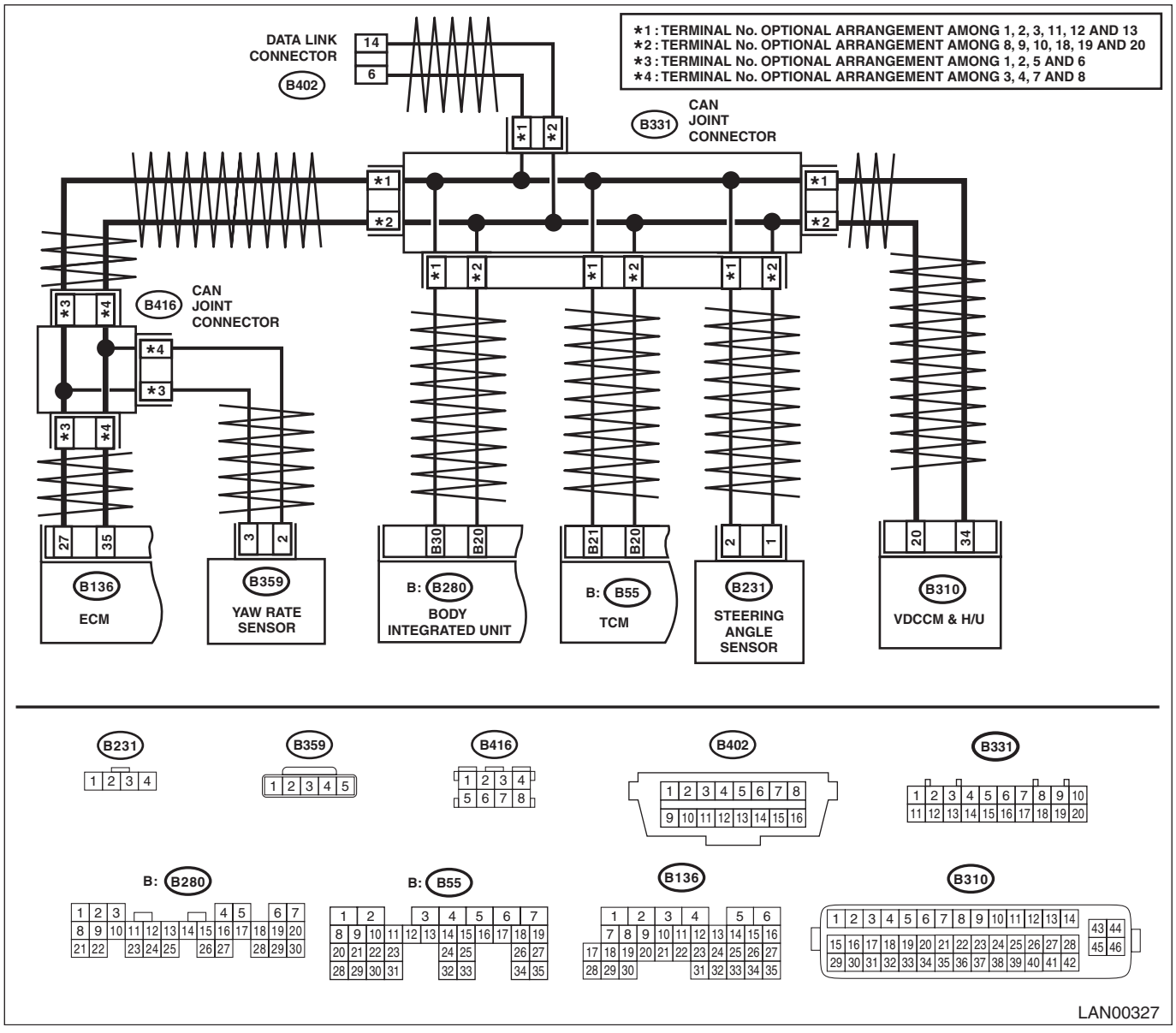
DTC DETECTING CONDITION:
Not received error data from TCM.

NOTE:
When more than two DTCs are displayed. <Ref. to LAN(diag)-30, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

TROUBLE SYMPTOM:
- Malfunction indicator light illuminates.
- “Er HC” is displayed in odo/trip meter.
- P0600 (ECM) and C0057 (VDCCM) are output.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

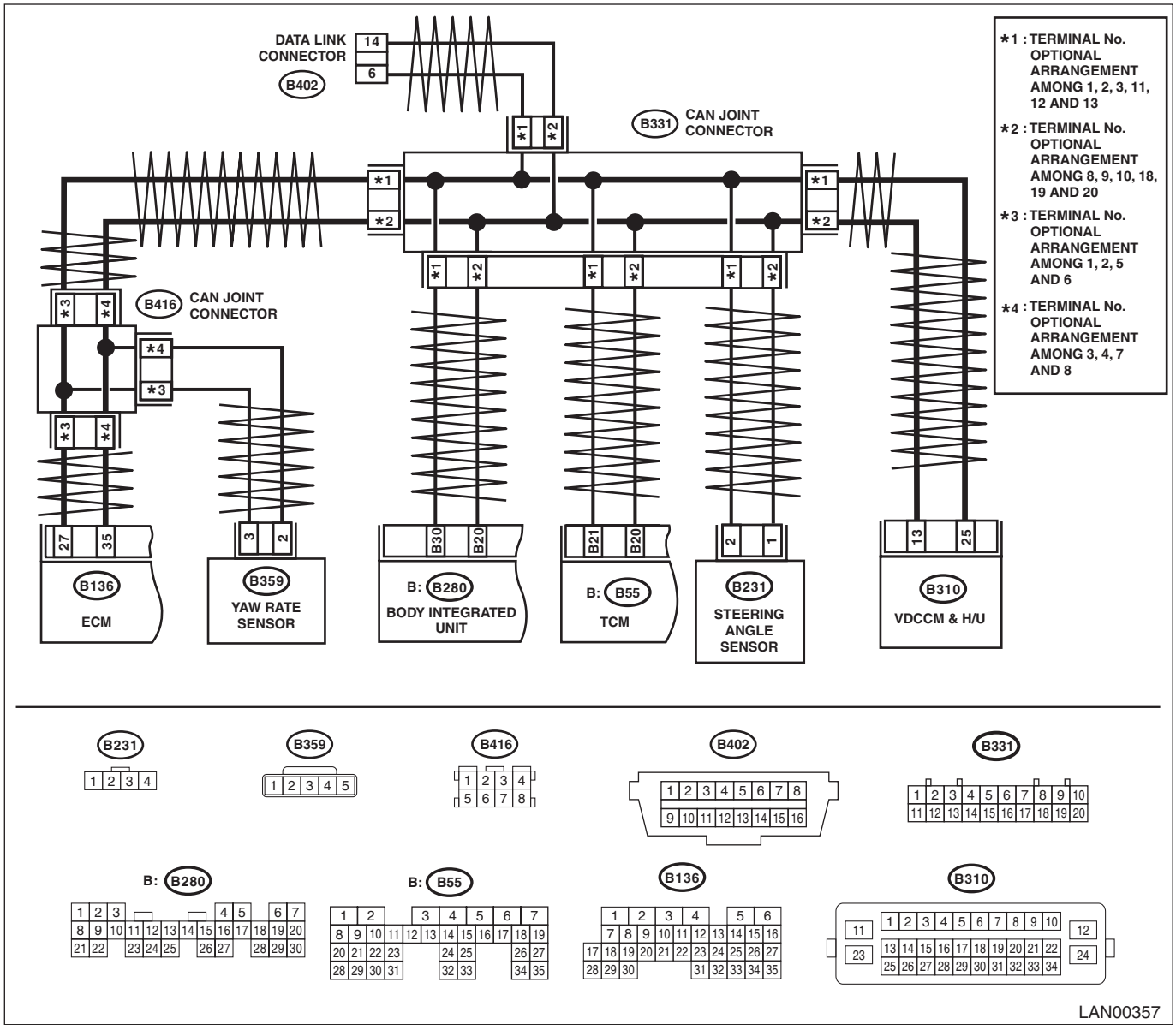
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B55) No. 20 — (B402) No. 14:*** ***(B55) No. 21 — (B402) No. 6:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine and stop. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are DTCs P0600 or P0044, P0045 displayed?	Replace the TCM. <Ref. to 5AT-60, Transmission Control Module (TCM).>	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B55) No. 20 — (B402) No. 14:*** ***(B55) No. 21 — (B402) No. 6:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine and stop. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are DTCs P0600 or P0044, P0045 displayed?	Replace the TCM. <Ref. to 5AT-60, Transmission Control Module (TCM).>	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1222 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all the connector that is connected to high speed CAN circuit.	Is there poor contact in connector terminal?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

P: DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA

DTC DETECTING CONDITION:

Not received error data from VDCCM. (If error is in the main harness, DTC P0600 High-speed CAN circuit is input at the same time.)

NOTE:

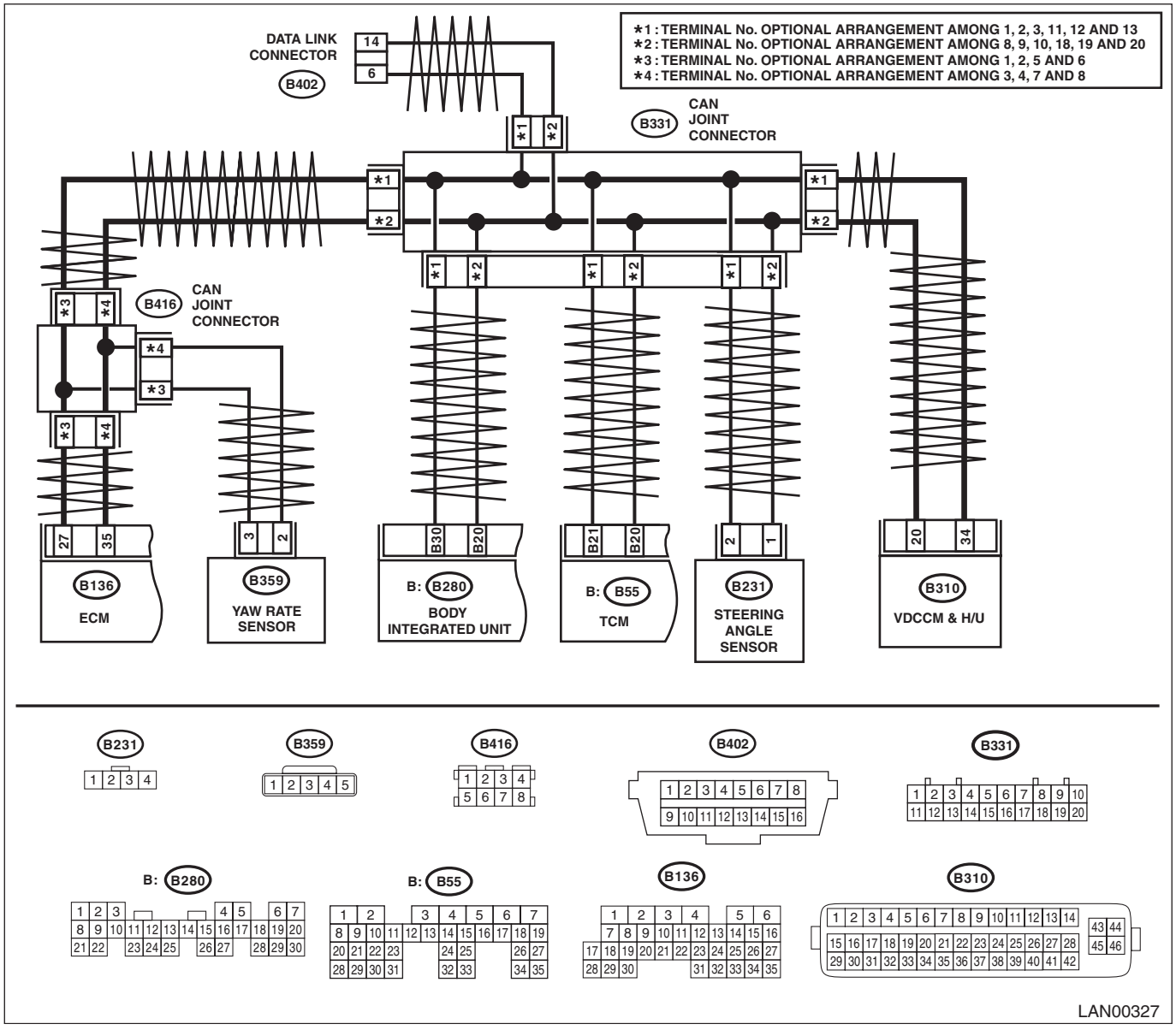
When more than two DTCs are displayed. <Ref. to LAN(diag)-30, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>

TROUBLE SYMPTOM:

- ABS warning light and VDC warning light illuminate.
- “Er HC” is displayed in odo/trip meter.
- P0600 (ECM) and C1718 (TCM) are output.

1. VDC CONTROL MODULE IDENTIFICATION NUMBER W2

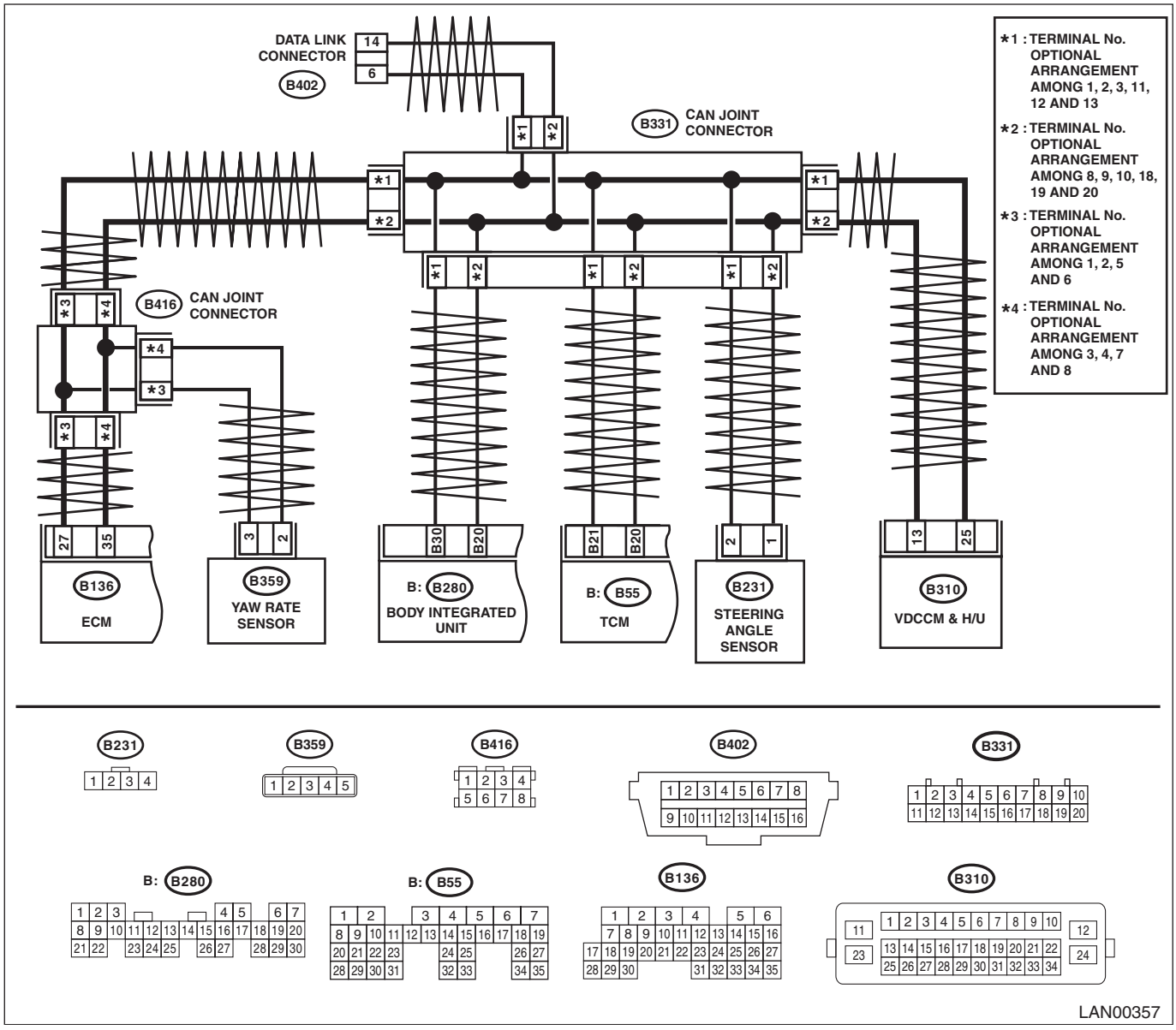
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1223 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B230, B231) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 6 — (B310) No. 34:*** ***(B402) No. 14 — (B310) No. 20:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine and stop. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is P1718 or P0600 displayed?	Replace the VDC/ABS CM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line.	Is there connector terminal where poor contact exists?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

2. VDC CONTROL MODULE IDENTIFICATION NUMBER W3

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Are there any U1201, U1202, DTCs other than for the body integrated unit?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is U1223 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Disconnect all connectors (B280, B310, B55, B136, B230, B231) that are connected to high speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(B402) No. 6 — (B310) No. 34:*** ***(B402) No. 14 — (B310) No. 13:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK DTC.** 1) Connect the disconnected connectors. 2) Start the engine and stop. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Go to step **6**.	Go to step **7**.
6	**CHECK DTC.** Using the Subaru Select Monitor, read all DTCs.	Is P1718 or P0600 displayed?	Replace the VDC/ABS CM. <Ref. to VDC-10, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
7	**CHECK HARNESS.** 1) Shake the harness used for CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1223 a current malfunction?	Repair or replace the harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors (B280, B310, B55, B136, B359, B231) that are connected to high speed CAN communication line.	Is there connector terminal where poor contact exists?	Repair the connector terminal where poor contact exists, or replace harness.	Temporary poor contact occurs.

Q: DTC U1300 CAN-LS MALFUNCTION

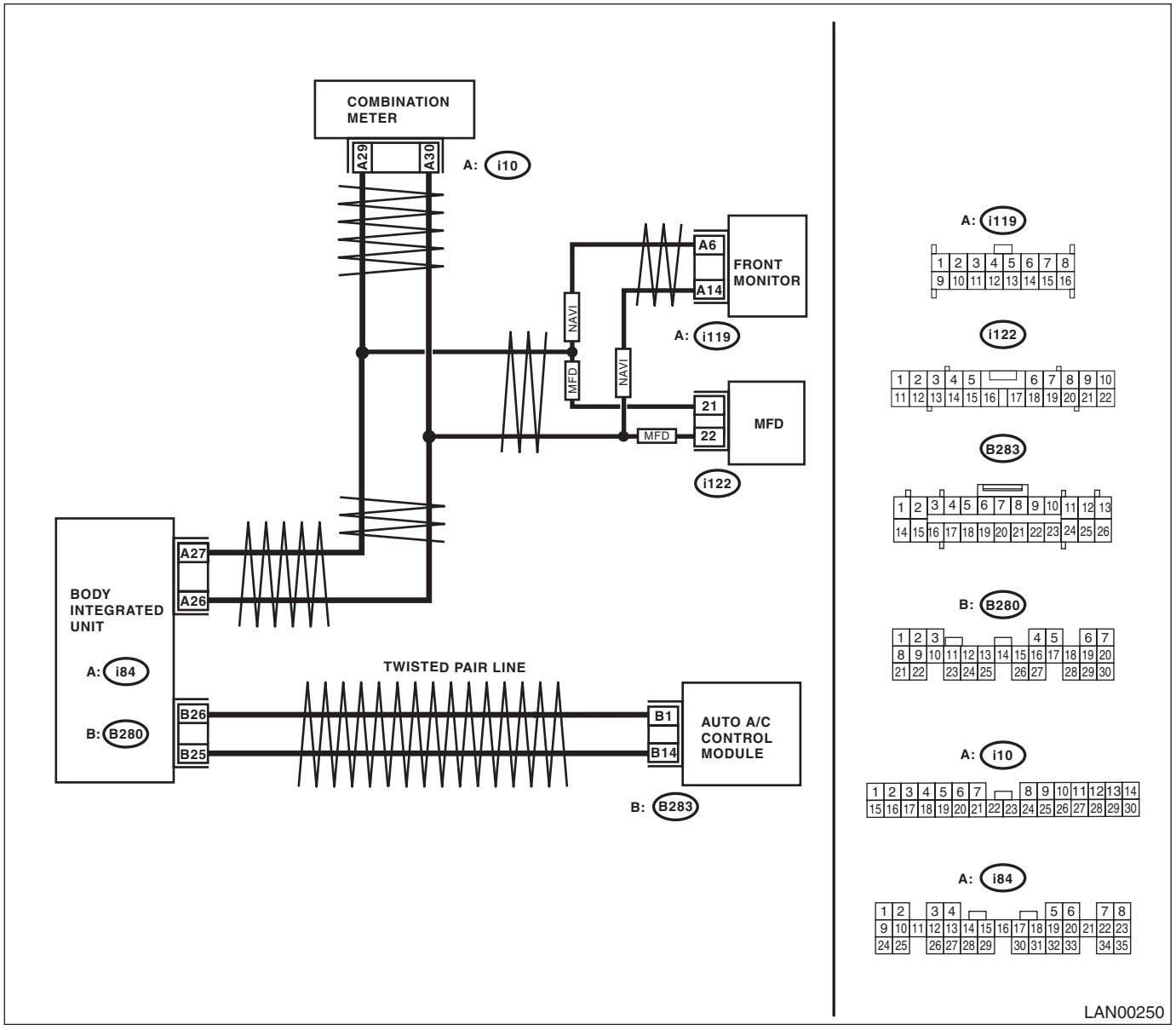
DTC DETECTING CONDITION:

Either end of low-speed CAN communication line is open or shorted, the connector is not connected properly, or the terminal has poor crimping.

TROUBLE SYMPTOM:

“Er LC” is displayed in odo/trip meter, but communicating function is OK.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Go to step **2**.	Go to step **12**.
2	**CHECK DTC.** 1) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 2) Connect the disconnected connectors. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Go to step **3**.	Go to step **12**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 27 — (i122) No. 21 (MFD):*** ***(i84) No. 26 — (i122) No. 22 (MFD):*** ***(i84) No. 27 — (i119) No. 6 (navigation):*** ***(i84) No. 26 — (i119) No. 14 (navigation):***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK CURRENT DATA.** Display the current data (Auto A/C failure) of body integrated unit using the Subaru Select Monitor.	Is OK displayed?	Go to step **5**.	Perform auto A/C self-diagnosis. <Ref. to AC(diag)-10, OPERATION, Diagnostic Chart for Self-diagnosis.>
5	**CHECK AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect the auto A/C control module connector (B283). 3) Turn the ignition switch to ON, and read the DTC.	Does U1300 disappear?	Go to step **6**.	Go to step **7**.
6	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283). 2) Check open or short conditions between body integrated unit connector and auto A/C control module connector. ***Connector & terminal*** ***(B283) No. 1 — (B280) No. 26:*** ***(B283) No. 14 — (B280) No. 25:***	Is the harness OK?	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>	Repair or replace the open or short circuit of harness.
7	**CHECK CURRENT DATA.** Using the Subaru Select Monitor, display current data (meter failure) of the body integrated unit.	Is OK displayed?	Go to step **8**.	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>

	Step	Check	Yes	No
8	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector. 3) Turn the ignition switch to ON.	Is U1300 detected?	Go to step **10**.	Go to step **9**.
9	**CHECK NAVIGATION OR MFD.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Disconnect the connector of navigation (i119) or MFD (i122). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Go to step **10**.	Repair the navigation or audio.
10	**CHECK AUTO A/C ECM.** 1) Turn the ignition switch to OFF. 2) Connect the navigation or MFD connector. 3) Disconnect the auto A/C ECM connector (B283). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Go to step **11**.	Replace the auto A/C control module.
11	**CHECK BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Connect the auto A/C control module. 3) Replace the body integrated unit of your vehicle with the body integrated unit from other vehicle, which is working normally. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>	Replace the body integrated unit.
12	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1300 a current malfunction?	Repair or replace the harness.	Go to step **13**.
13	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector that is connected to low speed CAN circuit.	Is there poor contact at disconnected connector?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

R: DTC U1301 CAN-LS COUNTER ABNORMAL

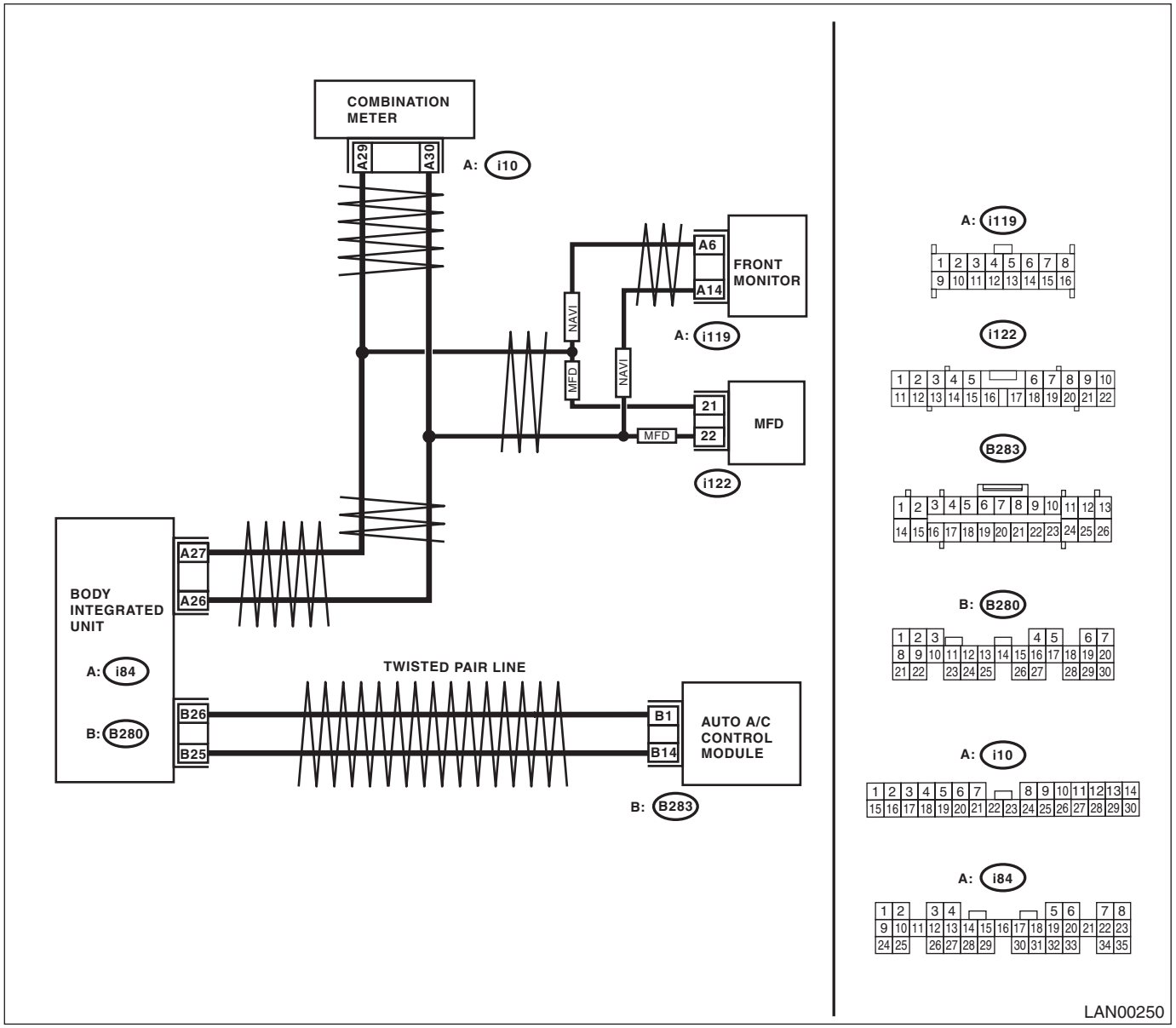
DTC DETECTING CONDITION:

Communication becomes unstable because of low speed CAN communication error.

TROUBLE SYMPTOM:

“Er LC” is displayed in odo/trip meter.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Are there DTC U1300 or U1301?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **3**.	Go to step **9**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **4**.	Go to step **9**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 27 — (i122) No. 21 (MFD):*** ***(i84) No. 26 — (i122) No. 22 (MFD):*** ***(i84) No. 27 — (i119) No. 6 (navigation):*** ***(i84) No. 26 — (i119) No. 14 (navigation):***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK AUDIO OR NAVIGATION.** 1) Connect the disconnected connectors. 2) Disconnect the connector of navigation (i119) or MFD (i122). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **6**.	Go to step **9**.
6	**CHECK AUTO A/C CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Connect the audio or navigation module. 3) Disconnect the auto A/C control module connector (B283). 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Go to step **7**.	Replace the auto A/C control module. <Ref. to AC-35, REMOVAL, Control Unit (Auto A/C Model).>
7	**CHECK COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Perform the self-diagnosis of combination meter.	Is the self-diagnosis of combination meter OK?	Go to step **8**.	Replace the combination meter.

	Step	Check	Yes	No
8	**CHECK BODY INTEGRATED UNIT.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC U1301 a current malfunction?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step **9**.
9	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Shake the harness used for low speed CAN communication circuit. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1301 a current malfunction?	Repair or replace the harness.	Go to step **10**.
10	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

S: DTC U1302 CAN-LS BUS OFF

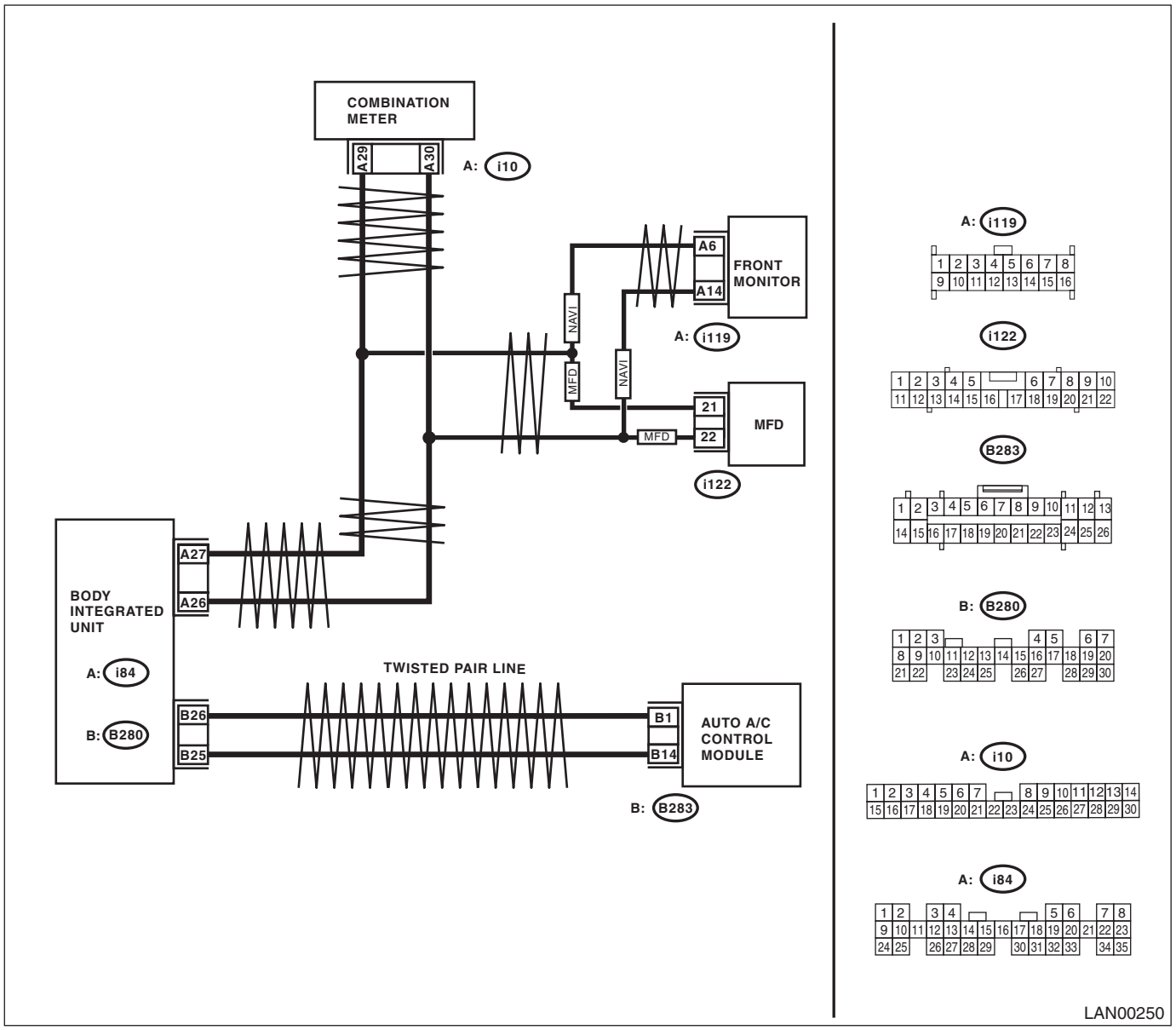
DTC DETECTING CONDITION:

- Open or power supply-output short, GND-output short occurs in both CAN line.
- Internal error in each control module

TROUBLE SYMPTOM:

"Er LC" is displayed in odo/trip meter.

WIRING DIAGRAM:

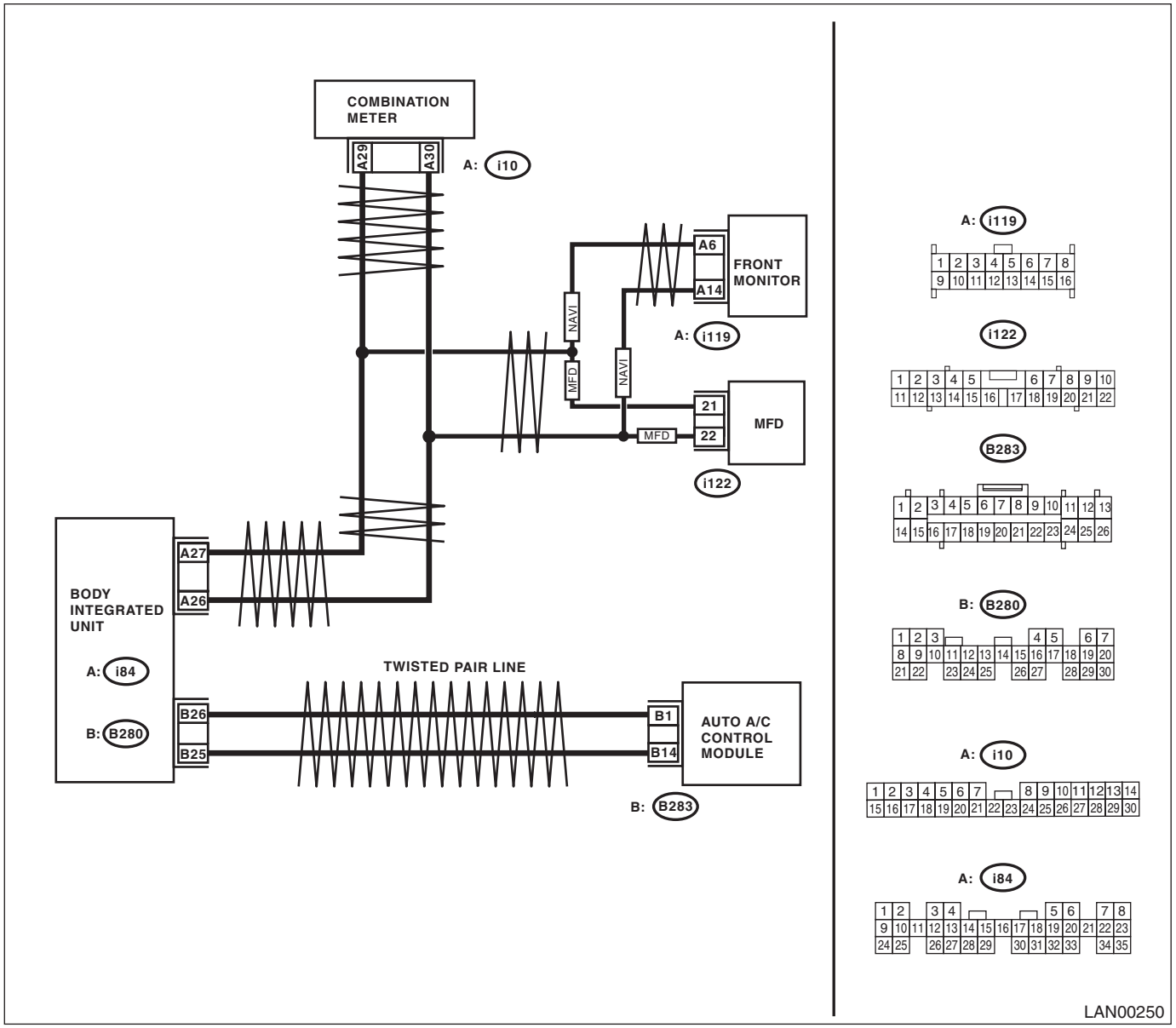


	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 a current malfunction?	Go to step **2**.	Go to step **8**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 a current malfunction?	Go to step **3**.	Go to step **8**.
3	**CHECK HARNESS.** 1) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 2) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 26 — (i85) No. 22 (MFD):*** ***(i84) No. 27 — (i85) No. 21 (MFD):*** ***(i84) No. 26 — (i50) No. 14 (navigation):*** ***(i84) No. 27 — (i50) No. 6 (navigation):***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the harness.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Connect the disconnected connectors. 3) Using the tester, measure the resistance between harness connector and chassis ground. ***Connector & terminal*** ***(i84) No. 26 — Chassis ground:*** ***(i84) No. 27 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **5**.	Go to step **7**.
5	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Using the tester, measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(i84) No. 26 (+) — Chassis ground (–):*** ***(i84) No. 27 (+) — Chassis ground (–):***	Is the voltage less than 6 V?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step **6**.
6	**CHECK HARNESS.** With the tester connected, disconnect control module.	Is there any control module that the voltage becomes 6 V or less.	Replace the control module whose voltage has changed.	Repair or replace the short circuit of the harness.
7	**CHECK HARNESS.** With the tester connected, disconnect control module.	Is there any control module whose resistance has changed?	Replace the control module whose resistance has changed.	Repair or replace the short circuit of the harness.

	Step	Check	Yes	No
8	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1302 a current malfunction?	Repair or replace the open, short circuit of the harness.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

T: DTC U1311 CAN-LS METER UNIT DATA ABNORMAL

DTC DETECTING CONDITION:
Error data is received from combination meter.
TROUBLE SYMPTOM:
“Er Lc” is displayed in odo/trip meter.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC U1301 or U1302 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the combination meter connector (i10). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1311 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

U: DTC U1313 CAN-LS MONITOR DATA ABNORMAL

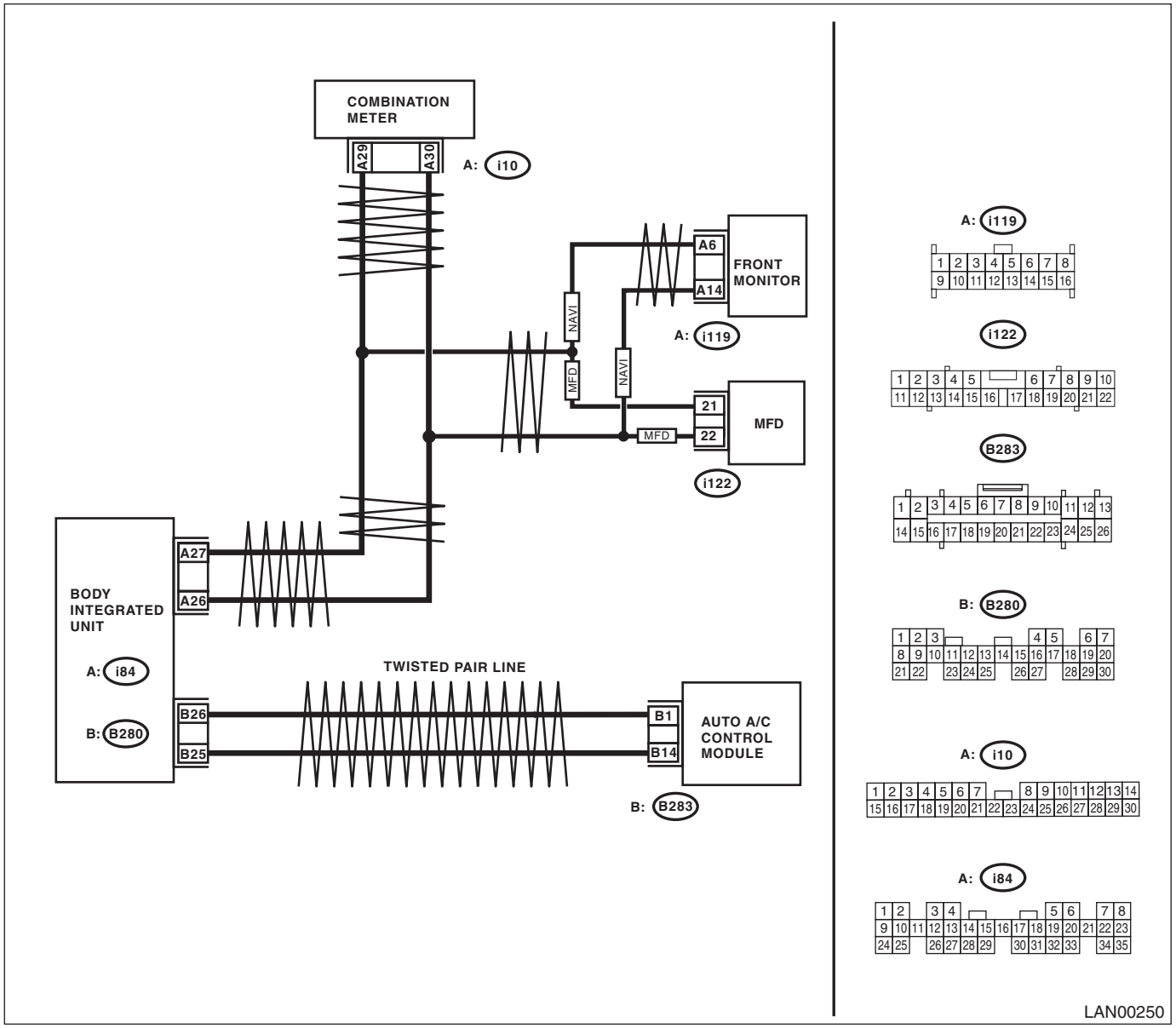
DTC DETECTING CONDITION:

Center display unit error or error data received from center display.

TROUBLE SYMPTOM:

“Er LC” is displayed in odo/trip meter.

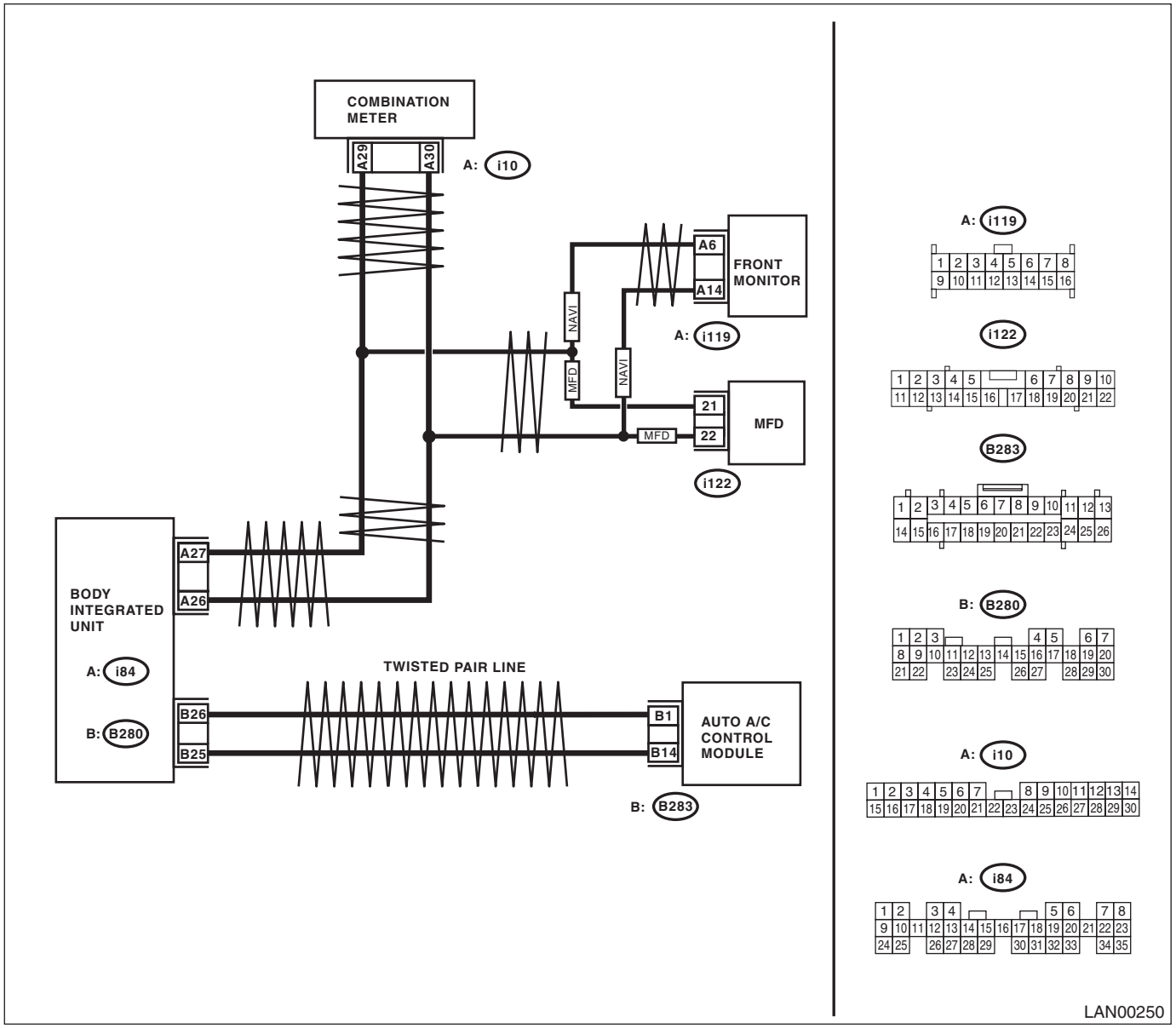
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC U1301 or U1302 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1313 a current malfunction?	Go to step **3**.	Go to step **4**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of front monitor (i119) or MFD (i122). 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1313 a current malfunction?	Replace the front monitor or MFD. <Ref. to ET-22, REMOVAL, Navigation Display.>	Go to step **4**.
4	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1313 a current malfunction?	Repair or replace the harness.	Go to step **5**.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	Temporary poor contact occurs.

V: DTC U1321 CAN-LS METER NO-RECEIVE DATA

DTC DETECTING CONDITION:
Not received error data from combination meter.
TROUBLE SYMPTOM:
Engine may not be started.
WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK ALL DTCS.** Using the Subaru Select Monitor, read all DTCs.	Is DTC U1301 or U1302 displayed?	Perform the diagnosis according to DTC.	Go to step **2**.
2	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Go to step **4**.	Go to step **7**.
4	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 26 — (i10) No. 30 (combination meter):*** ***(i84) No. 27 — (i10) No. 29 (combination meter):*** ***(B280) No. 25 — (B283) No. 14 (auto A/C):*** ***(B280) No. 26 — (B283) No. 1 (auto A/C):*** ***(i84) No. 26 — (i85) No. 22 (MFD):*** ***(i84) No. 27 — (i85) No. 21 (MFD):*** ***(i84) No. 26 — (i50) No. 14 (navigation):*** ***(i84) No. 27 — (i50) No. 6 (navigation):***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair or replace the harness.
5	**CHECK COMBINATION METER.** 1) Connect the disconnected connectors. 2) Perform the self-diagnosis of combination meter.	Is the self-diagnosis OK?	Go to step **6**.	Replace the combination meter.
6	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step **7**.
7	**CHECK HARNESS.** 1) Shake the harness used for low speed CAN communication circuit. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1321 a current malfunction?	Repair the poor contact, open circuit of harness or replace harness.	Go to step **8**.
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect all connectors for control module (i84 or B280, i10, B283, i119 or i122) that are connected to low speed CAN communication line.	Is there poor contact in connector terminal?	Repair the connector terminal, or replace harness.	It is possible that temporary poor contact occurs.

W: DTC B1500 KEYLESS UART COM. MALFUNCTION

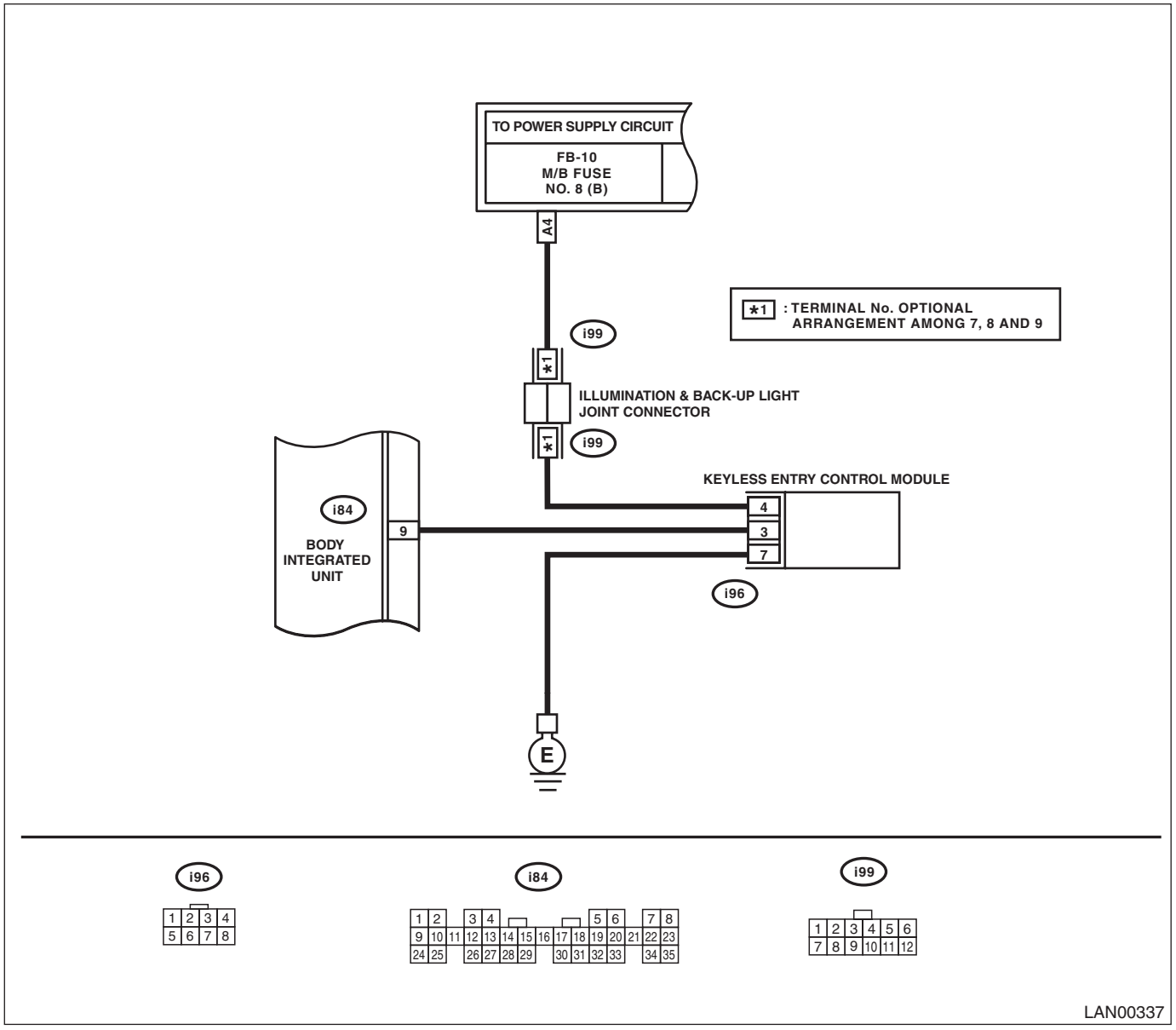
DTC DETECTING CONDITION:

UART (communication line) between keyless entry control module and body integrated unit is open or shorted, the connector is not connected properly, or the terminal is crimped improperly, keyless entry control module internal error.

TROUBLE SYMPTOM:

Door lock does not operate with keyless.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK DTC.** 1) Insert and remove the ignition key. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1500 current malfunction?	Go to step **2**.	Go to step **6**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from body integrated unit and keyless entry control module. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1500 current malfunction?	Go to step **3**.	Go to step **6**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connectors from body integrated unit and keyless entry control module. 3) Using the tester, measure the resistance between terminals of harness. ***Connector & terminal*** ***(i84) No. 9 — (i96) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** Using the tester, measure the voltage between keyless entry control module and chassis ground. ***Connector & terminal*** ***(i96) No. 4 (+) — Chassis ground (–):***	Is the voltage battery voltage?	Go to step **5**.	Check the power supply circuit for keyless entry control module.
5	**OPERATION CHECK.** 1) Install the keyless entry control module from other vehicle, which is working normally. 2) Register the keyless key which is working normally. 3) Operate the keyless key.	Is the door locking operate?	Replace the keyless entry control module. <Ref. to SL-50, REMOVAL, Keyless Entry Control Module.>	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
6	**CHECK CONNECTOR.** Disconnect the connectors from body integrated unit and keyless entry control module.	Is there poor contact in connector?	Repair the connector, or replace harness.	Temporary poor contact occurs.

13.General Diagnostic Table

A: INSPECTION

Read the DTC or inspect and diagnose the following data in the current data display using Subaru Select Monitor.

1. LAN SYSTEM

Item	Operation	Specifications		Note
		YES	NO	
DTC	DTC is not displayed when inspecting all DTCs.	DTC is not displayed.	Perform the diagnosis according to DTC.	Refer to the DTC table when there are trouble codes of the CAN communication system for a multiple of modules. <Ref. to LAN(diag)-30, DTC TABLE, LIST, List of Diagnostic Trouble Code (DTC).>
Coolant Temp.	Check the current data display of ECM, TCM and body integrated unit. Three data value are the same.	Same values	Inspect LAN system.	If engine coolant temperature sensor is not OK, inspect the sensor circuit.
Rr Defogger SW	It turns to ON when pressing switch. (Low-speed CAN is OK)	Turns to ON.	Inspect rear defogger switch.	Rear defogger switch is connected with Low-speed CAN.
Rr defogger output	When switch input, it is output.	Output	Replace the body integrated unit.	If not operating with output, check the rear defogger relay.
Door lock SW	When locked with door lock switch, it turns to ON.	Turns to ON.	Inspect door lock switch.	
Door lock actuator	When locked with door lock switch, it is output.	Output	Replace the body integrated unit.	—

2. BODY INTEGRATED UNIT

Item	Operation	Specifications		Note
		YES	NO	
Illumination VR Voltage	Operate the illumination volume, illumination light is controlled according to the change of voltage on data display.	Illumination light is controlled with changing of data.	Inspect the illumination volume.	—
Fuel level resistance	Check the fuel level resistance and fuel level resistance 2. Both resistances are same.	Same values	Inspect the body integrated unit.	Compare the input and output values of body integrated unit.
R wiper SW input	When rear wiper SW to ON, data display turns to ON.	Turns to ON.	Inspect the rear wiper switch.	—
R wiper output	When rear wiper switch to ON, output signal turns to ON.	Turns to ON.	Replace the body integrated unit.	If not operate with output turned to ON, check the rear wiper motor.
Keyless Entry	Keyless entry LOCK/UNLOCK the doors.	Operate	Inspect the keyless antenna.	If the antenna is OK, replace the body integrated unit.
Brake Switch	When brake pedal is depressed, it turns to ON.	Turns to ON.	Inspect the brake switch.	—
Shift Lock Solenoid	The shift lock releases when depressing the brake pedal.	Released	Inspect the shift lock.	—
Body integrated unit registration function setting	Does Vehicle equipment correspond to setting values?	Correspondence	Reconfigure the values according to vehicle equipment.	—
Customizing	When changing customize setting, the registration completes correctly.	Registered	Inspect the body integrated unit.	Return to original state after making changes.
Manual Mode	Switch the shift (UP/DOWN) on Manual mode. Indicator is changed in 1 — 2.	Change	Inspect the shift lever.	—
Function check	Each checking item operate correctly. (Except for not equipped)	Operate	Inspect for non-functional actuator.	Module is normal if output switches to ON.
Security	After locking with keyless entry system and open the door, the security system operates and the horn sounds.	Horn sounds. (Security system operates.)	Inspect the security system.	Horn does not activate if siren is set to ON by customizing.

WIRING SYSTEM SECTION

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.
This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.
Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

WIRING SYSTEM

WI

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1. General Description

A: SPECIFICATION

Headlight	Halogen type low beam	12 V — 55 W
	HID type low beam	12 V — 35 W
	Halogen type high beam	12 V — 65 W
Front turn signal, parking		12 V — 28/8 W
Front side marker light		12 V — 5 W
Front fog light		12 V — 55 W
Side turn signal light		12 V — 2.7 W (LED)
Rear combination light	Stop/Tail light/Rear side marker light	12 V — 21/5 W
	Turn signal light	12 V — 21 W
Rear finisher light		12 V — 3.8 W
Back-up light		12 V — 16 W
License plate light		12 V — 5 W
High-mounted stop light		12 V — 1.3 W (LED)
Room light		12 V — 8 W (model without rear entertainment system)
		12 V — 5 W (model with rear entertainment system)
Spot map light		12 V — 8 W
Luggage room light		12 V — 13 W
Rear gate light		12 V — 5 W
Glove box light		12 V — 1.4 W
Door step light		12 V — 3 W

B: CAUTION

- Before removing or installing parts, always disconnect the battery ground cable from battery. When replacing the audio, control module and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
- Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
- Adjust parts to the given specifications.
- Connect the connectors securely during reassembly.
- After reassembly, make sure functional parts operate smoothly.

WARNING:

- **The airbag system wiring harness is routed near electrical parts and switches. The airbag system wiring harnesses and connectors are colored yellow. Do not use the electrical test equipment on these circuits.**
- **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. Headlight and Tail Light System

A: WIRING DIAGRAM

1. HALOGEN TYPE HEADLIGHT

<Ref. to WI-125, WIRING DIAGRAM, Headlight System.>

2. HID TYPE HEADLIGHT

<Ref. to WI-125, WIRING DIAGRAM, Headlight System.>

3. CLEARANCE LIGHT AND ILLUMINATION LIGHT

<Ref. to WI-133, WIRING DIAGRAM, Clearance Light and Illumination Light System.>

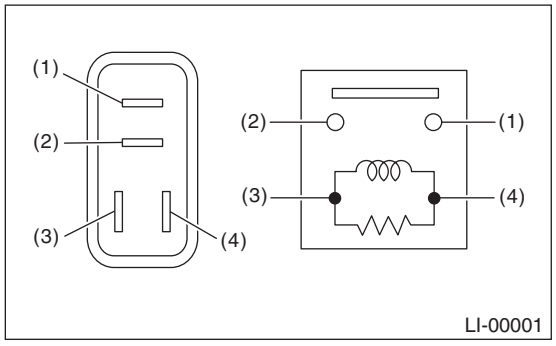
B: INSPECTION

1. HEADLIGHT SWITCH

<Ref. to LI-11, INSPECTION, Combination Switch (Light).>

2. HEADLIGHT RELAY

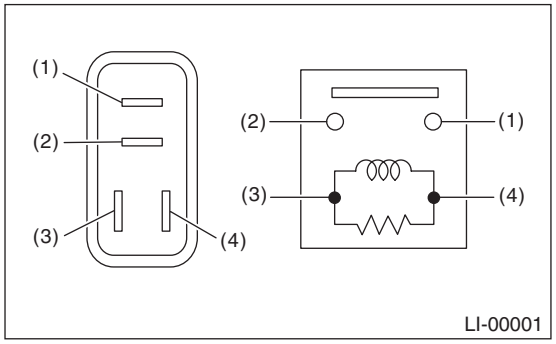
Connect terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal, and measure the headlight relay resistance between terminals.



Continuity	Terminal No.	Standard
Yes	1 and 2	Less than 1 Ω
No		1 MΩ or more

3. TAIL AND ILLUMINATION RELAY

Connect terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal, and measure the resistance between tail and illumination relay terminals.



Continuity	Terminal No.	Standard
Yes	1 and 2	Less than 1 Ω
No		1 MΩ or more

3. Day Time Running Light System

A: WIRING DIAGRAM

<Ref. to WI-125, WIRING DIAGRAM, Headlight System.>

B: INSPECTION

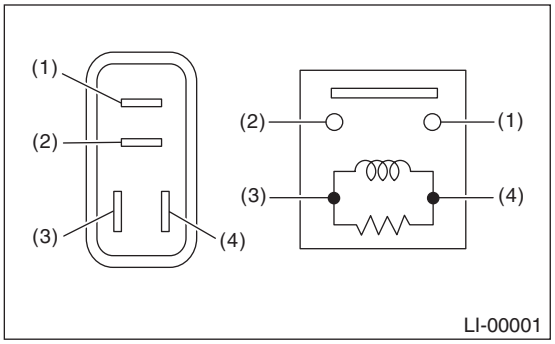
1. DAYTIME RUNNING LIGHT MODULE CHECK

	Step	Check	Yes	No
1	**CHECK THE POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. 2) Measure the voltage between the daytime running light module terminal and chassis ground. ***Connector & terminal*** ***(B96) No. 2 (+) — Chassis ground (–):*** ***(B242) No. 6 (+) — Chassis ground (–):***	Is the voltage battery voltage?	Go to step **2**.	Check the fuse and the power supply circuit.
2	**CHECK THE GROUND CIRCUIT.** 1) Disconnect the daytime running light module connector. 2) Measure the resistance between the daytime running light module connector and chassis ground. ***Connector & terminal*** ***(B242) No. 10 (+) — Chassis ground (–):***	Is the resistance less than 1 Ω?	Go to step **3**.	Check the ground circuit.
3	**CHECK THE PARKING SIGNAL.** 1) Connect the daytime running light module connector. 2) Measure the resistance between the terminal and chassis ground when pulling parking brake lever and releasing. ***Connector & terminal*** ***(B96) No. 4 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **4**.	Check the parking brake switch circuit.
4	**CHECK THE STARTER SIGNAL.** Turn the ignition switch to ON ⇔ Starter and measure the voltage of terminal. ***Connector & terminal*** ***(B96) No. 7 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **5**.	Check the starter switch circuit.
5	**CHECK THE HEADLIGHT SWITCH SIGNAL.** Turn the headlight switch to LO ⇔ OFF and measure the voltage of terminal. ***Connector & terminal*** ***(B242) No. 2 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **6**.	Check the combination switch and the headlight LO circuit.
6	**CHECK THE HEADLIGHT SWITCH SIGNAL.** Turn the headlight switch to HI ⇔ OFF and measure the voltage of terminal. ***Connector & terminal*** ***(B96) No. 1 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **7**.	Check the combination switch and the headlight HI circuit.
7	**CHECK THE HEADLIGHT SIGNAL.** 1) Turn the ignition switch to ON. 2) Turn the headlight from HI to ON/OFF and measure the voltage of terminal. ***Connector & terminal*** ***(B242) No. 5 (+) — Chassis ground (–):*** ***(B96) No. 3 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	Go to step **8**.	Check the headlight HI circuit.

Step		Check	Yes	No
8	**CHECK THE HEADLIGHT SIGNAL.** 1) Turn the ignition switch to ON. 2) Measure the voltage of terminal on passing of headlight. ***Connector & terminal*** ***(B242) No. 4 (+) — Chassis ground (–):***	Does the voltage change to 0⇔ battery voltage?	If the above test is OK, replace the daytime running light module.	Check the headlight HI circuit.

2. LOW BEAM RELAY

Measure the resistance between the daytime running relay terminals when connecting terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal.



Continuity	Terminal No.	Standard
Yes	1 and 2	Less than 1 Ω
No		1 MΩ or more

4. Front Fog Light System

A: WIRING DIAGRAM

1. FRONT FOG LIGHT

<Ref. to WI-129, WIRING DIAGRAM, Front Fog Light System.>

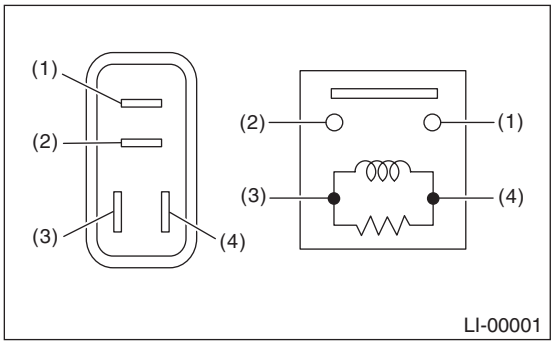
B: INSPECTION

1. FRONT FOG LIGHT SWITCH

Measure the resistance between front fog light switch terminals.
<Ref. to LI-11, INSPECTION, Combination Switch (Light).>

2. FRONT FOG LIGHT RELAY

Connect terminal No. 4 to battery positive terminal and terminal No. 3 to battery ground terminal, and measure the front fog light relay resistance between terminals.



Continuity	Terminal No.	Standard
Yes	1 and 2	Less than 1 Ω
No		1 MΩ or more

5. Turn Signal Light and Hazard Light System

A: WIRING DIAGRAM

1. TURN SIGNAL LIGHT AND HAZARD LIGHT

<Ref. to WI-138, WIRING DIAGRAM, Turn Signal Light and Hazard Light System.>

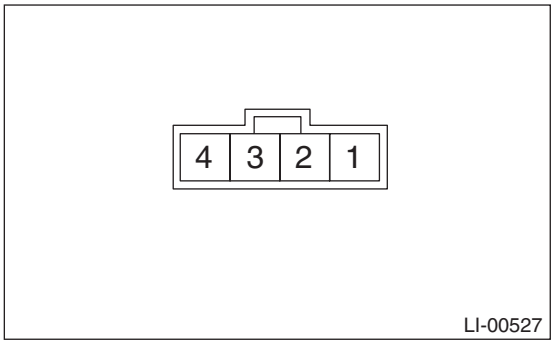
B: INSPECTION

1. TURN SIGNAL SWITCH

<Ref. to LI-11, INSPECTION, Combination Switch (Light).>

2. HAZARD SWITCH

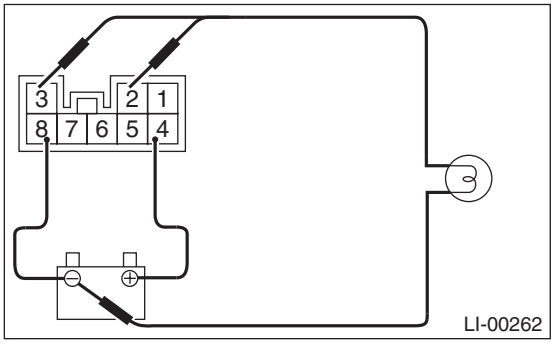
Measure the resistance between hazard switch terminals.



Switch position	Terminal No.	Standard
OFF	2 and 3	1 MΩ or more
ON		Less than 1 Ω

3. TURN SIGNAL AND HAZARD MODULE

Connect the battery and turn signal light bulb to the module. The module is properly functioning if it blinks when power is supplied to the circuit.



6. Back-up Light System

A: WIRING DIAGRAM

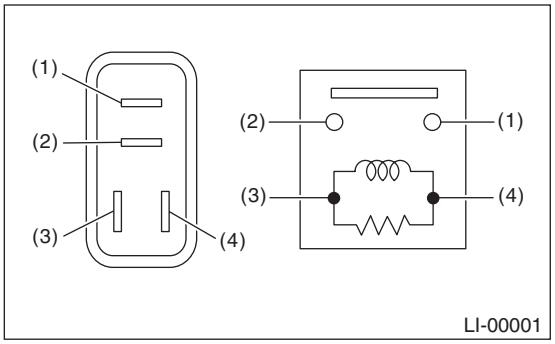
1. BACK-UP LIGHT

<Ref. to WI-130, WIRING DIAGRAM, Back-up Light System.>

B: INSPECTION

1. BACK-UP LIGHT RELAY

Measure the resistance between headlight relay terminals when connecting terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal.



Continuity	Terminal No.	Standard
Yes	1 and 2	Less than 1 Ω
No		1 MΩ or more

7. Stop Light System

A: WIRING DIAGRAM

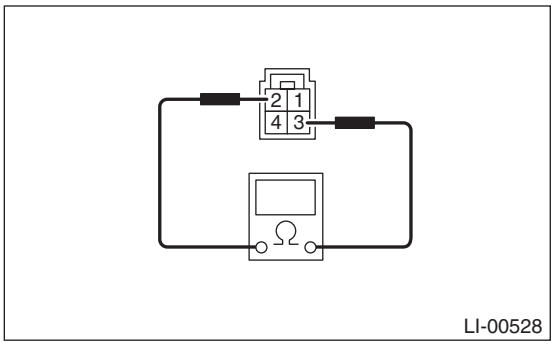
1. STOP LIGHT

<Ref. to WI-131, WIRING DIAGRAM, Stop Light System.>

B: INSPECTION

1. STOP LIGHT SWITCH

Measure the resistance between stop light switch terminals.



Switch position	Terminal No.	Standard
When brake pedal is depressed	2 and 3	Less than 1 Ω
When brake pedal is released		1 MΩ or more

8. Room Light System

A: WIRING DIAGRAM

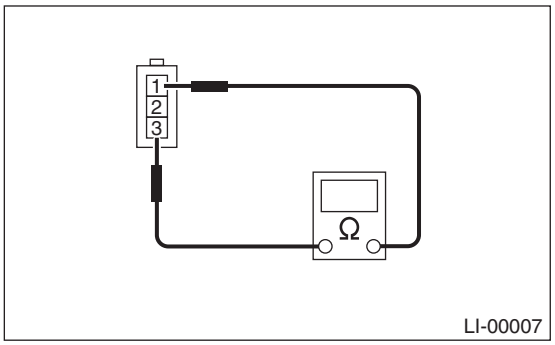
1. ROOM LIGHT

<Ref. to WI-130, WIRING DIAGRAM, Back-up Light System.>

B: INSPECTION

1. DOOR SWITCH

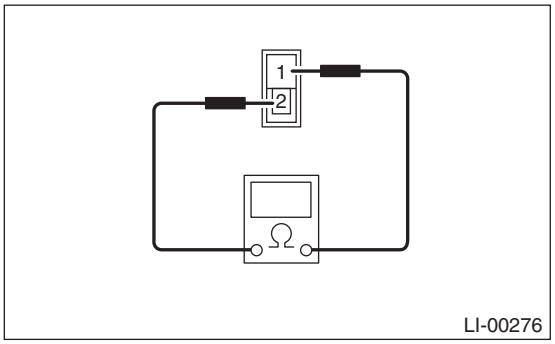
Measure the resistance between door switch terminals.



Switch position	Terminal No.	Standard
When door is opened	1 and 3	Less than 1 Ω
When door is closed		1 MΩ or more

2. REAR GATE LATCH SWITCH

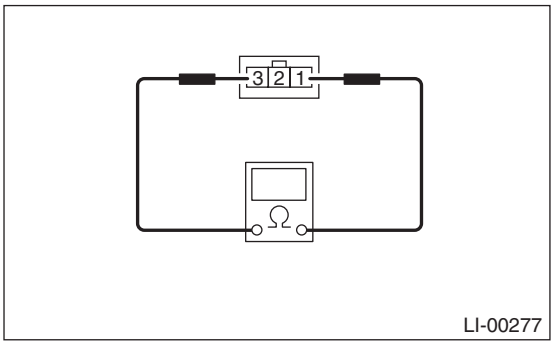
Measure the resistance between rear gate latch switch terminals.



Switch position	Terminal No.	Standard
When rear gate is opened	1 and 2	Less than 1 Ω
When rear gate is closed		1 MΩ or more

3. REAR GATE LIGHT SWITCH

Measure the resistance between rear gate light switch terminals.

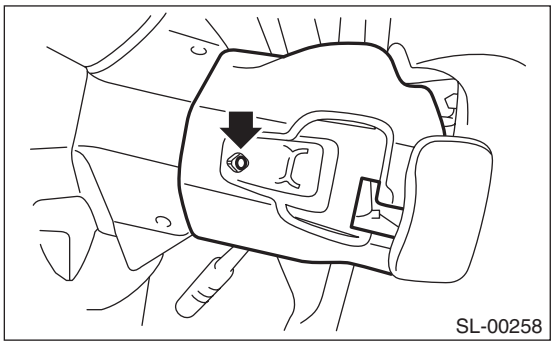


Switch position	Terminal No.	Standard
When rear gate is opened	1 and 3	Less than 1 Ω
When rear gate is closed		1 MΩ or more

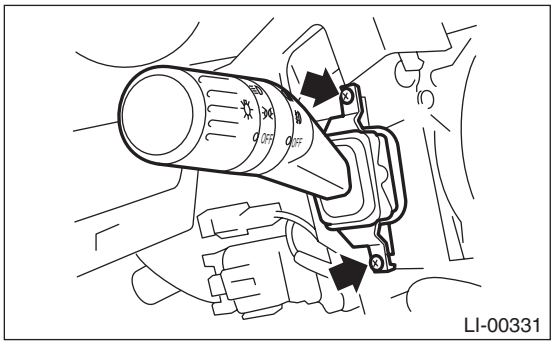
9. Combination Switch (Light)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the screws and remove the steering column covers (upper and lower).



3) Disconnect the connector from the combination switch.
4) Remove the screws which secure the switch, then remove the combination switch.

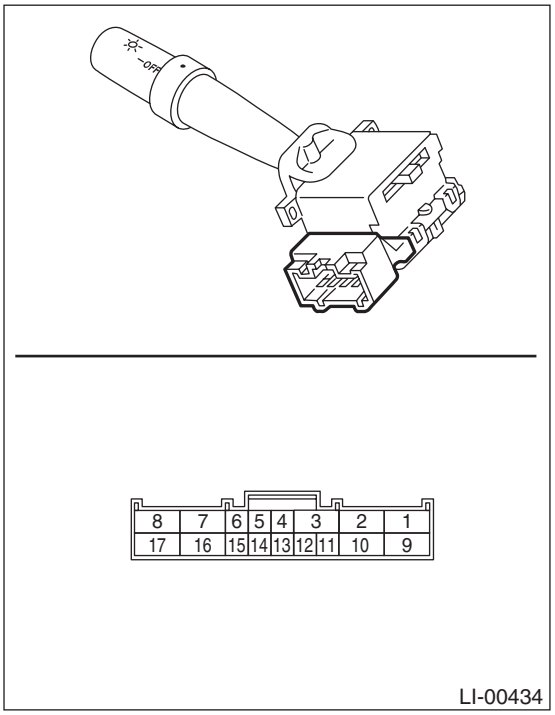


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the resistance between combination switch terminals.



1. LIGHTING SWITCH

Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
Tail	14 and 16	Less than 1 Ω
Head	13, 14 and 16	Less than 1 Ω

2. DIMMER & PASSING SWITCH

Switch position	Terminal No.	Standard
Passing	7, 8 and 16	Less than 1 Ω
Low beam	17 and 16	Less than 1 Ω
High beam	7 and 16	Less than 1 Ω

3. TURN SIGNAL SWITCH

Switch position	Terminal No.	Standard
Left	1 and 2	Less than 1 Ω
Neutral	—	1 MΩ or more
Right	2 and 3	Less than 1 Ω

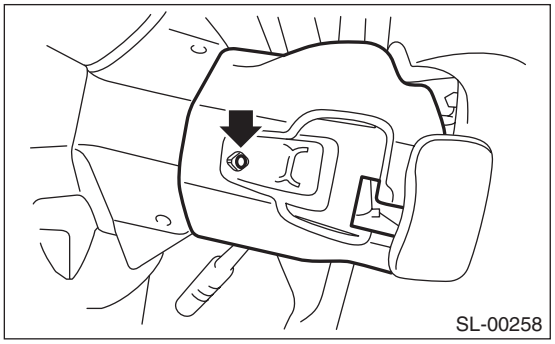
4. FRONT FOG LIGHT

Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	10 and 11	Less than 1 Ω

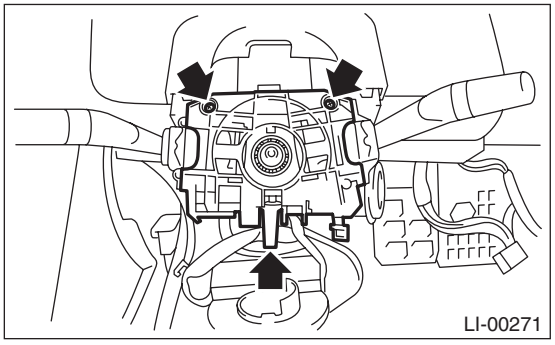
10.Combination Base Switch Assembly

A: REMOVAL

1) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>
2) Remove the steering wheel. <Ref. to PS-13, REMOVAL, Steering Wheel.>
3) Remove the screws and remove the steering column lower cover.



4) Remove the combination switch. <Ref. to LI-11, REMOVAL, Combination Switch (Light).> <Ref. to WW-7, REMOVAL, Combination Switch (Wiper).>
5) Remove the four screws and remove the roll connector.
6) Remove the three screws.



7) Disconnect the connector and remove the combination base switch assembly.

B: INSTALLATION

1) Install in the reverse order of removal.
2) Before installing steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-22, ADJUSTMENT, Roll Connector.>

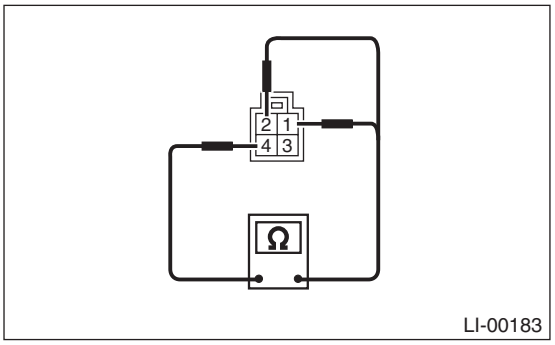
C: INSPECTION

1. COMBINATION BASE SWITCH ASSEMBLY

Inspect the combination base switch assembly and roll connector for cracks or deformation. If any damage is found, replace with a new part.

2. PARKING SWITCH

Measure the resistance between parking switch terminals.

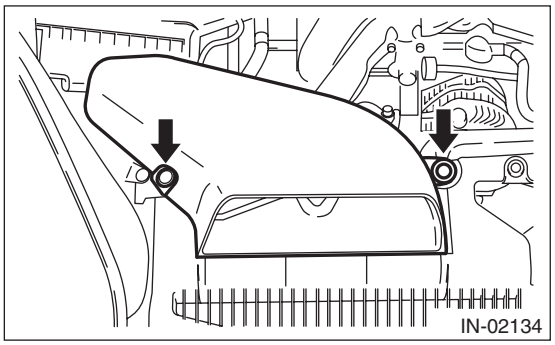


Switch position	Terminal No.	Standard
OFF	2 and 4	Less than 1 Ω
ON	1 and 4	Less than 1 Ω

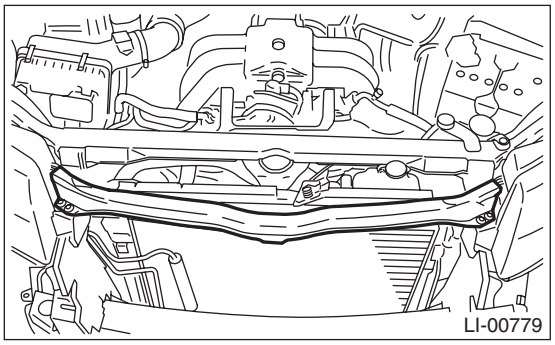
11.Headlight Assembly

A: REMOVAL

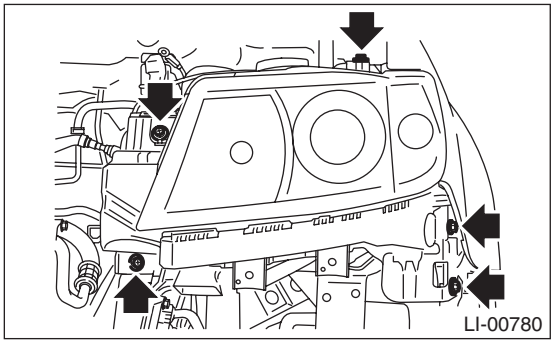
1) Disconnect the ground cable from the battery.
2) Remove the air intake duct.



3) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
4) Remove the support plate.



5) Remove the 5 bolts and then remove the headlight assembly.



6) Disconnect the connector and then detach the rear headlight assembly.

B: INSTALLATION

Install in the reverse order of removal.

C: ADJUSTMENT

1. HEADLIGHT AIMING

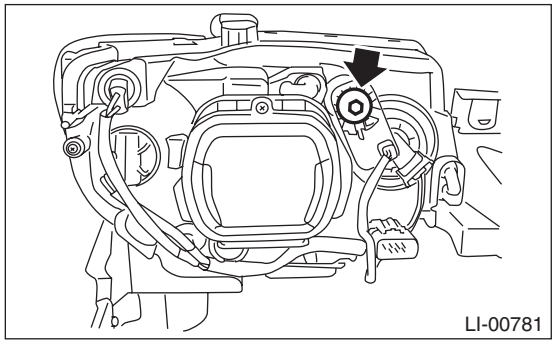
NOTE:
Aiming of this headlight can be adjusted only in the vertical direction. It cannot be adjusted in the horizontal direction.

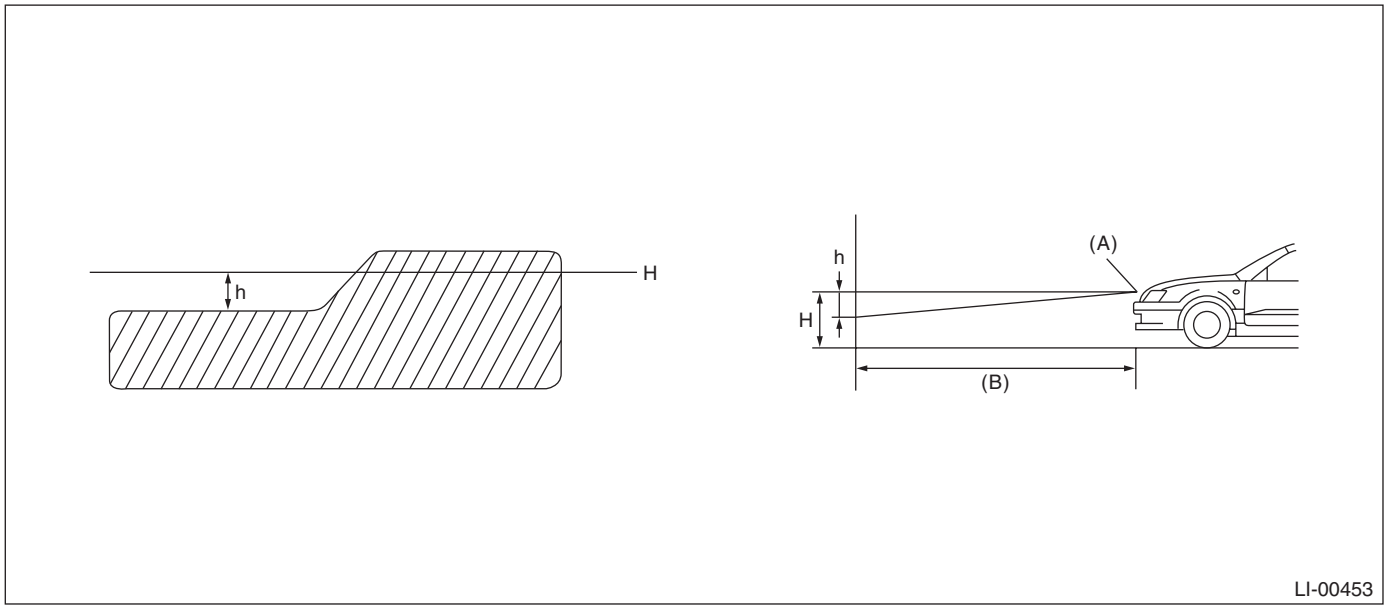
CAUTION:
Turn off the light before adjusting the headlight beam level. If it is necessary to inspect the beam level, do not turn on the light for more than two minutes.

NOTE:
Before checking the headlight beam level, be sure of the following:
• Check the area around the headlight for any scratches, damage or other type of deformation.
• Make sure that the vehicle is parked on a level surface.
• Make sure that the inflation pressure of tires are correct.
• Check that the vehicle fuel tank is full.
1) Bounce the vehicle several times to normalize the suspension.
2) Make certain that someone is seated in the driver's seat.
3) Measure the heights of headlights and the distance between the centers of left and right LO beam bulbs.

4) Turn the headlights on and then adjust the low beam pattern.

NOTE:
Adjust the headlight beam level by turning the adjusting screw. The adjusting screw can be accessed from a direction described in the figure.





(A) Bulb center marking (B) 3 m (10 ft)

h mm (in) at 3 m (10 ft)	21 (0.83)

12.Headlight Bulb

A: REMOVAL

1. HIGH BEAM AND HALOGEN TYPE LOW BEAM

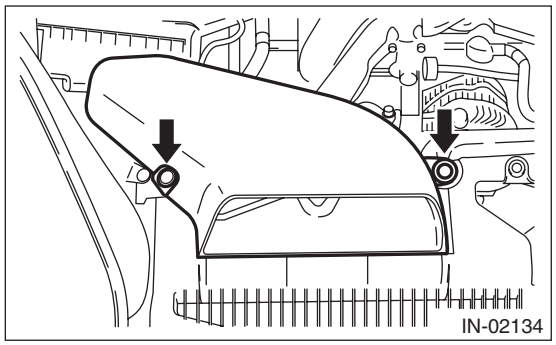
CAUTION:

• Because the halogen bulb operates at a high temperature, dirt and oil on the bulb surface reduces the bulb's service life. Hold the flange portion when replacing the bulb. Never touch the glass portion.

• Do not leave the headlight without a bulb for a long time. Dust, moisture, etc. entering the headlight may affect its performance.

1) Disconnect the ground cable from the battery.

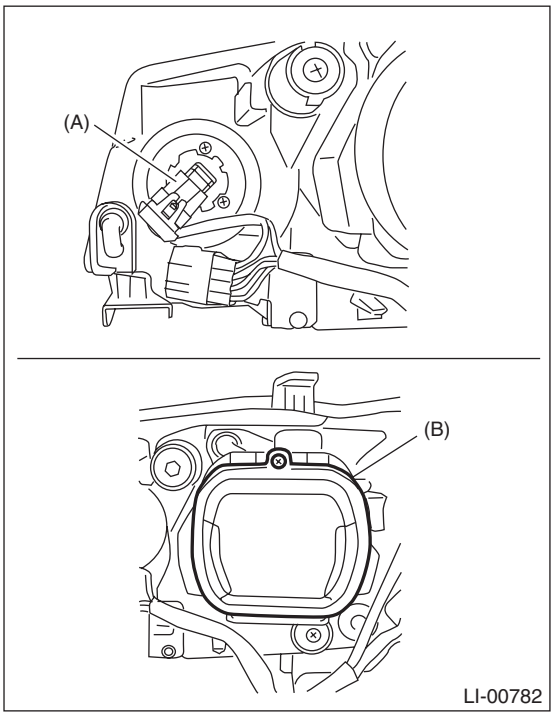
2) Remove the air intake duct. (When removing the headlight bulb RH).



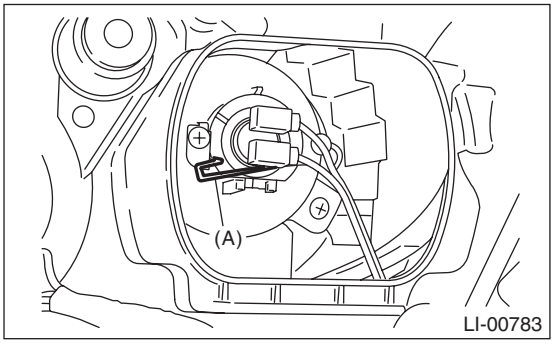
3) Remove the battery. (When removing the headlight bulb LH)

4) Disconnect the harness connector.

5) Remove the bulb assembly (A) then remove the high beam. To remove the low beam, remove the back cover (B), and then go to Step 6).

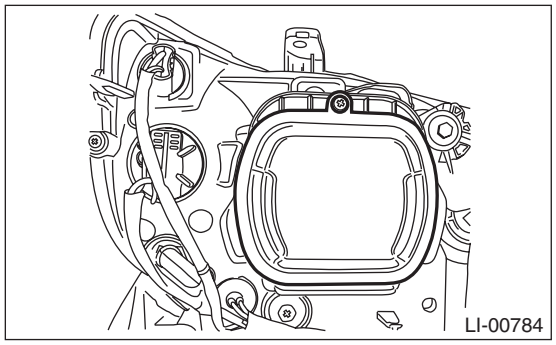


6) Remove the light bulb retaining spring (A) to remove bulb.

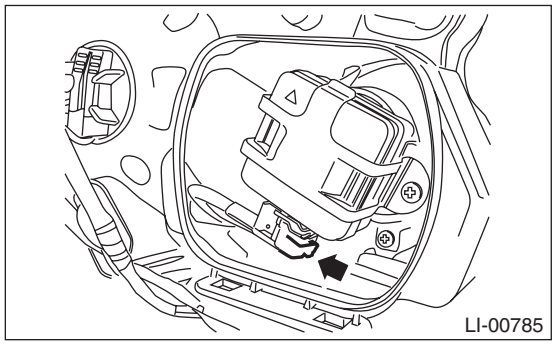


2. HID TYPE LOW BEAM

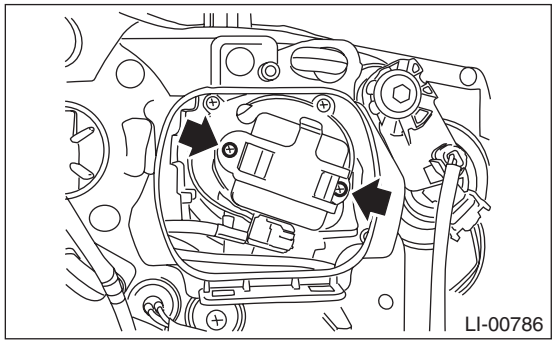
CAUTION:
• Do not perform work with wet hands.
• The lighting circuit uses very high voltages. Make sure that the power is turned OFF before working.
• When replacing the bulb, hold the flange area, and be careful not to touch the glass with bare hands.
• Do not leave the headlight without a bulb for a long time. Dust, moisture, etc. entering the headlight may affect its performance.
1) Disconnect the ground cable from the battery.
2) Remove the headlight assembly. <Ref. to LI-13, REMOVAL, Headlight Assembly.>
3) Remove the back cover.



4) Unlock the back cover and disconnect the harness connector.



5) Remove the screws, and then remove the valve.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. HALOGEN TYPE

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

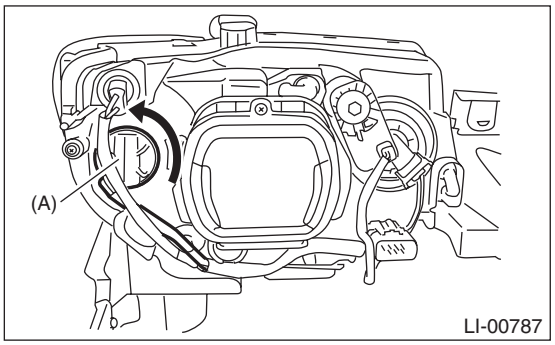
2. HID TYPE

CAUTION:
• Do not perform work with wet hands.
• When lit (lighting switch is ON), do not touch the harness, light internals, or metal parts of the light.
• When performing a lighting check, always do so in a vehicle installed condition, and connect with the vehicle connector for the power source.
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 more than 10 minutes), 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) If there is a problem, replace with a new ballast.

13.Front Turn Signal Light Bulb

A: REMOVAL

1) Open the front hood.
2) Turn the socket (A) and remove the front turn signal light bulb.



B: INSTALLATION

Install 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) If NG, replace the bulb with a new part.

14.Parking Light Bulb

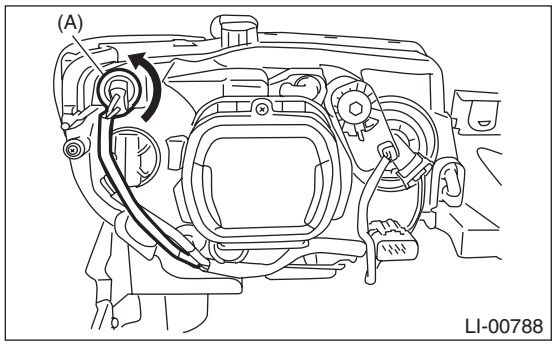
A: SPECIFICATION

The parking light bulb is integrated into the front turn signal light bulb as a unit; therefore, refer to “Front Turn Signal Light Bulb” for the removal procedure. <Ref. to LI-17, REMOVAL, Front Turn Signal Light Bulb.>

15.Front Side Marker Light Bulb

A: REMOVAL

1) Open the front hood.
2) Turn the socket (A) and remove the front turn signal light bulb.



B: INSTALLATION

Install in the reverse order of removal.

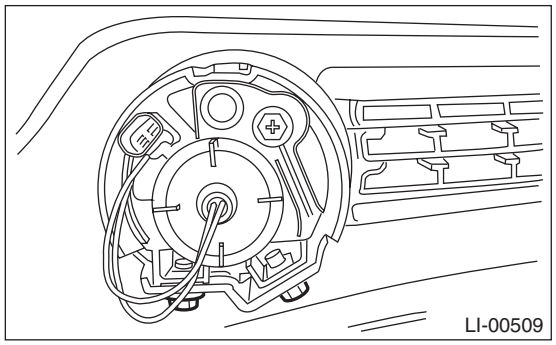
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

16.Front Fog Light Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disengage the three clips, and then turn over the lower mud guard.
3) Disconnect the harness connector.
4) Remove the two mounting bolts, and pull and detach the fog light assembly.



B: INSTALLATION

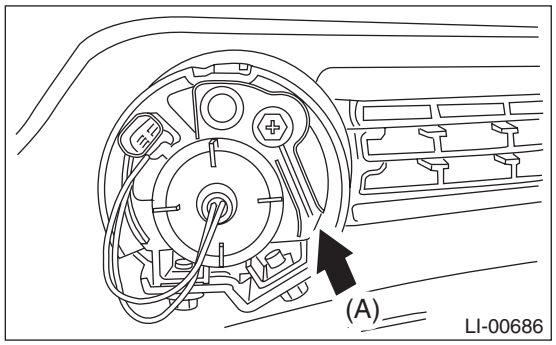
Install in the reverse order of removal.

C: ADJUSTMENT

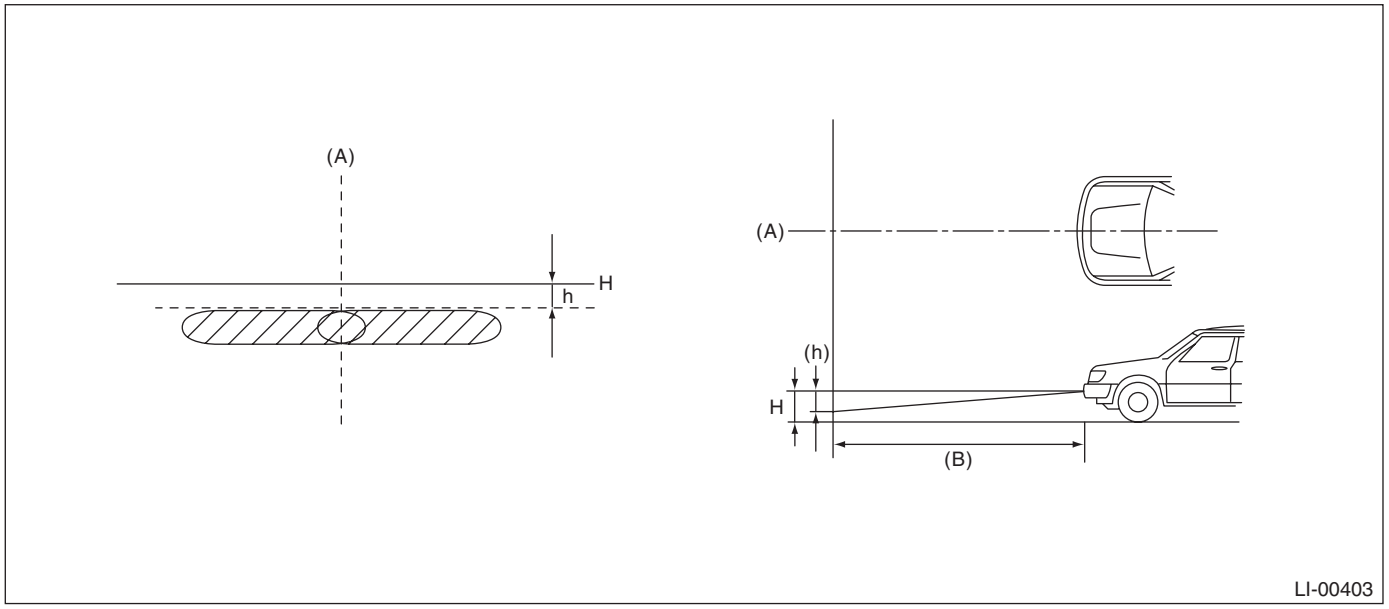
Fog light aiming

NOTE:
Before checking the fog light beam level, be sure of the following:
• Check the area around the fog light for any scratches, damage or other type of deformation.
• Make sure that the vehicle is parked on a level surface.
• Make sure that the inflation pressure of tires are correct.
• Check that the vehicle fuel tank is full.
1) Bounce the vehicle several times to normalize the suspension.
2) Make certain that someone is seated in the driver's seat.
3) Measure the height of the center of fog light.
4) Disengage the three clips, and then turn over the mud guard.

5) Insert a Phillips driver into the adjustment hole and adjust the front fog light pattern.



(1) Adjustment hole



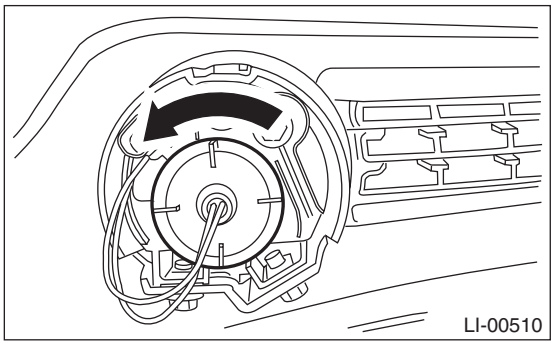
(A) Center of vehicle (B) 3 m (10 ft) (H) Height of the center of fog light (mm)

h Dimension mm (in)	40 (1.57)

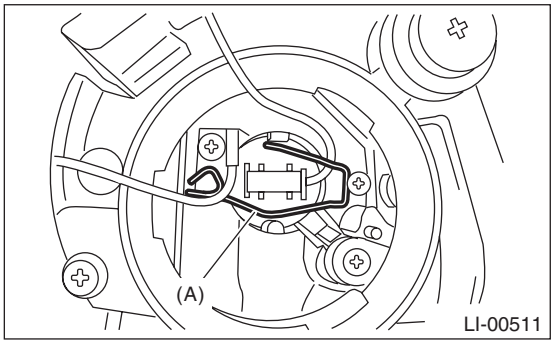
17.Front Fog Light Bulb

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disengage the three clips, and then turn over the lower mud guard.
3) Disconnect the harness connector.
4) Remove the back cover.



5) Remove the spring retainer (A), then detach the fog light bulb.



B: INSTALLATION

Install in the reverse order of removal.

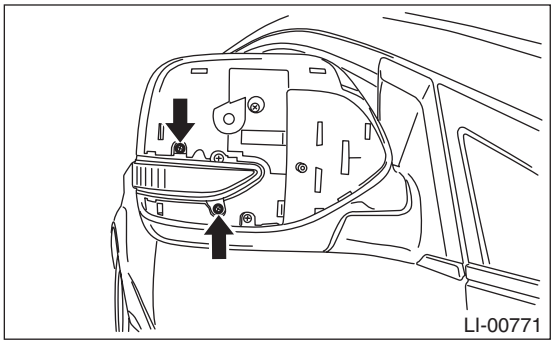
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

18.Side Turn Signal Light Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the mirror. <Ref. to GW-15, REPLACEMENT, Outer Mirror.>
3) Remove the scalp cap. <Ref. to GW-13, REPLACEMENT, Scalp Cap.>
4) Remove the 2 mounting screws, disconnect the harness connector and then remove the side turn signal light assembly.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

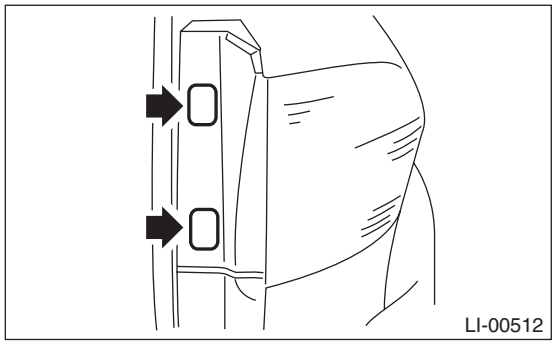
1) Install the side turn signal light assembly and check that it blinks normally.
2) If it does not blink normally, replace the side turn signal light assembly with a new part.

NOTE:
Because a LED (Light Emitting Diode) is used for the side turn signal light, replace the side turn signal light as an assembly if the LED went out.

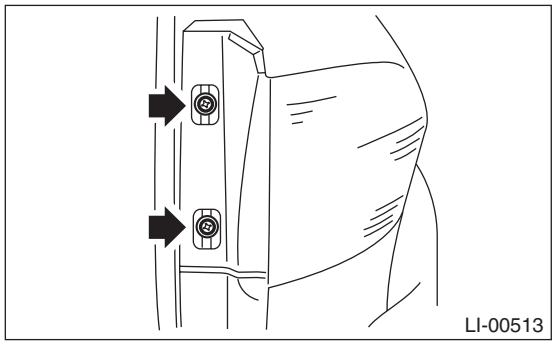
19. Rear Combination Light Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the cover.



3) Remove the two bolts, and then detach the rear combination light by pulling it to the rear side of vehicle.



4) After turning the sockets of the tail/stop light bulbs and rear turn signal light bulbs, remove the rear combination light.

B: INSTALLATION

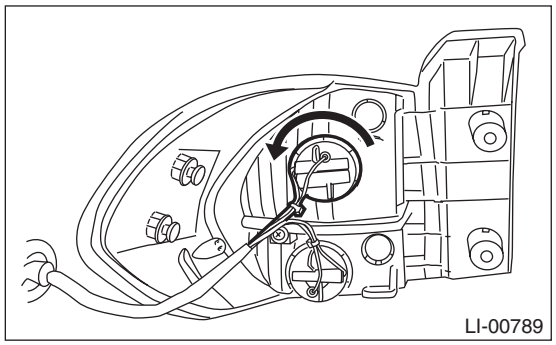
Install in the reverse order of removal.

20.Tail/Stop Light Bulb

A: REMOVAL

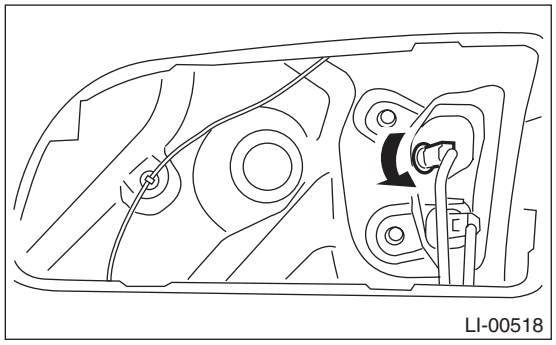
1. COMBINATION LIGHT

1) Remove the rear combination light assembly. <Ref. to LI-24, REMOVAL, Rear Combination Light Assembly.>
2) Turn the socket and remove the bulb.



2. FINISHER LIGHT

1) Remove the bulb inspection cover of the rear gate trim.
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

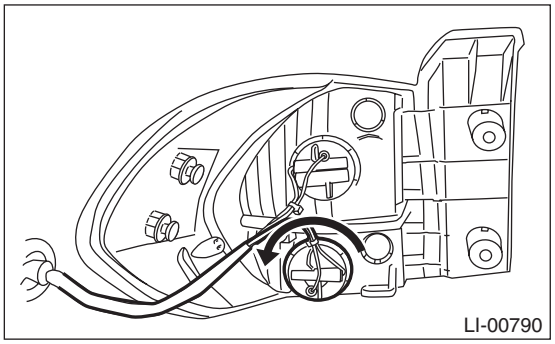
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

21.Rear Turn Signal Light Bulb

A: REMOVAL

1) Remove the rear combination light assembly. <Ref. to LI-24, REMOVAL, Rear Combination Light Assembly.>
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install 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) If NG, replace the bulb with a new one.

22.Rear Side Marker Light Bulb

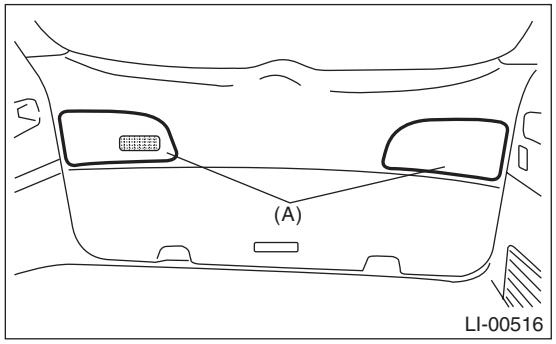
A: SPECIFICATION

The rear side marker light bulb is integrated into the tail/stop light as a single unit; therefore, refer to the section on tail/stop light bulbs for the removal procedures. <Ref. to LI-25, REMOVAL, Tail/Stop Light Bulb.>

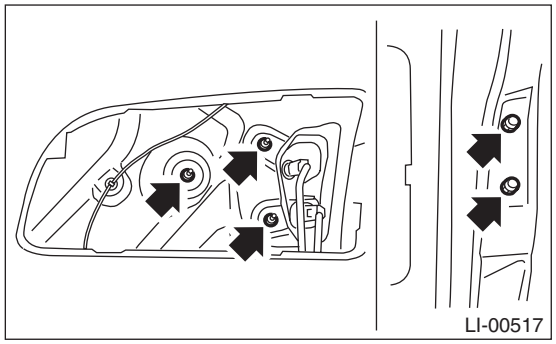
23.Rear Finisher Light Assembly

A: REMOVAL

1) Remove the bulb inspection cover of the rear gate trim.



2) Disconnect the harness connector.
3) Remove the mounting nuts and detach the rear finisher assembly.



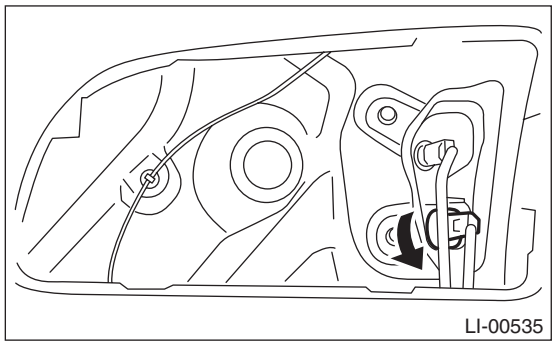
B: INSTALLATION

Install in the reverse order of removal.

24.Back-up Light Bulb

A: REMOVAL

1) Remove the bulb inspection cover of the rear gate trim.
2) Turn the socket and remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

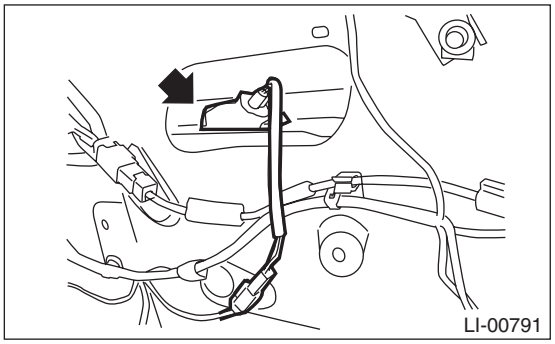
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

25.License Plate Light Assembly

A: REMOVAL

1) Remove the rear gate trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
2) Disengage the claw, and disconnect the connectors, and then detach the license light assembly.



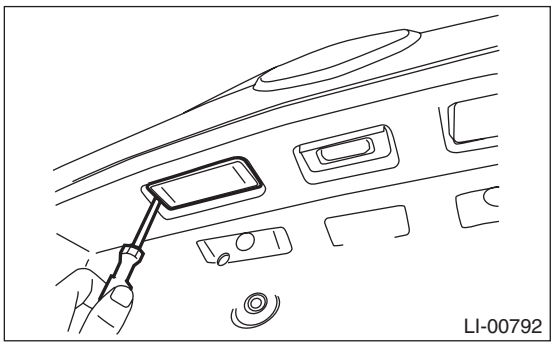
B: INSTALLATION

Install in the reverse order of removal.

26.License Plate Light

A: REMOVAL

1) Remove the license plate light body.



2) Remove the bulb.

B: INSTALLATION

Install in the reverse order of removal.

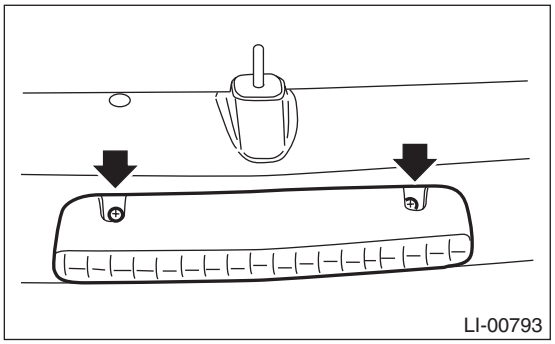
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

27.High-mounted Stop Light

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Detach the roof spoiler. <Ref. to EI-31, REMOVAL, Roof Spoiler.>
3) Remove the cap and screw, then detach the high-mounted stop light.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

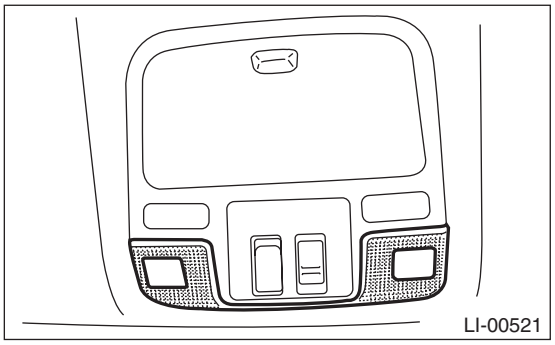
1) Install the high-mounted stop light to test if it illuminates normally.
2) If the high-mounted stop light does not illuminate, replace it with a new one.

NOTE:
Because LEDs (Light Emitting Diodes) are used for the high-mounted stop light, replace the high-mounted stop light as an assembly if the LEDs went out.

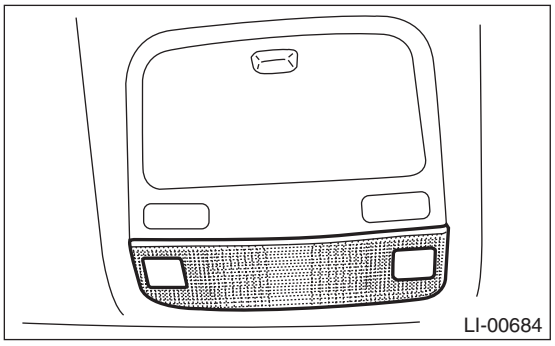
28.Spot Map Light

A: REMOVAL

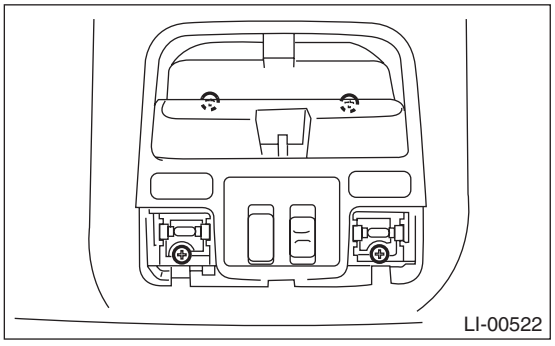
1) Disconnect the ground cable from the battery.
2) Remove the lens.
- Model with sunroof



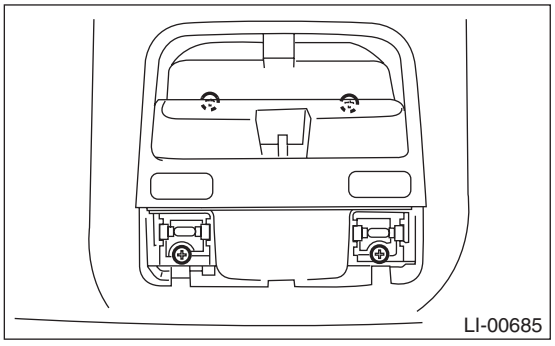
- Model with standard roof



3) Remove the four bolts used for mounting the spot map light.
- Model with sunroof



- Model with standard roof



4) Disconnect the harness connectors and remove the spot map light.

B: INSTALLATION

Install 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) If NG, replace the bulb with a new one.

2. SPOT MAP LIGHT SWITCH

Measure the resistance between spot map light switch terminals.

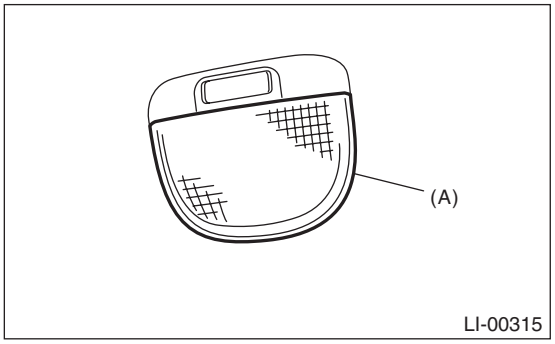
Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	1 and 2	18±5.4 Ω

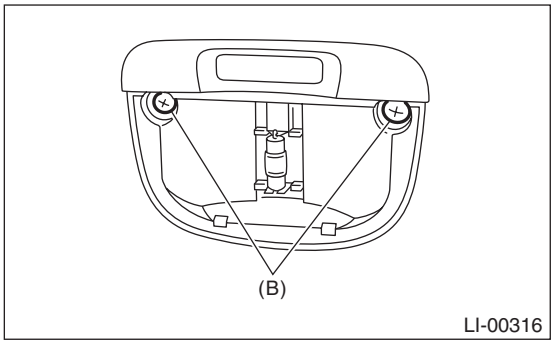
29.Room Light

A: REMOVAL

1. MODEL WITHOUT REAR ENTERTAINMENT SYSTEM

1) Disconnect the ground cable from the battery.
2) Remove the lens (A) and mounting screws (B).





3) Disconnect the harness connector and remove the room light.

2. MODEL WITH REAR ENTERTAINMENT SYSTEM

The room light bulb is integrated into the rear entertainment system as a single unit; therefore, refer to Rear Entertainment System for the removal procedure. <Ref. to ET-30, REMOVAL, Rear Entertainment.>

B: INSTALLATION

Install in the reverse order of removal.

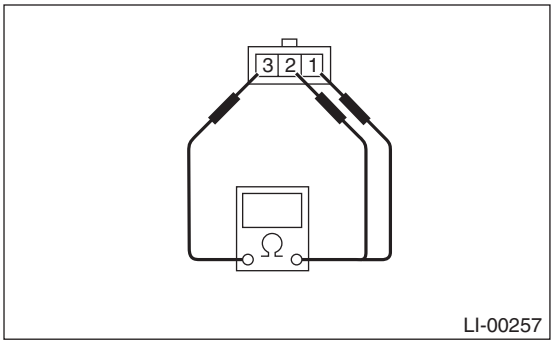
C: INSPECTION

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) If NG, replace the bulb with a new one.

2. ROOM LIGHT SWITCH

Measure the resistance between room light switch terminals.

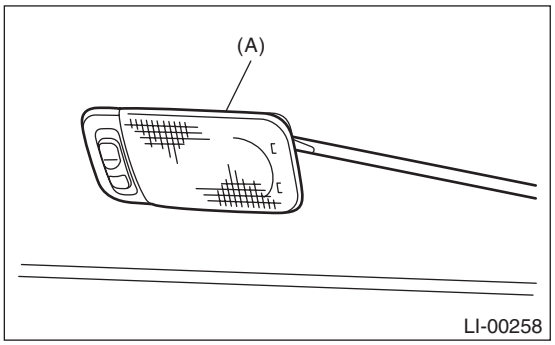


Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	1 and 3	1.5±0.5 Ω
DOOR	2 and 3	1.5±0.5 Ω

30.Luggage Room Light

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the luggage room light body (A).



3) Disconnect the harness connector and remove the lens.

B: INSTALLATION

Install in the reverse order of removal.

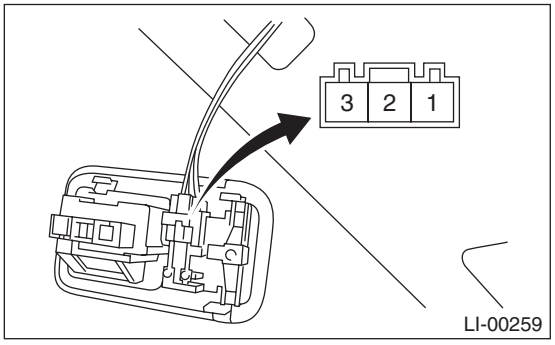
C: INSPECTION

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) If NG, replace the bulb with a new one.

2. LUGGAGE ROOM LIGHT SWITCH

Measure the resistance between luggage room light switch terminals.

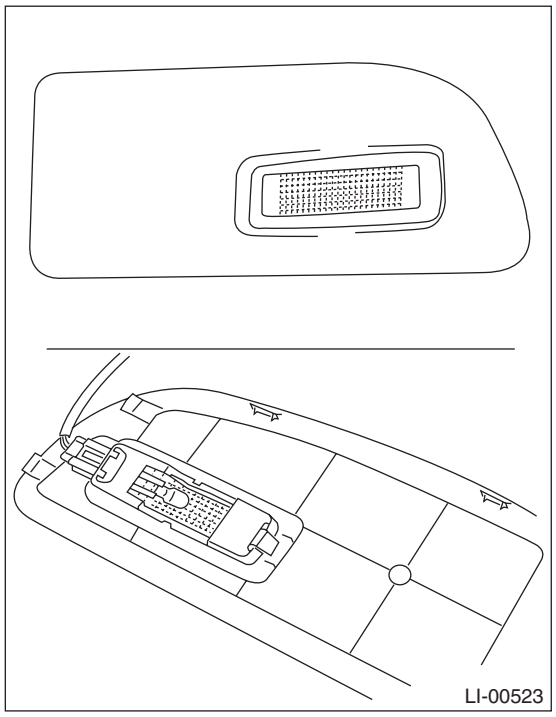


Switch position	Terminal No.	Standard
OFF	—	1 MΩ or more
ON	1 and 2	1.5±0.5 Ω
DOOR	2 and 3	1.5±0.5 Ω

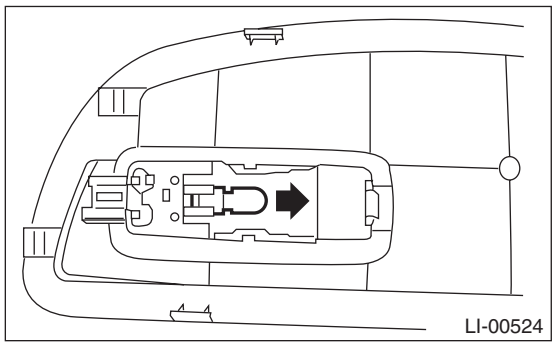
31.Rear Gate Light

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the bulb inspection cover of rear gate trim, then disconnect the harness connectors.



3) Remove the bulb.



B: INSTALLATION

Install in the reverse order of removal.

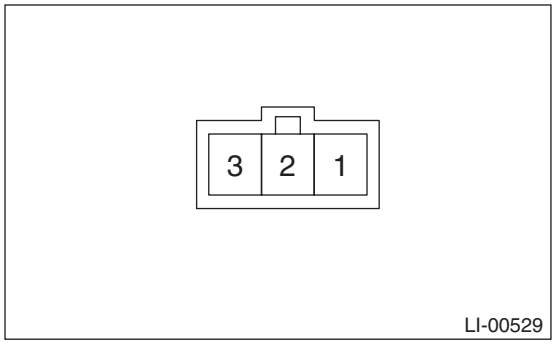
C: INSPECTION

1. REAR GATE LIGHT BULB

1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

2. REAR GATE LIGHT SWITCH

Measure the resistance between trunk lid switch terminals.

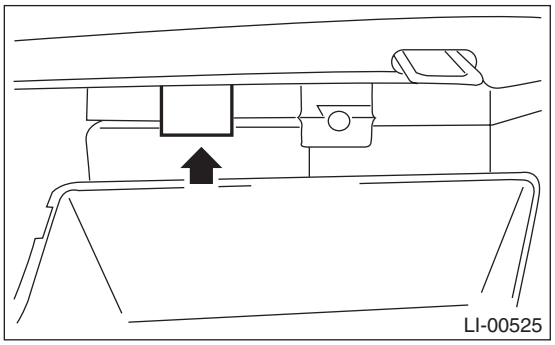


Trunk lid position	Terminal No.	Standard
Close	1 and 3	1 MΩ or more
Open		1.5±0.5 Ω

32.Glove Box Light

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
3) Disconnect the harness connector.
4) Remove the glove box light.



B: INSTALLATION

Install in the reverse order of removal.

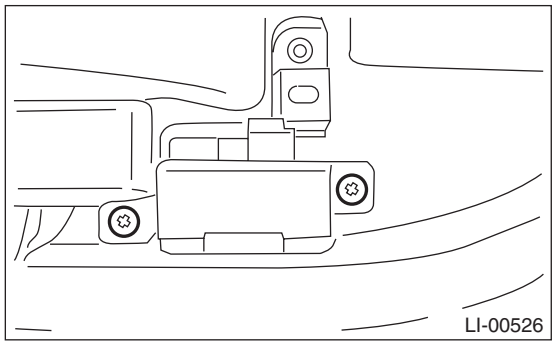
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

33.Door Step Light

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim or the rear door trim.
<Ref. to EI-37, REMOVAL, Door Trim.>
3) Disconnect the harness connector.
4) Remove the mounting screw from the rear side of trim and remove the door step light.



B: INSTALLATION

Install in the reverse order of removal.

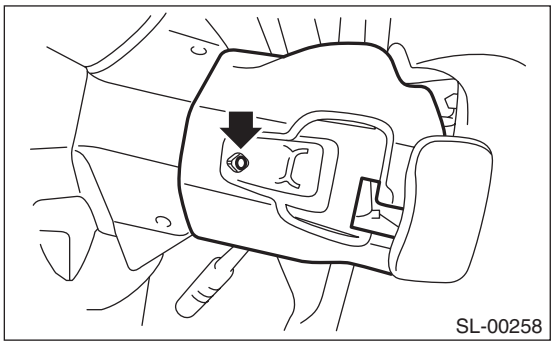
C: INSPECTION

1) Visually check the bulb for blow out.
2) Check the bulb specification.
<Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new one.

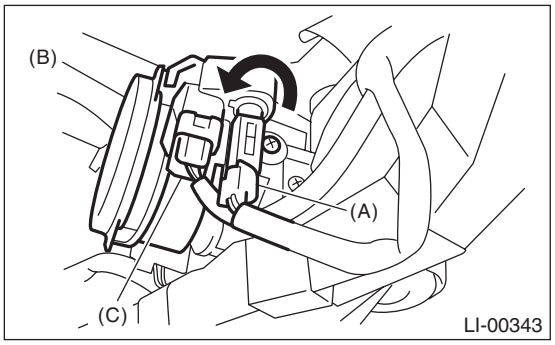
34.Ignition Switch Illumination

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the screws, and detach the upper column cover and lower column cover.



3) Disconnect the ignition switch illumination connector (A).
4) Turn the ignition switch illumination connector to the left and disconnect it.



(A) Ignition switch illumination connector
(B) Ignition switch illumination
(C) Immobilizer antenna connector

B: INSTALLATION

Install in the reverse order of removal.

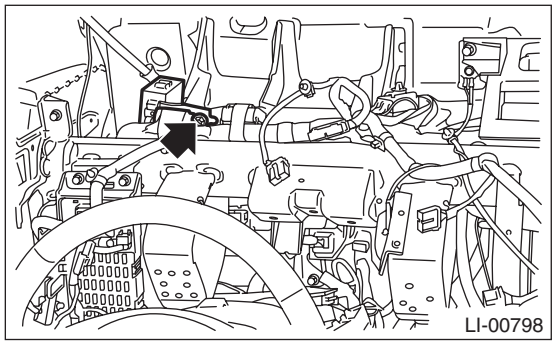
C: INSPECTION

	Step	Check	Yes	No
1	**CHECK THE IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination illuminates when driver's side door is open.	Does the ignition switch illumination illuminate?	Ignition switch illumination is normal.	Go to step **2**.
2	**CHECK THE IGNITION SWITCH ILLUMINATION.** Make sure the ignition switch illumination blinks when the ignition switch is turned to ON.	Does the ignition switch illumination blink?	Check the function setting of body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the ignition switch illumination circuit. <Ref. to SL-22, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>

35.Day Time Running Light Unit

A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the fuse box and disconnect the connector.
3) Remove the mounting nuts, and detach the daytime running light module.



B: INSTALLATION

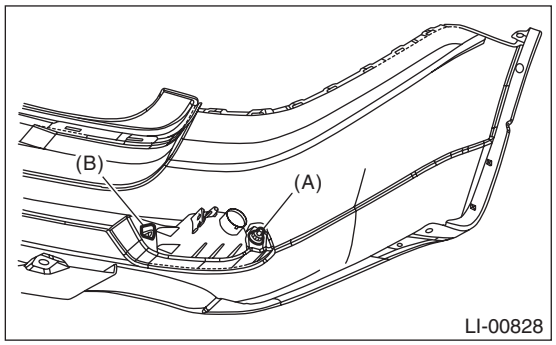
Install in the reverse order of removal.

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

36.Reflex Reflector

A: REMOVAL

1) Remove the nut (A) from the back of the rear bumper.
2) Remove the reflex reflector by pressing the claw (B) of the reflex reflector.



B: INSTALLATION

Install in the reverse order of removal.

WIPER AND WASHER SYSTEMS

WW

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12.	Rear Washer	21

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)-19, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to OD(diag)-18, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 5) Record all DTCs and freeze frame data.	Is DTC displayed?	Go to step **3**.	Go to “Airbag Warning Light Failure”. <Ref. to AB(diag)-39, Airbag Warning Light Failure.>
3	**PERFORM DIAGNOSIS.** 1) Determine the possible cause from “List of Diagnostic Trouble Code.” <Ref. to OD(diag)-24, 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)-21, Clear Memory Mode.> 5) Perform the Inspection Mode. <Ref. to OD(diag)-20, 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 operation	❑ 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) Never remove the occupant detection control module, occupant detection sensor and seat cushion from seat frame because the occupant detection system is integrated into seat frame as one unit.
2) Always perform “system calibration (Rezeroing)” when removing or removing and disassembling the passenger’s seat. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
3) Never connect the battery in reverse polarity.
Occupant detection system may be destroyed instantly.
4) Do not disconnect the battery terminals while the engine is running.
A large counter electromotive force will be generated in the generator, and this voltage may damage electronic parts such as occupant detection control module.
5) Before disconnecting the connectors of each sensor and control module, be sure to turn the ignition switch to OFF and wait for 20 seconds or more.
Occupant detection control module may be damaged.
6) Every occupant detection system-related part is a precision part. Do not drop them.
7) Airbag system wiring harness is routed near the occupant detection system.

CAUTION:
• Do not use the electrical test equipment on airbag system circuits.
• Be careful not to damage the airbag system wiring harness when servicing the occupant detection system.
• Refer to “Airbag System” when repairing the occupant detection system. <Ref. to AB(diag)-4, CAUTION, General Description.>

B: INSPECTION

Measure the battery voltage and check electrolyte.

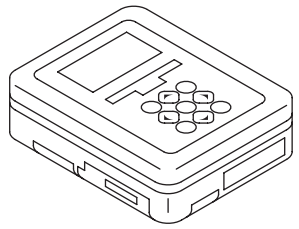
Standard voltage: 12 V

Specific gravity: 1.260 or more

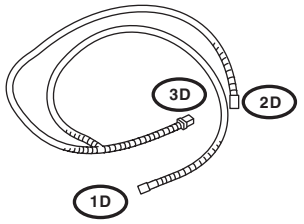
C: PREPARATION TOOL

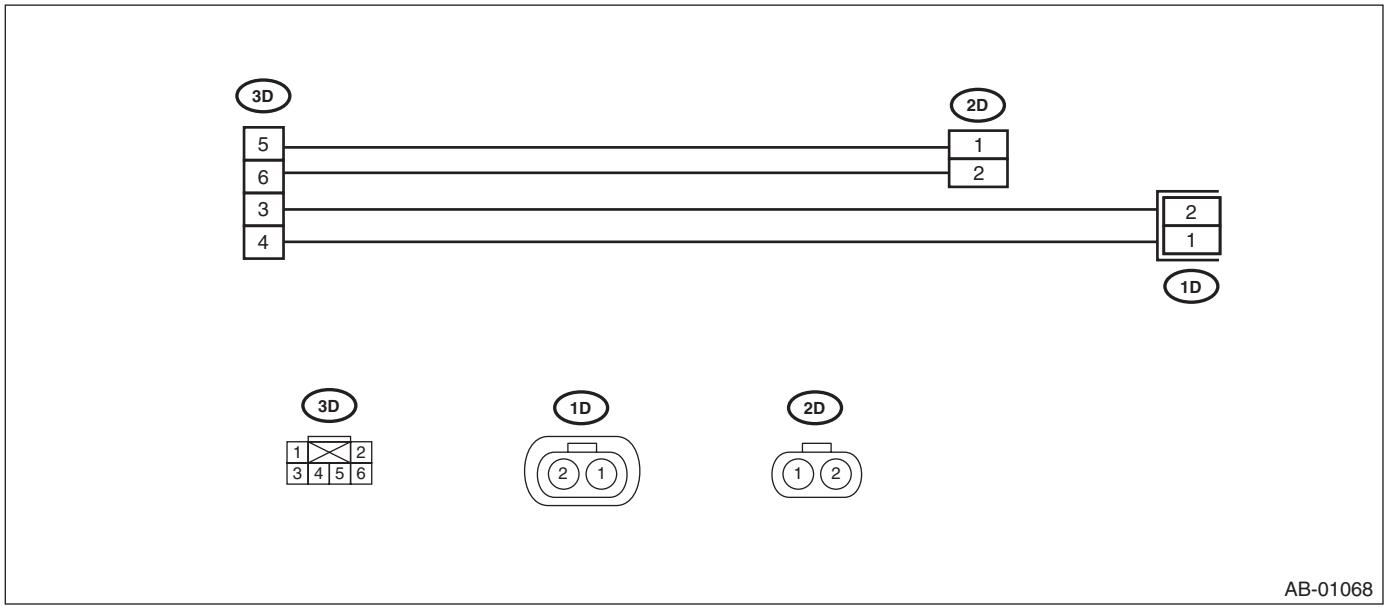
CAUTION:
To measure the voltage and resistance of airbag system and occupant detection system components, be sure to use the specified test harness.

1. SPECIAL TOOL

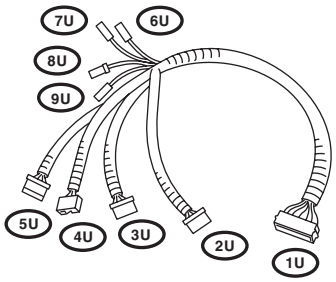
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting for the electrical system.

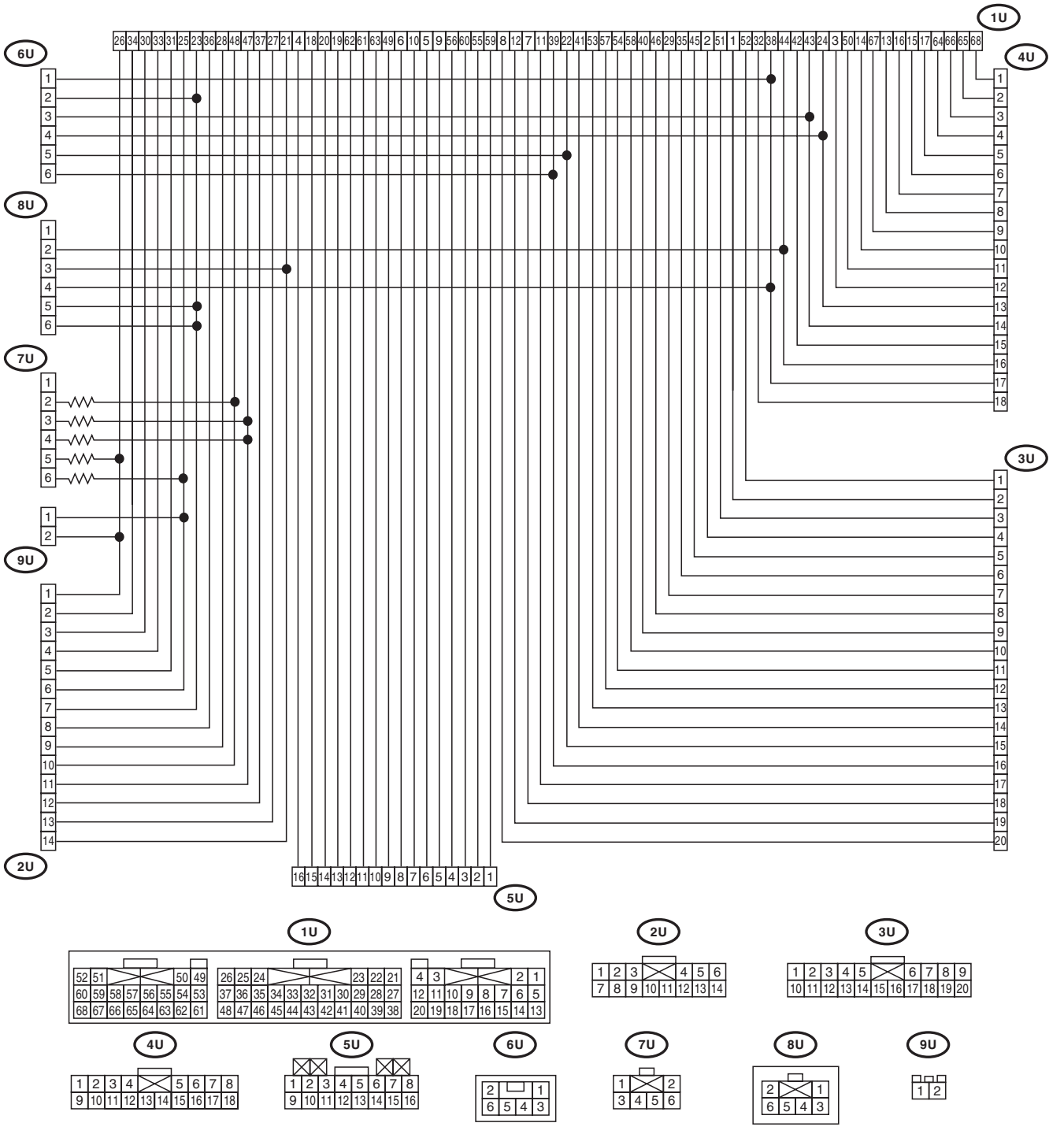
- TEST HARNESS D

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG060	98299AG060	TEST HARNESS D	Used when measuring voltage and resistance of the front seat belt buckle switch.

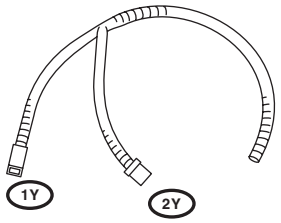


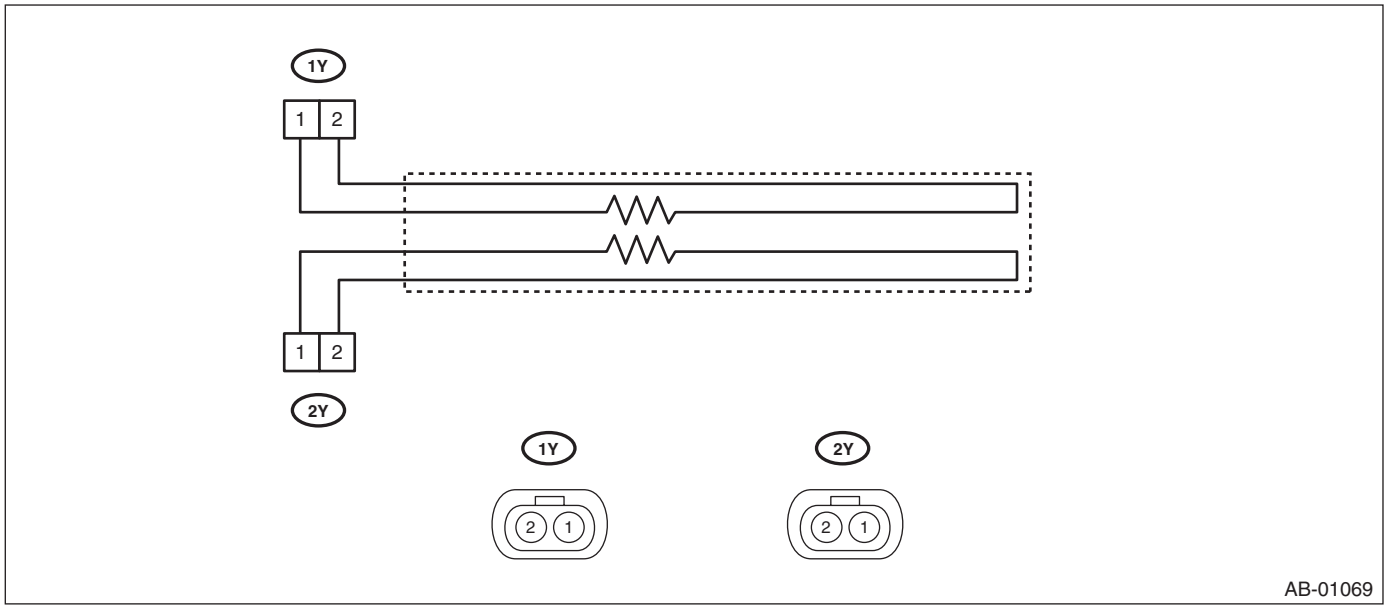
- TEST HARNESS U

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG000	98299AG000	TEST HARNESS U	Used when measuring voltage and resistance of airbag control module.


1U
6U
4U
8U
7U
3U
9U
2U
5U
AB-00930

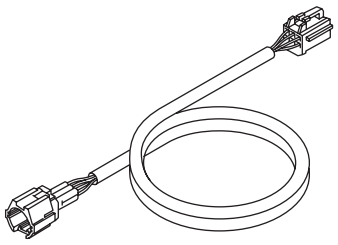
- TEST HARNESS Y

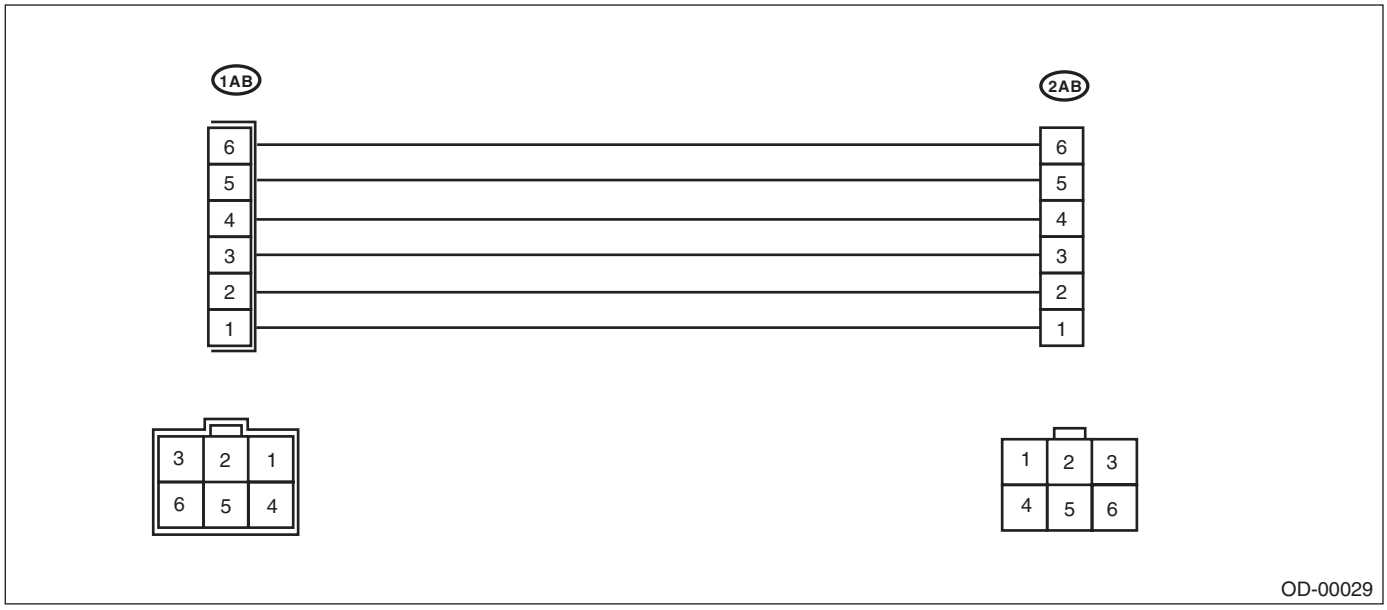
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299AG040	98299AG040	TEST HARNESS Y	Used for diagnosing a failure of the seat belt buckle switch.



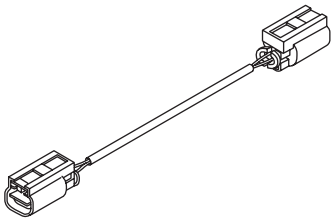
AB-01069

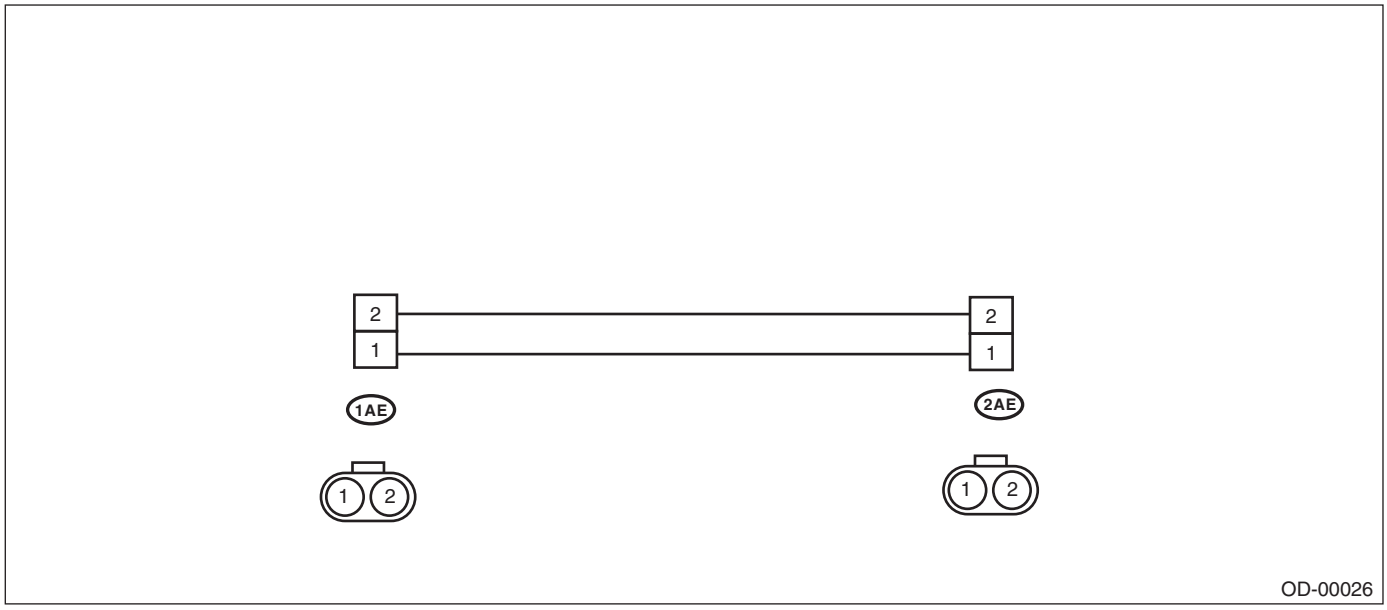
- TEST HARNESS AB

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA000	98299XA000	TEST HARNESS AB	Used when measuring voltage and resistance of occupant detection system.

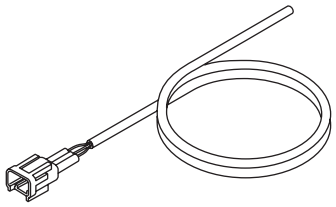


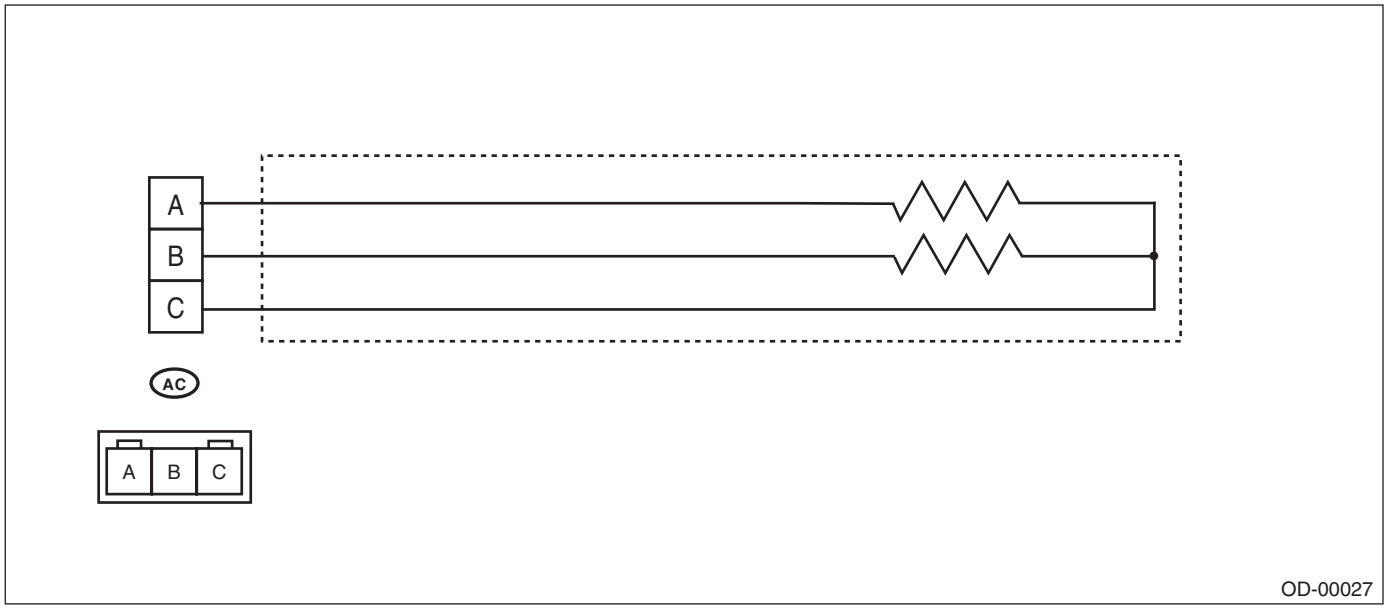
- TEST HARNESS AE

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA030	98299XA030	TEST HARNESS AE	TEST HARNESS Y ADAPTER HARNESS Used for diagnosing a failure of the seat belt buckle switch.

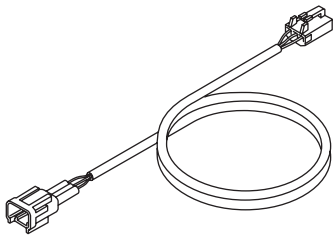


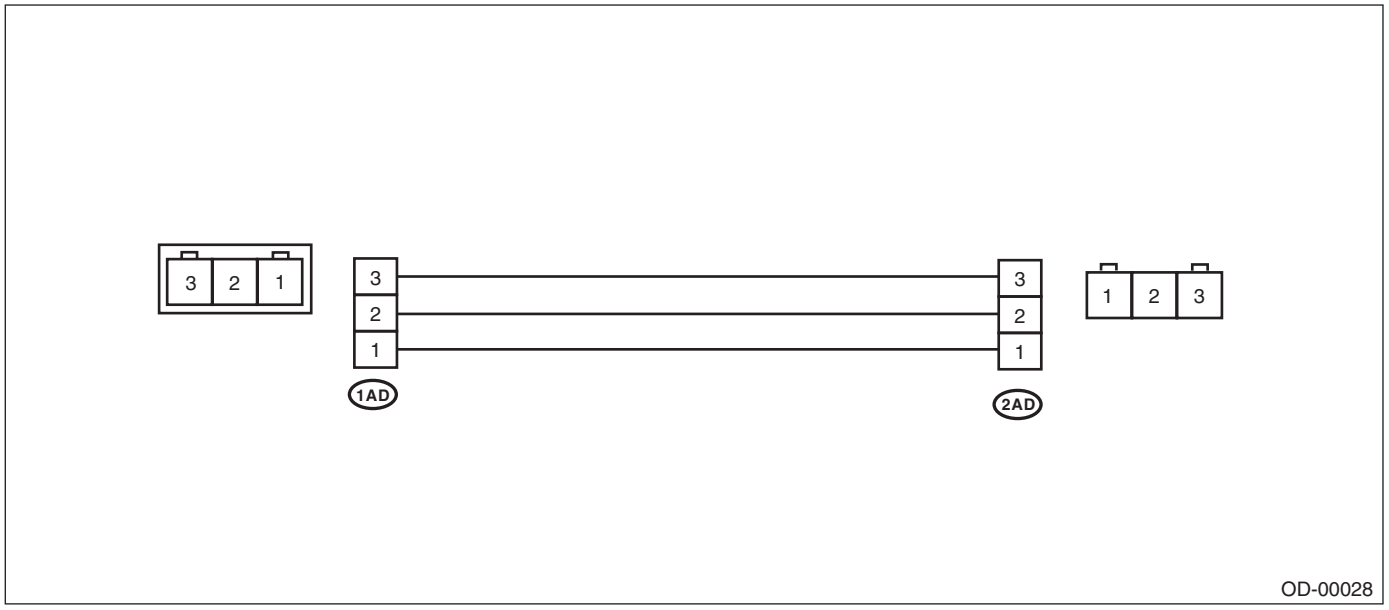
- TEST HARNESS AC

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA010	98299XA010	TEST HARNESS AC	Used for diagnosing a failure of the seat belt tension sensor.



- TEST HARNESS AD

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST98299XA020	98299XA020	TEST HARNESS AD	Used when measuring voltage and resistance of seat belt tension sensor.

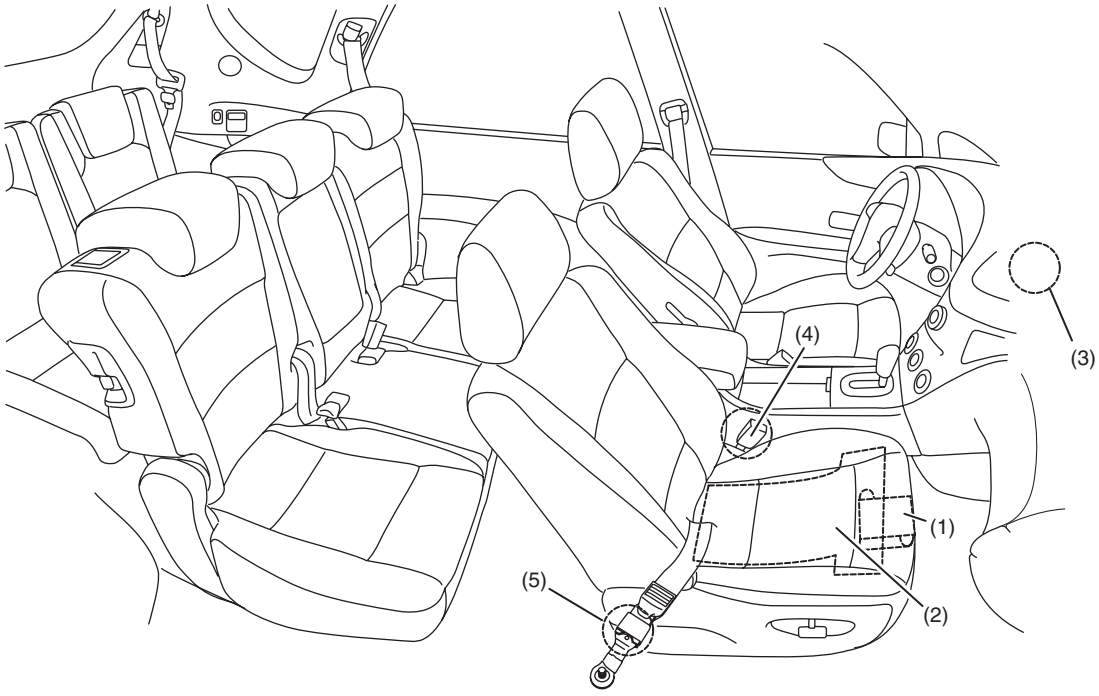


2. GENERAL TOOL

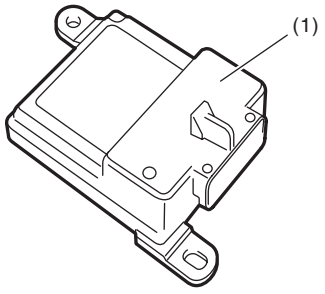
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

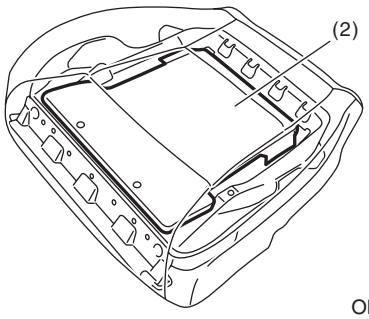
4. Electrical Component Location

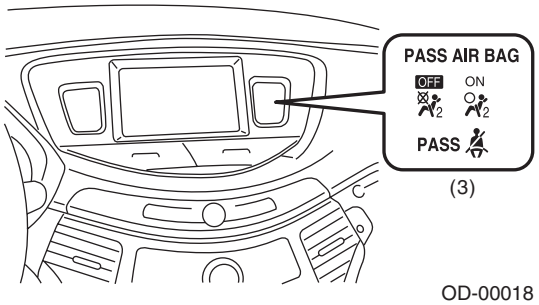
A: LOCATION

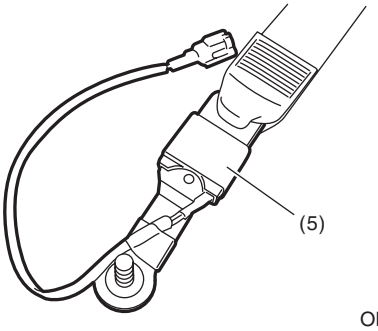


(1) Occupant detection control module
(2) Occupant detection sensor
(3) Airbag ON/OFF indicator light (Warning box)
(4) Buckle switch (Passenger's seat)
(5) Seat belt tension sensor







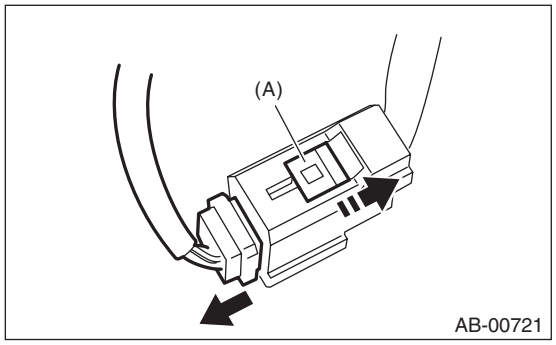


5. Airbag Connector

A: PROCEDURE

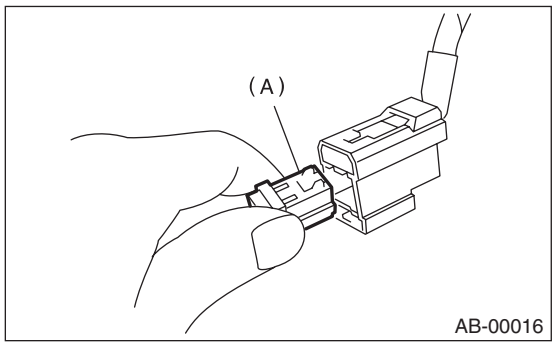
1. BUCKLE SWITCH

1) How to disconnect:
(1) Move the slide lock (A) in the direction of arrow.
(2) While holding the slide lock (A) in moved position, 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 (A), and push it in carefully 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.

6. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

CAUTION:
Never remove the occupant detection control module, occupant detection sensor or seat frame because they are integrated into one unit.

Terminal Name		Terminal No.	Input/Output value	Remarks
IG – power supply		9	9 — 16 V	When ignition switch ON
Airbag control module communication	(COM)	10	Open collector terminal	Communication line
Airbag control module communication	(GND)	5	0 V	Ground
Belt tensioner sensor	(Vcc)	4	0 — 5 V	Belt tension sensor power supply
	(Vout)	16	0.5 — 4.5 V	Sensor output voltage
	(GND)	14	0 V	Sensor ground
Occupant detection sensor	(Vcc)	6	0 — 5 V	Pressure sensor power supply
	(Vout)	7	0.5 — 4.5 V	Sensor output voltage
	(GND)	15	0 V	Sensor ground
Buckle switch		1	0 — IG voltage	Ignition voltage when switch ON
Buckle switch	(GND)	2	0 V	Switch ground

B: WIRING DIAGRAM

Refer to the electrical wiring diagrams. <Ref. to WI-104, Occupant Detection System.>

7. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

When malfunction of the airbag system and the occupant detection system occur, the DTC stored in airbag control module will be read out.
Refer to the DTC readout of the airbag system (diagnosis). <Ref. to AB(diag)-30, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

NOTE:
- For details concerning the operation procedure, refer to the “PC application for Subaru Select Monitor”.
- For details concerning DTCs, refer to the “List of Diagnostic Trouble Code (Airbag system, Occupant detection system).” <Ref. to AB(diag)-43, List of Diagnostic Trouble Code (DTC).> <Ref. to OD(diag)-24, List of Diagnostic Trouble Code (DTC).>

2. DISPLAY OF STATUS INFORMATION

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

Item	Display contents
Seat position sensor LH	Front position *1/Rear position *2 /Other *3/Initial Setting *3 /— *5
Seat position sensor RH	—*5
Seat belt buckle switch LH	Belted *6/Unbelted*7 /Other *8/Initial Setting *4 /—*9
Seat belt buckle switch RH	Belted *6/Unbelted*7 /Other *8/Initial Setting *4 /—*9
Passenger’s airbag control status	ON *10/OFF *11 /Initial Setting *4

*1: The seat position is forward.
*2: The seat position is rearward.
*3: Displayed when data other than before and behind the seat, such as the breakdown etc, is input.
*4: Displayed when it is initial.
*5: Seat position sensor not supported
*6: Seat belt fastened
*7: Seat belt not fastened
*8: Displayed when data other than belt fastened or not fastened, such as breakdowns is input.
*9: Seat belt buckle switch not supported
*10: Passenger’s seat airbag operating state
*11: Passenger’s seat airbag non-operating state

NOTE:
For details concerning the operation procedure, refer to the “PC application for Subaru Select Monitor”.

3. CLEAR MEMORY MODE

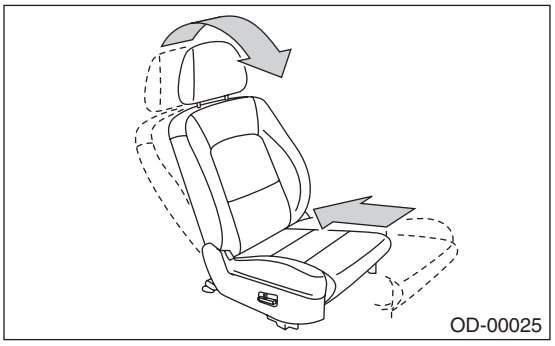
Clear the DTC stored in the airbag control module after repairing the airbag system and occupant detection system. (After the breakdown is recovered, the breakdown code for completed recoveries are read out when the next breakdown occurs if the memory clear work is not performed.)
1) On the «Main Menu» display screen, select the {Each System Check}.
2) On the «System Selection Menu», select {Airbag System}.
3) Select the {Clear Memory} in «Airbag System».
4) When the “Clear Memory?” is shown on the screen, press [OK].
5) When “Done” is displayed, end the Subaru Select Monitor.

NOTE:
For details concerning the operation procedure, refer to the “PC application for Subaru Select Monitor”.

4. SYSTEM CALIBRATION (REZEROING)

NOTE:
When replacing the occupant detection system, or removing and disassembling the passenger’s seat, always perform the system calibration after installing a seat in the vehicle.

CAUTION:
When the trouble occurs in the system during calibration process, “Occupant detection calibration failure” is detected in the DTC 2A of the airbag system and the airbag warning light lights. In this case, after turning the ignition switch to OFF once, redo the system calibration (Rezeroing), or after clearing the cause of the failure, perform the system calibration again.
1) Park empty vehicle on a level surface.
2) On the «Main Menu» display screen, select the {Each System Check}.
3) On the «System Selection Menu», select the {Occupant Detection System}.
4) On the {Occupant Detection System} display screen, select the {Rezeroing}.
5) «See service manual. And check vehicle condition for successfully completing the rezeroing. » is displayed. Check the following to adjust the condition of the vehicle.
• Adjust the seat backrest to be vertical. (Press the power seat switch to put the seat in a position where it will not move.)
• Adjust the seat sliding position to all the way back. (Press the power seat switch to put the seat in a position where it will not move.)
• Do not place anything on the top of the seat cushion.
• Sit on the seat cushion to smooth the seat surface.
• Check that the passenger’s seat belt is not inserted into the buckle, not tense or not stuck.
• Check that ambient temperature is in a range from 0 to 40°C.
6) When the «Re-zeroing Adjust the passenger seat to the condition shown in service manual» is displayed, slide the passenger seat all the way to the back, check that the backrest is adjusted to all the way up, and select the [OK].



7) When the «Re-zeroing Unbelt the Passenger seatbelt Continue: OK, Quit: NO» is displayed, make sure the passenger’s seatbelt is disconnected from the buckle and select the [OK].
8) When the «Re-zeroing Empty the passenger seat Continue: OK, Quit: NO» is displayed, make sure that the passenger’s seat is empty, airbag OFF indicator illuminates and airbag ON indicator does not illuminate, and select the [OK].

NOTE:
• After selecting the [OK], «Now processing.... Wait for a while. Do not touch or give impact to vehicle and seat » is displayed. Do not touch or rock the vehicle while the message is displayed.
• During the system calibration process, if the «Re-zeroing is unsuccessful See service manual Press OK to END» is displayed, go to step 10).
9) When the re-zeroing is ended normally, the «Rezeroing is successfully completed Press OK to END» is displayed. Select the [OK] and turn the ignition switch to OFF to finish the diagnosis.

10) During the system calibration process, if the «Re-zeroing is unsuccessful See service manual Press OK to END» is displayed, turn the ignition switch to OFF once and turn it to ON again, and then read the DTC of airbag system. <Ref. to AB(diag)-30, OPERATION, Subaru Select Monitor.>
When DTC is input, fix the fault and then perform the system calibration. When DTC is not input, check the seat and vehicle status and then perform the system calibration again. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>

NOTE:
When the re-zeroing is unsuccessful, there could be occupant detection system failure or improper seat and vehicle status. When the airbag warning light illuminates, read the DTC of airbag system, and perform the diagnosis referring to “List of Diagnostic Trouble Code.” <Ref. to AB(diag)-30, OPERATION, Subaru Select Monitor.> <Ref. to AB(diag)-43, LIST, List of Diagnostic Trouble Code (DTC).>

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DETECTING CONDITION:
Defective harness connector
TROUBLE SYMPTOM:
Communication is impossible between the airbag control module and the Subaru Select Monitor.
Refer to “Initial Communication Impossible” in the DTC of the airbag system (diagnosis). <Ref. to AB(diag)-32, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.>

2. WITHOUT DTC

DETECTING CONDITION:
- Defective combination meter
- Open circuit of harness

TROUBLE SYMPTOM:
- Airbag warning light remains on.
- “NO TROUBLE CODE” will be displayed on the Subaru Select Monitor.

For detailed operation procedure, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-39, Airbag Warning Light Failure.>

NOTE:
When the airbag warning light is OFF and “NO TROUBLE CODE” is displayed on Subaru Select Monitor, the system is in normal condition.

8. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details about reading of DTCs, refer to “Airbag System (Diagnosis) Subaru Select Monitor”. <Ref. to AB(diag)-30, Subaru Select Monitor.>

9. Inspection Mode

A: PROCEDURE

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

10.Clear Memory Mode

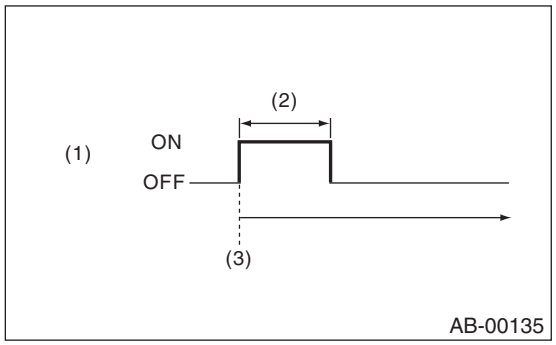
A: OPERATION

Clear the memory in the following steps after the malfunction is repaired.
For details to clear DTC, refer to “Airbag System (Diagnosis) Subaru Select Monitor”. <Ref. to AB(diag)-30, Subaru Select Monitor.>

11.Airbag Warning Light Illumination Pattern

A: INSPECTION

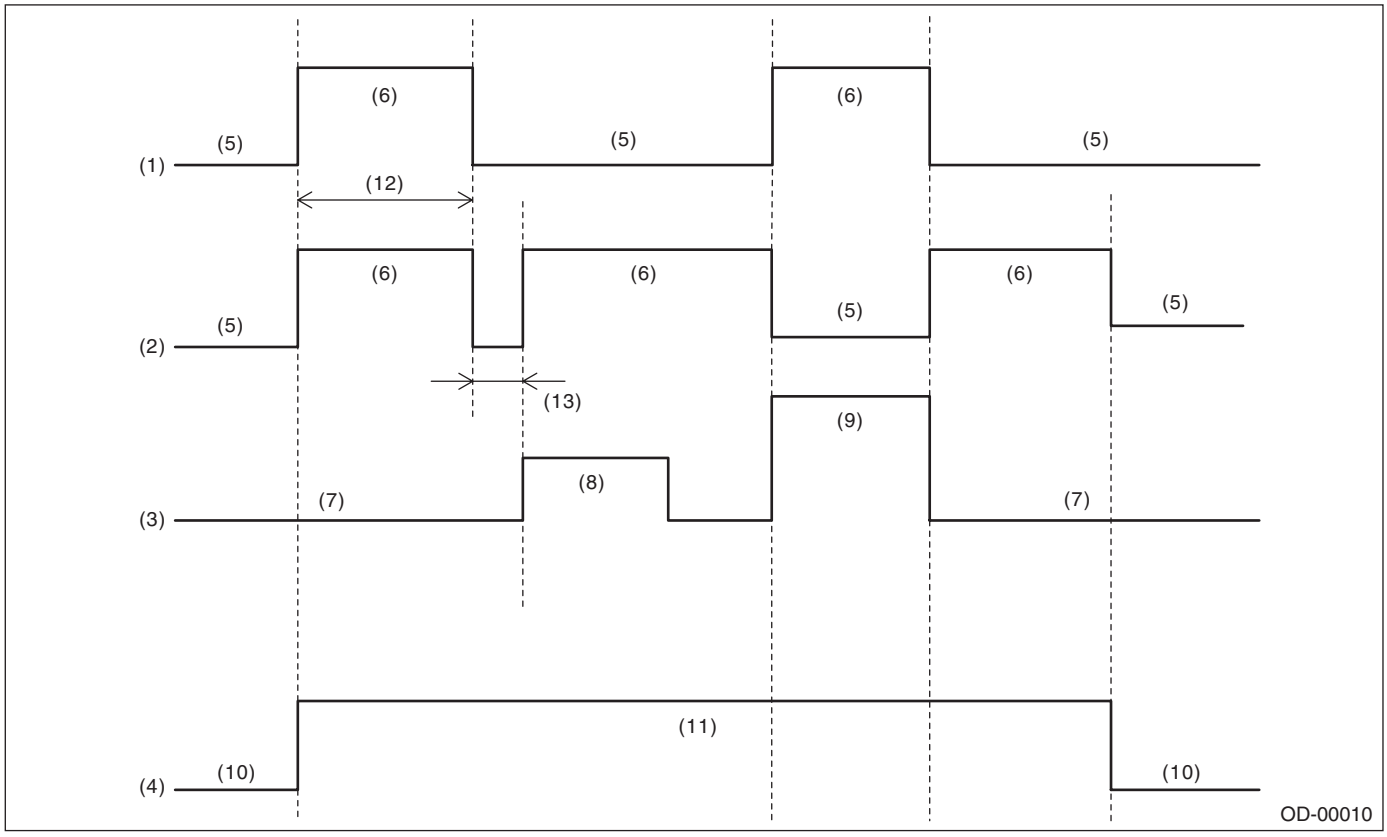
Turn the ignition switch to ON, and confirm that the airbag warning light remains on for approx. 6 seconds then go off afterwards.



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

12.Passenger's Airbag ON/OFF Indicator Light Illumination Pattern

A: INSPECTION



(1) Passenger's airbag ON indicator light
(2) Passenger's airbag OFF indicator light
(3) Occupant seating
(4) Ignition switch
(5) Light OFF
(6) Light ON
(7) Empty
(8) Child
(9) Adult
(10) OFF
(11) ON
(12) Approx. 6 sec.
(13) Approx. 2 sec.

13.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Display	Content of diagnosis	Reference target
2A	ODS Calibration Error	System calibration (Rezeroing) was not completed normally.	<Ref. to OD(diag)-25, DTC 2A ODS CALIBRATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2B	ODS System Wrong Parts	• Wrong airbag control module was installed. • Wrong occupant detection system was installed. • Occupant detection system is faulty.	<Ref. to OD(diag)-25, DTC 2B ODS SYSTEM WRONG PARTS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
2C	Belt Tension Sensor Failure	• Passenger's seat belt tension sensor is faulty. • Airbag main harness circuit is open or shorted. • Occupant detection system is faulty. • Occupant detection harness is faulty.	<Ref. to OD(diag)-26, DTC 2C BELT TENSION SENSOR FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
27	ODS Communication Error	• Occupant detection control module and airbag control module communication is faulty. • Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply. • Occupant detection harness is faulty. • Occupant detection system is faulty. • Airbag control module is faulty.	<Ref. to OD(diag)-27, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
29	ODS Failure	• Occupant detection sensor is faulty. • Occupant detection control module is faulty. • Occupant detection harness is faulty. • Fuse No. 25 (in joint box) is blown.	<Ref. to OD(diag)-28, DTC 29 ODS FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
37	Buckle Switch RH Failure	• Passenger's seat buckle switch circuit is open, shorted or shorted to ground. • Occupant detection system is faulty. • Occupant detection harness is faulty.	<Ref. to OD(diag)-29, DTC 37 BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

14.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC 2A ODS CALIBRATION ERROR

DTC DETECTING CONDITION:

System calibration (Rezeroing) was not completed normally.

	Step	Check	Yes	No
1	**PERFORM RE-ZEROING.** Perform the system calibration using Subaru Select Monitor. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>	Is the system calibration completed normally?	Finish the diagnosis.	Follow the system calibration procedures. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>

B: DTC 2B ODS SYSTEM WRONG PARTS

DTC DETECTING CONDITION:

- Wrong airbag control module is installed.
- Wrong occupant detection system is installed.

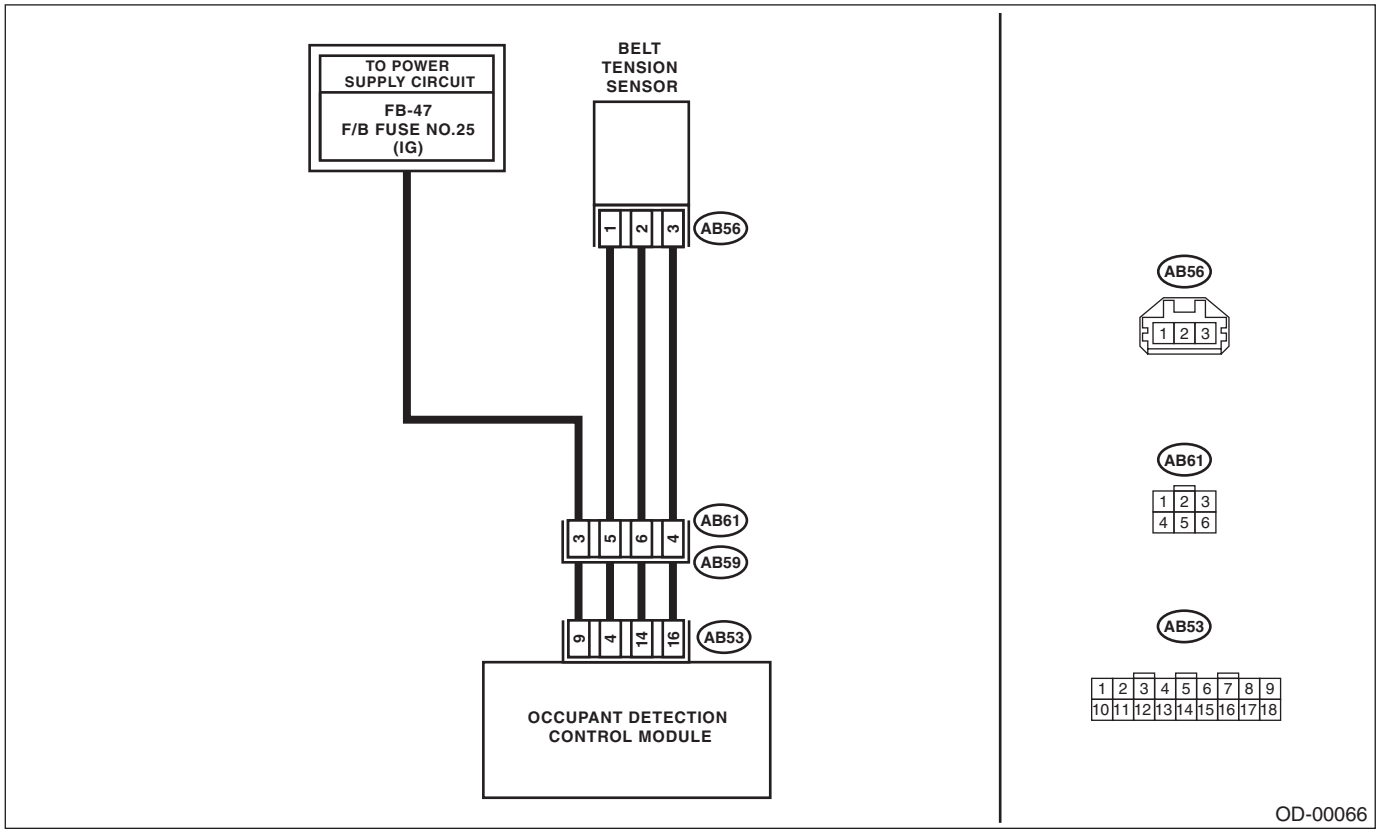
	Step	Check	Yes	No
1	**CHECK THE OCCUPANT DETECTION SYSTEM.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Replace the passenger's seat frame assembly. <Ref. to SE-7, REMOVAL, Front Seat.> <Ref. to SE-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.> 3) Connect the ground cable to battery. 4) Connect Subaru Select Monitor to the vehicle and perform the system calibration. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>	Is the system calibration completed normally?	Finish the diagnosis.	Go to step **2**.
2	**CHECK AIRBAG CONTROL SYSTEM.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Replace the airbag control module. <Ref. to AB-16, REMOVAL, Side Airbag Module.> 3) Connect the ground cable to battery. 4) Connect Subaru Select Monitor to the vehicle and perform the system calibration. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>	Is the system calibration completed normally?	Finish the diagnosis.	Check between the occupant detection control module and airbag control module.

C: DTC 2C BELT TENSION SENSOR FAILURE

DTC DETECTING CONDITION:

- Passenger's seat belt tension sensor is faulty.
- Airbag main harness circuit is open or shorted.
- Occupant detection control module is faulty.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and belt tension sensor.	Is there poor contact?	Reconnect the connector. If the fault is not fixed, replace the airbag harness.	Go to step **2**.
2	**CHECK THE BELT TENSION SENSOR.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the belt tension sensor connector (AB56) from the airbag harness. 3) Connect the test harness AC to the connector (AB56). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for approximately 6 seconds and go off?	Replace the seat belt outer. <Ref. to SB-13, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>	Go to step **3**.
3	**CHECK THE AIRBAG HARNESS.** 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect the test harness AC from the belt tension sensor connector (AB56). 3) Connect the test harness AD (1AD) to the connector (AB56). 4) Disconnect the airbag harness connector (AB61), and connect the connector (1AB) in test harness AB. 5) Measure the resistance between test harness terminals. ***Connector & terminal*** ***(2AB) No. 5 — (2AD) No. 1:*** ***(2AB) No. 4 — (2AD) No. 3:*** ***(2AB) No. 6 — (2AD) No. 2:***	Is the resistance less than 10 Ω?	Go to step **4**.	Replace the airbag harness along with chassis harness.
4	**CHECK THE AIRBAG HARNESS.** Measure the resistance between test harness terminals, and between test harness terminal and chassis ground. ***Connector & terminal*** ***(2AB) No. 4 — (2AD) No. 1:*** ***(2AB) No. 4 — (2AD) No. 2:*** ***(2AB) No. 4 — chassis ground:*** ***(2AB) No. 5 — (2AD) No. 2:*** ***(2AB) No. 5 — chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **5**.	Replace the airbag harness along with chassis harness.
5	**CHECK THE AIRBAG HARNESS.** 1) Connect the battery ground terminal and turn the ignition switch to ON. 2) Measure the voltage between test harness and chassis ground. ***Connector & terminal*** ***(2AD) No. 1 (+) — chassis ground (–):*** ***(2AD) No. 3 (+) — chassis ground (–):***	Is the voltage less than 1 V?	Replace the airbag harness along with chassis harness.	Check the seat harness, and if any fault is found, replace the seat harness. If no fault is found in the seat harness, replace the seat cushion frame assembly. <Ref. to SE-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

D: DTC 27 ODS COMMUNICATION ERROR

Perform the diagnosis following diagnostic procedure for airbag system. <Ref. to AB(diag)-63, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>

E: DTC 29 ODS FAILURE

DTC DETECTING CONDITION:

- Occupant detection sensor is faulty.
- Occupant detection control module is faulty.
- Occupant detection harness is faulty.
- Rear airbag harness is faulty.
- Fuse No. 25 (in joint box) is blown.

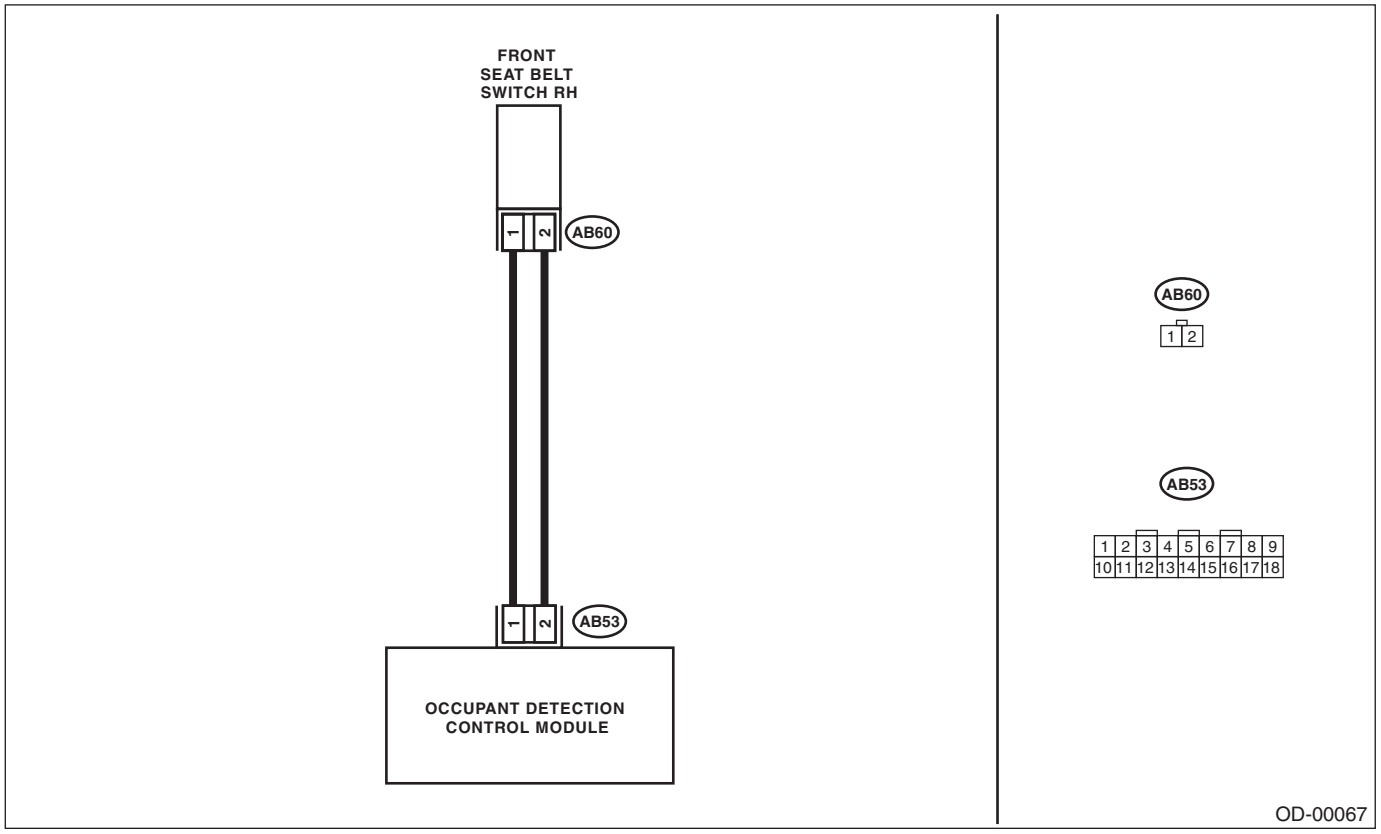
	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and airbag control module.	Is there poor contact?	Reconnect the connector. If the fault is not fixed, replace the airbag harness.	Go to step **2**.
2	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** Read diagnostic trouble code (DTC) for the airbag system.	Is "2C Belt Tension Sensor failure or 37 Buckle Switch failure" displayed in the diagnostics code?	Perform the diagnosis according to each DTC.	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-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.>

F: DTC 37 BUCKLE SWITCH RH FAILURE

DTC DETECTING CONDITION:

- Passenger's seat buckle switch circuit is open, shorted or shorted to ground.
- Seat harness circuit is open, shorted or shorted to ground.
- Occupant detection control module is faulty.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK POOR CONTACT OF CONNECTORS.** Check for poor contact of the connectors between the occupant detection control module and buckle switch.	Is there poor contact?	Reconnect the connector. If the fault is not fixed, replace the airbag harness.	Go to step **2**.
2	**CHECK THE BUCKLE SWITCH.** 1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait for 20 seconds. 2) Disconnect the buckle switch connector (AB60). 3) Connect the test harness AE1 and test harness connector Y to the buckle switch connector (AB60). 4) Connect the battery ground terminal and turn the ignition switch to ON.	Does the airbag warning light illuminate for 6 seconds and go off?	Replace the buckle switch. <Ref. to SB-13, INNER SEAT BELT ASSEMBLY, 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.

SEAT BELT SYSTEM

SB

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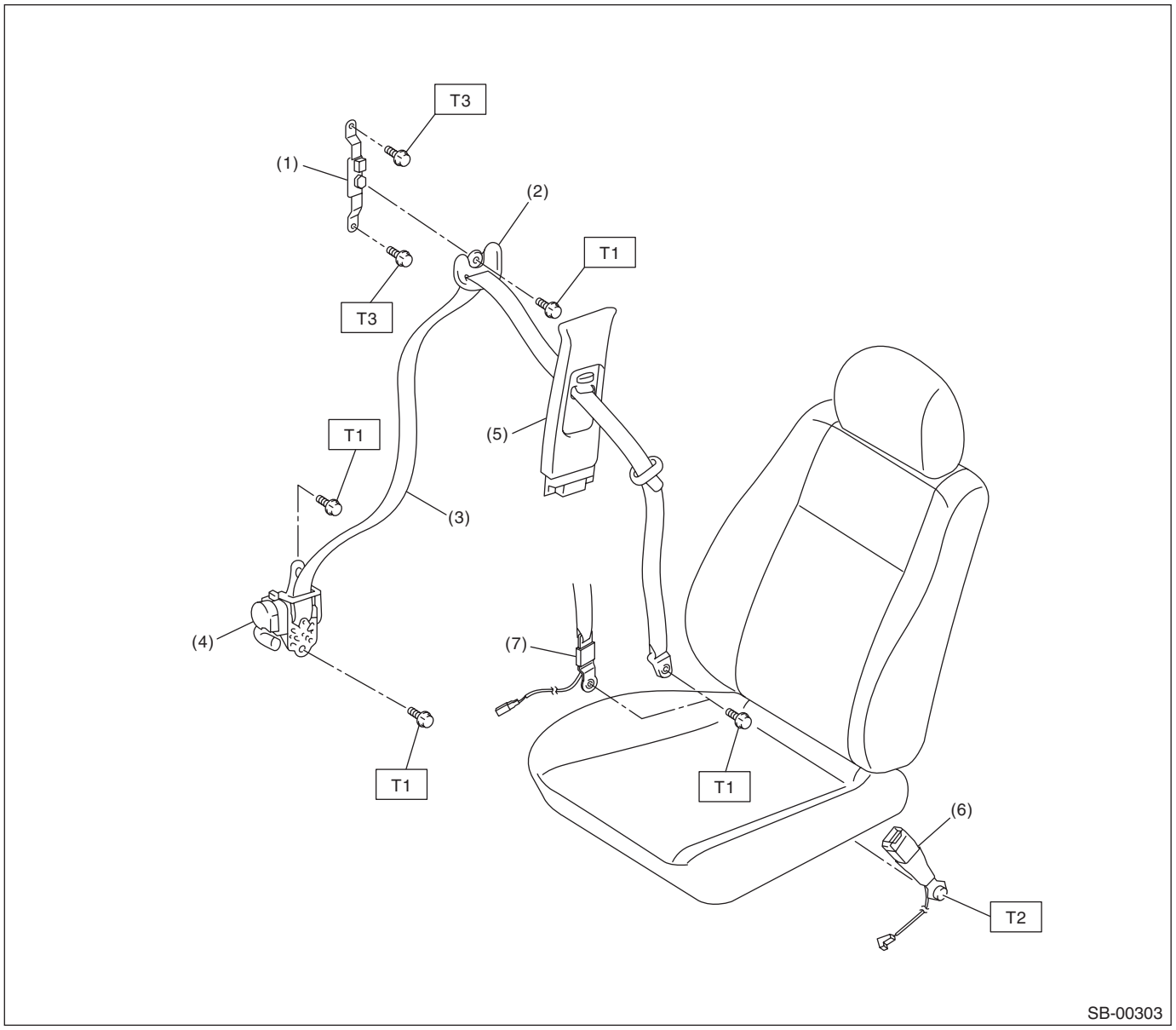
3.	Inspection Locations After a Collision	7
4.	Seat Belt Warning System	8
5.	Front Seat Belt	13
6.	Second Seat belt	15
7.	Third Seat belt	17

1. General Description

A: COMPONENT

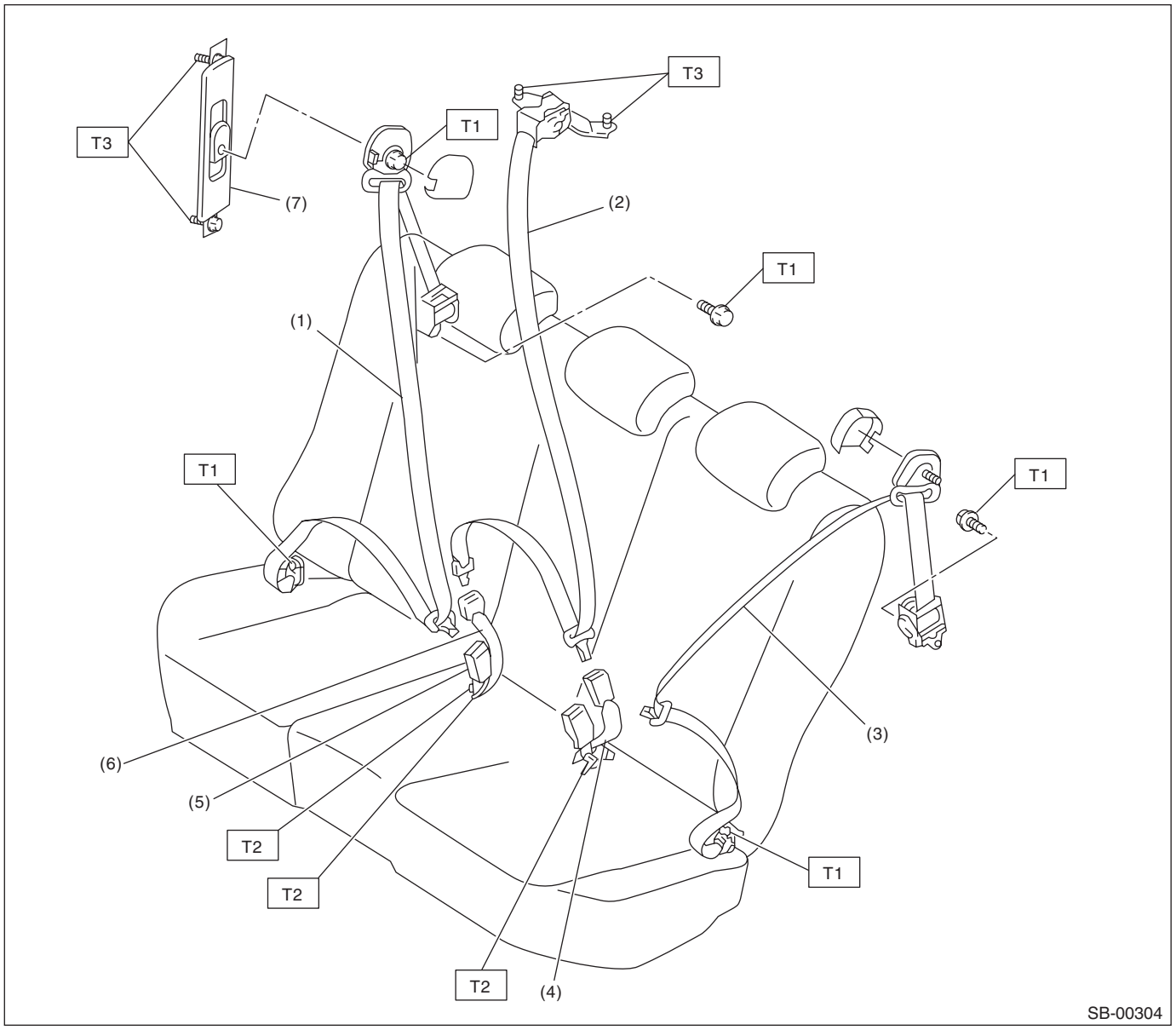
1. FRONT SEAT BELT



(1) Adjustable anchor ASSY
(2) Shoulder anchor
(3) Outer seat belt ASSY
(4) Seat belt retractor
(5) Center pillar upper trim
(6) Inner seat belt ASSY
(7) Belt tension sensor (passenger's side only)

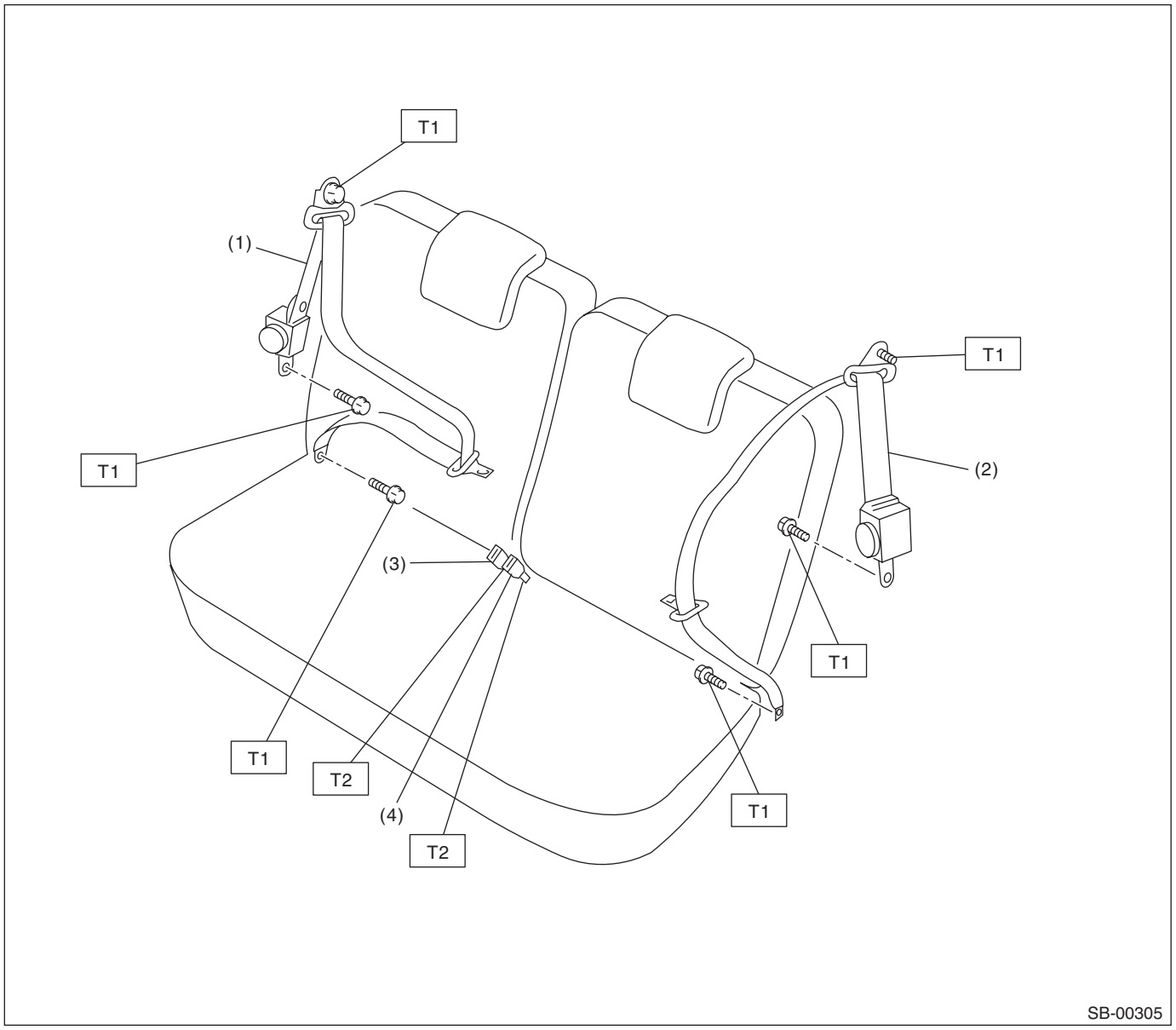
Tightening torque:N·m (kgf-m, ft-lb)
T1: 30 (3.1, 22)
T2: 38 (3.9, 28)
T3: 53 (5.4, 39)

2. SECOND SEAT BELT



(1)	Outer seat belt RH ASSY	(5)	Inner seat belt RH ASSY	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Shoulder seat belt center ASSY	(6)	Shoulder seat belt center buckle ASSY	***T1: 30 (3.1, 22)***
(3)	Outer seat belt LH ASSY			***T2: 38 (3.9, 28)***
(4)	Inner seat belt LH ASSY	(7)	Adjustable anchor ASSY	***T3: 53 (5.4, 39)***

3. THIRD SEAT BELT



(1) Outer seat belt RH ASSY
(2) Outer seat belt LH ASSY
(3) Inner seat belt RH ASSY
(4) Inner seat belt LH ASSY

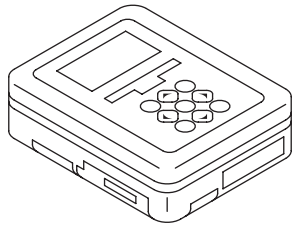
Tightening torque:N·m (kgf-m, ft-lb)
T1: 30 (3.1, 22)
T2: 38 (3.9, 28)

B: CAUTION

• Before starting the work, turn the ignition switch to OFF, disconnect the battery ground cable and wait for 20 seconds or more.
• The pretensioner system has a backup power source. The pretensioner might deploy if you do not wait for 20 seconds or more before starting work.
• 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 part.
• Do not use the airbag or pretensioner parts from other vehicles. Always replace parts with new parts.
• 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.
• If material from the airbag enters the eyes or contacts skin during deployment, wash it away with clean water, and then consult a doctor.

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 troubleshooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for inspecting the seat belt warning system.
TORX® T50	Used for removing and installing the inner seat belt assembly.

2. Pretensioner Connector

A: PROCEDURE

Refer to airbag connectors in the airbag section.
<Ref. to AB-8, PROCEDURE, Airbag Connector.>

3. Inspection Locations After a Collision

A: INSPECTION

Check for the following, and replace with new parts if necessary.

- Center pillar lower trim is discolored or cracked.
- Wiring harness and connector are damaged.

4. Seat Belt Warning System

A: WIRING DIAGRAM

<Ref. to WI-122, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

TROUBLE SYMPTOM:

- Driver's side seat belt warning light does not turn on or off.
- Warning buzzer does not beep.

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT.** 1) Sit on the driver's seat and passenger's seat. 2) Prepare the Subaru Select Monitor kit. 3) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor". 4) Read the data of ignition power supply voltage from Subaru Select Monitor. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Is the voltage 10 V or more?	Go to step **2**.	Check the ignition switch circuit.
2	**CHECK THE BODY INTEGRATED UNIT.** Read the data of the belt warning switch. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Is the belt warning display ON?	Go to step **3**.	Turn the belt warning ON with unit customization.
3	**CHECK BODY INTEGRATED UNIT.** 1) Read the data of the driver's seat belt switch. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.> 2) Connect and disconnect the seat belt buckle.	Does the seat belt SW display turn ON ←→ OFF according to the operation?	Go to step **8**.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Measure the resistance between the body integrated unit and the seat belt buckle switch LH. ***Connector & terminal*** ***(i84) No. 4 — (R8) No. 3:***	Is the harness normal?	Go to step **5**.	Repair the harness.
5	**CHECK HARNESS.** Check for short circuit to battery, open circuit and short circuit to ground between the seat belt buckle switch LH and chassis ground. ***Connector & terminal*** ***(R8) No. 1 — Chassis ground:***	Is the harness normal?	Go to step **6**.	Repair the harness.
6	**CHECK SEAT BELT BUCKLE SWITCH LH.** 1) Insert the tongue plate to the driver's seat belt buckle. 2) Check for short circuit to battery and open circuit between the seat belt switch LH connectors (R8). ***Connector & terminal*** ***(R8) No. 1 — (R8) No. 3:***	Is resistance less than 10 Ω?	Go to step **7**.	Replace the inner belt assembly LH. <Ref. to SB-13, REMOVAL, Front Seat Belt.>

	Step	Check	Yes	No
7	**CHECK SEAT BELT BUCKLE SWITCH LH.** 1) Disconnect the driver's seat belt buckle and the tongue plate. 2) Measure the resistance between the terminals of the seat belt switch LH connectors (R8). ***Connector & terminal*** ***(R8) No. 1 — (R8) No. 3:***	Is the resistance 1 MΩ or more?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Replace the inner belt assembly LH. <Ref. to SB-13, REMOVAL, Front Seat Belt.>
8	**CHECK BODY INTEGRATED UNIT.** 1) Read the data of the passenger's seat belt switch. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.> 2) Connect and disconnect the seat belt buckle.	Does the seat belt SW display turn ON ←→ OFF according to the operation?	Go to step **12**.	Go to step **9**.
9	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Check for short circuit to battery, open circuit and short circuit to ground between the body integrated unit and the airbag control module. ***Connector & terminal*** ***(i84) No. 13 — (AB6) No. 15:***	Is the harness normal?	Go to step **10**.	Repair the harness.
10	**CHECK HARNESS.** Check short circuit to battery, open circuit and short circuit to ground between the airbag control module and the occupant detection control module, between the occupant detection control module and the seat belt buckle switch RH, and between the seat belt buckle switch RH and the chassis ground. ***Connector & terminal*** ***(AB18) No. 16 — (AB43) No. 10:*** ***(AB18) No. 24 — (AB43) No. 5:*** ***(AB43) No. 1 — (AB60) No. 1:*** ***(AB43) No. 2 — (AB60) No. 2:*** ***(AB60) No. 1 — Chassis ground:*** ***(AB60) No. 2 — Chassis ground:***	Is the harness normal?	Go to step **11**.	Repair the harness.

	Step	Check	Yes	No
11	**CHECK AIRBAG CONTROL MODULE, OCCUPANT DETECTION SENSOR AND SEAT BELT BUCKLE SWITCH RH.** Check the airbag control module, occupant detection sensor and seat belt buckle switch RH. • Airbag control module: <Ref. to AB(diag)-2, Basic Diagnostic Procedure.> • Occupant detection sensor: <Ref. to OD(diag)-2, Basic Diagnostic Procedure.> • Seat belt buckle switch RH: Measure the resistance between the terminals of connectors (AB60). Switch ON (When connecting the seat belt) - The resistance is less than 10 Ω. Switch OFF (When disconnecting the seat belt) - The resistance is 1 MΩ or more.	Are airbag control module, occupant detection sensor and seat belt buckle switch RH normal?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	• Airbag control module malfunction: Replace the airbag control module. <Ref. to AB-19, REMOVAL, Airbag Control Module.> • Occupant detection sensor malfunction: Replace the seat cushion pad & frame assembly. <Ref. to SE-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.> • Seat belt buckle switch RH malfunction: Replace the inner seat belt assembly RH. <Ref. to SB-13, INNER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
12	**CHECK SEAT BELT WARNING LIGHT.** Turn the ignition switch to OFF, disconnect the seat belt of the driver's and passenger's seat.	Does the driver's seat belt warning light blink?	Go to step **15**.	Go to step **13**.
13	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Check for open circuit between the body integrated unit and the combination meter. ***Connector & terminal*** ***(i84) No. 20 — (i10) No. 9:***	Is resistance less than 10 Ω?	Go to step **14**.	Repair the harness.
14	**CHECK SEAT BELT WARNING LIGHT.** 1) Connect the ground cable to the battery. 2) Disconnect the connector from body integrated unit. 3) Short No. 20 of the body integrated unit connector (i84).	Does seat belt warning light illuminate?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>
15	**CHECK SEAT BELT WARNING LIGHT.** Check the passenger's seat belt warning light.	Does the passenger's seat belt warning light blink?	Go to step **19**.	Go to step **16**.
16	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Check for open circuit between the body integrated unit and the map light. ***Connector & terminal*** ***(B280) No. 27 — (R150) No. 5:***	Is resistance less than 10 Ω?	Go to step **17**.	Repair the harness.
17	**CHECK HARNESS.** 1) Connect the ground cable to the battery. 2) Measure the voltage between the map light connector and chassis ground. ***Connector & terminal*** ***(R150) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **18**.	Repair the harness.

	Step	Check	Yes	No
18	**CHECK SEAT BELT WARNING LIGHT.** 1) Connect the ground cable to the battery. 2) Disconnect the connector from the map light. 3) Short No. 5 of the map light connector (R150).	Does seat belt warning light illuminate?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Check the map light.
19	**CHECK BODY INTEGRATED UNIT.** Check if the warning buzzer sounds.	Does the warning buzzer sound?	Go to step **20**.	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
20	**CHECK SEAT BELT WARNING LIGHT.** 1) Connect the passenger's seat belt. 2) Wait until the warning buzzer stops sounding. 3) Start the engine, and set the vehicle speed to 15 km/h (9 MPH) or faster.	Does the driver's seat belt warning light blink and buzzer sound?	Go to step **24**.	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>
21	**CHECK BODY INTEGRATED UNIT.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC U1223 detected?	• Check the LAN system. <Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • Check VDC or ABS. • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **22**.
22	**CHECK BODY INTEGRATED UNIT.** Read the data of the "front wheel speed" from the body integrated unit. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Is the data displayed as 999.9 km/h?	• Check the LAN system. <Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • Check VDC or ABS. • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **23**.

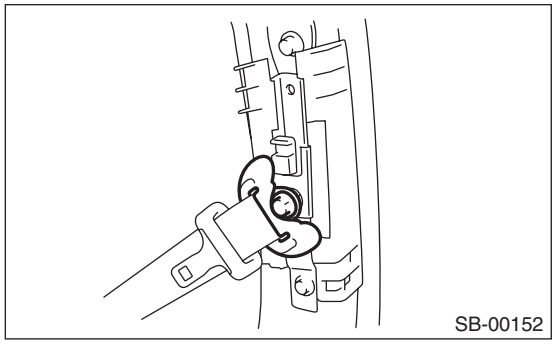
Step		Check	Yes	No
23	**CHECK BODY INTEGRATED UNIT.** Read the data of the “front wheel speed” from the body integrated unit. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Does the data indicate the normal vehicle speed?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	• Check the LAN system. <Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • Check VDC or ABS. • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>
24	**CHECK WARNING LIGHT AND BUZZER.** Connect the driver’s seat belt.	Does the driver’s seat belt warning light go off and the buzzer stop sounding?	Go to step **25**.	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>
25	**CHECK WARNING LIGHT AND BUZZER.** Disconnect the passenger’s seat belt.	Does the passenger’s seat belt warning light blink and buzzer sound?	Go to step **26**.	Go to step **21**.
26	**CHECK WARNING LIGHT AND BUZZER.** Connect the passenger’s seat belt.	Does the passenger’s seat belt warning light go off and the buzzer stop sounding?	System is normal. A temporary contact failure.	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>

5. Front Seat Belt

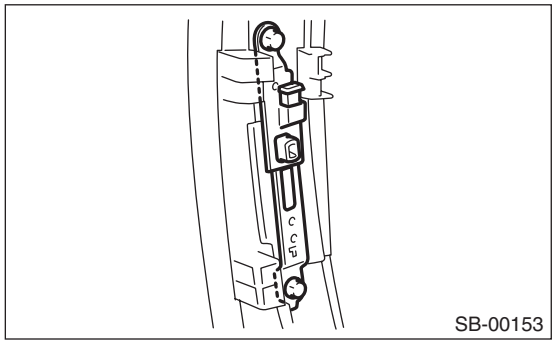
A: REMOVAL

1. OUTER SEAT BELT ASSEMBLY

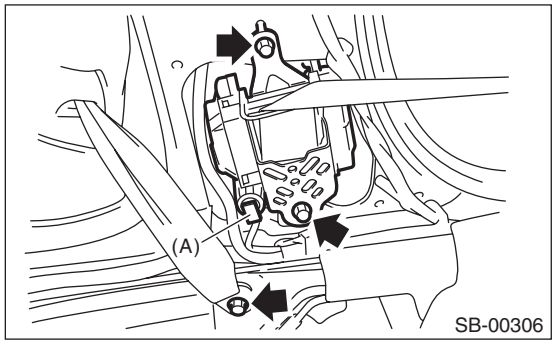
1) Fold the backrest all the way forward, and then move the front seat all the way forward.
2) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more.
3) Remove the center pillar lower trim and center pillar upper trim. <Ref. to EI-46, CENTER PILLAR LOWER TRIM, REMOVAL, Side Trim.> <Ref. to EI-46, CENTER PILLAR UPPER TRIM, REMOVAL, Side Trim.>
4) Remove the bolt, and then remove the shoulder anchor.


SB-00152

5) Remove the bolt, and then remove the adjustable anchor assembly.

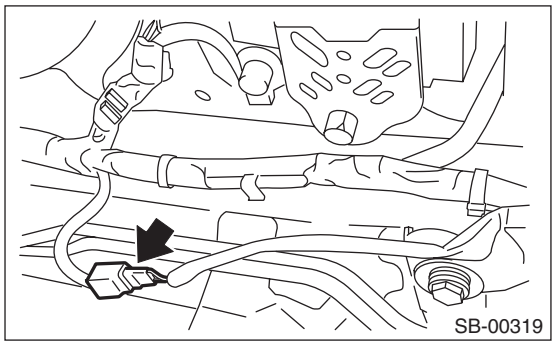

SB-00153

6) Disconnect connector (A) of the pretensioner, and remove the lower anchor bolt and seat belt retractor.



SB-00306

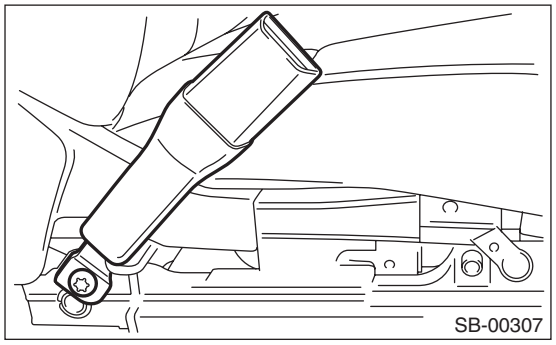
7) On the passenger side, disconnect connector of the belt tension sensor.


SB-00319

CAUTION:
• Do not drop or subject the pretensioner to any impact.
• Since the pretensioner and bracket are integrated as a unit, do not disassemble them.

2. INNER SEAT BELT ASSEMBLY

1) Turn the ignition switch to OFF, disconnect the battery ground cable, and 20 seconds or more.
2) Remove the four bolts in the slide rail LH and RH.
3) Disconnect the seat belt warning light connector under the seat.
4) Remove the harness clips from the back of the seat.
5) Remove the TORX® bolt, and then remove the inner seat belt assembly.


SB-00307

B: INSTALLATION

1. OUTER SEAT BELT ASSEMBLY

Install in the reverse order of removal.

CAUTION:
• The parts of driver and passenger sides are not the same. Before installation, make sure that the correct part is used.
• Be careful not to twist the seat belts during installation.

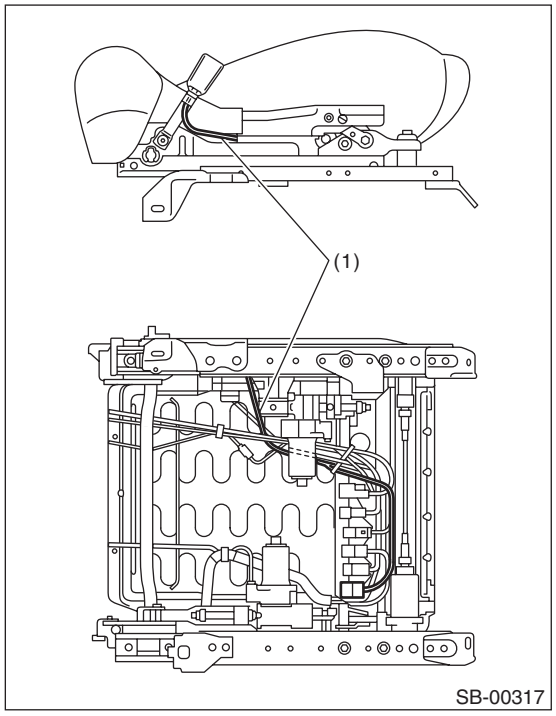
Tightening torque:
<Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>

2. INNER SEAT BELT ASSEMBLY

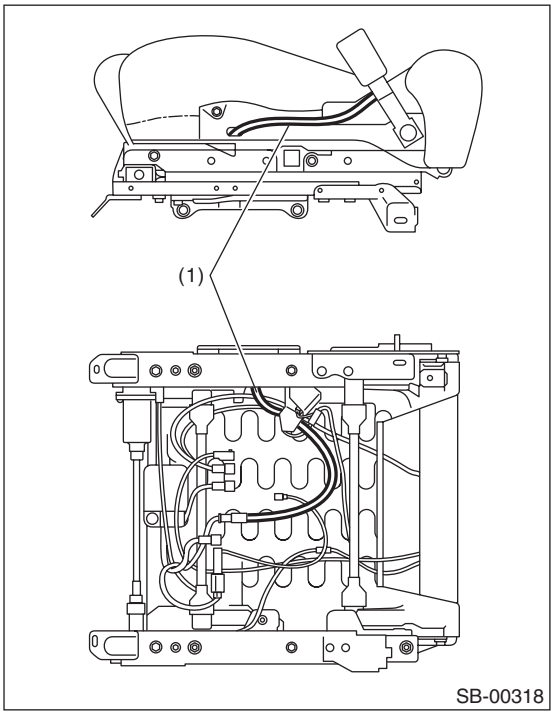
Install in the reverse order of removal.

CAUTION:
• After the driver's and passenger's inner seat belt assembly installation, check that the seat belt buckle switch operates normally using the Subaru Select Monitor III in {Status Data} of "Airbag System". <Ref. to AB(diag)-31, DISPLAY OF STATUS INFORMATION, OPERATION, Subaru Select Monitor.>Improper buckle switch operation may cause airbag system malfunction.
• Inner seat belt assembly harness (1) must be routed securely as shown in the figure, as it can affect the performance of the seat position sensor and occupant detection system.

• Driver's seat



• Passenger's seat



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

C: INSPECTION

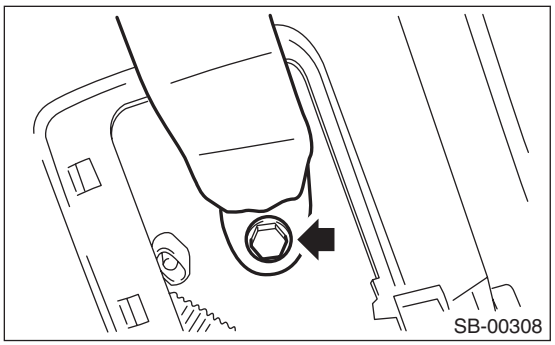
Check for the following, and replace with new parts if necessary.
• Pretensioner is cracked or deformed.
• The belt tension sensor is cracked. Or deformed.
• Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.
• Inner seat belt assembly is deformed or damaged.
• Seat belt buckle cannot be engaged properly.

6. Second Seat belt

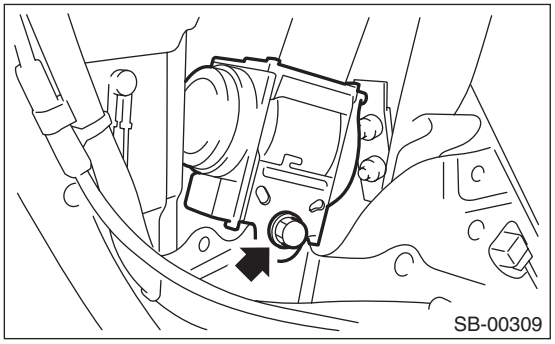
A: REMOVAL

1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY

1) Remove the second row seats. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the third-row seats. <Ref. to SE-19, REMOVAL, Third Seat.>
3) Remove the rear quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
4) Remove the lower anchor bolt.

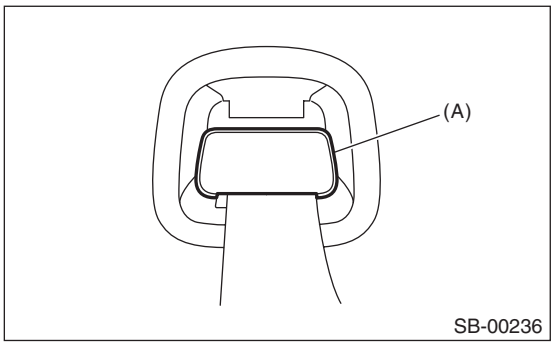

SB-00308

5) Remove the bolt to remove outer seat belt retractor.


SB-00309

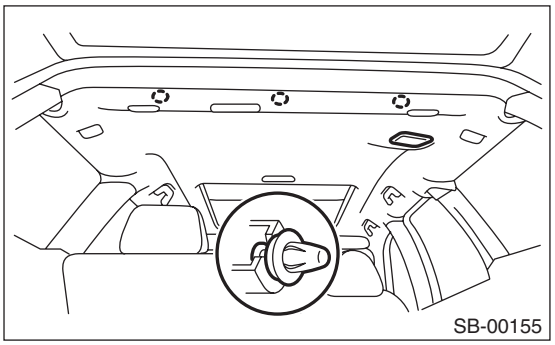
2. SHOULDER SEAT BELT CENTER ASSEMBLY

1) Remove the rear quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
2) Remove the cover (A) from roof trim, and then insert it to the inside of roof trim.

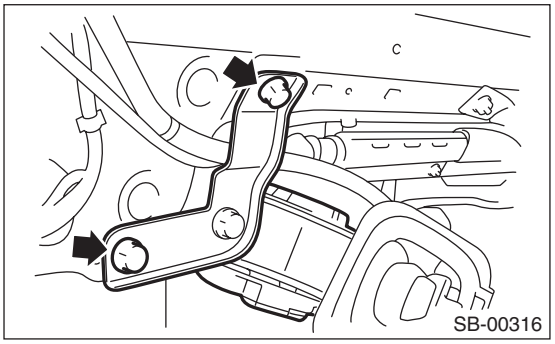


SB-00236

3) Remove the clips, and then lower the roof trim end.

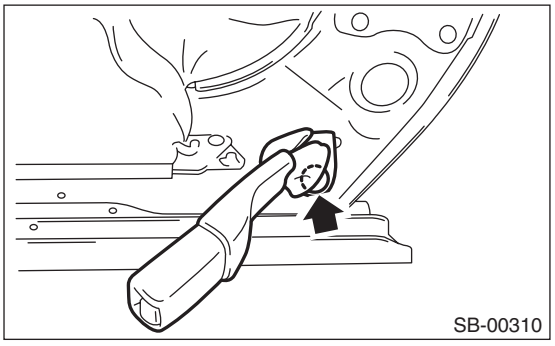

SB-00155

CAUTION:
When removing the roof trim clip, do not pull the roof trim end backward with excessive force, otherwise roof trim may be damaged.
4) Remove the bolt to remove the seat belt retractor.


SB-00316

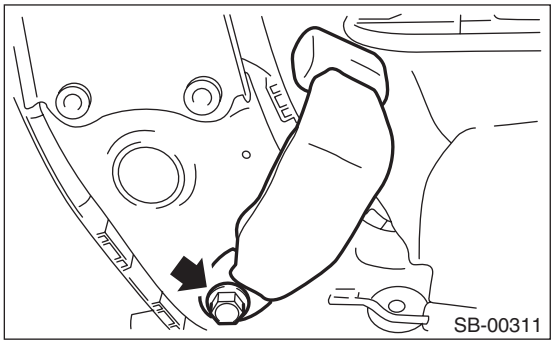
3. INNER SEAT BELT RH ASSEMBLY

1) Remove the RH second-row seat assembly. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the LH hinge outer cover.
3) Remove the bolt, and then detach the inner belt assembly.


SB-00310

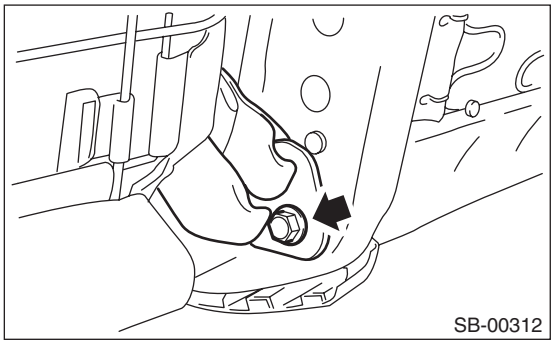
4. SHOULDER SEAT BELT CENTER BUCKLE

1) Remove the LH second-row seat assembly. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the RH hinge outer cover.
3) Remove the bolt, and then remove the shoulder seat belt center buckle.



5. INNER SEAT BELT LH ASSEMBLY

1) Remove the LH second-row seat assembly. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the bolt from the back of the seat cushion, and then detach the inner belt assembly.



B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
When installing, be careful of the routing of the seatbelt, and make sure that the belt is not twisted.

C: INSPECTION

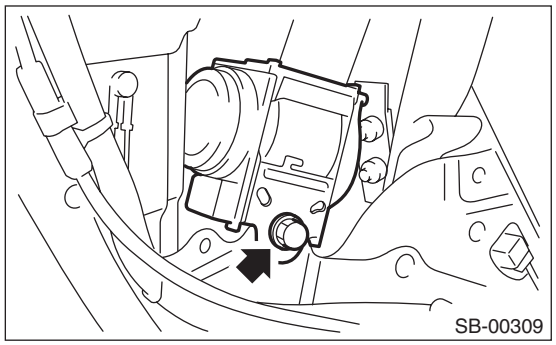
Check for the following, and replace with new parts if necessary.
- Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.
- Inner belt is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

7. Third Seat belt

A: REMOVAL

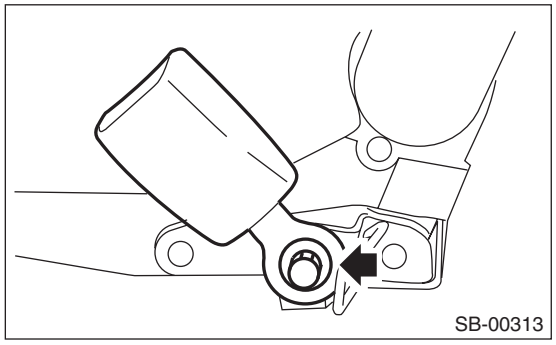
1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY

1) Remove the third-row seats. <Ref. to SE-19, REMOVAL, Third Seat.>
2) Remove the rear quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
3) Remove the bolts, and then detach the outer seat belt assembly.



2. INNER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY

1) Remove the third-row seats. <Ref. to SE-19, REMOVAL, Third Seat.>
2) Remove the bolt, and then detach the inner seat belt assembly.



B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
When installing, be careful of the routing of the seatbelt, and make sure that the belt is not twisted.

C: INSPECTION

Check for the following, and replace with new parts if necessary.

- Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.
- Inner seat belt assembly is deformed or damaged.
- Seat belt buckle cannot be engaged properly.

LIGHTING SYSTEM

LI

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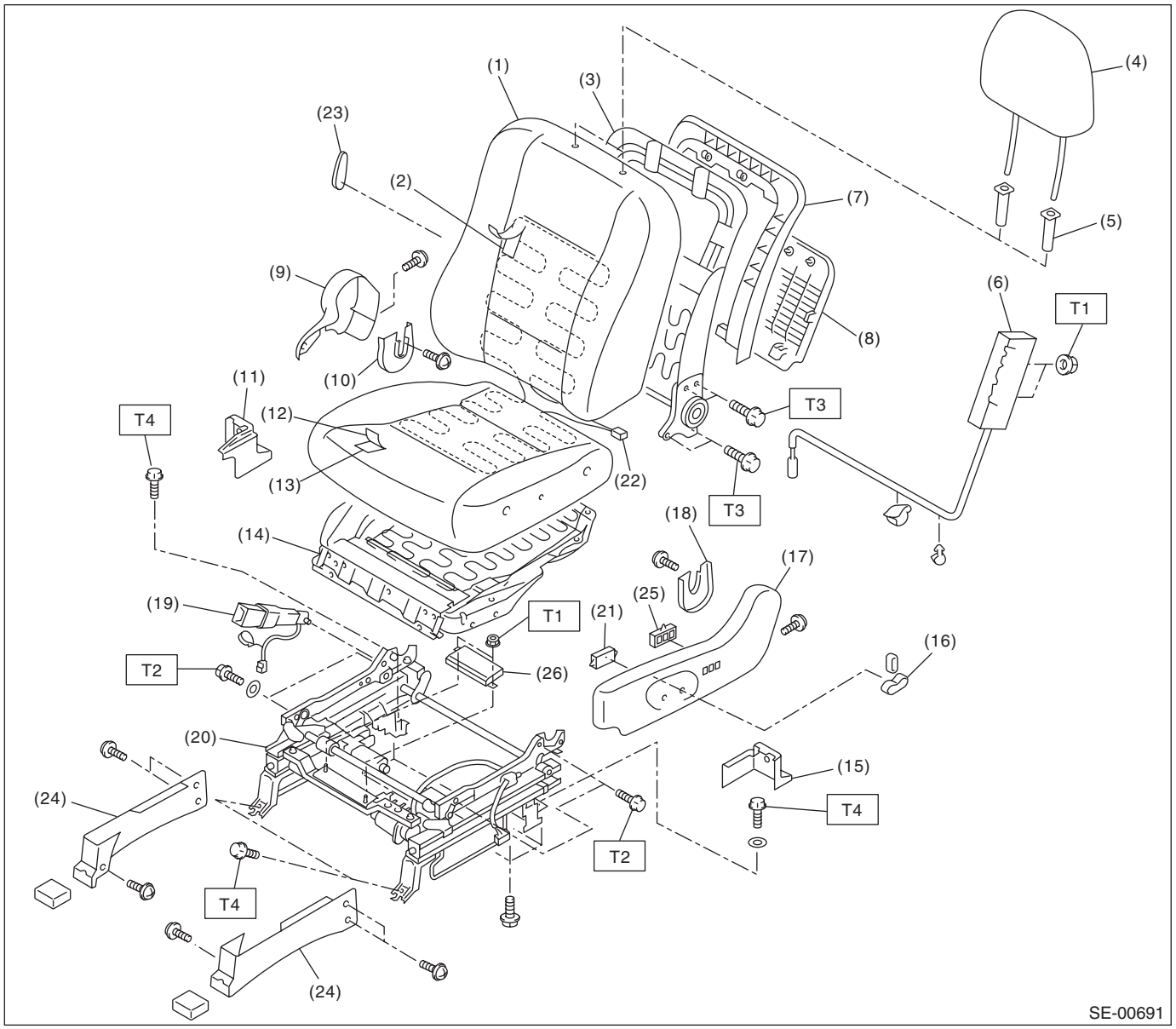
1. General Description

A: COMPONENT

1. FRONT SEAT (DRIVER'S SEAT)

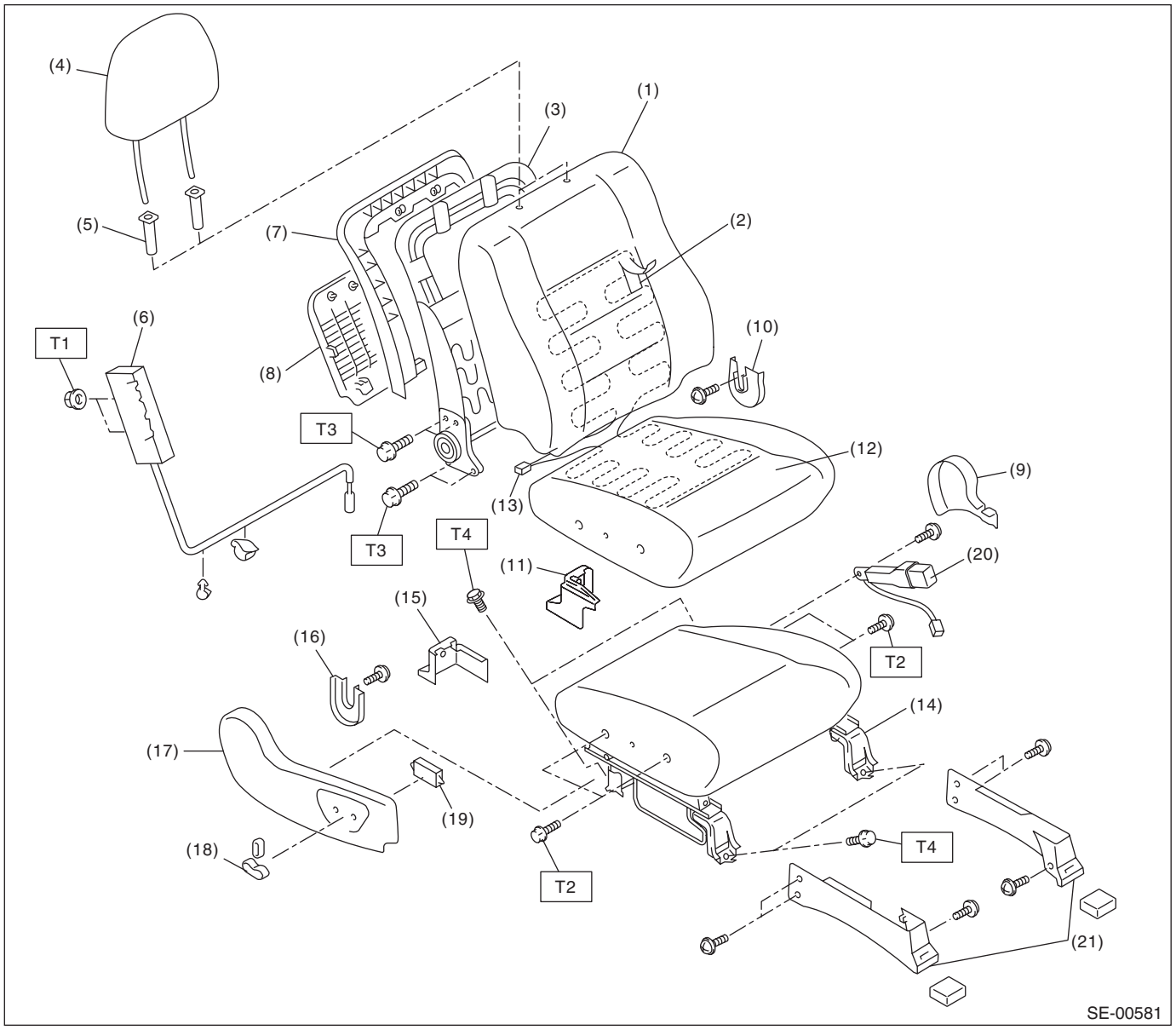


(1)	Backrest cover	(12)	Seat cushion cover	(23)	Lumber support lever
(2)	Backrest pad	(13)	Seat cushion pad	(24)	Slide rail cover
(3)	Backrest frame ASSY	(14)	Seat cushion frame ASSY	(25)	Memory switch (memory-equipped)
(4)	Headrest ASSY	(15)	Rear leg cover outside	(26)	Memory module (memory-equipped)
(5)	Headrest lock bushing	(16)	Power seat switch knob		
(6)	Side airbag module	(17)	Seat side cover outside		
(7)	Cover frame	(18)	Hinge inner cover LH		
(8)	Backrest back cover	(19)	Inner seat belt ASSY		
(9)	Seat side cover inside	(20)	Slide rail ASSY		
(10)	Hinge inner cover RH	(21)	Power seat switch unit		
(11)	Rear leg cover inside	(22)	Seat heater unit		

Tightening torque:N·m (kgf-m, ft-lb)

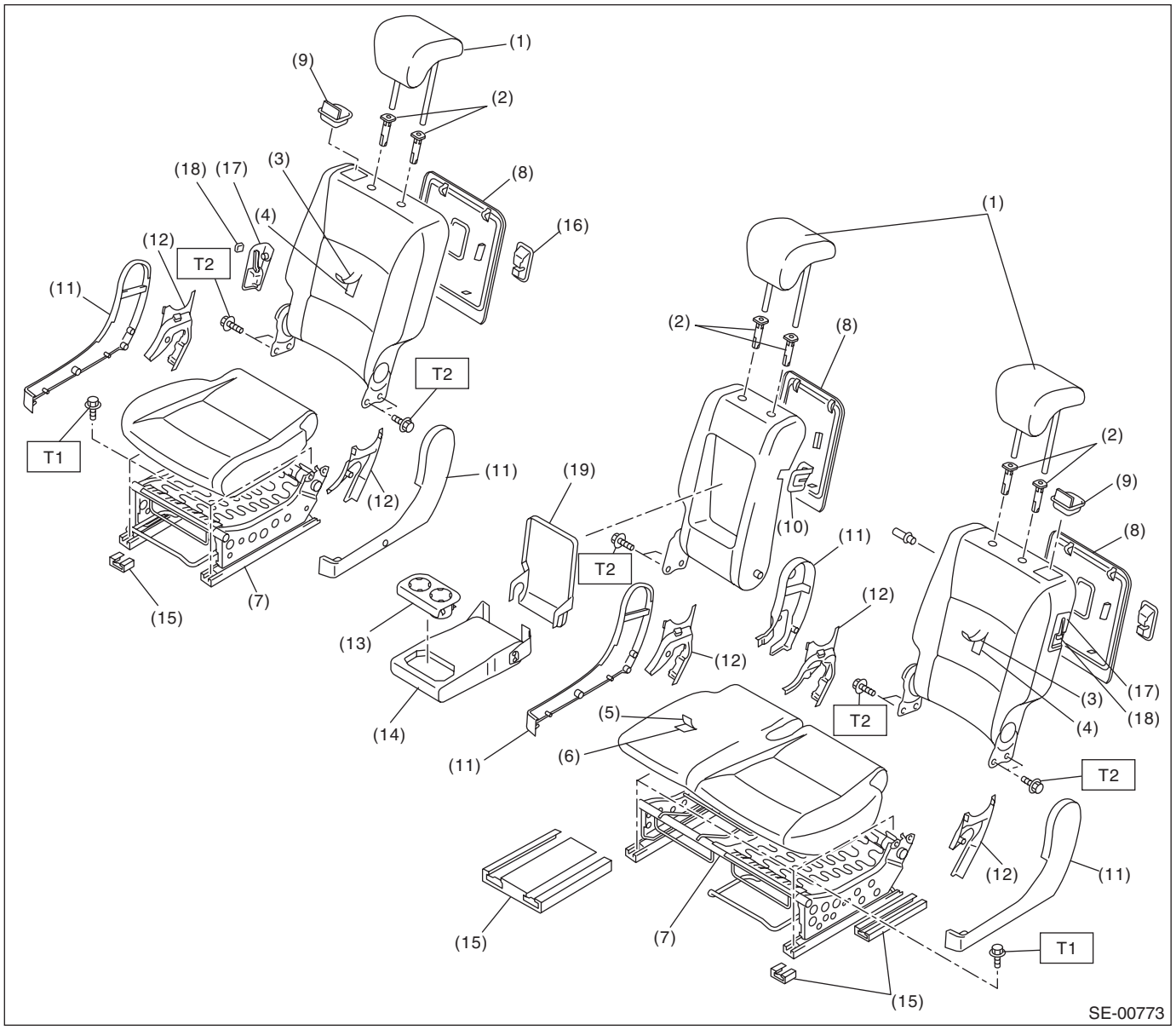
T1: 6 (0.61, 4.43)
T2: 17.6 (1.79, 12.7)
T3: 52 (5.30, 37.6)
T4: 53 (5.40, 38.3)

2. FRONT SEAT (PASSENGER'S SEAT)



(1)	Backrest cover	(10)	Hinge inner cover LH	(19)	Power seat switch unit
(2)	Backrest pad	(11)	Rear leg cover inside	(20)	Inner seat belt ASSY
(3)	Backrest frame ASSY	(12)	Seat cushion cover	(21)	Slide rail cover
(4)	Headrest ASSY	(13)	Seat heater unit		
(5)	Headrest lock bushing	(14)	Seat cushion pad and frame ASSY	***Tightening torque:N·m (kgf-m, ft-lb)***	
(6)	Side airbag module	(15)	Rear leg cover outside	***T1:***	***6 (0.61, 4.43)***
(7)	Cover frame	(16)	Hinge inner cover RH	***T2:***	***17.6 (1.79, 12.7)***
(8)	Backrest back cover	(17)	Seat side cover outside	***T3:***	***52 (5.30, 37.6)***
(9)	Seat side cover inside	(18)	Power seat switch knob	***T4:***	***53 (5.40, 38.3)***

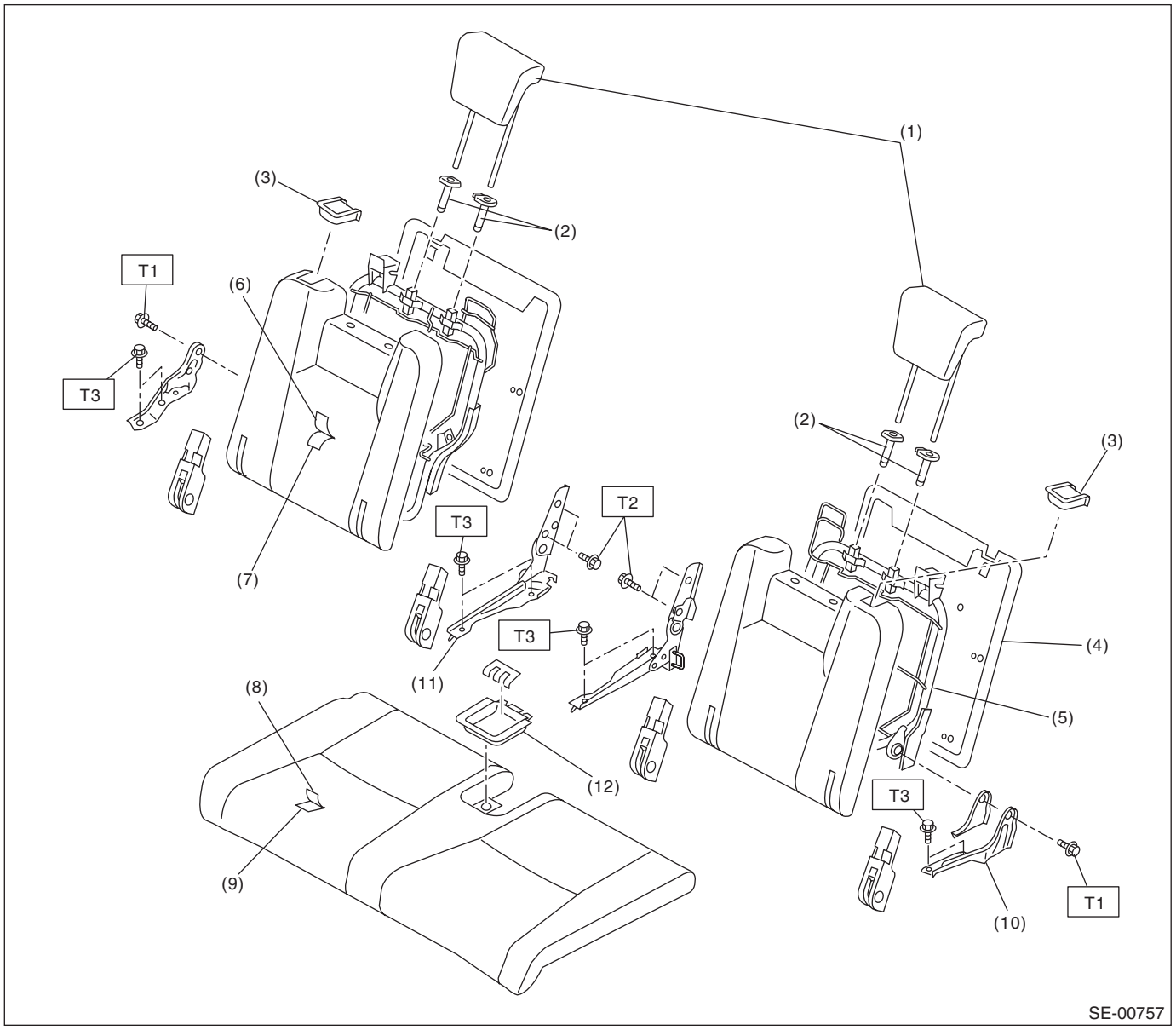
3. SECOND-ROW SEATS



(1) Headrest
(2) Headrest lock bushing
(3) Backrest cover
(4) Backrest pad
(5) Seat cushion cover
(6) Seat cushion pad
(7) Slide rail ASSY
(8) Backrest back cover
(9) Holder
(10) Seat backrest latch cover
(11) Hinge outer cover
(12) Hinge inner cover
(13) Cup holder
(14) Armrest
(15) Slide rail cover
(16) Tether anchor cover
(17) Walk-in lever cover
(18) Walk-in knob
(19) Arm rest board

Tightening torque:N·m (kgf-m, ft-lb)
T1: 40 (4.08, 28.9)
T2: 52 (5.30, 37.6)

4. THIRD-ROW SEATS



(1) Headrest
(2) Headrest lock bushing
(3) Hinge lever ASSY
(4) Backrest back cover
(5) Backrest frame
(6) Backrest cover
(7) Backrest pad
(8) Seat cushion cover
(9) Seat cushion pad
(10) Hinge plate
(11) Inner hinge ASSY
(12) Buckle holder

Tightening torque:N·m (kgf-m, ft-lb)
T1: 10 (1.01, 7.23)
T2: 52 (5.30, 37.6)
T3: 53 (5.40 38.3)

B: CAUTION

• If the seat cushion cover is removed or replaced, make sure to perform occupant detection system adjustment after installing the seat to the vehicle. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
Failure to do so may cause improper operation of the occupant detection system.
• The occupant detection system (passenger seat only) control unit and the occupant detection sensor are fixed to the seat cushion frame. Never remove the occupant detection control unit or the pressure sensor from the seat cushion frame.
• 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.
• If the seat cushion cover is removed, make sure to replace the wire on the seat cushion side with a new wire.
• When removing the front seat from a side airbag loaded vehicle, follow cautions given in the airbag section. <Ref. to AB-4, CAUTION, General Description.>

C: NOTE

When removing the front seat of memory-equipped power seats, always perform the initialize operation on the memory function after installing the seat to the vehicle. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
Failure to do so may cause the abnormal operation of the memory function.

D: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Long nose plier	Used for removing the hog ring.
Hog ring pliers	Used for installing the hog ring.
Circuit tester	Used for checking power seat and seat heater.
TORX® T50	Used for removing/installing inner seat belt assembly and removing/installing/disassembling second-row seats.

2. Front Seat

A: REMOVAL

CAUTION:
The airbag system is fitted with a backup power source. After disconnecting the battery ground cable, the airbag may deploy if you do not wait for 20 seconds before starting the service of airbag system.

NOTE:
When removing the front seat of memory-equipped power seats, always perform the initialize operation on the memory function after installing the seat to the vehicle. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
Failure to do so may cause the abnormal operation of the memory function.

1. DRIVER'S SEAT

1) Remove the headrest.
2) Tilt the backrest forward, and move the seat forward.
3) Remove the rear leg cover, and remove the two bolts at the rear side of slide rail.
4) Move the seat backward, remove the front leg cover, and then remove the 2 bolts at the front side of the slide rail.
5) Disconnect the ground cable from battery, and wait for more than 20 seconds before starting work.
6) Disconnect the connector under the seat.
- Seat belt buckle switch connector
- Seat position sensor connector
- Side airbag connector
- Seat heater connector
- Power seat connector

7) Remove the seat from vehicle.

2. PASSENGER'S SEAT

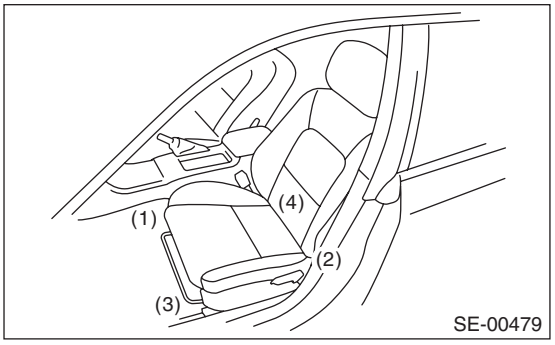
CAUTION:
Refer to "CAUTION" of "General Description" before starting the work. <Ref. to SE-6, CAUTION, General Description.>
1) Remove the headrest.
2) Tilt the backrest forward, and move the seat forward.
3) Remove the rear leg cover, and remove the bolt at the rear side of the slide rail.
4) Move the seat backward, remove the front leg cover, and then remove the bolt at the front side of the slide rail.
5) Disconnect the ground cable from battery, and wait for more than 20 seconds before starting work.
6) Disconnect all the connectors of connector holder in the backside of seat cushion.
- Harness connector of occupant detection control module
- Side airbag connector
- Power seat connector
- Seat heater connector

7) Remove the seat from vehicle.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Tighten the slide rail installing bolt gradually in several steps to the specified torque in the order as shown in the figure.



CAUTION:
After installing the driver's seat, use the Subaru Select Monitor to confirm that the seat position sensor LH is operating properly. <Ref. to AB(diag)-31, DISPLAY OF STATUS INFORMATION, OPERATION, Subaru Select Monitor.>

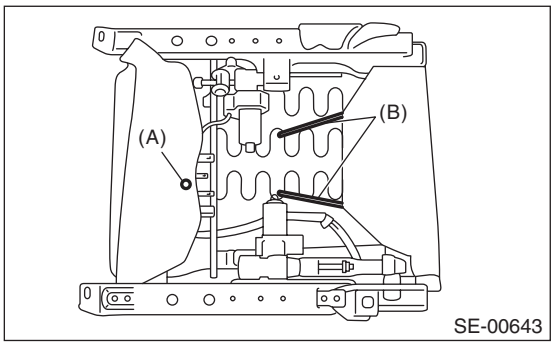
NOTE:
When removing the front seat of memory-equipped power seats, always perform the initialize operation on the memory function after installing the seat to the vehicle. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
Failure to do so may cause the abnormal operation of the memory function.

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

C: DISASSEMBLY

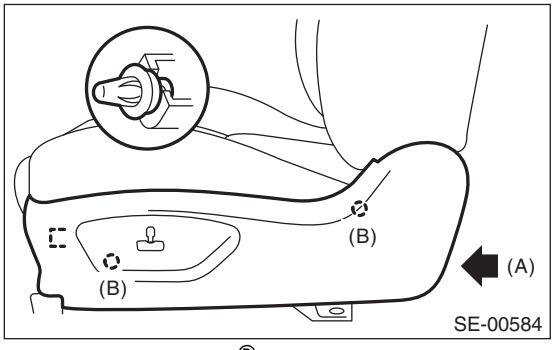
1. DRIVER'S SEAT

1) Remove the seat from vehicle. <Ref. to SE-7, DRIVER'S SEAT, REMOVAL, Front Seat.>
2) Remove the clip (A) and straps (B) on the back of seat cushion.

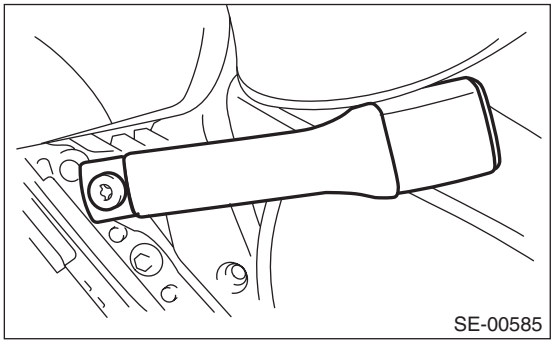


3) Disconnect the following connectors from the backside of seat cushion.
- Side airbag
- Seat position sensor
- Seat heater
- Power seat
- Seat belt

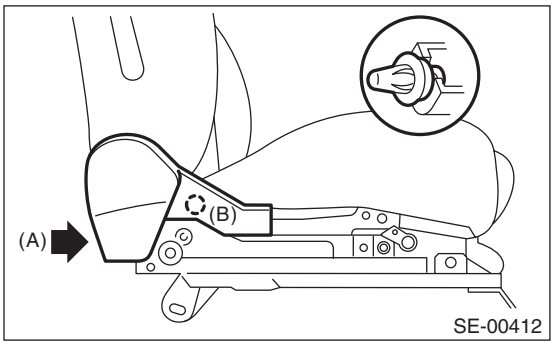
4) Remove the screw (A) and clips (B), and then disconnect the seat switch connector to remove seat side cover outside.



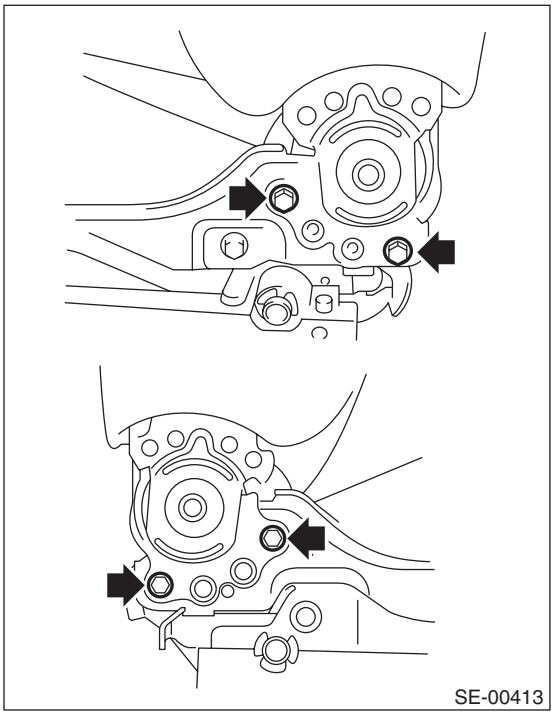
5) Remove the TORX® bolt, and then remove the inner seat belt assembly.



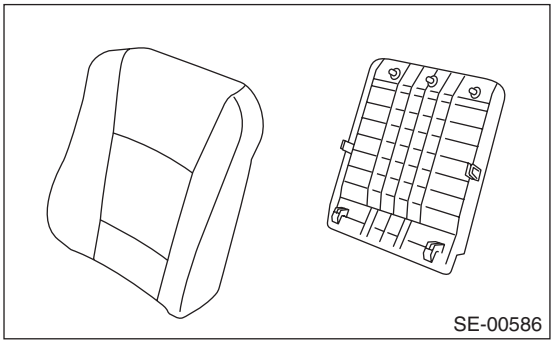
6) Remove the screw (A) and clip (B), and then remove the seat side cover inside.



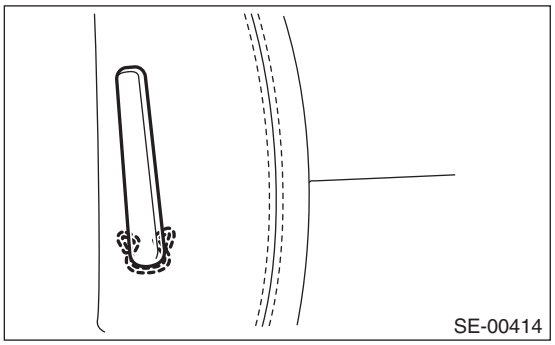
7) Remove the two bolts from the reclining hinge on each left and right side.



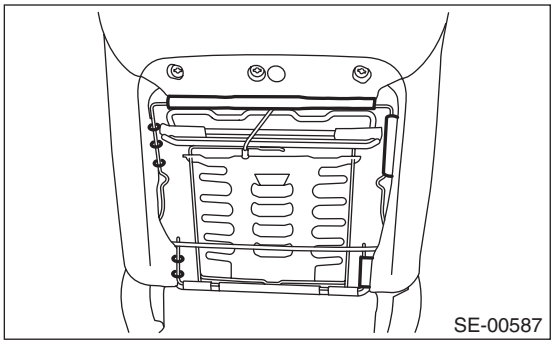
8) Remove the clips and hooks, and then detach the backrest back cover.



9) Remove the lock clip, and then remove the lumber support lever.

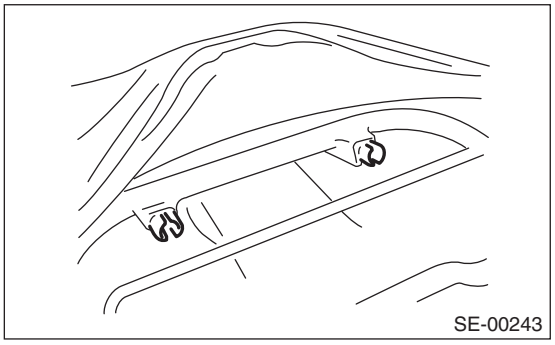


10) Remove the hooks and hog rings at the rear side of backrest.

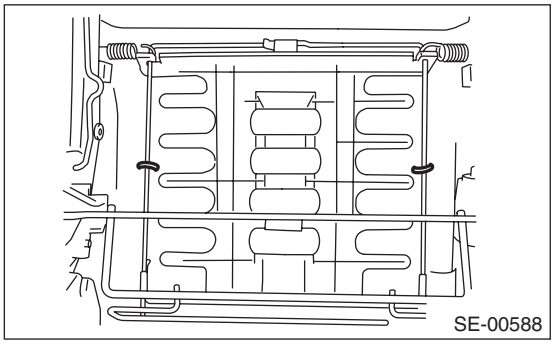


11) Remove the headrest lock bushing.

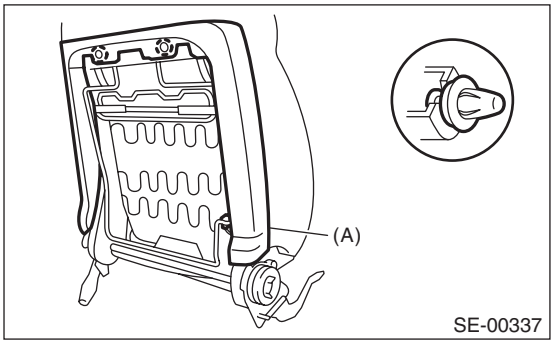
NOTE:
Push outside to remove it from the inside of seat.



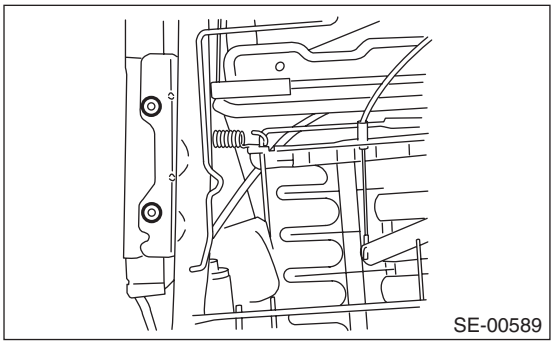
12) Remove the hog rings.



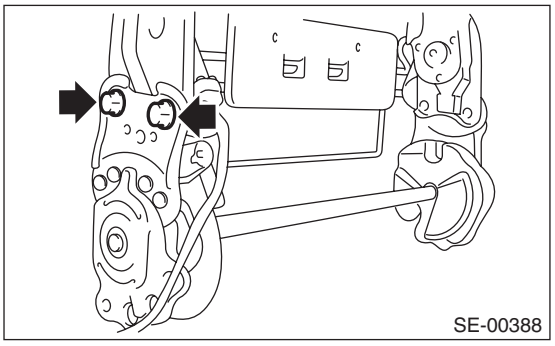
13) Remove the cover frame (A).



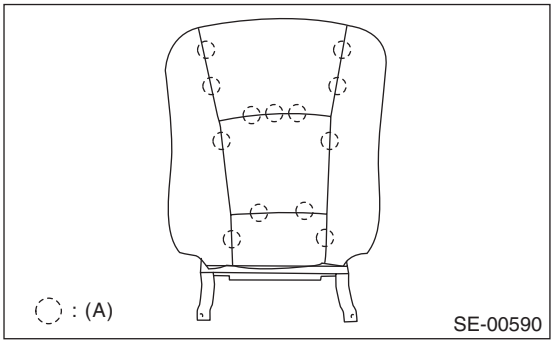
14) Pull out the backrest frame assembly.
15) Remove the side airbag module.



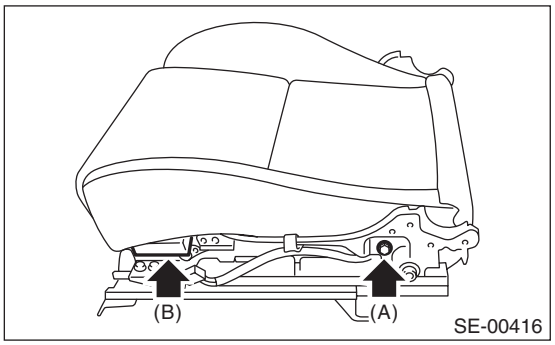
16) Remove the two bolts on each left and right side, and then remove the reclining motor assembly.



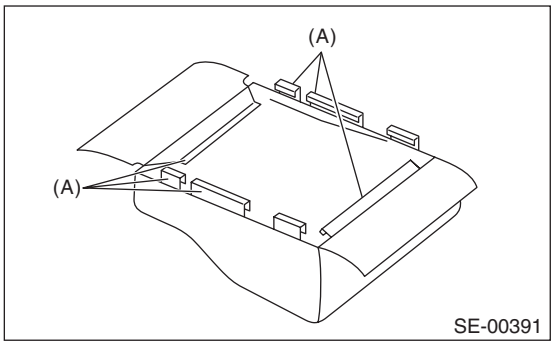
17) Remove the hog rings (A) on the surface side of backrest, and then remove the backrest cover from backrest.



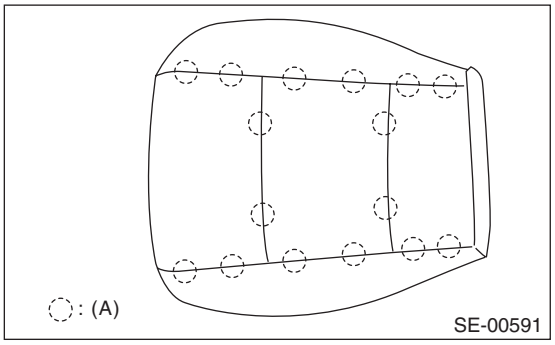
18) Remove the bolt (A) and hook (B) on left and right side, and then remove the seat cushion frame from seat rail assembly.



19) Remove the hooks (A), and then remove the seat cushion from seat cushion frame.



20) Remove the hog rings (A), and then remove the seat cushion cover from seat cushion pad.



2. PASSENGER'S SEAT

CAUTION:

• If the seat cushion cover is removed or replaced, make sure to perform occupant detection system adjustment after installing the seat to the vehicle. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>

Failure to do so may cause improper activation of passenger's airbag.

• The occupant detection system (passenger seat only) control unit, occupant detection sensor, seat cushion pad and seat cushion frame are considered as a single seat cushion pad and frame assembly. Never remove the occupant detection control unit or the pressure sensor from the seat cushion frame.

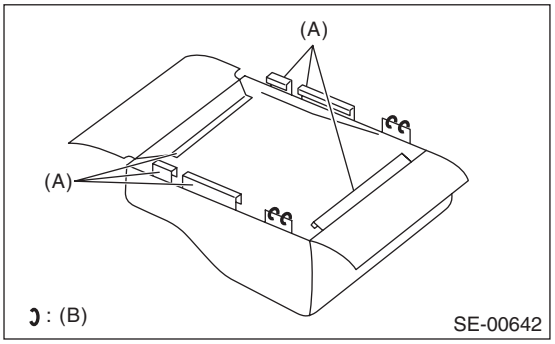
• If the seat cushion cover is removed, make sure to replace the wire on the seat cushion side with a new wire.

1) Remove the seat from vehicle. <Ref. to SE-7, PASSENGER'S SEAT, REMOVAL, Front Seat.>

2) Refer to the disassembly procedures for the driver's seat.

NOTE:

The back side of the seat cushion is affixed by a hook (A) and hog ring (B).

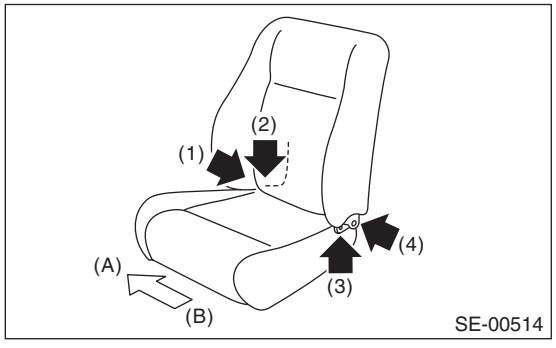


D: ASSEMBLY

CAUTION:
When the backrest cover is not installed securely, the side airbag module may not be deployed properly, therefore keep strictly to the following procedure.
• Be careful not to stain or damage the backrest cover during assembly.
• The back rest cover of the side airbag module are to be tightened and fixed together with the attachment nuts for the side airbag module assembly.
• Always use new hog rings.
• Secure the hog ring using hog ring pliers.
• Install the hog rings to the specified points securely and make sure that no wrinkle or twisting on backrest cover.

1. DRIVER'S SEAT

NOTE:
• When installing the inner seat belt assembly, follow the procedure described in the seat belt section. <Ref. to SB-14, INNER SEAT BELT ASSEMBLY, 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 the order of (1) through (4), in two or three steps by gradually increasing the torque until they reach the specified torque.

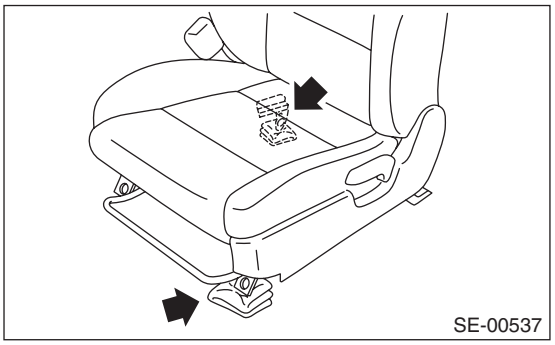


(A) Vehicle inside
(B) Vehicle outside

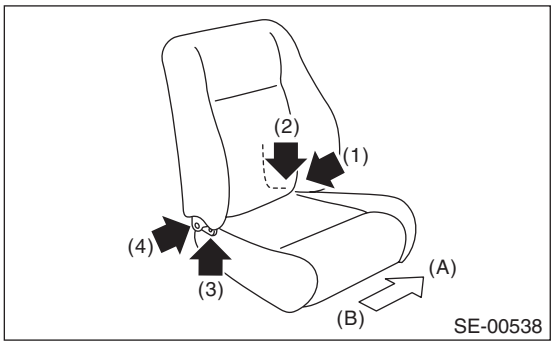
4) Assemble in the reverse order of disassembly.

2. PASSENGER'S SEAT

CAUTION:
Make sure to adhere to the following rules when assembling the passenger seat. Improper work procedures can cause the occupant detection system to not operate properly.
• If the seat cushion cover is removed or replaced, make sure to perform occupant detection system adjustment after installing the seat to the vehicle. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
Failure to do so may cause improper activation of passenger's airbag.
• The occupant detection system (passenger seat only) control unit, occupant detection sensor, seat cushion pad and seat cushion frame are considered as a single seat cushion pad and frame assembly. Never remove the occupant detection control unit or the pressure sensor from the seat cushion frame.
• If the seat cushion cover is removed, make sure to replace the wire on the seat cushion side with a new wire.
• Make sure to install the hog rings/clips to the specified locations. Do not reuse hog rings.
Assemble in the reverse order of disassembly.
1) Assemble the seat cushion in the reverse order of disassembly.
2) Assemble the backrest in the reverse order of disassembly.
3) When assembling the backrest assembly to the seat cushion assembly, fill up the gap in the front side of slide rail LH and in the rear side of slide rail RH using cloth etc.



4) Temporarily tighten the reclining hinge bolts in the order of (1) through (4), to an extent that the seat backrest assembly is not locked.



(A) Vehicle inside
(B) Vehicle outside

5) Hold the seat cushion assembly securely, and tighten the reclining hinge bolts in the order described above until they reach the specified torque.

CAUTION:
Do not touch the backrest assembly when tightening the reclining hinge bolts.

6) Assemble each harness, inner belt assembly and each cover in the reverse order of removal.

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

E: INSPECTION

Check that there is no tear or fray on the backrest cover and seat cushion cover.

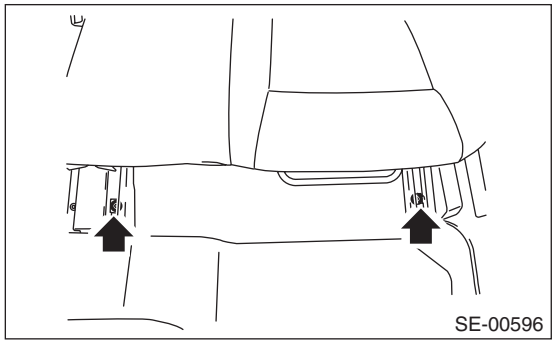
CAUTION:
If there are tears or looseness in the back rest cover or seat cushion covers, do not attempt to repair. Replace with a new cover. Repairing the cover may cause improper operation of the side airbag or the occupant detection system.

3. Second Seat

A: REMOVAL

1. LH&CTR SEAT

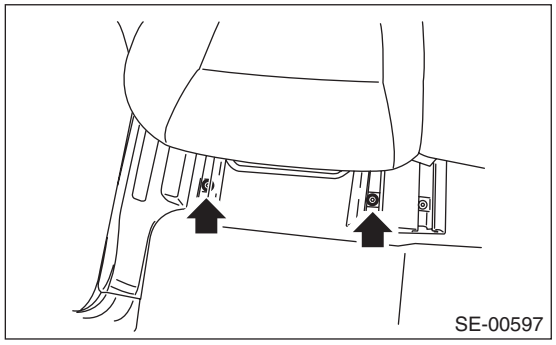
1) Tilt the backrest forward, and move the seat forward.
2) Remove the slide rail cover at the seat rear side, and remove the two bolts.
3) Move the seat to the rear end.
4) Remove the slide rail cover at the seat front side, and remove the two bolts.


SE-00596

5) Remove the seat from vehicle.

2. RH SEAT

1) Tilt the backrest forward, and move the seat forward.
2) Remove the slide rail cover at the seat rear side, and remove the two bolts.
3) Move the seat to the rear end.
4) Remove the slide rail cover at the seat front side, and remove the two bolts.


SE-00597

5) Remove the seat from vehicle.

B: INSTALLATION

Install in the reverse order of removal.

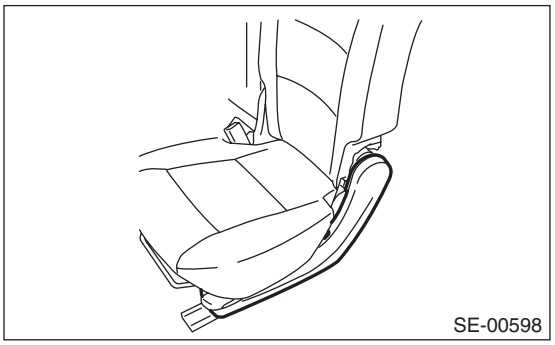
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, COMPONENT, General Description.>

NOTE:
Tighten the slide rail bolts diagonally in two or three steps by gradually increasing the torque, until they reach the specified torque.

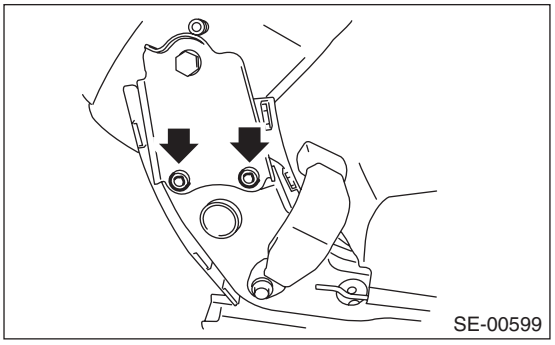
C: DISASSEMBLY

1. LH SEAT

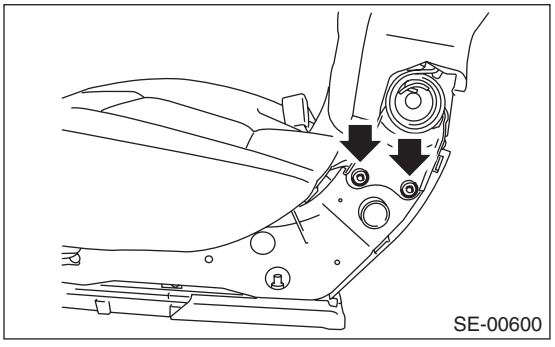
1) Remove the seat from vehicle. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the headrest.
3) Remove the hinge outer cover.


SE-00598

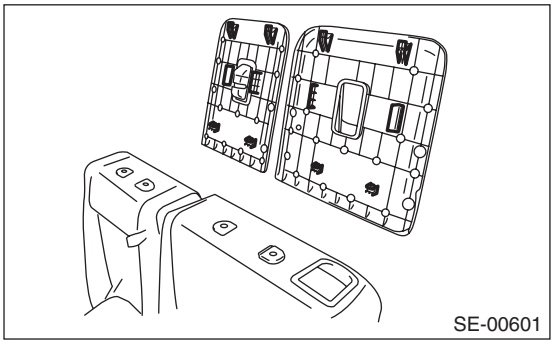
4) Remove the two reclining hinge bolts of 2nd seat CTR, then remove the seat backrest.


SE-00599

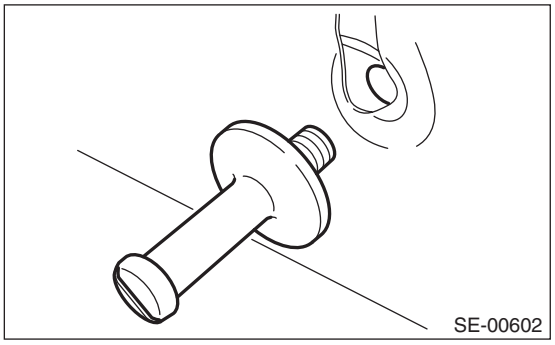
5) Remove the two reclining hinge bolts of 2nd seat LH on each of the left and right sides, then remove the seat backrest.


SE-00600

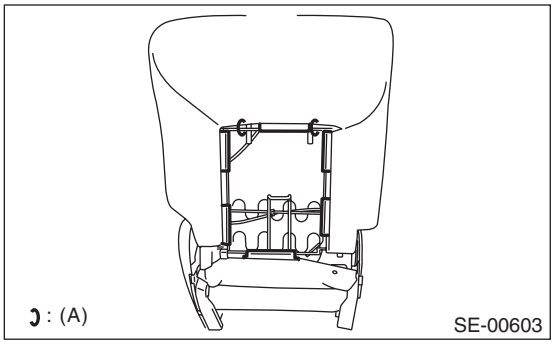
6) Remove the backrest back cover.


SE-00601

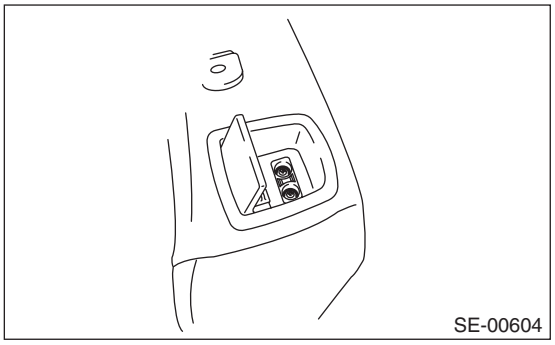
7) Remove the stopper.



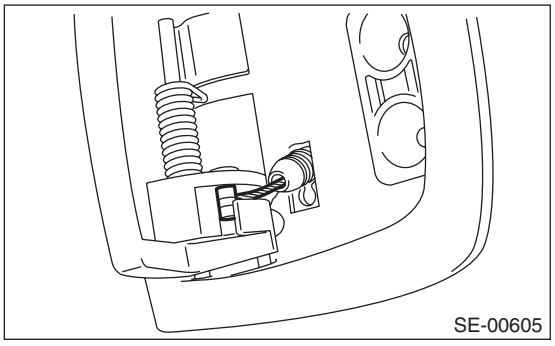
8) Remove the hog rings (A) and hooks at the rear face of the backrest.



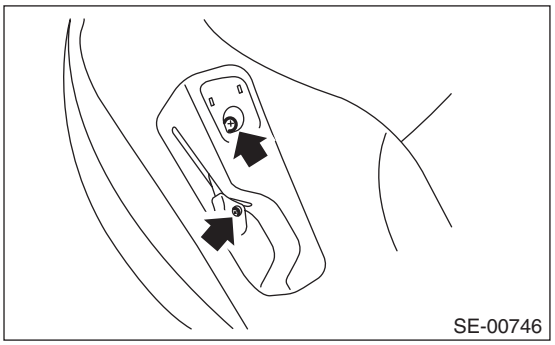
9) Remove the two screws securing the reclining lever.



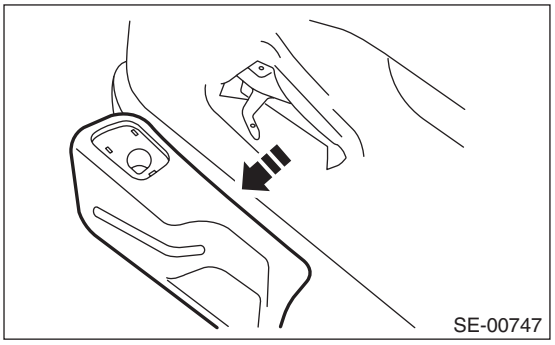
10) Disconnect the wire connected to the reclining lever, then remove the reclining lever.



11) Remove the screws securing the walk-in knob and walk-in lever cover.



12) Remove the walk-in knob and walk-in lever cover.

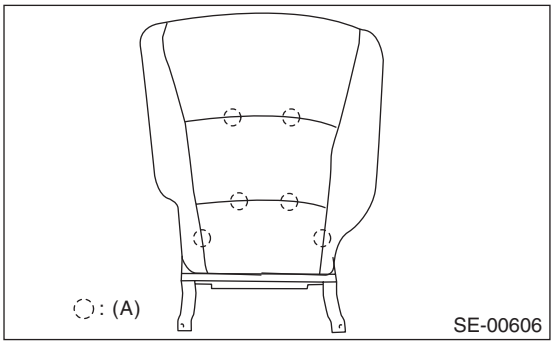


13) Remove the headrest lock bushing.

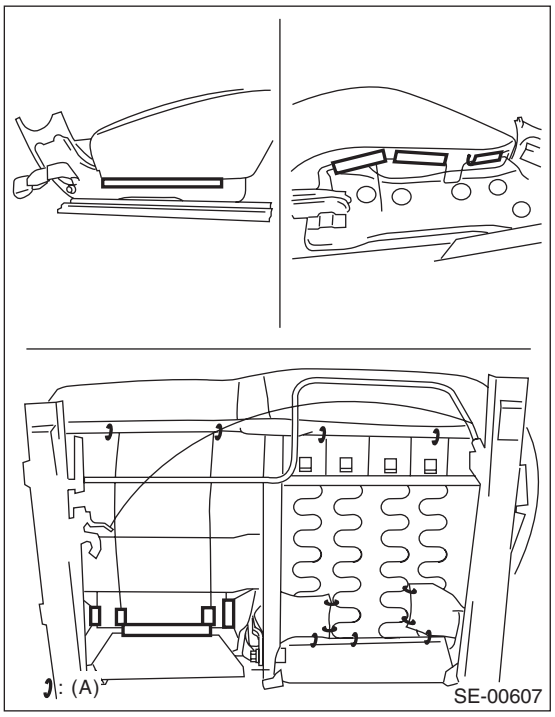
NOTE:
Push outward from inside of the seat to remove.

14) Pull out the frame from the backrest.

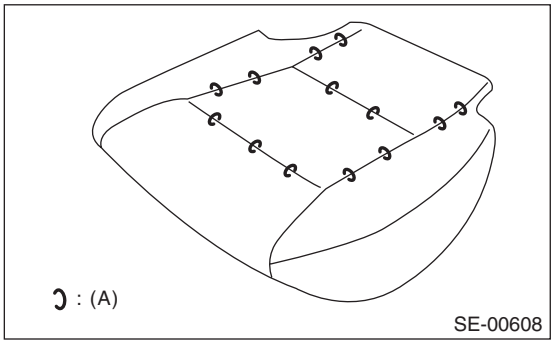
15) Remove the hog rings (A) of backrest, and then remove the backrest cover from backrest.



16) Remove the hooks and hog rings (A) from the rear side of seat cushion.

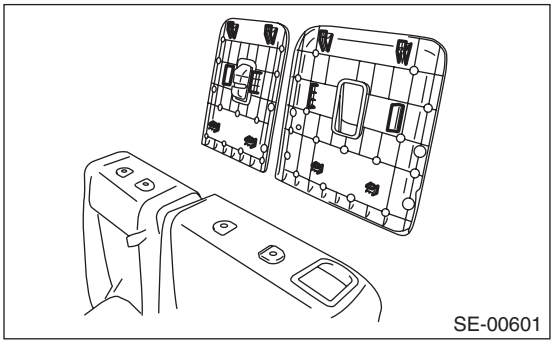


17) Remove the seat cushion from the slide rail assembly.
18) Remove the seat cushion hog rings (A), and then remove the seat cushion cover from seat cushion.

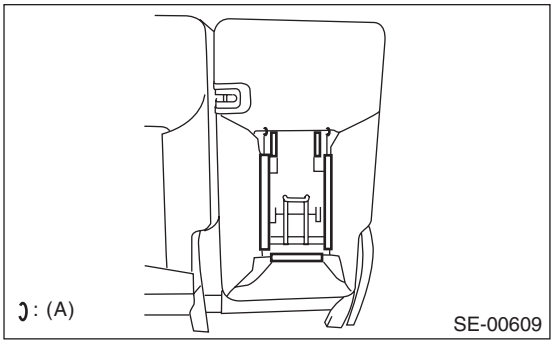


2. CTR SEAT

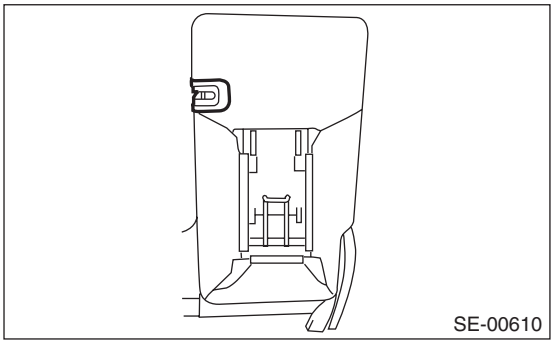
1) Remove the seat from vehicle. <Ref. to SE-13, LH&CTR SEAT, REMOVAL, Second Seat.>
2) Remove the hinge outer cover.
3) Remove the two reclining hinge bolts of 2nd seat CTR, then remove the seat backrest.
4) Remove the backrest back cover.



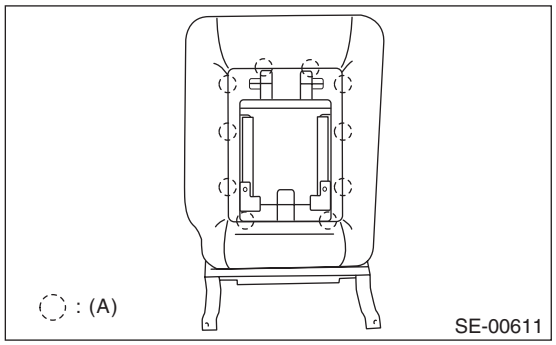
5) Remove the hooks and hog rings (A) at the rear side of backrest.



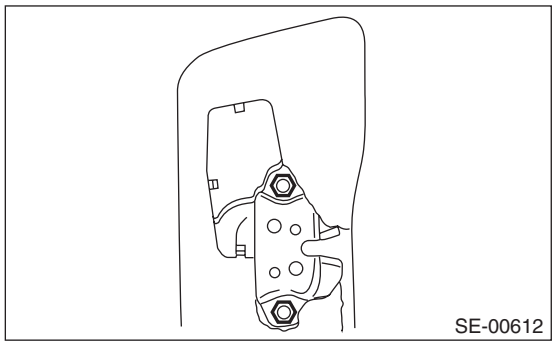
6) Remove the nut, then remove the armrest and arm rest rear board.
7) Remove the four screws securing the arm rest.
8) Remove the nut, then remove the armrest rear board and arm rest.
9) Remove the seat backrest latch cover.



10) Remove the hog rings (A) on the front face of the backrest, and then remove the backrest cover from the backrest.

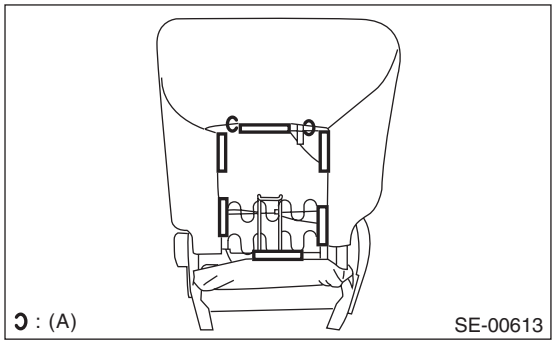


11) Remove the two bolts securing the seat backrest latch, then remove the seat backrest latch.

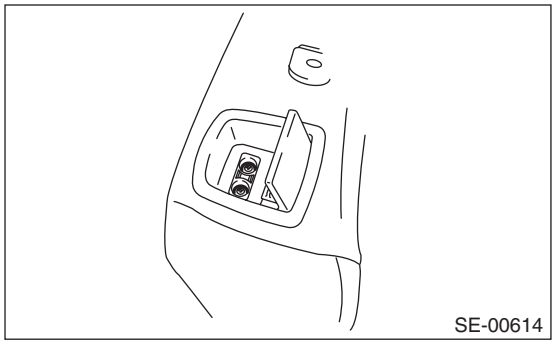


3. RH SEAT

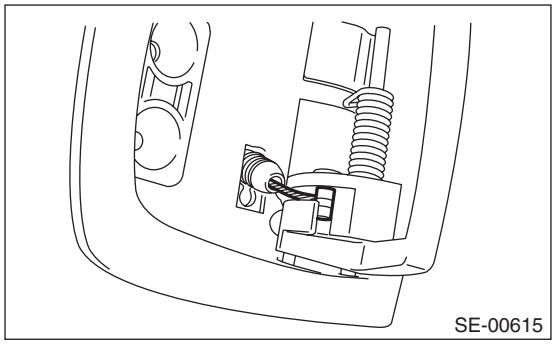
1) Remove the seat from vehicle. <Ref. to SE-13, RH SEAT, REMOVAL, Second Seat.>
2) Remove the headrest.
3) Remove the hinge outer cover.
4) Remove the backrest back cover.
5) Remove the hog rings (A) and hooks at the rear face of the backrest.



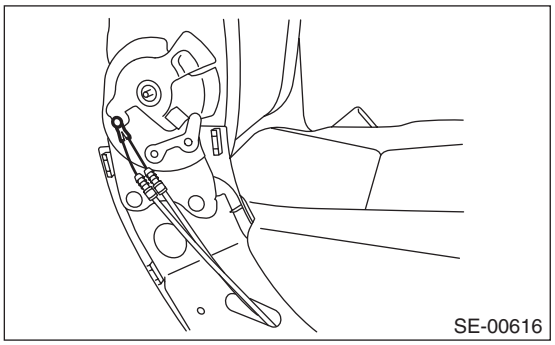
6) Remove the two screws securing the reclining lever.



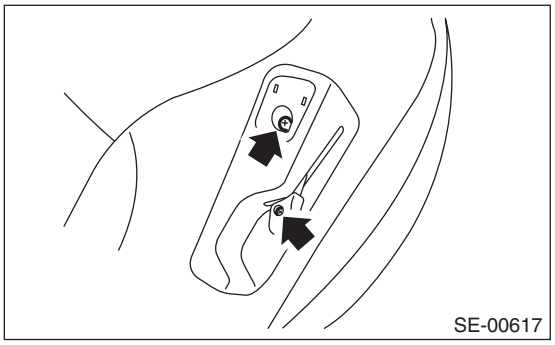
7) Disconnect the wire connected to the reclining lever, then remove the reclining lever.



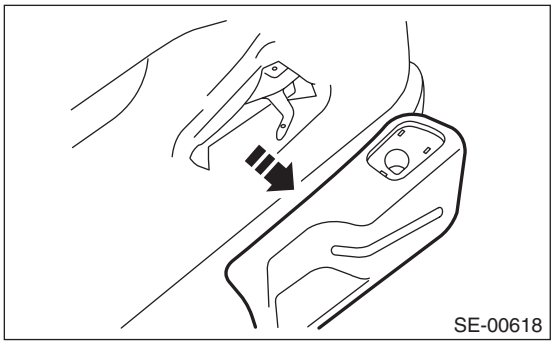
8) Disconnect the wire connected to the reclining hinge.



9) Remove the four reclining hinge bolts of 2nd seat RH, then remove the seat backrest.
10) Remove the two screws securing the walk-in knob and walk-in lever cover.



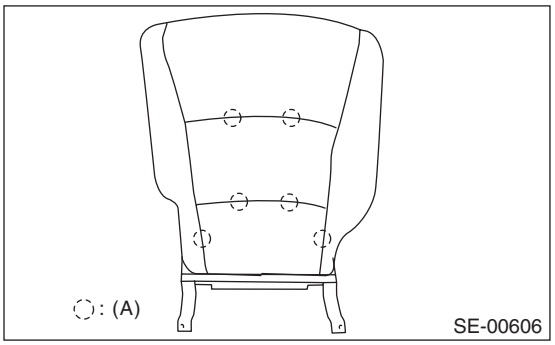
11) Remove the walk-in knob and walk-in lever cover.



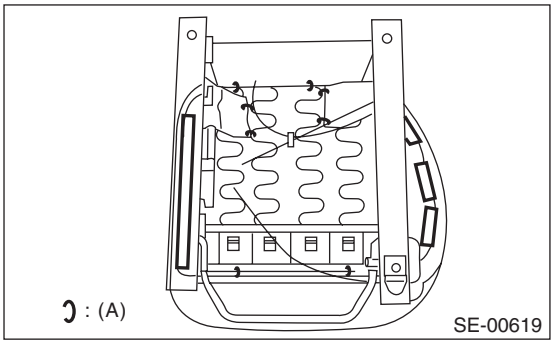
12) Remove the headrest lock bushing.

NOTE:
Push outward from inside of the seat to remove.
13) Pull out the frame from the backrest.

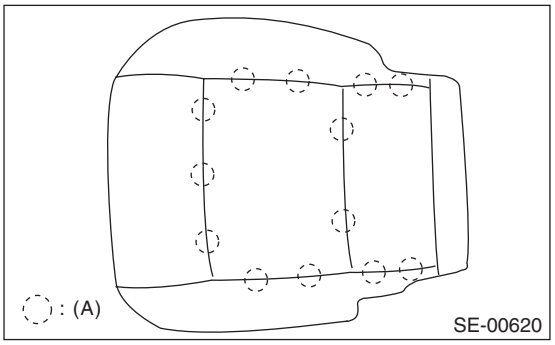
14) Remove the hog rings (A) of backrest, and then remove the backrest cover from backrest.



15) Remove the hooks and hog rings (A) from the rear side of seat cushion.



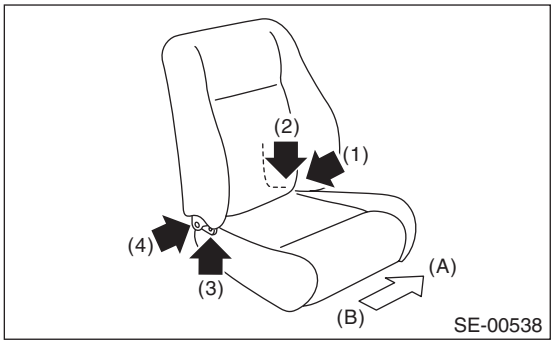
16) Remove the seat cushion from the slide rail assembly.
17) Remove the seat cushion hog rings (A), and then remove the seat cushion cover from seat cushion.



D: ASSEMBLY

CAUTION:
• Be careful not to stain or damage the backrest cover during assembly.
• Always use new hog rings.
• Secure the hog ring using hog ring pliers.
• Install the hog rings to the specified points securely and make sure that no wrinkle or twisting on backrest cover.

Assemble in the reverse order of disassembly.
1) Assemble the seat cushion in the reverse order of disassembly.
2) Assemble the backrest in the reverse order of disassembly.
3) Temporarily tighten the reclining hinge bolts in the order of (1) through (4), to an extent that the seat backrest assembly is not locked.



(A) Vehicle inside
(B) Vehicle outside

4) Use the reclining lever to place the backrest in the most upright position, and check the first lock position of recliner.
5) Hold the seat cushion assembly securely, and tighten the reclining hinge bolts in the order described above until they reach the specified torque.

CAUTION:
Do not touch the backrest assembly when tightening the reclining hinge bolts.

6) Assemble each harness, inner belt assembly and each cover in the reverse order of removal.

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

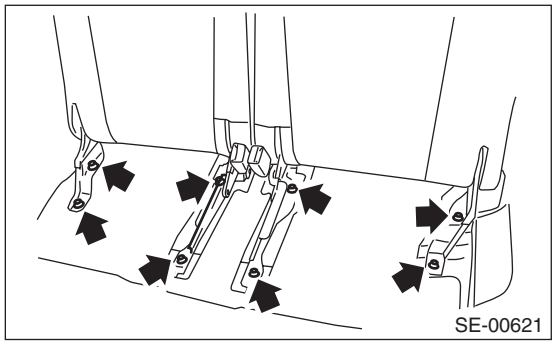
E: INSPECTION

Check that there is no tear or fray on the seat cover.

4. Third Seat

A: REMOVAL

1) Lift up the front side of the 3rd seat cushion and then remove the hooks.
2) Lift up the 3rd seat cushion and remove the seat cushion by pushing it backward to detach the hook.
3) Remove the eight bolts securing the 3rd seat backrest.


SE-00621

4) Remove the 3rd seat.

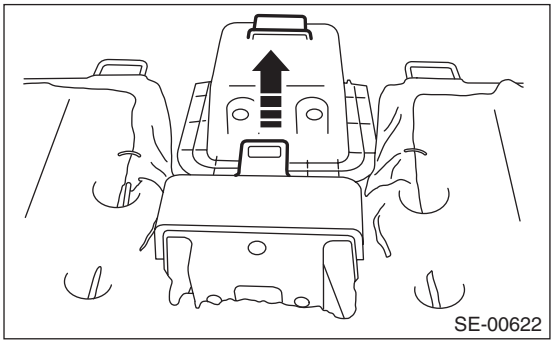
B: INSTALLATION

Install in the reverse order of removal.

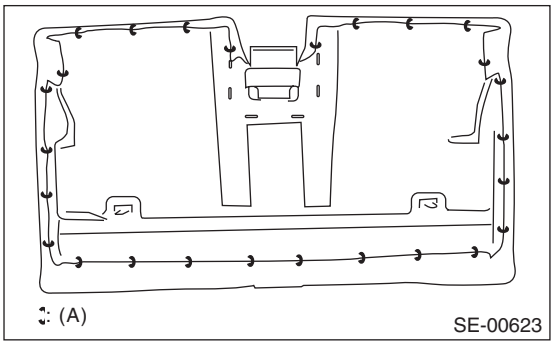
Tightening torque:
Refer to "COMPONENT" of "General Description". <Ref. to SE-2, COMPONENT, General Description.>

C: DISASSEMBLY

1) Remove the 3rd seat. <Ref. to SE-19, REMOVAL, Third Seat.>
2) Remove the headrest.
3) Pull out the seat belt tray.

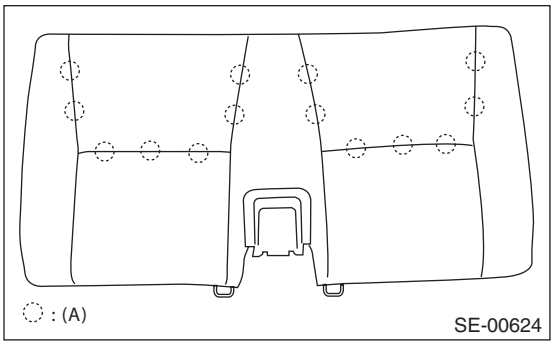

SE-00622

4) Remove the hog rings (A) on the rear side of seat cushion.



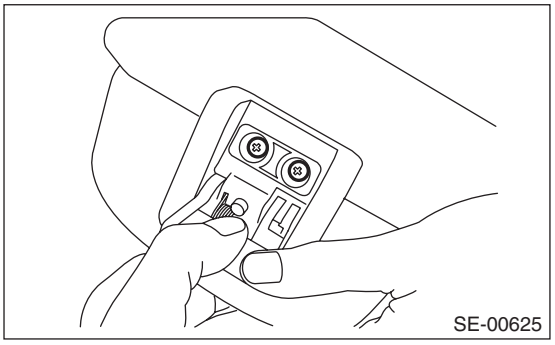
SE-00623

5) Remove the hog rings (A) on the front side of seat cushion.

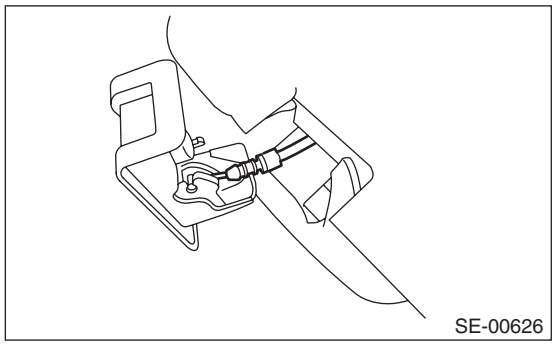


SE-00624

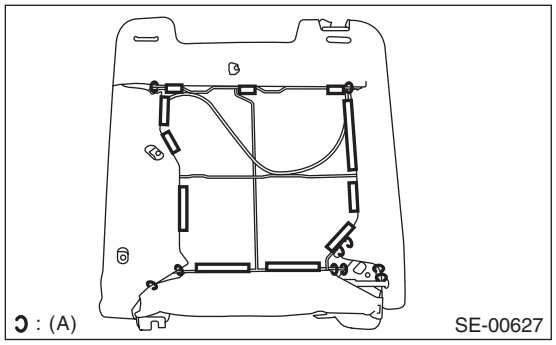
6) Remove the two screws securing the hinge lever assembly.


SE-00625

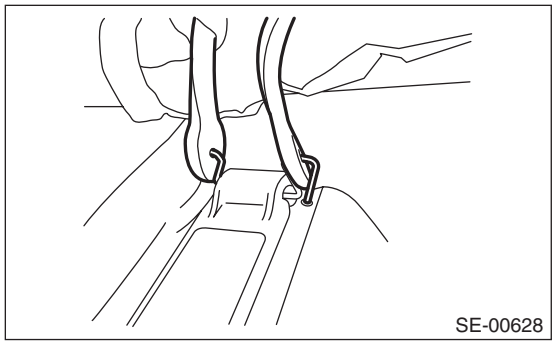
7) Disconnect the wire connected to the hinge lever assembly.



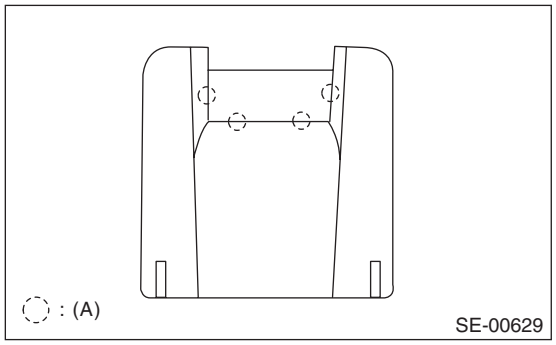
8) Remove the seat backrest cover.
9) Remove the hog rings (A) and hooks at the rear face of the backrest.



10) Remove the hooks which secure the seat backrest to the frame.



11) Remove the hog rings on the rear side of seat backrest.



12) Remove the seat backrest cover.
13) Pull out the frame from the seat backrest cushion.

D: ASSEMBLY

CAUTION:
• Be careful not to stain or damage the backrest cover during assembly.
• Always use new hog rings.
• Secure the hog ring using hog ring pliers.
• Install the hog rings to the specified points securely and make sure that no wrinkle or twisting on backrest cover.

Assemble in the reverse order of disassembly.
1) Assemble the seat cushion in the reverse order of disassembly.
2) Assemble the backrest in the reverse order of disassembly.
3) Assemble each inner belt assembly and each cover in the reverse order of removal.

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

E: INSPECTION

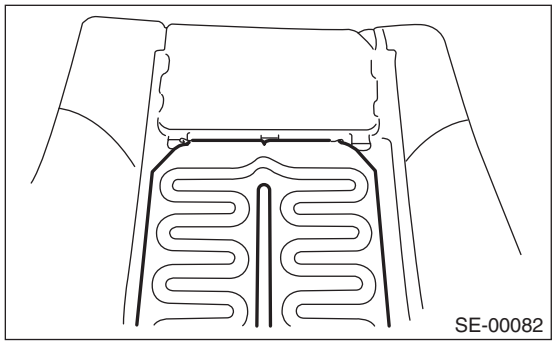
Check that there is no tear or fray on the seat cover.

5. 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-8, DISASSEMBLY, Front Seat.>
3) Remove the hog rings, and then remove the seat heater unit.



2. SEAT HEATER SWITCH

The seat heater switch is built into the control panel. <Ref. to AC-34, REMOVAL, Control Panel.>

B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
If the seat cushion cover is removed or replaced, make sure to perform occupant detection system adjustment after installing the seat to the vehicle. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
Failure to do so may cause improper activation of passenger's airbag.

C: INSPECTION

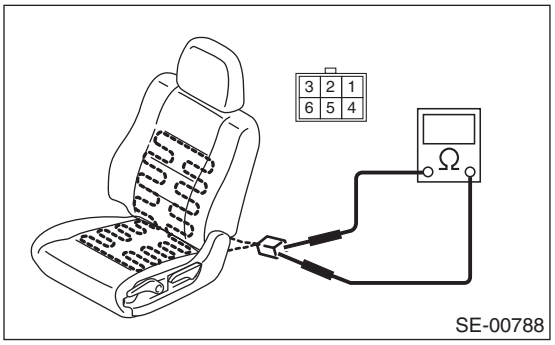
1. WIRING DIAGRAM

<Ref. to WI-119, WIRING DIAGRAM, Power Seat System.>

2. SEAT HEATER MODULE

Disconnect the connector of the seat heater module, and check for continuity between terminals in connector.

Connector & terminal
No. 1 — No. 3:
No. 1 — No. 4:
No. 3 — No. 4:



If there is no continuity, replace the seat heater module.

3. SEAT HEATER SWITCH

1) Perform the self-diagnosis of control panel. <Ref. to AC(diag)-10, Diagnostic Chart for Self-diagnosis.>
2) Repair the harness between the seat heater module and the auto air conditioner control module.
3) Check the auto air conditioner control module. <Ref. to AC(diag)-8, Auto A/C Control Module I/O Signal.>

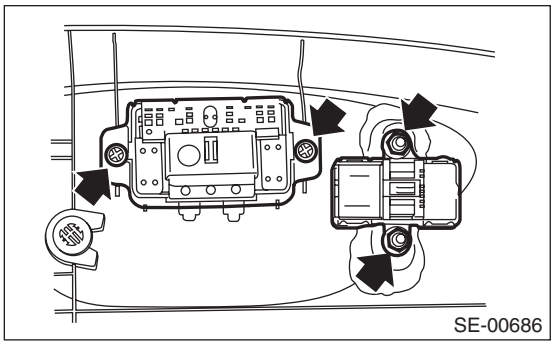
6. Power Seat System

A: REMOVAL

CAUTION:
When it is necessary to remove the front seat, disconnect the ground cable from battery and wait for 20 seconds before disconnecting the side airbag module harness connector.

1. POWER SEAT SWITCH

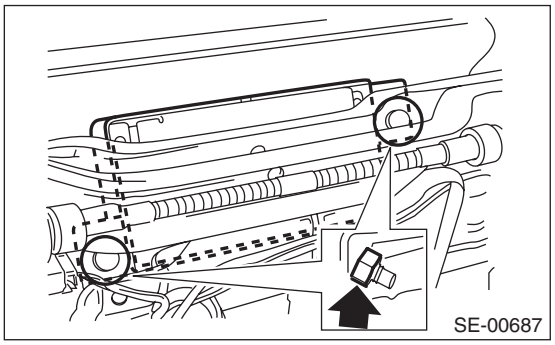
1) Detach the connectors and remove the seat side cover outside. <Ref. to SE-8, DISASSEMBLY, Front Seat.>
2) Remove the screws to remove the power seat switch assembly.


SE-00686

NOTE:
Perform the same procedure when removing the memory switch of memory-equipped seat.

2. MEMORY MODULE (MEMORY-EQUIPPED SEAT)

1) Lift the seat cushion by operating the switch.
2) Remove the front seat from the vehicle.
3) Remove the nut and then remove the memory module.


SE-00687

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
• For the memory-equipped seat, always perform the initialize operation after the installation. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>
• Check the following items after replacing the memory-equipped seat or the memory module.
1. Memory feature is restored after turning the ignition switch to ON and shifting to P range.
2. Memory feature is not restored after turning the ignition switch to ON and shifting to other than P range.

C: INSPECTION

1. WIRING DIAGRAM

• Driver's side (without memory) <Ref. to WI-120, DRIVER'S SEAT (WITH MEMORY), WIRING DIAGRAM, Power Seat System.>
• Driver's side (memory-equipped) <Ref. to WI-119, DRIVER'S SEAT (WITHOUT MEMORY), WIRING DIAGRAM, Power Seat System.>
• Passenger's side <Ref. to WI-121, PASSENGER'S SEAT, WIRING DIAGRAM, Power Seat System.>

2. TROUBLE SYMPTOM

• Driver's seat (without memory)

Symptom	Criteria
All function fails to operate. <Ref. to SE-24, ALL FUNCTION FAILS TO OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Body harness
A part of function does not operate. <Ref. to SE-25, SOME OF THE MOTOR DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Relevant motor

- Driver's seat (memory-equipped)

Symptom	Criteria
Does not operate by manual operation. <Ref. to SE-27, DOES NOT OPERATE IN MANUAL OPERATION (DRIVER'S SEAT, MEMORY-EQUIPPED), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Body harness • Relevant motor and encoder
A part of function does not operate. <Ref. to SE-28, SOME OF THE MOTOR DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Relevant motor and encoder • Memory module
Fails to store the location to the memory <Ref. to SE-32, FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>	• Memory switch • Power seat harness • Memory module
Restoring operation is impossible <Ref. to SE-33, FAILS TO PERFORM THE REPLAY OPERATION (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>	• Memory switch • Memory module • Motor and encoder
Initial setting is impossible <Ref. to SE-33, INITIALIZATION IS IMPOSSIBLE, INSPECTION, Power Seat System.>	• Power seat harness • Memory module

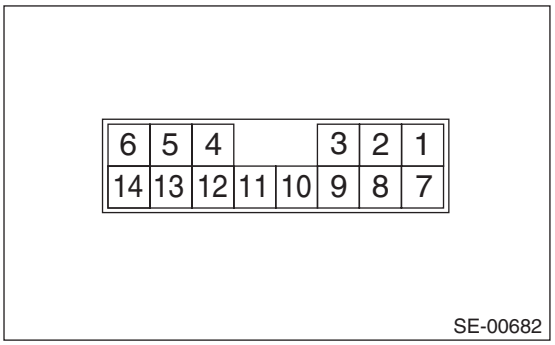
- Passenger's seat

Symptom	Criteria
All function fails to operate. <Ref. to SE-34, ALL FUNCTION FAILS TO OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Body harness
A part of function does not operate. <Ref. to SE-35, SOME MOTOR DOES NOT OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.>	• Power seat switch • Power seat harness • Relevant motor

3. CHECK POWER SEAT SWITCH

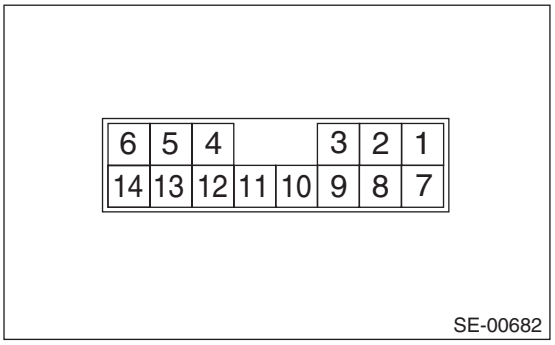
Move each switch and measure the resistance between connector terminals.

- Driver's seat (without memory)



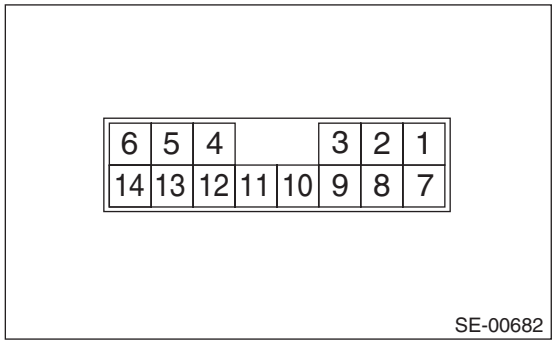
Switch position	Terminal No.	Standard
Slide forward	7 and 14 8 and 13	Less than 10 Ω
Slide backward	7 and 13 8 and 14	Less than 10 Ω
Tilt up	7 and 2 8 and 1	Less than 10 Ω
Tilt down	7 and 1 8 and 2	Less than 10 Ω
Lifter up	7 and 5 8 and 6	Less than 10 Ω
Lifter down	7 and 6 8 and 5	Less than 10 Ω
Reclining forward	7 and 3 8 and 4	Less than 10 Ω
Reclining backward	7 and 4 8 and 3	Less than 10 Ω

- Driver's seat (memory-equipped)



Switch position	Terminal No.	Standard
Slide forward	13 and 7	Less than 10 Ω
Slide backward	14 and 7	Less than 10 Ω
Tilt up	5 and 7	Less than 10 Ω
Tilt down	6 and 7	Less than 10 Ω
Lifter up	2 and 7	Less than 10 Ω
Lifter down	1 and 7	Less than 10 Ω
Reclining forward	4 and 7	Less than 10 Ω
Reclining backward	3 and 7	Less than 10 Ω

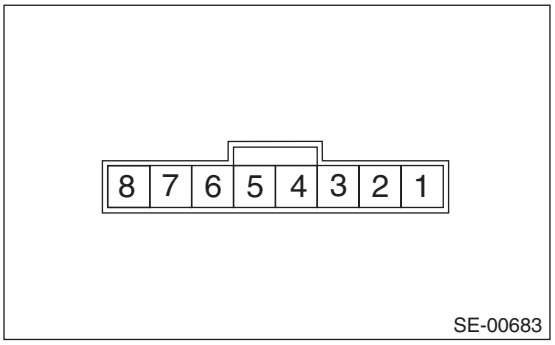
- Passenger's seat



Switch position	Terminal No.	Standard
Slide forward	7 and 13 8 and 14	Less than 10 Ω
Slide backward	7 and 14 8 and 13	Less than 10 Ω
Reclining forward	7 and 4 8 and 3	Less than 10 Ω
Reclining backward	7 and 3 8 and 4	Less than 10 Ω

4. CHECK MEMORY SWITCH (MEMORY-EQUPPED)

Move each switch and measure the resistance between connector terminals.



Switch position	Terminal No.	Standard
Memory 1	3 and 1	Less than 10 Ω
Memory 2	2 and 1	Less than 10 Ω
Set	8 and 1	Less than 10 Ω

5. ALL FUNCTION FAILS TO OPERATE (DRIVER'S SEAT, WITHOUT MEMORY)

	Step	Check	Yes	No
1	**CHECK SEAT FUNCTION.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fails to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-25, SOME OF THE MOTOR DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R190) No. 7 — Chassis ground:***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between power seat switch harness connector and chassis ground. ***Connector & terminal*** ***(R190) No. 8 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the power seat switch assembly.	Check body harness.

6. SOME OF THE MOTOR DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY)

• Malfunction of slide operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between the power seat switch connector and slide motor connector. ***Connector & terminal*** ***(R192) No. 1 — (R190) No. 14:*** ***(R192) No. 2 — (R190) No. 13:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK SLIDE MOTOR.** 1) Connect the power seat switch connector and slide motor connector. 2) Apply 12 V to the slide motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 14 (+) — (R190) No. 13 (–):*** ***(R190) No. 13 (+) — (R190) No. 14 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in slide rail.	Slide motor problem. Replace the slide rail assembly.

• Malfunction of tilt operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and tilt motor connector. 2) Measure the resistance between power seat switch connector and tilt motor connector. ***Connector & terminal*** ***(R193) No. 2 — (R190) No. 2:*** ***(R193) No. 3 — (R190) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK TILT MOTOR.** 1) Connect the power seat switch connector and tilt motor connector. 2) Apply 12 V to the tilt motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 2 (+) — (R190) No. 1 (–):*** ***(R190) No. 1 (+) — (R190) No. 2 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in tilt mechanism.	Tilt motor problem. Replace the slide rail assembly.

- Malfunction of lifter operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and lifter motor connector. 2) Measure the resistance between the power seat switch connector and lifter motor connector. ***Connector & terminal*** ***(R194) No. 4 — (R190) No. 5:*** ***(R194) No. 3 — (R190) No. 6:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK LIFTER MOTOR.** 1) Connect the power seat switch connector and lifter motor connector. 2) Apply 12 V to the lifter motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 5 (+) — (R190) No. 6 (–):*** ***(R190) No. 6 (+) — (R190) No. 5 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in lifter mechanism.	Lifter motor problem. Replace the slide rail assembly.

- Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between the power seat switch connector and reclining motor connector. ***Connector & terminal*** ***(R191) No. 2 — (R190) No. 3:*** ***(R191) No. 1 — (R190) No. 4:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK RECLINING MOTOR.** 1) Connect the power seat switch connector and reclining motor connector. 2) Apply 12 V to the reclining motor and check the motor rotation. ***Connector & terminal*** ***(R190) No. 3 (+) — (R190) No. 4 (–):*** ***(R190) No. 4 (+) — (R190) No. 3 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in reclining hinge.	Reclining motor problem. Replace the backrest hinge and motor assembly.

7. DOES NOT OPERATE IN MANUAL OPERATION (DRIVER'S SEAT, MEMORY-EQUIPPED)

	Step	Check	Yes	No
1	**CHECK SEAT FUNCTION.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fails to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-28, SOME OF THE MOTOR DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the memory module connector. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R195) No. 10 (+) — Chassis ground (–):*** ***(R196) No. 8 (+) — Chassis ground (–):*** ***(R196) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between memory module harness connector and chassis ground. ***Connector & terminal*** ***(R196) No. 14 — Chassis ground:*** ***(R196) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check body harness.
5	**CHECK IGNITION CIRCUIT.** Measure the voltage between harness connector and chassis ground while turning the ignition switch to ON. ***Connector & terminal*** ***(R196) No. 11 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **6**.	Check body harness.
6	**CHECK TRANSMISSION CIRCUIT.** Measure the resistance between harness connector and chassis ground while shifting the select lever to P position. ***Connector & terminal*** ***(R195) No. 12 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **7**.	Check body harness.
7	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Replace the memory module.	Replace the power seat switch assembly.

8. SOME OF THE MOTOR DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY)

- Malfunction of slide operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the slide motor rotation while moving the switch to slide forward and slide backward.	Does the motor rotate for one seconds or more when operating the switch?	Go to step **2**.	Encoder defection. Replace the slide rail assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 7 — (R190) No. 13:*** ***(R195) No. 6 — (R190) No. 14:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the slide motor connector. 2) Measure the resistance between the memory module connector and slide motor connector. ***Connector & terminal*** ***(R196) No. 16 — (R206) No. 1:*** ***(R196) No. 15 — (R206) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK SLIDE MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 16 (+) — (R196) No. 15 (–):*** ***(R196) No. 15 (+) — (R196) No. 16 (–):***	Does the motor rotate normally?	Replace the memory module.	Slide motor problem. Replace the slide rail assembly.

- Malfunction of tilt operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the tilt motor rotation while moving the switch to tilt up and tilt down.	Does the motor rotate for one second or more when operating the switch?	Go to step **2**.	Encoder defection. Replace the slide rail assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and tilt motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 3 — (R190) No. 5:*** ***(R195) No. 2 — (R190) No. 6:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the tilt motor connector. 2) Measure the resistance between the memory module connector and tilt motor connector. ***Connector & terminal*** ***(R196) No. 4 — (R193) No. 3:*** ***(R196) No. 5 — (R193) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK TILT MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 4 (+) — (R196) No. 5 (–):*** ***(R196) No. 5 (+) — (R196) No. 4 (–):***	Does the motor rotate normally?	Replace the memory module.	Tilt motor problem. Replace the slide rail assembly.

- Malfunction of lifter operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the lifter motor rotation while turning the switch to lifter up and lifter down.	Does the motor rotate for one seconds or more when operating the switch?	Go to step **2**.	Encoder defection. Replace the slide rail assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and lifter motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 5 — (R190) No. 2:*** ***(R195) No. 4 — (R190) No. 1:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the lifter motor connector. 2) Measure the resistance between the memory module connector and lifter motor connector. ***Connector & terminal*** ***(R196) No. 1 — (R194) No. 4:*** ***(R196) No. 2 — (R194) No. 3:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK LIFTER MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 1 (+) — (R196) No. 2 (–):*** ***(R196) No. 2 (+) — (R196) No. 1 (–):***	Does the motor rotate normally?	Replace the memory module.	Lifter motor problem. Replace the slide rail assembly.

- Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the reclining motor rotation while moving the switch to reclining forward and reclining backward.	Does the motor rotate for one seconds or more when operating the switch?	Go to step **2**.	Encoder defection. Replace the backrest hinge and motor assembly.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the power seat switch assembly.
3	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between the memory module connector and power seat switch connector. ***Connector & terminal*** ***(R195) No. 9 — (R190) No. 4:*** ***(R195) No. 8 — (R190) No. 3:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK HARNESS.** 1) Disconnect the slide motor connector. 2) Measure the resistance between the memory module connector and reclining motor connector. ***Connector & terminal*** ***(R196) No. 6 — (R191) No. 1:*** ***(R196) No. 7 — (R191) No. 2:***	Is the resistance less than 10 Ω?	Go to step **5**.	Check power seat harness.
5	**CHECK RECLINING MOTOR.** Apply battery voltage to the memory module connector and check the motor rotation. ***Connector & terminal*** ***(R196) No. 6 (+) — (R196) No. 7 (–):*** ***(R196) No. 7 (+) — (R196) No. 6 (–):***	Does the motor rotate normally?	Replace the memory module.	Reclining motor problem. Replace the backrest hinge and motor assembly.

9. FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY)

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the harness connector of memory switch assembly. 2) Perform the memory switch inspection. <Ref. to SE-24, CHECK MEMORY SWITCH (MEMORY-EQUPPED), INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the memory switch assembly.
2	**CHECK HARNESS.** Measure the resistance between the memory switch connector and memory module connector. ***Connector & terminal*** ***(R195) No. 13 — (R198) No. 3:*** ***(R195) No. 14 — (R198) No. 2:*** ***(R195) No. 15 — (R198) No. 8:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK COMBINATION METER.** Turn the ignition switch to ON and check the indicator inside the meter while the select lever is in P position.	Does the indicator display P?	Go to step **4**.	Check the combination meter. <Ref. to IDI-4, INSPECTION, Combination Meter System.>
4	**SYSTEM INITIALIZATION.** Perform the memory seat system initialization. <Ref. to SE-36, ADJUSTMENT, Power Seat System.>	Is the initialization completed successfully?	Replace the memory module.	<Ref. to SE-33, INITIALIZATION IS IMPOSSIBLE, INSPECTION, Power Seat System.>

10.FAILS TO PERFORM THE REPLAY OPERATION (DRIVER'S SEAT, WITH MEMORY)

	Step	Check	Yes	No
1	**CHECK MEMORY FUNCTION.** Perform the memory operation of the seat position.	Is the seat position correctly memorized?	Go to step **2**.	<Ref. to SE-32, FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.>
2	**CHECK SWITCH.** 1) Disconnect the harness connector of memory switch assembly. 2) Perform the memory switch inspection. <Ref. to SE-24, CHECK MEMORY SWITCH (MEMORY-EQUPPED), INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **3**.	Replace the memory switch assembly.
3	**CHECK HARNESS.** Measure the resistance between the memory switch connector and memory module connector. ***Connector & terminal*** ***(R195) No. 13 — (R198) No. 3:*** ***(R195) No. 14 — (R198) No. 2:*** ***(R195) No. 15 — (R198) No. 8:***	Is the resistance less than 10 Ω?	Go to step **4**.	Check power seat harness.
4	**CHECK COMBINATION METER.** Turn the ignition switch to ON and check the indicator inside the meter while the select lever is in P position.	Does the indicator display P?	Go to step **5**.	Check the combination meter. <Ref. to IDI-4, INSPECTION, Combination Meter System.>
5	**CHECK OPERATION.** Check the rotation of each motor when performing all the power seat switch operation.	Does each motor rotate for one second or more when operating each switch?	Replace the memory module.	Encoder defection. Replace the motor(s) found to be faulty.

11.INITIALIZATION IS IMPOSSIBLE

	Step	Check	Yes	No
1	**CHECK OPERATION.** Check the rotation of each motor when performing all the power seat switch operation.	Does each motor rotate for one second or more when operating each switch?	Go to step **2**.	Encoder defection. Replace the motor(s) found to be faulty.
2	**CHECK SWITCH.** 1) Disconnect the harness connector of power seat switch assembly. 2) Measure the resistance between all the connector terminals of power seat switch assembly. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Replace the memory module.	Replace the power seat switch assembly.

12.ALL FUNCTION FAILS TO OPERATE (PASSENGER'S SEAT)

	Step	Check	Yes	No
1	**CHECK SEAT FUNCTION.** Operate each power seat switch and check that each power seat function operates normally.	Does all function fails to operate?	Go to step **2**.	Check the motor which does not operate. <Ref. to SE-35, SOME MOTOR DOES NOT OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.>
2	**CHECK FUSE.** Check the power seat fuse inside the fuse box.	Is the fuse blown out?	Replace the appropriate fuse.	Go to step **3**.
3	**CHECK POWER SUPPLY CIRCUIT.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the voltage between harness connector and chassis ground. ***Connector & terminal*** ***(R200) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check body harness.
4	**CHECK POWER SUPPLY CIRCUIT.** Measure the resistance between power seat switch harness connector and chassis ground. ***Connector & terminal*** ***(R200) No. 8 — Chassis ground:***	Is the resistance less than 10 Ω?	Replace the power seat switch assembly.	Check body harness.

13.SOME MOTOR DOES NOT OPERATE (PASSENGER'S SEAT)

• Malfunction of slide operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and slide motor connector. 2) Measure the resistance between the power seat switch connector and slide motor connector. ***Connector & terminal*** ***(R202) No. 1 — (R200) No. 13:*** ***(R202) No. 2 — (R200) No. 14:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK SLIDE MOTOR.** 1) Connect the power seat switch connector and slide motor connector. 2) Apply 12 V to the slide motor and check the motor rotation. ***Connector & terminal*** ***(R200) No. 14 (+) — (R200) No. 13 (–):*** ***(R200) No. 13 (+) — (R200) No. 14 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in slide rail.	Slide motor problem. Replace the slide rail assembly.

• Malfunction of reclining operation

	Step	Check	Yes	No
1	**CHECK SWITCH.** 1) Disconnect the connector of power seat switch assembly. 2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-23, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.>	Is there any problem on the inspection result?	Go to step **2**.	Replace the power seat switch assembly.
2	**CHECK HARNESS.** 1) Disconnect the power seat switch connector and reclining motor connector. 2) Measure the resistance between the power seat switch connector and reclining motor connector. ***Connector & terminal*** ***(R201) No. 2 — (R200) No. 4:*** ***(R201) No. 1 — (R200) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Check power seat harness.
3	**CHECK RECLINING MOTOR.** 1) Connect the power seat switch connector and reclining motor connector. 2) Apply 12 V to the reclining motor and check the motor rotation. ***Connector & terminal*** ***(R200) No. 3 (+) — (R200) No. 4 (–):*** ***(R200) No. 4 (+) — (R200) No. 3 (–):***	Does the motor rotate normally?	Check for temporary poor contact or mechanical trouble in reclining hinge.	Reclining motor problem. Replace the backrest hinge and motor assembly.

D: ADJUSTMENT

NOTE:
The calibration procedures apply only to the memory-equipped seat on the driver's side.

1. INITIALIZATING CONDITIONS

Perform the initializing operation to the memory module when the following conditions are met.
- When the seat was removed from vehicle.
- When the memory module was replaced.
- When the slide rail assembly or backrest hinge and motor assembly was removed or replaced.
- When the pulse generated while the seat is moving differs from the actual distance. (When memory replay operation is not normally carried out)

2. INITIALIZATION PROCEDURE

NOTE:
- Initialize the records inside the module by performing all the following steps regardless the item order.
- Buzzer sounds once when keeping the switch operation for three seconds with each seat in lock* status.
- After the completion of all items for initialization process, the buzzer sounds three times when finishing the final operation and turning the switch from ON to OFF.

1) Move the seat backward using slide switch, and keep the seat lock* status for three seconds or more.
2) Move the seat downward using tilt switch, and keep the seat lock* status for three seconds or more.
3) Move the seat downward using lifter switch, and keep the seat lock* status for three seconds or more.
4) Tilt the seatback forward using reclining switch, and keep the seat lock* status for three seconds or more.

* :Seat lock is the status that there is no pulse output from the encoder within the specified period of time although the switch is being operated.

NOTE:
When the following conditions are met, the initializing operation is cancelled even though the procedure is carried out halfway.
- Any operation interval between each initialization procedures from 1) to 4) exceeded 10 second.
- All operations throughout initialization procedure 1) to 4) was not performed.
- During initialization procedure, power supply was cut off, or the voltage to the memory module exceeded the range of operating voltage.

SECURITY AND LOCKS

SL

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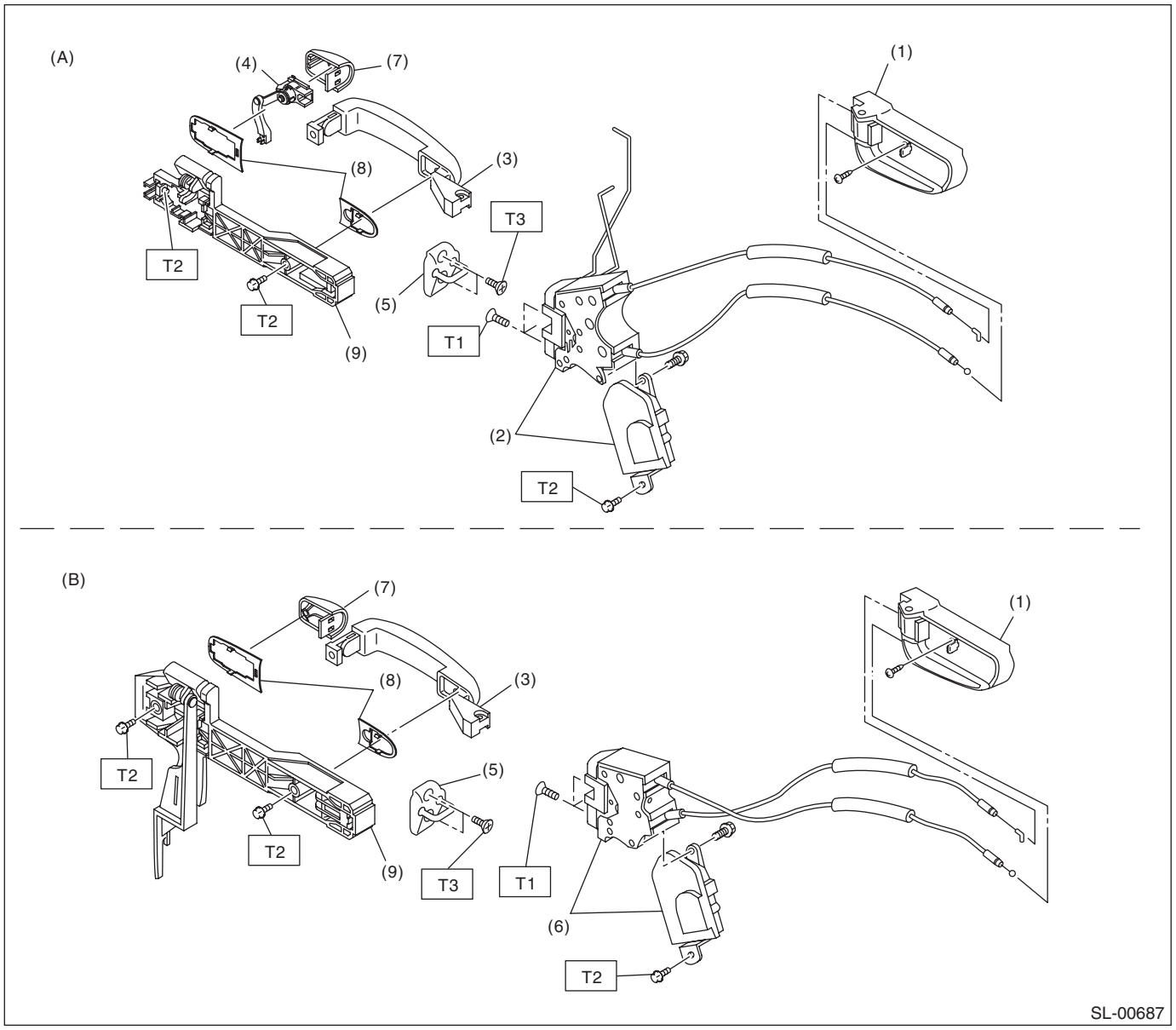
1. General Description

A: COMPONENT

1. DOOR LOCK ASSEMBLY

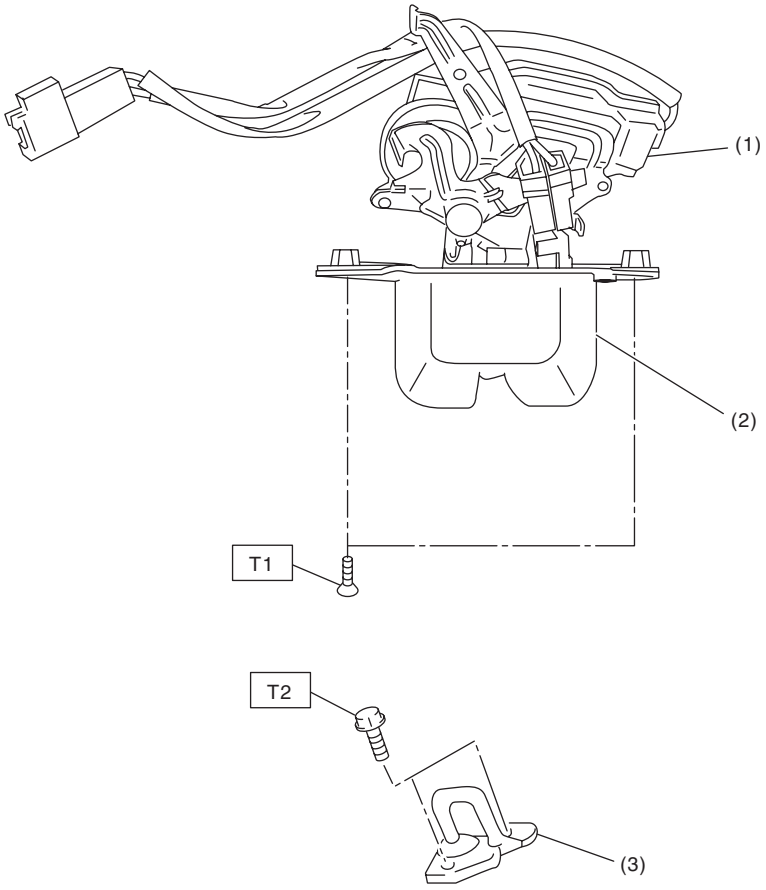


(A) Front
(B) Rear

(1) Inner remote ASSY
(2) Front door latch and door lock actuator ASSY
(3) Door outer handle
(4) Key cylinder (switch)
(5) Striker
(6) Rear door latch and door lock actuator ASSY
(7) Door outer handle cover
(8) Door outer handle spacer
(9) Door outer handle frame ASSY

Tightening torque:N·m (kgf-m, ft-lb)
T1: 6.5 (0.66, 4.8)
T2: 7.5 (0.76, 5.5)
T3: 18 (1.8, 13.3)

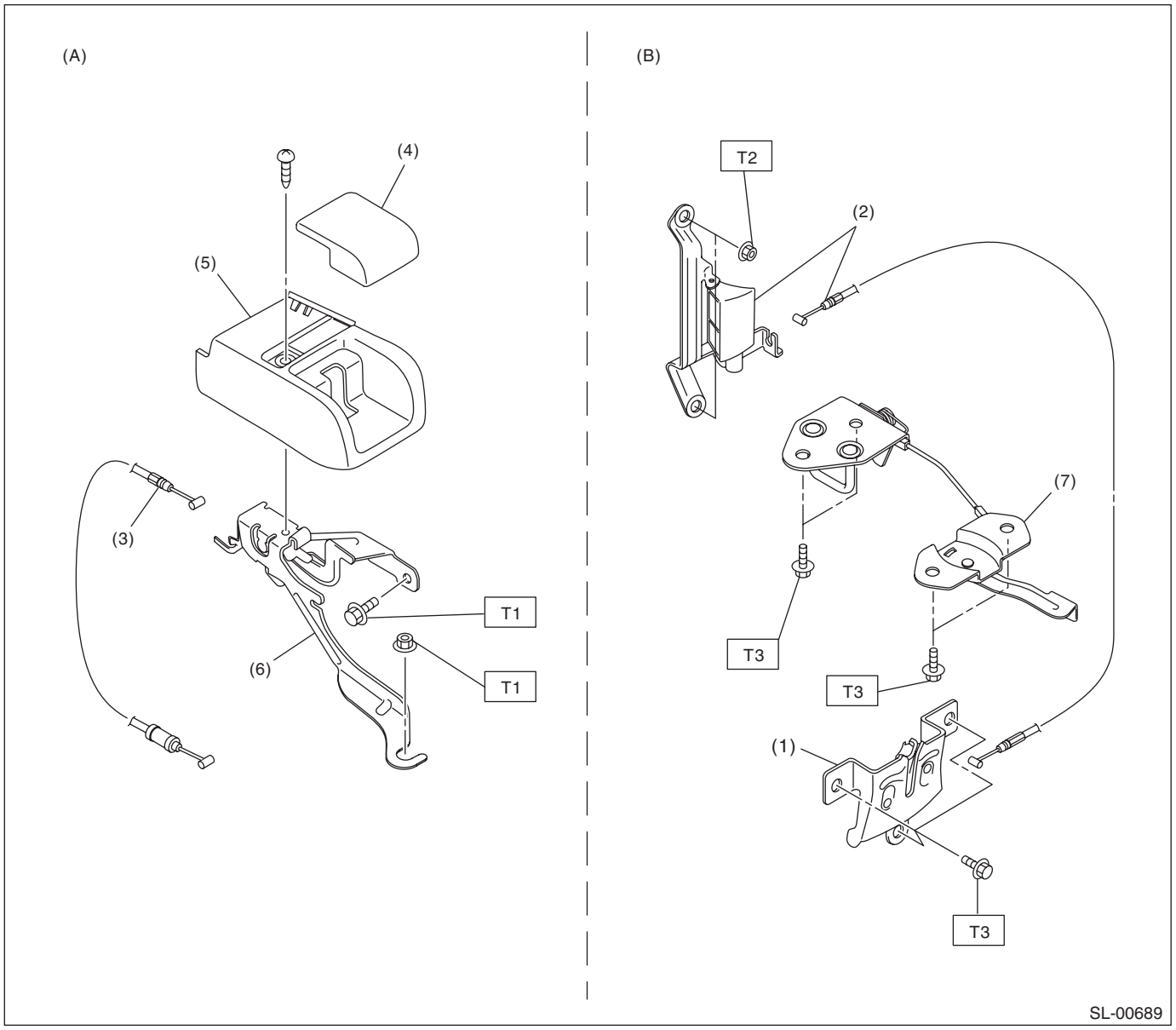
2. REAR GATE LOCK



(1) Rear gate actuator
(2) Rear gate latch
(3) Striker

Tightening torque:N·m (kgf-m, ft-lb)
T1: 18 (1.8, 13.3)
T2: 25 (2.5, 18.4)

3. FRONT HOOD LOCK AND REMOTE OPENERS

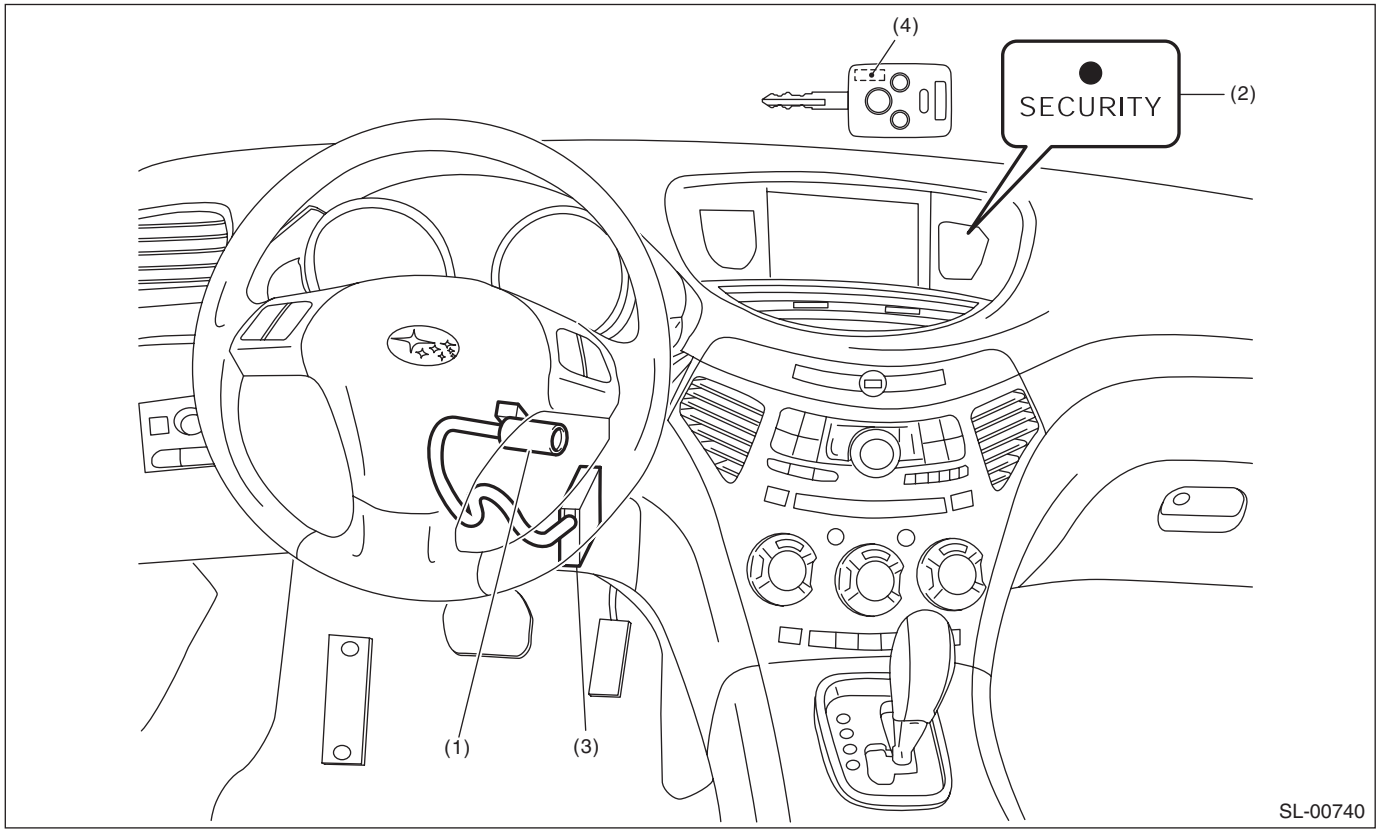


(A) Fuel lid
(B) Hood

(1) Front hood lock ASSY
(2) Cable ASSY, front hood
(3) Cable ASSY, fuel
(4) Pull lever
(5) Cover
(6) Pull handle ASSY
(7) Hood operation lever

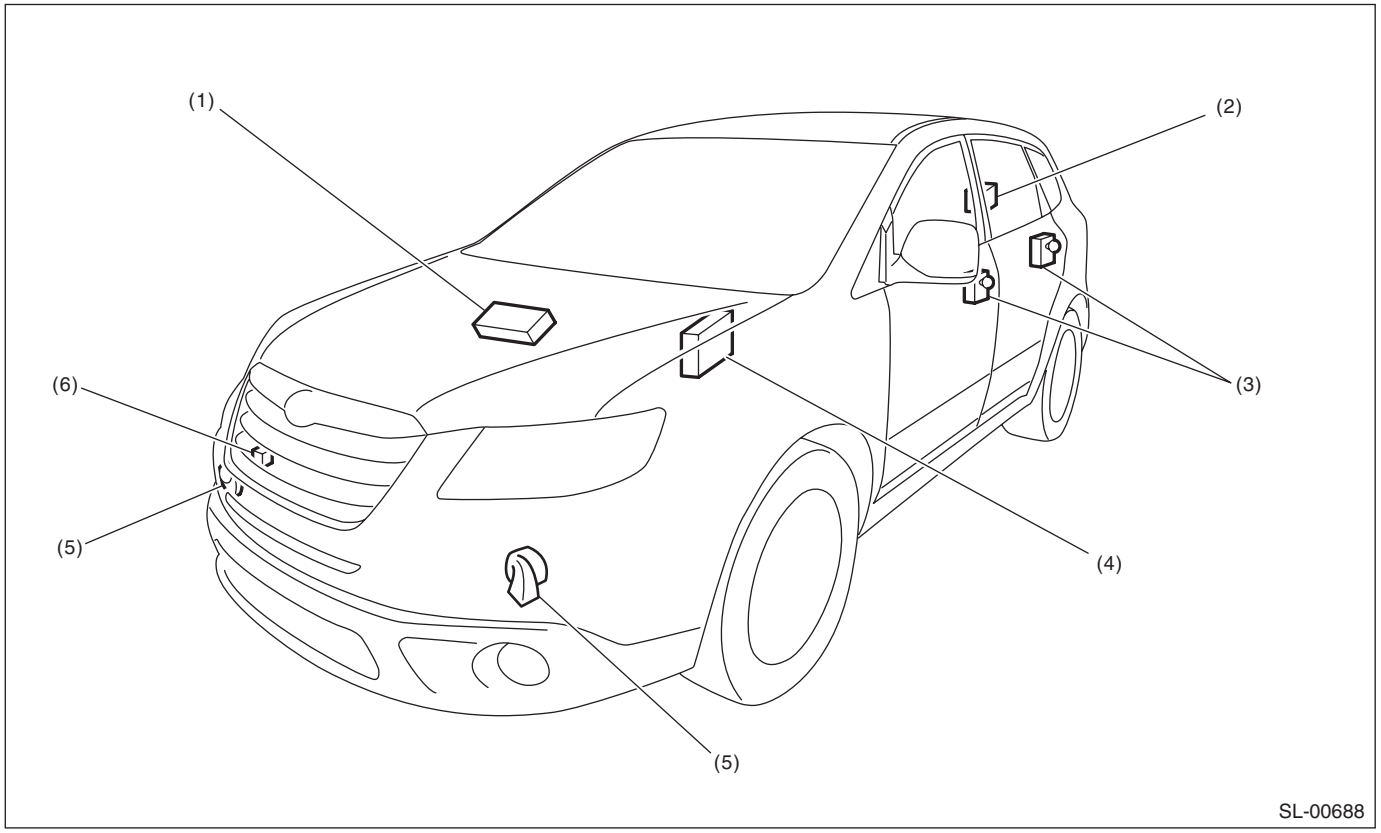
Tightening torque:N·m (kgf-m, ft-lb)
T1: 7.5 (0.76, 5.5)
T2: 25 (2.55, 18.4)
T3: 33.0 (3.36, 24.3)

4. IMMOBILIZER SYSTEM



(1) Antenna
(2) Security indicator light (LED bulb)
(3) Body integrated unit
(4) Transponder

5. KEYLESS ENTRY SYSTEM



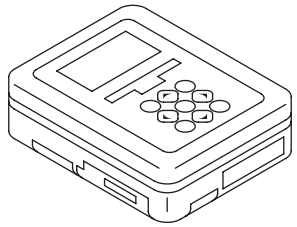
(1) Keyless entry control module
(2) Rear gate latch switch
(3) Door switch
(4) Body integrated unit
(5) Horn
(6) Keyless buzzer

B: CAUTION

- Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When repairing the audio, control module, etc. which are provided with memory functions, record the memory contents before disconnecting the ground cable from battery. Otherwise, these contents are erased upon disconnection.
- Reassemble the parts in the reverse order of disassembly unless otherwise indicated.
- Adjust the parts to the specifications described in this manual if so designated.
- Connect the connectors securely during reassembly.
- After reassembly, ensure the functional parts operate smoothly.
- The airbag system wiring harness is routed near electrical parts and switches.
- The airbag system wiring harnesses and connectors are colored yellow. Do not use the electrical test equipment on these circuits.
- Be careful not to damage the airbag system wiring harness when servicing the ignition key cylinder.

C: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0 (Newly adopted tool)	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Drill	Used for replacing ignition key lock.
Clip remover	Used for removing trim.
Clip clamp pliers	Used for removal of various clips and clamps.
TORX® T20	Used for removing and installing the door outer handle.

2. Door Lock Control System

A: WIRING DIAGRAM

1. DOOR LOCK CONTROL

<Ref. to WI-192, WIRING DIAGRAM, Keyless Entry System.>

B: INSPECTION

1. SYMPTOM CHART

Symptom	Repair order	Reference
The door lock control system does not operate.	1. Remove and visually check the fuse No. 3 (in the fuse & relay box) and No. 7 (in the fuse & relay box).	If the fuse is blown out, replace the fuse with a new part. Check the power supply and ground circuit, if the fuse has no abnormality. <Ref. to SL-8, CHECK POWER SUPPLY & GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	2. Check the power supply and ground circuit for body integrated unit.	<Ref. to SL-8, CHECK POWER SUPPLY & GROUND CIRCUIT, INSPECTION, Door Lock Control System.>
	3. Check the door lock switch and the circuit.	<Ref. to SL-9, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>
	4. Check the door lock actuator and the circuit.	<Ref. to SL-10, CHECK DOOR LOCK ACTUATOR & CIRCUIT, INSPECTION, Door Lock Control System.>
The door lock switch does not operate.	Check the door lock switch.	<Ref. to SL-9, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.>
A specific door lock actuator does not operate.	Check the door lock actuator and circuit.	<Ref. to SL-10, CHECK DOOR LOCK ACTUATOR & CIRCUIT, INSPECTION, Door Lock Control System.>

2. CHECK POWER SUPPLY & GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the harness connector of body integrated unit. 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 34 (+) — Chassis ground (–):*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short circuit between body integrated unit and fuse.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	The power supply and ground circuit are OK.	Repair the harness.

3. CHECK DOOR LOCK SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check the input from door lock switch to body integrated unit using Subaru Select Monitor. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the input to body integrated unit by operating the door lock switch.	Is the normal input signal displayed when the door lock switch is moved to LOCK/UNLOCK?	The door lock switch is OK.	Go to step **2**.
2	**CHECK DOOR LOCK SWITCH CIRCUIT.** 1) Disconnect the harness connector of body integrated unit. 2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Go to step **4**.
3	**CHECK DOOR LOCK SWITCH CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK. ***Connector & terminal*** ***(i84) No. 29 — Chassis ground:***	Is the resistance less than 10 Ω?	The door lock switch is OK.	Go to step **4**.
4	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the door lock switch harness connector (D7D or 125). 2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — (D7) No. 9:*** ***Passenger's side:*** ***(D125) No. 2 — (D125) No. 5:***	Is the resistance less than 1 Ω?	Go to step **5**.	Replace the door lock switch.
5	**CHECK DOOR LOCK SWITCH.** Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — (D7) No. 8:*** ***Passenger's side:*** ***(D125) No. 4 — (D125) No. 5:***	Is the resistance less than 1 Ω?	Go to step **6**.	Replace the door lock switch.
6	**CHECK HARNESS.** Measure the resistance between door lock switch harness connector terminal and chassis ground. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — Chassis ground:*** ***Passenger's side:*** ***(D125) No. 5 — Chassis ground:***	Is the resistance less than 1 Ω?	Replace the door lock switch.	Repair the open circuit or chassis ground of the harness.

4. CHECK DOOR LOCK ACTUATOR & CIRCUIT

	Step	Check	Yes	No
1	**CHECK OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal and chassis ground of body integrated unit when moving the door lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
2	**CHECK OUTPUT SIGNAL.** Measure the voltage between the harness connector terminal and chassis ground of body integrated unit when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***Driver's side:*** ***(i84) No. 23 (+) — Chassis ground (–):*** ***Except for driver's side:*** ***(i84) No. 8 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
3	**CHECK DOOR LOCK ACTUATOR.** Check the door lock actuator. • Front door lock actuator <Ref. to SL-36, Front Door Lock Actuator.> • Rear door lock actuator <Ref. to SL-40, Rear Door Lock Actuator.> • Rear gate latch lock actuator <Ref. to SL-42, Rear Gate Latch Assembly.>	Is the door lock actuator OK?	Check the harness for open or short circuits between body integrated unit and door lock actuator.	Replace the door lock actuator.

3. Keyless Entry System

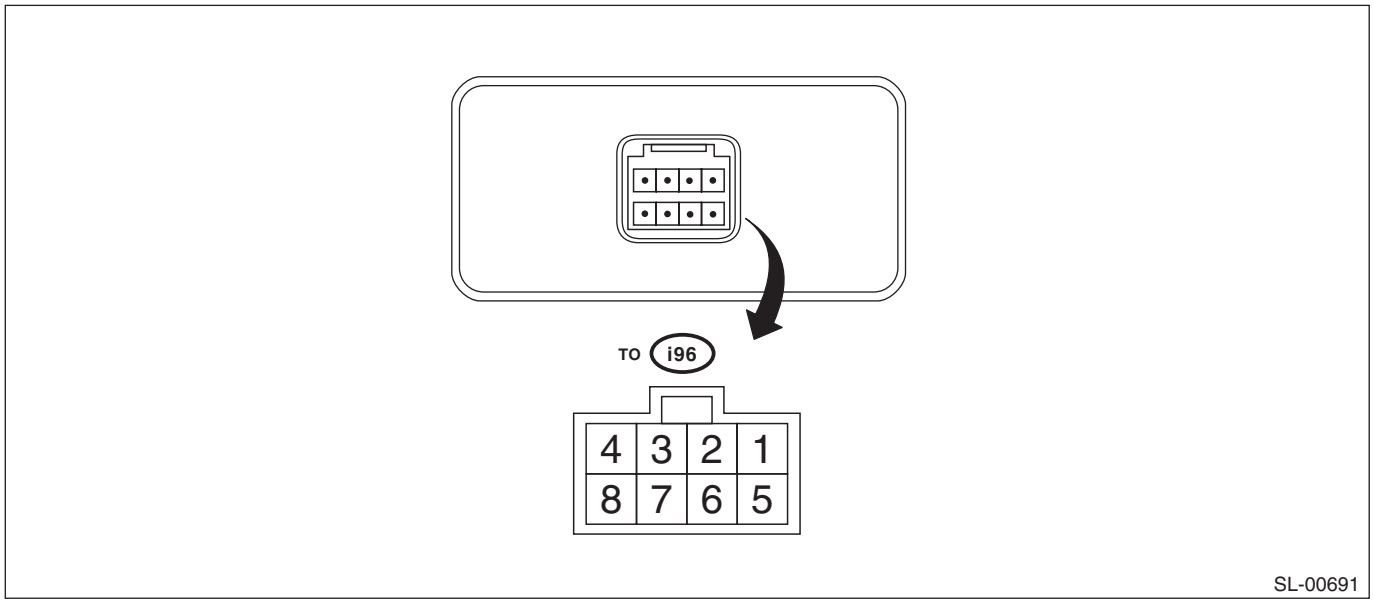
A: WIRING DIAGRAM

1. KEYLESS ENTRY

<Ref. to WI-192, WIRING DIAGRAM, Keyless Entry System.>

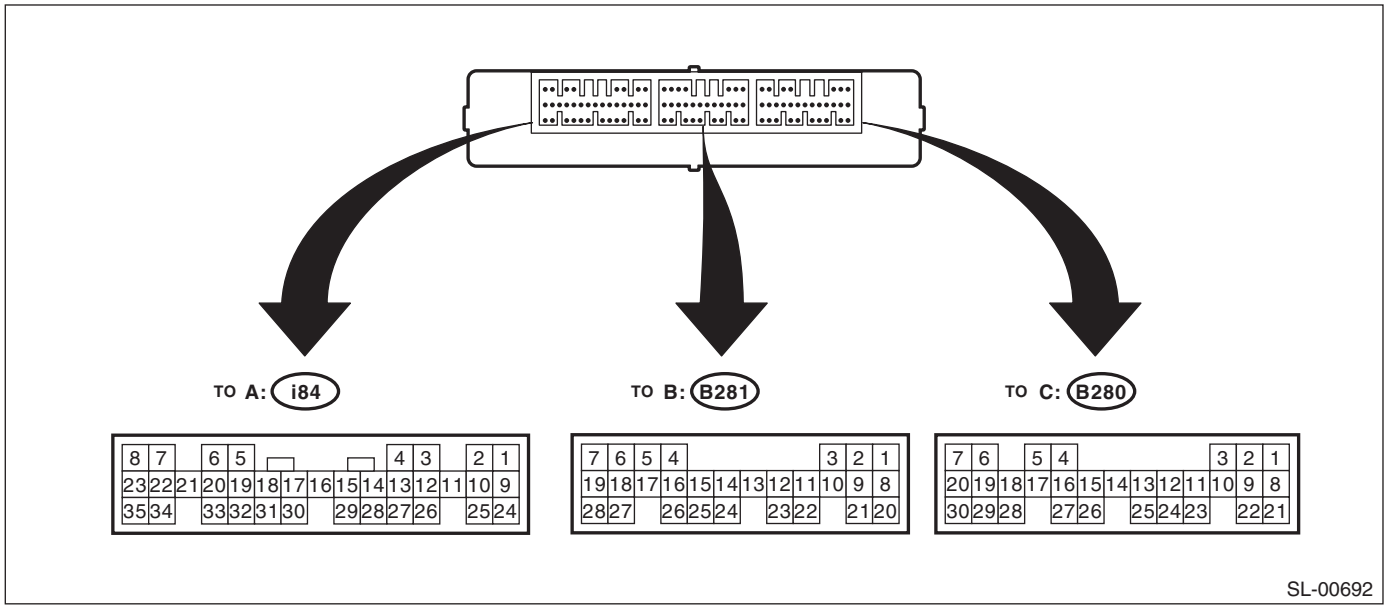
B: ELECTRICAL SPECIFICATION

1. KEYLESS ENTRY CONTROL MODULE



Description	Terminal No.	Measuring condition
-	1	-
-	2	-
Body integrated unit	3 (OUTPUT)	Battery voltage cannot be measured because of digital signal.
Power supply (Backup)	4	Battery voltage is constantly present.
-	5	-
-	6	-
Ground	7	0 V is constantly present.

2. BODY INTEGRATED UNIT



Description	Terminal No.	Measuring condition
Ignition switch (ON)	A1 (INPUT)	Battery voltage is present when ignition switch is turned ON.
Keyless buzzer	A6 (OUTPUT)	12 V is present when pressing the LOCK or UNLOCK button of transmitter.
Door and rear gate lock actuator	A7 (OUTPUT)	Battery voltage is present when pressing the transmitter LOCK button.
Door and rear gate lock actuator	A8 (OUTPUT)	Battery voltage is present when pressing the transmitter UNLOCK button.
Keyless entry control module	A9 (INPUT)	Communication line (Cannot be measured because of digital signal)
Rear gate latch switch	A17 (INPUT)	0 V is present when opening the rear gate.
Rear door switch RH	A18 (INPUT)	0 V is present when opening the rear door RH.
Front door switch LH	A19 (INPUT)	0 V is present when opening the front door LH.
Ground	A21	0 V is constantly present.
Rear gate release switch	A22 (OUTPUT)	0 V is present when pressing the rear gate release switch.
Rear gate release actuator	A22 (OUTPUT)	The battery voltage is detected for 0.6 seconds when operating the rear gate release switch.
Driver's side front door lock actuator	A23 (OUTPUT)	Battery voltage is present when pressing the transmitter UNLOCK button.
Driver's side power window main switch (door lock switch) Passenger's side door lock switch	A15	0 V is present when pressing the door lock switch to the LOCK side.
	A29	0 V is present when pressing the door lock switch to the UNLOCK side.
Rear door switch LH	A31 (INPUT)	0 V is present when opening the rear door LH.
Front door switch RH	A32 (INPUT)	0 V is present when opening the front door RH.
Power supply	A34	Battery voltage is constantly present.
Room light	C3 (OUTPUT)	• 0 V is present when pressing the UNLOCK button of transmitter. • 0 V is present when opening the door.
Power supply	B1	Battery voltage is constantly present.
Horn circuit	C11 (INPUT)	0 V is present when pressing the panic button of transmitter
Turn signal & hazard circuit	C12 (OUTPUT)	0 V is present when pressing the LOCK or UNLOCK button of transmitter.
Ground	C22	0 V is constantly present.
Power supply	B1	Battery voltage is constantly present.
Power supply	B2	Battery voltage is constantly present.
Key warning switch	B7 (INPUT)	Battery voltage is present when inserting the key into ignition switch.
Ground	B8	0 V is constantly present.
Ground	B9	0 V is constantly present.

C: INSPECTION

1. SYMPTOM CHART

Symptom	Repair order	Reference
None of the functions of keyless entry system operate.	1. Check the transmitter battery.	<Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Remove and visually check the fuse No. 3 (in the fuse & relay box) and No. 7 (in the fuse & relay box).	<Ref. to SL-16, CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.>
	3. Check the keyless entry control module.	<Ref. to SL-16, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	4. Check the power supply and ground circuit for body integrated unit.	<Ref. to SL-16, CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.>
	5. Check the key warning switch.	<Ref. to SL-18, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	6. Check the door switch.	<Ref. to SL-17, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	7. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
The transmitter cannot be registered.	1. Check the key warning switch.	<Ref. to SL-18, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	2. Check the door lock switch signal.	<Ref. to SL-21, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.>
	3. Check the ignition switch.	<Ref. to SL-24, CHECK IGNITION SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the door switch.	<Ref. to SL-17, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Door lock or unlock does not operate. NOTE: If the door lock control system does not operate when using the door lock switch, check the door lock control system. <Ref. to SL-8, INSPECTION, Door Lock Control System.>	1. Check the transmitter battery.	<Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the keyless entry control module.	<Ref. to SL-16, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.>
	3. Check the key warning switch.	<Ref. to SL-18, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.>
	4. Check the door switch.	<Ref. to SL-17, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.>
	5. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

Symptom	Repair order	Reference
The panic alarm does not operate.	1. Check the keyless transmitter battery and function.	<Ref. to SL-15, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
	2. Check the horn operation.	<Ref. to SL-22, CHECK HORN OPERATION, INSPECTION, Keyless Entry System.>
	3. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Buzzer or hazard light does not operate.	1. Check the buzzer operation.	<Ref. to SL-23, CHECK KEYLESS BUZZER, INSPECTION, Keyless Entry System.>
	2. Check the hazard light operation.	<Ref. to SL-19, CHECK HAZARD LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	3. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Room light does not operate.	1. Check the room light operation.	<Ref. to SL-18, CHECK ROOM LIGHT OPERATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
Ignition switch illumination does not operate.	1. Check the ignition switch illumination.	<Ref. to SL-22, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.>
	2. Check the body integrated unit.	<Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>

2. CHECK TRANSMITTER BATTERY AND FUNCTION

	Step	Check	Yes	No
1	**CHECK TRANSMITTER BATTERY.** 1) Remove the battery from the transmitter. <Ref. to SL-53, REMOVAL, Transmitter.> 2) Check the battery voltage. <Ref. to SL-53, INSPECTION, Transmitter.>	Is the voltage 2.5 V or more?	Go to step **2**.	Replace the transmitter battery. <Ref. to SL-53, Transmitter.>
2	**CHECK KEYLESS TRANSMITTER BATTERY.** Register the keyless transmitter which operates normally on other vehicles to the inspection target vehicle. <Ref. to SL-54, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.> 1) Close all the doors and rear gate of inspection target vehicle. 2) Remove the key from ignition switch. 3) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle.	Is the inspection target vehicle operates lock and unlock normally?	Go to step **3**.	Due to vehicle malfunction, continue the keyless entry system diagnosis.
3	**CHECK KEYLESS TRANSMITTER BATTERY.** Register the keyless transmitter of inspection target vehicle to the another vehicle which the keyless system operates normally. <Ref. to SL-54, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.>	Is the keyless transmitter registered correctly?	Go to step **4**.	Replace the keyless transmitter. <Ref. to SL-54, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.>
4	**CHECK KEYLESS TRANSMITTER BATTERY.** Check the registered keyless transmitter battery. 1) Close all the doors and rear gate of the vehicle which keyless system operates normally. 2) Remove the key from ignition switch. 3) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle.	Does the vehicle operates lock and unlock normally?	The transmitter is OK.	Replace the transmitter. <Ref. to SL-54, REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR, REPLACEMENT, Transmitter.>

CAUTION:
Be sure to reset the keyless transmitter of other vehicle which is registered to the inspection target vehicle, and the vehicle to which the keyless transmitter is registered for inspection, to the condition before performing the inspection. (Register the keyless transmitter again.)

3. CHECK KEYLESS ENTRY CONTROL MODULE

	Step	Check	Yes	No
1	**CHECK DIAGNOSTIC TROUBLE CODE (DTC).** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Diagnostic Trouble Code}. 5) Check that the DTC is displayed.	Is DTC B1500 "Keyless UART com. Malfunction" displayed?	Go to step **2**.	Keyless entry control module is normal.
2	**CHECK POWER SUPPLY.** 1) Disconnect the keyless entry control module harness connector (i96). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i96) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open circuits and shorts between the keyless entry control module and fuse.
3	**CHECK GROUND CIRCUIT.** Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i96) No. 7 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the harness.
4	**CHECK KEYLESS ENTRY CONTROL MODULE CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 9 — (i96) No. 3:***	Is the resistance less than 10 Ω?	Replace the keyless entry control module. <Ref. to SL-50, Keyless Entry Control Module.>	Repair the harness.

4. CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY OF BODY INTEGRATED UNIT.** 1) Disconnect the harness connector of body integrated unit (B280, B281). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 7 (+) — Chassis ground (–):*** ***(B281) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **2**.	Check the harness for open or short between body integrated unit and fuse.
2	**CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (B280, B281). 2) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B280) No. 22 — Chassis ground:*** ***(B281) No. 8 — Chassis ground:*** ***(B281) No. 9 — Chassis ground:***	Is the resistance less than 10 Ω?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

5. CHECK DOOR SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***Front door RH:*** ***(i84) No. 32 (+) — Chassis ground (–):*** ***Front door LH:*** ***(i84) No. 19 (+) — Chassis ground (–):*** ***Rear door RH:*** ***(i84) No. 18 (+) — Chassis ground (–):*** ***Rear door LH:*** ***(i84) No. 31 (+) — Chassis ground (–):*** ***Rear gate:*** ***(i84) No. 17 (+) — Chassis ground (–):***	Is the voltage 0 V when each door or rear gate is opened?	Go to step **2**.	Go to step **3**.
2	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the body integrated unit harness connector terminal and chassis ground. ***Connector & terminal*** ***Front door RH:*** ***(i84) No. 32 (+) — Chassis ground (–):*** ***Front door LH:*** ***(i84) No. 19 (+) — Chassis ground (–):*** ***Rear door RH:*** ***(i84) No. 18 (+) — Chassis ground (–):*** ***Rear door LH:*** ***(i84) No. 31 (+) — Chassis ground (–):*** ***Rear gate:*** ***(i84) No. 17 (+) — Chassis ground (–):***	Is the voltage more than 10 V when each door or rear gate is closed?	The door switch is OK.	Go to step **3**.
3	**CHECK DOOR SWITCH.** 1) Disconnect the door switch harness connector (R9, R12, R16, R22). 2) Measure the resistance between door switch terminals. ***Connector & terminal*** ***(R12) Front RH door switch:*** ***(R9) Front LH door switch:*** ***(R16) Rear RH door switch:*** ***(R22) Rear LH door switch:*** ***No. 1 — No. 3:*** ***Rear gate latch switch:*** ***(D140) No. 3 — No. 4:***	Is the resistance more than 1 MΩ when door switch is pushed?	Go to step **4**.	Replace the door switch.
4	**CHECK DOOR SWITCH.** Measure the resistance between door switch terminals. ***Connector & terminal*** ***(R12) Front RH door switch:*** ***(R9) Front LH door switch:*** ***(R16) Rear RH door switch:*** ***(R22) Rear LH door switch:*** ***No. 1 — No. 3:*** ***Rear gate latch switch:*** ***(D140) No. 3 — No. 4:***	Is the resistance less than 1 Ω when door switch is released?	Check the harness for open or short between body integrated unit and door switch.	Replace the door switch.

6. CHECK KEY WARNING SWITCH

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new one.	Go to step **2**.
2	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (B281). 2) Insert the key into ignition switch. (LOCK position) 3) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Go to step **4**.
3	**CHECK KEY WARNING SWITCH CIRCUIT.** 1) Remove the key from ignition switch. 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (–):***	Is the voltage 0 V?	The key warning switch is OK.	Go to step **4**.
4	**CHECK KEY WARNING SWITCH.** 1) Disconnect the key warning switch harness connector (B350). 2) Insert the key into ignition switch. (LOCK position) 3) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance less than 1 Ω?	Go to step **5**.	Replace the key warning switch.
5	**CHECK KEY WARNING SWITCH.** 1) Remove the key from ignition switch. 2) Measure the resistance between key warning switch terminals. ***Connector & terminal*** ***(B350) No. 3 — No. 4:***	Is the resistance more than 1 MΩ?	Check the following: • Harness for open circuits and shorts between the key warning switch and fuse • Harness for open or short between the body integrated unit and key warning switch	Replace the key warning switch.

7. CHECK ROOM LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK ROOM LIGHT OPERATION.** Make sure the room light illuminates when the room light switch is turned ON.	Does the room light illuminate?	Go to step **2**.	Check the room light circuit.
2	**CHECK HARNESS BETWEEN ROOM LIGHT AND BODY INTEGRATED UNIT.** 1) Disconnect the body integrated unit harness connector (B280) and room light harness connector (R52). 2) Measure the resistance between the body integrated unit harness connector terminal and room light harness connector terminal. ***Connector & terminal*** ***(B280) No. 3 — (R52) No. 2:***	Is the resistance less than 10 Ω?	The room light operation circuit is OK.	Check the harness for open or short between body integrated unit and room light.

8. CHECK HAZARD LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK HAZARD LIGHT OPERATION.** Make sure the hazard light blinks when hazard switch is turned to ON.	Does the hazard light blink?	Go to step **2**.	Check the hazard light circuit.
2	**CHECK OUTPUT TO HAZARD LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Prepare the Subaru Select Monitor kit. 4) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 5) On the System Selection Menu, select the {Integ. Unit mode}. 6) Select {ECM customizing}. 7) Check {Hazard answer-back setup}, and then switch to ON setting if necessary. 8) Select the {Current Data Display & Save}. 9) When operate the LOCK/UNLOCK button of transmitter, check the hazard output signal of body integrated unit.	Is output signal is present when operating the transmitter LOCK/UNLOCK button?	Go to step **3**.	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK CIRCUIT OF HAZARD LIGHT.** 1) Disconnect the harness connector of body integrated unit (B280). 2) Disconnect the turn signal and hazard unit harness connector (R32). 3) Measure the resistance between harness connector terminals. ***Connector & terminal (B280) No. 12 — (B32) No. 8:***	Is the resistance less than 10 Ω?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

9. CHECK REAR GATE RELEASE ACTUATOR OPERATION

	Step	Check	Yes	No
1	**CHECK REAR GATE RELEASE ACTUATOR OPERATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Prepare the Subaru Select Monitor kit. 4) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 5) On the System Selection Menu, select the {Integ. Unit mode}. 6) Select the {Current Data Display & Save}. 7) Check the rear gate release output signal of body integrated unit when operating the LOCK/UNLOCK button of keyless transmitter.	Is output signal is present when operating the transmitter LOCK/UNLOCK button?	Go to step **2**.	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
2	**CHECK THE CIRCUIT OF REAR GATE RELEASE ACTUATOR.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Disconnect the rear gate release actuator harness connector (D140). 3) Measure the resistance between harness connectors. ***Connector & terminal*** ***(i84) No. 22 — (D140) No. 1:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK CIRCUIT OF HAZARD LIGHT.** 1) Check the ground circuit of rear gate release actuator 2) Disconnect the rear gate release actuator harness connector (D140). 3) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(D140) No. 2 — Chassis ground:***	Is the resistance less than 10 Ω?	Check the trunk lid lock actuator. <Ref. to SL-42, INSPECTION, Rear Gate Latch Assembly.>	Repair the harness.

10.CHECK DOOR LOCK SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR LOCK SWITCH.** Check the input signal from door lock switch to body integrated unit using Subaru Select Monitor. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the "Application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the input signal to body integrated unit by operating the door lock switch.	Is the normal input signal displayed when the door lock switch is moved to LOCK/UNLOCK?	The door lock switch is OK.	Go to step **2**.
2	**CHECK DOOR LOCK SWITCH CIRCUIT.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK. ***Connector & terminal*** ***(i84) No. 15 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Go to step **4**.
3	**CHECK DOOR LOCK SWITCH CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK. ***Connector & terminal*** ***(i84) No. 29 — Chassis ground:***	Is the resistance less than 10 Ω?	The door lock switch is OK.	Go to step **4**.
4	**CHECK DOOR LOCK SWITCH.** 1) Disconnect the door lock switch harness connector (D7 or D125). 2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — No. 9:*** ***Passenger's side:*** ***(D125) No. 2 — No. 5:***	Is the resistance less than 1 Ω?	Go to step **5**.	Replace the door lock switch.
5	**CHECK DOOR LOCK SWITCH.** Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK. ***Connector & terminal*** ***Driver's side:*** ***(D7) No. 5 — No. 8:*** ***Passenger's side:*** ***(D125) No. 4 — No. 5:***	Is the resistance less than 1 Ω?	Check the harness for open circuits or shorts between the body integrated unit and the door lock switch.	Replace the door lock switch.

11.CHECK IGNITION SWITCH ILLUMINATION

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new one.	Go to step **2**.
2	**CHECK POWER SUPPLY.** 1) Disconnect the ignition switch illumination harness connector (B414). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B414) No. 2 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open circuits and shorts between the ignition switch illumination and fuse.
3	**CHECK IGNITION SWITCH ILLUMINATION CIRCUIT.** 1) Disconnect the body integrated unit harness connector (B280) and ignition switch light harness connector (B414). 2) Measure the resistance between body integrated unit harness connector terminal and ignition switch illumination harness connector terminal. ***Connector & terminal*** ***(B280) No. 4 — (B414) No. 1:***	Is the resistance less than 10 Ω?	Replace the ignition switch illumination bulb with a new one. <Ref. to LI-39, REMOVAL, Ignition Switch Illumination.>	Check the harness for open circuits and shorts between the body integrated unit and ignition switch illumination.

12.CHECK HORN OPERATION

	Step	Check	Yes	No
1	**CHECK HORN OPERATION.** Make sure the horn sounds when the horn switch is pushed.	Does the horn sound?	Go to step **2**.	Check the horn circuit.
2	**CHECK HORN OPERATION.** 1) Disconnect the harness connector of body integrated unit (B280). 2) Connect the harness connector terminal to ground using a suitable lead wire. ***Connector & terminal*** ***(B280) No. 11 (+) — Chassis ground (–):***	Does the horn sound?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the harness for open circuits and/or shorts between the body integrated unit and horn relay.

13.CHECK KEYLESS BUZZER

	Step	Check	Yes	No
1	**CHECK KEYLESS BUZZER OPERATION.** Check that the keyless buzzer sounds when LOCK or OPEN button of keyless remote control key is pressed.	Does the keyless buzzer sound?	Keyless buzzer is normal.	Go to step **2**.
2	**CHECK KEYLESS BUZZER ON/OFF SWITCH.** NOTE: If operations 1-5 are performed with the keyless buzzer OFF, the keyless buzzer will turn ON. 1) Close the driver's side door and remove the key from the ignition key cylinder. 2) Push the door lock switch to the UNLOCK side, and insert the key into the ignition key cylinder. 3) From step 2, pull out ⇔ insert the key 5 times from/to the ignition key cylinder within 10 seconds. 4) From step 3, open → close the driver's side door within 10 seconds. 5) The keyless buzzer sound ON/OFF will switch, and the hazard light will blink 3 times. (If the driver's side door is not open → close within 10 seconds in step 4, the hazard light will blink once and the setting will not be changed.) 6) Check that the keyless buzzer sounds when LOCK or OPEN button of keyless remote control key is pressed.	Does the keyless buzzer sound?	Keyless buzzer is normal.	Go to step **3**.
3	**CHECK FOR POWER SUPPLY OF KEYLESS BUZZER.** 1) Turn the ignition switch to OFF. 2) Disconnect the keyless buzzer harness connector (F102). 3) Press the LOCK/UNLOCK button of the keyless transmitter. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(F102) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **4**.	Check the harness for open circuits and shorts between the keyless buzzer and fuse.
4	**CHECK FOR GROUND CIRCUIT OF KEYLESS BUZZER.** 1) Disconnect the harness connector of body integrated unit (i84). 2) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 6 — (F102) No. 1:***	Is the resistance less than 10 Ω?	Go to step **5**.	Repair the harness.
5	**CHECK KEYLESS BUZZER.** 1) Remove the keyless buzzer. 2) Install the keyless buzzer to another vehicle which operates keyless buzzer normally, check the buzzer sounds.	Does the keyless buzzer sound?	Check the body integrated unit or door lock switch. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> <Ref. to GW-8, Power Window Control Switch.>	Replace the keyless buzzer.

14.CHECK IGNITION SWITCH

	Step	Check	Yes	No
1	**CHECK FUSIBLE LINK.** Remove the fusible link main SBF and SBF-6 (in main fuse box), and visually check.	Is the fusible link blown out?	Replace the fusible link main SBF or SBF-6. If the replaced fusible link has blown out easily, repair the short circuit between the fusible link and the ignition switch.	Go to step **2**.
2	**CHECK FOR POWER SUPPLY OF IGNITION SWITCH.** 1) Disconnect the ignition switch harness connector (B72). 2) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(B72) No. 3 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open circuits and shorts between the ignition switch and fusible link.
3	**CHECK IGNITION SWITCH.** 1) Insert the ignition key into ignition switch, and turn the each position. 2) Measure the resistance between ignition switch terminals. ***Connector & terminal*** ***No. 3 — No. 4 (ACC position):*** ***No. 3 — No. 4 — No. 6 — No. 1 (ON position):*** ***No. 3 — No. 6 — No. 1 — No. 2 (ST position):***	Is the resistance less than 1 Ω when turning the ignition key to each position?	Ignition switch is normal.	Replace the ignition switch with a new one. <Ref. to SL-45, REPLACEMENT, Ignition Key Lock.>

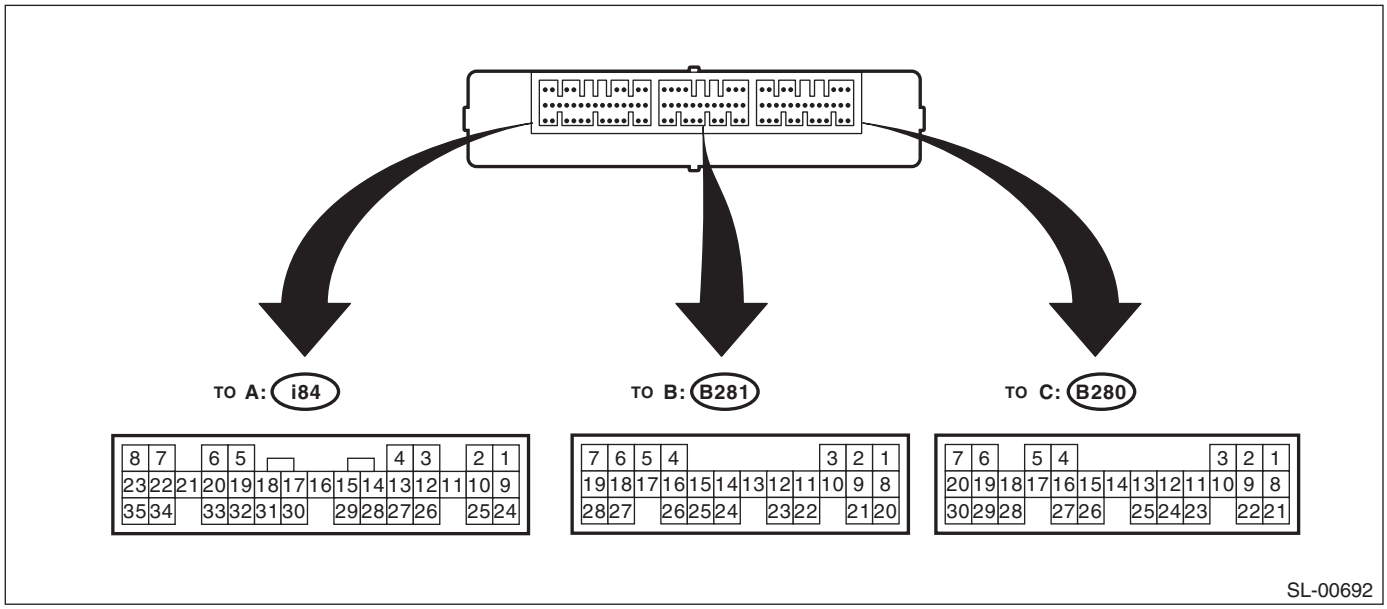
CAUTION:
When the ignition key lock is replaced, all ignition keys also must be registered. (Refer to the "IMMOBILIZER TEACHING OPERATION MANUAL".)

4. Security System

A: WIRING DIAGRAM

<Ref. to WI-196, WIRING DIAGRAM, Security System.>

B: ELECTRICAL SPECIFICATION



Description	Terminal No.	Measuring condition
Ignition switch	A1 (INPUT)	Battery voltage is present when ignition switch is turned ON.
Keyless entry control module	A9 (INPUT)	Communication line (Cannot be measured because of digital signal)
Rear gate latch switch	A17 (INPUT)	0 V is present when opening the rear gate.
Rear door switch RH	A18 (INPUT)	0 V is present when opening the rear door RH.
Front door switch LH	A19 (INPUT)	0 V is present when opening the front door LH.
Rear door switch LH	A31 (INPUT)	0 V is present when opening the rear door LH.
Front door switch RH	A32 (INPUT)	0 V is present when opening the front door RH.
Security indicator light	A33 (INPUT)	Battery voltage is present when the alarm operation is activated.
Horn relay	C11 (OUTPUT)	Battery voltage is present when the alarm operation is activated.
Turn signal & hazard circuit	C12 (OUTPUT)	Battery voltage is present when the alarm operation is activated.
Ground	C22	0 V is constantly present.
Power supply	B2	Battery voltage is constantly present.
Impact sensor	B5	When not applying vibration to the impact sensor, it repeats displaying the 0 V and battery voltage in every 45 milliseconds.
Ground	B8	0 V is constantly present.
Ground	B9	0 V is constantly present.

C: INSPECTION

1. BASIC DIAGNOSTIC PROCEDURE

	Step	Check	Yes	No
1	**INITIAL CHECK.** Check keyless entry system.	Does the keyless entry system operate normally?	Go to step **2**.	Check keyless entry system. <Ref. to SL-13, INSPECTION, Keyless Entry System.>
2	**CHECK SECURITY ON/OFF SETTING.** 1) Remove the key from ignition switch, and close all doors. 2) Press the UNLOCK button of the keyless transmitter. 3) Check the security indicator light blinking patterns.	Does the security indicator light blink at 3 second intervals?	Go to step **3**.	Check the security indicator light circuit. <Ref. to SL-31, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.>
3	**CHECK SECURITY ON/OFF SETTING.** 1) Press the LOCK button of the transmitter. 2) Check the security indicator light blinking patterns.	Is the security indicator light blinking patterns as follows? •When monitoring lag is set to 0 seconds: Blinks twice within 0.5 seconds at 2 second intervals. •When monitoring lag is set to 30 seconds: Blinks three times within 1 second at 0.4 second intervals.	Go to step **6**.	Go to step **4**.
4	**CHANGE THE SETTING OF SECURITY SYSTEM.** Change the setting of security system to ON. <Ref. to SL-28, SECURITY SYSTEM ON/OFF SETTING, INSPECTION, Security System.>	Is setting change completed correctly?	Go to step **5**.	• Check the ignition switch circuit. <Ref. to SL-32, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.> • Check the door lock switch circuit. <Ref. to SL-21, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.>
5	**CHECK THE SETTING CHANGE OF SECURITY SYSTEM.** 1) Remove the key from ignition switch, and close all doors. 2) Press the LOCK button of the transmitter. 3) Check the security indicator light blinking patterns.	Is the security indicator light blinking patterns as follows? •When monitoring lag is set to 0 seconds: Blinks twice within 0.5 seconds at 2 second intervals. •When monitoring lag is set to 30 seconds: Blinks three times within 1 second at 0.4 second intervals.	Go to step **6**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
6	**CHECK SECURITY SYSTEM OPERATION.** Press the LOCK button of keyless transmitter, and wait for 30 seconds.	Is the blinking pattern of security indicator light blink twice within 0.5 seconds in 2 second cycles?	Go to step **7**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

Step		Check	Yes	No
7	**CHECK SECURITY ALARM OPERATION.** 1) Unlock all doors using the door lock switch on driver's door. 2) Open any door or rear gate.	Does the security alarm operate when opening any door or rear gate?	Go to step **8**.	• Check the door switch. <Ref. to SL-29, CHECK DOOR SWITCH, INSPECTION, Security System.> • Check the rear gate latch switch. <Ref. to SL-30, CHECK REAR GATE LATCH SWITCH, INSPECTION, Security System.>
8	**CHECK SECURITY ALARM OPERATION.** Check the security alarm operation.	Does all of the following security alarm operate? •Horn sounds •Hazard light blinks •Security indicator light illuminates	Go to step **9**.	• Check horn. <Ref. to SL-31, CHECK HORN, INSPECTION, Security System.> • Check the hazard light. <Ref. to SL-32, CHECK HAZARD LIGHT OPERATION, INSPECTION, Security System.>
9	**CHECK SECURITY ALARM CANCEL OPERATION.** Press any button of transmitter while operating security alarm. Or turn the ignition switch to OFF → ON three times.	Does all of the following security alarm stop? •Horn stops •Hazard light stops	Go to step **10**.	Check the ignition switch circuit. <Ref. to SL-32, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.>
10	**CHECK SECURITY SYSTEM CONDITION MEMORY.** Check that the system function properly when the battery is not connected temporally. <Ref. to SL-28, CHECK SECURITY SYSTEM CONDITION MEMORY, INSPECTION, Security System.>	Does the system function properly when the battery is not connected temporally?	Go to step **11**.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
11	**CHECK IMPACT SENSOR.** Check the sensibility of impact sensor. <Ref. to SL-49, CHECK IMPACT SENSOR, ADJUSTMENT, Impact Sensor.>	Is the sensibility set properly?	Press the UNLOCK button of keyless transmitter, and finish the diagnosis.	Adjust the sensibility. <Ref. to SL-49, IMPACT SENSITIVITY ADJUSTMENT, ADJUSTMENT, Impact Sensor.>

NOTE:
Check the function setting of body integrated unit if any of the following symptoms appear. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
- The horn does not sound even when the security system operates.
- The horn sounds when setting the security to ON using the keyless transmitter.

2. CHECK SECURITY SYSTEM CONDITION MEMORY

1) Remove the key from ignition switch.
2) Close all doors and the rear gate.
3) Open the front hood.
4) Press the LOCK button of transmitter, and then wait until the security indicator light flashes twice for 0.5 sec at intervals of 2 seconds.
5) Disconnect the ground cable from the battery.
6) Connect the battery ground cable to the battery.
7) Check that the security indicator light blinks twice within 0.5 seconds at 2 second intervals. When it does not blink, replace the body integrated unit.

3. SECURITY SYSTEM ON/OFF SETTING

1) Close all doors and the rear gate, and sit down on the driver's seat. Press the UNLOCK button of the keyless transmitter.
2) Turn the ignition switch to ON.
3) Push the centralized door lock switch down and open the driver's side door at the same time, and hold in this condition for 10 seconds.
4) If the security system is ON, it will turn OFF. If OFF, it will turn ON.

4. CHECK DOOR SWITCH

	Step	Check	Yes	No
1	**CHECK INPUT FROM EACH DOOR SWITCH.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the "Application for Subaru Select Monitor III". 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the door switch input to the body integrated unit when opening the each door (front RH and LH, rear RH and LH).	Is the input signal detected when opening the each door (front RH and LH, rear RH and LH)?	The door switch circuit is OK.	When the input signal cannot be detected in some door switch, Go to step **2**.
2	**CHECK THE DOOR SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Disconnect the defective door switch harness connector (any of R9, R12, R16, R22). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 19 — (R12) No. 1: (front door LH)*** ***(i84) No. 32 — (R9) No. 1: (front door RH)*** ***(i84) No. 31 — (R22) No. 1: (rear door LH)*** ***(i84) No. 18 — (R16) No. 1: (rear door RH)***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK THE GROUND CIRCUIT OF DOOR SWITCH.** 1) Disconnect the defective door switch harness connector (any of R9, R12, R16, R22). 2) Measure the resistance of harness connector and chassis ground. ***Connector & terminal*** ***(R9) No. 3 — Chassis ground: (front door LH)*** ***(R12) No. 3 — Chassis ground: (front door RH)*** ***(R22) No. 3 — Chassis ground: (rear door LH)*** ***(R16) No. 3 — Chassis ground: (rear door RH)***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the harness.
4	**CHECK DOOR SWITCH.** 1) Disconnect the defective door switch harness connector (any of R9, R12, R16, R22). 2) Measure the resistance between door switch terminals. ***Terminals*** ***No. 1 — No. 3:***	Is the resistance more than 1 MΩ when door switch is pushed?	Go to step **5**.	Replace the door switch.
5	**CHECK DOOR SWITCH.** Measure the resistance between door switch terminals. ***Terminals*** ***No. 1 — No. 3:***	Is the resistance less than 1 Ω when door switch is released?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the door switch.

5. CHECK REAR GATE LATCH SWITCH

	Step	Check	Yes	No
1	**CHECK THE INPUT FROM REAR GATE LATCH SWITCH.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the input signal to the body integrated unit when opening the rear gate.	Is the input signal detected when opening the rear gate?	Rear gate latch switch circuit is OK.	Go to step **2**.
2	**CHECK REAR GATE LATCH SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Disconnect the rear gate latch switch harness connector (D140). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(i84) No. 17 — (D140) No. 3:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the harness.
3	**CHECK REAR GATE LATCH SWITCH GROUND CIRCUIT.** 1) Disconnect the rear gate latch switch harness connector (D140). 2) Measure the resistance between harness connector terminal and chassis ground. ***Connector & terminal*** ***(D140) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the harness.
4	**CHECK REAR GATE LATCH SWITCH.** 1) Disconnect the rear gate latch switch harness connector. 2) Measure the resistance between switch terminals. ***Terminals*** ***No. 3 — No. 4:***	Is the resistance more than 1 MΩ when switch is pushed?	Go to step **5**.	Replace the rear gate latch switch.
5	**CHECK REAR GATE LATCH SWITCH.** Measure the resistance between switch terminals. ***Terminals*** ***No. 3 — No. 4:***	Is the resistance less than 1 Ω when switch is released?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Replace the rear gate latch switch.

6. CHECK SECURITY INDICATOR LIGHT CIRCUIT

	Step	Check	Yes	No
1	**CHECK SECURITY INDICATOR LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Connect the resistor (100 Ω) between body integrated unit harness connector terminal (i84) No. 33 and chassis ground. ***Connector & terminal*** ***(i84) No. 33 — Chassis ground:***	Does the security indicator light illuminate?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Go to step **2**.
2	**CHECK POWER SUPPLY FOR SECURITY INDICATOR LIGHT.** 1) Disconnect the connector (i116) from the warning box. 2) Measure the voltage between warning box harness connector terminal and chassis ground. ***Connector & terminal*** ***(i116) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **3**.	Check the harness for open or short circuits between warning box and fuse.
3	**CHECK SECURITY INDICATOR LIGHT CIRCUIT.** Measure the resistance between the warning box harness connector terminal and security control unit harness connector terminal. ***Connector & terminal*** ***(i116) No. 2 — (i84) No. 33:***	Is the resistance less than 10 Ω?	Replace the warning box. <Ref. to IDI-18, Warning Box.>	Check the harness for open or short circuits between warning box and body integrated unit.

7. CHECK HORN

	Step	Check	Yes	No
1	**CHECK HORN OPERATION.** Check the horn sounds when the horn switch is pushed.	Does the horn sound?	Go to step **2**.	Check the horn circuit.
2	**CHECK OUTPUT TO HORN RELAY.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select {Function Check}. 5) Select {Horn Output} and execute	Does the horn sound?	Horn circuit is OK.	Go to step **3**.
3	**CHECK HORN RELAY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (B280). 3) Disconnect the main fuse box harness connector (B186). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(B280) No. 11 — (B186) No. 1:***	Is the resistance less than 10 Ω?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

8. CHECK HAZARD LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK HAZARD LIGHT OPERATION.** Make sure the hazard light blinks when hazard switch is turned to ON.	Does the hazard light blink?	Go to step **2**.	Check the hazard light circuit.
2	**CHECK OUTPUT TO HAZARD LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Prepare the Subaru Select Monitor kit. 4) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 5) On the System Selection Menu, select the {Integ. Unit mode}. 6) Select {ECM customizing}. 7) Check the {Hazard answer-back setup}, and then switch to ON setting. 8) Select the {Current Data Display & Save}. 9) Check the hazard output signal of body integrated unit when operating the LOCK/UNLOCK button of transmitter.	Is output signal is present when operating the transmitter LOCK/UNLOCK button?	Go to step **3**.	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
3	**CHECK CIRCUIT OF HAZARD LIGHT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (B280). 3) Disconnect the turn signal and hazard unit harness connector (B32). 4) Measure the resistance between harness connector terminals. ***Connector & terminal*** ***(B280) No. 12 — (B32) No. 8:***	Is the resistance less than 10 Ω?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Repair the harness.

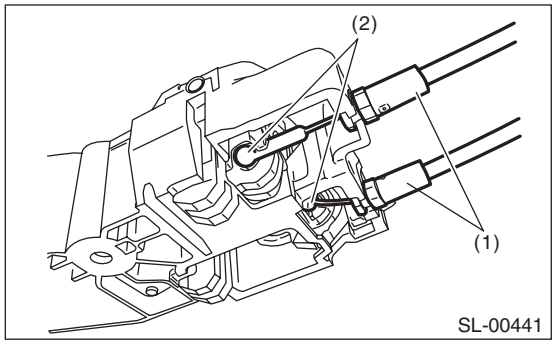
9. CHECK IGNITION SWITCH CIRCUIT

	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH VOLTAGE.** 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF), and run the “Application for Subaru Select Monitor III”. 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the {BATT voltage} and {IG power supply}.	Is the {IG power supply} within ±1 V against {BATT voltage}?	The ignition switch input circuit is OK.	Go to step **2**.
2	**CHECK IGNITION SWITCH CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit (i84). 3) Turn the ignition switch to ON. 4) Measure the voltage between harness connector terminal and chassis ground. ***Connector & terminal*** ***(i84) No. 1 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>	Check the harness for open or short circuit between body integrated unit and fuse.

5. Front Inner Remote

A: REMOVAL

1) Remove the door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
2) Remove the cable from the cable holder.
3) Remove the screw, move the inner remote to the rear, and remove from the panel.
4) Remove the cable (1).
5) Remove the cable end (2), and remove the inner remote.



B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Check the following items during the installation:
• Does the cable have deformation such as snag?
• Is the grease sufficiently applied to the cable connection?
When the amount of grease is small, apply additional grease before assembling the cable.

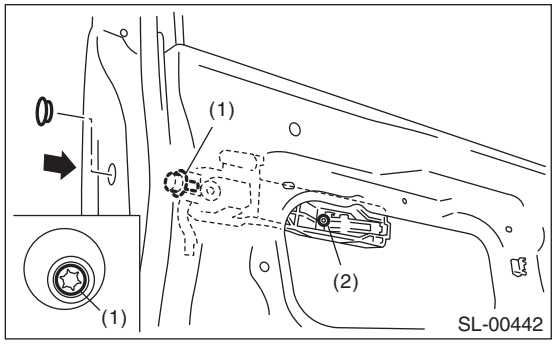
C: INSPECTION

After the installation, inspect the following items:
• Do the lever, cable, and lock knob operate smoothly?
• After the door is closed, does the inner remote operate properly?

6. Front Outer Handle

A: REMOVAL

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the sealing cover. <Ref. to EB-18, REMOVAL, Front Sealing Cover.>
4) Remove the plug at the rear end of the door panel.
5) Remove the rod clamp.
6) Loosen the bolt (1) and turn bolt (2) five times.
7) Move the front outer handle forward, and detach the front outer handle.



CAUTION:
Do not apply excessive force to remove the handle from door panel, not to deform the door panel.
8) Remove the outer side spacer, and slide the frame assembly forward from the inner side, then remove.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
During installation, make sure that the rod does not have any deformation.

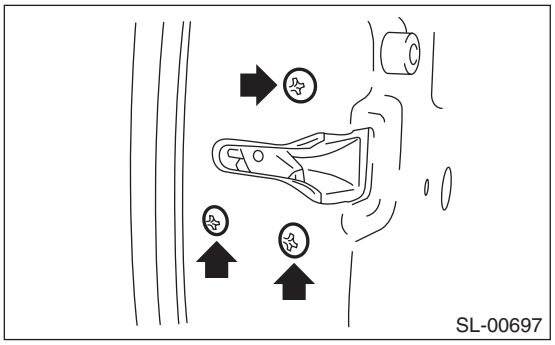
C: INSPECTION

After the installation, inspect the following items:
- Are the key cylinder and latch contacting securely?
- Do the lever and rod operate smoothly?
- When the door is opened and closed, does the outer handle operate properly?

7. Front Door Latch and Door Lock Actuator Assembly

A: REMOVAL

1) Raise the front door glass to the top position.
2) Disconnect the ground cable from the battery.
3) Remove the front door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
4) Remove the cable from the front inner remote. <Ref. to SL-33, REMOVAL, Front Inner Remote.>
5) Remove the sealing cover. <Ref. to EB-18, REMOVAL, Front Sealing Cover.>
6) Remove the door sash. <Ref. to GW-10, REMOVAL, Front Door Glass.>
7) Remove the connection rod of the key cylinder lever. (Driver's side only)
8) Remove the three screws.



9) Remove the front door latch and actuator assembly, and disconnect the connector.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Check the following items during the installation:
- Is the rod deformed?
- Does the cable have deformation such as snag?

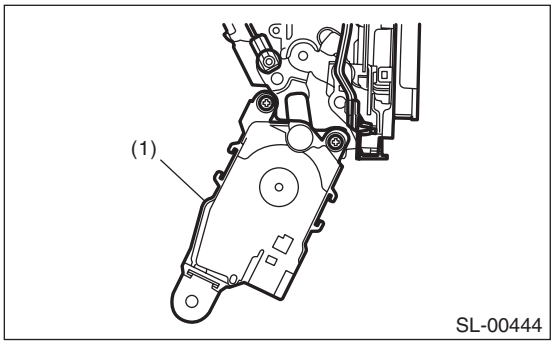
C: INSPECTION

After the installation, inspect the following items:
- Do the lever, rod, and cable operate smoothly?
- Do the front door outer handle, cable, front door latch, and door lock operate smoothly?

8. Front Door Lock Actuator

A: REMOVAL

1) Remove the front door latch and door lock actuator assembly. <Ref. to SL-35, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
2) Remove the pawl of front door latch security cover, and then remove the cover.
3) Remove the screw from front door latch and door lock actuator, and then remove the door lock actuator.



(1) Front door lock actuator

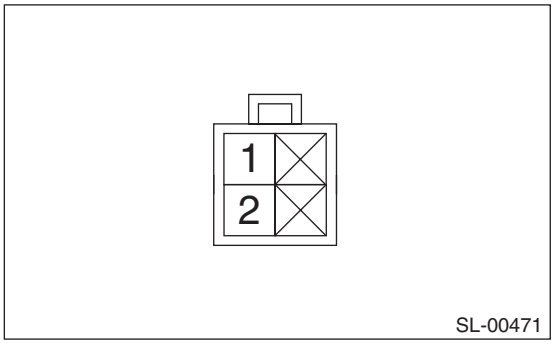
B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure lock and unlock work correctly after installation.

C: INSPECTION

1) Disconnect the door lock actuator harness connector.
2) Connect the battery to door lock actuator terminals.
3) Check the actuator operation.
If defective, replace the door lock actuator.

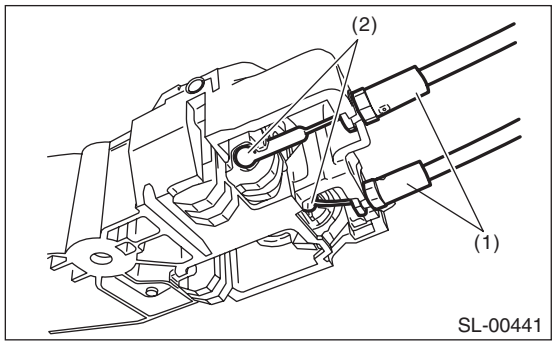


Terminal No.	Actuator operation
No. 1 (+) and No. 2 (–)	Unlock → Lock
No. 2 (+) and No. 1 (–)	Lock → Unlock

9. Rear Inner Remote

A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
2) Remove the screw, slide the inner remote to the rear, and remove from the panel.
3) Remove the cable (1).
4) Remove the cable end (2), and detach the inner remote handle.



B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Check the following items during the installation:
• Does the cable have deformation such as snag?
• Is the grease sufficiently applied to the cable connection?
When the amount of grease is small, apply additional grease before assembling the cable.

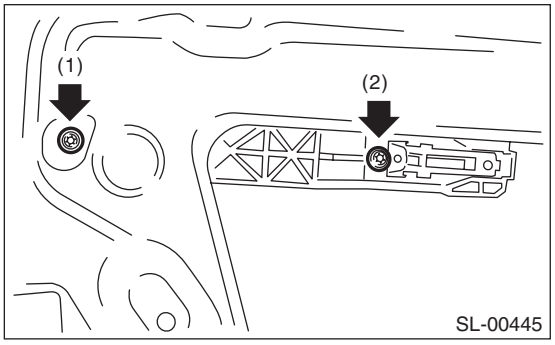
C: INSPECTION

After the installation, inspect the following items:
• Do the lever, cable, and lock knob operate smoothly?
• After the door is closed, does the inner remote operate properly?
• Check the child safety lock for correct operations.

10.Rear Outer Handle

A: REMOVAL

1) Raise the rear door glass to the top position.
2) Disconnect the ground cable from the battery.
3) Remove the rear door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
4) Remove the sealing cover. <Ref. to EB-21, REMOVAL, Rear Sealing Cover.>
5) Loosen the bolt (1) and turn bolt (2) twice.
6) Remove the outer handle cover.
7) Remove the outer side spacer, move the rear outer handle forward/backward and remove the rear outer handle.



CAUTION:
Do not apply excessive force to remove the handle from door panel, not to deform the door panel.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Check the following items during the installation:
• Check that the outer handle operates properly, when the door is opened and closed.
• Does the resin lever operate smoothly?
• Does the resin lever have any deformation, breakage, or crack?

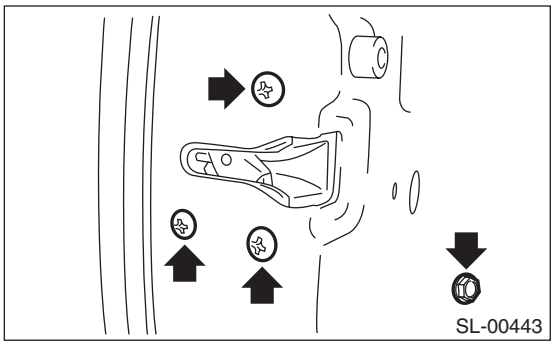
C: INSPECTION

After the installation, inspect the following items:
• Inspect to make sure that the latch is in secure contact.
• Check the handle and cable for smooth operation.
• When the door is opened and closed, does the outer handle operate properly?

11.Rear Door Latch and Door Lock Actuator Assembly

A: REMOVAL

1) Raise the door glass to the top position.
2) Disconnect the ground cable from the battery.
3) Remove the rear door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
4) Remove the cable from rear inner remote. <Ref. to SL-37, REMOVAL, Rear Inner Remote.>
5) Remove the sealing cover. <Ref. to EB-21, REMOVAL, Rear Sealing Cover.>
6) Remove the rear sash. <Ref. to GW-18, REMOVAL, Rear Regulator and Motor Assembly.>
7) Remove the three screws and one bolt.



8) Disconnect the connectors, and then remove the rear door latch and door lock actuator assembly.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Check the following items during the installation:
- Is the rod deformed?
- Does the cable have deformation such as snag?

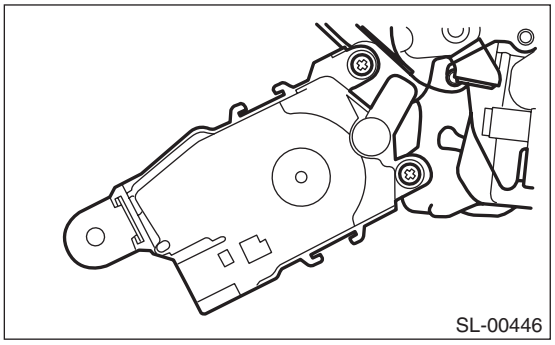
C: INSPECTION

After the installation, inspect the following items:
- Do the lever, rod, and cable operate smoothly?
- Do the rear door outer handle, cable, rear door latch, and door lock operate smoothly?

12.Rear Door Lock Actuator

A: REMOVAL

1) Remove the rear door latch and door lock actuator assembly. <Ref. to SL-39, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
2) Remove the screw from the rear door latch and door lock actuator, and then remove the door lock actuator.



(1) Rear door lock actuator

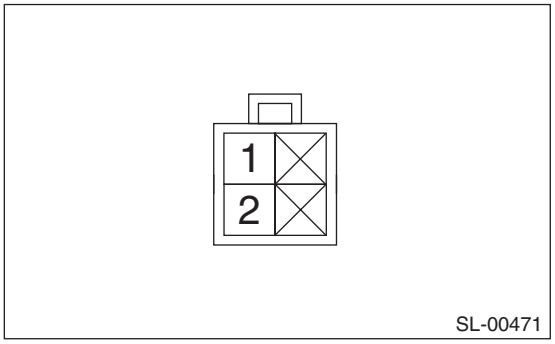
B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure lock and unlock work correctly after installation.

C: INSPECTION

1) Disconnect the door lock actuator harness connector.
2) Connect the battery to door lock actuator terminals.
3) Check the actuator operation.
If defective, replace the door lock actuator.

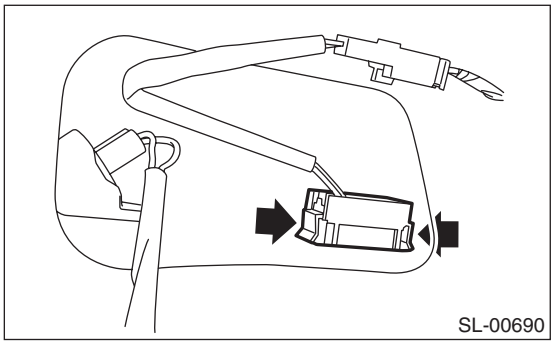


Terminal No.	Actuator operation
No. 1 (+) and No. 2 (–)	Unlock → Lock
No. 2 (+) and No. 1 (–)	Lock → Unlock

13.Rear Gate Release Switch

A: REMOVAL

1) Remove the rear gate trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
2) Disconnect the harness connector of the rear gate release switch.
3) Hold the rear gate release switch hook, and remove the rear gate release switch.



B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the rear gate latch assembly works properly after installation.

C: INSPECTION

1) Disconnect the harness connector of the rear gate release switch.
2) Inspect the continuity between the rear gate release switch connector terminals.

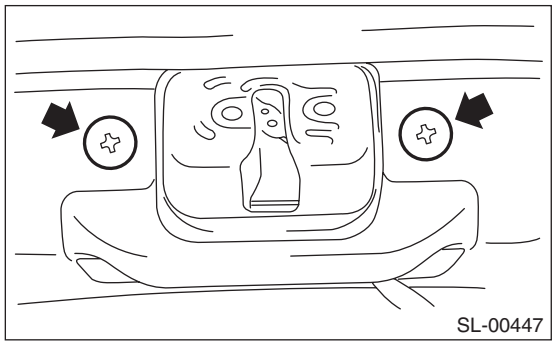
Switch	Terminals	Standard
Open	No. 1 and No. 2	Less than 1 Ω
Close		1 MΩ or more

If NG, replace the rear gate release switch.

14.Rear Gate Latch Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
3) Disconnect the harness connector of rear gate latch assembly.
4) Remove the two screws.



5) Remove the rear gate latch assembly.

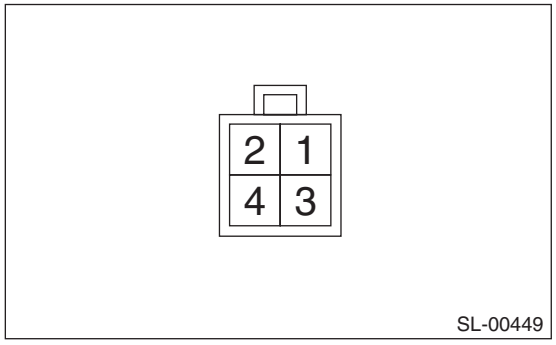
B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure lock and unlock work correctly after installation.

C: INSPECTION

1) Disconnect the rear gate lock actuator harness connector.
2) Connect the battery to rear gate lock actuator terminals.



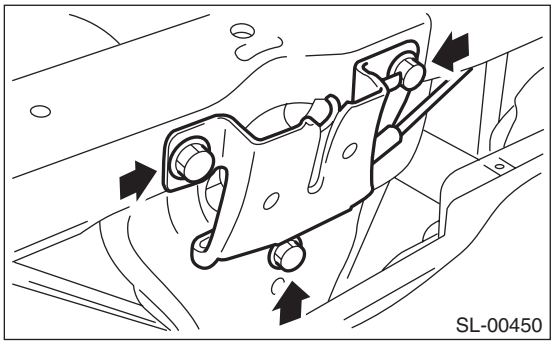
Terminal No.	Actuator operation
No. 1 (+) and No. 2 (–)	Lock → Unlock

Replace the rear gate latch assembly if faulty.

15.Front Hood Lock Assembly

A: REMOVAL

1) Open the front hood.
2) Remove the engine front cover.
3) Remove the bolts, and then detach the front hood lock assembly.



4) Remove the cable from lock assembly.

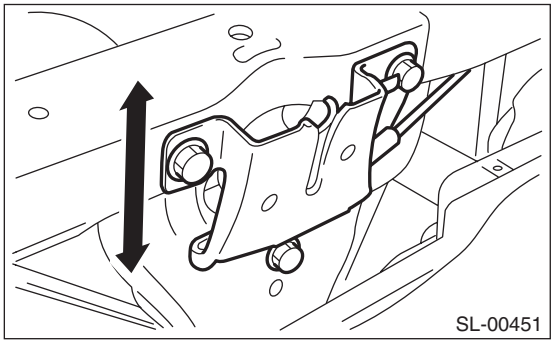
B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Check the following items during the installation:
- Is the grease sufficiently applied to the movable parts?
- Does the cable work correctly after installation?

C: ADJUSTMENT

Loosen the bolt, and adjust the lock assembly while moving it up and down.



D: INSPECTION

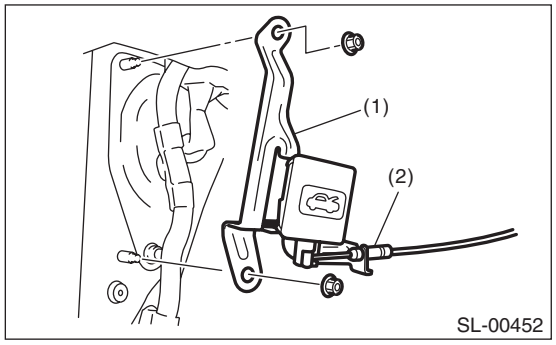
After the installation, inspect the following items:
- Check the striker for deformation or abnormal wear.
- Check the safety lever for improper movement.
- Check other levers and springs for rust formation or unsmooth movement.

16.Remote Openers

A: REMOVAL

1. FRONT HOOD OPENER

1) Remove the nuts, and remove the front hood opener lever.
2) Remove the cable from the front hood opener.

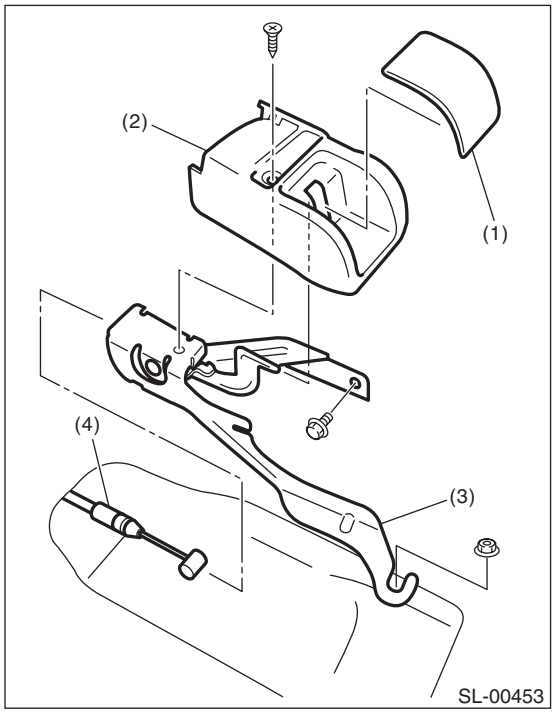


(1) Front hood opener
(2) Cable

2. FUEL FILLER FLAP LID OPENER

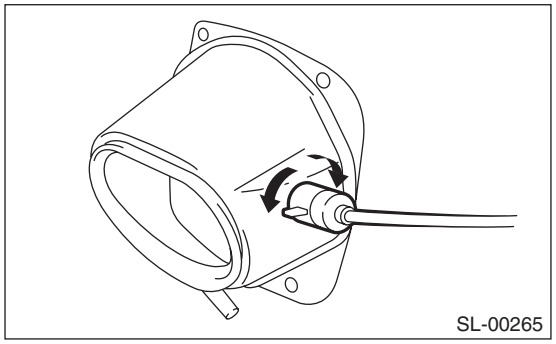
1) Remove the second seat. <Ref. to SE-13, REMOVAL, Second Seat.>
2) Remove the third-row seats. <Ref. to SE-19, REMOVAL, Third Seat.>
3) Remove the following side trims. <Ref. to EI-45, REMOVAL, Side Trim.>
- Front door scuff plate LH
- Rear door scuff plate LH
- Center pillar lower trim

4) Remove the right rear quarter trim. <Ref. to EI-47, REMOVAL, Rear Quarter Trim.>
5) Turn over the floor mat to remove the clips securing the cable.
6) Remove the cover.
7) Remove the bolt and nut, and then detach the pull handle assembly.



(1) Pull lever
(2) Cover
(3) Pull handle ASSY
(4) Cable

8) Remove the cable from pull handle assembly.
9) Rotate the fuel lock inside the quarter panel to 90° and remove. (Either right or left turn)



B: INSTALLATION

Install in the reverse order of removal.

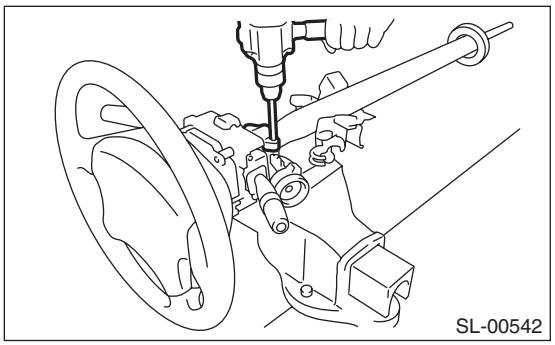
C: INSPECTION

Make sure the front hood and fuel filler flap lid open and close smoothly.

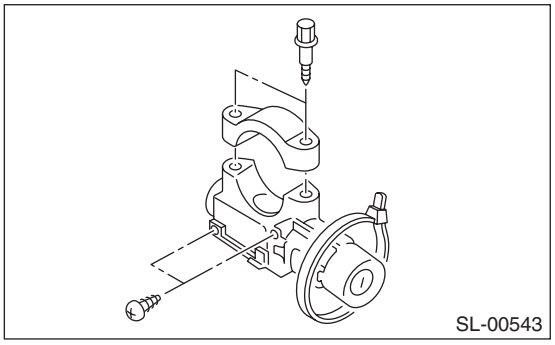
17.Ignition Key Lock

A: REPLACEMENT

1) Disconnect the ground cable from the battery.
2) Remove the steering column. <Ref. to PS-16, REMOVAL, Tilt Steering Column.>
3) Secure the steering column in a vise. Remove the bolt with a drill.

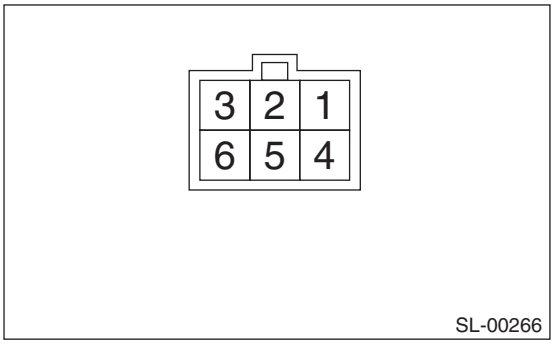


4) Remove the ignition key lock.
5) Using a new bolt, tighten the bolts all the way.



B: INSPECTION

1) Remove the instrument panel lower cover.
2) Remove the lower column cover.
3) Unfasten the fixing clip which secures harness, and then disconnect the connector of the ignition switch from body harness.
4) Turn the ignition key plate to each position and check the continuity between terminals of ignition connector.



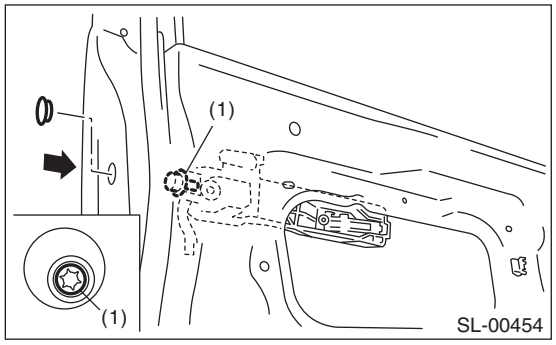
Switch position	Terminal No.	Standard
LOCK	—	—
ACC	No. 3 and No. 4	Less than 1 Ω
ON	No. 3, No. 1 and No. 4 No. 3 and No. 6	Less than 1 Ω
ST	No. 3 and No. 1 No. 3, No. 2 and No. 6	Less than 1 Ω

If NG, replace the ignition switch.

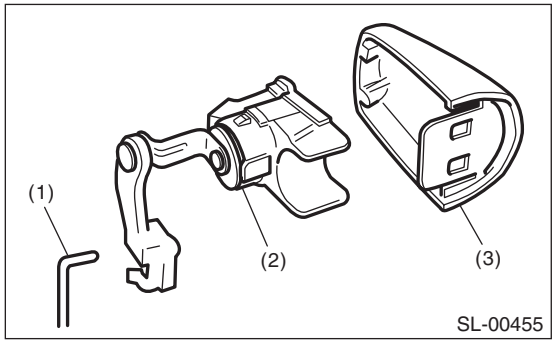
18.Key Lock Cylinders

A: REPLACEMENT

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-37, REMOVAL, Door Trim.>
3) Remove the sealing cover.
4) Remove the plug at the rear end of the panel.
5) Loosen bolt (1) to remove the rod clamp.



6) Remove the key cylinder all together with the handle cover.
7) Remove the key cylinder from cover, and replace the key cylinder.



(1) Latch connection rod
(2) Key cylinder
(3) Door outer handle cover

19.Security Control Unit

A: NOTE

The control of security system is carried out in body integrated unit. Refer to the section of body integrated unit for work.

- Removal <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
- Installation <Ref. to SL-52, INSTALLATION, Body Integrated Unit.>

20.Impact Sensor

A: REMOVAL

1) Remove the key from ignition switch.
2) Close all doors and the rear gate.
3) Press the UNLOCK button of the keyless transmitter.
4) Change the setting of impact sensor using Subaru Select Monitor.
5) Disconnect the ground cable from the battery.
6) Remove the impact sensor.

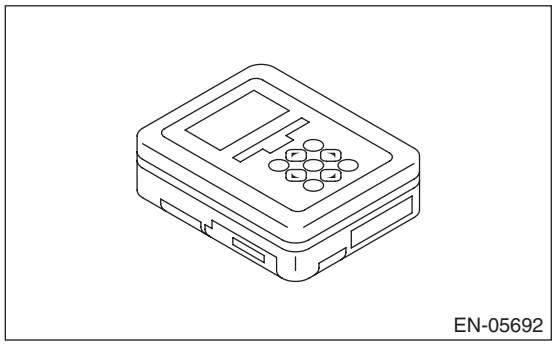
B: INSTALLATION

1) Remove the key from ignition switch.
2) Close all doors and the rear gate.
3) Press the UNLOCK button of the keyless transmitter.
4) Disconnect the ground cable from the battery.
5) Install the impact sensor.
6) Connect the battery ground cable to the battery.
7) Change the setting of impact sensor using Subaru Select Monitor.

C: OPERATION

1. IMPACT SENSOR SETTING USING SUBARU SELECT MONITOR

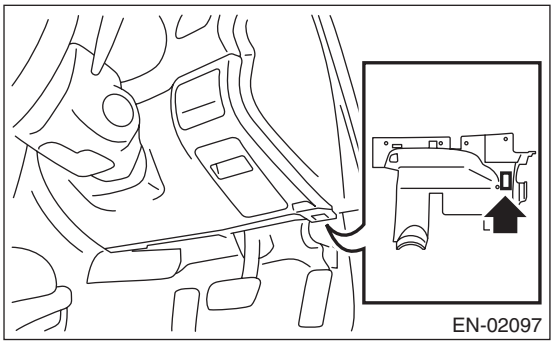
1) Prepare the Subaru Select Monitor kit. <Ref. to EN(H6DO)(diag)-7, PREPARATION TOOL, General Description.>


EN-05692

2) Prepare PC with Subaru Select Monitor installed.
3) Connect USB cable to SDI (Subaru Diagnostic Interface) and PC USB port (Subaru Select Monitor dedicated port).

NOTE:
Subaru Select Monitor dedicated port indicates USB port used when Subaru Select Monitor is installed.

4) Connect the diagnosis cable to SDI.
5) Connect SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).


EN-02097

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.

6) Start the PC.
7) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor III".
8) On the System Selection Menu, select the {Integ. Unit mode}.
9) Select {ECM customizing}.
10) Make a impact monitor setting.
- When installing: ON
- When removing: OFF

11) Make a impact monitor ON/OFF setting.
- When installing: ON
- When removing: OFF

12) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

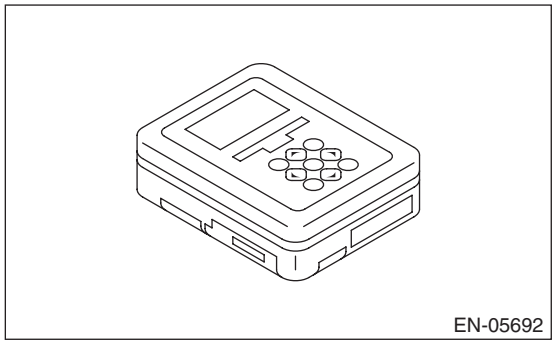
D: ADJUSTMENT

1. CHECK IMPACT SENSOR

1) Remove the key from ignition switch.
2) Close all windows.
3) Close all doors and the rear gate. Leave open the front hood.
4) Press the LOCK button of the keyless transmitter from outside of vehicle.
5) Check that the security indicator light blinks twice within 0.5 seconds in 2 second cycles after 30 seconds.
6) Hit the windshield with your palm continuously and check the security alarm operates. Lift up the front hood approx. 12 cm (4.7 in) or more, and then drop it off to check the operation of security alarm.
7) If NG, adjust the impact sensitivity.

2. IMPACT SENSITIVITY ADJUSTMENT

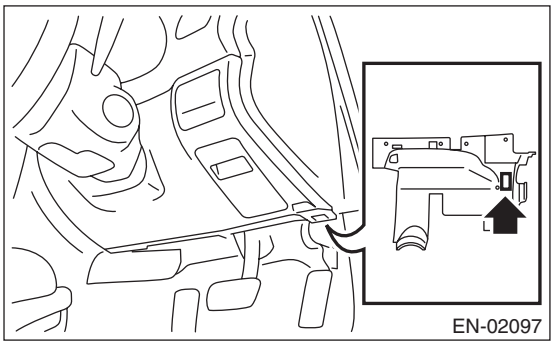
1) Prepare the Subaru Select Monitor kit. <Ref. to EN(H6DO)(diag)-7, PREPARATION TOOL, General Description.>


EN-05692

2) Prepare PC with Subaru Select Monitor installed.
3) Connect USB cable to SDI (Subaru Diagnostic Interface) and PC USB port (Subaru Select Monitor dedicated port).

NOTE:
Subaru Select Monitor dedicated port indicates USB port used when Subaru Select Monitor is installed.

4) Connect the diagnosis cable to SDI.
5) Connect SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).


EN-02097

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.

6) Start the PC.
7) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor III".
8) On the System Selection Menu, select the {Impact Sensor}.
9) Make a {Sensitivity Adjustment Mode}.
- Sensitivity can be adjusted in 11 levels (0 to 10).
- Initial setting is 5.
- Smaller number means more sensitive.
- Larger number means less sensitive.

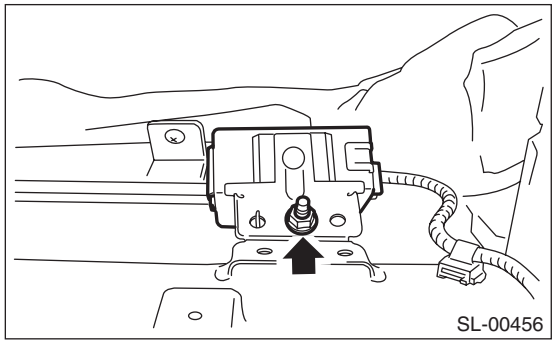
10) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

NOTE:
- Set the sensor so as not to let the alarm on normal vibration (reclining to the door, hit the ball and etc.).
- Set the sensor to operate the alarm with hitting the door or window glass, etc. continuously like a mayhem by robbery.
- Ask the customer about parking situation for setting, because the alarm operate when the vibration not only the burglar but also the construction etc.

21.Keyless Entry Control Module

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
3) Remove the nut, then disconnect the connector to remove the keyless entry control module.



B: INSTALLATION

Install in the reverse order of removal.

22.Keyless Buzzer

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the keyless buzzer installed to the backside of radiator bracket.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

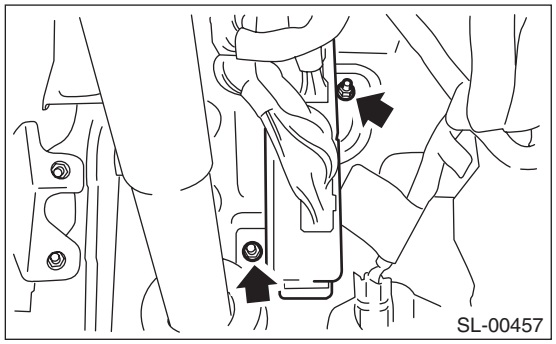
Install the keyless buzzer to another vehicle which operates keyless buzzer normally, check the buzzer sounds. If NG, replace the keyless buzzer.

23.Body Integrated Unit

A: REMOVAL

NOTE:
• When replacing the body integrated unit, check the current setting and note it. <Ref. to LAN(diag)-17, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>
• When replacing the body integrated unit, all immobilizer keys also must be replaced and registered again.
1) Disconnect the ground cable from the battery.
2) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
3) Disconnect the connector of body integrated unit.

CAUTION:
• Be careful to keep water and other foreign materials away from body integrated unit.
• Do not install or register an immobilizer related module of other registered vehicles in order to diagnose failures or inspect functions.
4) Remove two mounting nuts for body integrated unit bracket, and remove the bracket.



B: INSTALLATION

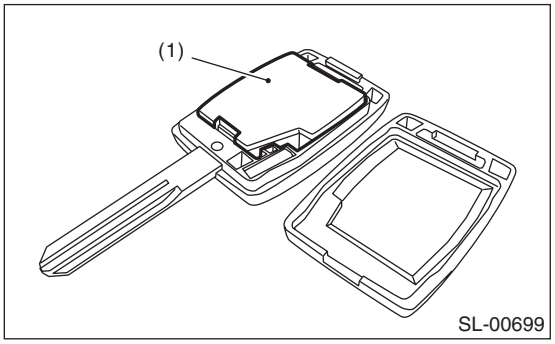
Install in the reverse order of removal.

NOTE:
• When the same body integrated unit is reinstalled in the same vehicle, it is not necessary to register the immobilizer again.
• Make sure that there are no differences from the contents of the current settings after installation. <Ref. to LAN(diag)-17, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>

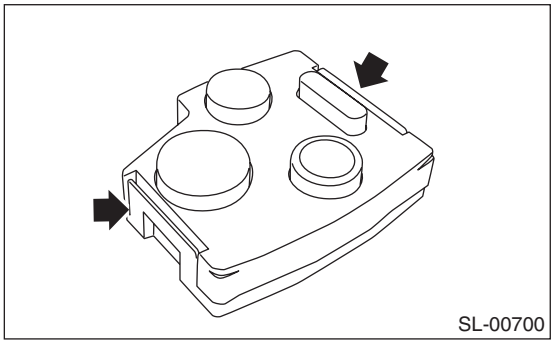
24.Transmitter

A: REMOVAL

1) Disassemble the keyless transmitter, and take out the transmitter case (1).

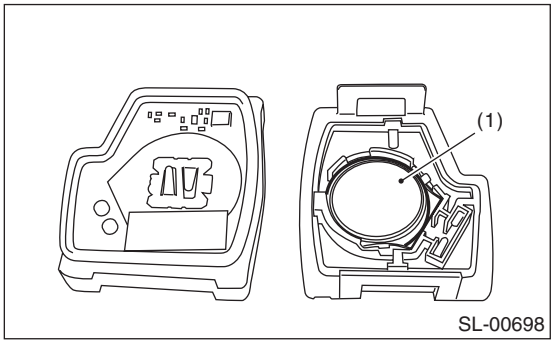


2) Remove the claw, and open the transmitter case.



3) Remove the battery (1) from the transmitter.

NOTE:
To prevent static electricity damage to the transmitter printed circuit board, touch the steel area of building with hand to discharge static electricity carried on body or clothes before disassembling the transmitter.



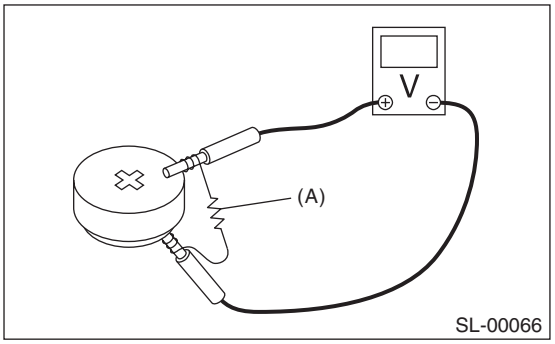
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Measure the voltage between the keyless transmitter battery (+) terminal and (–) terminal.

NOTE:
Battery discharge occurs during the measurement. Complete the measurement within 5 seconds.



(A) Resistance (47 Ω)

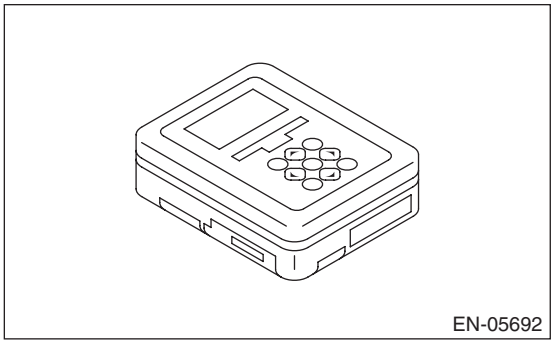
Tester connection		Standard
(+)	(–)	
Battery Positive terminal	Battery Ground terminal	2.5 — 3.0 V

If NG, replace the battery. (Use CR1620 or equivalent.)

D: REPLACEMENT

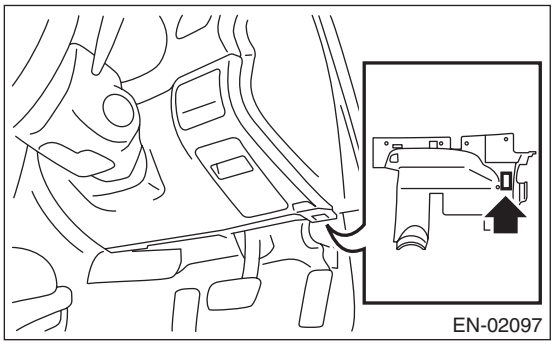
1. REGISTRATION OF KEYLESS TRANSMITTER WITH SUBARU SELECT MONITOR

NOTE:
• A maximum of four keyless transmitter can be registered for each individual vehicle.
• When replacing or adding the keyless transmitter, new registration of transmitter is necessary.
1) Prepare the Subaru Select Monitor III kit. <Ref. to EN(H6DO)(diag)-7, PREPARATION TOOL, General Description.>


EN-05692

2) Prepare PC with Subaru Select Monitor III installed.
3) Connect USB cable to SDI (Subaru Diagnostic Interface) and PC USB port (Subaru Select Monitor III dedicated port).

NOTE:
Subaru Select Monitor III dedicated port indicates USB port used when Subaru Select Monitor III is installed.
4) Connect the diagnosis cable to SDI.
5) Connect SDI to data link connector located in the lower portion of the instrument panel (on the driver's side).


EN-02097

CAUTION:
Do not connect scan tools other than the Subaru Select Monitor.

6) Start the PC.
7) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor III".
8) On the «System Selection Menu» of the Subaru Select Monitor, select the "Each System Check" → "Integ. unit mode" → "Keyless transmitter ID registration".
9) Input the 8-digit ID number attached to the tag plate of the transmitter or inside the transmitter, from left to right. Press the [Enter] key.

NOTE:
Press the [▲] key on the Subaru Select Monitor to increase the number, and the [▼] key to decrease. Press the [<] key to move to the digit in the left, and [>] to the right.
10) The ID number you have entered will be shown. Make sure that the ID number shown is the same as that of the tag plate.
11) Press the [OK] key if the ID number is correct. Press the [NO] key if incorrect, to return to the step 3) and try again.
12) «ID registration in process···» is displayed and registration starts.
13) «ID registration done» will be displayed when the registration process is done.
14) To exit, select «END:NO», and press the [NO] key to return to {8. Transmitter ID registration}. If there are additional keyless transmitters to be registered, select «Next registration: OK» to return to the step 3).

NOTE:
• If the registration fails, «ID registration failed. Try again.» will be shown. Select the [OK] key to return to the {8. Transmitter ID registration}. Retry from step 2.
• «END: NO» is shown on the Subaru Select Monitor when fourth keyless transmitter has been registered. Select the [NO] key to return to {8. Keyless transmitter ID registration}.

25.Immobilizer Control Module

A: NOTE

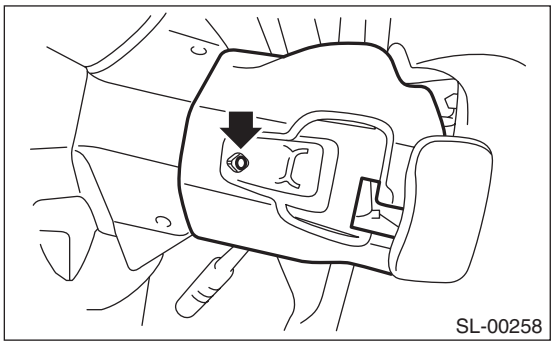
The control of immobilizer system is carried out in body integrated unit. Refer to the section of body integrated unit for work.

- Removal <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
- Installation <Ref. to SL-52, INSTALLATION, Body Integrated Unit.>

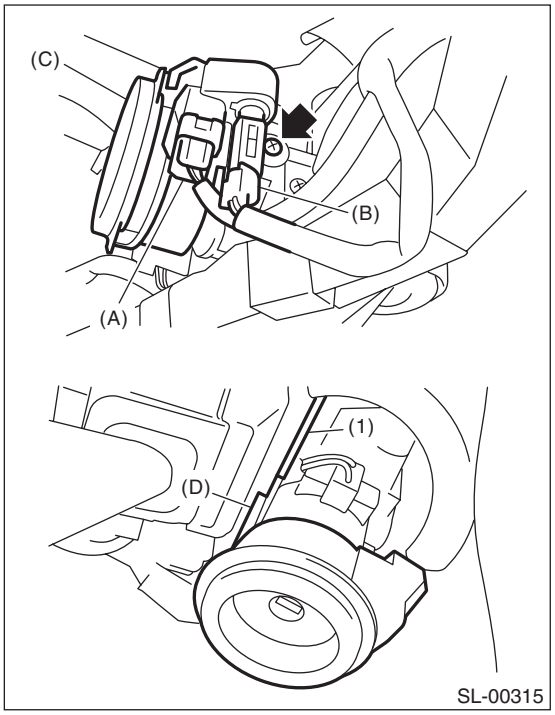
26.Immobilizer Antenna

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the screws, and detach the upper column cover and lower column cover.



3) Remove the instrument panel lower cover. <Ref. to EI-38, REMOVAL, Instrument Panel Lower Cover.>
4) Disconnect the immobilizer antenna connector (A) and ignition switch lighting connector (B).
5) Loosen the screw and release the lock (D) at opposite side using flat-tip screwdriver (1), and then detach the immobilizer antenna (C).



CAUTION:
Do not apply excessive force to remove the immobilizer antenna and lock. Otherwise they may be broken because those parts are the products made of a plastic.

B: INSTALLATION

Install in the reverse order of removal.

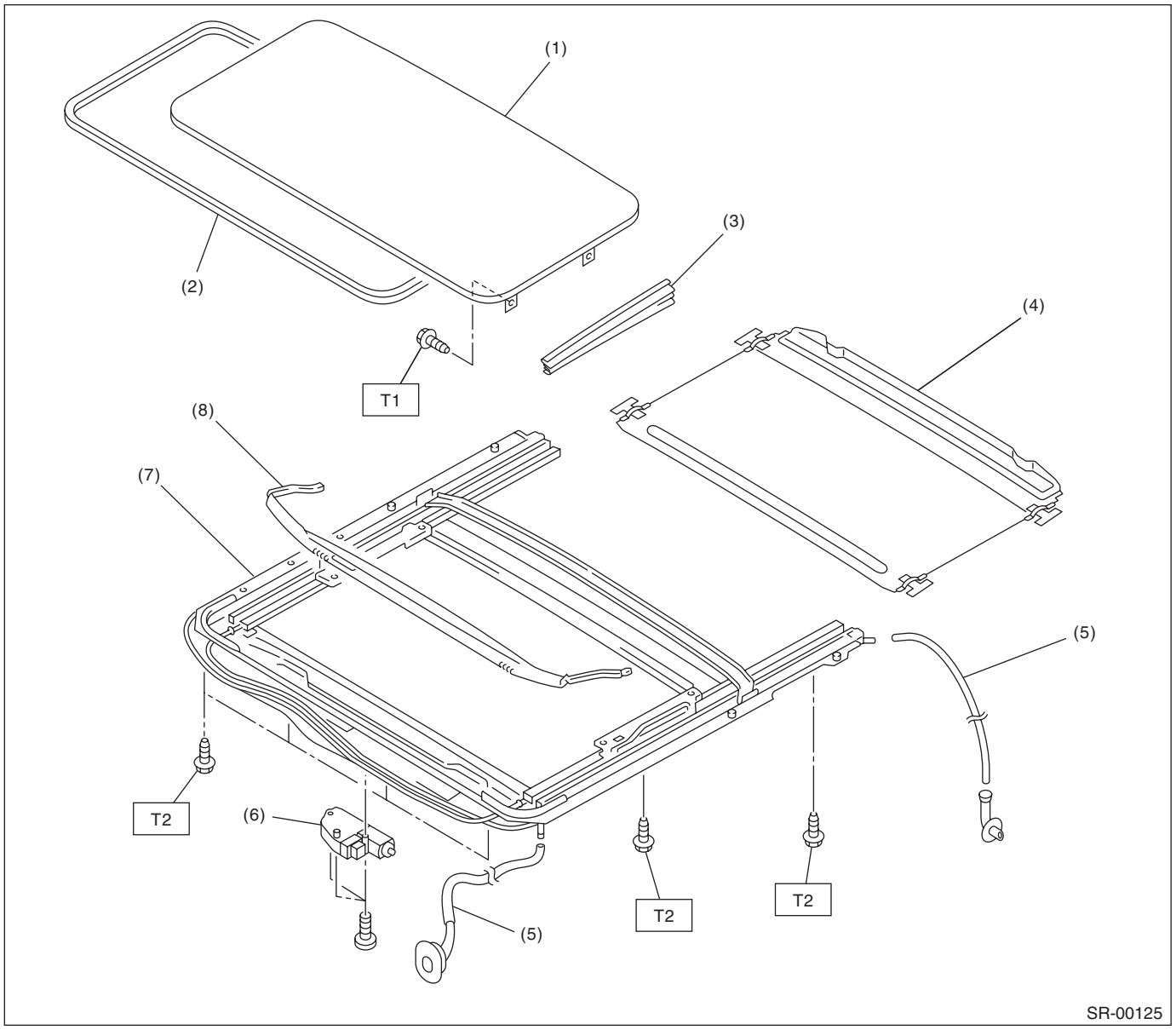
SUNROOF/T-TOP/CONVERTIBLE TOP (SUNROOF)

SR

		Page
1.	General Description	2
2.	Sunroof Control System	4
3.	Glass Lid	5
4.	Sunroof Assembly	7
5.	Sunroof Motor	8
6.	Sunroof Switch	10
7.	Sunshade	11

1. General Description

A: COMPONENT



(1) Glass lid
(2) Weather strip
(3) Cover
(4) Sunshade
(5) Drain tube
(6) Motor ASSY
(7) Frame ASSY
(8) Deflector

Tightening torque:N·m (kgf-m, ft-lb)
T1: 4.5 (0.46, 3.3)
T2: 6.0 (0.61, 4.4)

B: CAUTION

• Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the audio, control unit, and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable in order to prevent memory deletion.
• Reassemble the parts in the reverse order of disassembly unless otherwise indicated.
• Adjust parts to the given specifications.
• Connect the connectors securely for reassembly.
• After reassembly, make sure functional parts operate smoothly.

C: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
TORX® T20	Used for the removal of the sun roof lid and sunshade.

2. Sunroof Control System

A: WIRING DIAGRAM

1. SUNROOF

<Ref. to WI-191, WIRING DIAGRAM, Sunroof Control System.>

B: INSPECTION

Symptom	Inspection order
Water leakage	1. Check roof panel and glass lid for improper or poor sealing. 2. Check drain tube for clogging. 3. Check sunroof frame seal and body for improper fit.
Booming noise, wind noise and other noise	1. Check glass lid and roof panel for improper clearance. 2. Check sunshade and roof trim for improper clearance.
Abnormal motor noise	1. Check installing part of motor for looseness. 2. Check gears and bearings for wear. 3. Check cable for wear. 4. Check cable pipe for deformities.
Failure of sunroof (Motor operates properly.)	1. Check guide rail for foreign particles. 2. Check guide rail for improper installation. 3. Check parts for mutual interference. 4. Check cable slider for improper clinching. 5. Check cable for improper installation.
Motor does not rotate or rotate improperly.	1. Check fuse for blown out. 2. Check switch for improper function. 3. Check motor for incorrect terminal voltage. 4. Check the relay for improper operation. 5. Check poor grounding system. 6. Check harness for open or short and terminals for poor connections.
Failure turn of glass lid	Check guide rail for foreign particles.

- Failure turn of glass lid while driving rough road.

Glass lid has auto-reverse function. When applied above specified force to the glass lid, the lid turns back and stops. When operating the glass lid (open or close) while driving the rough road, the lid judges vibration as a force and may causes failure turns. When the failure turn is occurred, need to perform the initialize operation with following procedure.

1. INITIALIZE OPERATION

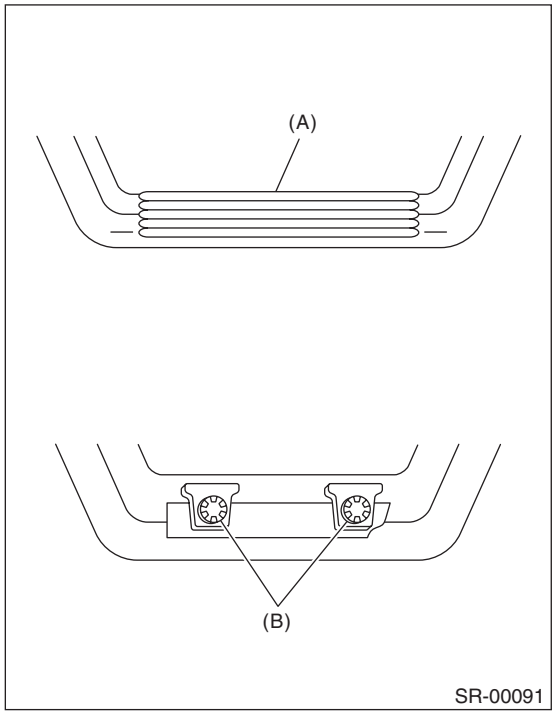
1) Tilt up the glass lid.
2) Release the switch once, and press the tilt up switch again for 15 seconds.
3) When the glass lid is raised a little and returned to tilt up position, release the switch for the moment. (Initialization of position detecting function)
4) Holding down the tilt up switch again within 5 seconds from releasing the switch will automatically perform tilt down/slide open/slide close. (When 5 seconds pass, the position detecting function is cancelled.)
5) Initialize operation is completed.

3. Glass Lid

A: REMOVAL

1) Completely close the glass lid, and then open the sunshade.
2) Remove the cover (A), and then remove the TORX® bolts (B).

CAUTION:
The thread locker is applied to the TORX® bolts, so use the new parts once they are removed.



3) Remove the glass lid carefully.

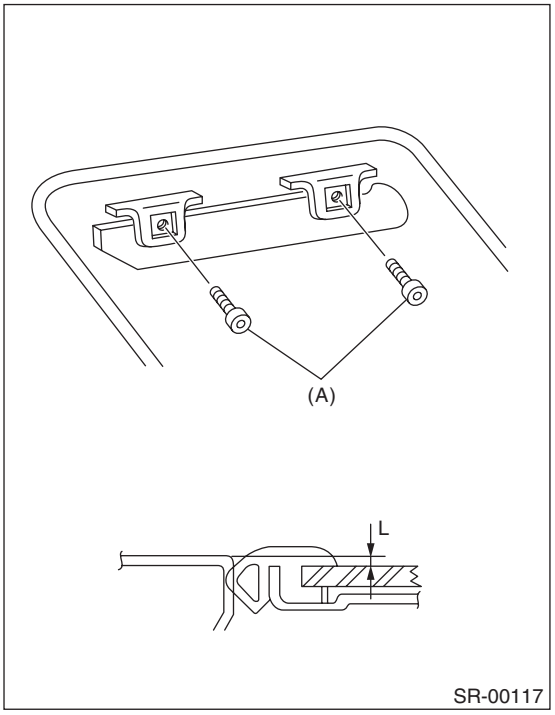
B: INSTALLATION

Install in the reverse order of removal.

C: ADJUSTMENT

Loosen the glass lid mounting TORX® bolts (A), and then adjust the height with moving the lid.

Difference in height between glass lid and roof panel L:
2.0±1.0 mm (0.079±0.039 in)

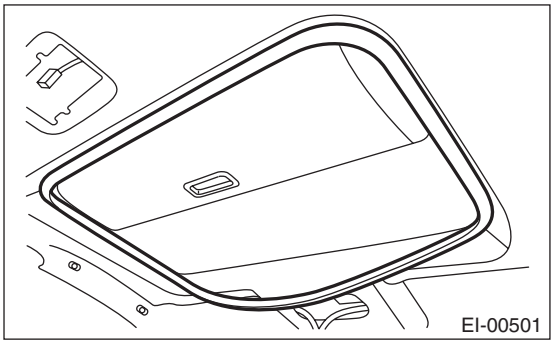


D: FORCED DRIVE

If glass lid dose not operate or is not supplied with power, move the glass lid using the hexagon wrench*.

****: L shape universal purpose hexagon wrench bolt width 4 mm (0.16 in)***

1) Remove the spot map light. <Ref. to LI-33, REMOVAL, Spot Map Light.>
2) Remove the sunroof opening trim.



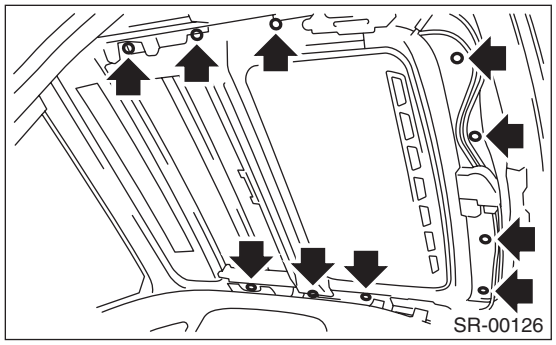
3) Remove the sun visor clip.
4) Insert the hexagon wrench securely until it touches the motor shaft edge.

CAUTION:
Make sure not to bend or wrinkle the roof trim during work.
5) Turn the hexagon wrench, and move the glass lid.
- Turning right, the glass lid open.
- Turning left, the glass lid close.

4. Sunroof Assembly

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the roof trim. <Ref. to EI-52, REMOVAL, Roof Trim.>
3) Disconnect the harness connector of sunroof motor.
4) Remove the glass lid. <Ref. to SR-5, REMOVAL, Glass Lid.>
5) Remove the drain tube from frame assembly.
6) Remove the bolts, and then detach the frame assembly.



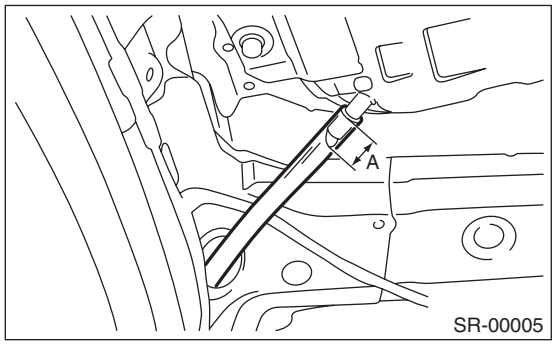
B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
Be careful not to snag the harness.

NOTE:
- Be sure to connect the harness connector.
- When installing the drain tube, insert it securely into drain pipe.

Length A:
15 mm (0.59 in) or more



C: DISASSEMBLY

1) Remove the sunroof motor. <Ref. to SR-8, REMOVAL, Sunroof Motor.>
2) Remove the sunshade. <Ref. to SR-11, REMOVAL, Sunshade.>

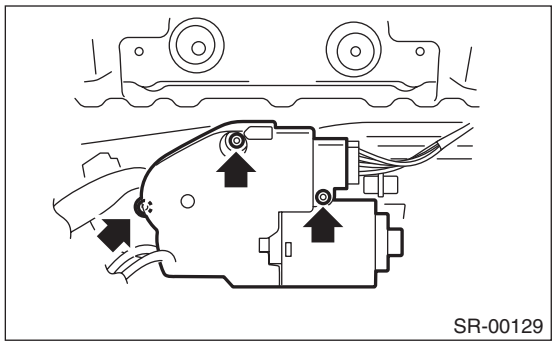
D: ASSEMBLY

Assemble in the reverse order of disassembly.

5. Sunroof Motor

A: REMOVAL

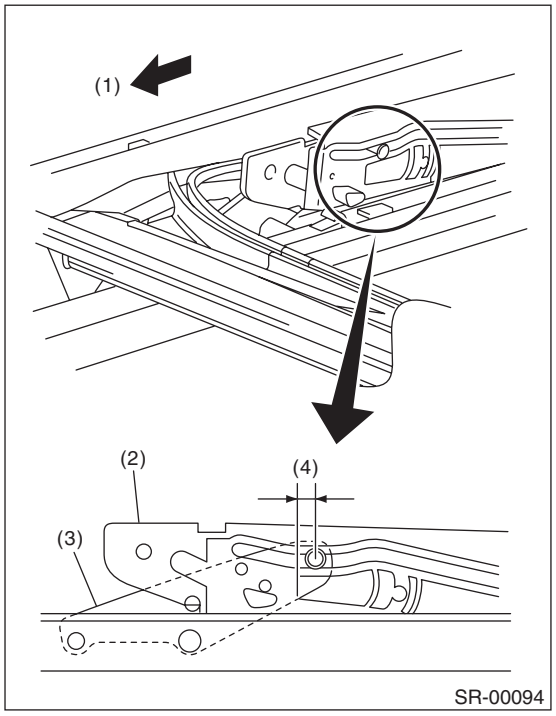
CAUTION:
• When removing the clip, use great care not to damage the roof trim.
• Never rotate the sunroof motor after removing it.
1) Completely close the glass lid.
2) Disconnect the ground cable from the battery.
3) Remove the roof trim. <Ref. to EI-52, REMOVAL, Roof Trim.>
4) Disconnect the harness connector, and then remove the motor assembly mounting screw.



CAUTION:
When removing the motor assembly, secure the cable wires to prevent moves.

B: INSTALLATION

CAUTION:
When installing the motor assembly, be careful not to move the sunroof cable.
1) Align the coulisse assembly and link assembly in the same position.



(1) Front
(2) Coulisse ASSY
(3) Link ASSY
(4) 4.7 mm (0.185 in)

2) Install the motor assembly.
3) Connect the harness connector of motor assembly, and then connect the battery ground cable to battery.
4) Perform the initialize operation of motor.
(1) Tilt up the glass lid.
(2) Release the switch once, and press the tilt up switch again for 15 seconds.
(3) When the glass lid is raised a little and on tilt up position, release the switch for the moment.
(4) Keep pressing the tilt up switch within 5 seconds from releasing the switch, glass lid automatically performs the tilts down → slides open → slides close operation, then the initialize operation is completed.

5) Check the operation of sunroof with following table.

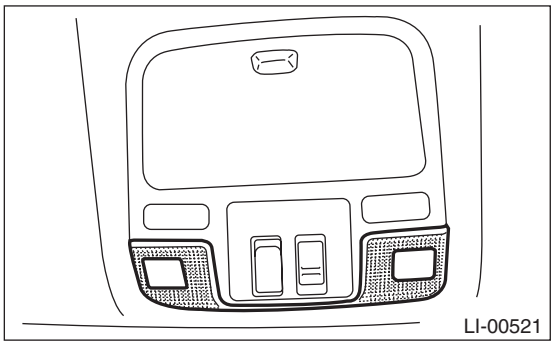
Operation	Switch position
(1) Glass lid closes completely.	Close
(2) Glass lid tilt up to the top position.	Tilt up
(3) Glass lid lowers completely.	Tilt down
(4) Glass lid opens completely.	Open
(5) Glass lid closes 150 mm (5.91 in) away from the completely closed position.	Close
(6) Glass lid closes completely.	Close

6) Install the trim in the reverse order of removal.

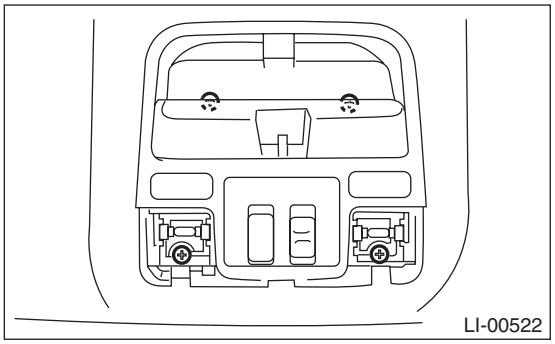
6. Sunroof Switch

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the spot map light lens.



3) Remove the screws, and then remove the overhead console.



4) Disconnect the harness connector, and then remove the sunroof switch.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

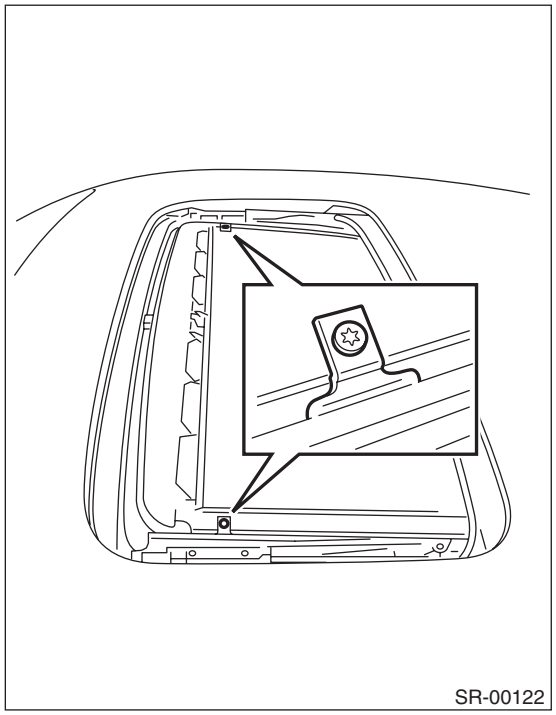
Measure the sunroof switch resistance.

Switch position	Terminal No.	Standard	Connector No.
Open	1 and 3	Less than 1 Ω	R128
Close	3 and 4	Less than 1 Ω	
Tilt up	1 and 3	Less than 1 Ω	R187
Tilt down	3 and 4	Less than 1 Ω	

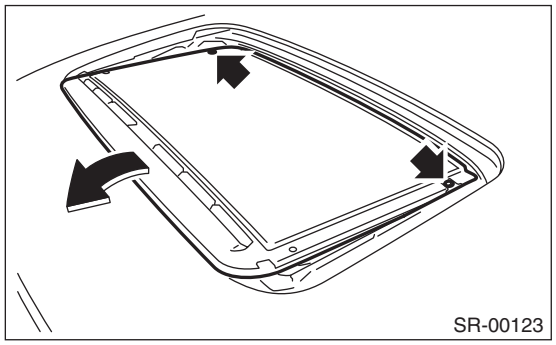
7. Sunshade

A: REMOVAL

1) Remove the glass lid. <Ref. to SR-5, REMOVAL, Glass Lid.>
2) Loosen the TORX® bolt to remove the front sunshade bracket.


SR-00122

3) Pull the sunshade until the rear sunshade bracket comes into the sight, then loosen the TORX® bolts to remove the sunshade.


SR-00123

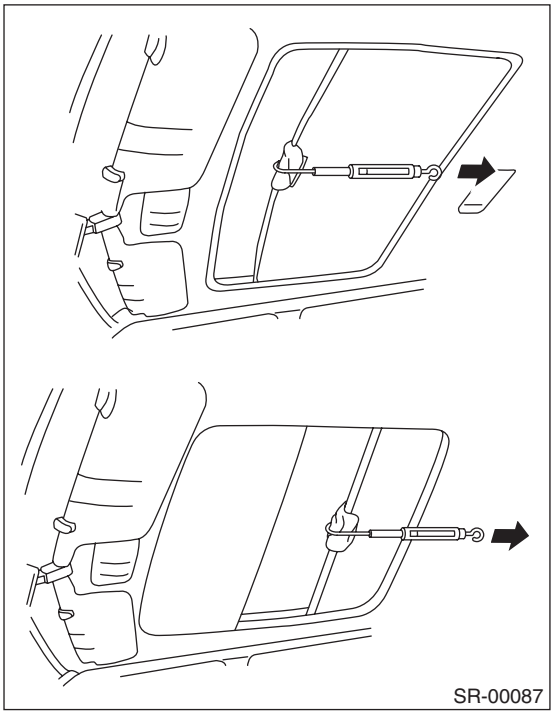
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. CHECK FOR MOVING LOAD OF SUNSHADE

1) Attach a spring scale to sunshade edge using a cloth.


SR-00087

2) Pull the spring scale to measure moving load of the sunshade.

Moving load of sunshade:
Specification
18.0±5.0 N (1.8±0.5 kgf, 13±3.7 lbf)

NOTE:
Moving load is larger at the beginning of pulling a spring scale, so take a spring scale reading while sunshade sliding smoothly.
3) If moving load exceeds specifications, check the glass lid, sunshade and frame assembly for improper installation.

EXTERIOR/INTERIOR TRIM

EI

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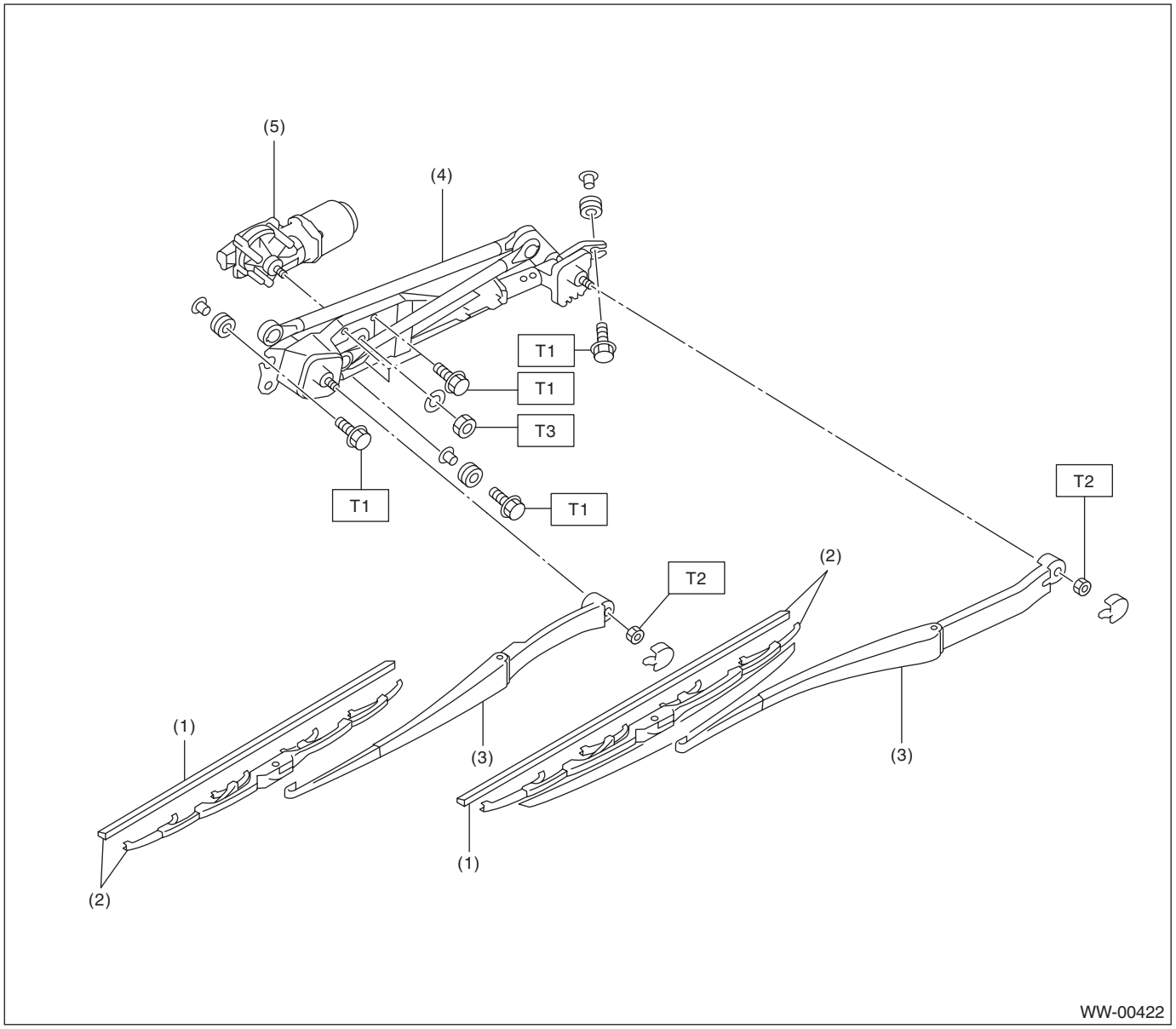
1. General Description

A: SPECIFICATION

Front wiper motor	Input	12 V — 72 W or less
Rear wiper motor	Input	12 V — 42 W or less
Front washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less
Rear washer motor	Pump type	Centrifugal
	Input	12 V — 36 W or less

B: COMPONENT

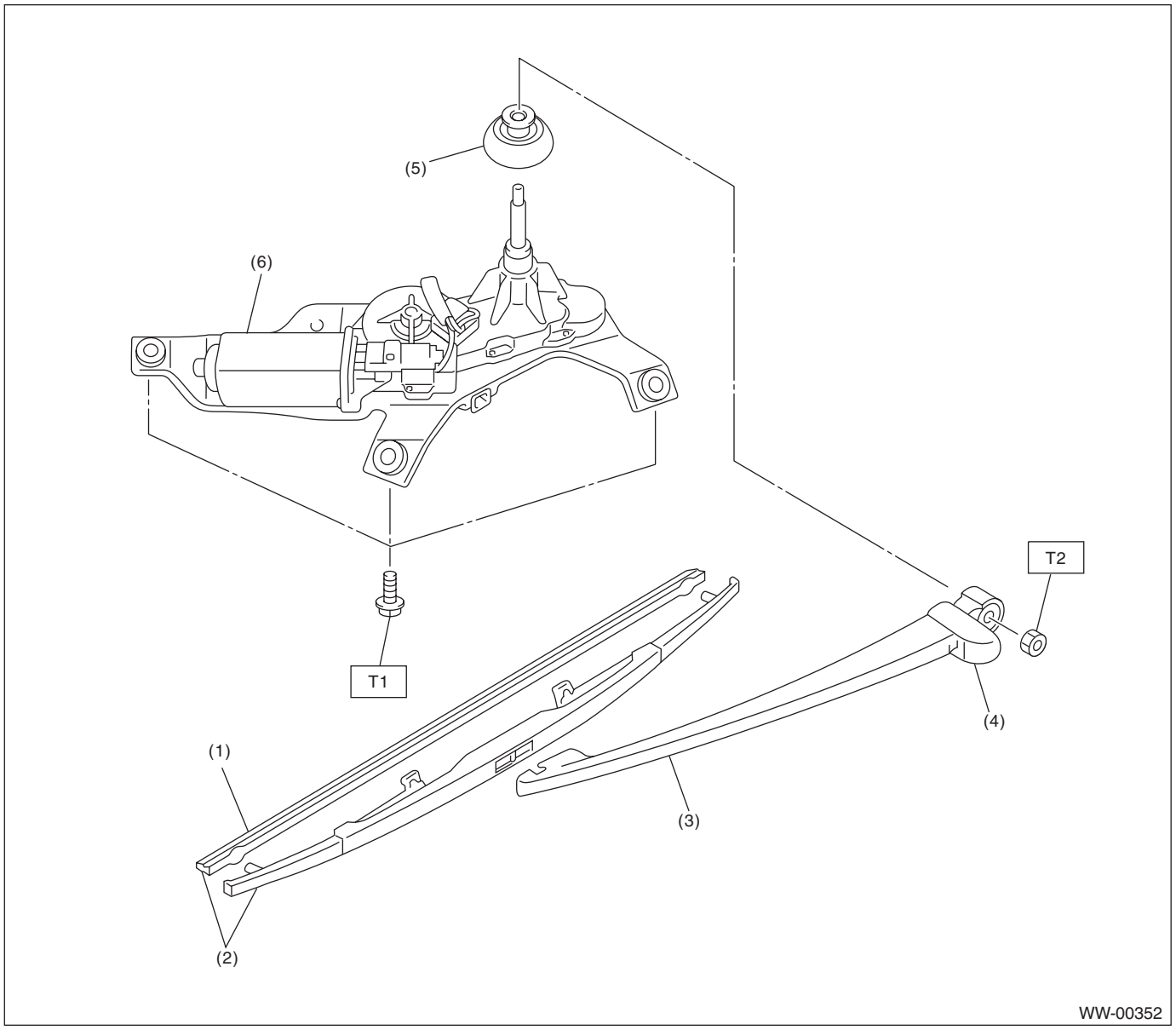
1. FRONT WIPER



(1) Wiper rubber
(2) Wiper blade ASSY
(3) Wiper arm
(4) Wiper link ASSY
(5) Wiper motor ASSY

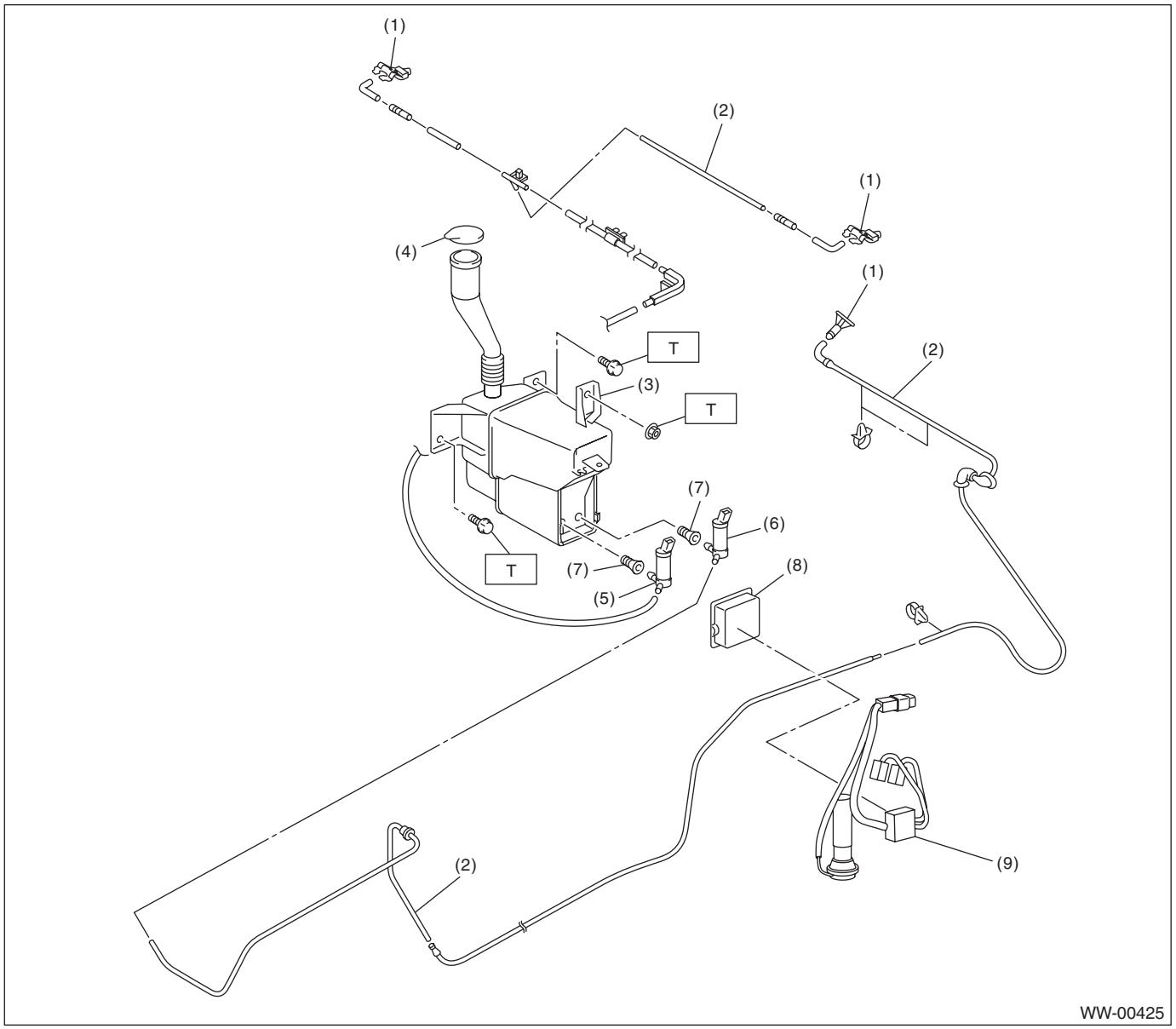
Tightening torque:N·m (kgf-m, ft-lb)
T1: 6.0 (0.61, 4.4)
T2: 20 (2.0, 14.5)
T3: 31 (2.0, 14.5)

2. REAR WIPER



(1)	Wiper rubber	(4)	Wiper arm cover	***Tightening torque:N·m (kgf-m, ft-lb)***
(2)	Wiper blade ASSY	(5)	Cap	***T1: 7.0 (0.71, 5.2)***
(3)	Wiper arm	(6)	Wiper motor ASSY	***T2: 8.0 (0.82, 5.9)***

3. WASHER TANK



(1) Washer nozzle
(2) Washer hose
(3) Washer tank
(4) Washer tank cap
(5) Front washer motor
(6) Rear washer motor
(7) Grommet
(8) Washer motor cover
(9) Washer fluid level indicator sensor ASSY

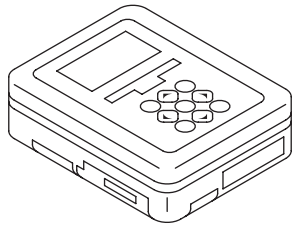
Tightening torque:N·m (kgf-m, ft-lb)
T: 6.0 (0.61, 4.4)

C: CAUTION

- Connect the connectors and hoses securely during reassembly.
- After reassembly, make sure functional parts operate smoothly.
- Be careful with the airbag system wiring harness which passes near electrical parts and switches.
- All airbag system wiring harness and connectors are colored yellow. Do not use a tester equipment on these circuits.
- Care must be taken when connecting the hoses to pipes so that there are no bends or blockage.
- If even a small amount of silicon oil or grease enters tank and washer fluid passages, an oil film will be formed on the glass and will cause the wiper to chatter and judder. Make sure that no oil comes into contact with the system.

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for checking voltage and continuity.

2. Wiper and Washer System

A: WIRING DIAGRAM

1. WIPER AND WASHER (FRONT)

<Ref. to WI-146, WIRING DIAGRAM, Front Wiper and Washer System.>

2. WIPER AND WASHER (REAR)

<Ref. to WI-148, WIRING DIAGRAM, Rear Wiper and Washer System.>

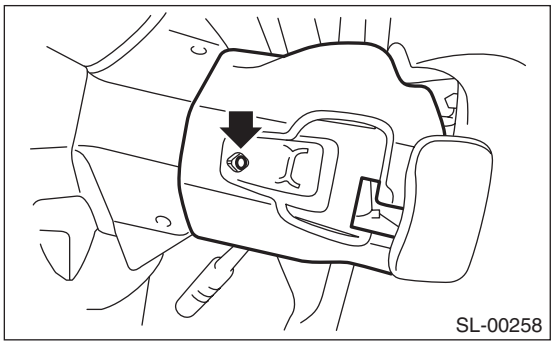
B: INSPECTION

Symptom	Repair order
Wiper and washers do not operate.	1. Wiper fuse (Front: F/B No. 30, Rear: F/B No. 23) 2. Combination switch 3. Wiper motor assembly 4. Wiring harness 5. Wiper relay unit 6. Body integrated unit (rear wiper only)
Wipers do not operate in LO or HI.	1. Combination switch 2. Wiper motor assembly 3. Wiring harness 4. Wiper relay unit
Wipers do not operate in INT.	1. Combination switch 2. Wiper motor assembly 3. Wiring harness 4. Body integrated unit (rear wiper only)
Washer motor does not operate.	1. Washer switch 2. Washer motor 3. Wiring harness
Wipers do not operate when washer switch is ON.	1. Wiper motor assembly 2. Wiring harness
Washer fluid spray does not operate properly.	1. Washer motor 2. Washer hose and nozzle

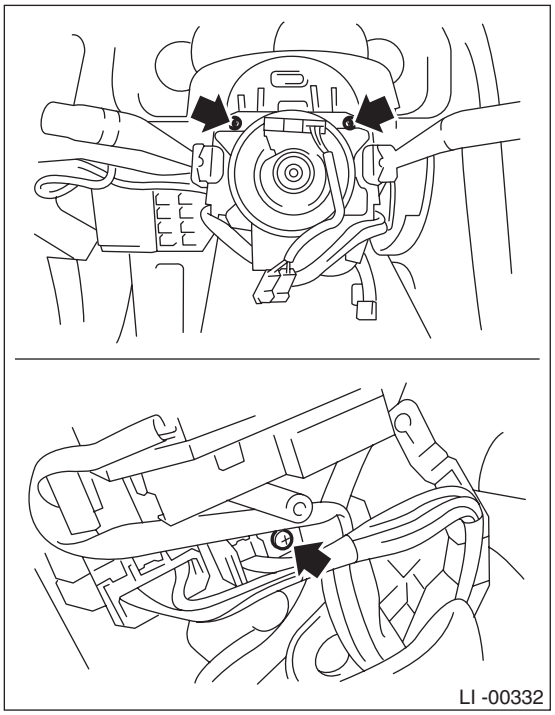
3. Combination Switch (Wiper)

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the driver's airbag module. <Ref. to AB-14, REMOVAL, Driver's Airbag Module.>
3) Remove the steering wheel. <Ref. to PS-13, REMOVAL, Steering Wheel.>
4) Remove the screws and remove the steering column covers (upper & lower).



5) Disconnect the connector from the combination switch.
6) Remove the three screws, and pull out the combination base switch assembly toward you.



7) Remove the screws which secure the switch, then remove the combination switch.

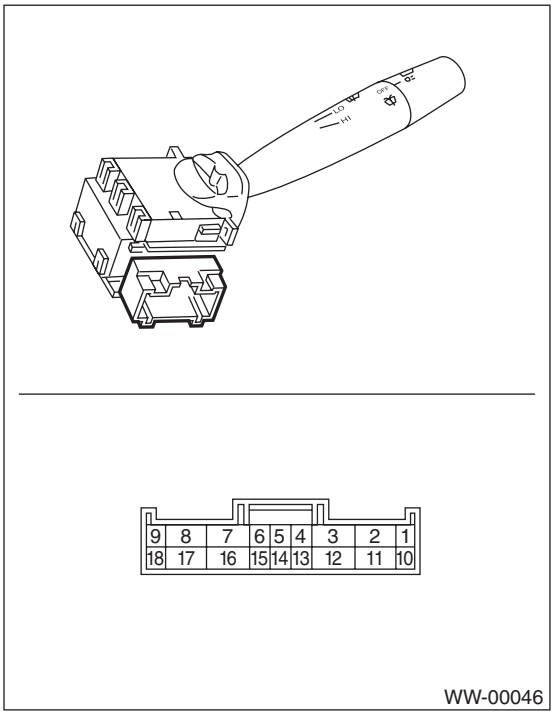
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1. COMBINATION SWITCH

1) Inspect the continuity between each connector terminal.



	Switch position	Terminal No.	Standard
Front	LO	7 and 17	Less than 1 Ω
	HI	8 and 17	Less than 1 Ω
	Washer ON	2 and 11	Less than 1 Ω
Rear	Washer ON	2 and 12	Less than 1 Ω
	OFF	2 and 10 2 and 12 2 and 13 10 and 12 10 and 13 12 and 13	1 MΩ or more
	INT	2 and 13	Less than 1 Ω
	ON	2 and 10	Less than 1 Ω
	Washer ON	2 and 12 12 and 10 2 and 10	Less than 1 Ω

2) If continuity is not as specified, replace the switch.

2. FRONT WIPER

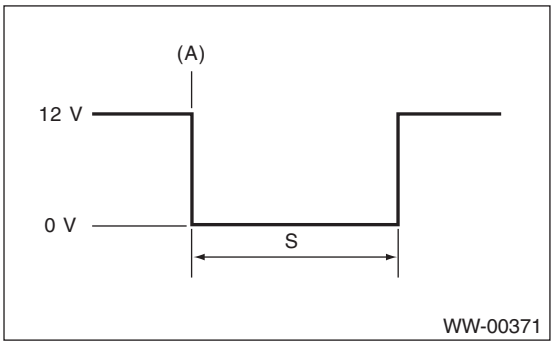
1) Check with Subaru Select Monitor
When the front wiper switch is operated, check the input signal using the Subaru Select Monitor.

(1) Prepare the Subaru Select Monitor kit. <Ref. to GW-6, PREPARATION TOOL, General Description.>
(2) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor".
(3) On the «System Selection Menu» display screen, select the {Integ. Unit mode}.
(4) Select the {Current Data Display & Save}.
(5) Check the input signal when the front wiper switch is set to LO or HI.

Check	Yes	No
Is the input signal normal?	Finish the diagnosis.	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

2) Check the intermittent operation (inspection of the wiper switch alone)

(1) Set the voltage meter between connector terminal No. 7 (+) and No. 2 (–).
(2) Connect the battery between connector terminal No. 7 (+) and No. 2 (–).
(3) Turn the wiper switch to INT.
(4) Connect the battery ground terminal to the connector terminal No. 16 for five seconds.
(5) After connecting the battery ground terminal for five seconds in step (4), connect the battery positive terminal to the connector terminal No. 16 for five seconds.
(6) After connecting the battery ground terminal and the battery positive terminal to the connector terminal No. 16 for five seconds each in step (4) and (5), connect the ground terminal to the connector terminal No. 16 again.
(7) Perform the step (1) to (6) above at MIN and MAX position of the intermittent control switch. If operation is not as specification, replace the wiper switch assembly.



S: Intermittent downtime (sec.)
(A): Connect battery terminal to No. 16 in Step (4).

Intermittent stationary time specification
MIN: Approx. 4 seconds
MAX: Approx. 21 seconds

3) Inspect the vehicle speed response (With the wiper switch installed on the vehicle)

(1) Operational check
Position the front wiper switch to INT, then measure the intermittent stationary time at each vehicle speed.

Switch position	Vehicle speed (km/h (MPH))	Intermittent stationary time (sec.)
MIN.	0 (0)	Approx. 4
	30 (19)	Approx. 1.5
	60 (37)	Approx. 1
MAX.	0 (0)	Approx. 21
	30 (19)	Approx. 19.5
	60 (37)	Approx. 18

If operation is not as specified, replace the switch.
(2) Check vehicle speed signal
Raise the vehicle speed to 10 km/h (6 MPH) or more, then measure the voltage between the wiper switch connector and the chassis ground.

Terminals
No. 15 (+) — Chassis ground (–):

Check	Yes	No
Does the voltage repeat 12 V and 0 V?	Vehicle speed signal is normal.	Replace the wiper switch.

(3) Check the vehicle speed signal harness
Measure the resistance between the wiper switch connector and the VDC control module.

Terminals
Wiper switch connector No. 15
— VDC control module No. 33:

Check	Yes	No
Is the resistance 0 Ω?	Replace the wiper switch.	Repair the harness.

3. REAR WIPER

1) Check with Subaru Select Monitor

	Step	Check	Yes	No
1	**CHECK INPUT OF REAR WIPER SWITCH.** Check the input from body integrated unit using the Subaru Select Monitor. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the “PC application for Subaru Select Monitor III”. 3) On the System Selection Menu, select the {Integ. Unit mode}. 4) Select the {Current Data Display & Save}. 5) Check the input of the rear wiper switch.	Is the input normal?	Go to step **2**.	Check the rear wiper switch. <Ref. to WW-7, INSPECTION, Combination Switch (Wiper).>
2	**CHECK OUTPUT OF BODY INTEGRATED UNIT.** When the rear wiper switch is operated, check the output using the Subaru Select Monitor. 1) Turn the ignition switch to ON. 2) Operate the rear wiper switch and set to each position of ON and INT. 3) At this time, check the body integrated unit output.	When set to ON, is ON output continuous? When set to INT, is ON/OFF output repeated? (INT OFF time (when vehicle parked): 12 seconds)	Check the rear wiper motor. <Ref. to WW-20, INSPECTION, Rear Wiper Motor.>	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>

2) Check rear wiper motor circuit

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY CIRCUIT OF THE REAR WIPER MOTOR.** 1) Disconnect the harness connector of the rear wiper motor. 2) Turn the ignition switch to ACC. 3) Measure the voltage between the rear wiper motor harness connector terminal and chassis ground. ***Connector & terminal*** ***(D43) No. 1 (+) — Chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2**.	• Check the fuse (No. 23 in fuse & relay box). • Check the fusible link (No. 6 in main fuse box).
2	**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. 3 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **3**.	Repair the open circuit of the rear wiper motor ground circuit.
3	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND REAR WIPER MOTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness connector of body integrated unit. 3) Disconnect the harness connector of the rear wiper motor. 4) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor. ***Connector & terminal*** ***(B280) No. 1 — (D43) No. 2:*** ***(B280) No. 8 — (D43) No. 4:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair the open circuit of the harness between body integrated unit and rear wiper motor.
4	**CHECK OPERATION OF REAR WIPER MOTOR.** 1) Remove the rear wiper motor. 2) Check the rear wiper motor. <Ref. to WW-20, INSPECTION, Rear Wiper Motor.>	Does the rear wiper motor rotate normally?	End.	Replace the rear wiper motor.

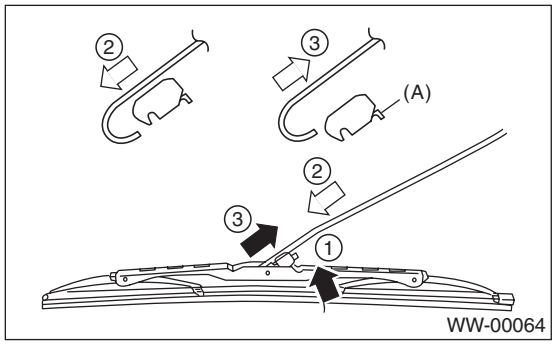
4. Wiper Blade

A: REMOVAL

CAUTION:
When replacing the wiper blade, if standing up the wiper arm, be sure to stand up the driver's side wiper arm first, and then passenger's side wiper arm next. Also, when putting the wiper arms back, be sure to start with passenger's side first, then driver's side next. Doing this in the reverse order may result in the driver's side wiper blade hitting the passenger's side wiper arm and causing damage.

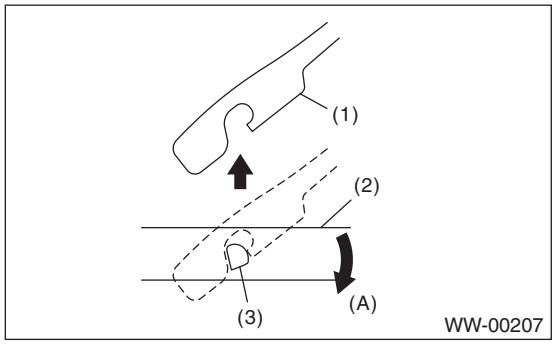
1. FRONT

While pushing the locking clip upward to the direction of the arrow, remove the blade from the arm by pulling to the direction of the arrow.



2. REAR

Turn the blade in the direction of arrow (A) and remove it from arm.



(A) Turn the wiper blade.
(1) Wiper arm
(2) Wiper blade
(3) Wiper blade attachment section

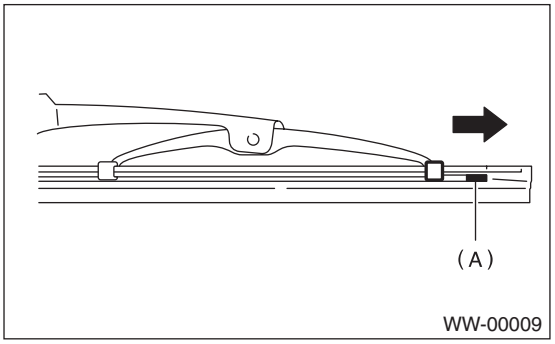
B: INSTALLATION

1) Install in the reverse order of removal.
2) Confirm that the clip is locked securely.

C: DISASSEMBLY

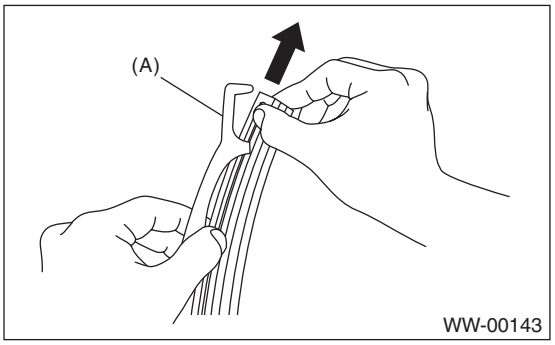
1. FRONT

Pull side (A) of the wiper rubber stopper and remove the rubber from the blade assembly.



2. REAR

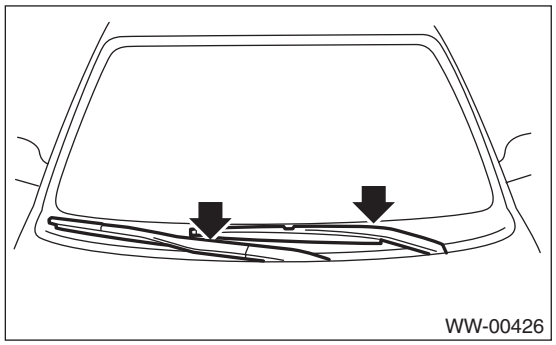
Pull the wiper rubber top slightly from stopper (A) and pull out completely.



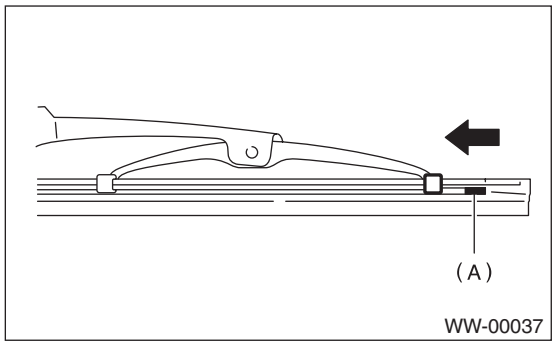
D: ASSEMBLY

1. FRONT

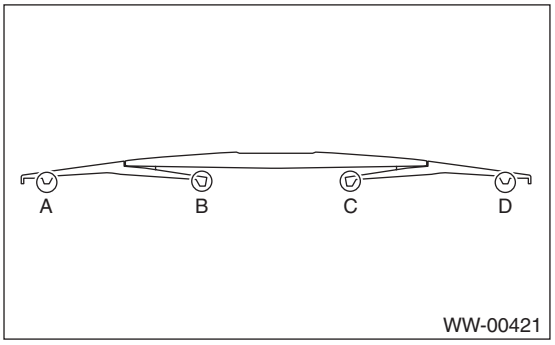
1) Insert the wiper rubber onto the blade so that the stopper is in the position shown in the figure.



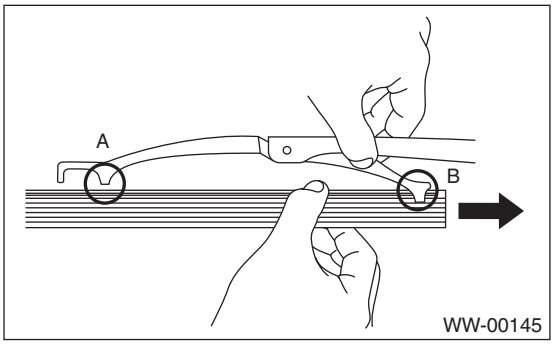
2) Make sure the wiper rubber is securely fastened to pull stopper (A).



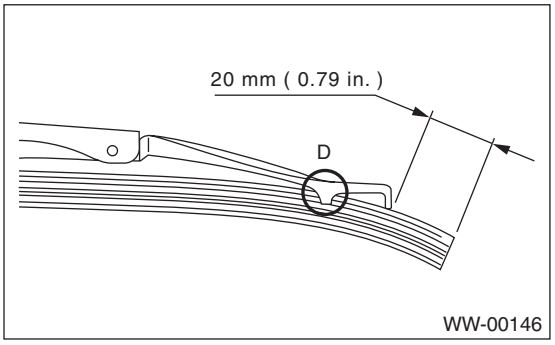
2. REAR



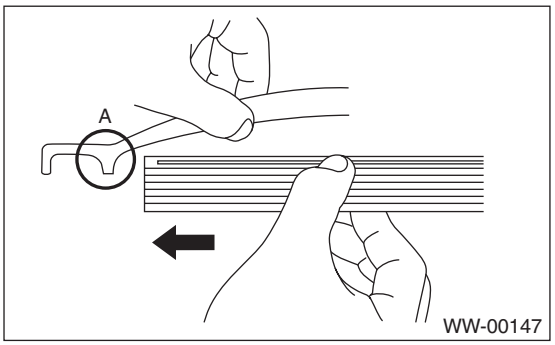
1) Insert the wiper rubber into claw B.



2) Insert the wiper rubber until its top end protrudes approx. 20 mm (0.79 in) from stopper D.



3) Insert the wiper rubber into claw A.



E: INSPECTION

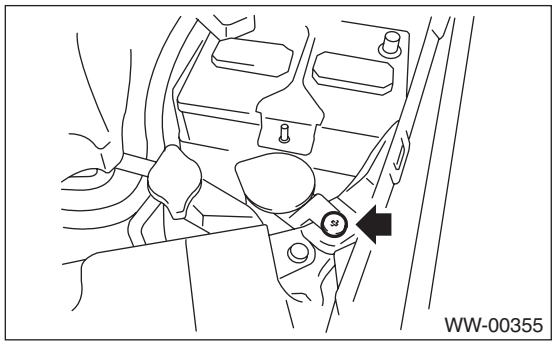
1) When the wiper does not operate properly, inspect the following item.
- Make sure the movable part of wiper blade assembly moves smoothly.
- Make sure the wiper rubber is not deformed or damaged.

2) If damaged, replace with a new part.

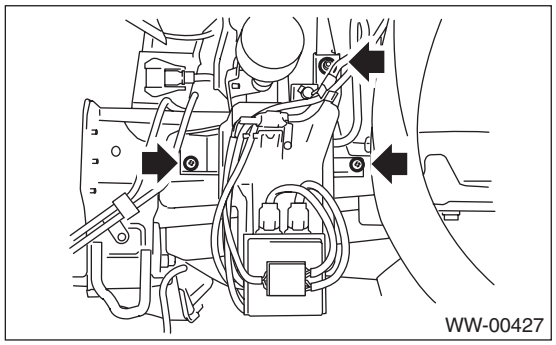
5. Washer Tank and Motor

A: REMOVAL

1) Open the front hood.
2) Disconnect the ground cable from the battery.
3) Remove the front bumper. <Ref. to EI-22, REMOVAL, Front Bumper.>
4) Remove the clip holding washer water supply tap.



5) Remove the two bolts and one nut, hose, connector and washer motor cover, and then remove the washer tank.



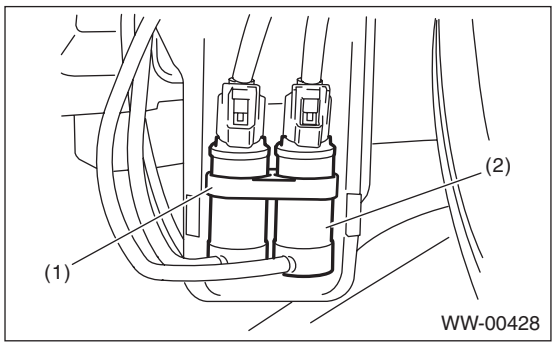
B: INSTALLATION

Install in the reverse order of removal.

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

C: DISASSEMBLY

1) Slide the washer motor holder upward to remove it.
2) Slide the washer motor holder (1) upward to remove it.
3) Pull out the washer motor (2) from the tank.



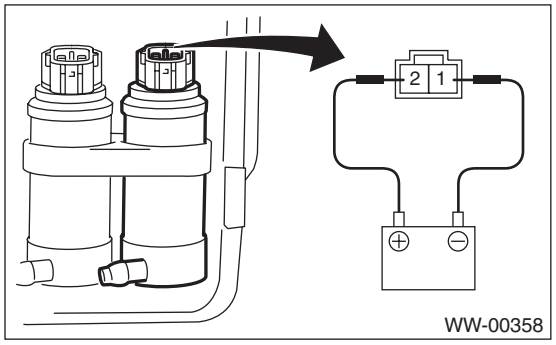
D: ASSEMBLY

1) Assemble in the reverse order of disassembly.
2) Confirm that water does not leak from installation area of motor.

E: INSPECTION

1. WASHER MOTOR

Apply battery voltage to the connector terminal of the washer motor and make sure the motor operates.



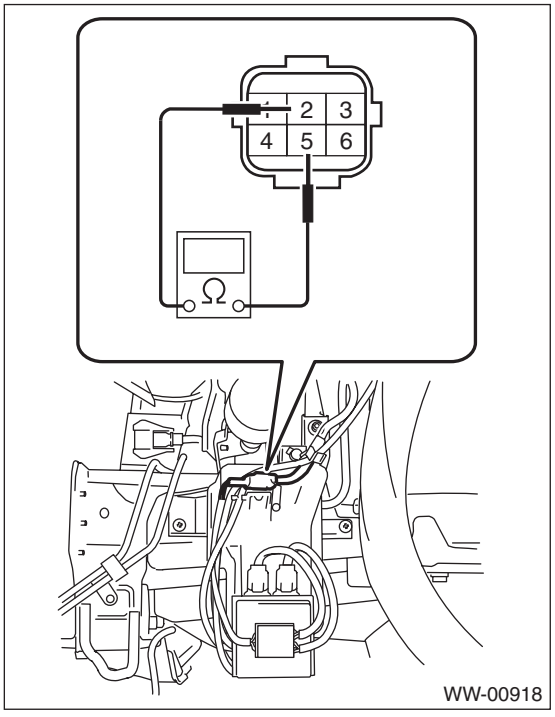
2. WASHER FLUID LEVEL SENSOR

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.



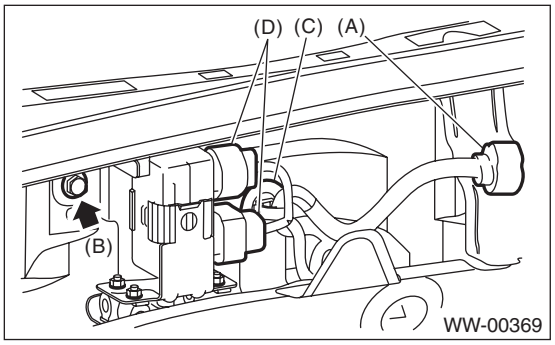
Terminal No.	Amount of washer fluid in the tank	Standard
2 and 5	No remaining quantity (ON)	Less than 10 Ω
	There is remaining quantity (OFF)	1 MΩ or more

6) When measurement value is different from the specification, replace the washer fluid level sensor along with the washer tank.

6. Wiper Relay Unit

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the wiper arm. <Ref. to WW-16, REMOVAL, Front Wiper Arm.>
3) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
4) Disconnect connector (A) of the wiper motor assembly.
5) Remove bolt (B) and clip (C).
6) Disconnect connector (D) of the wiper relay unit.



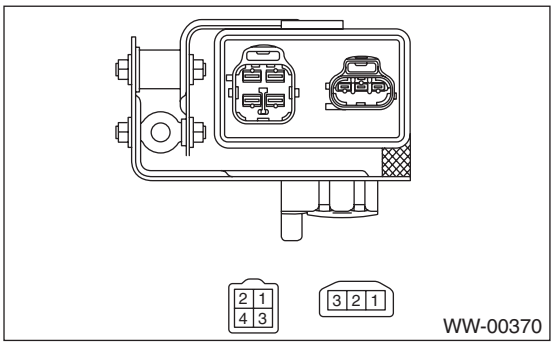
NOTE:
Unit body, bracket, and rubber mount is an assembly component and cannot be disassembled.

B: INSTALLATION

Install in the reverse order of removal.

CAUTION:
• Do not reuse the clips. Always replace them with new parts.
• Make sure the connector connection and clip insertion is secure, and confirm the contact.

C: INSPECTION



1) Inspect the continuity of 4 pole connector.

Terminal No.	Specification
1 and 2	Less than 1 Ω

2) Connect the battery to the 3 pole connector and measure the continuity of 4 pole connector.

Terminal No.		Specification
3 pole connector	4 pole connector	
2 and 3	1 and 4	Less than 1 Ω
1 and 2	3 and 4	Less than 1 Ω

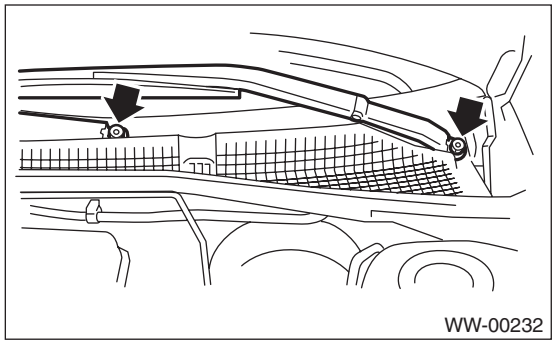
3) When measurement value is different from the specification, replace the wiper relay unit.

7. Front Wiper Arm

A: REMOVAL

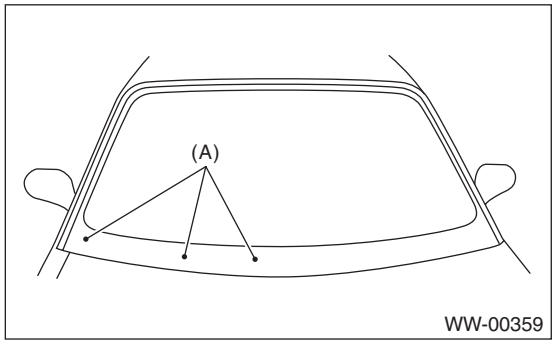
CAUTION:
When standing up the wiper arm, be sure to stand up the driver's side wiper arm first, and then passenger's side wiper arm next. Also, when putting the wiper arms back, be sure to start with passenger's side first, then driver's side next. Doing this in the reverse order may cause the driver's side wiper blade to hit the passenger's side wiper arm and cause damage.

1) Remove the cap.
2) Remove the nut and remove the wiper arm.



B: INSTALLATION

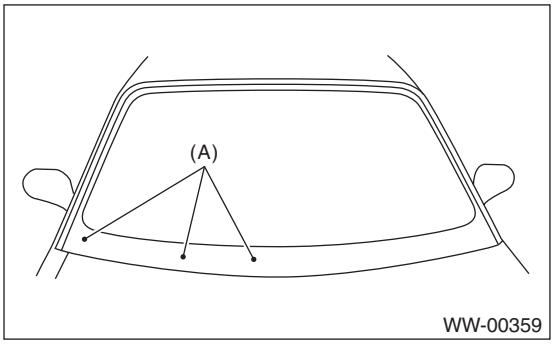
1) Install in the reverse order of removal.
2) Operate the wiper once.
3) Align the wiper blade to ceramic print point mark (A) of front window panel.



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

C: ADJUSTMENT

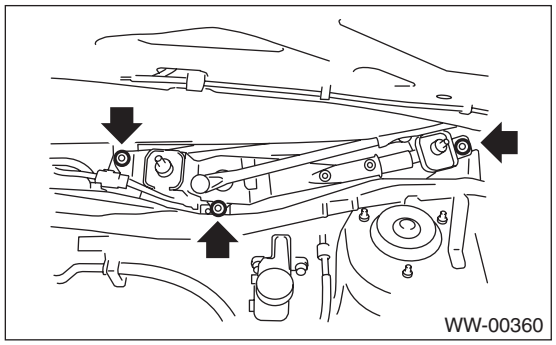
Operate the wiper once. Align the wiper blade to ceramic print point mark (A) of front window panel.



8. Front Wiper Motor and Link

A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the cowl panel. <Ref. to EI-30, REMOVAL, Cowl Panel.>
3) Remove the bolt, and then remove the wiper assembly.
4) Disconnect the connector of wiper motor assembly.



NOTE:
The wiper motor and wiper link is an assembly part and is not to be disassembled.

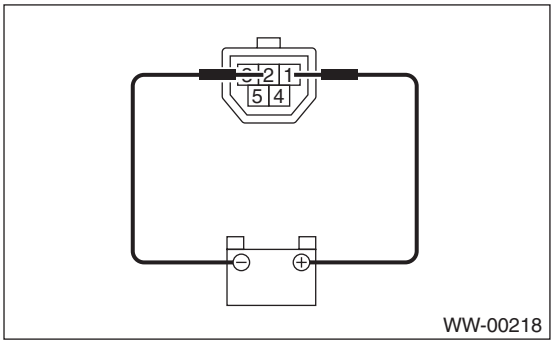
B: INSTALLATION

Install in the reverse order of removal.

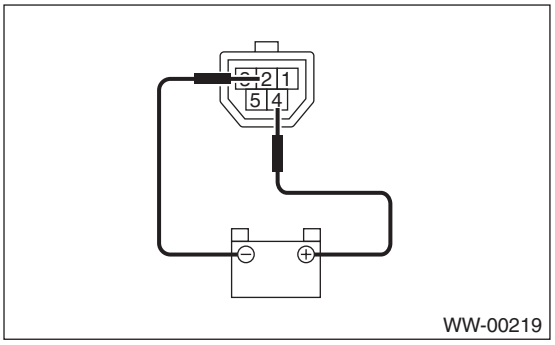
Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to WW-2, FRONT WIPER, COMPONENT, General Description.>

C: INSPECTION

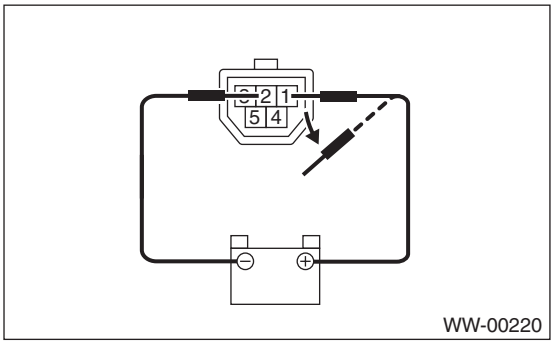
1) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at low speed.



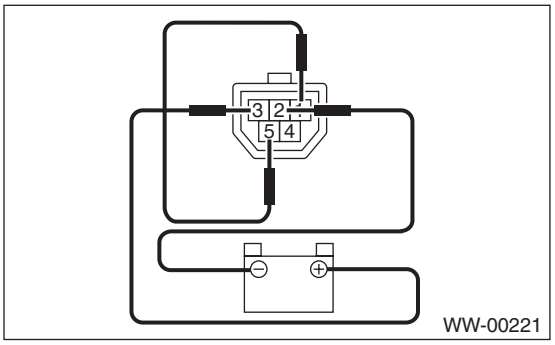
2) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at high speed.



3) Connect the battery to the terminals to the connector, then run the wiper motor at low speed and disconnect the terminal in mid motion.



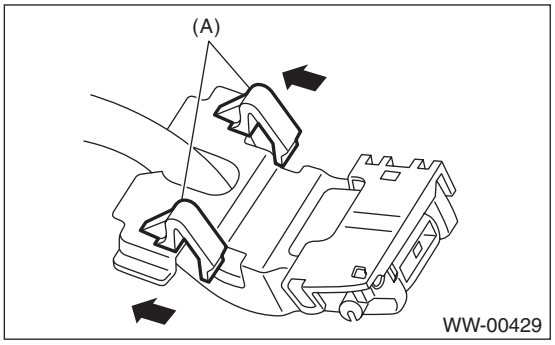
4) Connect the battery and confirm that the wiper motor stops at the automatic stop position after the wiper motor operates at low speed again.



9. Front Washer Nozzle

A: REMOVAL

1) Remove the front hood insulator. <Ref. to EB-12, FRONT HOOD INSULATOR, REMOVAL, Front Hood.>
2) Hold the claw (A) of the washer nozzle towards the direction of the arrow, and remove the washer nozzle.



3) Remove the washer hose from the washer nozzle.

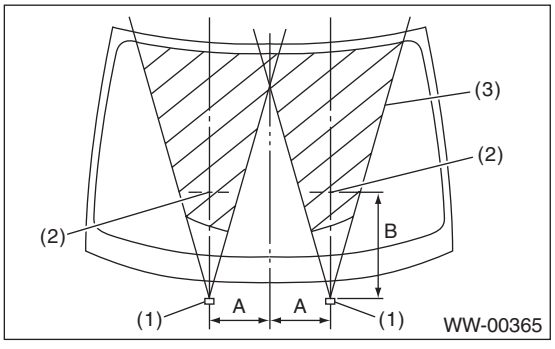
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.
- While the vehicle is at a standstill and the wiper switch is turned OFF, make sure that the washer injection position is as shown in the figure.

Spray position:
A: 250 mm (9.84 in)
B: 433 mm (17.05 in)

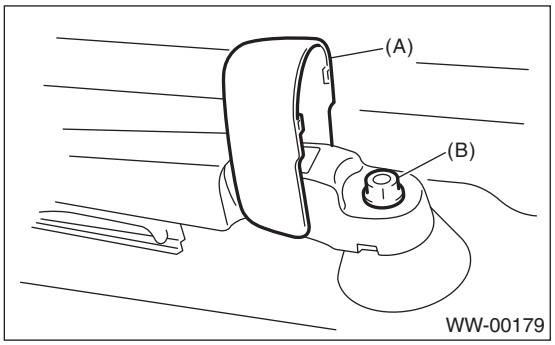


(1) Nozzle
(2) Spray center aiming position
(3) Spray area (shaded area)

10.Rear Wiper Arm

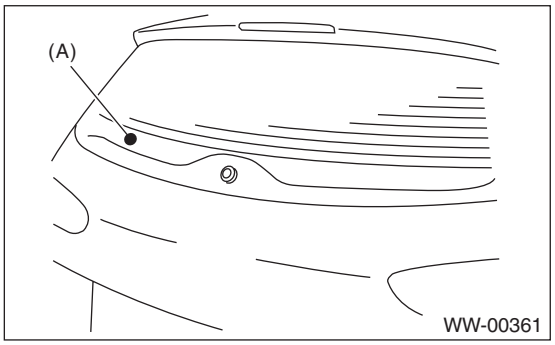
A: REMOVAL

1) Detach the wiper arm cover (A).
2) Remove the nut (B) to remove the wiper arm.



B: INSTALLATION

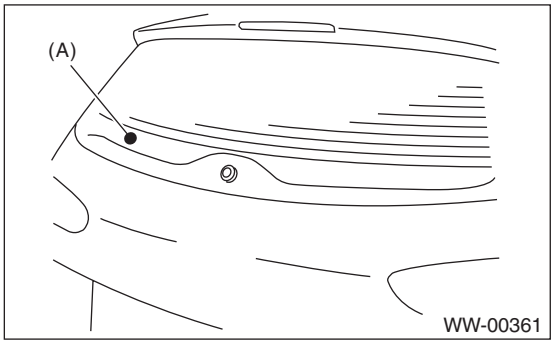
1) Install in the reverse order of removal.
2) Operate the rear wiper once.
3) Align the blade with the marking (A) of the glass.



Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to WW-3, REAR WIPER, COMPONENT, General Description.>

C: ADJUSTMENT

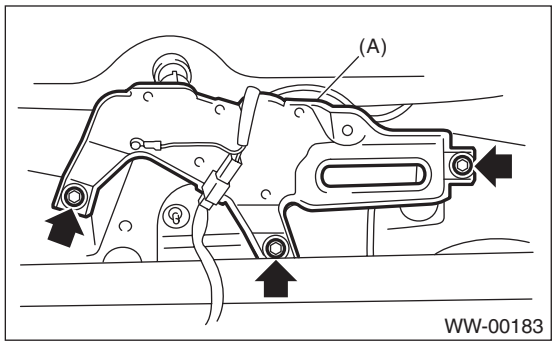
1) Operate the rear wiper once.
2) Align the blade with the marking (A) of the glass.



11.Rear Wiper Motor

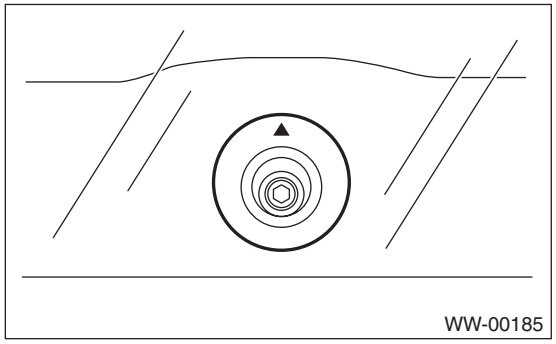
A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear wiper arm. <Ref. to WW-19, REMOVAL, Rear Wiper Arm.>
3) Remove the rear gate lower trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
4) Disconnect the harness connector of wiper motor assembly.
5) Remove the bolts to remove wiper motor assembly (A).



B: INSTALLATION

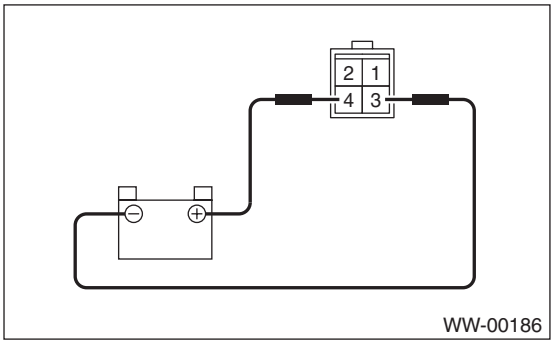
1) Install in the reverse order of removal.
2) Be sure that the pivot cap with the arrow mark facing up, as shown in the figure.



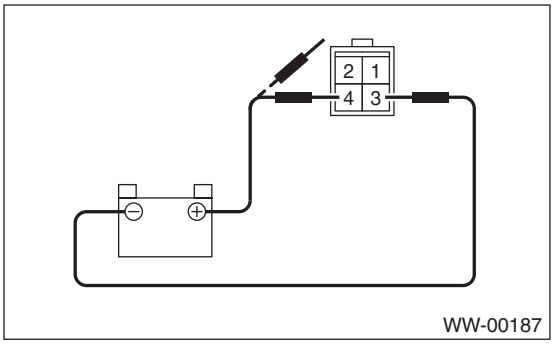
Tightening torque:
Refer to "COMPONENT" of "General Description".
<Ref. to WW-3, REAR WIPER, COMPONENT, General Description.>

C: INSPECTION

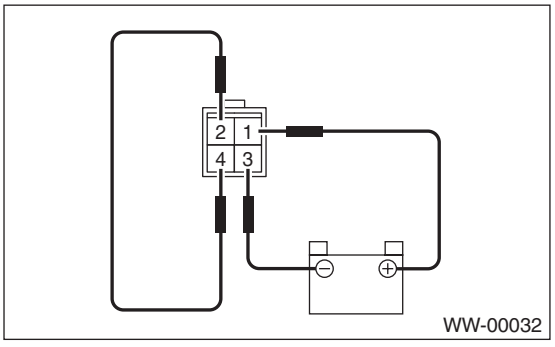
1) Connect the battery to the wiper motor connector and confirm that wiper motor operates.



2) Connect the battery to the terminals to the connector, then run the wiper motor at low speed and disconnect the terminal in mid motion.



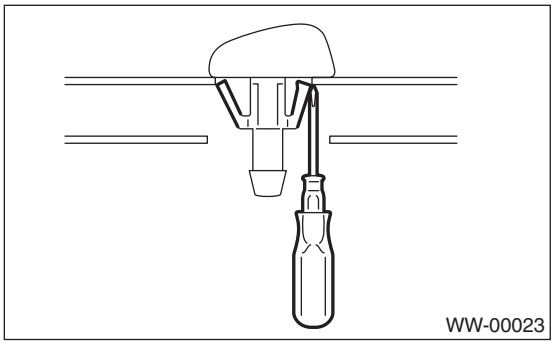
3) Connect the battery and confirm that the wiper motor stops at the automatic stop position after the wiper motor operates at low speed again.



12.Rear Washer

A: REMOVAL

1) Remove the rear gate upper trim. <Ref. to EI-53, REMOVAL, Rear Gate Trim.>
2) Remove the washer hose from washer nozzle.
3) Push the claw of the nozzle from the backside of rear gate panel with a flat tip screwdriver or equivalent, and remove the washer nozzle.



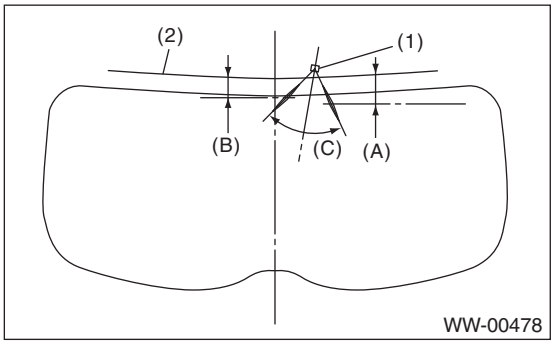
B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

- Make sure the nozzle and hose are not clogged.
- Make sure the hose is not bent.
- While the vehicle is at a standstill, make sure that the washer injection position is as shown in the figure.

NOTE:
Washer injection position can not be adjusted.



(1) Nozzle
(2) Upper edge of the rear gate glass
(A) From rear gate glass upper end to center of washer fluid spraying: 71 mm (2.8 in)
(B) From rear gate glass upper end to center of washer fluid spraying: 56 mm (2.2 in)
(C) 72°

ENTERTAINMENT

ET

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