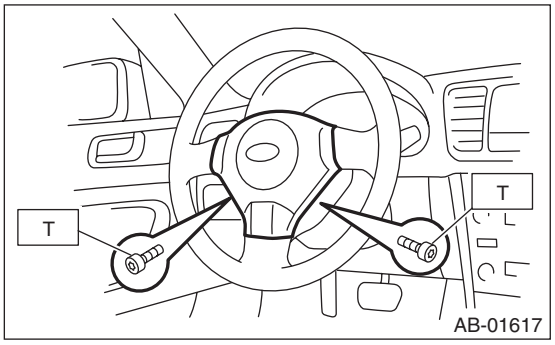
# 1. General Description

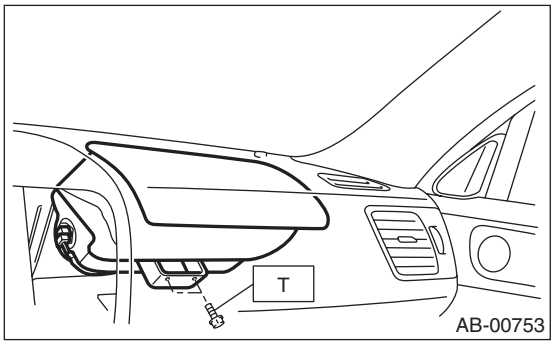
## A: COMPONENT

### 1. DRIVER'S AIRBAG MODULE



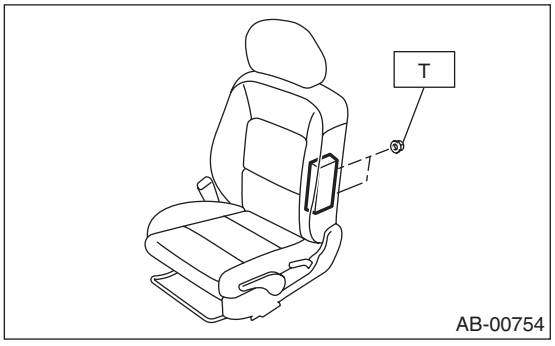

***Tightening torque:***
***10 N·m (1.0 kgf-m, 7.2 ft-lb)***

### 2. PASSENGER'S AIRBAG MODULE



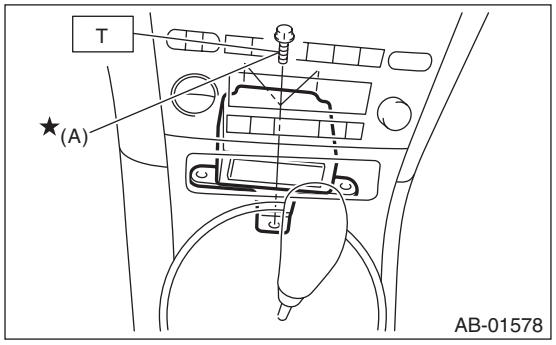

***Tightening torque:***
***7.4 N·m (0.75 kgf-m, 5.5 ft-lb)***

### 3. SIDE AIRBAG MODULE




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

### 4. AIRBAG CONTROL MODULE

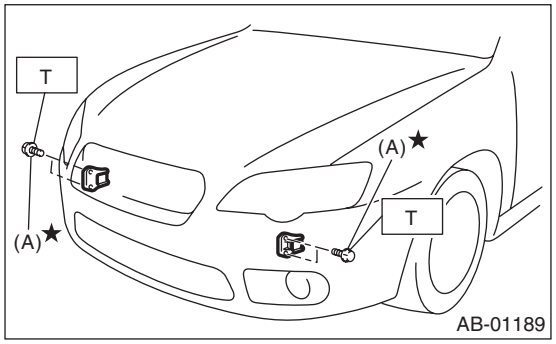



(A) Bolt

***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

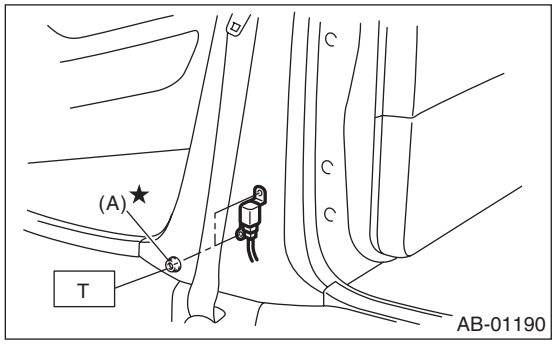



(A) Bolt

***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

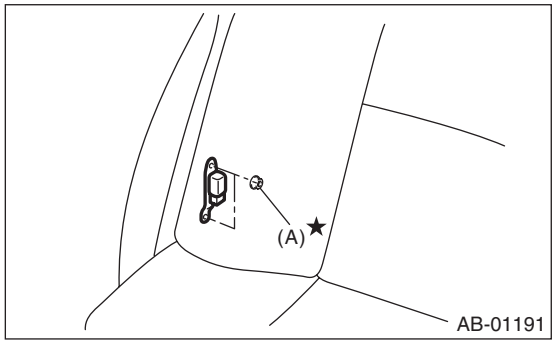



(A) Bolt

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

**CAUTION:**
**Do not reuse mounting bolts and nuts.**

## 7. CURTAIN AIRBAG SENSOR

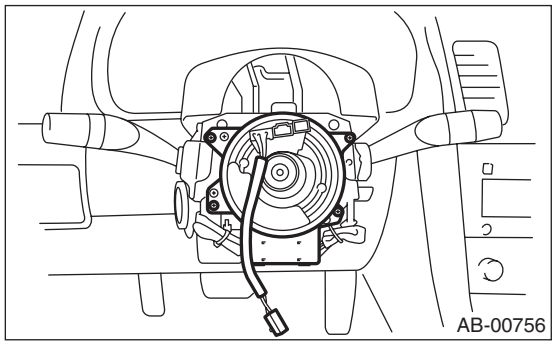



(A) Nut

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

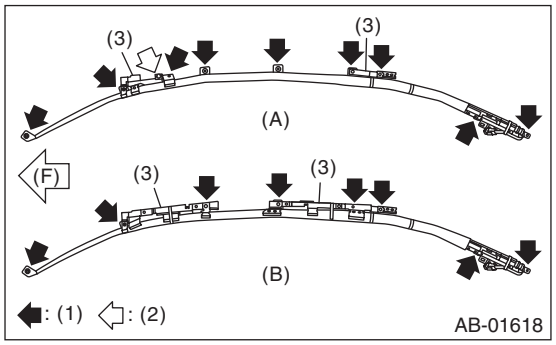
**CAUTION:**
**Do not reuse mounting bolts and nuts.**

## 8. STEERING ROLL CONNECTOR

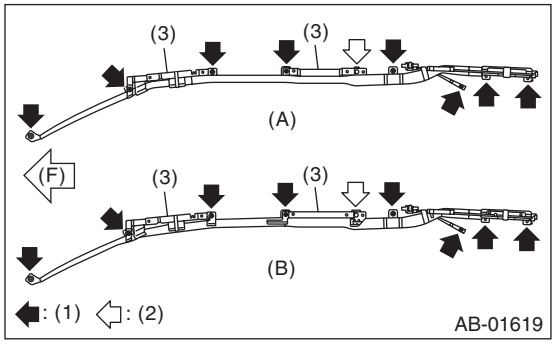



## 9. CURTAIN AIRBAG MODULE

- Sedan model



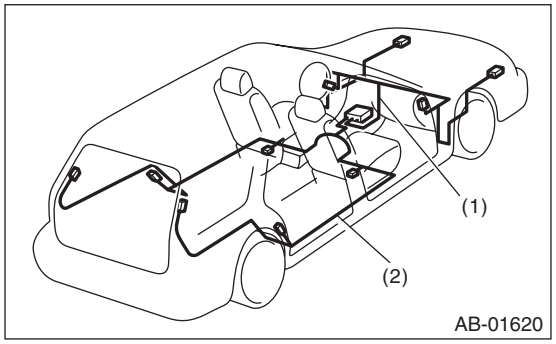

- Wagon model




(A) Model with sunroof
(B) Models without sunroof
(F) Front side of vehicle
(1) Bolt
(2) Clip
(3) Plate guard

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

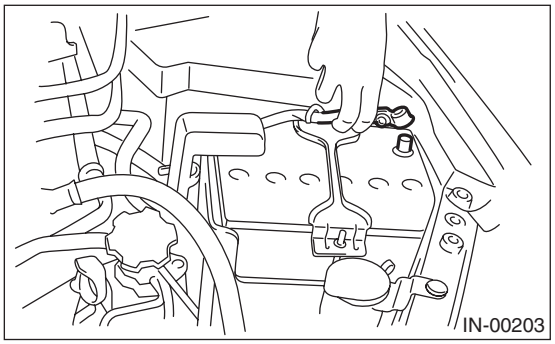
## 10. AIRBAG HARNESS



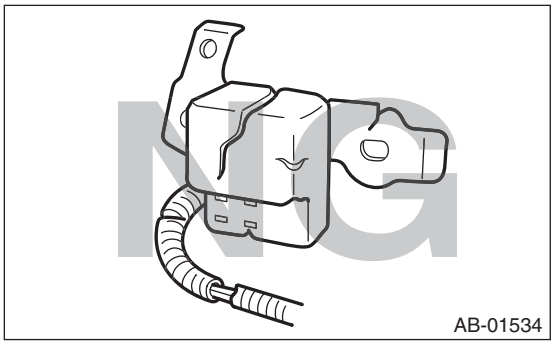

(1) Airbag main harness
(2) Airbag rear harness

## B: CAUTION

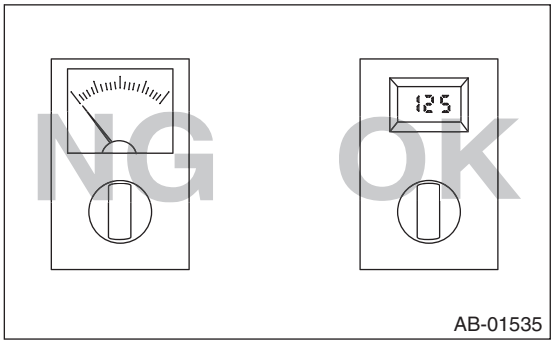
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for 20 seconds or more before starting work.
• The airbag system is fitted with a backup power source. After disconnecting the battery ground cable, the airbag may deploy if you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



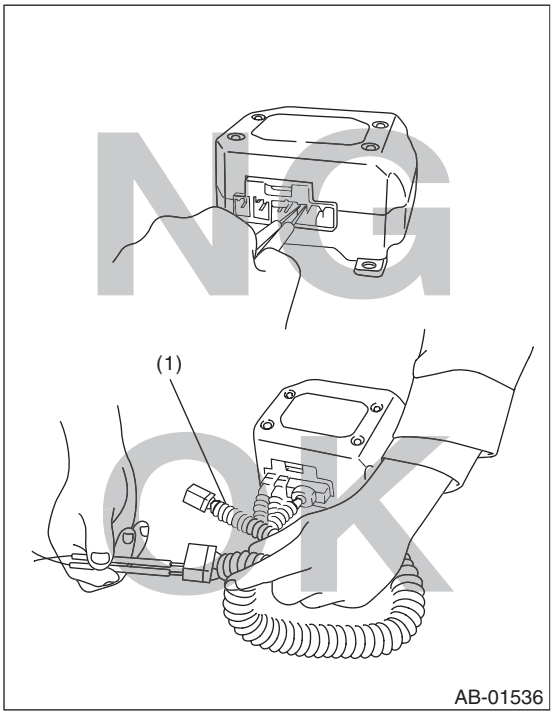

• If sensors, airbag module, airbag control module, pretensioner or harness is deformed or damaged, replace with new part.



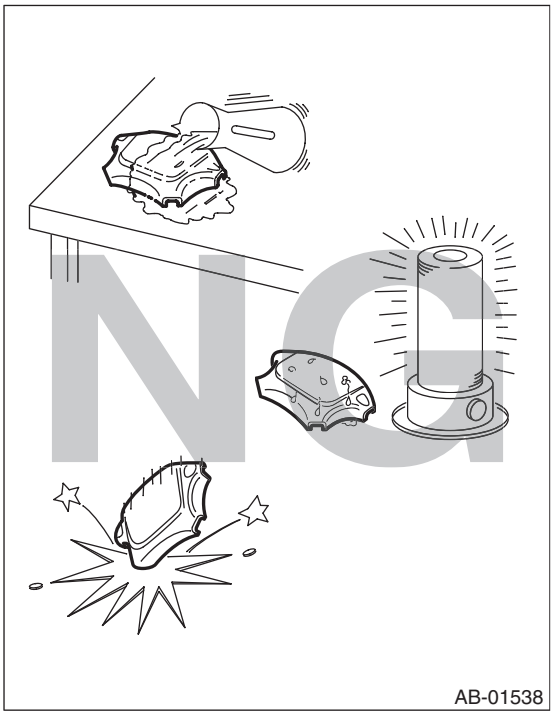

• Do not use the airbag system and pretensioners on other vehicles. When replacing parts, be sure to replace them with new parts.
• When checking the airbag system, be sure to use a digital circuit tester. Use of an analog circuit tester may cause the airbag to activate erroneously due to a minimal current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



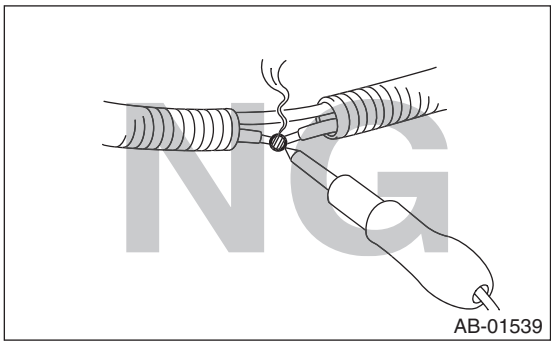

• When checking, use a test harness (1). Damage to connector terminal causes malfunction. Do not directly put the tester probe on airbag connector terminal.



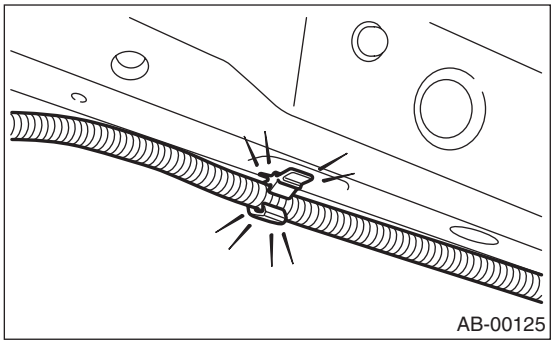

• Do not drop the airbag system parts, or keep them at high temperature of 93°C (199°F) or more, or let water, oil or grease get on them; the internal parts may be damaged and reliability greatly lowered.



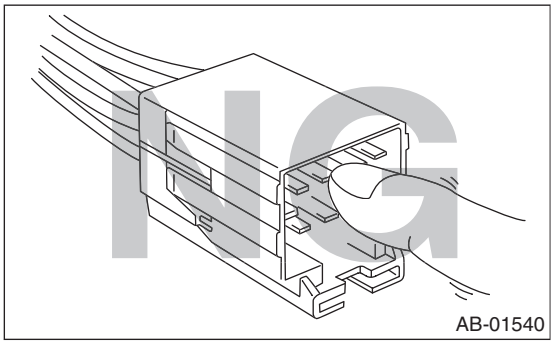
• If damage, open circuit or rust is found on airbag system wiring harness, do not use a soldering equipment to repair. Replace the faulty harness with a new genuine part.



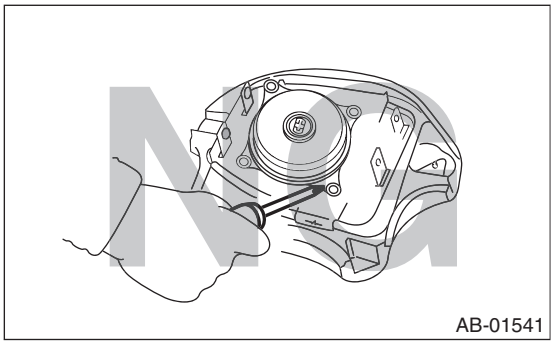

• Install the wiring harness securely with the specified clips to avoid interference or tangled with other parts.




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

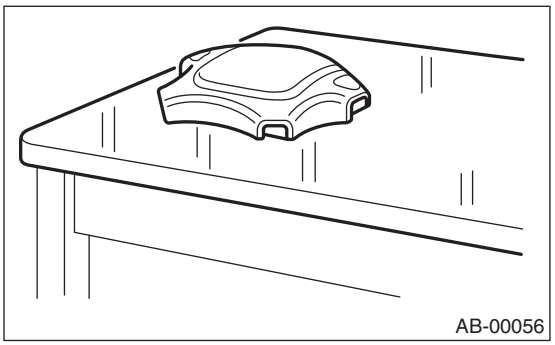



• The driver's, passenger's, side, curtain airbag modules, and the pretensioner must not be disassembled.

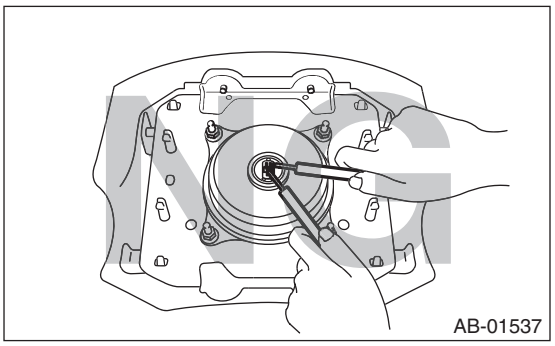



• The airbag module cannot be used again if deployed once.

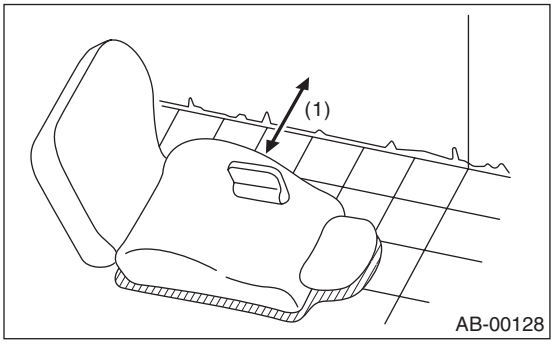
• After removal, keep the airbag module with the pad side facing upward on a dry, clean and flat surface away from heat, light sources, moisture and dust.




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



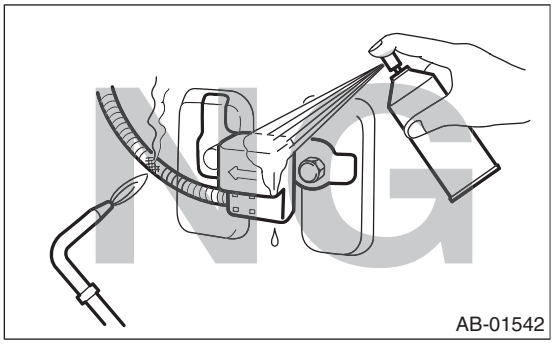

• The removed front seat with airbag module must be kept at least 200 mm (8 in) away from walls and other objects.




(1) 200 mm (8 in) or more

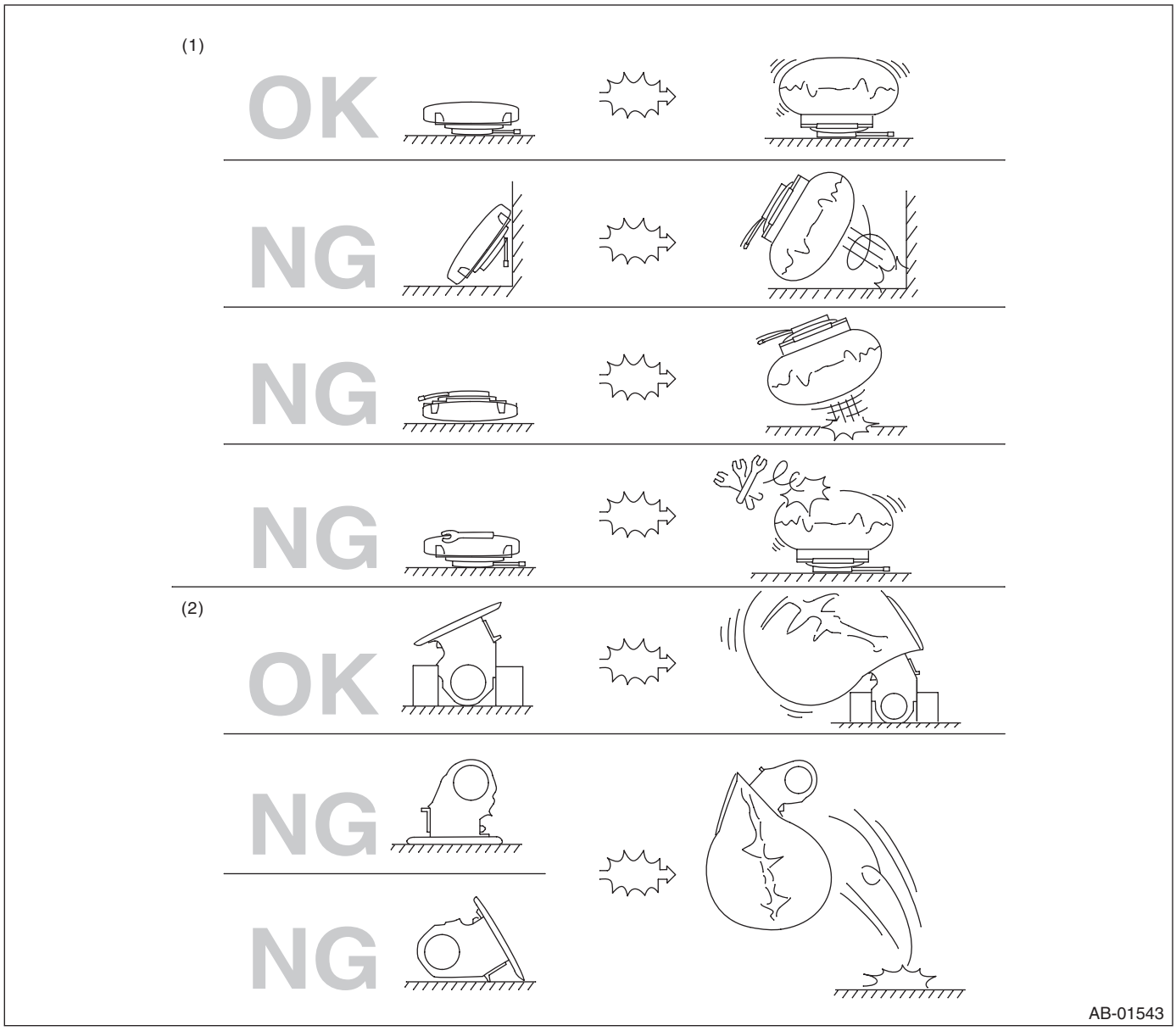
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and front side frame, remove the front sub sensors and wiring harness of airbag system.

• 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

# C: PREPARATION TOOL

## 1. GENERAL TOOL

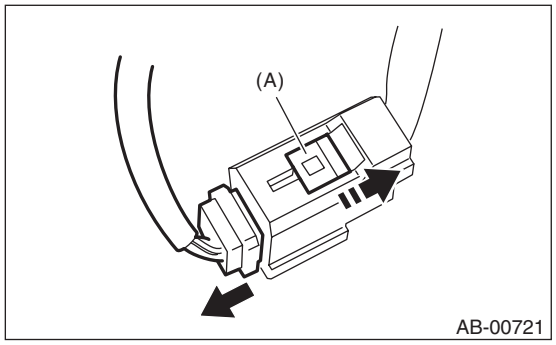
| TOOL NAME | REMARKS |
|---|---|
| TORX® T30 | Used for removing and installing driver's airbag module. |

# 2. Airbag Connector

## A: PROCEDURE

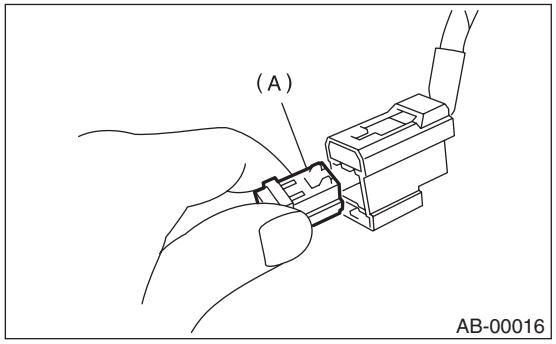
### 1. POWER SUPPLY BUCKLE SWITCH

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




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

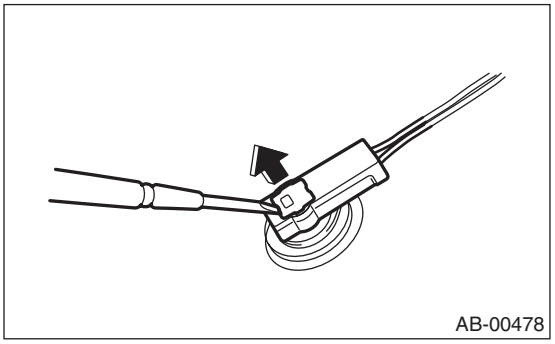
2) How to connect:
Holding the connector (A), and push it in carefully until a clicking sound is heard.



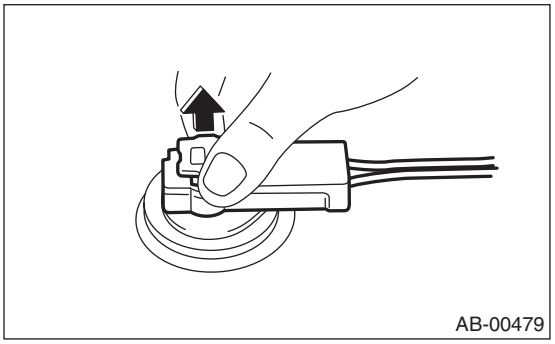

**CAUTION:**
**Be sure to insert the connector in until it is locked. Then pull it lightly to make sure that it is locked.**

### 2. DRIVER'S AIRBAG MODULE AND PRETENSIONER

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

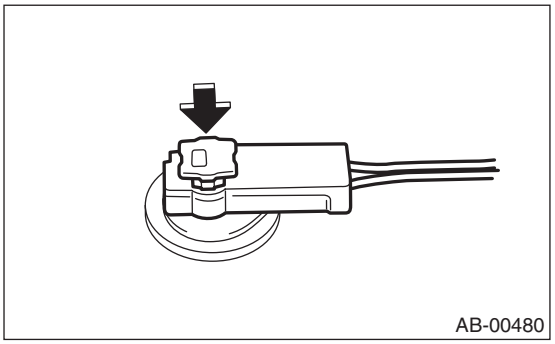



(2) Pull the connector to disconnect from the driver's airbag module assembly or the retractor assembly.




2) How to connect:
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.

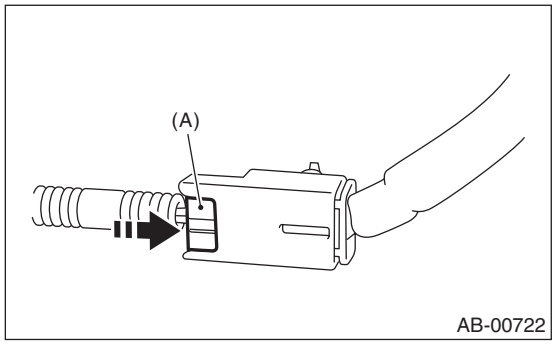
**CAUTION:**
- **Be sure to insert the connector in until it is locked. Then pull it lightly to make sure that it is locked.**
- **Be sure to push the push lock in securely.**



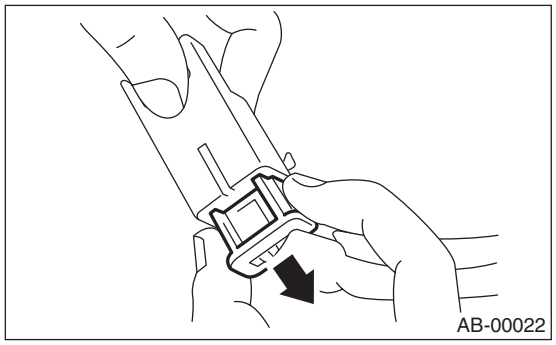

NOTE:
The connector cannot be connected when the push lock is in the lock position. Move the push lock to the release position and connect the connector.

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

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



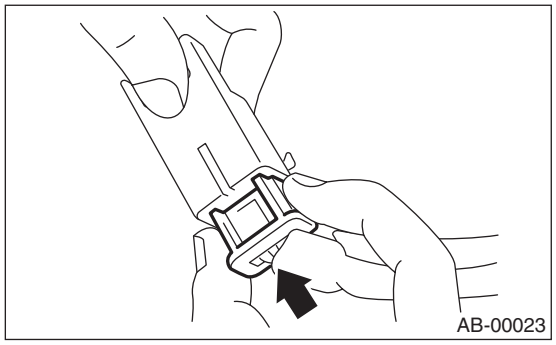

(2) With the slide lock pushed, disconnect the connector.




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

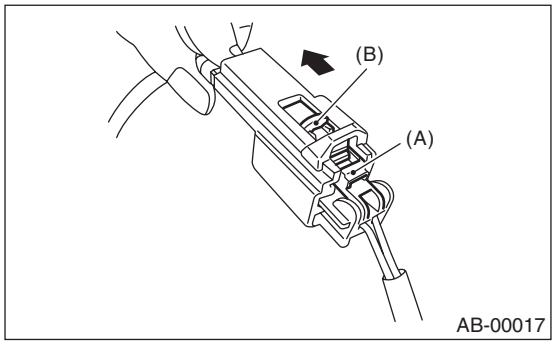
2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

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



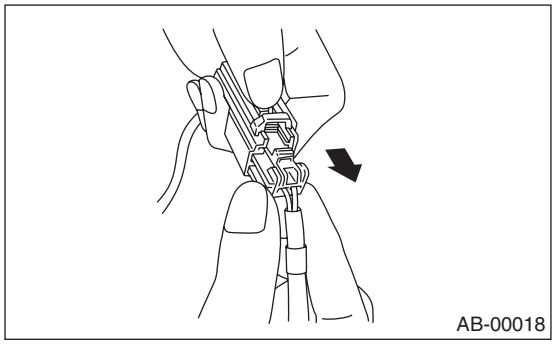

### 4. SIDE AIRBAG AND CURTAIN AIRBAG

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.



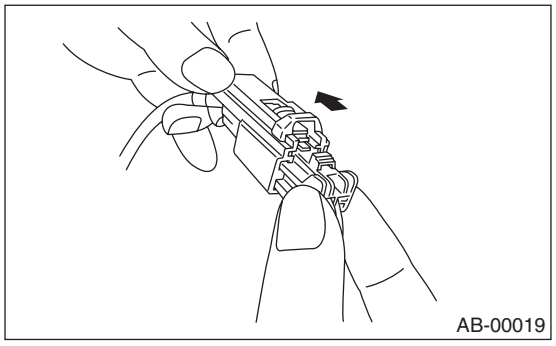

(3) With the slide lock moved, release the lock arm (return to original position) and disconnect the connector.

**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.

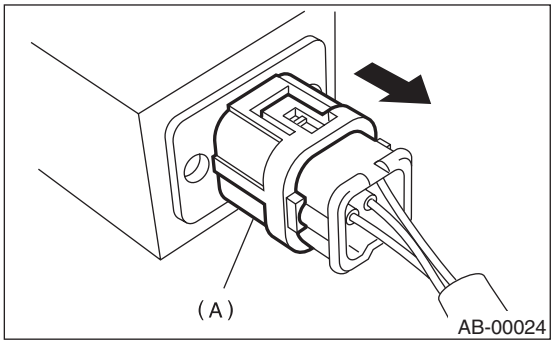
**CAUTION:**
**Be sure to insert the connector in until it is locked. Then pull it lightly to make sure that it is locked.**



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

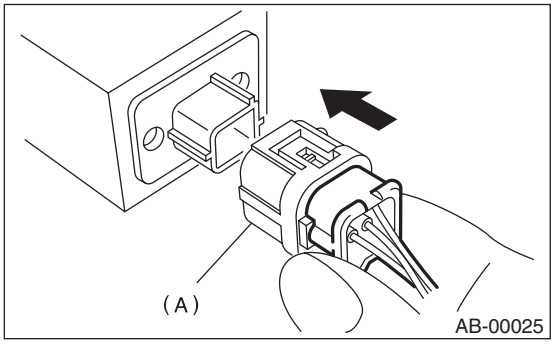
1) How to disconnect:
Holding outer part (A), pull it in the direction of arrow.

**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.

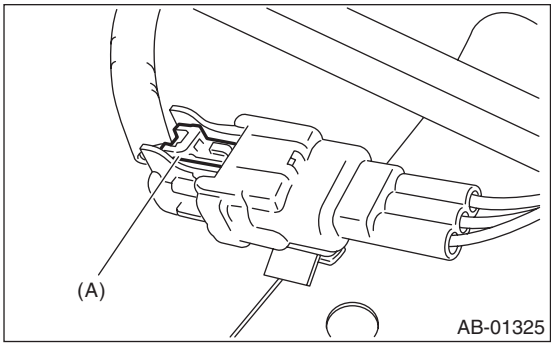
**CAUTION:**
**• Do not touch the outer side section or else the outer side (A) will move back.**
**• Be sure to insert the connector in until it is locked. Then pull it lightly to make sure that it is locked.**




### 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 lightly 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's 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, absorbing part of steering shaft may have been operated.)
2) Check the direct type connector of driver's 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 frame, backrest, slide rail and headrest for deformation, distortion, crack, and installing condition and play.
4) For the passenger's seat, replace the seat cushion pad and frame assembly with a new part if the seat cushion pad and frame assembly 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 occupant detection system.
<Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.>
7) Use the Subaru Select Monitor to check whether the drivers seat position sensor and the drivers and the front left/right seat belt buckle switches are operating normally.

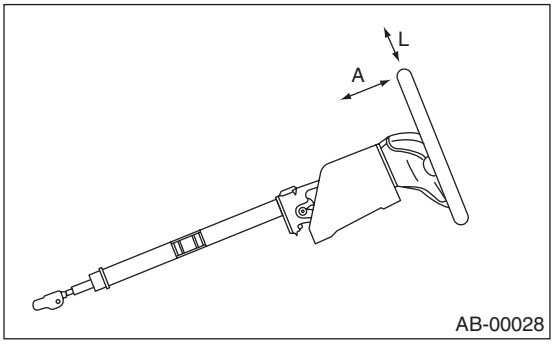
## B: INSPECTION

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

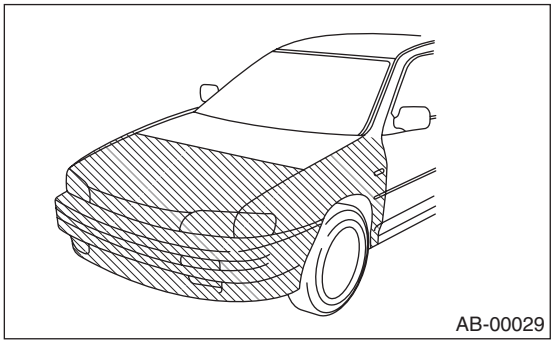
Check for the following, and replace the damaged parts with new parts.
- Airbag cover is scratched or torn.
- Harness and/or connector is cracked, deformed or open. Harness wire is exposed.
- Mounting bracket and securing clip are cracked or deformed.

## 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

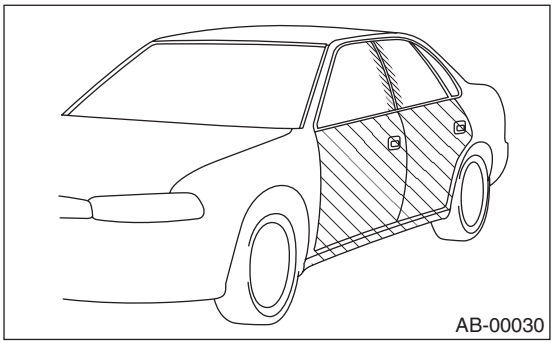
If the section of vehicle as shown in the figure is damaged, check the following items and replace the damaged parts with new parts.




- 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

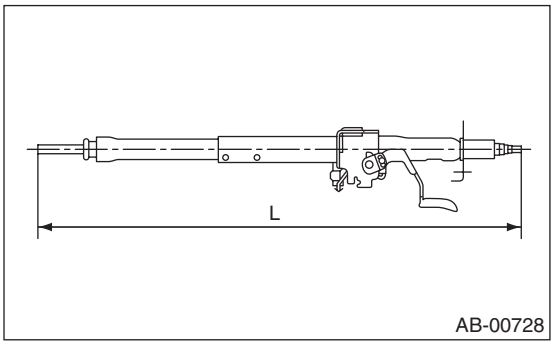
Check for the following, and replace the damaged parts with new parts.
Combination switch or steering roll connector is cracked or deformed.

## 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***
***Except for OUTBACK model***
***$833.6^{+1.3}_{-0.3}$ mm ($32.82^{+0.051}_{-0.012}$ in)***
***OUTBACK model***
***$825.4^{+1.3}_{-0.3}$ mm ($32.50^{+0.051}_{-0.012}$ 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

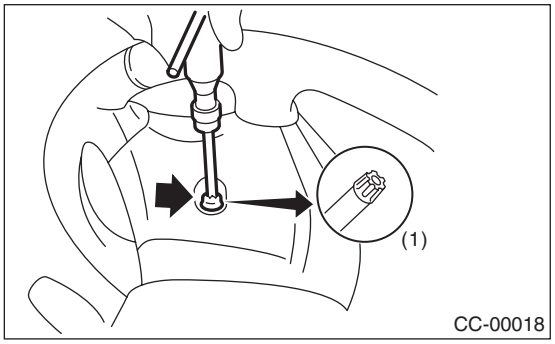
Check for the following, and replace the damaged parts with new parts.
• Belt tension sensor is scratched, cracked, or deformed.
• Harness and/or connector is cracked, deformed or open. Harness wire is exposed.

# 4. Driver's Airbag Module

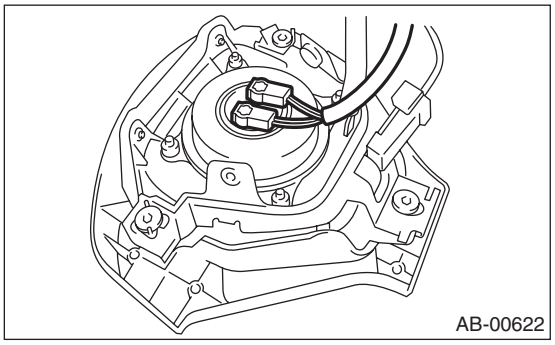
## A: REMOVAL

**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-9, 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.>**

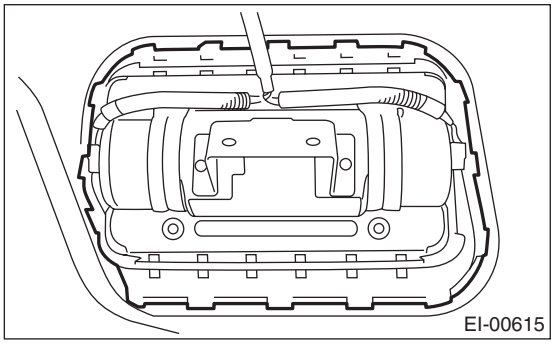
Check for the following, and replace the damaged parts with new parts.
Airbag module, harness, connector and mounting bracket are damaged. <Ref. to AB-12, DRIVER'S AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

# 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 instrument panel. <Ref. to EI-54, INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM), REMOVAL, Instrument Panel Assembly.>
4) Remove the claw, and remove the passenger's airbag module.




5) 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.>**

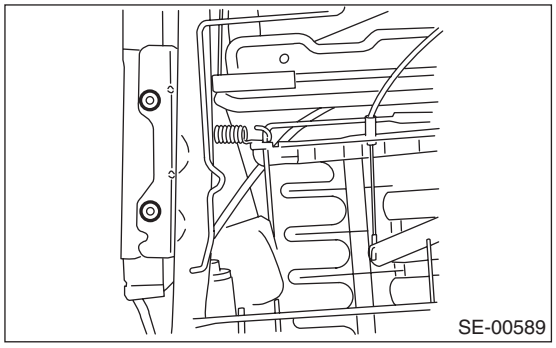
Check for the following, and replace the damaged parts with new parts.
Airbag module, harness, connector and mounting bracket are damaged. <Ref. to AB-13, PASSENGER'S AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>

# 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.>**

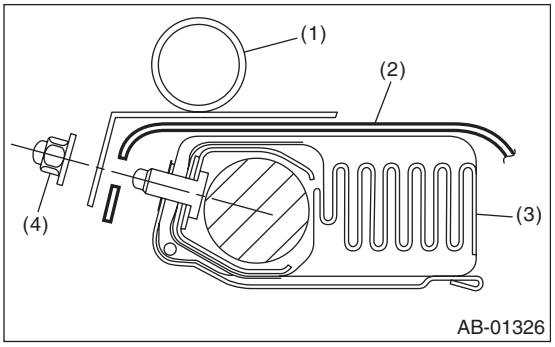
NOTE:
Remove the passenger's side by referring to driver's side.
1) Turn the ignition switch to OFF.
2) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
3) Remove the front seats. <Ref. to SE-9, REMOVAL, Front Seat.>
4) Disconnect the connector from the back side of seat cushion assembly, then remove the side airbag harness.
5) Remove the backrest cover. <Ref. to SE-9, 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-15, 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-13, 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 pad and frame ASSY
- 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)

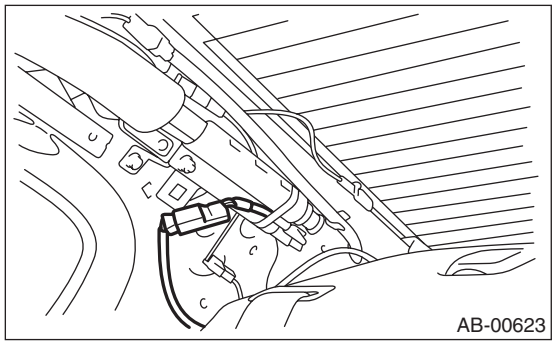
Replace the corresponding part with a new part.

# 7. Curtain Airbag Module

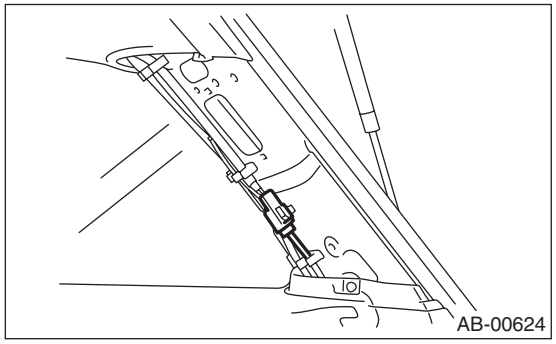
## A: REMOVAL

**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 rear quarter trim. (Sedan model) <Ref. to EI-60, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
4) Remove the quarter rear pillar trim. (Wagon model) <Ref. to EI-60, WAGON MODEL, REMOVAL, Rear Quarter Trim.>
5) Disconnect the curtain airbag module connector.
- Sedan model


AB-00623

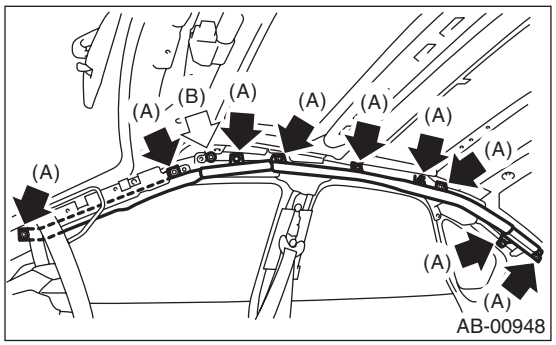
- Wagon model


AB-00624

6) Remove the roof trim. <Ref. to EI-64, REMOVAL, Roof Trim.>
7) Remove bolt (A) and clip (B), and then remove the curtain airbag module.

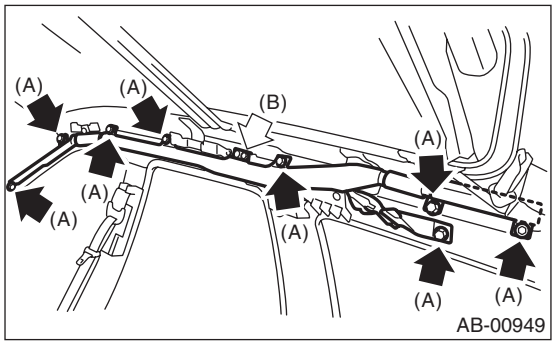
**CAUTION:**
**• Be careful not to damage the curtain airbag module during removal.**
**• Never open the curtain airbag module before deploying it. Never reuse the deployed curtain airbag module.**

- Sedan model



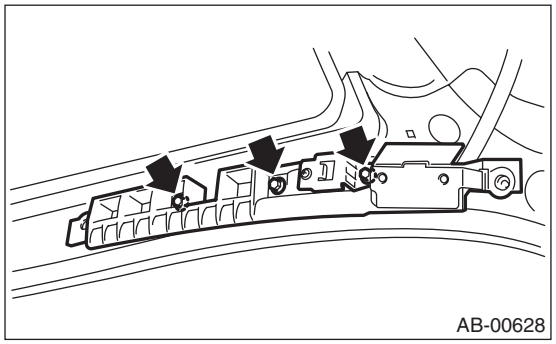
AB-00948

- Wagon model

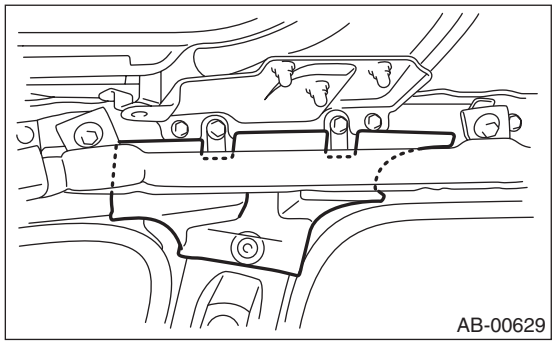


AB-00949

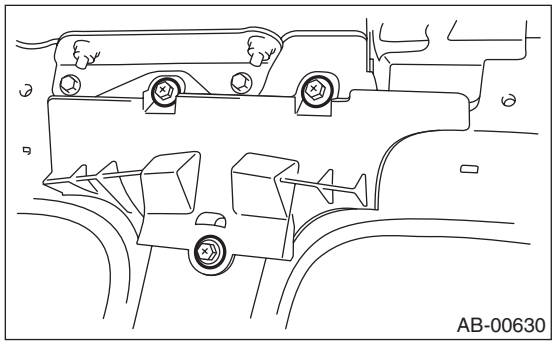
NOTE:
Remove the rear center seat belt retractor on the RH side before servicing.
8) Remove the airbag guide A from the front pillar.


AB-00628

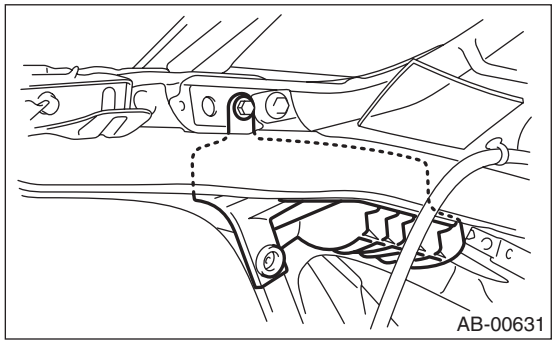
9) Remove the airbag guide B from the center pillar.
• Sedan model


AB-00629

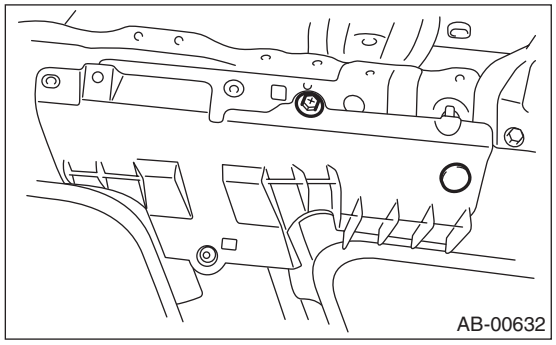
• Wagon model


AB-00630

10) Remove airbag guide C from quarter pillar.
• Sedan model


AB-00631

• Wagon model


AB-00632

## 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

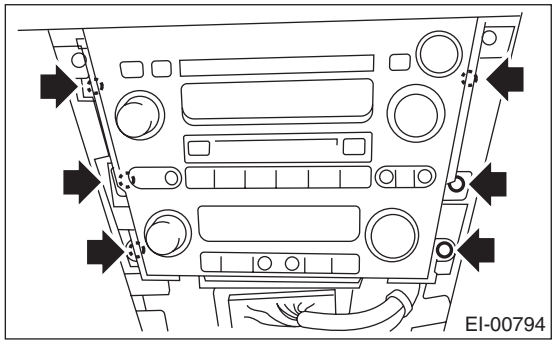
**CAUTION:**
**Refer to "CAUTION" of "General Description" before handling the airbag module. <Ref. to AB-4, CAUTION, General Description.>**
Check for the following, and replace the damaged parts with new parts. <Ref. to AB-13, CURTAIN AIRBAG MODULE, INSPECTION, Inspection Locations After a Collision.>
1) With side collision (when curtain airbag is deployed)
• Curtain airbag module assembly
• Roof trim
• Front pillar upper trim
• Center pillar upper trim
• Rear quarter pillar trim
• Airbag guide A, B, C
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

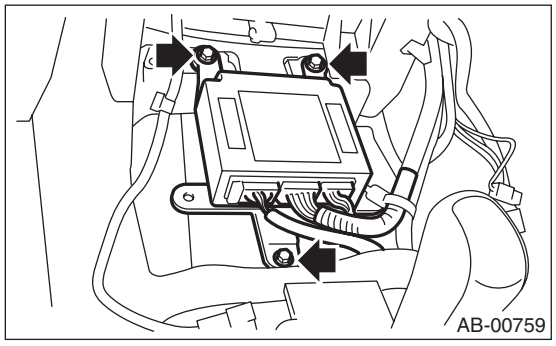
## A: REMOVAL

**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-52, REMOVAL, Center Console.>
4) Remove screws and pull out the audio unit assembly, and disconnect the connector for removal.




5) Disconnect the connector from airbag control module.
6) 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)***

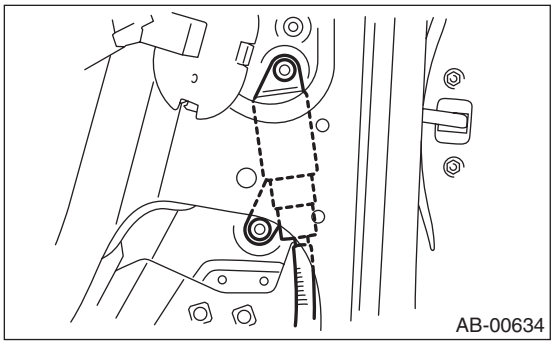
## C: INSPECTION

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-58, REMOVAL, Lower Inner Trim.>
4) Remove the center pillar inner protector lower.
5) Remove the front outer seat belt retractor. <Ref. to SB-10, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
6) 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:***
***8.0 N·m (0.82 kgf-m, 5.9 ft-lb)***

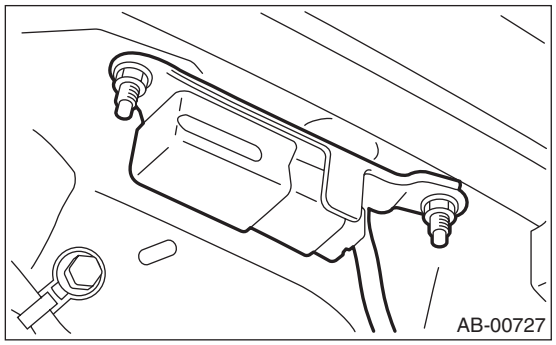
## C: INSPECTION

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 seat. <Ref. to SE-17, REMOVAL, Rear Seat.>
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:***
***8.0 N·m (0.82 kgf-m, 5.9 ft-lb)***

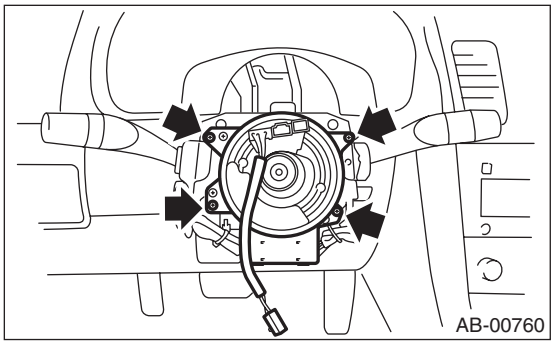
## C: INSPECTION

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-15, REMOVAL, Driver's Airbag Module.>
4) Remove the steering wheel. <Ref. to PS-14, REMOVAL, Steering Wheel.>
5) Remove the steering column cover.
6) Remove the screws, and then remove the roll connector.




## B: INSTALLATION

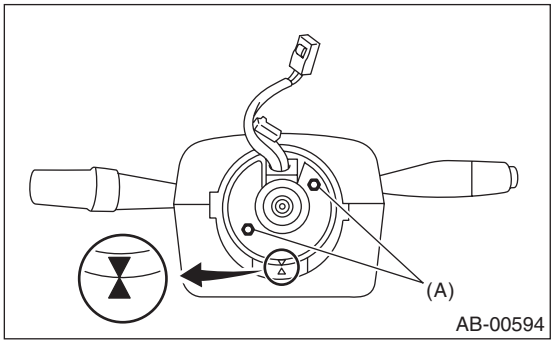
1) Install in the reverse order of removal.
2) Before installing the steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-24, ADJUSTMENT, Roll Connector.>

## 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

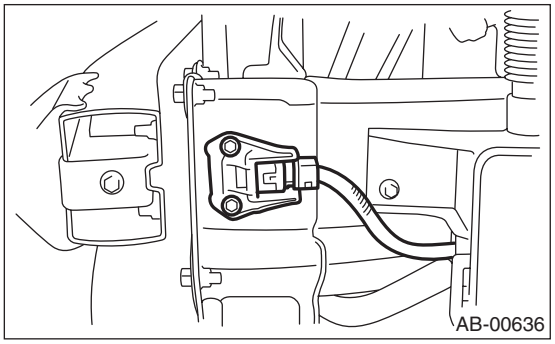
1) Check that front wheels are positioned in straight ahead direction.
2) Turn the roll connector pin (A) clockwise until it stops.
3) Turn the roll connector pins (A) approx. 3.25 turns until "▲" marks are aligned.



# 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-30, 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)


| | | Page |
|---|---|---|
| 1. | Basic Diagnostic Procedure | 2 |
| 2. | Check List for Interview | 3 |
| 3. | General Description | 4 |
| 4. | Electrical Component Location | 24 |
| 5. | Airbag Connector | 26 |
| 6. | Airbag Control Module I/O Signal | 29 |
| 7. | Subaru Select Monitor | 31 |
| 8. | Read Diagnostic Trouble Code (DTC) | 36 |
| 9. | Inspection Mode | 37 |
| 10. | Clear Memory Mode | 38 |
| 11. | Airbag Warning Light Illumination Pattern | 39 |
| 12. | Airbag Warning Light Failure | 40 |
| 13. | List of Diagnostic Trouble Code (DTC) | 45 |
| 14. | Diagnostic Chart with Trouble Code | 50 |

# 1. Basic Diagnostic Procedure

## A: PROCEDURE

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK WARNING LIGHT.**<br>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.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the Subaru Select Monitor to the data link connector.<br>3) Turn the ignition switch to ON, and run the Subaru Select Monitor.<br>4) Read the DTC. <Ref. to AB(diag)-36, OPERATION, Read Diagnostic Trouble Code (DTC).><br>NOTE:<br>If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to AB(diag)-33, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.><br>5) Record all DTCs and freeze frame data. | Is DTC displayed? | Go to step **3**. | <Ref. to AB(diag)-40, Airbag Warning Light Failure.>Go to “Airbag Warning Light Failure”. |
| 3 | **PERFORM DIAGNOSIS.**<br>1) Judge the possible cause from “List of Diagnostic Trouble Code” <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).>.<br>2) Inspect the DTC using “List of Diagnostic Trouble Code (DTC)”.<br>3) Repair the trouble cause.<br>4) Perform the Clear Memory Mode. <Ref. to AB(diag)-38, Clear Memory Mode.><br>5) Perform the Inspection Mode. <Ref. to AB(diag)-37, Inspection Mode.><br>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

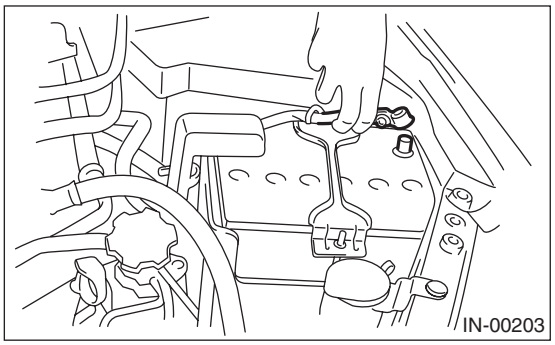
## A: CHECK

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

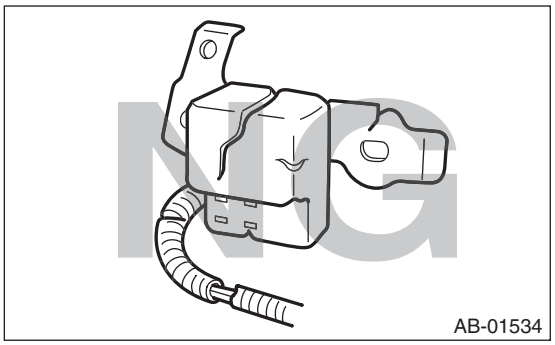
# 3. General Description

## A: CAUTION

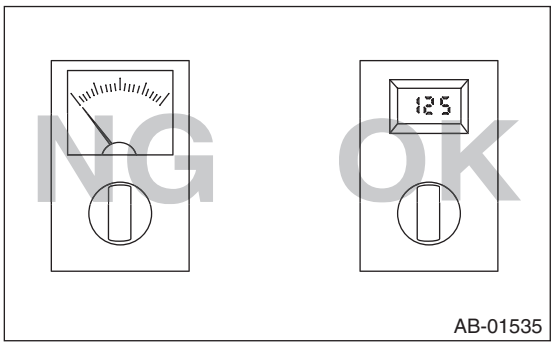
• When servicing a vehicle, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait for 20 seconds or more before starting work.
• The airbag system is fitted with a backup power source. If the airbag system is serviced within 20 seconds after the ground cable is disconnected, it may inflate.



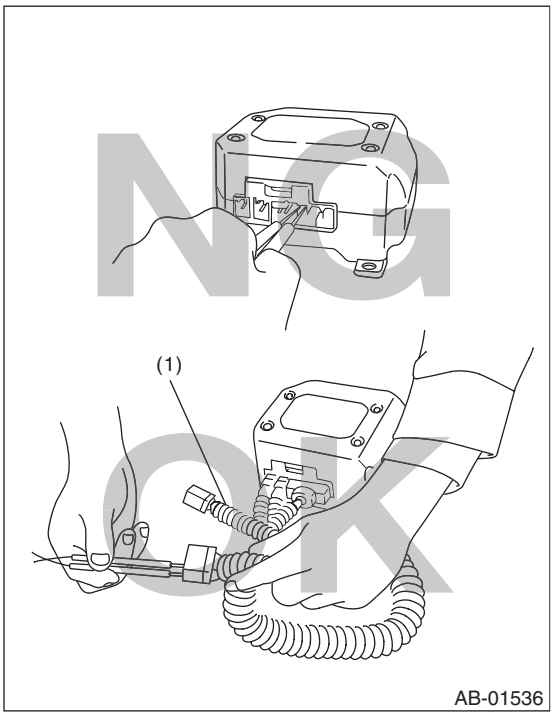

• If sensors, airbag module, airbag control module, pretensioner or harness is deformed or damaged, replace with new parts.



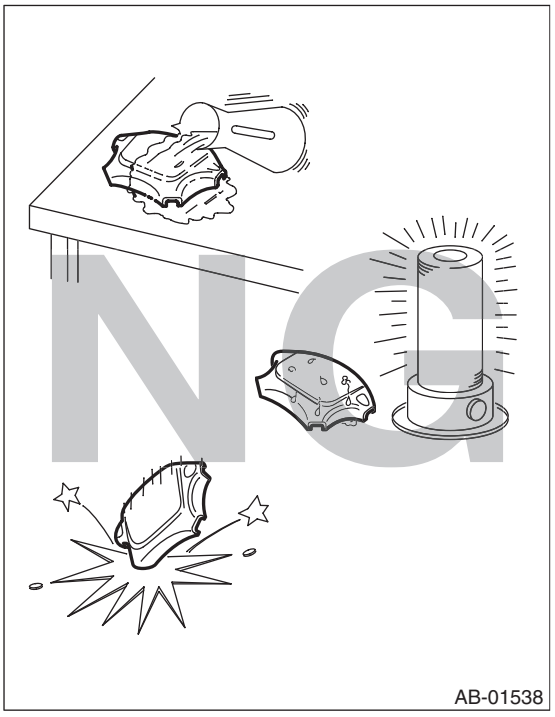

• Do not use the airbag system and pretensioners on other vehicles. When replacing parts, be sure to replace them with new parts.
• When checking the airbag system, be sure to use a digital circuit tester. Use of an analog circuit tester may cause the airbag to activate erroneously due to a minimal current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



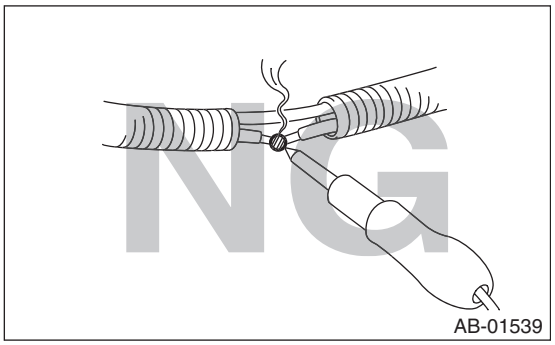

• When checking, use a test harness (1). Damage to connector terminal causes malfunction. Do not directly put the tester probe on airbag connector terminal.



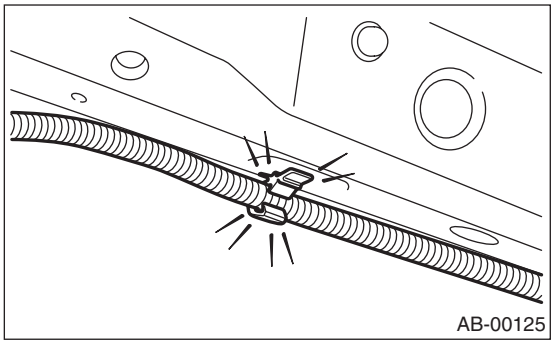

• Do not drop the airbag system parts, or keep them at high temperature of 93°C (199°F) or more, or let water, oil or grease get on them; the internal parts may be damaged and reliability greatly lowered.



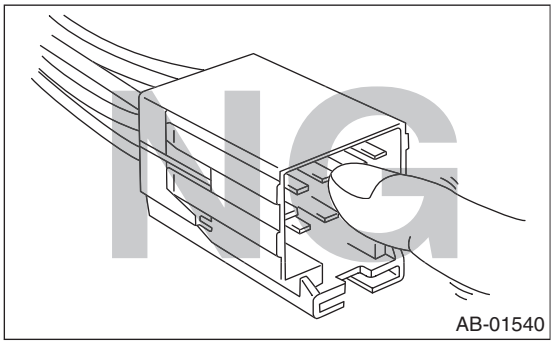
• If damage, open circuit or rust is found on airbag system wiring harness, do not use a soldering equipment to repair. Replace the faulty harness with a new genuine part.



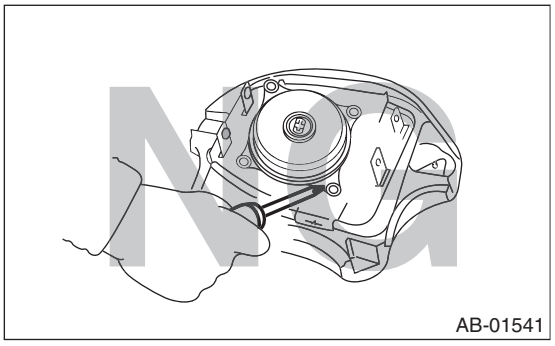

• Install the wiring harness securely with the specified clips to avoid interference or tangled with other parts.




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

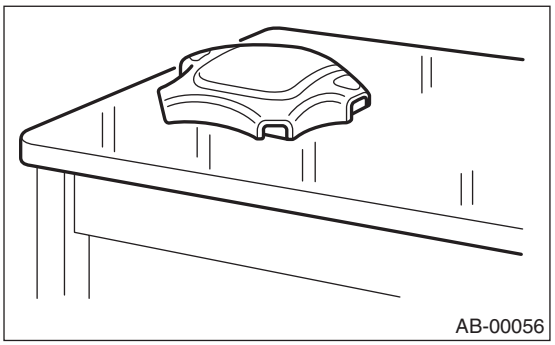



• Do not disassemble driver's airbag module, passenger's airbag module, side or curtain airbag modules, or pretensioner.

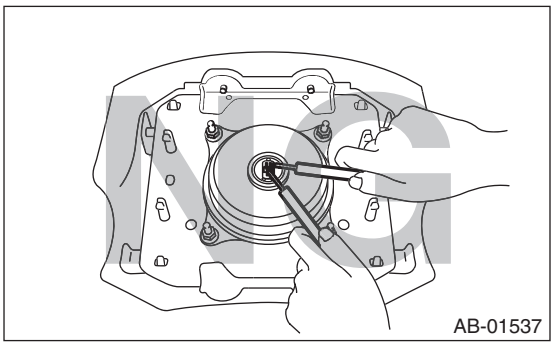



• The airbag module cannot be used again if deployed once.

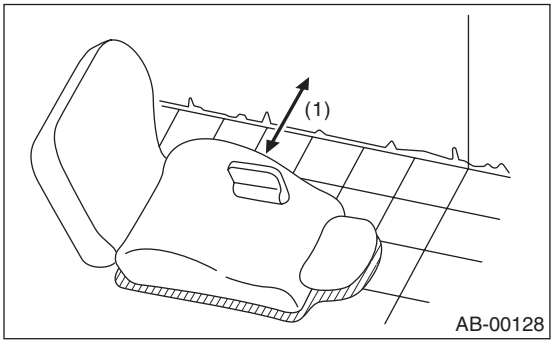
• After removal, keep the airbag module with the pad side facing upward on a dry, clean and flat surface away from heat, light sources, moisture and dust.




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



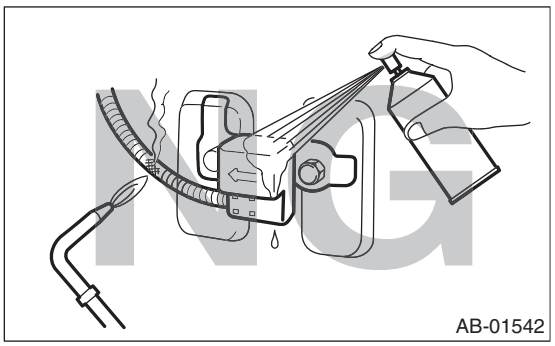

• The removed front seat with airbag module must be kept at least 200 mm (8 in) away from walls and other objects.




(1) 200 mm (8 in) or more

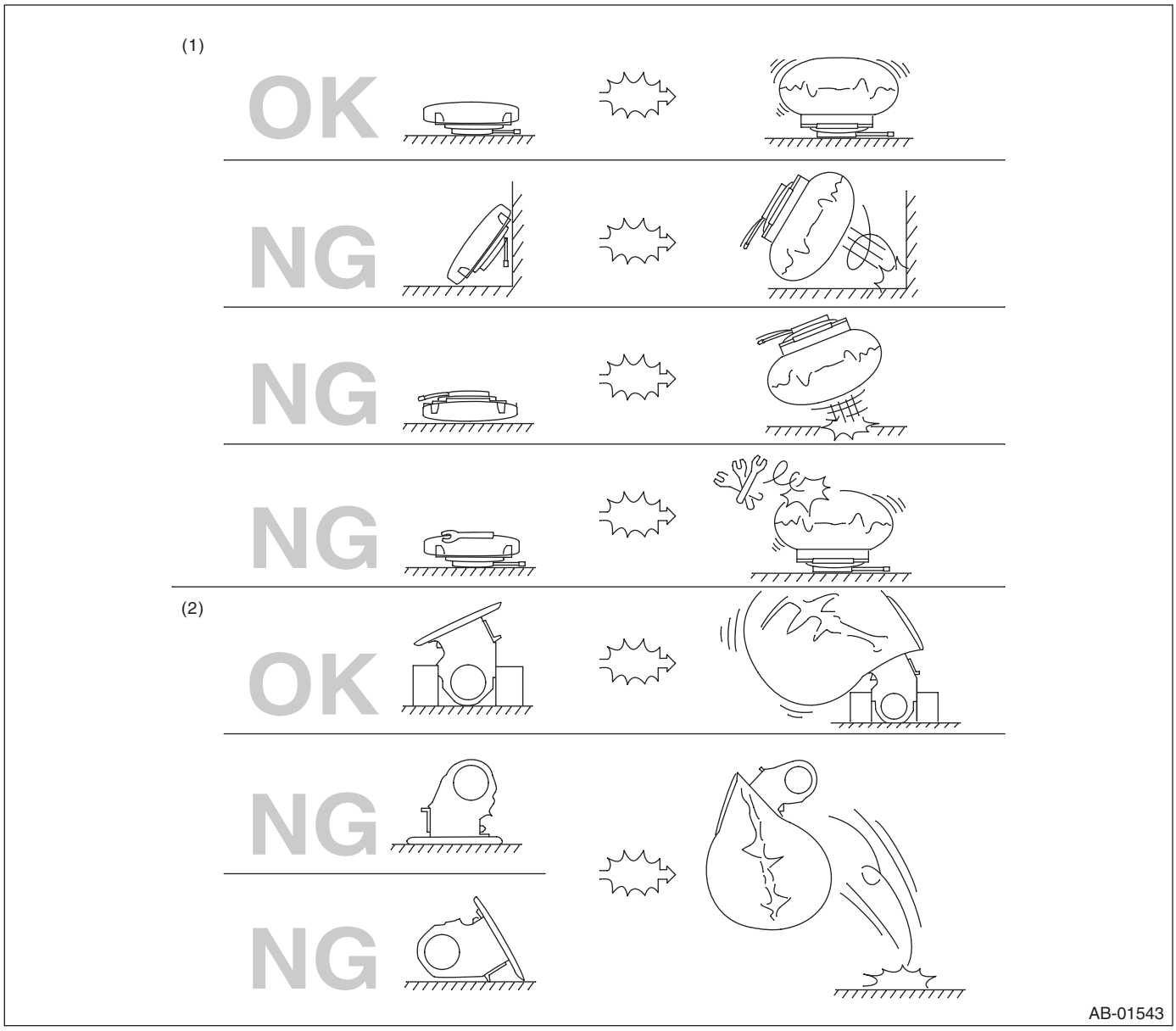
• When painting or performing sheet metal work on the front part of the vehicle, including the front wheel apron, front fender and front side frame, remove the front sub sensors and wiring harness of airbag system.

• 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 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

## B: INSPECTION

Measure the battery voltage and check electrolyte.

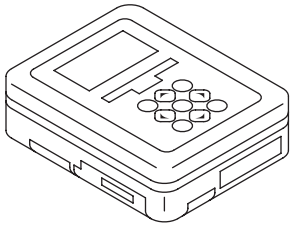
***Standard voltage: 12 V***

***Specific gravity: 1.260 or more***

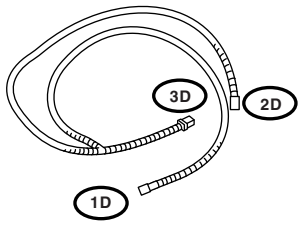
## C: PREPARATION TOOL

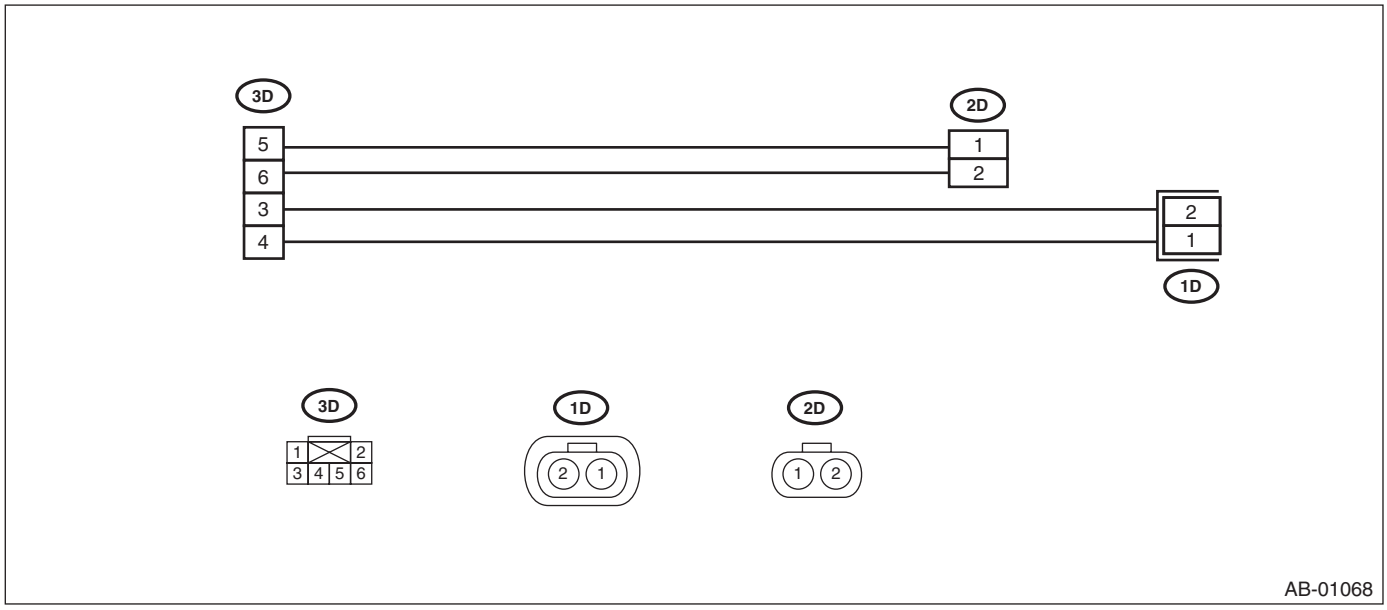
**CAUTION:**
**To measure the voltage and resistance of airbag system component, be sure to use the specified test harness.**

### 1. SPECIAL TOOL

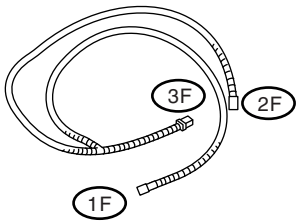
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST1B020XU0 | 1B020XU0 | SUBARU SELECT MONITOR KIT | Used for troubleshooting for electrical system. |

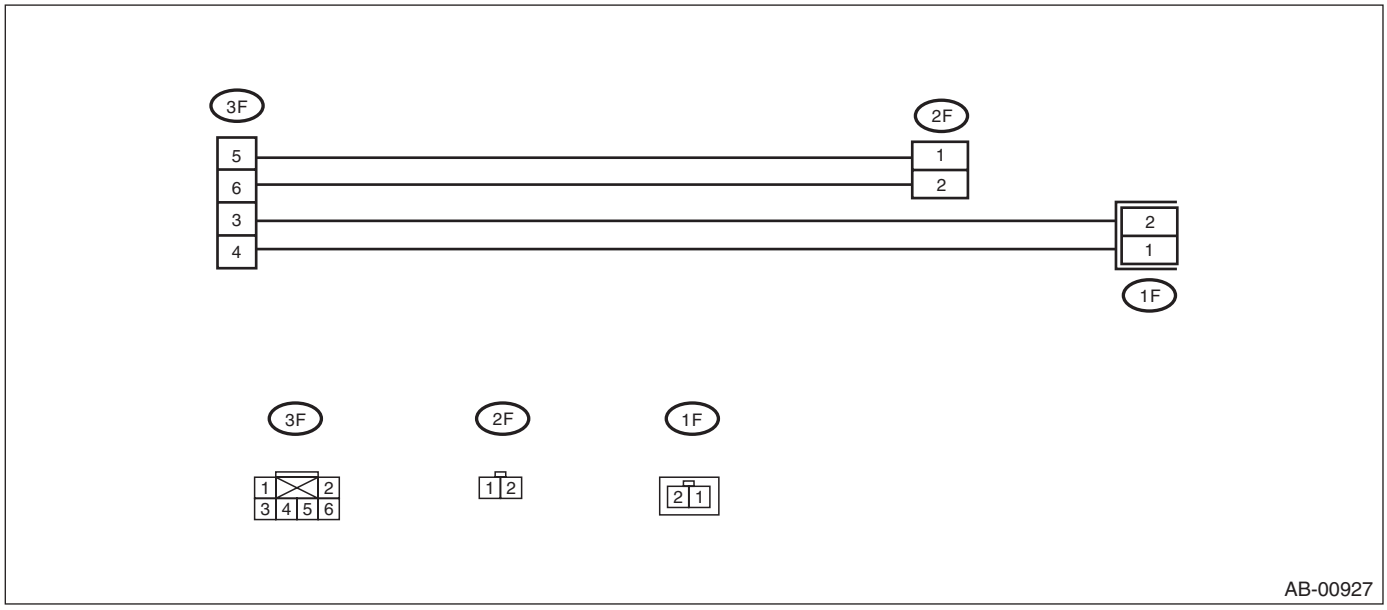
- TEST HARNESS D

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

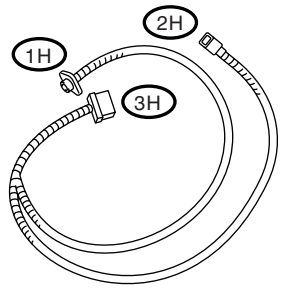


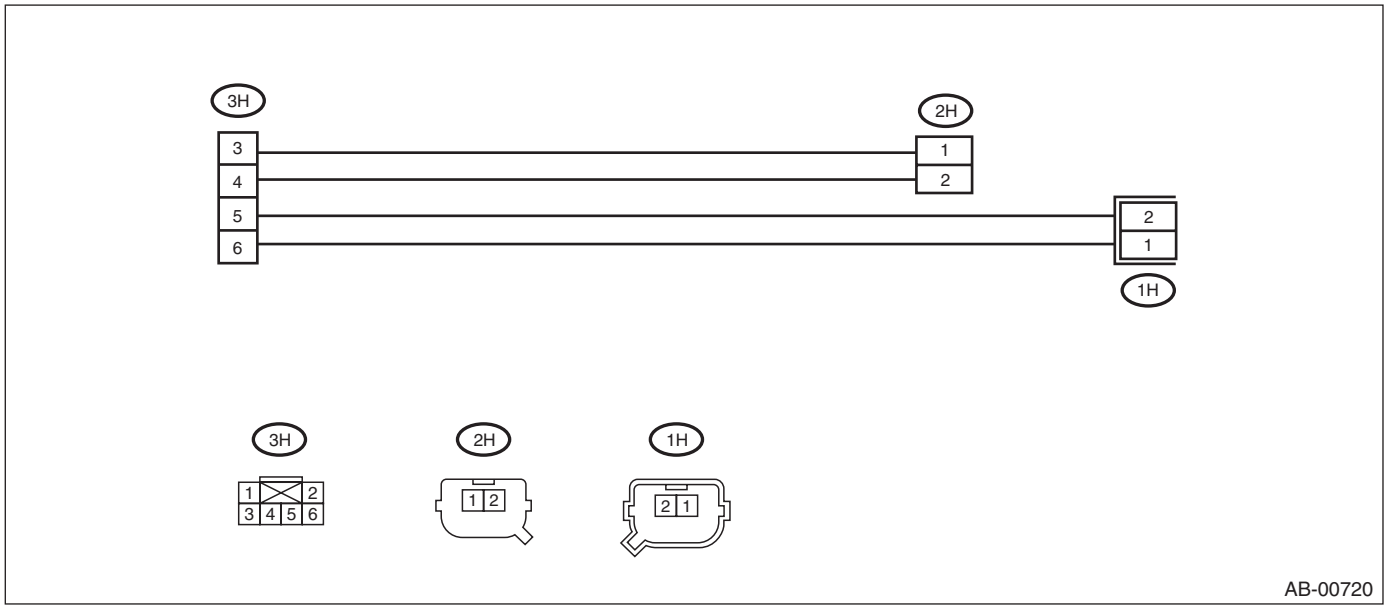
- TEST HARNESS F

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



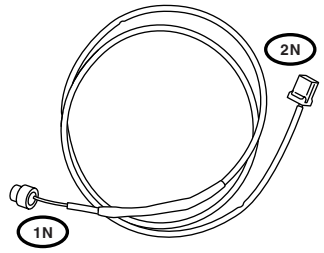
- TEST HARNESS H

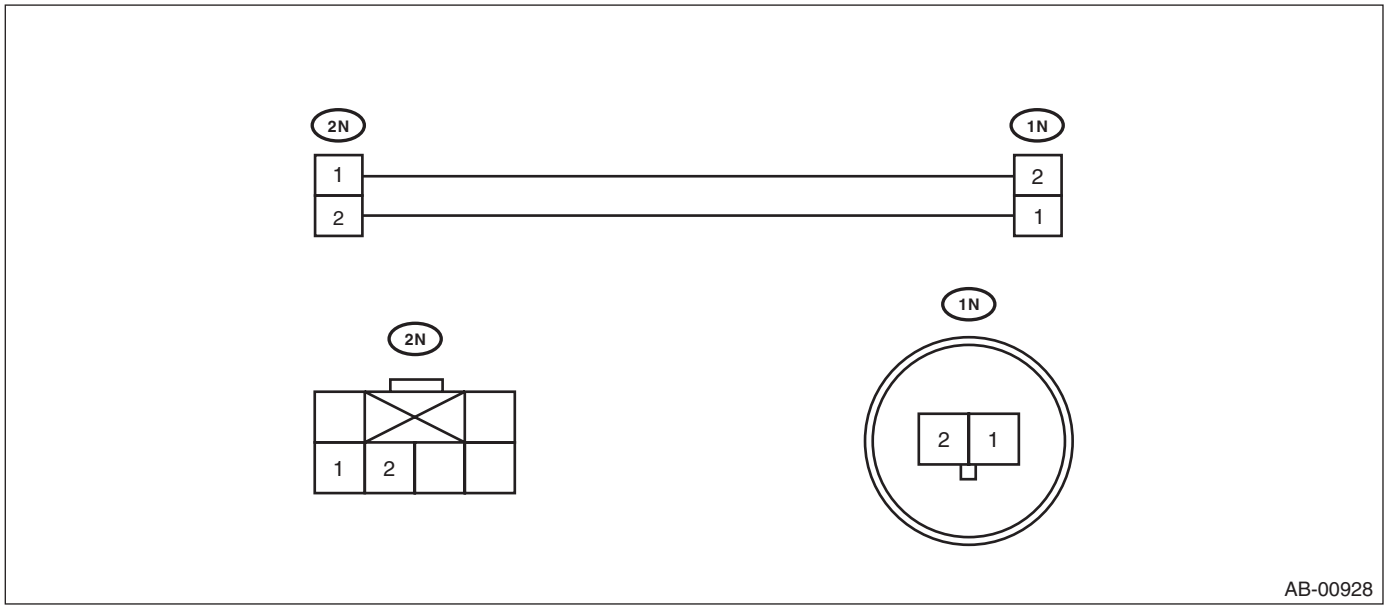
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299FA030 | 98299FA030 | TEST HARNESS H | Used when measuring voltage and resistance of front sub sensor. |



AB-00720

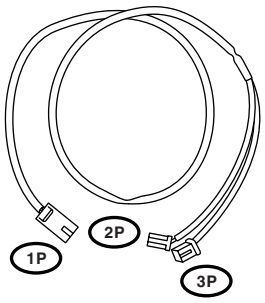
- TEST HARNESS N

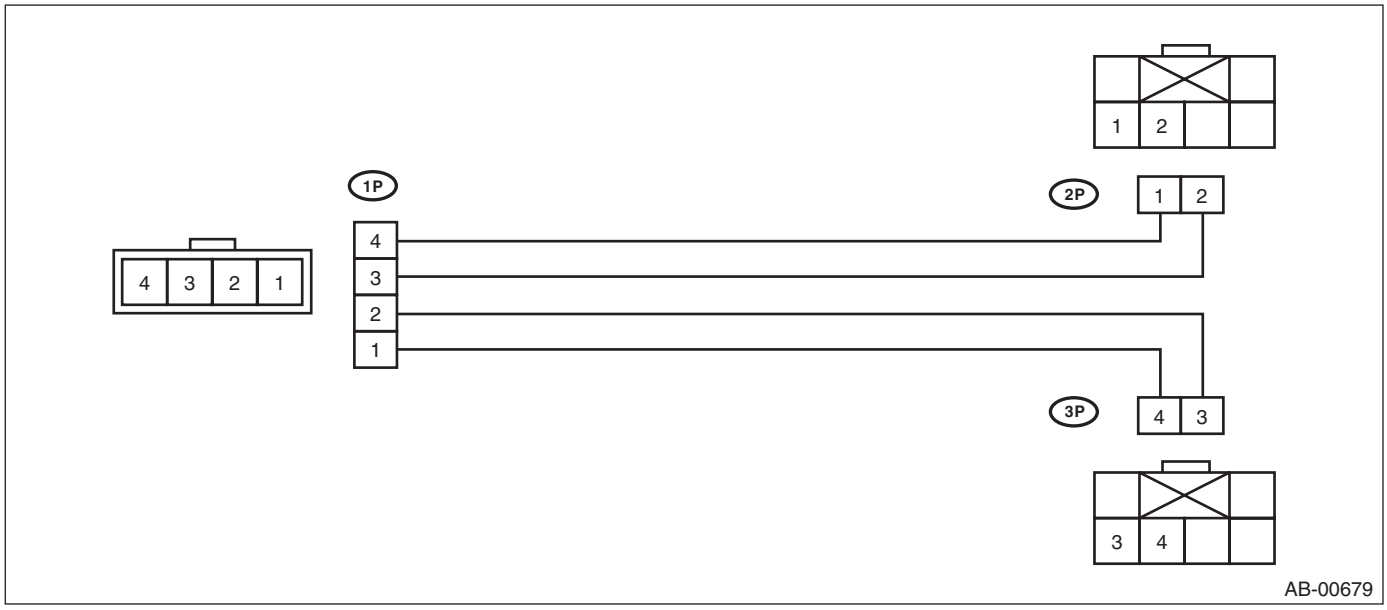
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299SA000 | 98299SA000 | TEST HARNESS N | Used when measuring voltage and resistance of driver's airbag module and seat belt pretensioner. |



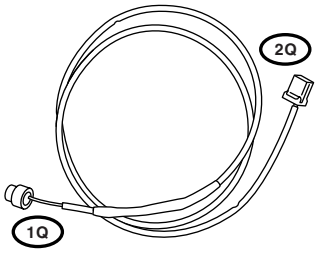
AB-00928

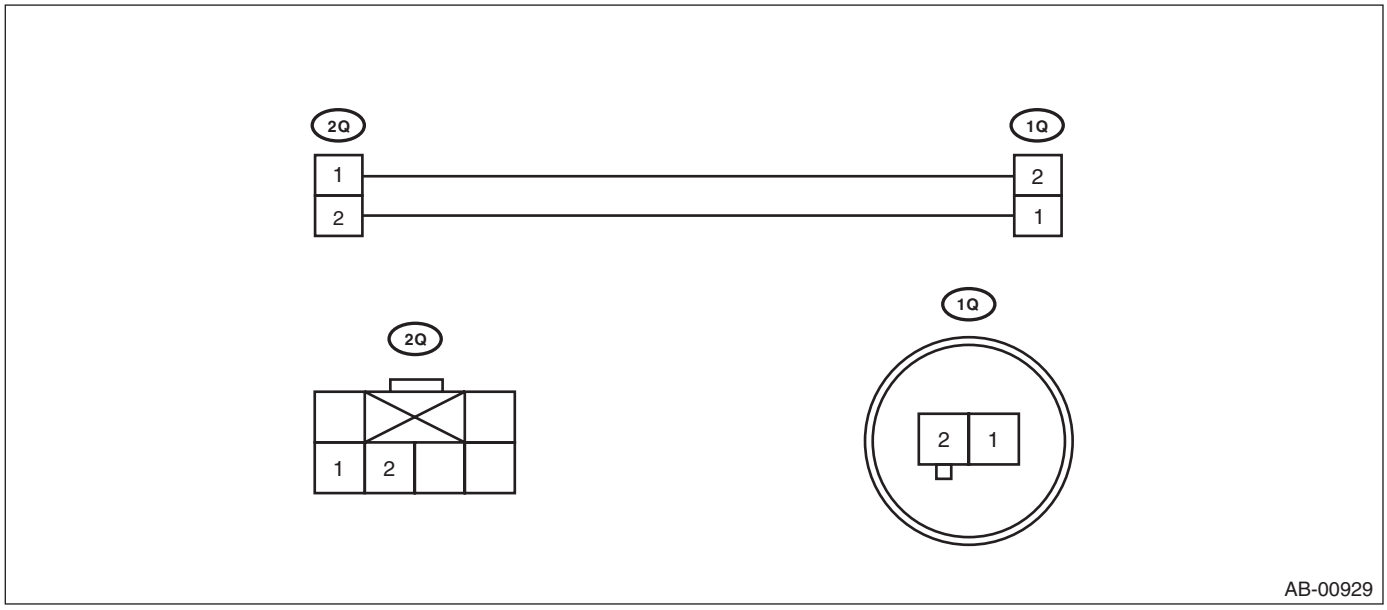
- TEST HARNESS P

| 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. |



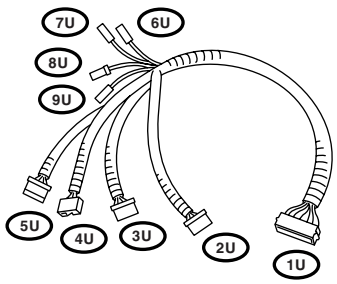
- TEST HARNESS Q

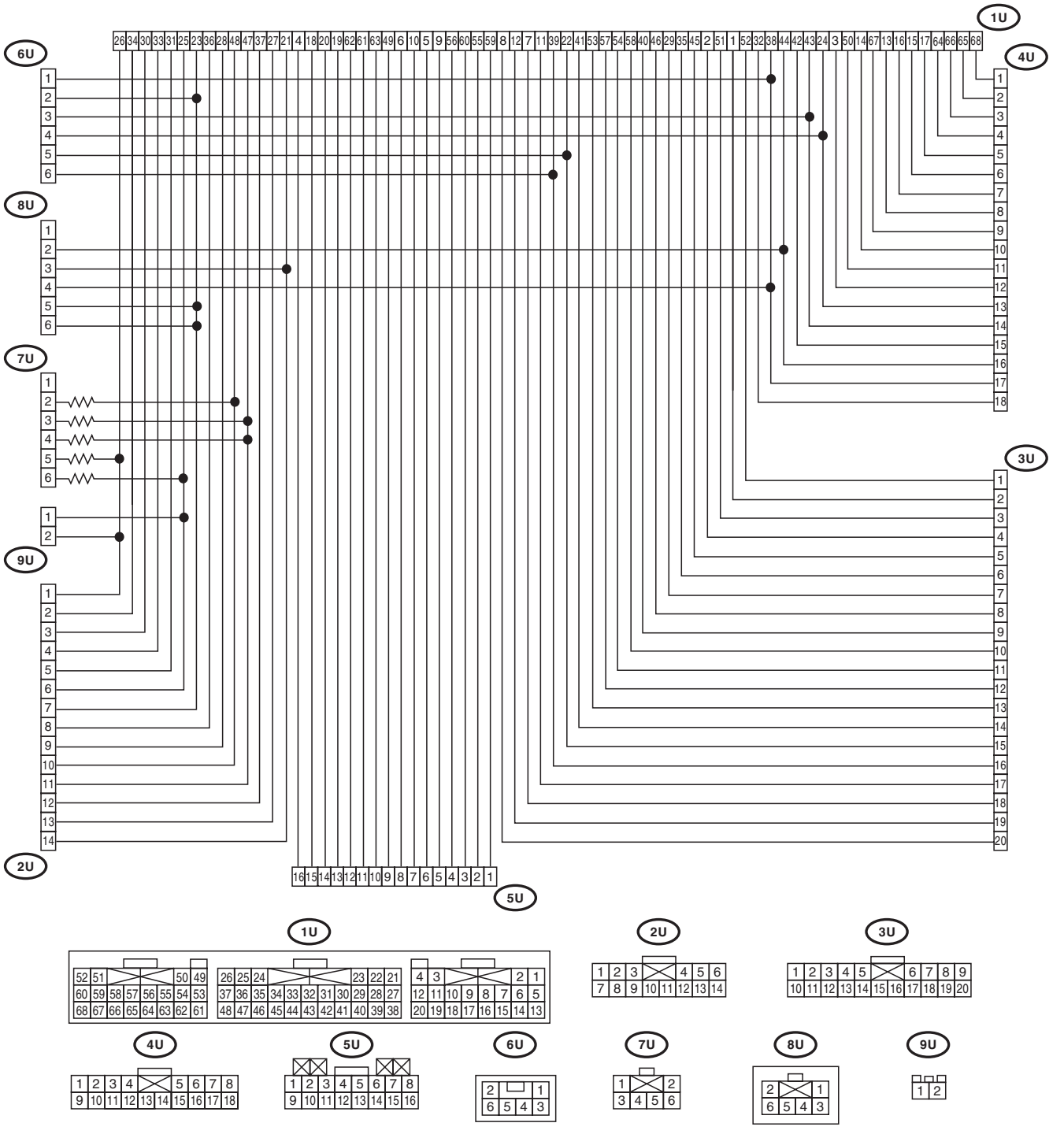
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299SA040 | 98299SA040 | TEST HARNESS Q | Used when measuring voltage and resistance of driver's airbag module. |



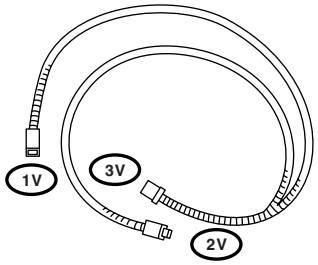
AB-00929

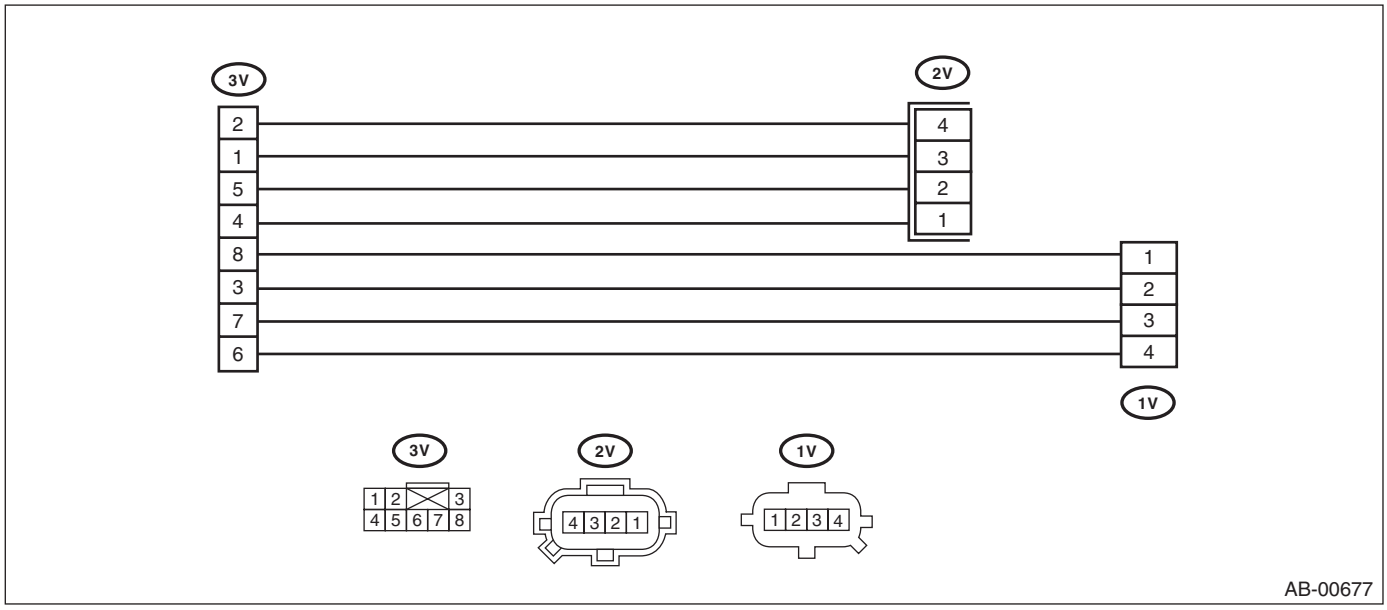
- TEST HARNESS U

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

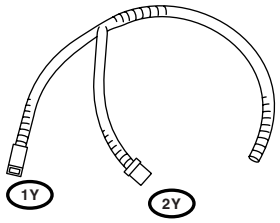

1U
2U
3U
4U
5U
6U
7U
8U
9U
AB-00930

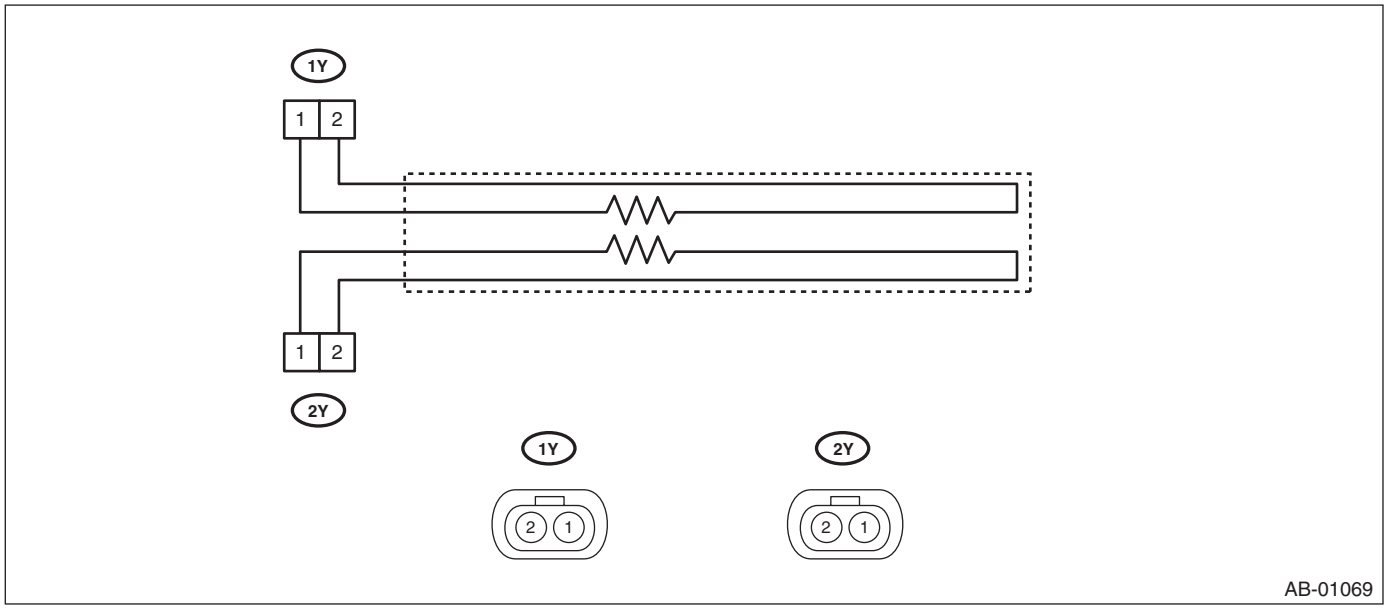
- TEST HARNESS V

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

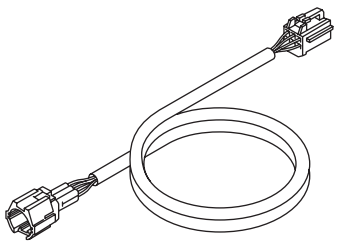


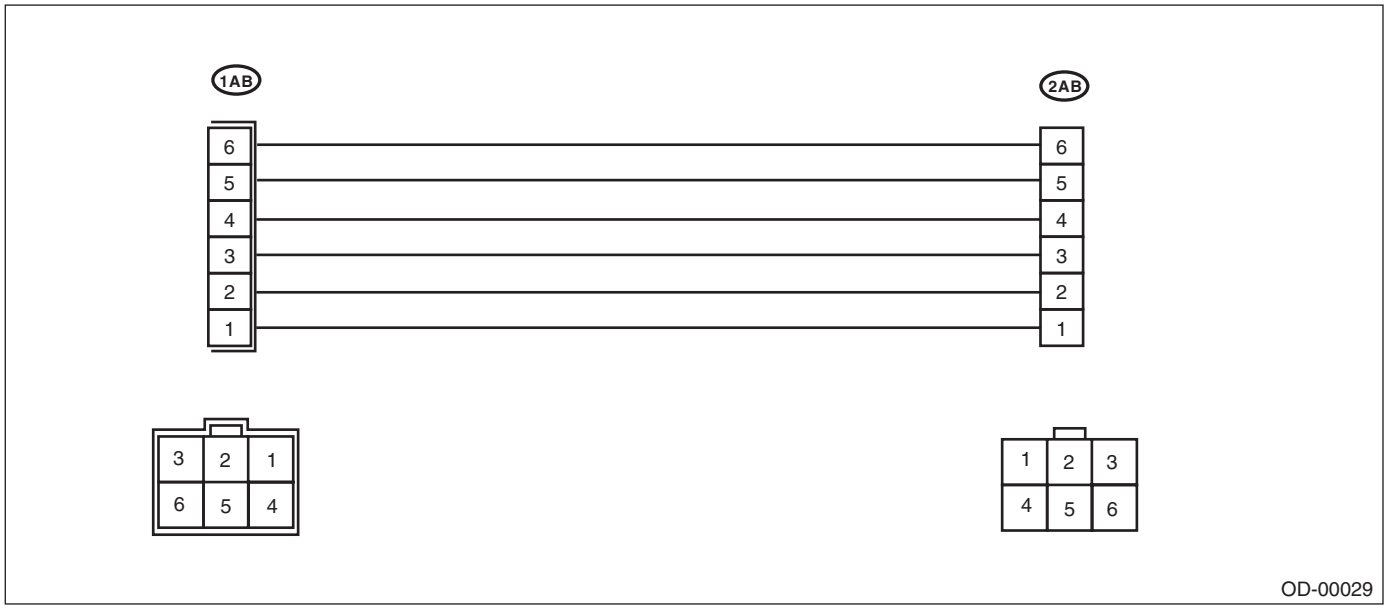
- TEST HARNESS Y

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299AG040 | 28299AG040 | TEST HARNESS Y | Used for diagnosing seat belt buckle switch. |

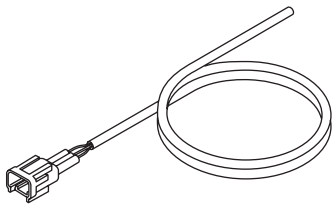


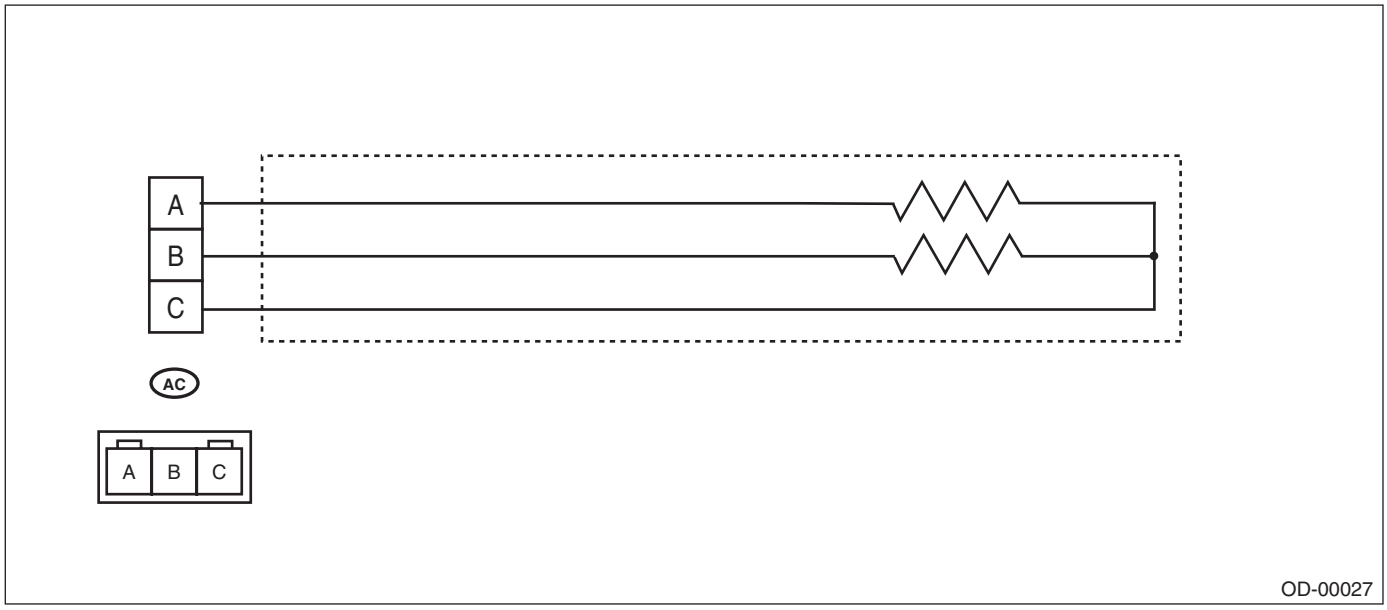
- TEST HARNESS AB

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

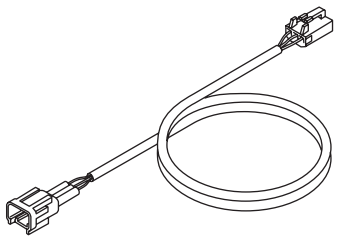


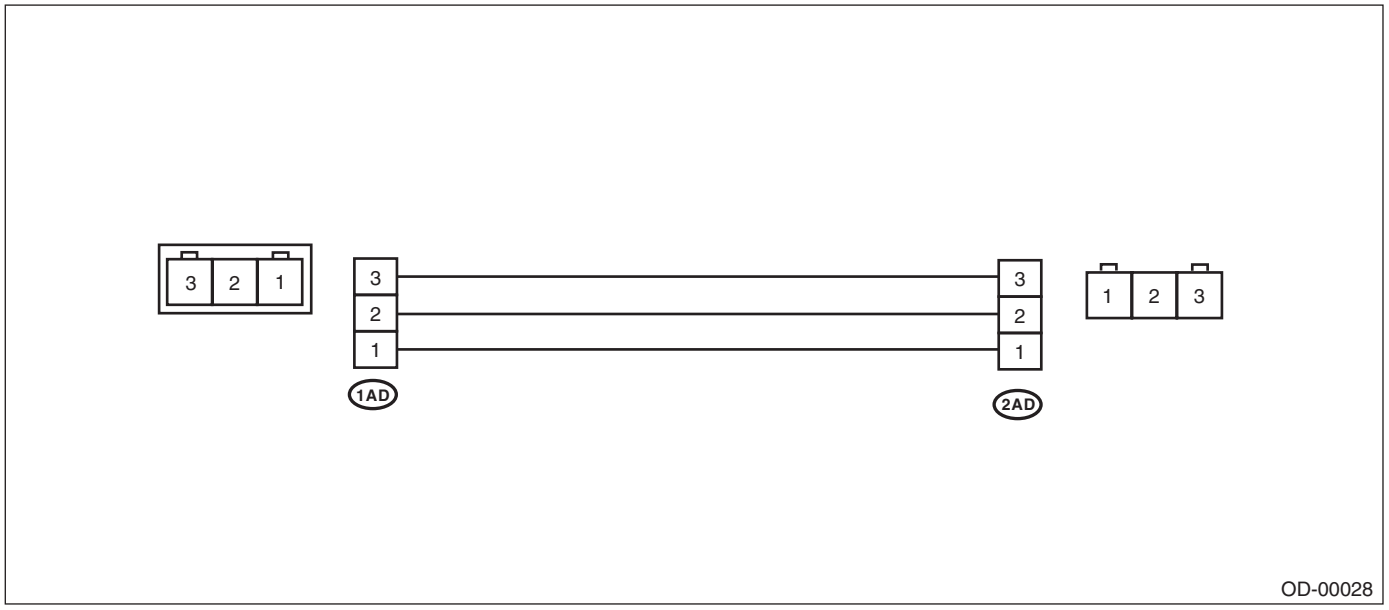
- TEST HARNESS AC

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299XA010 | 98299XA010 | TEST HARNESS AC | Used for diagnosing seat belt tension sensor. |

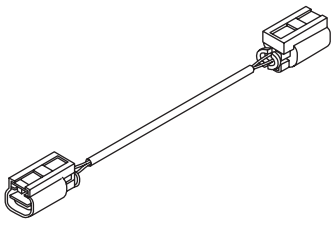


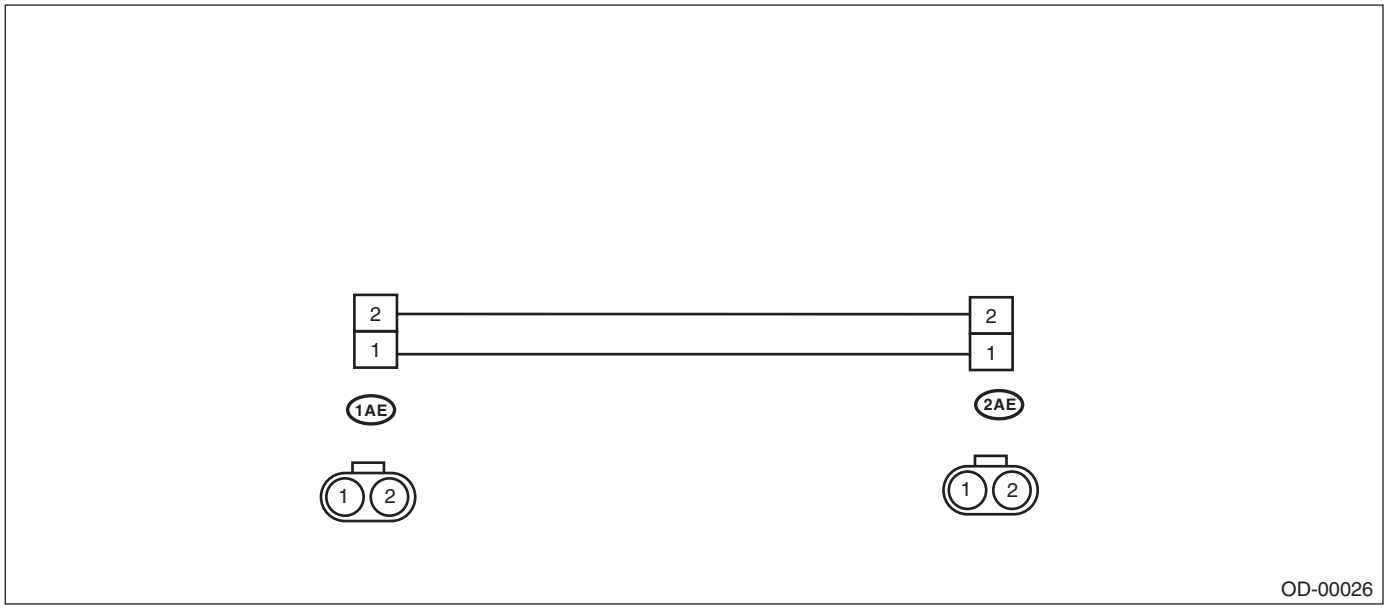
- TEST HARNESS AD

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

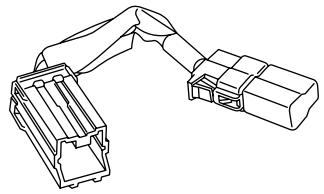


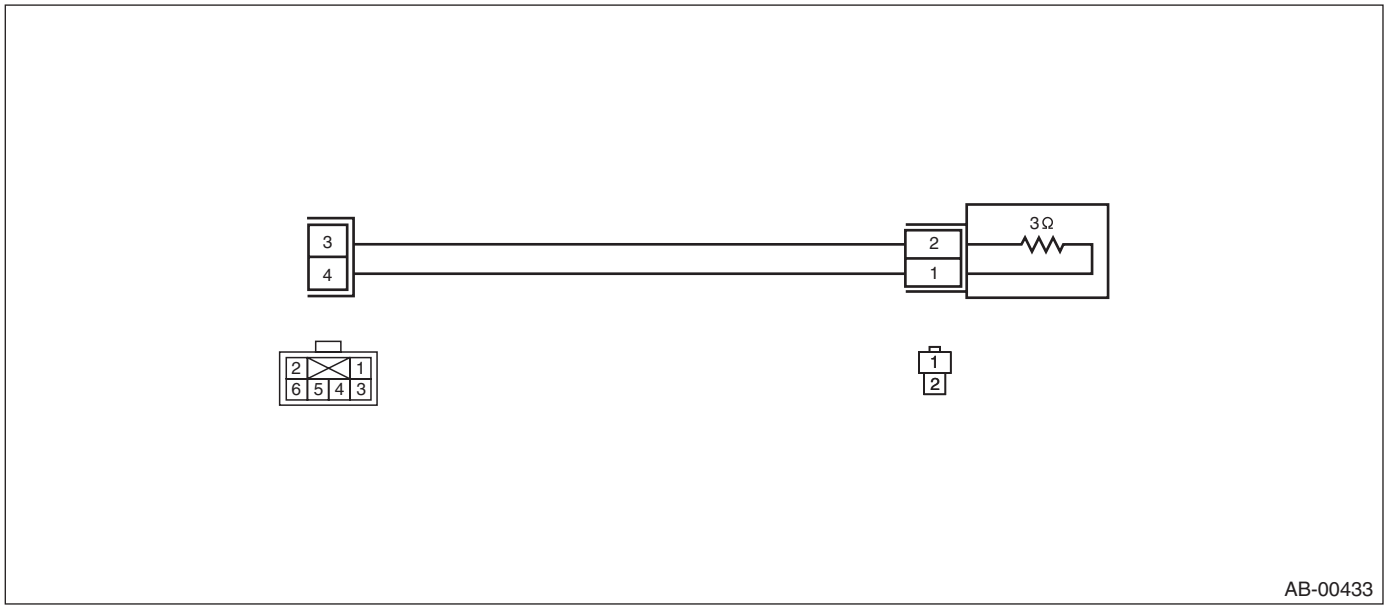
- TEST HARNESS AE

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299XA030 | 98299XA030 | TEST HARNESS AE | • Used for diagnosing seat belt tension sensor.<br>• 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. Two ST are required for diagnosis of two-stage inflator type airbag module. |

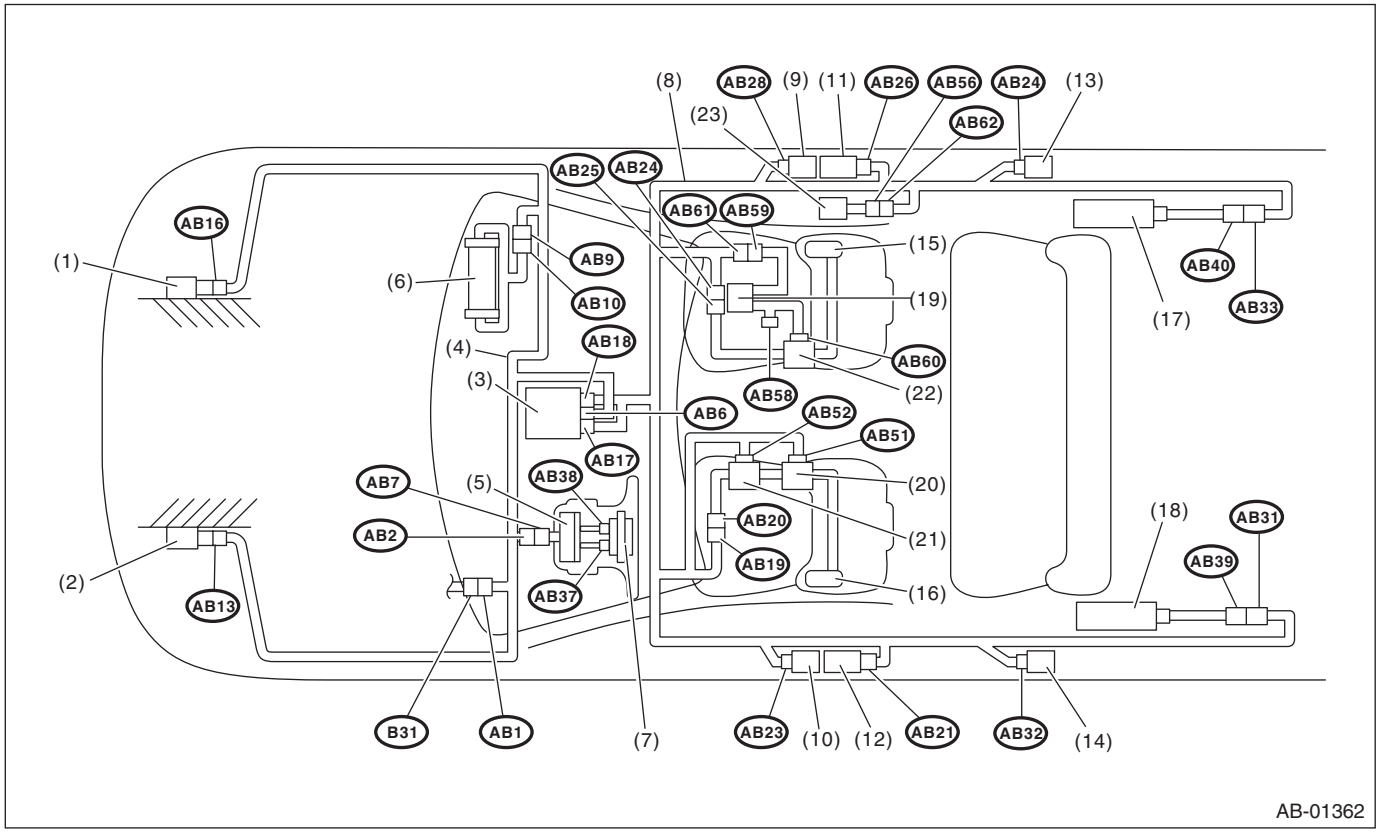



## 2. GENERAL TOOL

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

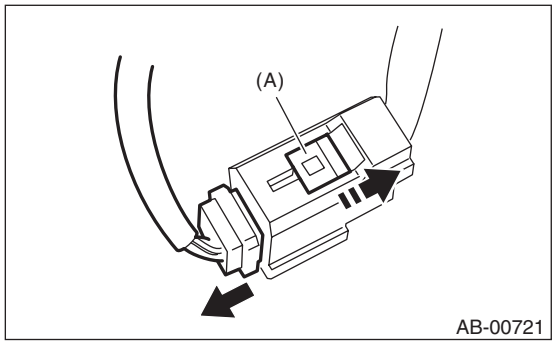
| Connector No. | (AB1) | (AB2) | (AB6) | (AB7) | (AB9) | (AB10) | (AB13) | (AB16) | (AB17) | (AB18) | (AB19) | (AB20) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pin | 12 | 4 | 28 | 4 | 4 | 4 | 2 | 2 | 20 | 20 | 2 | 2 |
| Color | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | 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 |
| Color | Black | Yellow | Yellow | Yellow | Black | Yellow | Yellow | Yellow | Yellow | Yellow | Orange | Black |
| Male/ Female | Female | Female | Female | Male | Female | Female | Female | Female | Female | Female | Female | Female |
| | | | | | | | | | | | | |
| Connector No. | (AB39) | (AB40) | (AB51) | (AB52) | (AB56) | (AB58) | (AB59) | (AB60) | (AB61) | (AB62) | | |
| Pin | 2 | 2 | 2 | 2 | 3 | 3 | 6 | 2 | 6 | 3 | | |
| Color | Yellow | Yellow | Yellow | Yellow | Brown | Gray | Gray | Yellow | Gray | Brown | | |
| Male/ Female | Male | Male | Female | Female | Male | Female | Male | Male | Female | Female | | |

# 5. Airbag Connector

## A: PROCEDURE

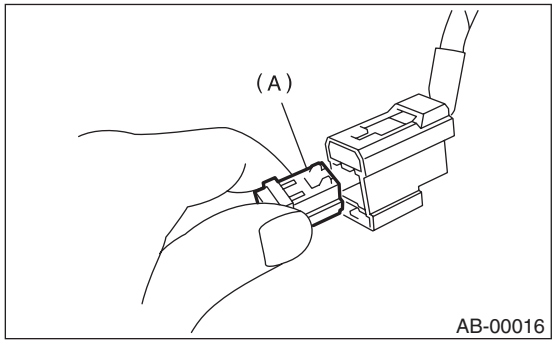
### 1. BUCKLE SWITCH

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




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

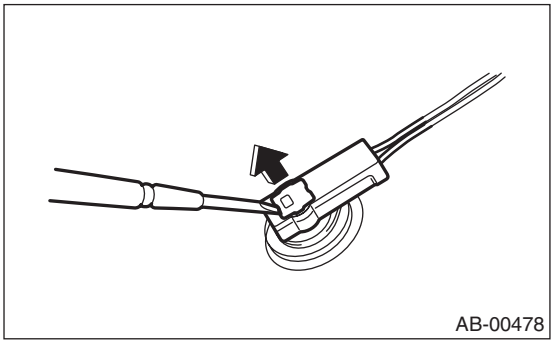
2) How to connect:
Holding the connector (A), and push it in carefully until a clicking sound is heard.



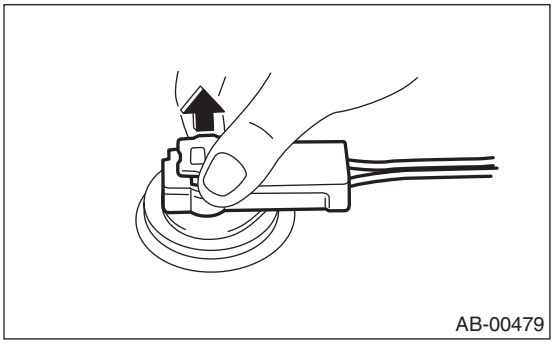

**CAUTION:**
**Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.**

### 2. DRIVER'S AIRBAG MODULE AND PRETENSIONER

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

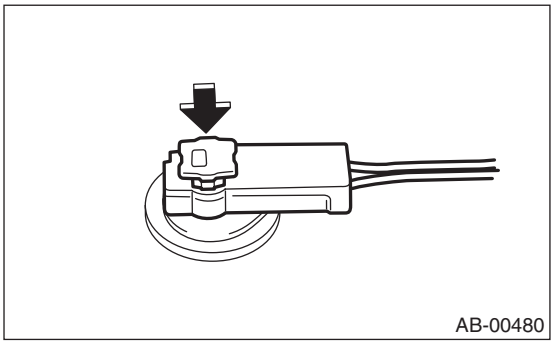



(2) Pull the connector to disconnect from the driver's airbag module assembly or the retractor assembly.




2) How to connect:
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.

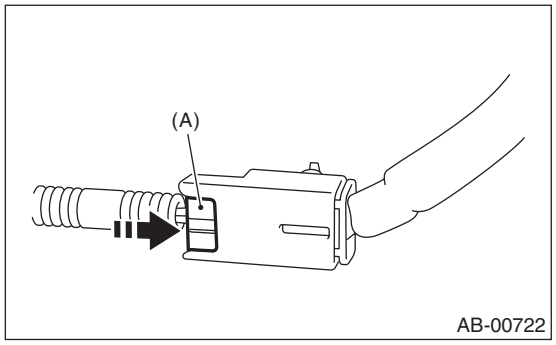
**CAUTION:**
- **Be sure to insert the connector in until it is locked. Then pull it gently to make sure that it is locked.**
- **Be sure to push the push lock in securely.**



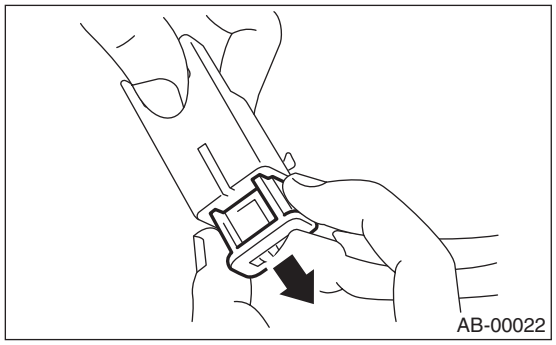

NOTE:
The connector cannot be connected when the push lock is in the lock position. To connect the connector, set the push lock to unlock position.

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

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



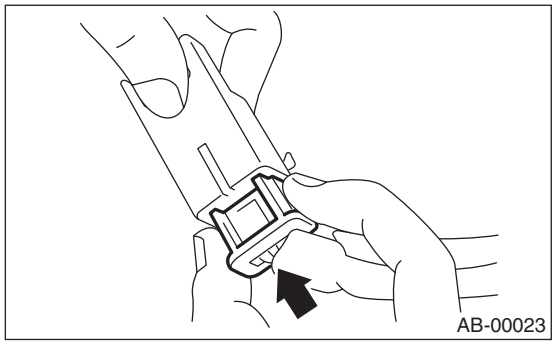

(2) With the slide lock pushed, disconnect the connector.




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

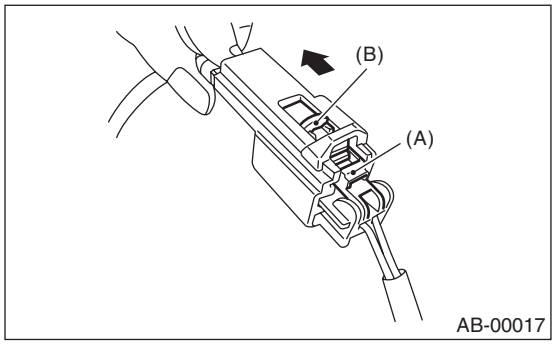
2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

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



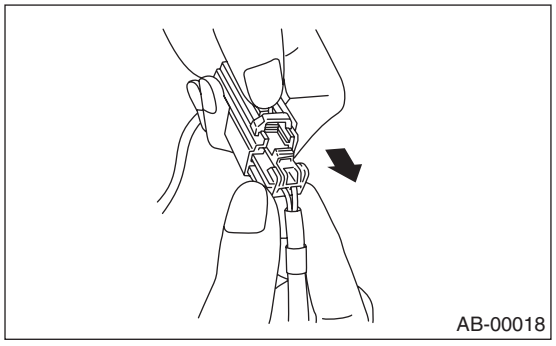

### 4. SIDE AIRBAG AND CURTAIN AIRBAG

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.

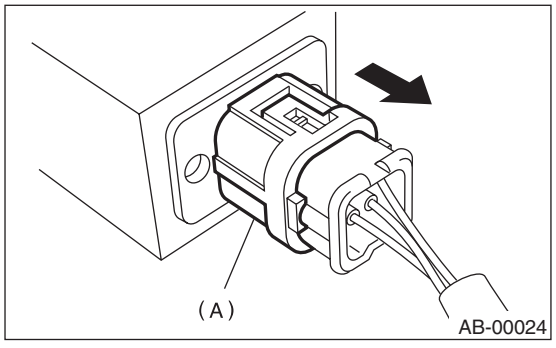
**CAUTION:**
**When pulling the slide lock or disconnecting connector, be sure to hold the connector, not the harness.**




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

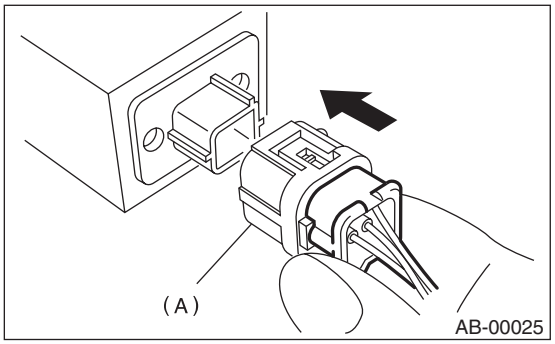
1) How to disconnect:
Holding outer part (A), pull it in the direction of arrow.

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



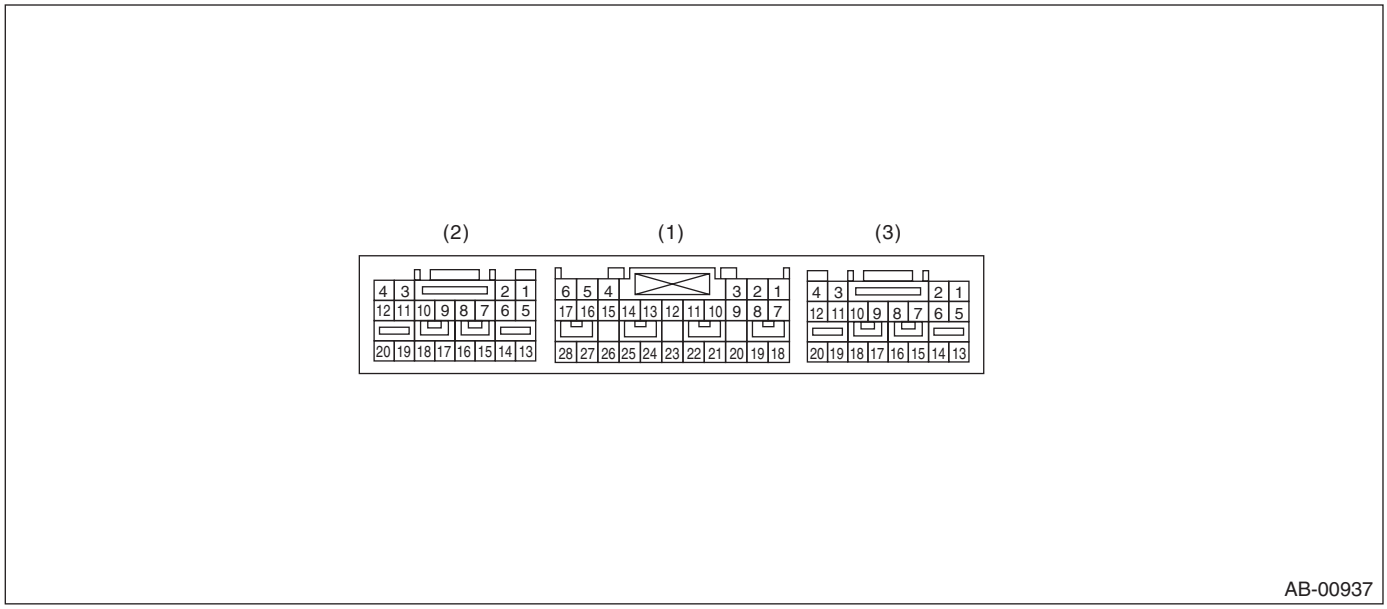
2) How to connect:
Holding the connector, push it in securely until a clicking sound is heard.

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



# 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 | Common use fuse | (1)-6 |
| | 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 |

| Item | | Control module terminal No. |
|---|---|---|
| Seat belt pretensioner LH | + | (2)-6 |
| | – | (2)-5 |
| 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-122, WIRING DIAGRAM, Airbag System.>

# 7. Subaru Select Monitor

## A: OPERATION

### 1. READ DIAGNOSTIC TROUBLE CODE (DTC)

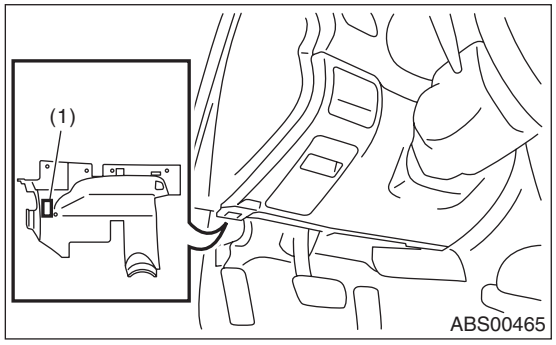
When malfunction of airbag system occurs, the DTC stored in airbag control module will be read out.

1) Prepare the Subaru Select Monitor kit. <Ref. to AB(diag)-8, SPECIAL TOOL, PREPARATION TOOL, General Description.>

2) Connect the diagnosis cable to the 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 instrument panel (on the driver's side).




(1) Data link connector

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

**CAUTION:**
**Do not connect scan tools other than the 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 the {Each System Check}.

6) On the «System Selection Menu» display screen, select the {Airbag System}.

7) Select the [OK] after the {**MY AIRBAG SYSTEM} is displayed.

8) On the «Airbag System» screen, select the {DTC Display}.

NOTE:
• For details concerning operation procedures, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".
• For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).>

## 2. DISPLAY OF STATUS INFORMATION

Check the operating condition of each sensor in the event of malfunction in the 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 the {Airbag System}.
3) On the «Airbag System» display screen, select the {Status Data}.
The following table is for support data.

| Item | Display |
|---|---|
| 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 airbag operating state
*11: Passenger's airbag non-operating state

NOTE:
For details concerning operation procedures, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".

## 3. CLEAR MEMORY MODE

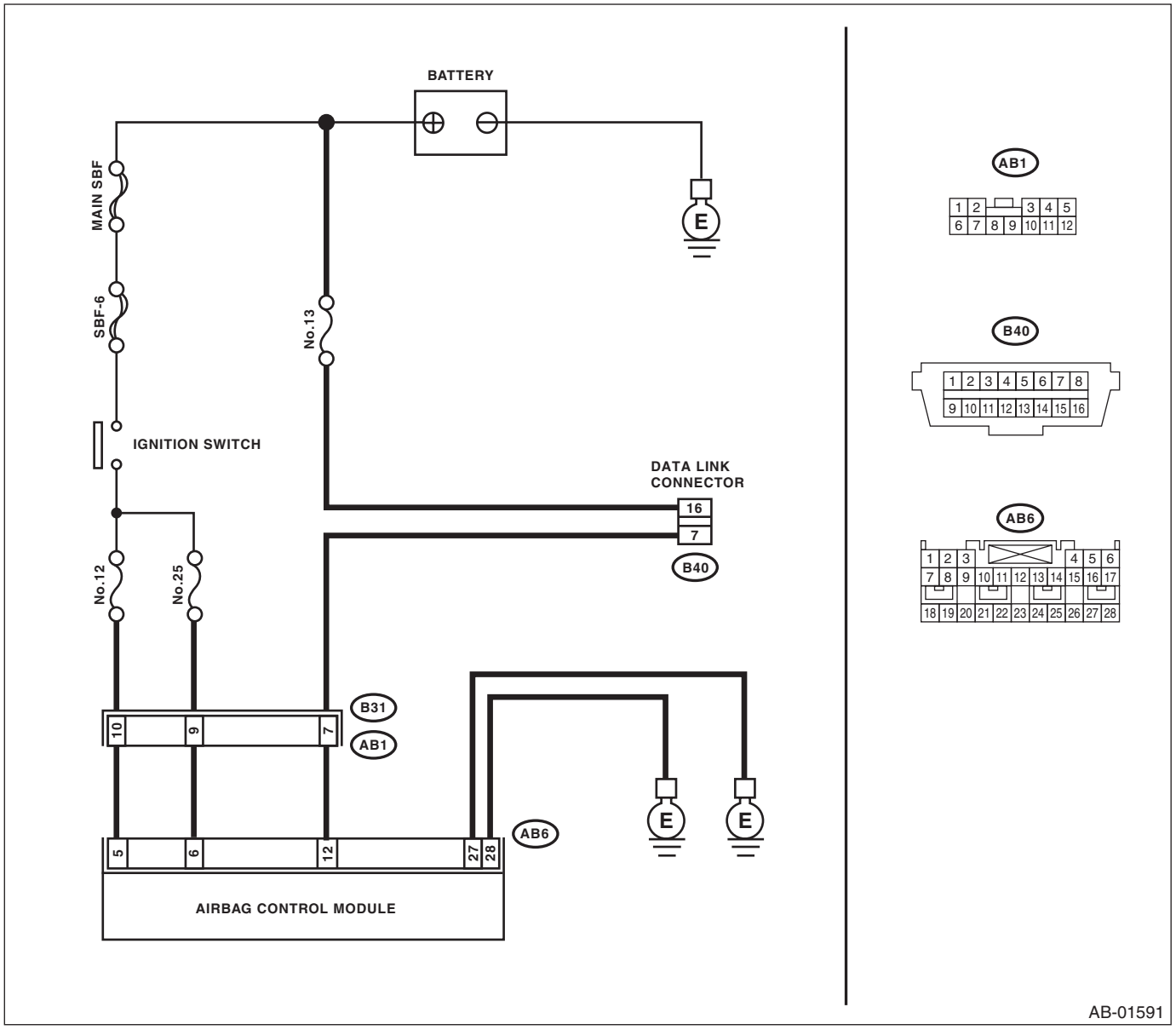
Clear the DTC stored in the airbag control module after repairing the airbag system. (After the breakdown is recovered, the breakdown code for completed recoveries are read out when the next breakdown occurs if the memory clear work is not performed.)
1) On the «Main Menu» display screen, select the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

NOTE:
For details concerning operation procedures, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".

# 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.**<br>1) Turn the ignition switch to OFF.<br>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.**<br>1) Turn the ignition switch to ON.<br>2) Using the Subaru Select Monitor, check whether communication to other systems can be performed normally. | Are the system name and model year displayed on Subaru Select Monitor? | Go to step **9**. | Go to step **5**. |
| 5 | **CHECK AIRBAG CONTROL MODULE CONNECTOR.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more.<br>2) Confirm that the connector of airbag control module (AB6) is securely connected. | 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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the airbag control module connector.<br>3) Turn the ignition switch to ON.<br>4) Check whether communication to other systems can be executed normally. | Are the system name and model year displayed on Subaru Select Monitor? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the airbag control module, ABSCM&H/U, ECM and TCM.<br>3) Measure the resistance between data link connector and chassis ground.<br>***Connector & terminal***<br>***(B40) No. 7 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **8**. | Repair the harness and connector between each control module and data link connector. (Replace the harness without repairing the airbag harness.) |
| 8 | **CHECK OUTPUT SIGNAL TO THE AIRBAG CONTROL MODULE.**<br>1) Turn the ignition switch to ON in the condition of step 7.<br>2) Measure the voltage between data link connector and chassis ground.<br>***Connector & terminal***<br>***(B40) No. 7 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **9**. | Repair the harness and connector between each control module and data link connector. (Replace the harness without repairing the airbag harness.) |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 9 | **CHECK THE HARNESS BETWEEN THE AIRBAG CONTROL MODULE AND DATA LINK CONNECTOR.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB6) from airbag control module.<br>3) Connect the connector (1U) in the test harness U to connector (AB6).<br>4) Measure the resistance between connector (4U) in the test harness U and the data link connector.<br>***Connector & terminal***<br>***(4U) No. 18 — (B40) 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.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 1 — Chassis ground:***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Measure the resistance between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 10 — Chassis ground:***<br>***(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-21, REMOVAL, Airbag Control Module.> |

## 2. WITHOUT DTC

**DETECTING CONDITION:**

- Defective combination meter
- Open circuit in harness

**TROUBLE SYMPTOM:**

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

For detailed operation procedures, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-40, Airbag Warning Light Failure.>

NOTE:

- For detailed operation procedures, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-40, Airbag Warning Light Failure.>
- When the airbag warning light is OFF and “NO TROUBLE CODE” is displayed on Subaru Select Monitor, the system is operating properly.

# 8. Read Diagnostic Trouble Code (DTC)

## A: OPERATION

For details concerning DTC reading procedure, refer to “Subaru Select Monitor”. <Ref. to AB(diag)-31, Subaru Select Monitor.>

# 9. Inspection Mode

## A: PROCEDURE

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

# 10.Clear Memory Mode

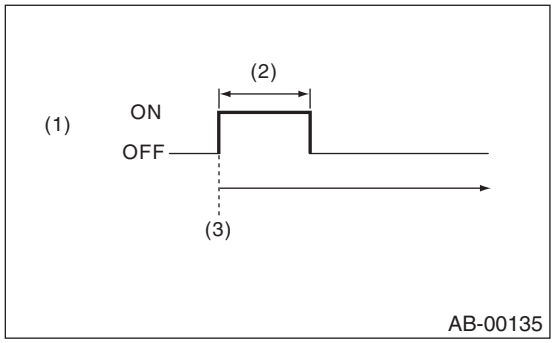
## A: OPERATION

• 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)-31, 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 turns 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:**

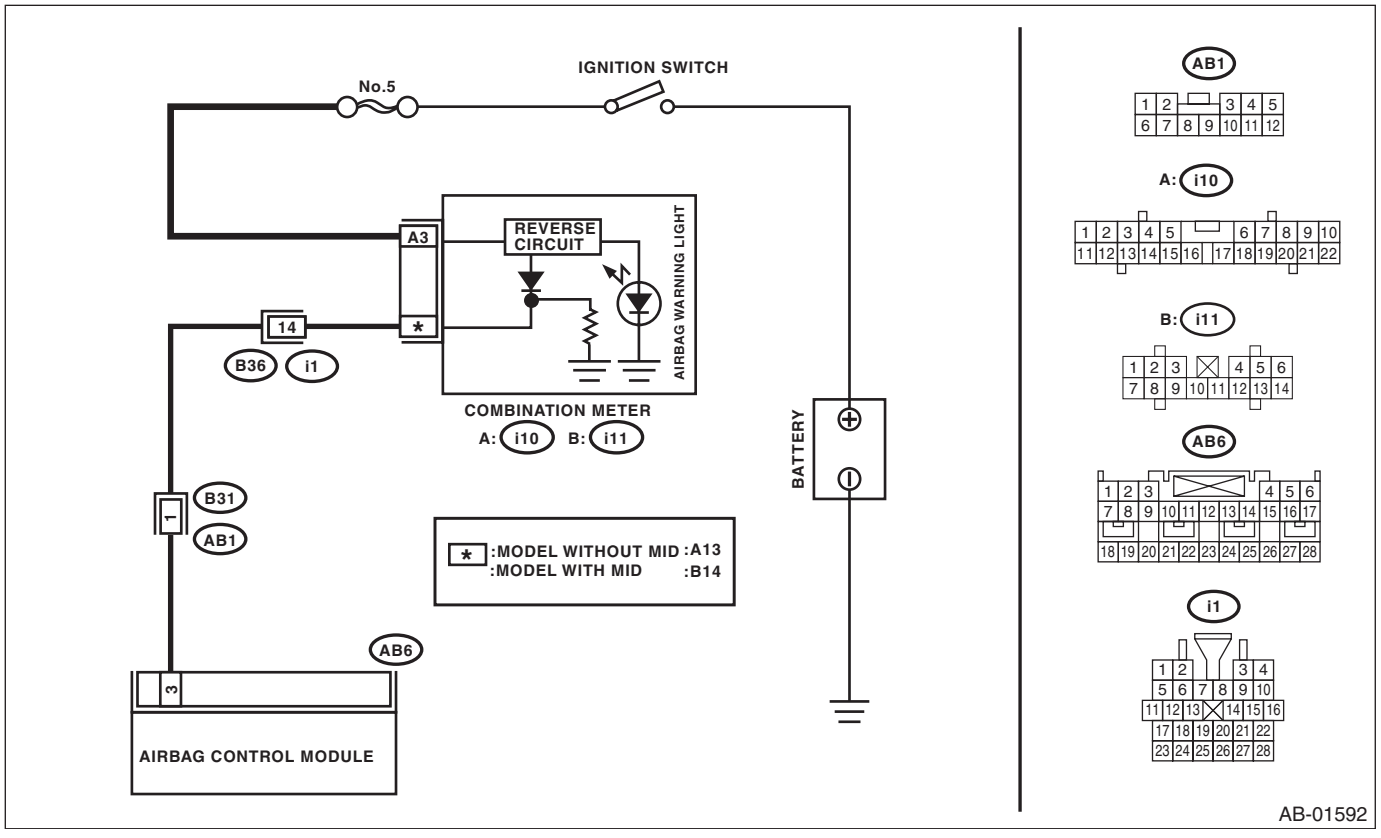
**• Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground terminal from battery, and wait 20 seconds or more before starting to work.**

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

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

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **READ DTC.**<br>Read the DTC. <Ref. to AB(diag)-31, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> | Is DTC displayed? | Perform the diagnosis according to DTC. | Go to step **2**. |
| 2 | **CHECK POOR CONTACT.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>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-21, Airbag Control Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG MAIN HARNESS.**<br>1) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2).<br>2) Remove the instrument panel side cover on the passenger's side and disconnect the connectors (AB10) and (AB9).<br>3) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>4) Connect the battery ground terminal and turn the ignition switch to ON.<br>5) Connect the connectors (7U) and (8U) in the test harness U.<br>NOTE:<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB6) from airbag control module.<br>3) Connect the connector (1U) in the test harness U to body harness connector (AB6).<br>4) Measure the resistance between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 10 — Chassis ground:***<br>***(2U) No. 11 — Chassis ground:*** | Is the resistance less than 10 Ω? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Repair the chassis ground circuit. |
| 5 | **CHECK AIRBAG MAIN HARNESS AND BULKHEAD HARNESS.**<br>1) Disconnect the connectors (7U) and (8U).<br>2) Remove the combination meter.<br>3) Measure the resistance between the combination meter connector and test harness U connector (2U).<br>***Connector & terminal***<br>***Model without MID***<br>***(2U) No. 7 — (i10) No. 13:***<br>***Model with MID***<br>***(2U) No. 7 — (i11) No. 14:*** | Is the resistance less than 10 Ω? | Check the combination meter. | Go to step **6**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 6 | **CHECK POOR CONTACT OF CONNECTORS (AB1) AND (B31).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait 20 seconds or more.<br>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.**<br>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

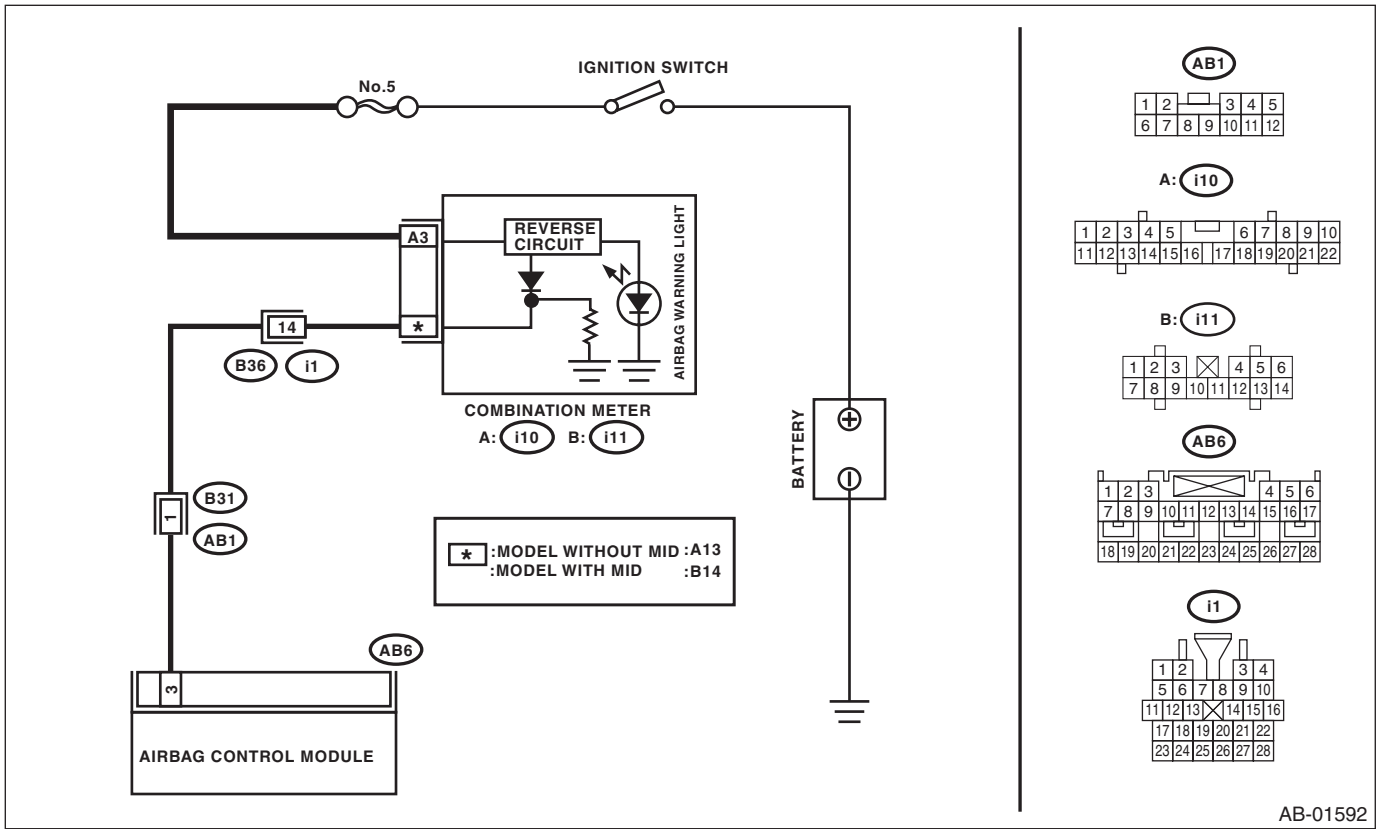
**DETECTING CONDITION:**

- Fuse No. 5 (in fuse box) is brown 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 20 seconds or more before starting to work.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK COMBINATION METER.**<br>Turn the ignition switch to ON, and confirm that warning light of combination meter illuminates. | Do warning lights except for airbag illuminate? | Go to step **2**. | Check the combination meter. |
| 2 | **CHECK DTC.**<br>Read the DTC. <Ref. to AB(diag)-31, 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).**<br>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**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 4 | **CHECK AIRBAG WARNING LIGHT CIRCUIT (IN COMBINATION METER).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB1) and (B31).<br>3) Connect the battery ground terminal and turn the ignition switch to ON. | Does airbag warning light illuminate? | Go to step **5**. | Check the combination meter. |
| 5 | **CHECK AIRBAG MAIN HARNESS.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Connect the connector (AB1) and (B31).<br>3) Disconnect the connector (AB6) from airbag control module.<br>4) Connect the battery ground terminal and turn the ignition switch to ON. | Does airbag warning light illuminate? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Replace the airbag main harness along with bulkhead harness. |

# 13.List of Diagnostic Trouble Code (DTC)

## A: LIST

| DTC | Display | Diagnosis content | Reference |
|---|---|---|---|
| 11 | Driver's Airbag failure | • Airbag main harness circuit is open, shorted or shorted to ground.<br>• Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground.<br>• Roll connector circuit is open, shorted or shorted to ground.<br>• Airbag control module is faulty.<br>• Driver's airbag module is faulty. | <Ref. to AB(diag)-50, 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.<br>• Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground.<br>• Airbag control module is faulty.<br>• Passenger's airbag module is faulty. | <Ref. to AB(diag)-53, 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.<br>• Airbag module harness circuit (Driver's side) is shorted to power supply.<br>• Roll connector is shorted to power supply.<br>• Airbag control module is faulty.<br>• Driver's airbag module is faulty. | <Ref. to AB(diag)-55, 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.<br>• Airbag module harness circuit (Passenger's side) is shorted to power supply.<br>• Airbag control module is faulty.<br>• Passenger's airbag module is faulty. | <Ref. to AB(diag)-58, DTC 16 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.> |
| 21 | Airbag ECM failure | Airbag control module is faulty. | <Ref. to AB(diag)-60, 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)-61, 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)-62, DTC 23 CONNECTOR TO AIRBAG ECM, Diagnostic Chart with Trouble Code.> |
| 24 | IG1 open | • Airbag control module is faulty.<br>• Airbag main harness circuit is open.<br>• Fuse No. 25 (in joint box) is blown.<br>• Airbag rear harness circuit is open. | <Ref. to AB(diag)-63, DTC 24 IG1 OPEN, Diagnostic Chart with Trouble Code.> |
| 25 | IG2 open | • Airbag control module is faulty.<br>• Airbag main harness circuit is open.<br>• Fuse No. 12 (in joint box) is blown.<br>• Airbag rear harness circuit is open. | <Ref. to AB(diag)-65, DTC 25 IG2 OPEN, Diagnostic Chart with Trouble Code.> |

| DTC | Display | Diagnosis content | Reference |
|---|---|---|---|
| 26 | Passenger's Airbag indicator failure | • Passenger's airbag indicator is faulty.<br>• Airbag control module is faulty.<br>• Airbag main harness circuit is open, shorted or shorted to ground.<br>• Body harness circuit is open. | <Ref. to AB(diag)-67, DTC 26 PASSENGER'S AIRBAG INDICATOR FAILURE, Diagnostic Chart with Trouble Code.> |
| 27 | ODS Communication error | • Occupant detection control module communication is faulty.<br>• Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply.<br>• Occupant detection harness is faulty.<br>• Airbag control module is faulty.<br>• Occupant detection system is faulty. | <Ref. to AB(diag)-69, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.> |
| 29 | ODS Failure | • Occupant detection sensor is faulty.<br>• Occupant detection control module is faulty.<br>• Occupant detection harness is faulty.<br>• Fuse No. 25 (in joint box) is blown. | 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.<br>• Wrong occupant detection system was installed.<br>• Occupant detection system is faulty. | Refer to "Occupant Detection System" for 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.<br>• Occupant detection system is faulty.<br>• Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply.<br>• Occupant detection harness is faulty. | Refer to "Occupant Detection System" for details on DTC 2C. <Ref. to OD(diag)-26, DTC 2C BELTTANTION 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.<br>• Front sub sensor (RH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-71, 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.<br>• Front sub sensor (LH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-73, DTC 32 FRONT SUB SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.> |

| DTC | Display | Diagnosis content | Reference |
|---|---|---|---|
| 33 | Front Sub Sensor RH failure | Front sub sensor (RH) is faulty. | <Ref. to AB(diag)-75, DTC 33 FRONT SUB SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.> |
| 34 | Front Sub Sensor LH failure | Front sub sensor (LH) is faulty. | <Ref. to AB(diag)-75, 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.<br>• Airbag control module is faulty.<br>• Airbag rear harness circuit is open, shorted or shorted to ground. | <Ref. to AB(diag)-76, DTC 36 SEAT POSITION SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.> |
| 37 | Buckle Switch RH failure | • Passenger's buckle switch circuit is open, shorted or shorted to ground.<br>• Occupant detection system is faulty.<br>• Occupant detection harness is faulty. | Refer to "Occupant Detection System" for 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 buckle switch circuit is open, shorted or shorted to ground.<br>• Airbag rear harness circuit is open, shorted or shorted to ground.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-78, DTC 38 BUCKLE SWITCH LH FAILURE, Diagnostic Chart with Trouble Code.> |
| 39 | Seatbelt Warning failure | • Airbag control module is faulty.<br>• Body integrated unit is faulty.<br>• Harness circuits between body integrated unit and airbag control module are open, shorted or shorted to ground. | <Ref. to AB(diag)-80, DTC 39 SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.> |
| 41 | Side Airbag RH failure | • Side airbag harness (RH) circuit is faulty.<br>• Side airbag module (RH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-82, DTC 41 SIDE AIRBAG RH FAILURE, Diagnostic Chart with Trouble Code.> |
| 42 | Side Airbag LH failure | • Side airbag harness (LH) circuit is faulty.<br>• Side airbag module (LH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-84, 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.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-86, 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.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-88, DTC 46 SIDE AIRBAG LH FAILURE, Diagnostic Chart with Trouble Code.> |
| 51 | Side Airbag Sensor RH failure | • Side airbag sensor (RH) is faulty.<br>• Side airbag harness (RH) circuit is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-90, DTC 51 SIDE AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.> |

| DTC | Display | Diagnosis content | Reference |
|---|---|---|---|
| 52 | Side Airbag Sensor LH failure | • Side airbag sensor (LH) is faulty.<br>• Side airbag harness (LH) circuit is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-92, 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)-94, 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)-94, DTC 54 SIDE AIRBAG SENSOR LH FAILURE, Diagnostic Chart with Trouble Code.> |
| 55 | Side Curtain Airbag Firing output | • Side airbag module and curtain airbag module are deployed.<br>• Curtain airbag module is deployed. | <Ref. to AB(diag)-94, DTC 55 SIDE CURTAIN AIRBAG FIRING OUTPUT, Diagnostic Chart with Trouble Code.> |
| 56 | Curtain Airbag Sensor RH failure | • Curtain airbag sensor (RH) is faulty.<br>• Curtain airbag harness (RH) circuit is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-95, DTC 56 CURTAIN AIRBAG SENSOR RH FAILURE, Diagnostic Chart with Trouble Code.> |
| 57 | Curtain Airbag Sensor LH failure | • Curtain airbag sensor (LH) is faulty.<br>• Curtain airbag harness (LH) circuit is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-97, 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)-99, 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)-99, 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.<br>• Airbag control module is faulty.<br>• Pretensioner is faulty.<br>• Pretensioner harness is faulty. | <Ref. to AB(diag)-100, 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.<br>• Airbag control module is faulty.<br>• Pretensioner is faulty.<br>• 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.<br>• Pretensioner is faulty.<br>• Pretensioner harness is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-104, DTC 65 BELT PRETENSIONER RH FAILURE, Diagnostic Chart with Trouble Code.> |

| DTC | Display | Diagnosis content | Reference |
|---|---|---|---|
| 66 | Belt Pretensioner LH failure | • Seat belt pretensioner (LH) circuit is shorted to power supply.<br>• Pretensioner is faulty.<br>• Pretensioner harness is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-106, 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.<br>• Airbag module harness (Driver's side) circuit is open, shorted or shorted to ground.<br>• Roll connector circuit is open, shorted or shorted to ground.<br>• Airbag control module is faulty.<br>• Driver's airbag module is faulty. | <Ref. to AB(diag)-108, 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.<br>• Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground.<br>• Airbag control module is faulty.<br>• Passenger's airbag module is faulty. | <Ref. to AB(diag)-111, DTC 72 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.> |
| 75 | Driver's Airbag failure | • Airbag main harness circuit (Driver's side) is shorted to power supply.<br>• Airbag module harness circuit (Driver's side) is shorted to power supply.<br>• Roll connector is shorted to power supply.<br>• Airbag control module is faulty.<br>• Driver's airbag module is faulty. | <Ref. to AB(diag)-113, 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.<br>• Airbag module harness circuit (Passenger's side) is shorted to power supply.<br>• Airbag control module is faulty.<br>• Passenger's airbag module is faulty. | <Ref. to AB(diag)-116, DTC 76 PASSENGER'S AIRBAG FAILURE, Diagnostic Chart with Trouble Code.> |
| 91 | Curtain Airbag Module RH failure | • Curtain airbag harness (RH) circuit is faulty.<br>• Curtain airbag module (RH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-118, 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.<br>• Curtain airbag module (LH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-120, 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.<br>• Curtain airbag module (RH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-122, 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.<br>• Curtain airbag module (LH) is faulty.<br>• Airbag control module is faulty. | <Ref. to AB(diag)-124, DTC 96 CURTAIN AIRBAG MODULE LH FAILURE, Diagnostic Chart with Trouble Code.> |

# 14.Diagnostic Chart with Trouble Code

## A: DTC 11 DRIVER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

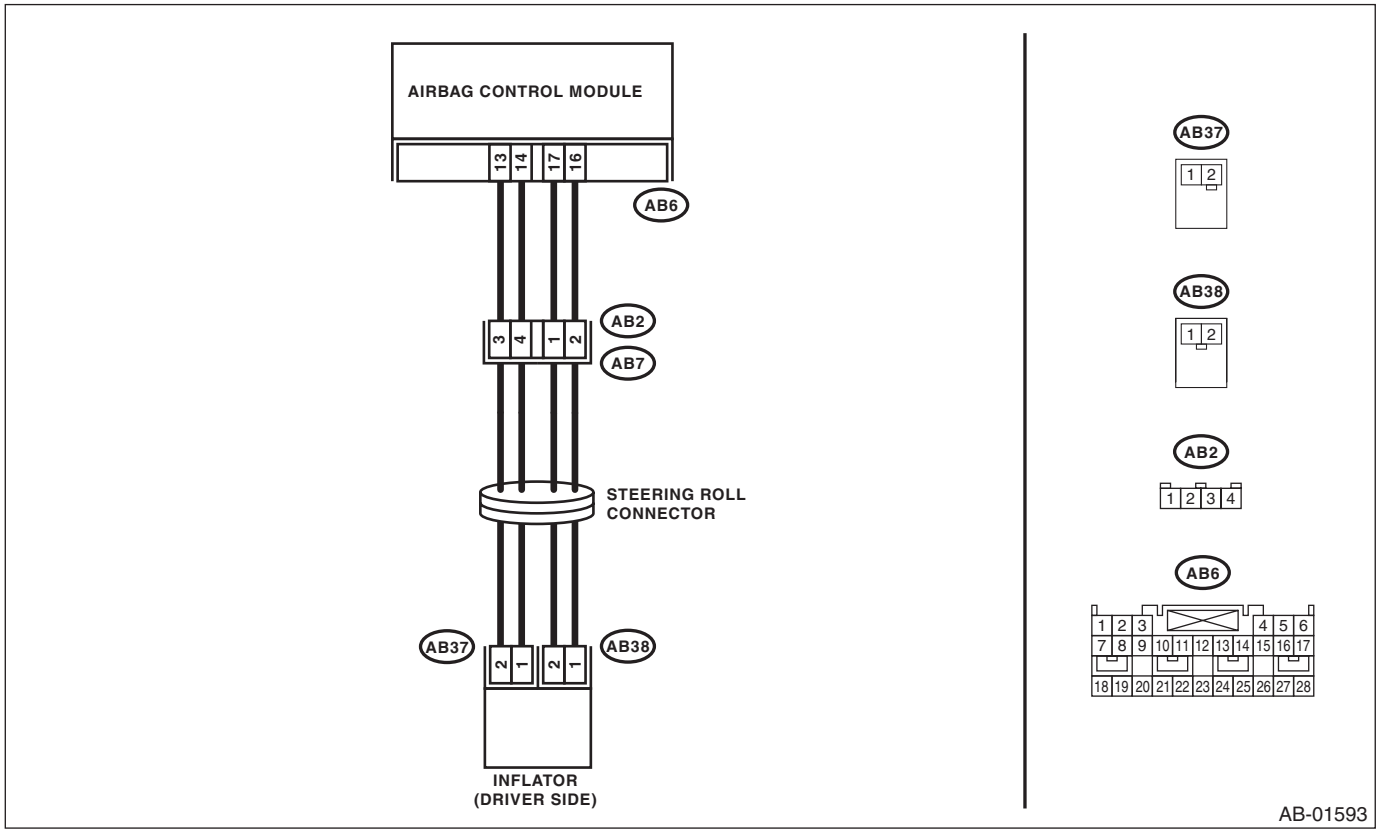
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (driver's side) circuit is open, shorted or shorted to ground.
- Roll connector circuit is open, shorted or shorted to ground.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

**CAUTION:**

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

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the driver's airbag module.<br>3) Connect the connector (1N) in the test harness N to the connector (AB38).<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>5) Connect the connector (1Q) in the test harness Q to connector (AB37).<br>6) Connect the airbag resistor to the connector (2Q) in the test harness Q.<br>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-15, Driver's Airbag Module.> | Go to step **3**. |
| 3 | **CHECK ROLL CONNECTOR.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the test harness N from connector (AB38).<br>3) Disconnect the test harness Q from connector (AB37).<br>4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>5) Connect the connector (1P) in the test harness P to connector (AB2).<br>6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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-24, Roll Connector.> | Go to step **4**. |
| 4 | **CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel side cover on the passenger's side and disconnect the connectors (AB10) and (AB9).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P.<br>***Connector & terminal***<br>***(2U) No. 2 — (2P) No. 1:***<br>***(2U) No. 4 — (2P) No. 2:***<br>***(2U) No. 8 — (3P) No. 3:***<br>***(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).**<br>Measure the resistance between connector (2U) terminals in the test harness U.<br>***Connector & terminal***<br>***(2U) No. 2 — (2U) No. 4:***<br>***(2U) No. 4 — Chassis ground:***<br>***(2U) No. 2 — Chassis ground:***<br>***(2U) No. 8 — (2U) No. 12:***<br>***(2U) No. 8 — Chassis ground:***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## B: DTC 12 PASSENGER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

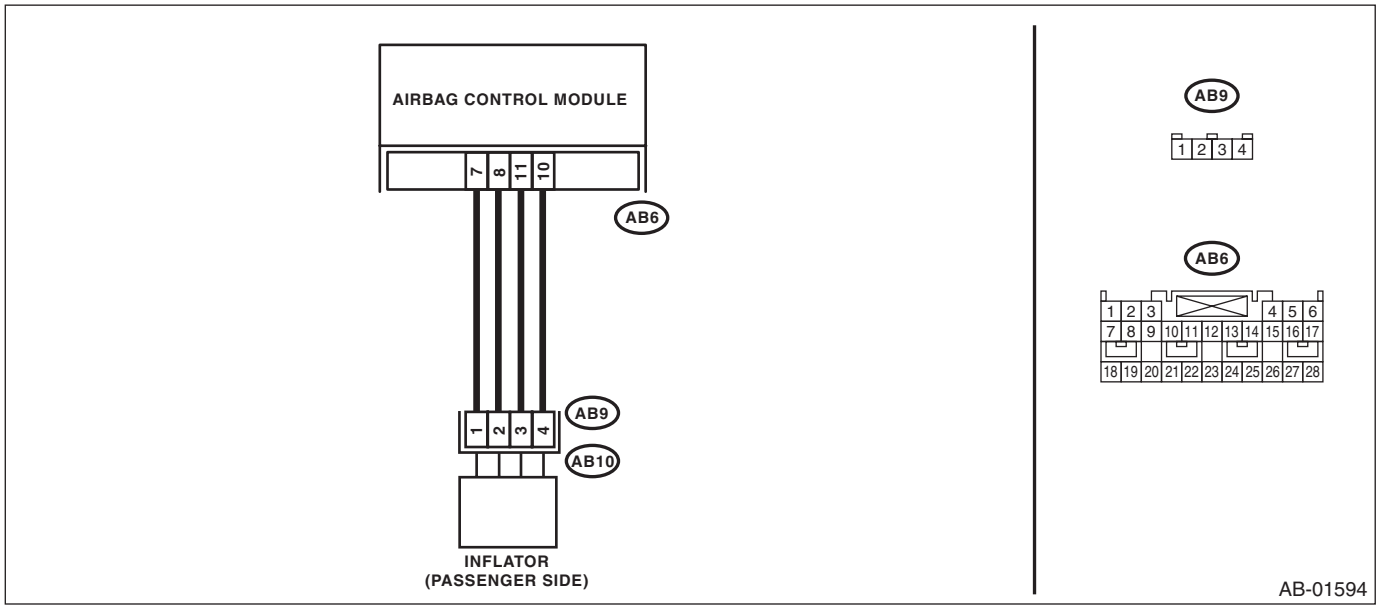
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

**CAUTION:**

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

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

**WIRING DIAGRAM:**




| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module and the passenger's airbag module. | Is there poor contact? | Replace the airbag harness. | Go to step **2**. |
| 2 | **CHECK PASSENGER'S AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the instrument panel side cover on the passenger's side and disconnect the connector (AB10) from (AB9).<br>3) Connect the connector (1P) in the test harness P to connector (AB9).<br>4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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 passenger's airbag module. <Ref. to AB-16, Passenger's Airbag Module.> | Go to step **3**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P.<br>***Connector & terminal***<br>***(2U) No. 3 — (2P) No. 1:***<br>***(2U) No. 5 — (2P) No. 2:***<br>***(2U) No. 9 — (3P) No. 3:***<br>***(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).**<br>Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 3 — (2U) No. 5:***<br>***(2U) No. 3 — Chassis ground:***<br>***(2U) No. 5 — Chassis ground:***<br>***(2U) No. 9 — (2U) No. 13:***<br>***(2U) No. 9 — Chassis ground:***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **6**. |
| 6 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## C: DTC 15 DRIVER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

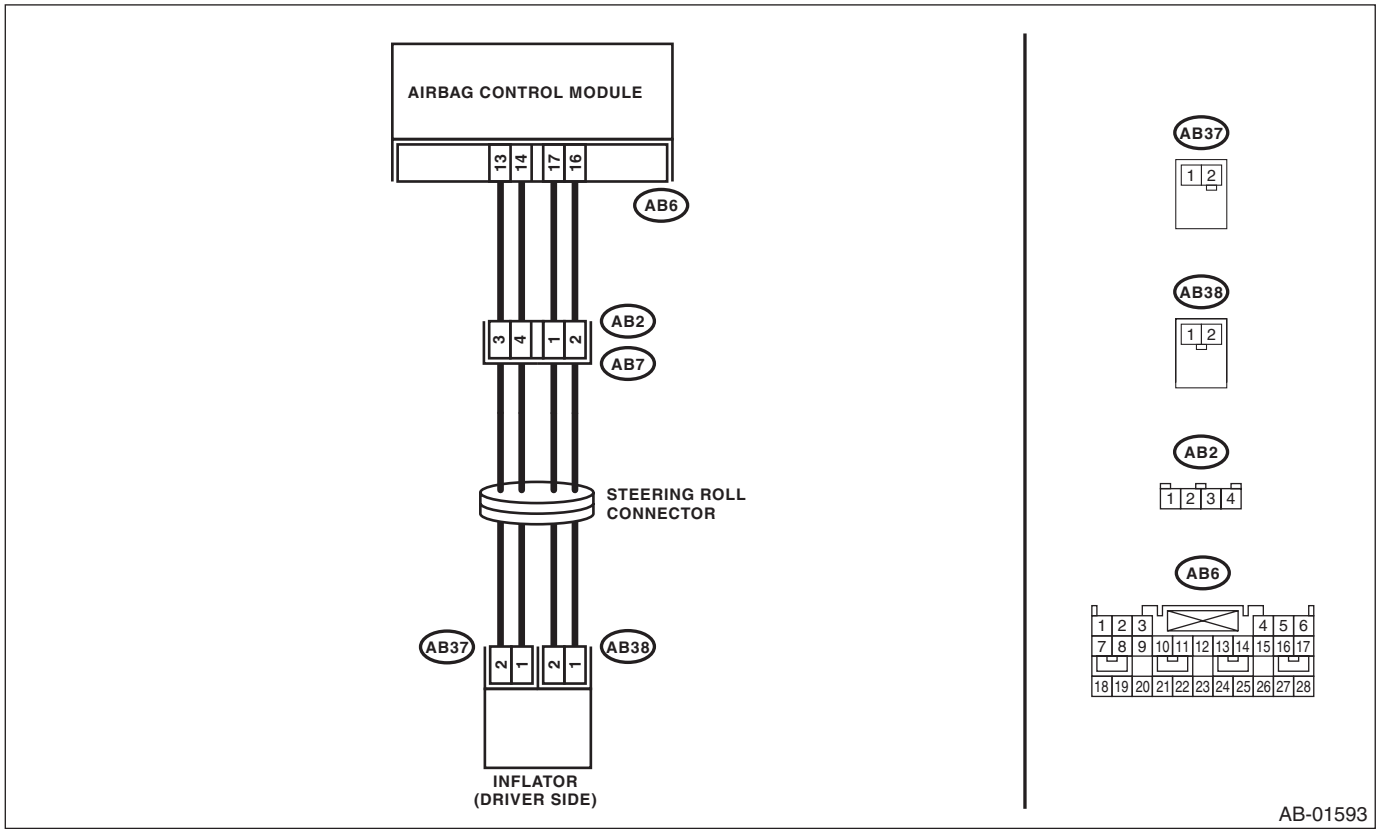
- Airbag main harness circuit (Driver's side) is shorted to power supply.
- Airbag module harness circuit (Driver's side) is shorted to power supply.
- Roll connector is shorted to power supply.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

**CAUTION:**

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

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the driver's airbag module.<br>3) Connect the connector (AB38) to the connector (1N) in the test harness N.<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>5) Connect the connector (1Q) in the test harness Q to connector (AB37).<br>6) Connect the airbag resistor to the connector (2Q) in the test harness Q.<br>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-15, Driver's Airbag Module.> | Go to step **3**. |
| 3 | **CHECK ROLL CONNECTOR.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the test harness N from connector (AB38).<br>3) Disconnect the test harness Q from connector (AB37).<br>4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>5) Connect the connector (1P) in the test harness P to connector (AB2).<br>6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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-24, Roll Connector.> | Go to step **4**. |
| 4 | **CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel side cover on the passenger's side and disconnect the connectors (AB10) and (AB9).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Connect the battery ground terminal and turn the ignition switch to ON. (engine OFF)<br>6) Measure the voltage between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 4 (+) — Chassis ground (–):***<br>***(2U) No. 2 (+) — Chassis ground (–):***<br>***(2U) No. 8 (+) — Chassis ground (–):***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **6**. |
| 6 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## D: DTC 16 PASSENGER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

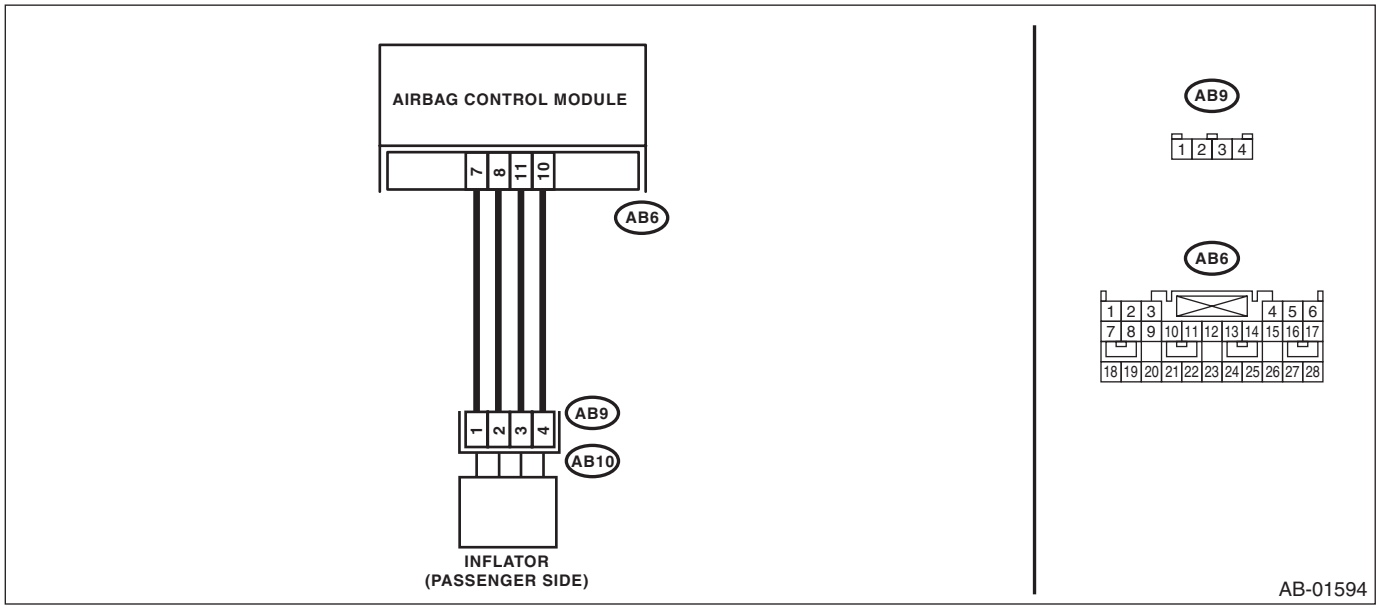
- Airbag main harness circuit (Passenger's side) is shorted to power supply.
- Airbag module harness circuit (Passenger's side) is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

**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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the instrument panel side cover on the passenger's side and disconnect the connector (AB10) from (AB9).<br>3) Connect the connector (1P) in the test harness P to connector (AB9).<br>4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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 passenger's airbag module. <Ref. to AB-16, Passenger's Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Connect the battery ground terminal and turn the ignition switch to ON. (engine OFF)<br>6) Measure the voltage between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 3 (+) — Chassis ground (–):***<br>***(2U) No. 5 (+) — Chassis ground (–):***<br>***(2U) No. 9 (+) — Chassis ground (–):***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## E: DTC 21 AIRBAG ECM FAILURE

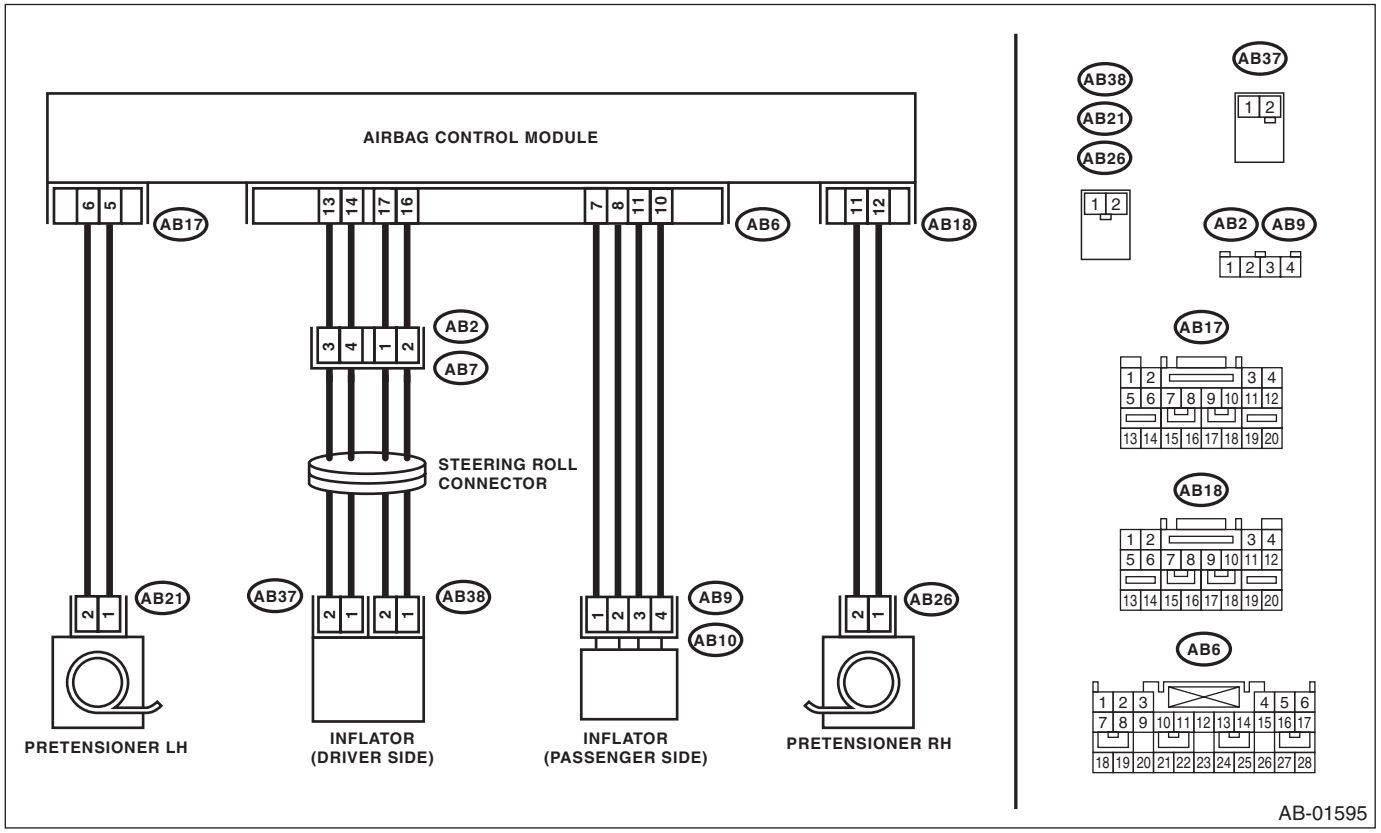
**DTC DETECTING CONDITION:**
Airbag control module is faulty.

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

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK IF DTC 21 IS INDICATED.**<br>Read the DTC. <Ref. to AB(diag)-31, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> | Does the Subaru Select Monitor display DTC21? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Perform the Clear Memory Mode. <Ref. to AB(diag)-32, 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-21, Airbag Control Module.>
- Driver's airbag module <Ref. to AB-15, Driver's Airbag Module.>
- Passenger's airbag module <Ref. to AB-16, Passenger's Airbag Module.>
- Front sub sensor of both sides <Ref. to AB-25, Front Sub Sensor.>
- Front outer seat belt with pretensioner of both sides. <Ref. to SB-10, Front Seat Belt.>
- Steering roll connector <Ref. to AB-24, Roll Connector.>
- Occupant detection system (passenger's seat cushion & frame assembly) <Ref. to SE-9, 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 20 seconds or more before starting to work.**

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACTS OF CONNECTORS (AB6), (AB17) AND (AB18).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>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-21, 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).**<br>1) Reconnect the connector securely.<br>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-21, Airbag Control Module.> |
| 3 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **4**. |
| 4 | **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)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## H: DTC 24 IG1 OPEN

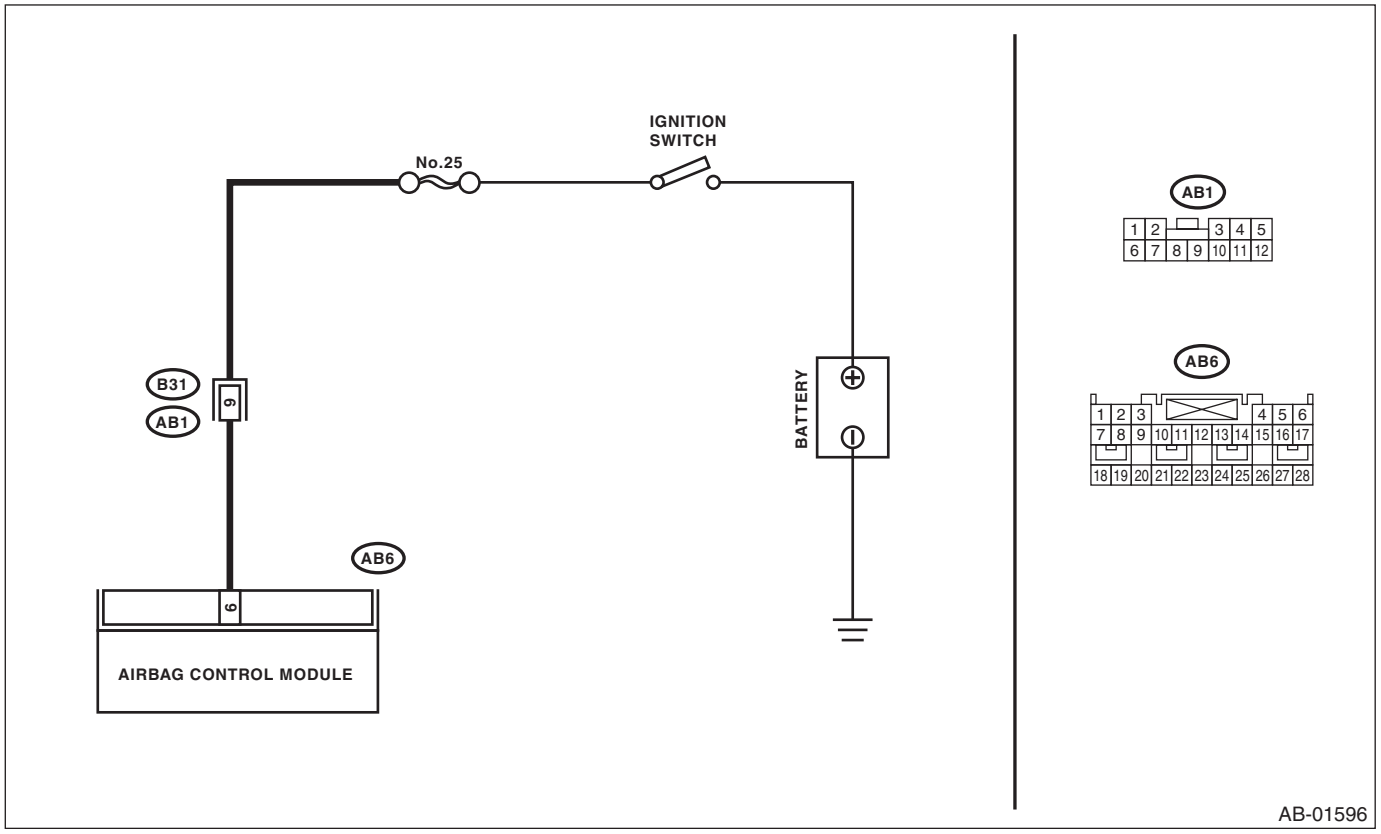
**DTC DETECTING CONDITION:**

- Airbag control module is faulty.
- Airbag main harness circuit is open.
- Fuse No. 25 (in joint box) is blown.
- 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 20 seconds or more before starting to work.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB6) from airbag control module.<br>3) Connect the connector (1U) in the test harness U to connector (AB6).<br>4) Connect the battery ground terminal and turn the ignition switch to ON.<br>5) Measure the voltage between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **2**. |
| 2 | **CHECK FUSE NO. 25 (IN JOINT BOX).**<br>1) Confirm that the ignition switch is turned to OFF.<br>2) Remove the fuse No. 25 (in joint box) and perform visual inspection. | Is the fuse No. 25 blown out? | Replace the fuse No. 25. If fuse No. 25 is blown out again, repair the body harness. Or replace the airbag main harness along with body harness. | Go to step **3**. |
| 3 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **4**. |
| 4 | **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)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# I: DTC 25 IG2 OPEN

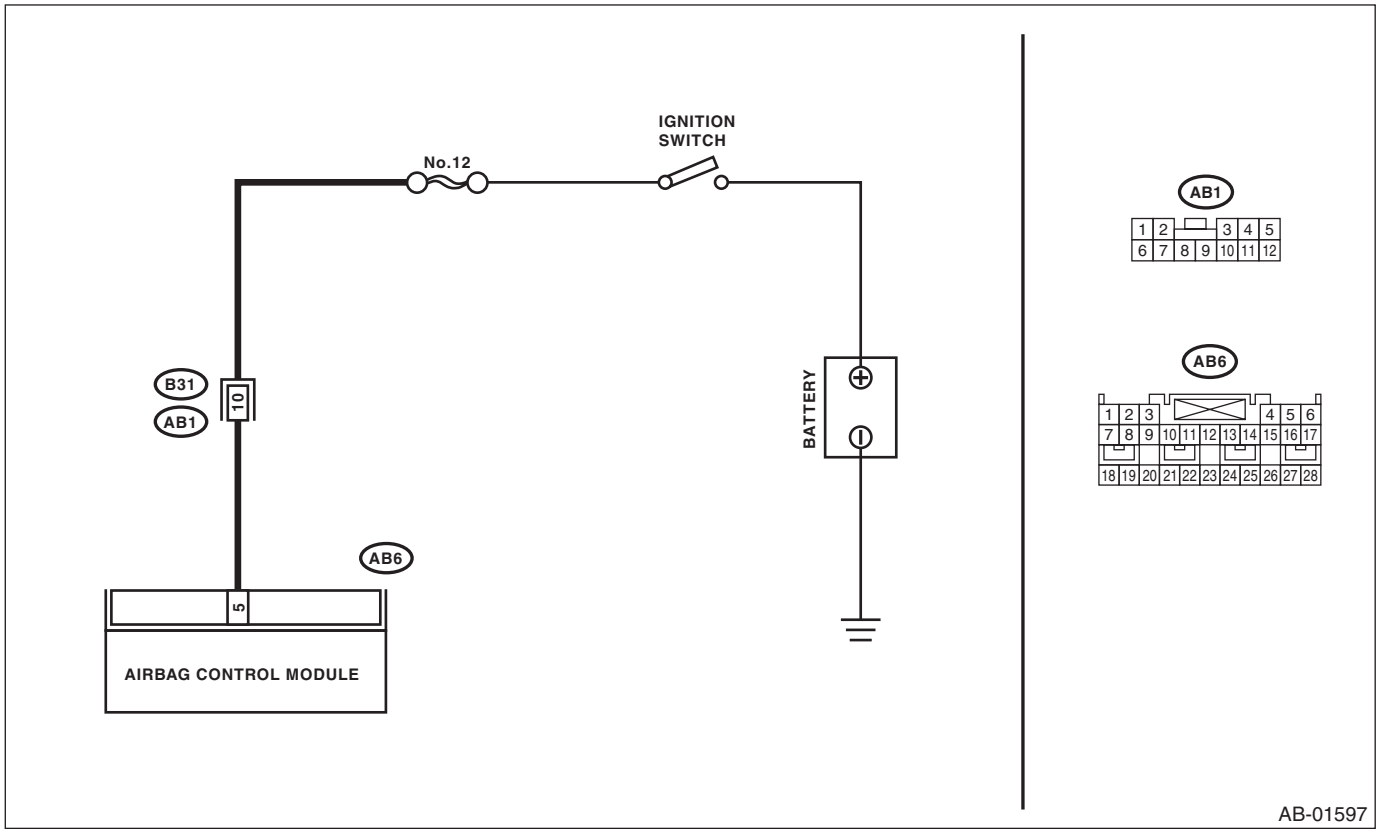
**DTC DETECTING CONDITION:**

- Airbag control module is faulty.
- Airbag main harness circuit is open.
- Fuse No. 12 (in joint box) is blown.
- 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 20 seconds or more before starting to work.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



# Diagnostic Chart with Trouble Code

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB6) from airbag control module.<br>3) Connect the connector (1U) in the test harness U to connector (AB6).<br>4) Connect the battery ground terminal and turn the ignition switch to ON.<br>5) Measure the voltage between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 6 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **2**. |
| 2 | **CHECK FUSE NO. 12 (IN JOINT BOX).**<br>1) Confirm that the ignition switch is turned to OFF.<br>2) Remove the fuse No. 12 (in joint box) and perform visual inspection. | Is the fuse No. 12 blown out? | Replace the fuse No. 12. If fuse No. 12 is blown out again, repair the body harness. Or replace the airbag main harness along with body harness. | Go to step **3**. |
| 3 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **4**. |
| 4 | **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)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## J: DTC 26 PASSENGER'S AIRBAG INDICATOR FAILURE

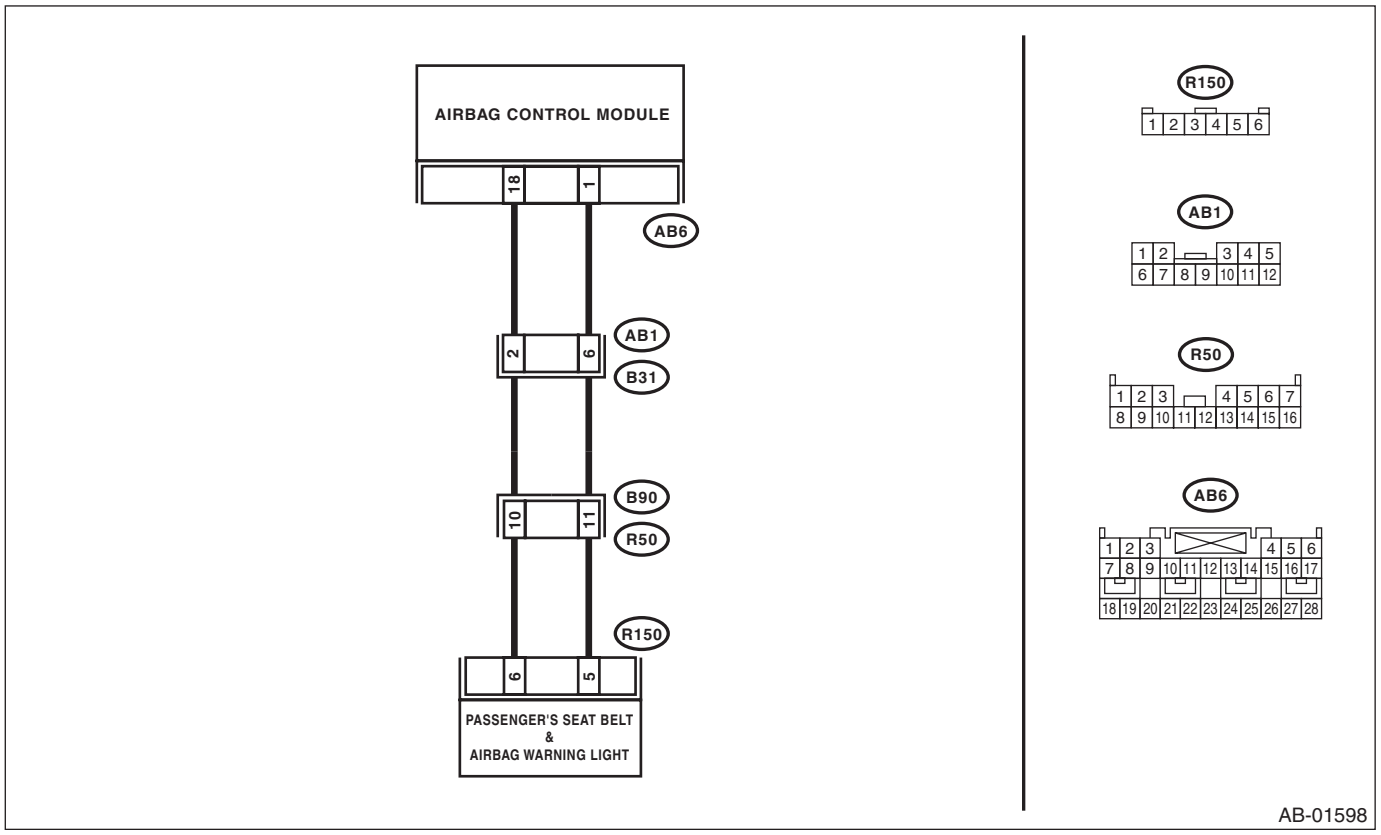
**DTC DETECTING CONDITION:**

- Passenger's 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 20 seconds or more before starting to work.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



# Diagnostic Chart with Trouble Code

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Confirm that firm contact is secured for the connector between the airbag control module and map light. | Is there poor contact in any connector? | Replace the airbag harness connector. | Go to step **2**. |
| 2 | **CHECK AIRBAG MAIN HARNESS.**<br>1) Disconnect the connector (AB6) from airbag control module.<br>2) Connect the battery ground terminal and turn the ignition switch to ON.<br>NOTE:<br>Neither of ON/OFF illuminates when it is normal. | Does the passenger's airbag indicator illuminate? | Go to step **3**. | Go to step **4**. |
| 3 | **CHECK AIRBAG MAIN HARNESS.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the map light and disconnect the connector (R150).<br>3) Connect the connector (1U) in the test harness U to connector (AB6).<br>4) Measure the resistance between connectors (2U) and (4U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 14 — (4U) No. 17:***<br>***(2U) No. 14 — Chassis ground:***<br>***(4U) No. 17 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Replace the map light. <Ref. to IDI-25, Clock.> | Repair the bulkhead harness. Or replace the airbag main harness along with body harness. |
| 4 | **CHECK AIRBAG HARNESS.**<br>1) Connect the connectors (7U) and (8U) in the test harness U.<br>2) Connect the battery ground terminal and turn the ignition switch to ON. | Does the passenger's airbag indicator illuminate? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK AIRBAG HARNESS.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the connector (1U) in the test harness U to connector (AB6).<br>3) Measure the resistance between connectors (2U) and (4U) in the test harness U and the connector (R150).<br>***Connector & terminal***<br>***(2U) No. 14 — (R150) No. 5:***<br>***(4U) No. 17 — (R150) 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 body harness. |
| 6 | **CHECK BODY HARNESS.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between connector (R150) and chassis ground.<br>***Connector & terminal***<br>***(R150) No. 1 — Chassis ground:*** | Is the voltage 10 V or more? | Replace the map light. <Ref. to IDI-25, Clock.> | Repair the map light power supply line. |

## K: DTC 27 ODS COMMUNICATION ERROR

**DTC DETECTING CONDITION:**

- Communication to the occupant detection control module 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.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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 along with the body harness or the occupant detection harness (seat harness). | Go to step **2**. |
| 2 | **CHECK AIRBAG HARNESS.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB18) from airbag control module.<br>3) Disconnect the connectors (AB59) and (AB61) under the passenger's seat.<br>4) Connect the connector (1U) in the test harness U to connector (AB18).<br>5) Connect the connector (1AB) in the test harness AB to the connector (AB61).<br>6) Measure the resistance between connector (3U) in the test harness U and connector (2AB) in the test harness AB.<br>***Connector & terminal***<br>***(3U) No. 2 — (2AB) No. 1:***<br>***(3U) No. 4 — (2AB) No. 2:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Replace the airbag rear harness along with body harness. |
| 3 | **CHECK AIRBAG HARNESS.**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 2 — Chassis ground:***<br>***(3U) No. 2 — (3U) No. 4:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG HARNESS.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between connector (2AB) in the test harness AB and chassis ground.<br>***Connector & terminal***<br>***(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 fault, replace the airbag rear harness along with body harness or replace the body harness. |

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 5 | **CHECK AIRBAG HARNESS.**<br>Measure the voltage between connector (2AB) in the test harness AB and chassis ground.<br>***Connector & terminal***<br>***(2AB) No. 1 — chassis ground:*** | Is the voltage 9 V or more? | Replace the airbag rear harness 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. |

## L: 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).>

## M: 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).>

## N: 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).>

## O: DTC 2C BELTTANTION SENSOR FAILURE

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

# P: DTC 31 FRONT SUB SENSOR RH FAILURE

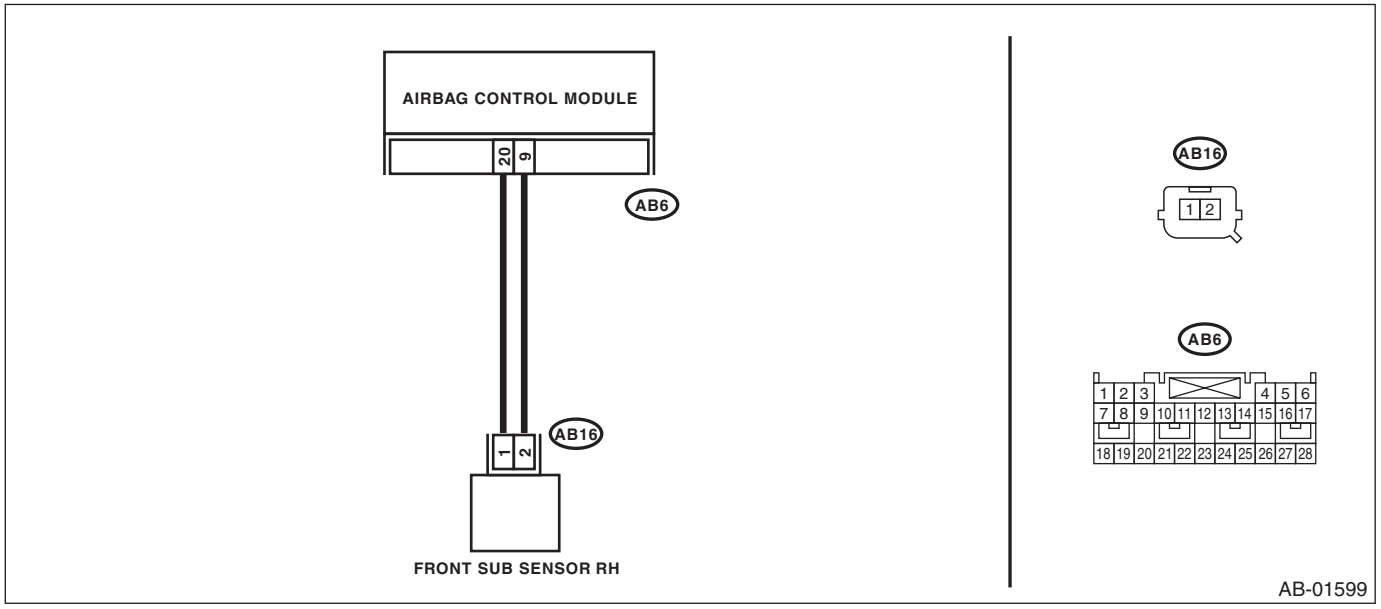
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



# Diagnostic Chart with Trouble Code

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2).<br>3) Remove the instrument panel side cover on the passenger's side and disconnect the connectors (AB10) and (AB9).<br>4) Disconnect the connector (AB6) from airbag control module.<br>5) Connect the connector (1U) in the test harness U to connector (AB6).<br>6) Disconnect the front sub sensor (RH), and then connect the connector (1H) in the test harness H to connector (AB16).<br>7) Measure the resistance between connector (3U) in the test harness U and connector (3H) in the test harness H.<br>***Connector & terminal***<br>***(3U) No. 7 — (3H) No. 5:***<br>***(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).**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 7 — Chassis ground:***<br>***(3U) No. 9 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Replace the front sub sensor (RH). <Ref. to AB-25, Front Sub Sensor.><br>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-21, Airbag Control Module.> | Go to step **4**. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## Q: DTC 32 FRONT SUB SENSOR LH FAILURE

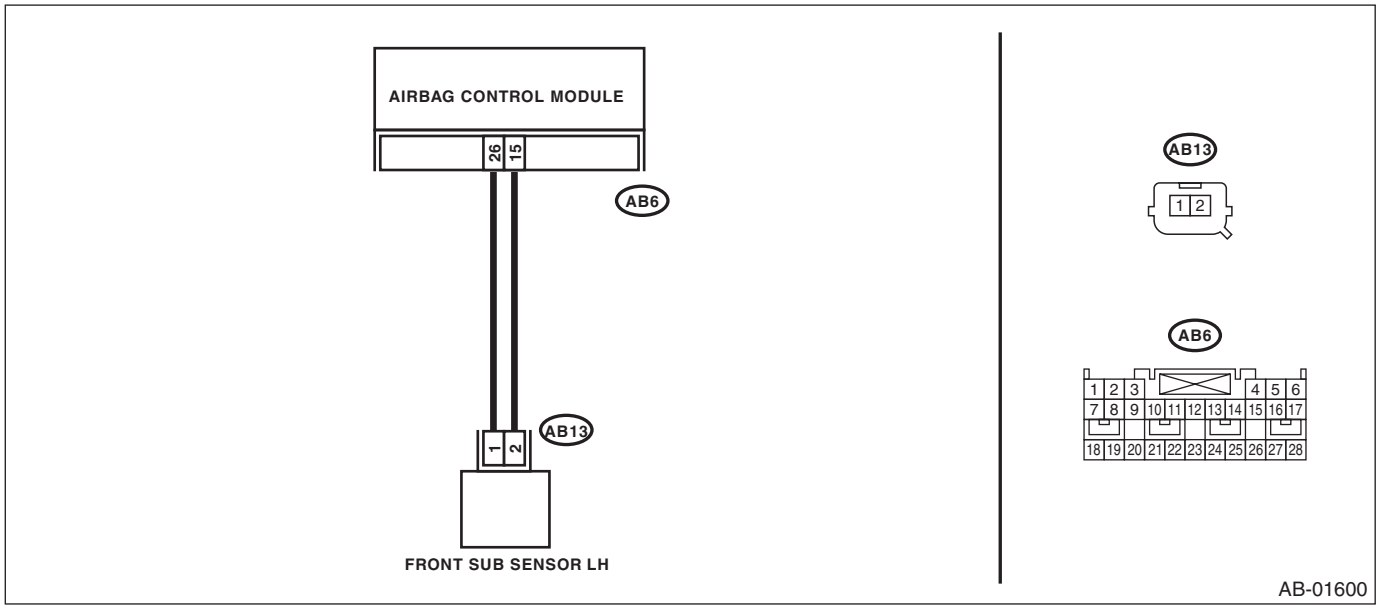
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check 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 IN CONNECTORS.**<br>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).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the instrument panel lower cover and disconnect the connectors (AB7) and (AB2).<br>3) Remove the instrument panel side cover on the passenger's side and disconnect the connectors (AB10) and (AB9).<br>4) Disconnect the connector (AB6) from airbag control module.<br>5) Connect the connector (1U) in the test harness U to connector (AB6).<br>6) Disconnect the front sub sensor (LH), and then connect the connector (1H) in the test harness H to connector (AB13).<br>7) Measure the resistance between connector (3U) in the test harness U and connector (3H) in the test harness H.<br>***Connector & terminal***<br>***(3U) No. 6 — (3H) No. 5:***<br>***(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).**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 6 — Chassis ground:***<br>***(3U) No. 8 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Replace the front sub sensor (LH). <Ref. to AB-25, Front Sub Sensor.><br>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-21, Airbag Control Module.> | Go to step **4**. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## R: 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-25, Front Sub Sensor.>

## S: 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-25, Front Sub Sensor.>

## T: DTC 36 SEAT POSITION SENSOR LH FAILURE

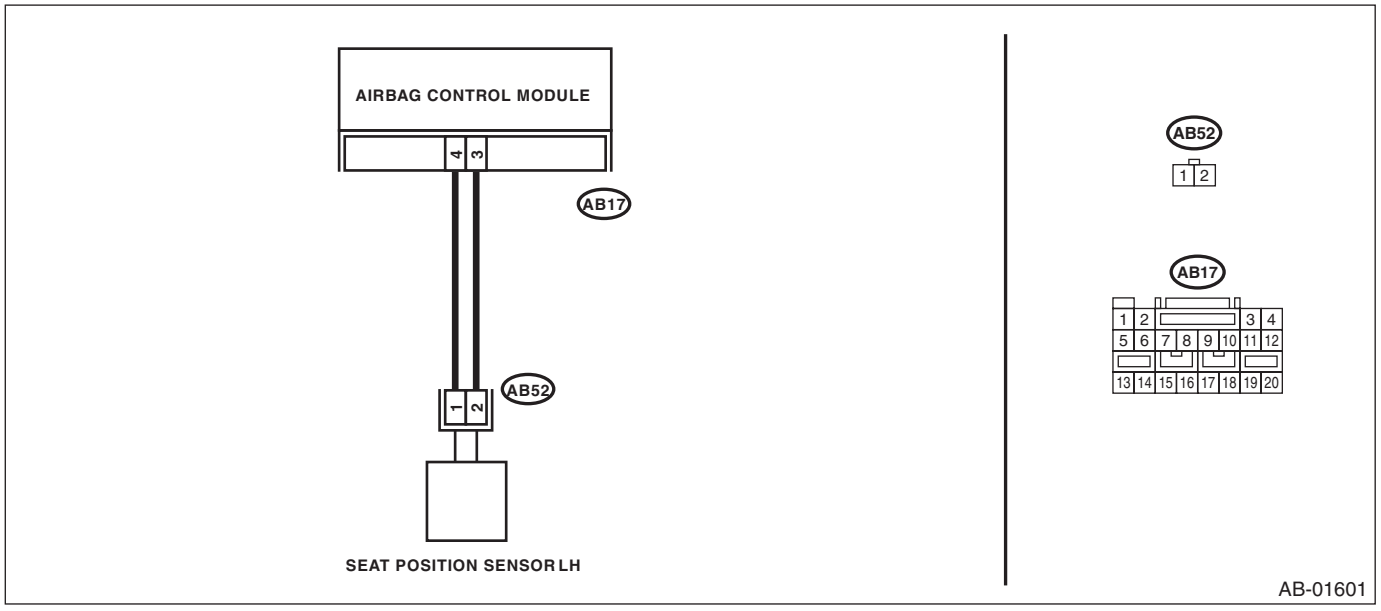
**DTC DETECTING CONDITION:**

- Driver's seat position sensor is faulty.
- Airbag control module is faulty.
- Airbag rear harness 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 20 seconds or more before starting to work.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SEAT POSITION SENSOR (LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB52) from the seat position sensor (LH).<br>3) Connect the connector (2Y) in the test harness Y to connector (AB52).<br>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-9, Front Seat.> | Go to step **2**. |
| 2 | **CHECK AIRBAG REAR HARNESS (SEAT POSITION SENSOR HARNESS (LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect connector (AB23) from side airbag module (LH).<br>3) Disconnect the connector (AB31) from curtain airbag module (LH).<br>4) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Disconnect the seat position sensor (LH), and then connect the connector (1H) in the test harness H to connector (AB52).<br>8) Measure the resistance between connector (3U) in the test harness U and connector (3H) in the test harness H.<br>***Connector & terminal***<br>***(3U) No. 1 — (3H) No. 6:***<br>***(3U) No. 3 — (3H) No. 5:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Replace the airbag rear harness along with body harness. |
| 3 | **CHECK AIRBAG REAR HARNESS.**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 1 — Chassis ground:*** | Is the resistance less than 10 Ω? | Replace the airbag rear harness along with body harness. | Replace the airbag control module. |

## U: 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).>

## V: DTC 38 BUCKLE SWITCH LH FAILURE

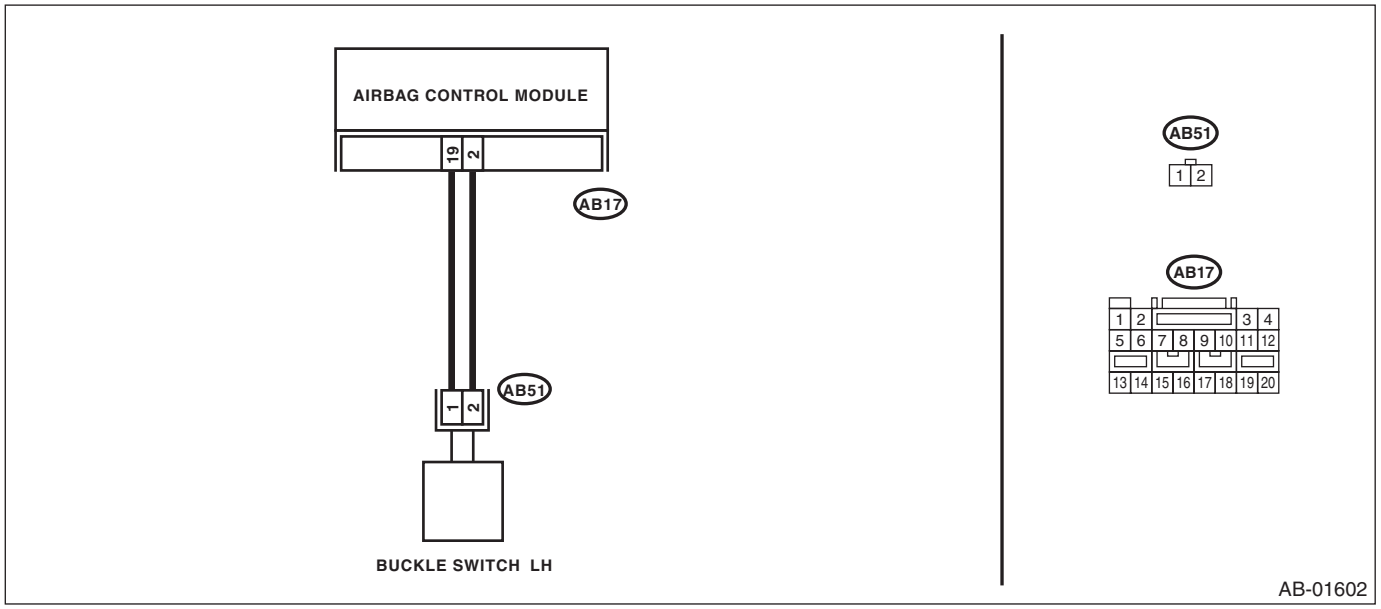
**DTC DETECTING CONDITION:**

- Driver's buckle switch circuit is open, shorted or shorted to ground.
- Airbag rear harness 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 20 seconds or more before starting to work.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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 along with body harness. | Go to step **2**. |
| 2 | **CHECK SEAT BELT BUCKLE SWITCH (LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB51) from the buckle switch (LH).<br>3) Connect the connector (1Y) in the test harness Y to connector (AB51).<br>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-10, Front Seat Belt.> | Go to step **3**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK AIRBAG REAR HARNESS (BUCKLE SWITCH HARNESS (LH)).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect connector (AB23) from side airbag module (LH).<br>3) Disconnect the connector (AB31) from curtain airbag module (LH).<br>4) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Disconnect the seat belt buckle switch (LH), and then connect the connector (1D) in the test harness D to connector (AB51).<br>8) Measure the resistance between connectors (4U) and (5U) in the test harness U and connector (3D) in the test harness D.<br>***Connector & terminal***<br>***(4U) No. 11 — (3D) No. 3:***<br>***(4U) No. 9 — (3D) No. 4:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG REAR HARNESS.**<br>Measure the resistance between connector (4U) terminals in the test harness U.<br>***Connector & terminal***<br>***(4U) No. 9 — (4U) No. 11:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag control module. |
| 5 | **CHECK AIRBAG REAR HARNESS.**<br>Measure the resistance between connector (4U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(4U) No. 9 — Chassis ground:***<br>***(4U) No. 11 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **6**. | Replace the airbag rear harness along with body harness. |
| 6 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## W: DTC 39 SEAT BELT WARNING FAILURE

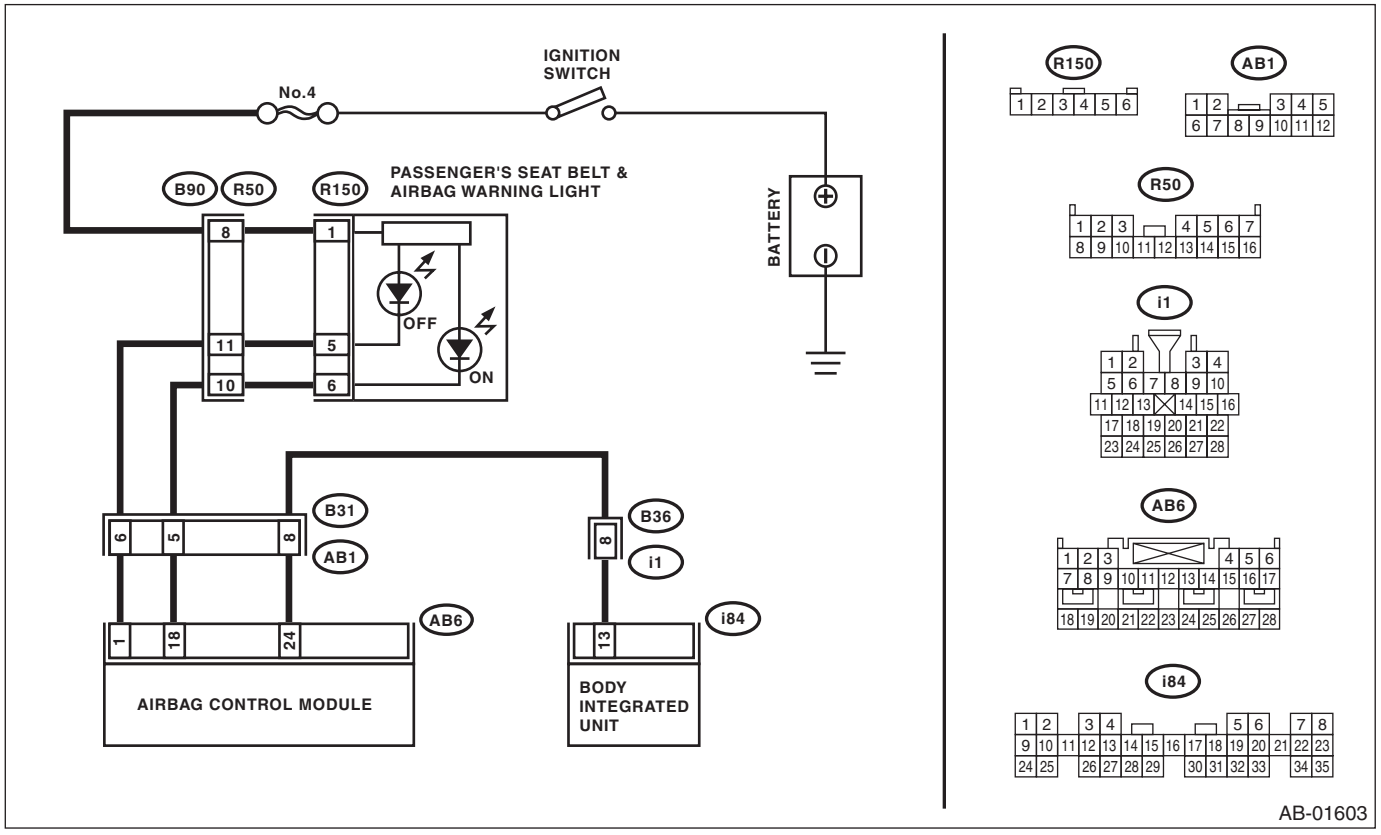
**DTC DETECTING CONDITION:**

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

**CAUTION:**

- **Before 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.**
- **When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
- **When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
- **When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK AIRBAG HARNESS.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB6) from airbag control module.<br>3) Connect the battery ground terminal and turn the ignition switch to ON. | Does the passenger's seat belt warning light blink for 6 seconds and go off? | Go to step **3**. | Go to step **2**. |
| 2 | **CHECK AIRBAG HARNESS.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the connector (1U) in the test harness U to connector (AB6).<br>3) Measure the resistance between connector (4U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(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 AIRBAG HARNESS.**<br>1) With the condition of step 2, connect the connectors (7U) and (8U) in the test harness U.<br>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-21, Airbag Control Module.> | Go to step **4**. |
| 4 | **CHECK AIRBAG HARNESS.**<br>1) With the condition of step 3, disconnect the connectors (7U) and (8U) in the test harness U.<br>2) Measure the resistance between connector (4U) in the test harness U and the connector (i84).<br>***Connector & terminal***<br>***(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. |

## X: DTC 41 SIDE AIRBAG RH FAILURE

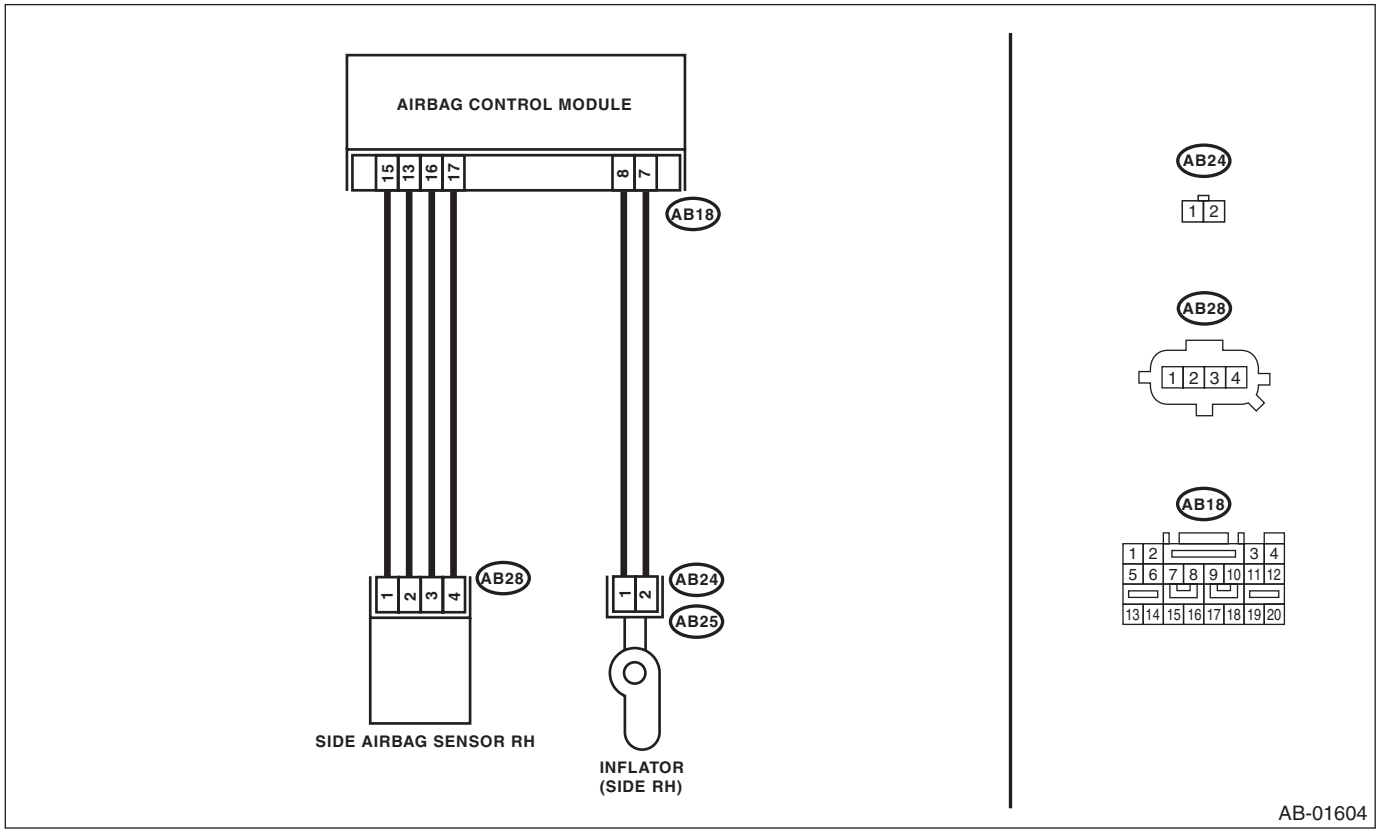
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK SIDE AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB25) and (AB24), and connect the connector (1F) in test harness F to connector (AB24).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-17, REMOVAL, Side Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Disconnect the connector (AB33) from curtain airbag module (RH).<br>4) Disconnect the airbag resistor from test harness F.<br>5) Disconnect the connector (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Measure the resistance between connector (3U) in the test harness U and connector (3F) in the test harness F.<br>***Connector & terminal***<br>***(3U) No. 20 — (3F) No. 4:***<br>***(3U) No. 18 — (3F) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).**<br>Measure the resistance between connector (3U) terminals in the test harness U.<br>***Connector & terminal***<br>***(3U) No. 20 — (3U) No. 18:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag rear harness along with body harness. |
| 5 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 20 — Chassis ground:***<br>***(3U) No. 18 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **6**. | Replace the airbag rear harness along with body harness. |
| 6 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## Y: DTC 42 SIDE AIRBAG LH FAILURE

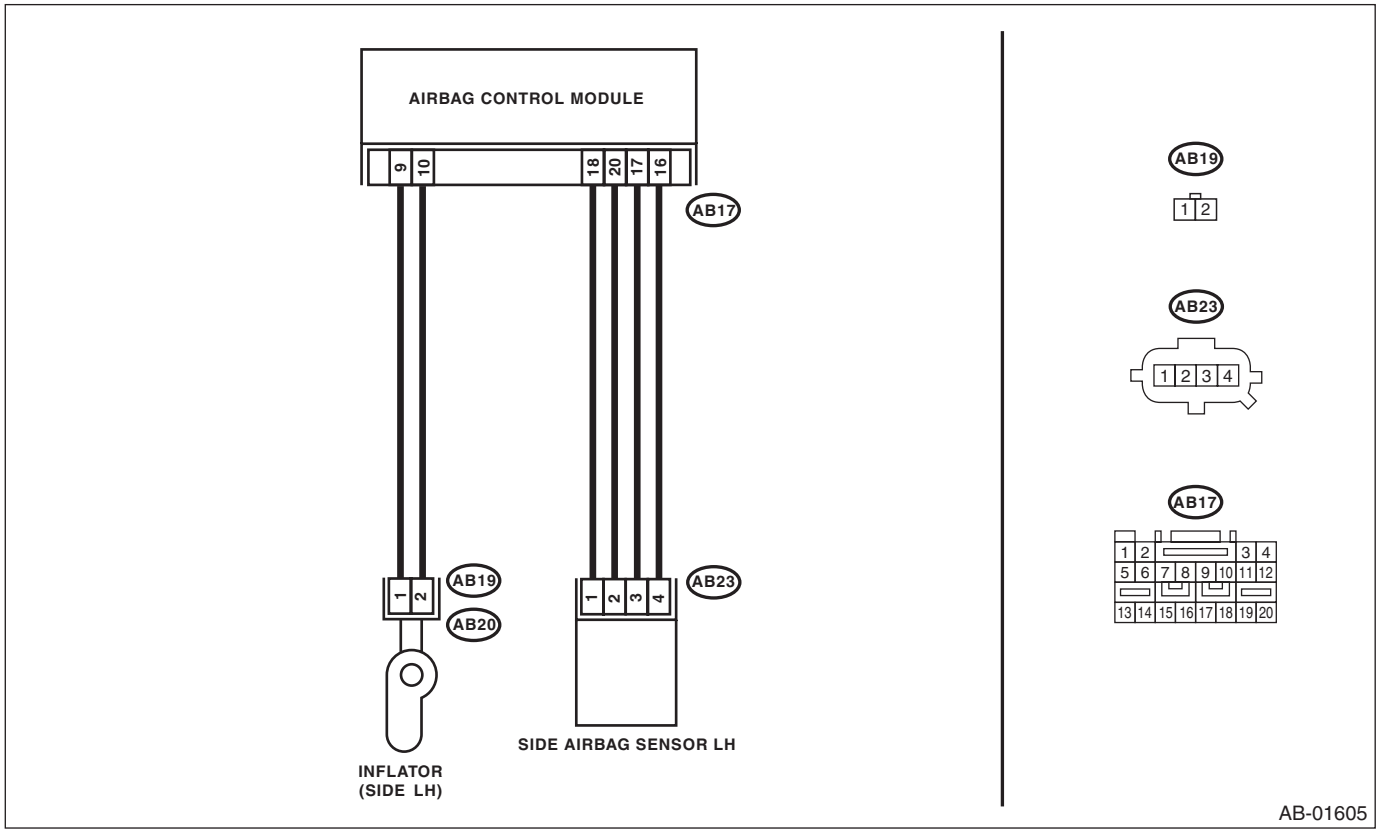
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK SIDE AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB20) and (AB19), and connect the connector (1F) in test harness F to connector (AB19).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-17, REMOVAL, Side Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Disconnect the connector (AB31) from curtain airbag module (LH).<br>4) Disconnect the airbag resistor from test harness.<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Measure the resistance between connector (3U) in the test harness U and connector (3F) in the test harness F.<br>***Connector & terminal***<br>***(3U) No. 12 — (3F) No. 4:***<br>***(3U) No. 10 — (3F) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).**<br>Measure the resistance between connector (3U) terminals in the test harness U.<br>***Connector & terminal***<br>***(3U) No. 12 — (3U) No. 10:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag rear harness along with body harness. |
| 5 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 12 — Chassis ground:***<br>***(3U) No. 10 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **6**. | Replace the airbag rear harness along with body harness. |
| 6 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## Z: DTC 45 SIDE AIRBAG RH FAILURE

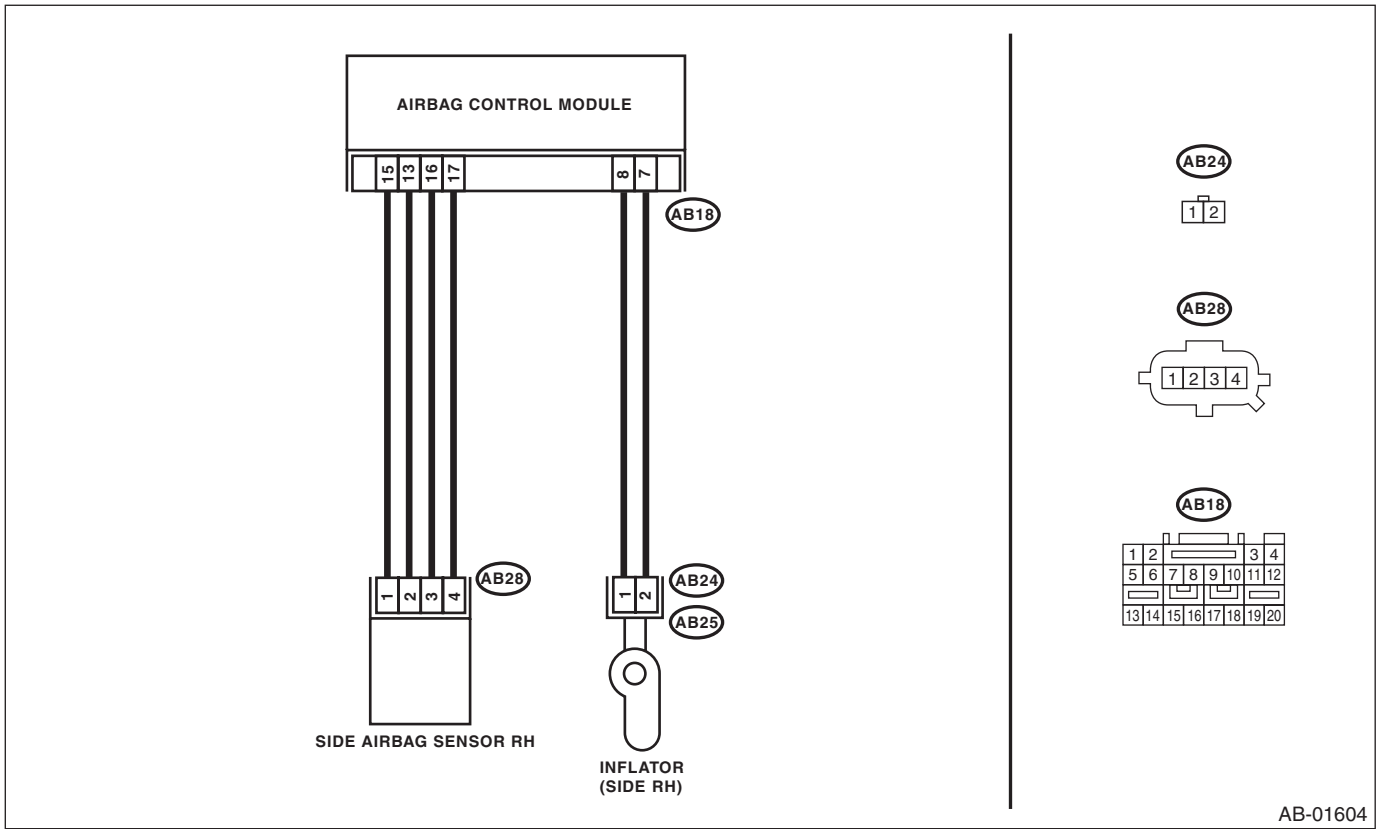
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK SIDE AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB25) and (AB24), and connect the connector (1F) in test harness F to connector (AB24).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-17, REMOVAL, Side Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Disconnect the connector (AB33) from curtain airbag module (RH).<br>4) Disconnect the airbag resistor from test harness.<br>5) Disconnect the connector (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Connect the battery ground terminal and turn the ignition switch to ON.<br>8) Measure the voltage between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 20 (+) — Chassis ground (–):***<br>***(3U) No. 18 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AA:DTC 46 SIDE AIRBAG LH FAILURE

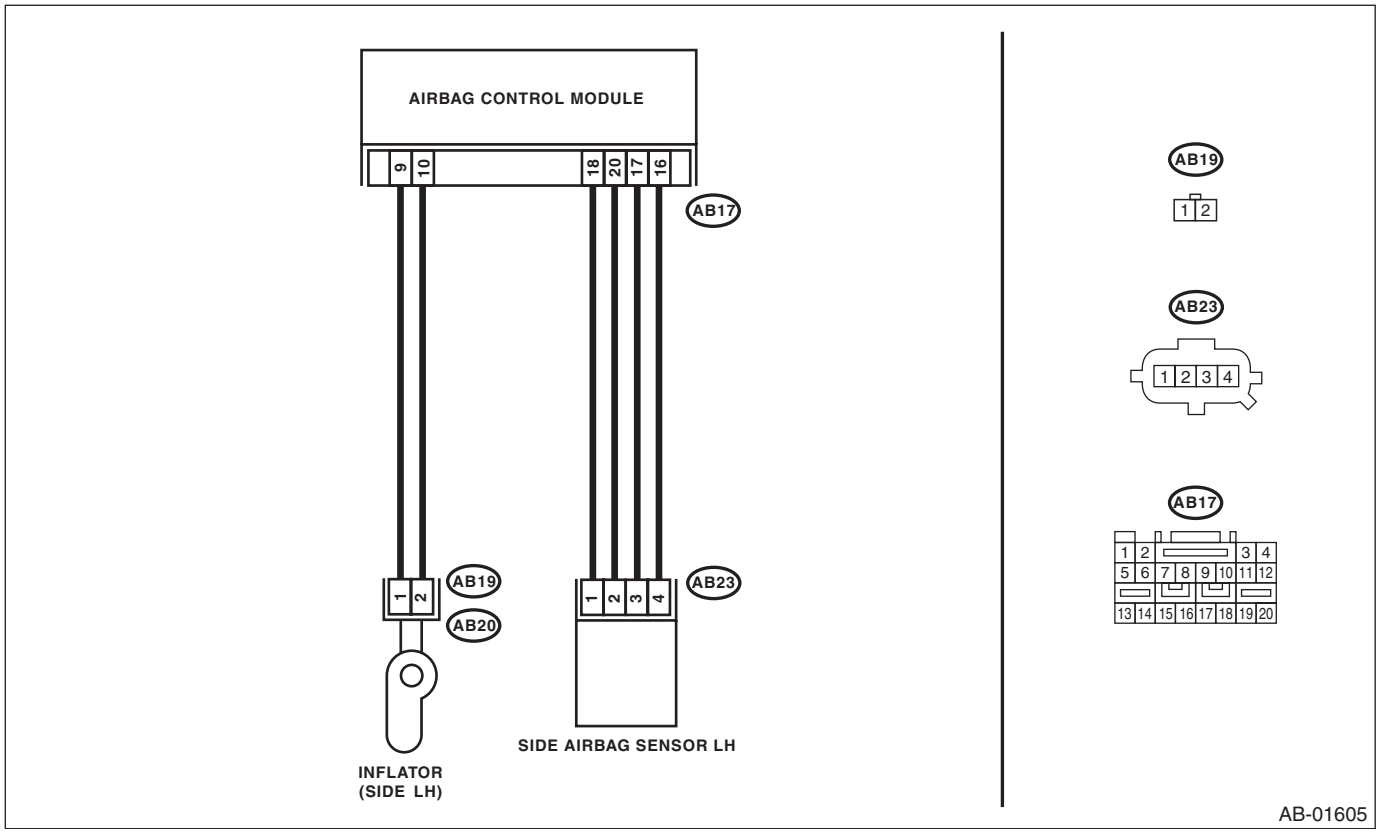
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK SIDE AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB20) and (AB19), and connect the connector (1F) in test harness F to connector (AB19).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-17, REMOVAL, Side Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG MODULE HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Disconnect the connector (AB31) from curtain airbag module (LH).<br>4) Disconnect the airbag resistor from test harness.<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Connect the battery ground terminal and turn the ignition switch to ON.<br>8) Measure the voltage between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 12 (+) — Chassis ground (–):***<br>***(3U) No. 10 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AB:DTC 51 SIDE AIRBAG SENSOR RH FAILURE

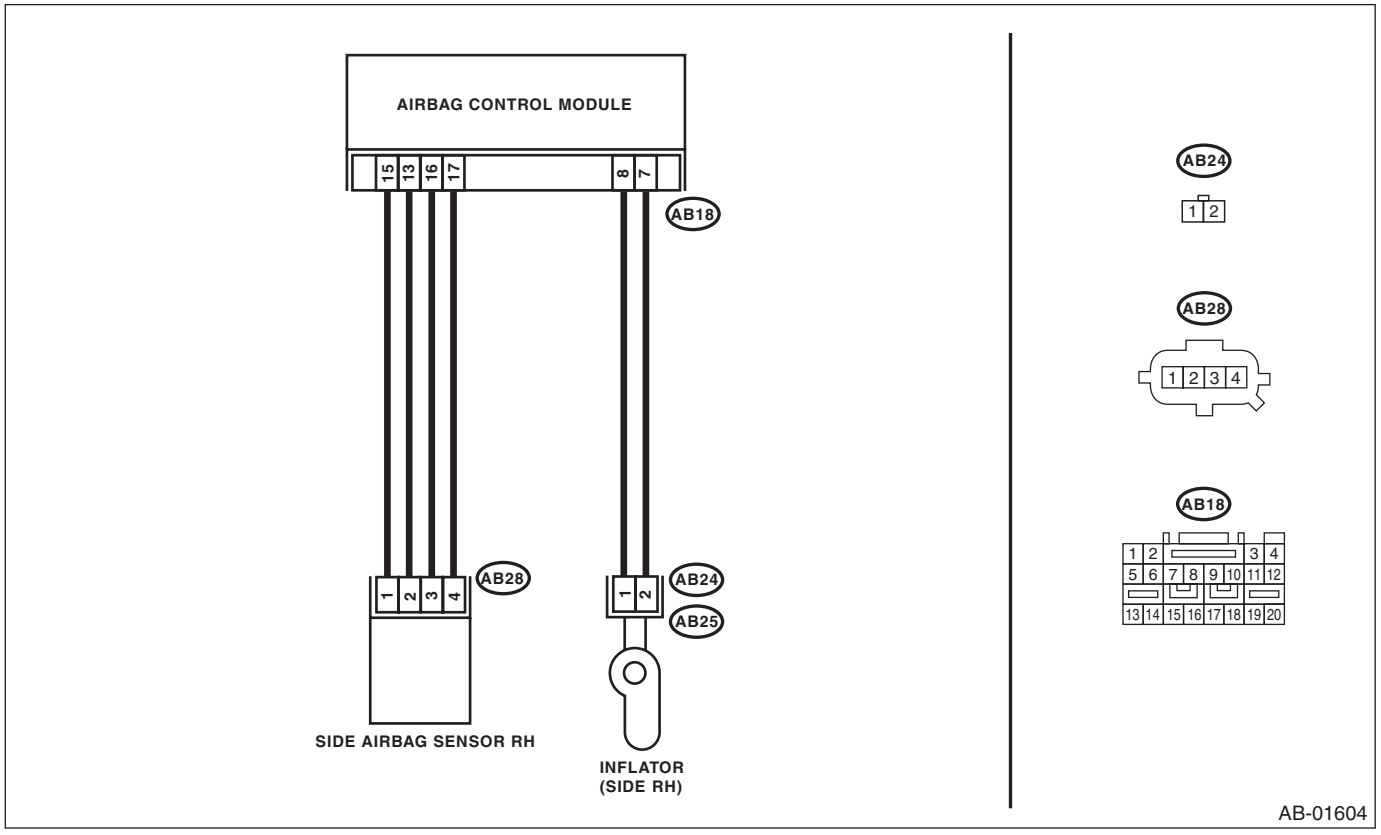
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module, side airbag module RH and the side airbag sensor RH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Disconnect the connector (AB33) from curtain airbag module (RH).<br>4) Disconnect the connectors (AB25) and (AB24).<br>5) Disconnect the connector (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Disconnect the connector (AB28) from side airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB28).<br>8) Measure the resistance between connector (4U) in the test harness U and connector (3V) in the test harness V.<br>***Connector & terminal***<br>***(4U) No. 5 — (3V) No. 2:***<br>***(4U) No. 7 — (3V) No. 1:***<br>***(4U) No. 8 — (3V) No. 5:***<br>***(4U) No. 6 — (3V) No. 4:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Replace the airbag rear harness along with body harness. |
| 3 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS RH).**<br>Measure the resistance between connector (4U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(4U) No. 5 — Chassis ground:***<br>***(4U) No. 7 — Chassis ground:***<br>***(4U) No. 8 — Chassis ground:***<br>***(4U) No. 6 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the side airbag sensor (RH). <Ref. to AB-22, Side Airbag Sensor.><br>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AC:DTC 52 SIDE AIRBAG SENSOR LH FAILURE

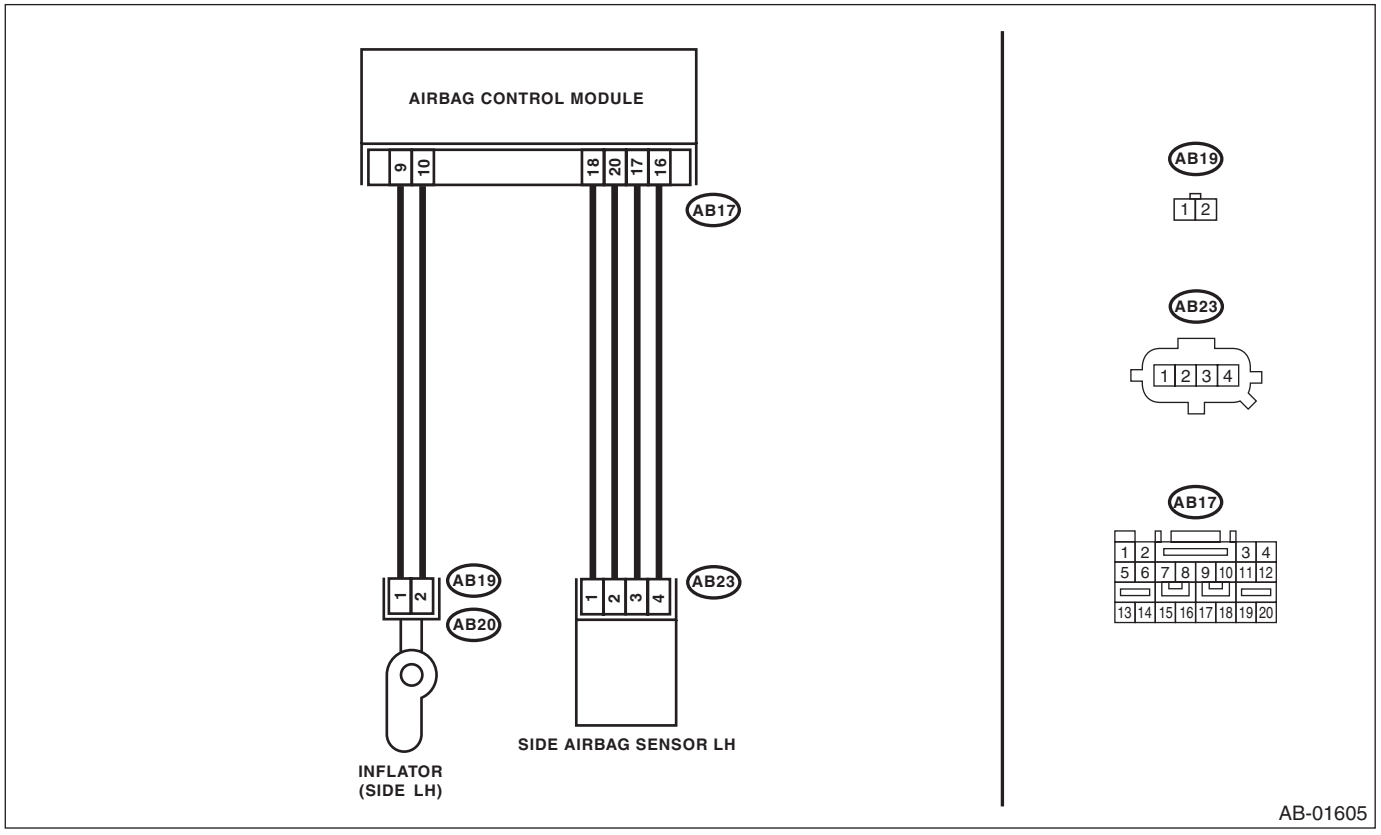
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module, side airbag module LH and the side airbag sensor LH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Disconnect the connector (AB31) from curtain airbag module (LH).<br>4) Disconnect the connectors (AB20) and (AB19).<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Disconnect the connector (AB23) from side airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB23).<br>8) Measure the resistance between connector (4U) in the test harness U and connector (3V) in the test harness V.<br>***Connector & terminal***<br>***(4U) No. 3 — (3V) No. 4:***<br>***(4U) No. 1 — (3V) No. 5:***<br>***(4U) No. 2 — (3V) No. 1:***<br>***(4U) No. 4 — (3V) No. 2:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Replace the airbag rear harness along with body harness. |
| 3 | **CHECK AIRBAG REAR HARNESS (SIDE AIRBAG SENSOR HARNESS LH).**<br>Measure the resistance between connector (4U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(4U) No. 3 — Chassis ground:***<br>***(4U) No. 1 — Chassis ground:***<br>***(4U) No. 2 — Chassis ground:***<br>***(4U) No. 4 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the side airbag sensor (LH). <Ref. to AB-22, Side Airbag Sensor.><br>Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AD: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-22, Side Airbag Sensor.>

## AE: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-22, Side Airbag Sensor.>

## AF:DTC 55 SIDE CURTAIN AIRBAG FIRING OUTPUT

This DTC is displayed when the side airbag module and curtain airbag module are deployed.
Once this DTC is displayed, the memory cannot be cleared. Replace the following parts.

- Airbag control module <Ref. to AB-21, Airbag Control Module.>
- Front seat with side airbag module (Operating side) <Ref. to SE-9, Front Seat.>
- Side airbag sensor (Operating side) <Ref. to AB-22, Side Airbag Sensor.>
- Curtain airbag module (Operating side) <Ref. to AB-19, Curtain Airbag Module.>
- Curtain airbag sensor (Operating side) <Ref. to AB-23, Curtain Airbag Sensor.>

# AG:DTC 56 CURTAIN AIRBAG SENSOR RH FAILURE

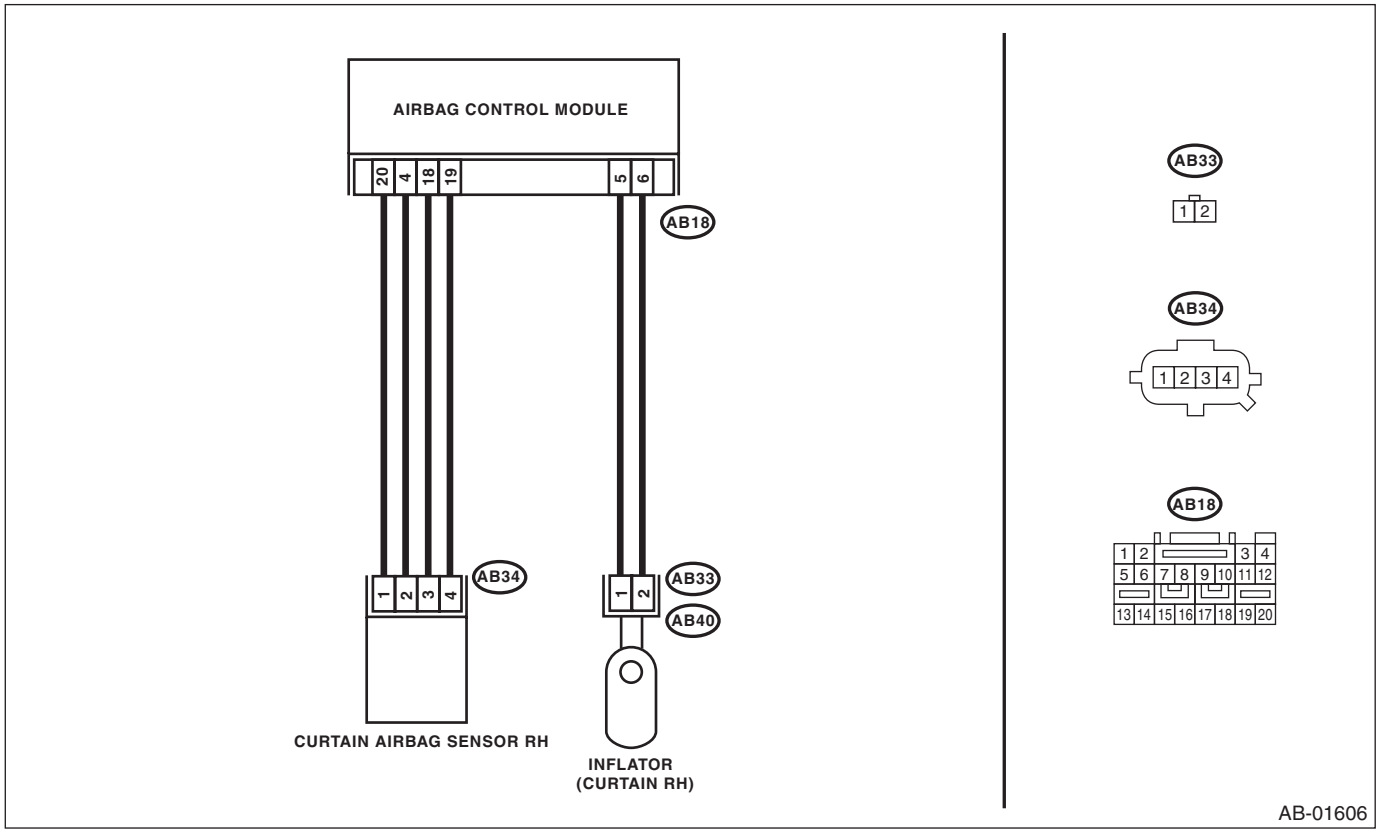
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Disconnect connector (AB24) from side airbag module (RH).<br>4) Disconnect the connectors (AB33) and (AB40).<br>5) Disconnect the connector (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Disconnect the connector (AB34) from curtain airbag sensor (RH), and connect the connector (2V) in test harness V to connector (AB34).<br>8) Measure the resistance between connector (5U) in the test harness U and connector (3V) in the test harness V.<br>***Connector & terminal***<br>***(5U) No. 14 — (3V) No. 4:***<br>***(5U) No. 16 — (3V) No. 5:***<br>***(5U) No. 15 — (3V) No. 1:***<br>***(5U) No. 13 — (3V) No. 2:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Replace the airbag rear harness along with body harness. |
| 3 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS RH).**<br>Measure the resistance between connector (5U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(5U) No. 14 — Chassis ground:***<br>***(5U) No. 16 — Chassis ground:***<br>***(5U) No. 15 — Chassis ground:***<br>***(5U) No. 13 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the curtain airbag sensor (RH). <Ref. to AB-23, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AH:DTC 57 CURTAIN AIRBAG SENSOR LH FAILURE

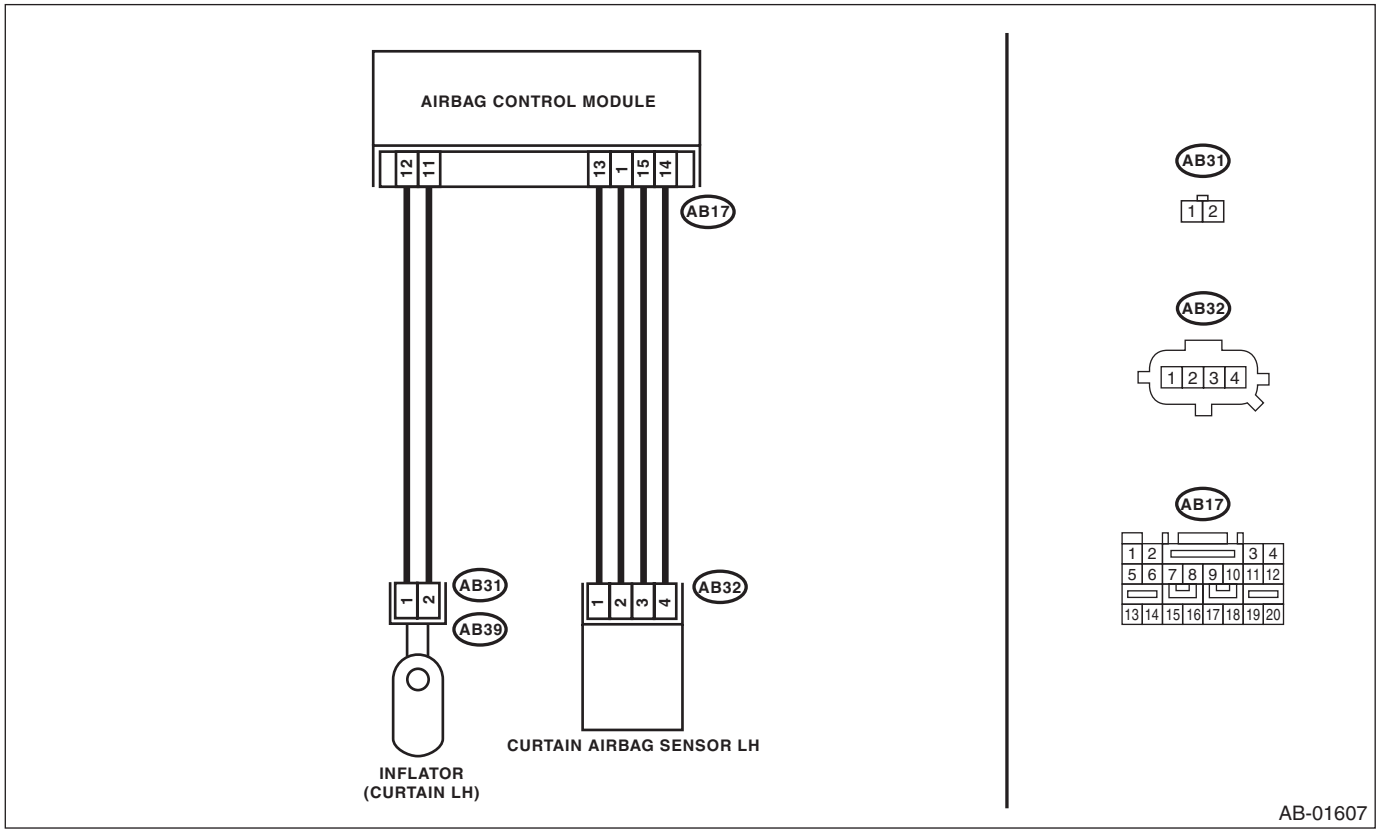
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Disconnect connector (AB19) from side airbag module (LH).<br>4) Disconnect the connectors (AB31) and (AB39).<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Disconnect the connector (AB32) from curtain airbag sensor (LH), and connect the connector (2V) in test harness V to connector (AB32).<br>8) Measure the resistance between connector (5U) in the test harness U and connector (3V) in the test harness V.<br>***Connector & terminal***<br>***(5U) No. 11 — (3V) No. 4:***<br>***(5U) No. 9 — (3V) No. 5:***<br>***(5U) No. 10 — (3V) No. 1:***<br>***(5U) No. 12 — (3V) No. 2:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Replace the airbag rear harness along with body harness. |
| 3 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG SENSOR HARNESS LH).**<br>Measure the resistance between connector (5U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(5U) No. 11 — Chassis ground:***<br>***(5U) No. 9 — Chassis ground:***<br>***(5U) No. 10 — Chassis ground:***<br>***(5U) No. 12 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the curtain airbag sensor (LH). <Ref. to AB-23, Curtain Airbag Sensor.> Replace the airbag control module if not operating normally even after replacing the sensor. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AI: 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-23, Curtain Airbag Sensor.>

## AJ: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-23, Curtain Airbag Sensor.>

## AK:DTC 61 BELT PRETENSIONER RH FAILURE

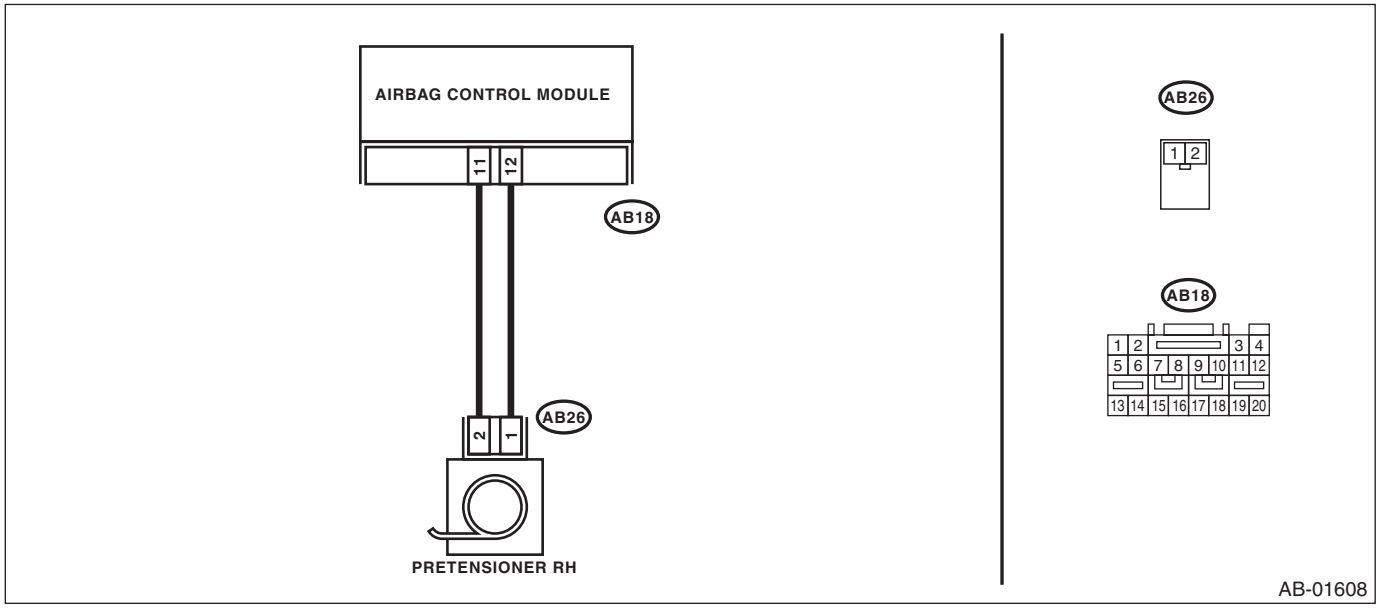
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK SEAT BELT PRETENSIONER.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Connect the connector (1N) in the test harness N to the connector (AB26).<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>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-10, Front Seat Belt.> | Go to step **3**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from test harness.<br>3) Disconnect connector (AB24) from side airbag module (RH).<br>4) Disconnect the connector (AB33) from curtain airbag module (RH).<br>5) Disconnect the connectors (AB17) and (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Measure the resistance between connector (3U) in the test harness U and connector (2N) in the test harness N.<br>***Connector & terminal***<br>***(3U) No. 17 — (2N) No. 1:***<br>***(3U) No. 19 — (2N) No. 2:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).**<br>Measure the resistance between connector (3U) terminals in the test harness U.<br>***Connector & terminal***<br>***(3U) No. 19 — (3U) No. 17:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag rear harness along with body harness. |
| 5 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 17 — Chassis ground:***<br>***(3U) No. 19 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **6**. | Replace the airbag rear harness along with body harness. |
| 6 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# AL:DTC 62 BELT PRETENSIONER LH FAILURE

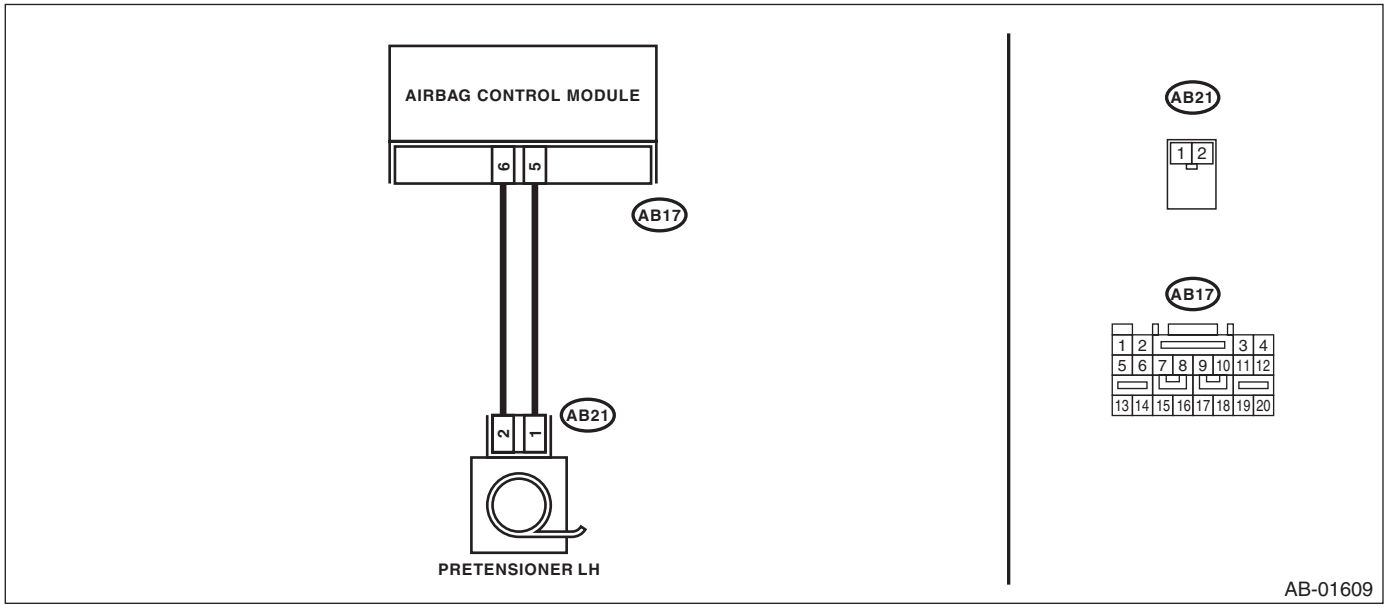
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK SEAT BELT PRETENSIONER.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Connect the connector (1N) in the test harness N to the connector (AB21).<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>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-10, Front Seat Belt.> | Go to step **3**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from test harness.<br>3) Disconnect connector (AB19) from side airbag module (LH).<br>4) Disconnect the connector (AB31) from curtain airbag module (LH).<br>5) Disconnect the connectors (AB17) and (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Measure the resistance between connector (3U) in the test harness U and connector (2N) in the test harness N.<br>***Connector & terminal***<br>***(3U) No. 13 — (2N) No. 2:***<br>***(3U) No. 11 — (2N) No. 1:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).**<br>Measure the resistance between connector (3U) terminals in the test harness U.<br>***Connector & terminal***<br>***(3U) No. 11 — (3U) No. 13:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag rear harness along with body harness. |
| 5 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).**<br>Measure the resistance between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 11 — Chassis ground:***<br>***(3U) No. 13 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **6**. | Replace the airbag rear harness along with body harness. |
| 6 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AM:DTC 65 BELT PRETENSIONER RH FAILURE

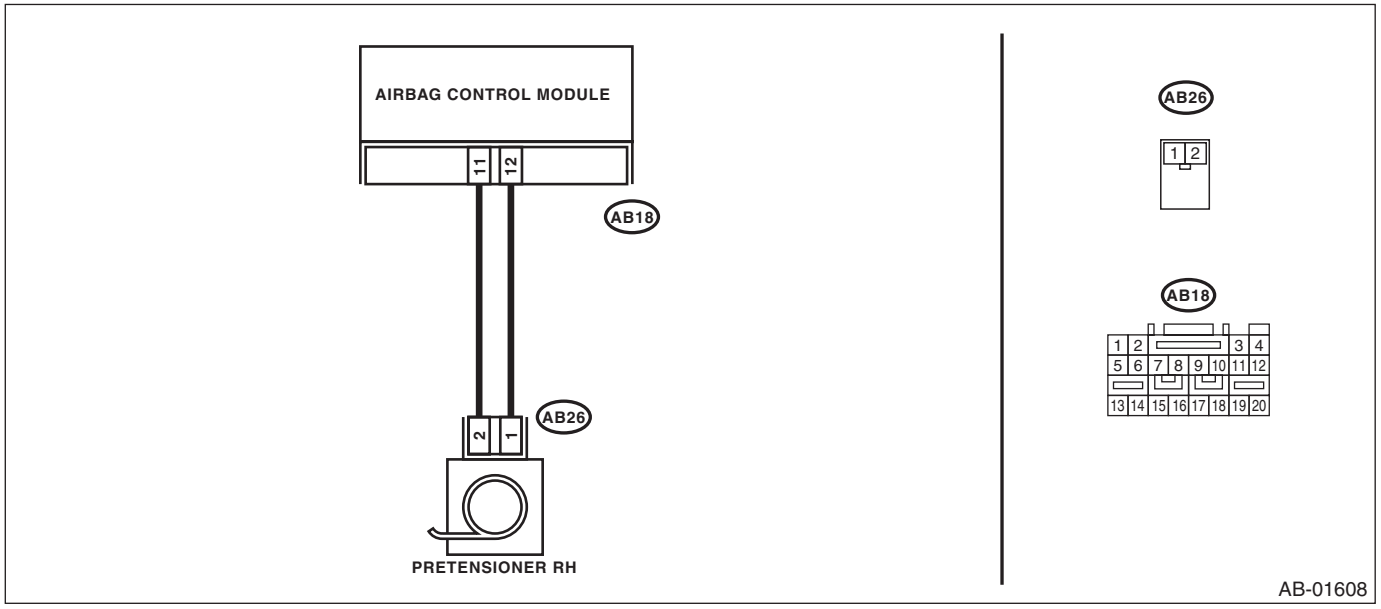
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner RH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK SEAT BELT PRETENSIONER.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Connect the connector (1N) in the test harness N to the connector (AB26).<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>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-10, Front Seat Belt.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from test harness.<br>3) Disconnect connector (AB24) from side airbag module (RH).<br>4) Disconnect the connector (AB33) from curtain airbag module (RH).<br>5) Disconnect the connectors (AB17) and (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Connect the battery ground terminal and turn the ignition switch to ON.<br>8) Measure the voltage between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 17 (+) — Chassis ground (–):***<br>***(3U) No. 19 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AN:DTC 66 BELT PRETENSIONER LH FAILURE

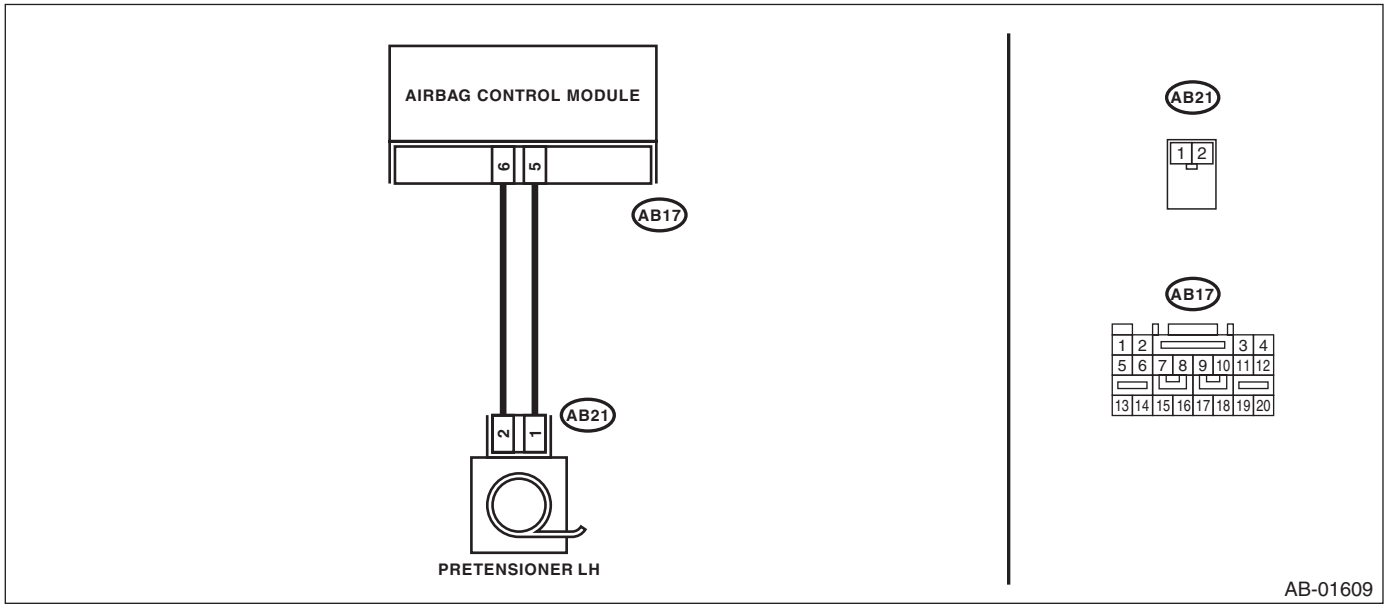
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the airbag control module and the seat belt pretensioner LH. | Is there poor contact? | Replace the airbag rear harness along with body harness. | Go to step **2**. |
| 2 | **CHECK SEAT BELT PRETENSIONER.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Connect the connector (1N) in the test harness N to the connector (AB21).<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>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-10, Front Seat Belt.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (PRETENSIONER HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from test harness.<br>3) Disconnect connector (AB19) from side airbag module (LH).<br>4) Disconnect the connector (AB31) from curtain airbag module (LH).<br>5) Disconnect the connectors (AB17) and (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Connect the battery ground terminal and turn the ignition switch to ON.<br>8) Measure the voltage between connector (3U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(3U) No. 11 (+) — Chassis ground (–):***<br>***(3U) No. 13 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# AO:DTC 71 DRIVER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

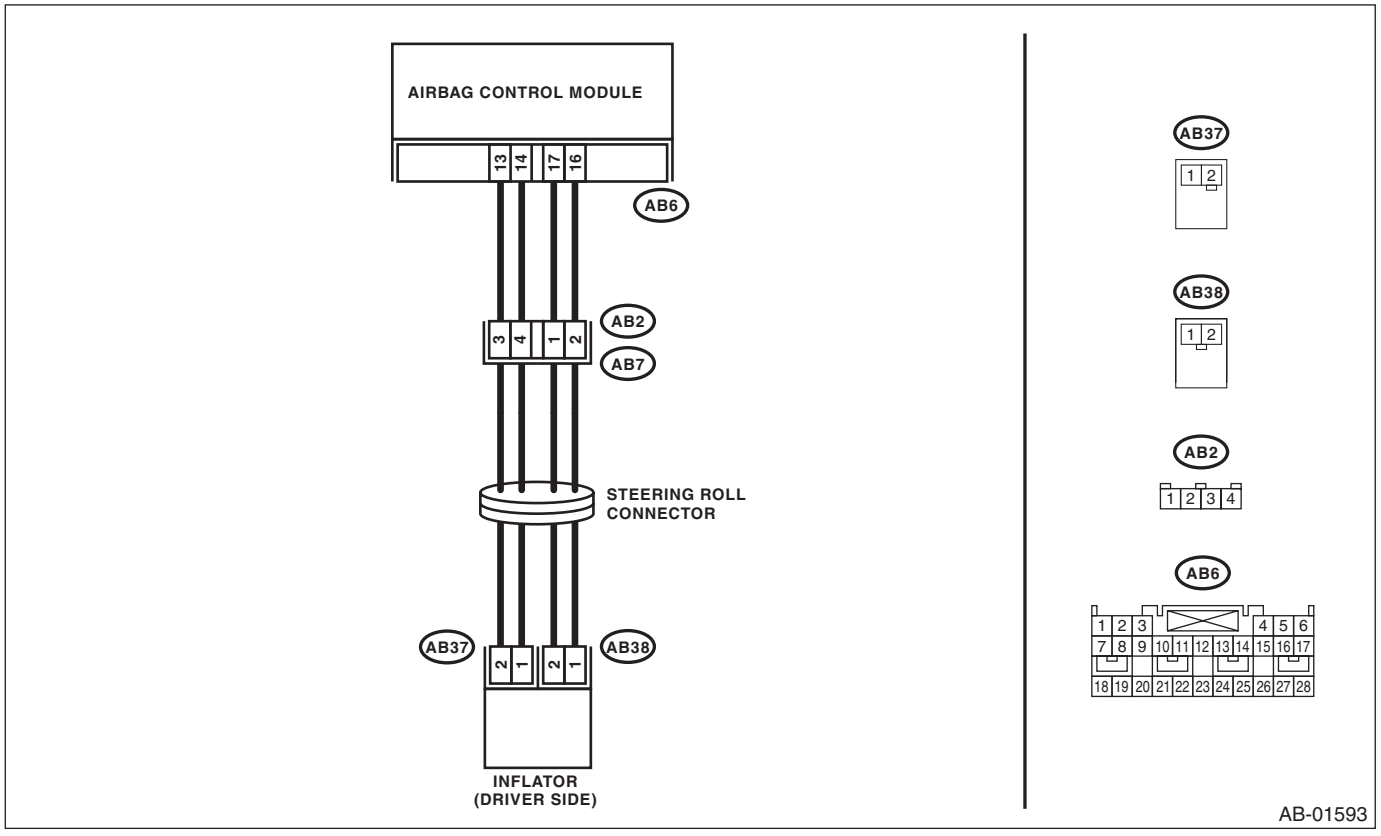
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (driver's side) circuit is open, shorted or shorted to ground.
- Roll connector circuit is open, shorted or shorted to ground.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

**CAUTION:**

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

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the driver's airbag module.<br>3) Connect the connector (1N) in the test harness N to the connector (AB38).<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>5) Connect the connector (1Q) in the test harness Q to connector (AB37).?<br>6) Connect the airbag resistor to the connector (2Q) in the test harness Q.<br>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-15, Driver's Airbag Module.> | Go to step **3**. |
| 3 | **CHECK ROLL CONNECTOR.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the test harness N from connector (AB38).<br>3) Disconnect the test harness Q from connector (AB37).<br>4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>5) Connect the connector (1P) in the test harness P to connector (AB2).<br>6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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-24, Roll Connector.> | Go to step **4**. |
| 4 | **CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel side cover on the passenger's side and disconnect the connectors (AB10) and (AB9).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P.<br>***Connector & terminal***<br>***(2U) No. 2 — (2P) No. 1:***<br>***(2U) No. 4 — (2P) No. 2:***<br>***(2U) No. 8 — (3P) No. 3:***<br>***(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).**<br>Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 2 — (2U) No. 4:***<br>***(2U) No. 4 — Chassis ground:***<br>***(2U) No. 2 — Chassis ground:***<br>***(2U) No. 8 — (2U) No. 12:***<br>***(2U) No. 8 — Chassis ground:***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# AP:DTC 72 PASSENGER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

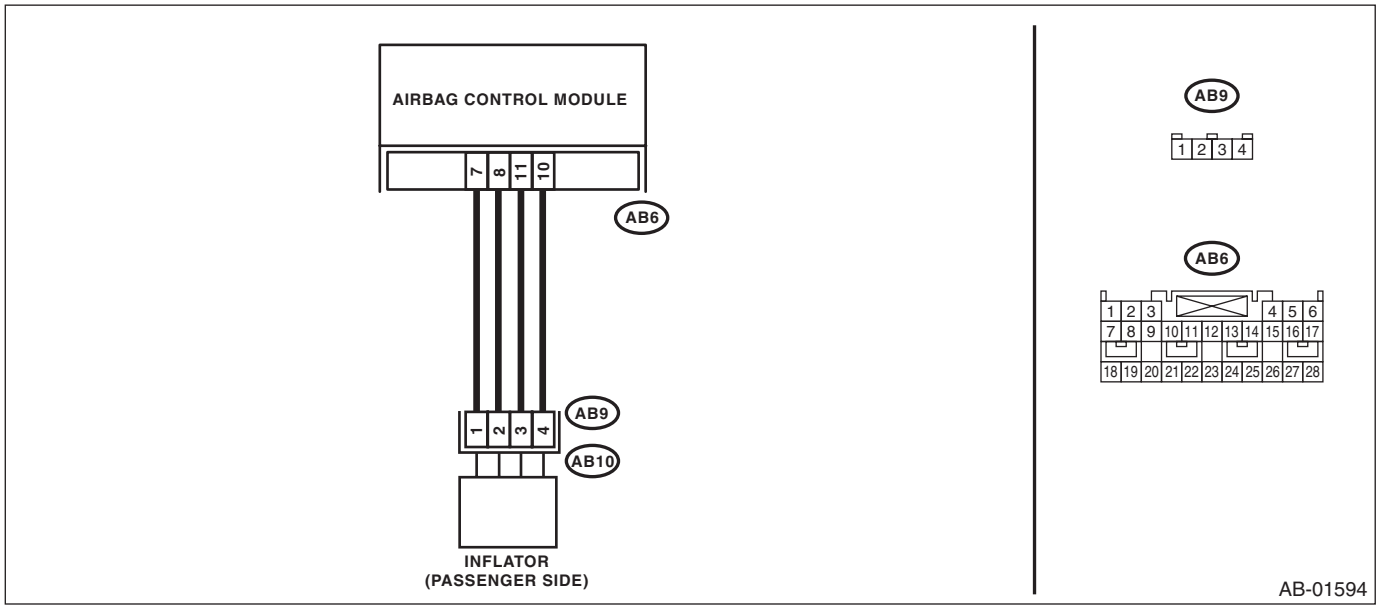
- Airbag main harness circuit is open, shorted or shorted to ground.
- Airbag module harness (Passenger's side) circuit is open, shorted or shorted to ground.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

**CAUTION:**

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

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

**WIRING DIAGRAM:**




| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the instrument panel side cover on the passenger's side and disconnect the connector (AB10) from (AB9).<br>3) Connect the connector (1P) in the test harness P to connector (AB9).<br>4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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 passenger's airbag module. <Ref. to AB-16, Passenger's Airbag Module.> | Go to step **3**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Measure the resistance between connector (2U) in the test harness U and connectors (2P) and (3P) in the test harness P.<br>***Connector & terminal***<br>***(2U) No. 3 — (2P) No. 1:***<br>***(2U) No. 5 — (2P) No. 2:***<br>***(2U) No. 9 — (3P) No. 3:***<br>***(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).**<br>Measure the resistance between connectors (2U) in the test harness U, and between connector (2U) and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 3 — (2U) No. 5:***<br>***(2U) No. 3 — Chassis ground:***<br>***(2U) No. 5 — Chassis ground:***<br>***(2U) No. 9 — (2U) No. 13:***<br>***(2U) No. 9 — Chassis ground:***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **6**. |
| 6 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# AQ:DTC 75 DRIVER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

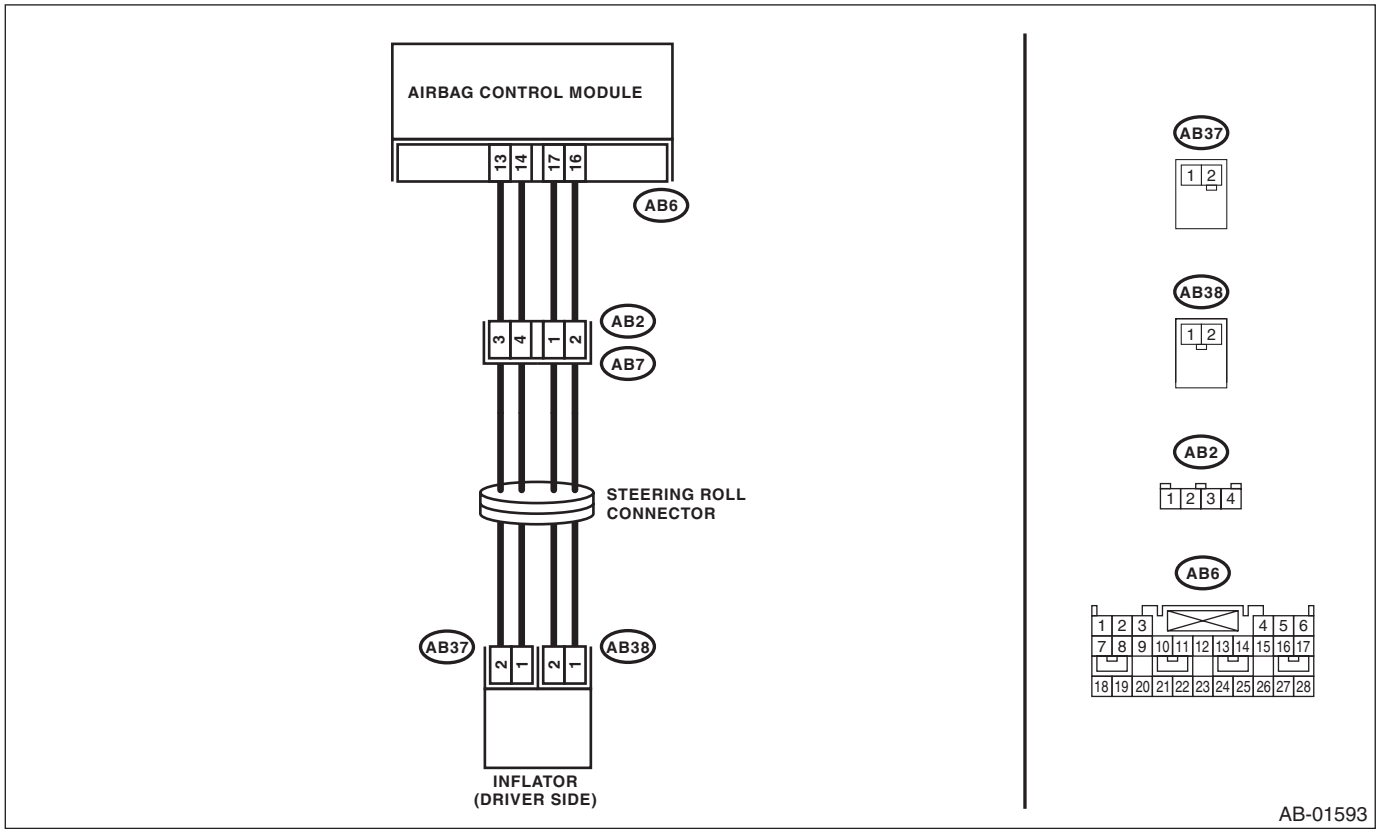
- Airbag main harness circuit (Driver's side) is shorted to power supply.
- Airbag module harness circuit (Driver's side) is shorted to power supply.
- Roll connector is shorted to power supply.
- Driver's airbag module is faulty.
- Airbag control module is faulty.

**CAUTION:**

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

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the driver's airbag module.<br>3) Connect the connector (AB38) to the connector (1N) in the test harness N.<br>4) Connect the airbag resistor to the connector (2N) of test harness N.<br>5) Connect the connector (1Q) in the test harness Q to connector (AB37).<br>6) Connect the airbag resistor to the connector (2Q) in the test harness Q.<br>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-15, Driver's Airbag Module.> | Go to step **3**. |
| 3 | **CHECK ROLL CONNECTOR.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the test harness N from connector (AB38).<br>3) Disconnect the test harness Q from connector (AB37).<br>4) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>5) Connect the connector (1P) in the test harness P to connector (AB2).<br>6) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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-24, Roll Connector.> | Go to step **4**. |
| 4 | **CHECK AIRBAG MAIN HARNESS (DRIVER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel side cover on the passenger's side and disconnect the connectors (AB10) and (AB9).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Connect the battery ground terminal and turn the ignition switch to ON. (engine OFF)<br>6) Measure the voltage between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 4 (+) — Chassis ground (–):***<br>***(2U) No. 2 (+) — Chassis ground (–):***<br>***(2U) No. 8 (+) — Chassis ground (–):***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **6**. |
| 6 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AR:DTC 76 PASSENGER'S AIRBAG FAILURE

**DTC DETECTING CONDITION:**

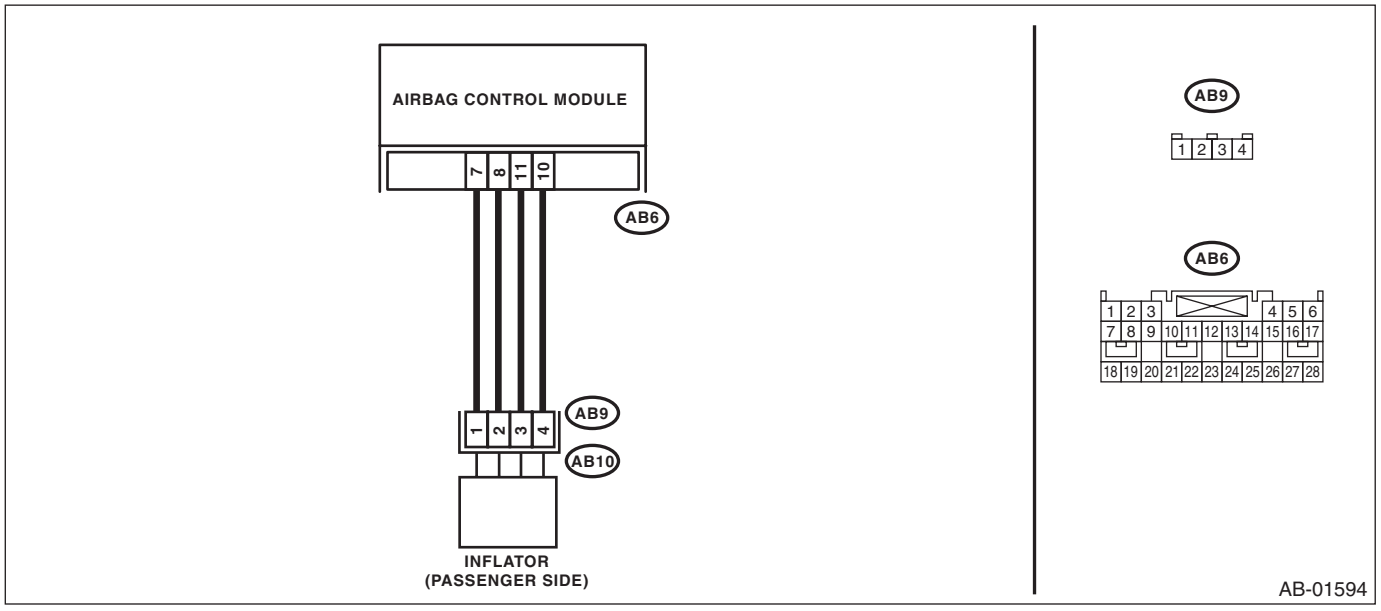
- Airbag main harness circuit (Passenger's side) is shorted to power supply.
- Airbag module harness circuit (Passenger's side) is shorted to power supply.
- Passenger's airbag module is faulty.
- Airbag control module is faulty.

**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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Remove the instrument panel side cover on the passenger's side and disconnect the connector (AB10) from (AB9).<br>3) Connect the connector (1P) in the test harness P to connector (AB9).<br>4) Connect the airbag resistor to the connectors (2P) and (3P) of test harness P.<br>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 passenger's airbag module. <Ref. to AB-16, Passenger's Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG MAIN HARNESS (PASSENGER'S AIRBAG HARNESS).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the airbag resistor from the connectors (2P) and (3P) of test harness P.<br>3) Remove the instrument panel lower cover and disconnect the connector (AB7) from (AB2).<br>4) Disconnect the connector (AB6) from the airbag control module, and connect the connector (1U) in the test harness U.<br>5) Measure the voltage between connector (2U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(2U) No. 3 (+) — Chassis ground (–):***<br>***(2U) No. 5 (+) — Chassis ground (–):***<br>***(2U) No. 9 (+) — Chassis ground (–):***<br>***(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.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# AS:DTC 91 CURTAIN AIRBAG MODULE RH FAILURE

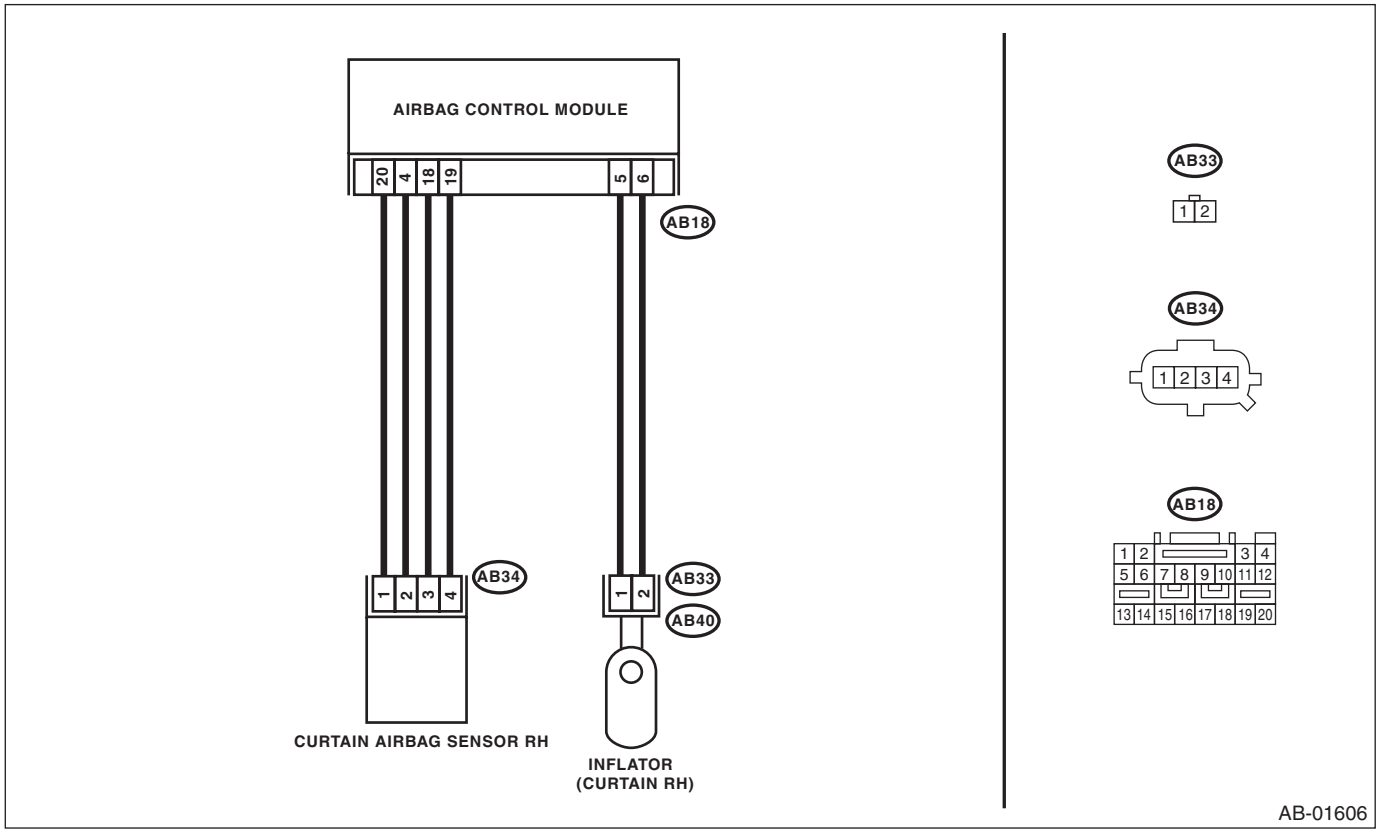
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN 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**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK CURTAIN AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB33) and (AB40), and connect the connector (1F) in test harness F to connector (AB33).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-19, Curtain Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Disconnect connector (AB24) from side airbag module (RH).<br>4) Disconnect the airbag resistor from test harness F.<br>5) Disconnect the connector (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Measure the resistance between connector (5U) in the test harness U and connector (3F) in the test harness F.<br>***Connector & terminal***<br>***(5U) No. 6 — (3F) No. 4:***<br>***(5U) No. 8 — (3F) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).**<br>Measure the resistance between connector (5U) terminals in the test harness U.<br>***Connector & terminal***<br>***(5U) No. 6 — (5U) No. 8:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag rear harness along with body harness. |
| 5 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).**<br>Measure the resistance between connector (5U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(5U) No. 6 — Chassis ground:***<br>***(5U) No. 8 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **6**. | Replace the airbag rear harness along with body harness. |
| 6 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# AT:DTC 92 CURTAIN AIRBAG MODULE LH FAILURE

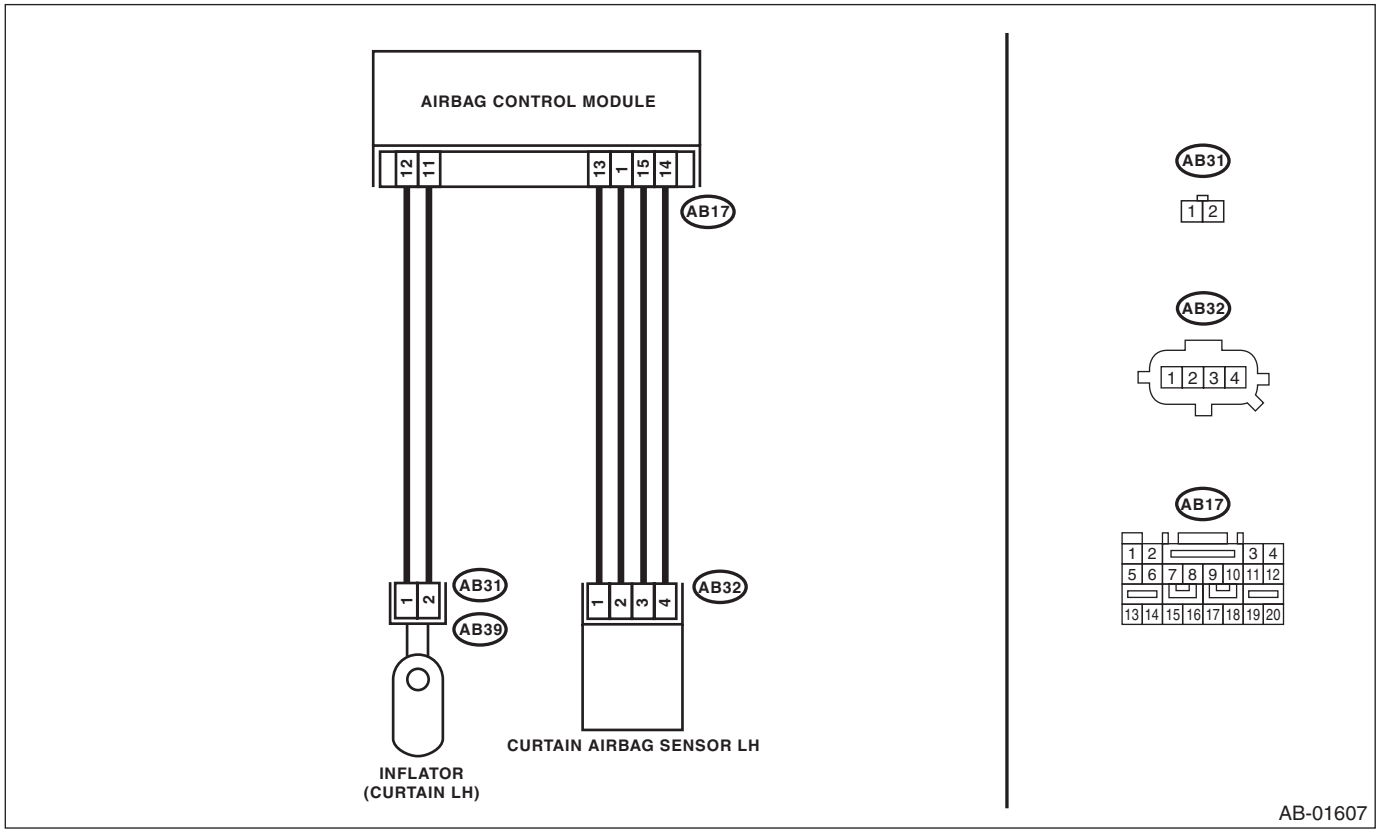
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK CURTAIN AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB31) and (AB39), and connect the connector (1F) in test harness F to connector (AB31).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-19, Curtain Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Disconnect connector (AB19) from side airbag module (LH).<br>4) Disconnect the airbag resistor from test harness F.<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Measure the resistance between connector (5U) in the test harness U and connector (3F) in the test harness F.<br>***Connector & terminal***<br>***(5U) No. 1 — (3F) No. 3:***<br>***(5U) No. 3 — (3F) No. 4:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).**<br>Measure the resistance between connector (5U) terminals in the test harness U.<br>***Connector & terminal***<br>***(5U) No. 1 — (5U) No. 3:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag rear harness along with body harness. |
| 5 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).**<br>Measure the resistance between connector (5U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(5U) No. 1 — Chassis ground:***<br>***(5U) No. 3 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **6**. | Replace the airbag rear harness along with body harness. |
| 6 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

## AU:DTC 95 CURTAIN AIRBAG MODULE RH FAILURE

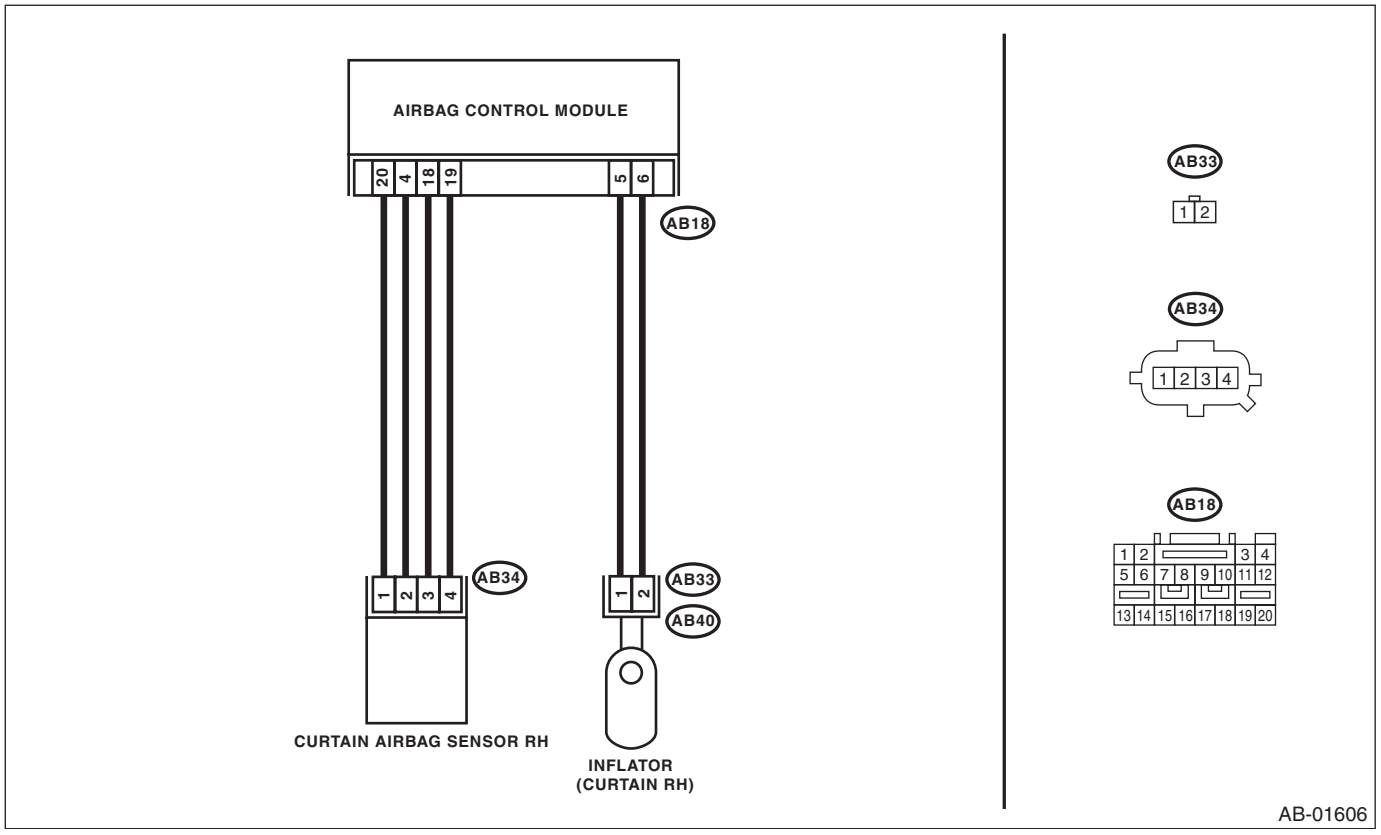
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB33) and (AB40), and connect the connector (1F) in test harness F to connector (AB33).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-19, Curtain Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS RH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB26) from seat belt pretensioner (RH).<br>3) Disconnect connector (AB24) from side airbag module (RH).<br>4) Disconnect the airbag resistor from test harness F.<br>5) Disconnect the connector (AB18) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB18).<br>7) Connect the battery ground terminal and turn the ignition switch to ON.<br>8) Measure the voltage between connector (5U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(5U) No. 6 (+) — Chassis ground (–):***<br>***(5U) No. 8 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# AV:DTC 96 CURTAIN AIRBAG MODULE LH FAILURE

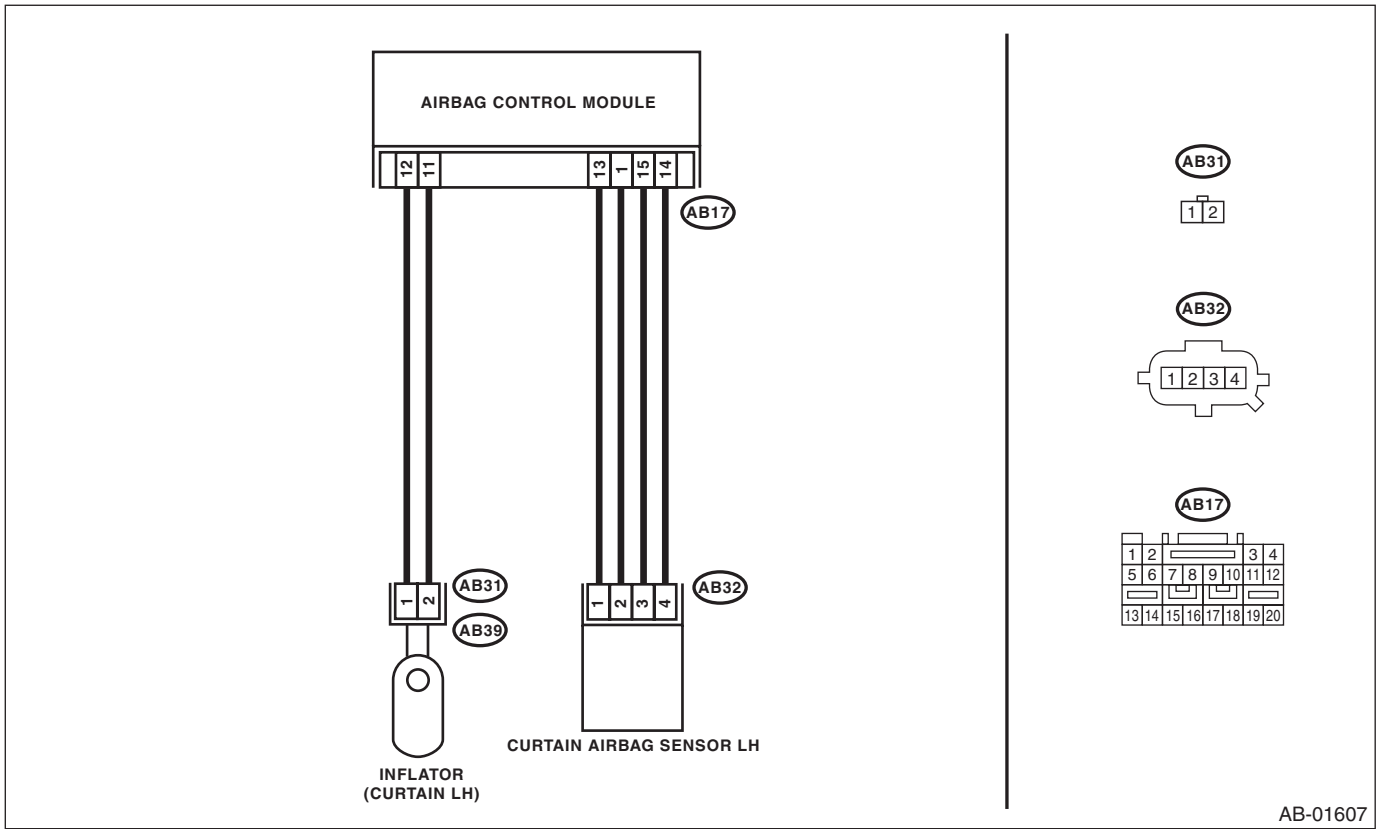
**DTC DETECTING CONDITION:**

- 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.**
**• When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.**
**• When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.**
**• When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.**

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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 SIDE AIRBAG MODULE.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connectors (AB31) and (AB39), and connect the connector (1F) in test harness F to connector (AB31).<br>3) Connect the airbag resistor to the connector (3F) of test harness F.<br>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-19, Curtain Airbag Module.> | Go to step **3**. |
| 3 | **CHECK AIRBAG REAR HARNESS (CURTAIN AIRBAG MODULE HARNESS LH).**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the connector (AB21) from seat belt pretensioner (LH).<br>3) Disconnect connector (AB19) from side airbag module (LH).<br>4) Disconnect the airbag resistor from test harness F.<br>5) Disconnect the connector (AB17) from airbag control module.<br>6) Connect the connector (1U) in the test harness U to connector (AB17).<br>7) Connect the battery ground terminal and turn the ignition switch to ON.<br>8) Measure the voltage between connector (5U) in the test harness U and chassis ground.<br>***Connector & terminal***<br>***(5U) No. 1 (+) — Chassis ground (–):***<br>***(5U) No. 3 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **4**. | Replace the airbag rear harness along with body harness. |
| 4 | **CHECK AIRBAG CONTROL MODULE.**<br>1) Connect all connectors.<br>2) Erase the memory.<br>3) Perform the Inspection Mode.<br>4) Read the DTC. | Is the same DTC displayed? | Replace the airbag control module. <Ref. to AB-21, Airbag Control Module.> | Go to step **5**. |
| 5 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other DTC displayed? | Check DTC using "List of Diagnostic Trouble Code (DTC)". <Ref. to AB(diag)-45, List of Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

# OCCUPANT DETECTION SYSTEM (DIAGNOSTICS)

# OD(diag)


| | | Page |
|---|---|---|
| 1. | Basic Diagnostic Procedure | 2 |
| 2. | Check List for Interview | 3 |
| 3. | General Description | 4 |
| 4. | Electrical Component Location | 13 |
| 5. | Airbag Connector | 14 |
| 6. | Control Module I/O Signal | 15 |
| 7. | Subaru Select Monitor | 16 |
| 8. | Read Diagnostic Trouble Code (DTC) | 19 |
| 9. | Inspection Mode | 20 |
| 10. | Clear Memory Mode | 21 |
| 11. | Airbag Warning Light Illumination Pattern | 22 |
| 12. | Passenger's Airbag ON/OFF Indicator Light Illumination Pattern | 23 |
| 13. | List of Diagnostic Trouble Code (DTC) | 24 |
| 14. | Diagnostic Procedure with Diagnostic Trouble Code (DTC) | 25 |

# 1. General Description

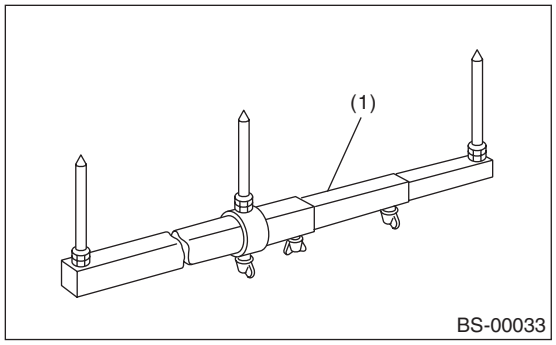
## A: PREPARATION TOOL

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

# 2. Datum Dimensions

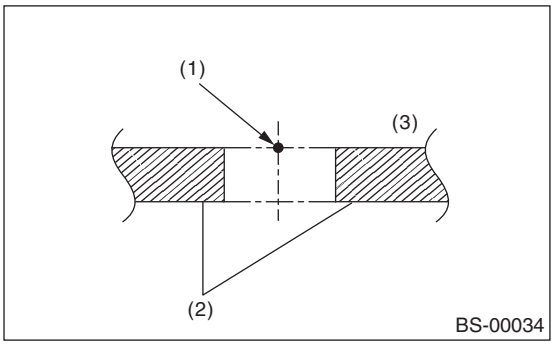
## A: MEASUREMENT

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.



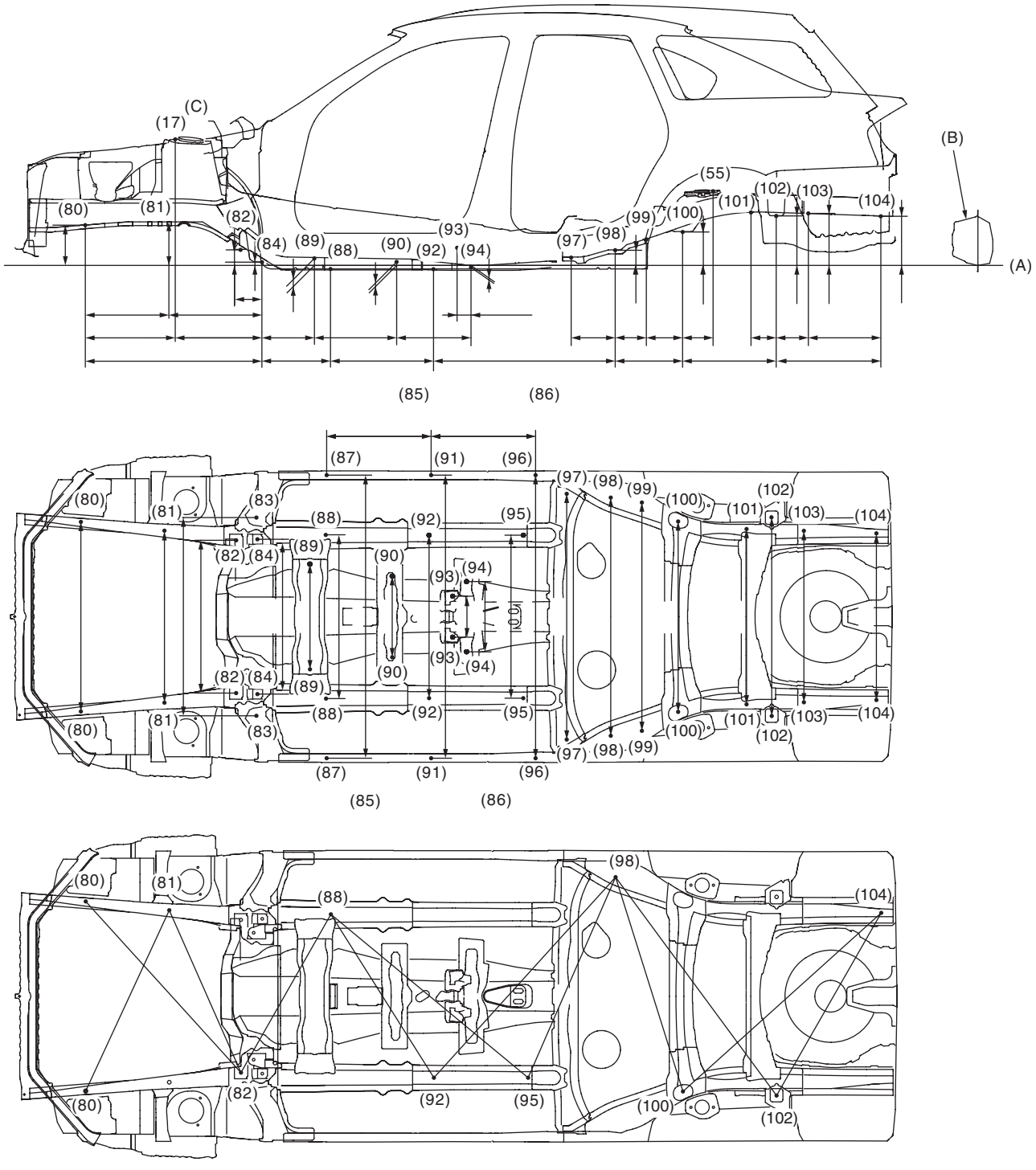

(1) Datum points
(2) Body panel
(3) Outside

### 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).
• Diagonal dimensions are the actual dimensions between reference points. The values in brackets are projected dimensions for reference.

# Datum Dimensions

Unit: mm




BS-01530

# Datum Dimensions

(A) Standard line
(B) Side sill
(C) Upper face

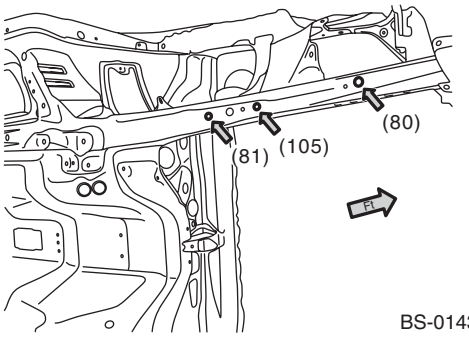
(80) Gauge hole (symmetrical)
(81) Front crossmember mounting hole
(82) (symmetrical), Lower surface rear
(83) Strut mount mounting hole (symmetrical)
(84) Strut mount mounting hole (symmetrical)
(85) Transmission crossmember mounting hole (symmetrical)
(86) Drain hose mounting hole (symmetrical)
(87) Under cover mounting hole (symmetrical)
(88) Under cover mounting hole (symmetrical)
(89) Transmission crossmember mounting hole (symmetrical)
(90) Gauge hole (symmetrical)
(91) Under cover mounting hole (symmetrical)
(92) Under cover mounting hole (symmetrical)
(93) Center bearing mounting hole (symmetrical)
(94) Exhaust cover mounting hole (symmetrical)
(95) Weight reduction hole (symmetrical)
(96) Under cover mounting hole (symmetrical)
(97) Fuel protector mounting hole (symmetrical)
(98) Trailing arm mounting hole (symmetrical)
(99) Trailing arm mounting hole (symmetrical)
(100) Rear suspension crossmember mounting hole (symmetrical)
(101) Canister hose mounting hole (symmetrical)
(102) Rear suspension crossmember mounting hole (symmetrical)
(103) Gauge hole (symmetrical)
(104) Weight reduction hole (symmetrical)

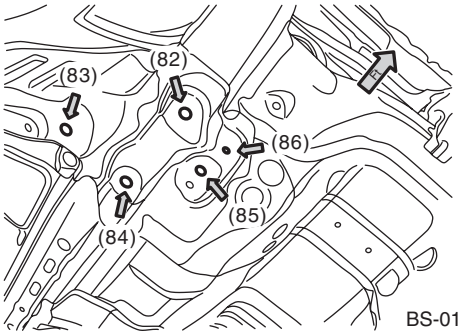
# Datum Dimensions

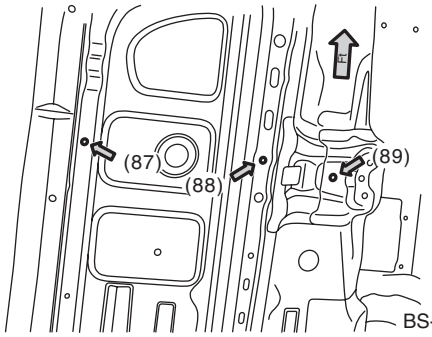
| Point of measurement | Dimension mm (in) |
|---|---|
| Datum line to (80) | 198 (7.80) |
| Datum line to (81) | 212 (8.35) |
| Datum line to (82) | 77 (3.03) |
| Datum line to (84) | 17(0.07) |
| Datum line to (89) | (4AT and MT) 35 (1.38)<br>(5AT) 56 (2.20) |
| Datum line to (90) | 18 (0.71) |
| Datum line to (94) | –9 (–0.35) |
| Datum line to (98) | 75 (2.95) |
| Datum line to (100) | 164 (6.46) |
| Datum line to (102) | 243 (9.57) |
| Datum line to (103) | 255 (10.04) |
| Datum line to (104) | 241 (9.49) |
| (17) to (80) | 439 (17.28) |
| (17) to (84) | 423 (16.65) |
| (80) to (81) | 408 (16.06) |
| (80) to (84) | 862 (33.94) |
| (81) to (84) | 454 (17.87) |
| (82) to (84) | 104 (4.09) |
| (84) to (88) | 335 (13.19) |
| (84) to (89) | (4AT and MT) 257 (10.12)<br>(5AT) 357 (14.06) |
| (88) to (92) | 503 (19.80) |
| (89) to (90) | 302 (11.89) |
| (90) to (94) | 363 (14.29) |
| (92) to (98) | 887 (34.92) |
| (93) to (94) | 68 (2.68) |
| (97) to (98) | 215 (8.46) |
| (98) to (99) | 152 (5.98) |
| (98) to (100) | 329 (12.95) |
| (99) to (100) | 177 (6.97) |
| (100) to (55) | 149 (5.87) |
| (100) to (102) | 457 (17.99) |
| (101) to (102) | 123 (4.84) |
| (102) to (103) | 157 (6.18) |
| (102) to (104) | 505 (19.88) |
| (103) to (104) | 348 (13.70) |
| (80) RH to (80) LH | 926 (36.46) |
| (81) RH to (81) LH | 840 (33.07) |
| (82) RH to (82) LH | 746 (29.37) |
| (83) RH to (83) LH | 968 (38.11) |
| (84) RH to (84) LH | 756 (29.76) |
| (87) RH to (87) LH | 1,382 (54.41) |
| (87) to (91) | 510 (20.08) |
| (88) RH to (88) LH | 800 (31.50) |
| (89) RH to (89) LH | (4AT and MT) 529 (20.83)<br>(5AT) 433 (17.05) |
| (90) RH to (90) LH | 396 (15.59) |
| (91) RH to (91) LH | 1,382 (54.41) |
| (91) to (96) | 510 (20.08) |

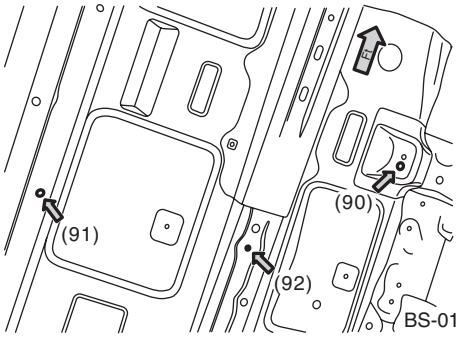
| Point of measurement | Dimension mm (in) |
|---|---|
| (92) RH to (92) LH | 796 (31.34) |
| (93) RH to (93) LH | 200 (7.87) |
| (94) RH to (94) LH | 343 (13.50) |
| (95) RH to (95) LH | 796 (31.34) |
| (96) RH to (96) LH | 1,382 (54.51) |
| (97) RH to (97) LH | 1,200 (47.24) |
| (98) RH to (98) LH | 1,163 (45.49) |
| (99) RH to (99) LH | 1,115 (43.90) |
| (100) RH to (100) LH | 930 (36.61) |
| (101) RH to (101) LH | 856 (33.70) |
| (102) RH to (102) LH | 970 (38.19) |
| (103) RH to (103) LH | 836 (32.91) |
| (104) RH to (104) LH | 814 (32.05) |
| (85) | Height 86 (3.39),<br>Width 620 (24.41) |
| (86) | Height 117 (4.61),<br>Width 600 (23.62) |

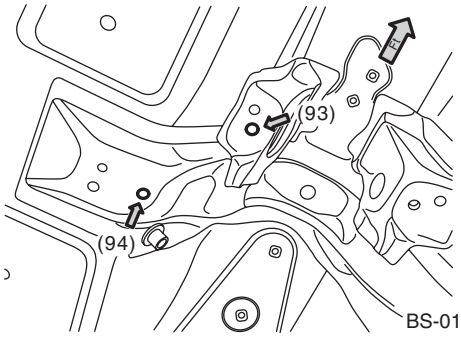
| Point of measurement | Dimension/Projected Dimensions For Reference mm (in) |
|---|---|
| (80) RH to (82) LH | 1,135 (44.68)/1,128 (44.41) |
| (80) LH to (81) RH | 973 (38.31)/973 (38.31) |
| (81) RH to (82) LH | 877 (34.53)/867 (34.13) |
| (82) LH to (88) LH | 894 (35.20)/889 (35.00) |
| (88) RH to (92) LH | 943 (37.13)/943 (37.13) |
| (88) RH to (95) LH | 1,251 (49.25)/1,251 (49.25) |
| (92) LH to (98) RH | 1,325 (52.17)/1,321 (52.01) |
| (95) LH to (98) RH | 1,072 (42.20)/1,069 (42.09) |
| (98) RH to (100) LH | 1,101 (43.35)/1,097 (43.19) |
| (98) RH to (102) LH | 1,335 (52.56)/1,325 (52.17) |
| (100) LH to (104) RH | 1,305 (51.38)/1,303 (51.30) |
| (102) LH to (104) RH | 1,028 (40.47)/1,028 (40.47) |

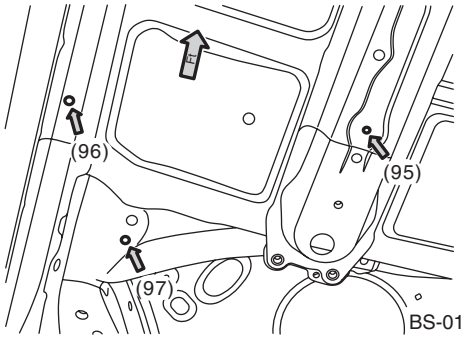


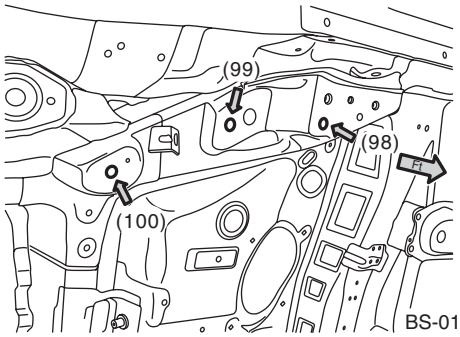



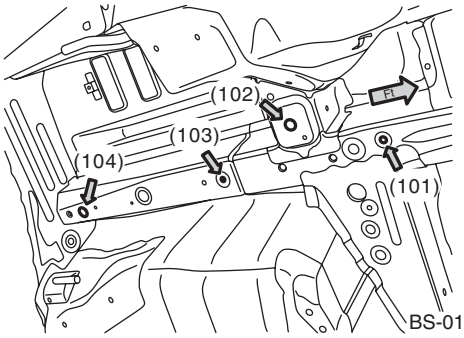



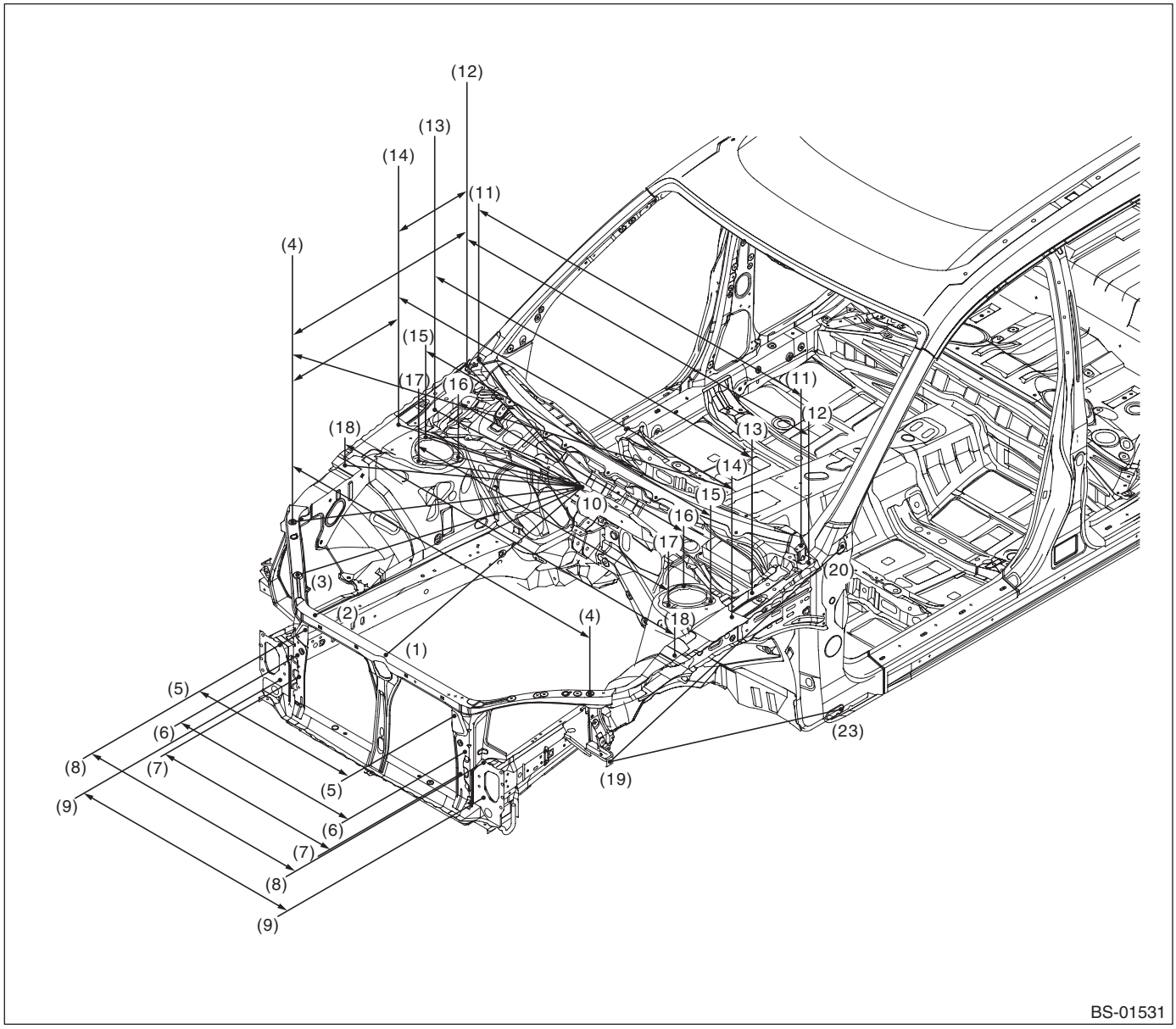




NOTE:
For reference point (17) Strut mounting hole (symmetrical), refer to “Datum Dimensions”. <Ref. to BS-8, FRONT STRUCTURE, MEASUREMENT, Datum Dimensions.>
For reference point (55) Rear suspension mounting hole (symmetrical), refer to “Datum Dimensions”. <Ref. to BS-11, INSIDE, MEASUREMENT, Datum Dimensions.>

## 2. FRONT STRUCTURE

- Common for wagon and sedan model




BS-01531

(1) Repair location hole (body center)
(2) Radiator mounting hole
(3) Headlight mounting hole (symmetrical)
(4) Reinforcement fender mounting hole (symmetrical)
(5) Air conditioner condenser mounting hole (symmetrical)
(6) Beam corner side mounting hole (symmetrical)
(7) Heat insulation cover mounting hole (symmetrical)
(8) Bumper beam mounting hole (symmetrical), upper side
(9) Bumper beam mounting hole (symmetrical), lower side
(10) Cowl panel mounting hole (body center)
(11) Fender mounting hole (symmetrical)
(12) Location hole (symmetrical)
(13) Hood hinge mounting hole (symmetrical), front
(14) Fender extension mounting hole (symmetrical)
(15) Strut mount mounting hole (symmetrical), rear outside
(16) Strut mount mounting hole (symmetrical), rear inside
(17) Strut mount mounting hole (symmetrical), front
(18) Fender mounting hole (symmetrical)
(19) Fender mounting hole (symmetrical)
(20) Fender mounting hole (symmetrical)
(23) Fender mounting hole (symmetrical)

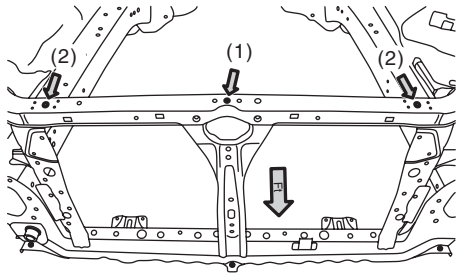
# Datum Dimensions

| Point of measurement | Datum dimension mm (in) |
|---|---|
| (1) — (10) | 893 (35.16) |
| (2) — (10) | 948 (37.32) |
| (3) — (10) | 934 (36.77) |
| (4) — (10) | 918 (36.14) |
| (4) — (4) | 1,314 (51.73) |
| (4) — (12) | 882 (34.72) |
| (4) — (14) | 557 (21.93) |
| (4) RH — (14) LH | 1,498 (58.98) |
| (4) LH — (14) RH | 1,498 (58.98) |
| (5) — (5) | 658 (25.91) |
| (6) — (6) | 740 (29.13) |
| (7) — (7) | 700 (27.56) |
| (8) — (8) | 900 (35.43) |
| (9) — (9) | 900 (35.43) |
| (10) — (11) | 755 (29.72) |
| (10) — (12) | 794 (31.26) |
| (10) — (13) | 707 (27.83) |
| (10) — (14) | 745 (29.33) |
| (10) — (15) | 639 (25.16) |
| (10) — (16) | 512 (20.16) |
| (10) — (17) | 585 (23.03) |
| (10) — (18) | 804 (31.65) |
| (11) — (11) | 1,422 (55.98) |
| (12) — (12) | 1,508 (59.37) |
| (12) — (14) | 326 (12.83) |
| (13) — (13) | 1,402 (55.20) |
| (14) — (14) | 1,472 (57.95) |
| (15) — (15) | 1,258 (49.53) |
| (16) — (16) | 995 (39.17) |
| (17) — (17) | 1,104 (43.46) |
| (18) — (18) | 1,456 (57.32) |
| (19) — (20) | 1,064 (41.89) |
| (19) — (23) | 1,035 (40.75) |

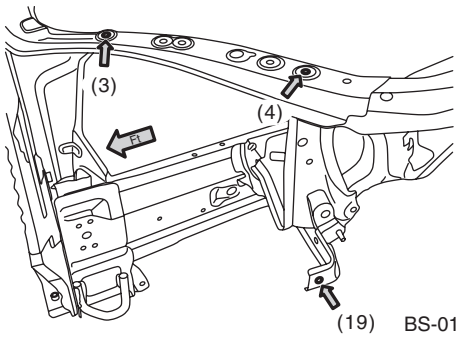
# Datum Dimensions

NOTE:

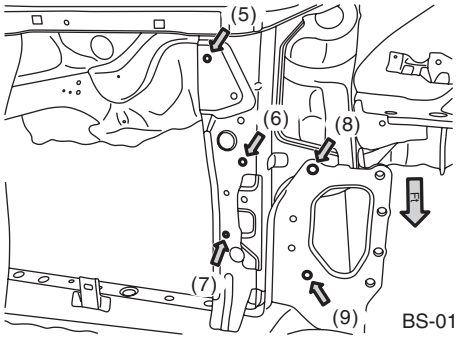
- The reference points (1) and (10) are at the body center, while the other points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.



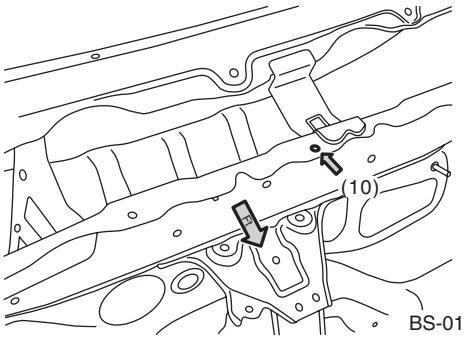
BS-01445



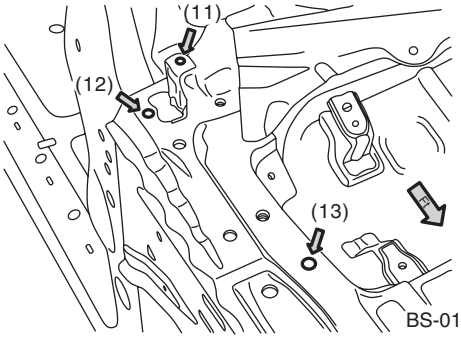
BS-01446



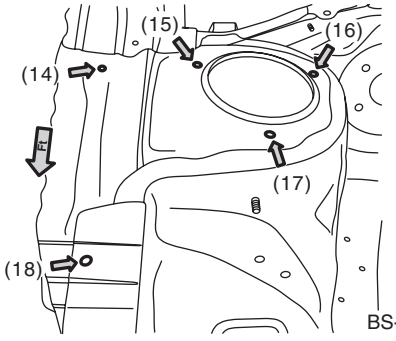
BS-01447



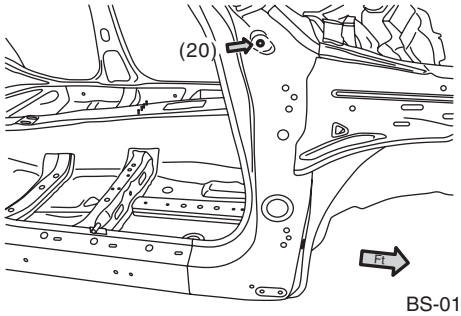
BS-01491



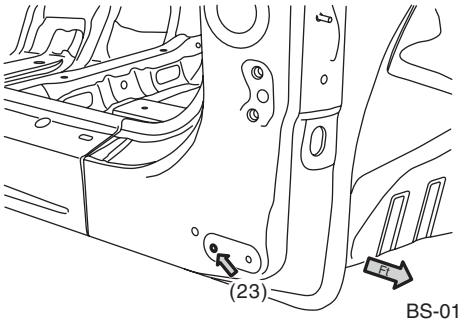
BS-01492



BS-01450



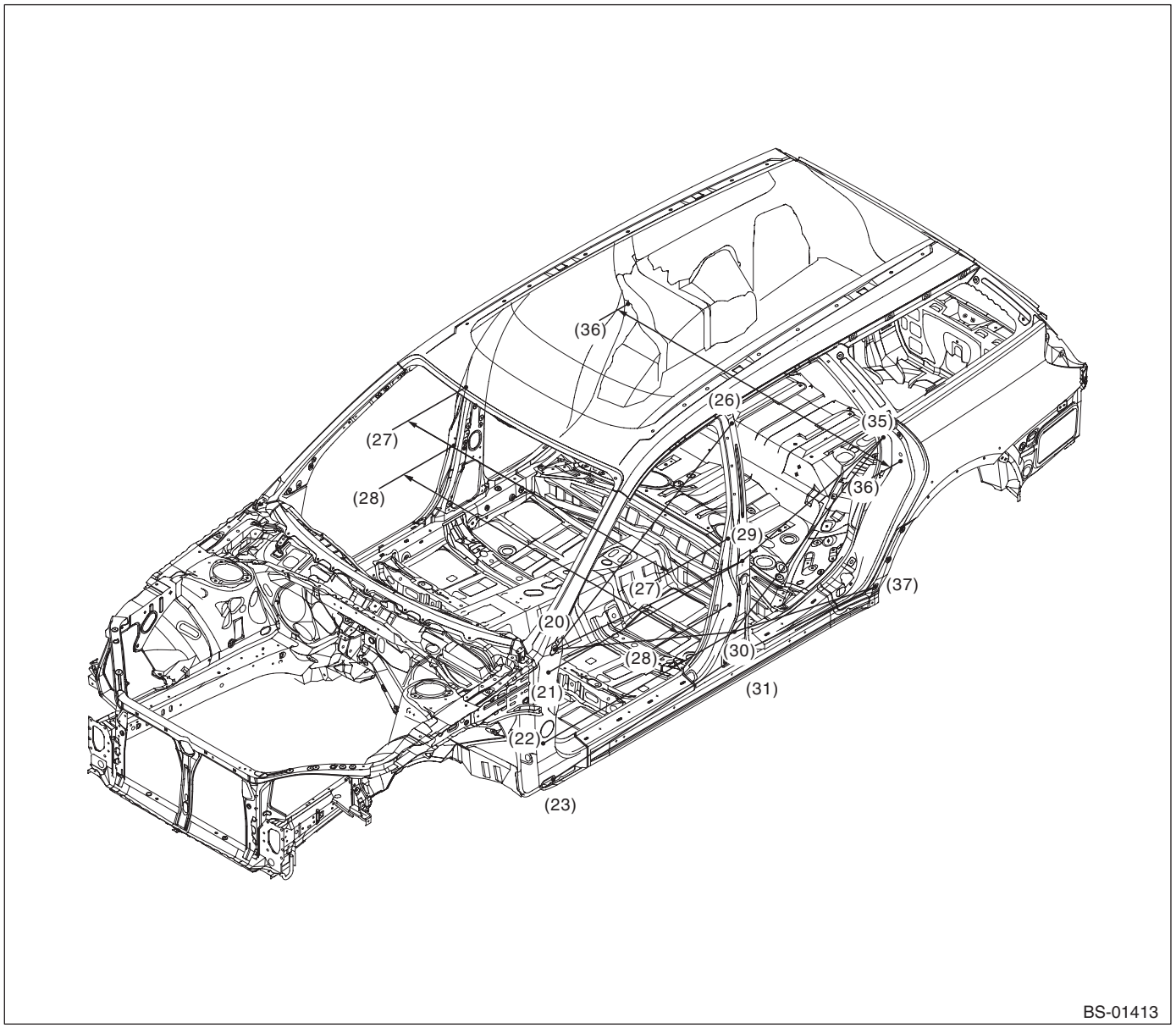
BS-01451



BS-01452

## 3. INSIDE

- Common for wagon and sedan model, 1




(20) Fender mounting hole (symmetrical)

(21) Front door hinge upper mounting hole (symmetrical), upper side

(22) Front door hinge lower mounting hole (symmetrical), upper side

(23) Fender mounting hole (symmetrical)

(26) Gauge hole (symmetrical)

(27) Weatherstrip mounting hole (symmetrical)

(28) Front door striker mounting hole (symmetrical)

(29) Rear door hinge upper mounting hole (symmetrical)

(30) Rear door hinge lower mounting hole (symmetrical)

(31) Gauge hole (symmetrical)

(35) Weatherstrip mounting hole (symmetrical)

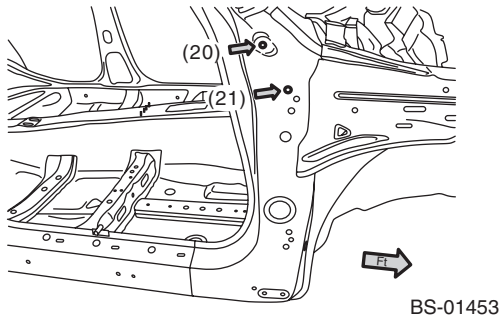
(36) Rear door striker mounting hole (symmetrical)

(37) Protector mounting hole (symmetrical)

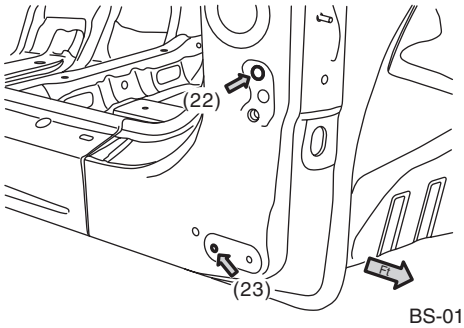
# Datum Dimensions

| Point of measurement | Datum dimension mm (in) |
|---|---|
| (20) — (26) | 1,232 (48.50) |
| (20) — (29) | 1,034 (40.71) |
| (20 — (30) | 1,066 (41.97) |
| (21) — (29) | 1,080 (42.52) |
| (22) — (30) | 1,055 (41.54) |
| (23) — (31) | 1,070 (42.13) |
| (27) — (27) | 1,448 (57.01) |
| (28) — (28) | 1,523 (59.96) |
| (29) — (35) | 863 (33.98) |
| (30 — (35) | 1,002 (39.45) |
| (30) — (37) | 753 (29.65) |
| (31) — (37) | 679 (26.73) |
| (36) — (36) | 1,506 (59.29) |

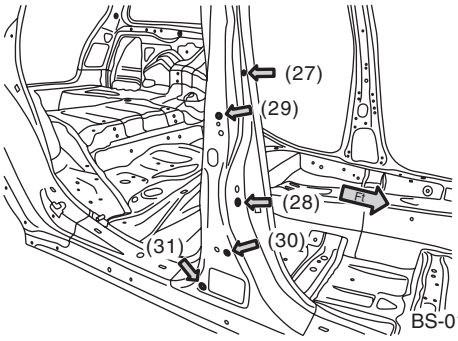
NOTE:
- All reference points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.



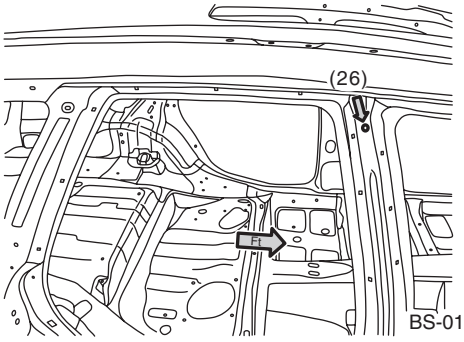
BS-01453



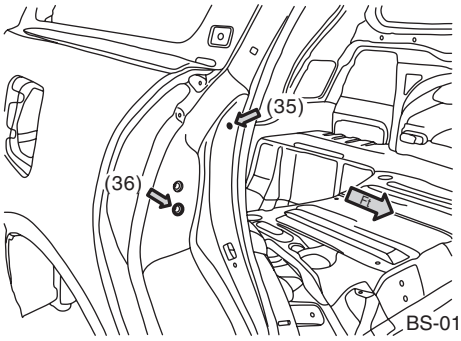
BS-01454



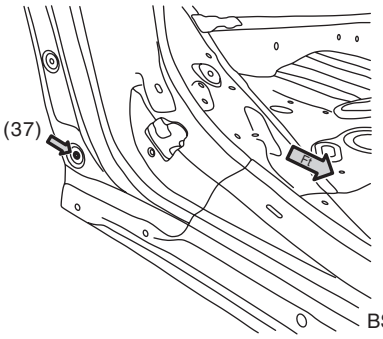
BS-01493



BS-01456



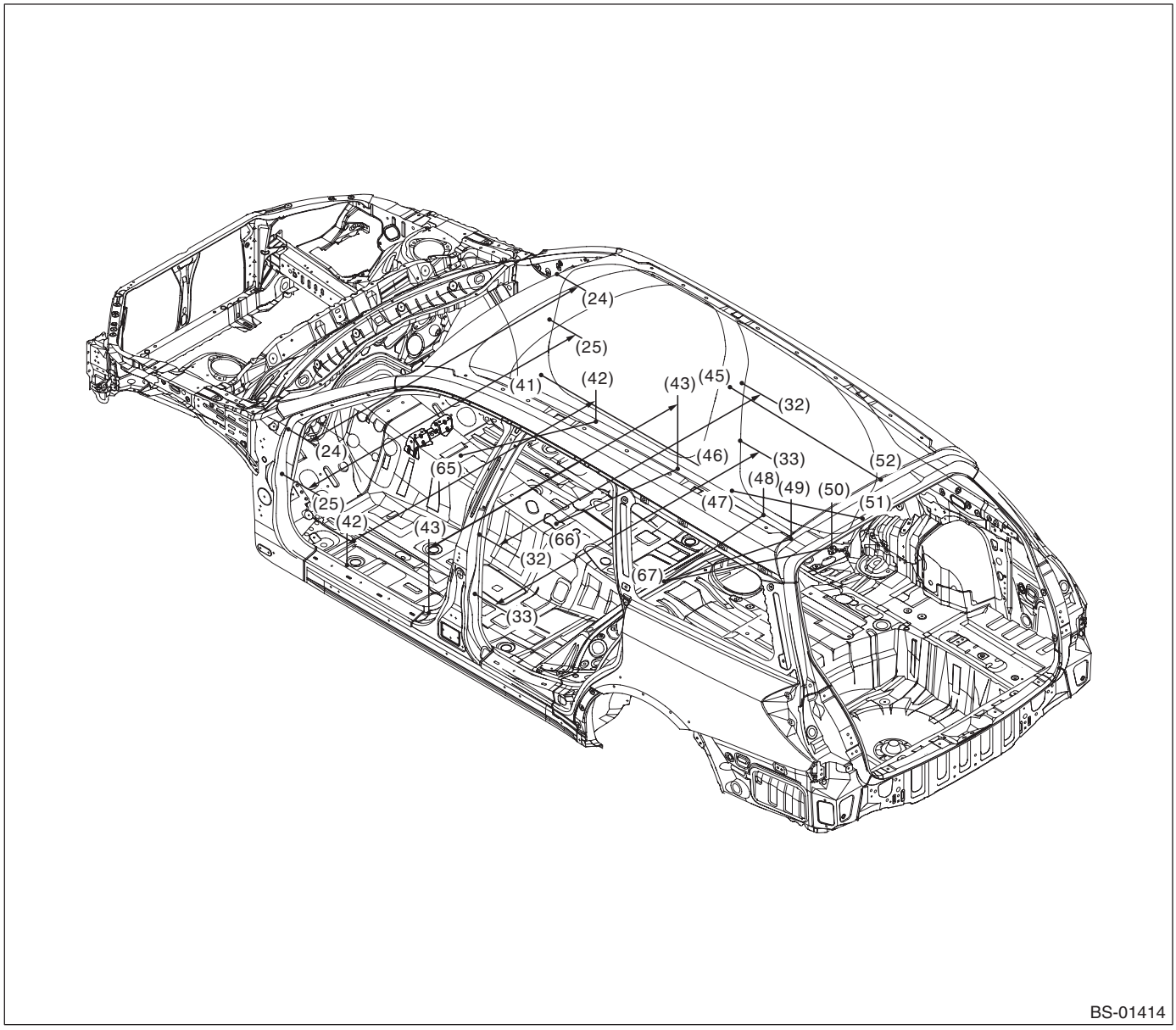
BS-01457



BS-01458

# Datum Dimensions

- Common for wagon and sedan model, 2



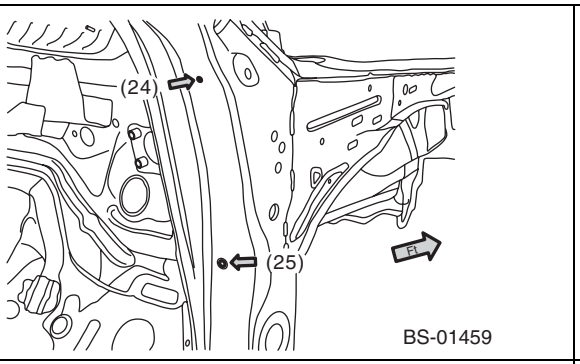

(24) Weatherstrip mounting hole (symmetrical)
(25) Front door checker mounting hole (symmetrical)
(32) Weatherstrip mounting hole (symmetrical)
(33) Rear door checker mounting hole (symmetrical)
(41) Side sill cover mounting hole (symmetrical)
(42) Harness clip mounting hole (symmetrical)
(43) Harness clip mounting hole (symmetrical)
(45) Trim clip mounting hole (symmetrical)
(46) Trim clip mounting hole (symmetrical)
(47) Harness clip mounting hole (symmetrical)
(48) Harness clip mounting hole (symmetrical)
(49) Harness clip mounting hole (symmetrical)
(50) Side sill cover mounting hole (symmetrical)
(51) Gauge hole (symmetrical)
(52) Trim clip mounting hole (symmetrical)
(65) Airbag unit mounting hole (body center)
(66) Side sill cover mounting hole (symmetrical)
(67) Floor mat mounting hole (body center)

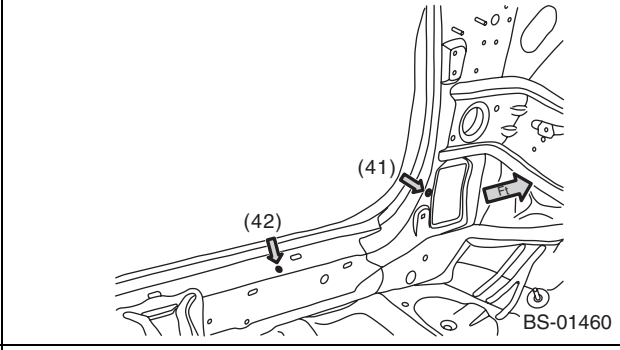
# Datum Dimensions

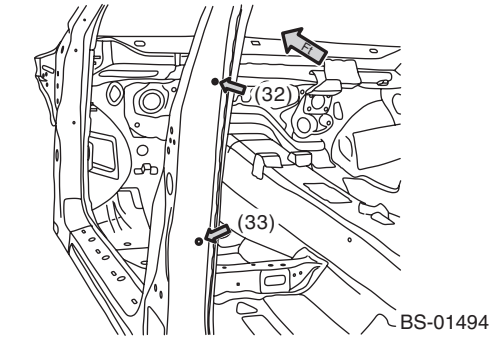
| Point of measurement | Datum dimension mm (in) |
|---|---|
| (24) — (24) | 1,482 (58.35) |
| (25) — (25) | 1,476 (58.11) |
| (32) — (32) | 1,448 (57.01) |
| (33) — (33) | 1,464 (57.64) |
| (41) — (46) | 863 (33.98) |
| (42) — (42) | 1,373 (54.06) |
| (42) — (65) | 706 (27.80) |
| (43) — (43) | 1,373 (54.06) |
| (43) — (66) | 693 (27.28) |
| (45) — (52) | 838 (32.99) |
| (47) — (51) | 740 (29.13) |
| (48) — (67) | 711 (27.99) |
| (49) — (67) | 649(25.55) |
| (50) — (67) | 704 (27.72) |

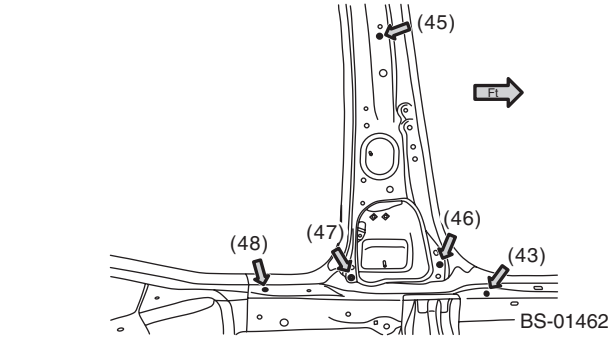
NOTE:

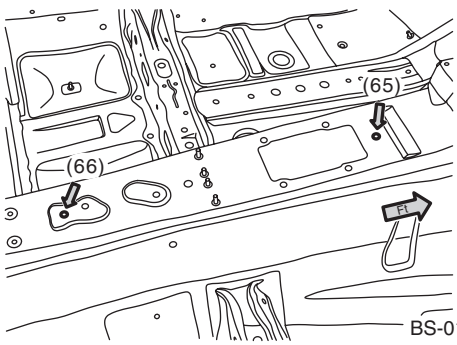
- The reference points (65), (66), and (67) are at the body center, while the other points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.

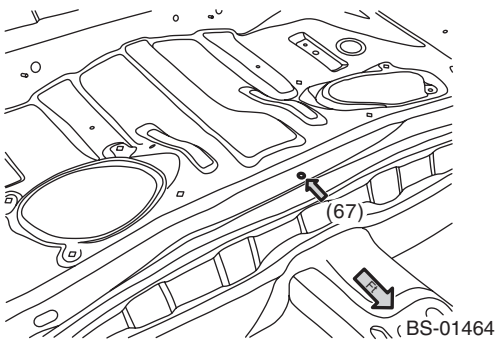


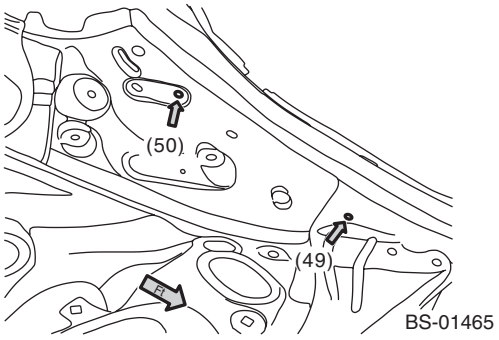



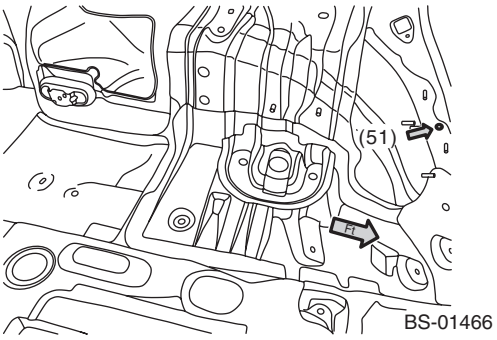



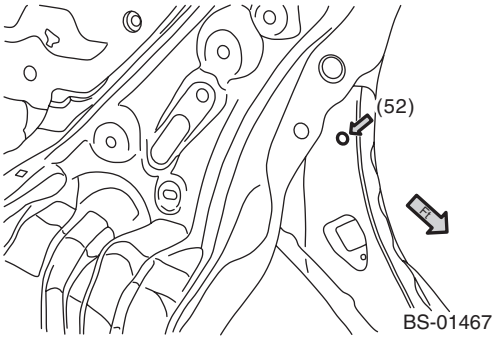



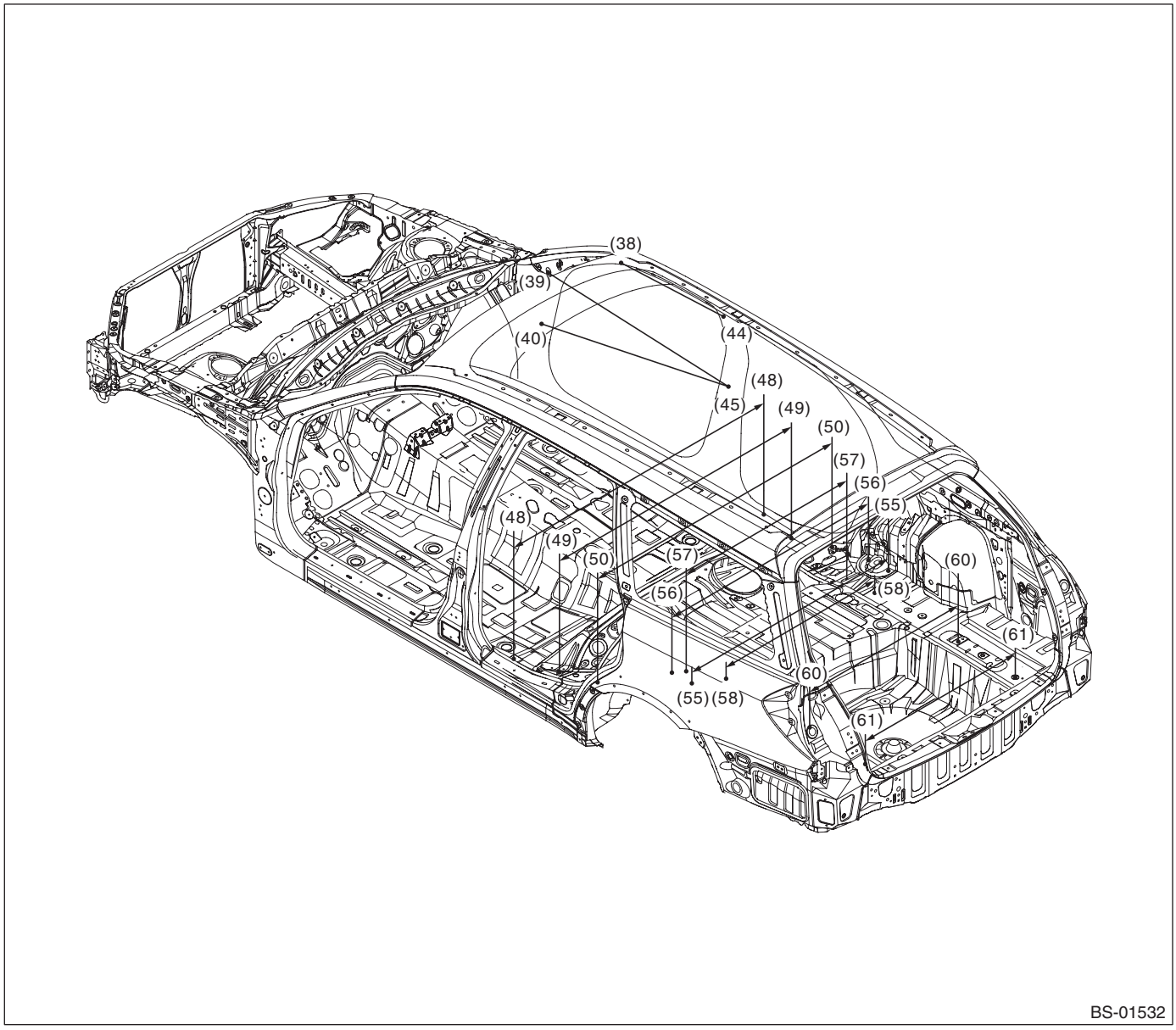




(50)
(49)
BS-01465


(51)
BS-01466


(52)
BS-01467

- Common for wagon and sedan model, 3



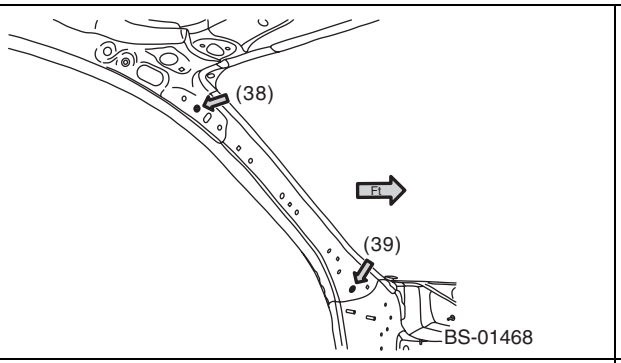

(38) Trim clip mounting hole (symmetrical)
(39) ED hole (symmetrical)
(40) Hood lock lever arrest hole (symmetrical)
(44) Trim clip mounting hole (symmetrical)
(45) Trim clip mounting hole (symmetrical)
(48) Harness clip mounting hole (symmetrical)
(49) Harness clip mounting hole (symmetrical)
(50) Side sill cover mounting hole (symmetrical)
(55) Rear suspension mounting hole (symmetrical), rear
(56) Rear suspension mounting hole (symmetrical), front
(57) Rear seat hinge mounting hole (symmetrical)
(58) Gauge hole (symmetrical)
(60) Gauge hole (symmetrical)
(61) Gauge hole (symmetrical)

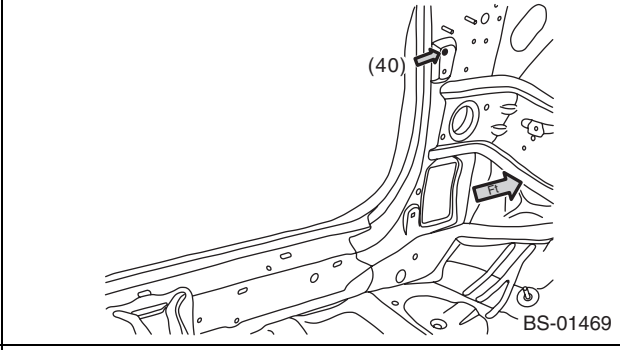
# Datum Dimensions

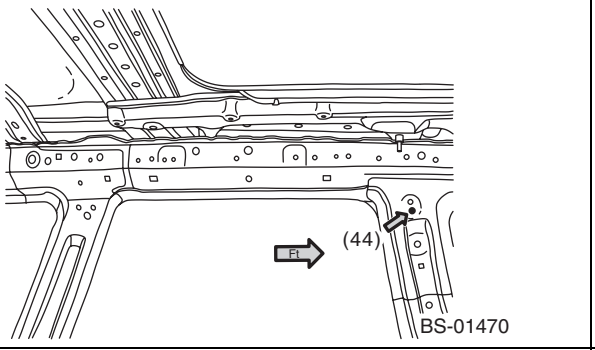
| Point of measurement | Datum dimension mm (in) |
|---|---|
| (38) — (44) | 586 (23.07) |
| (39) — (45) | 993 (39.09) |
| (40) — (45) | 1,043 (41.06) |
| (48) — (48) | 1,380 (54.33) |
| (49) — (49) | 1,280 (50.39) |
| (50) — (50) | 1,294 (50.94) |

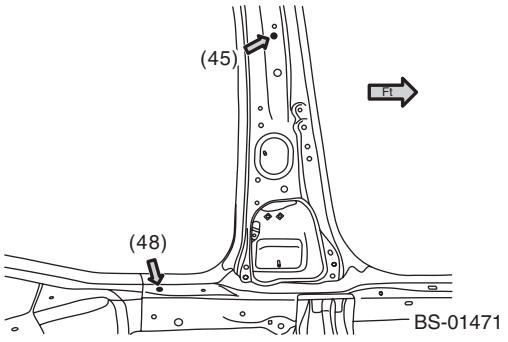
| Point of measurement | Datum dimension mm (in) |
|---|---|
| (55) — (55) | 1,084 (42.68) |
| (56) — (56) | 1,090 (42.91) |
| (57) — (57) | 886 (34.88) |
| (58) — (58) | 820 (32.28) |
| (60) — (60) | 820 (32.28) |
| (61) — (61) | 840 (33.07) |

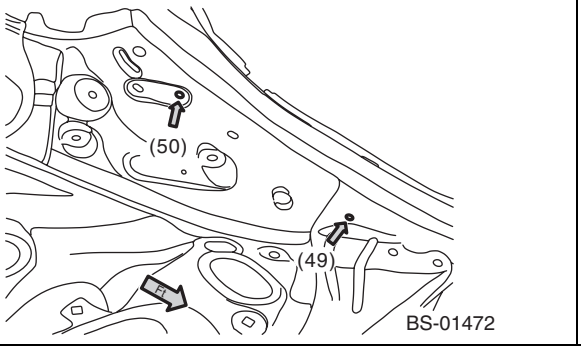
NOTE:
- All reference points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.

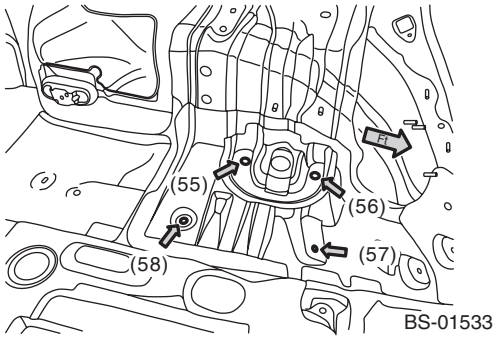


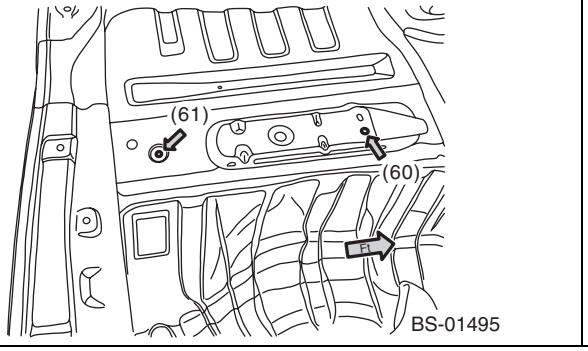



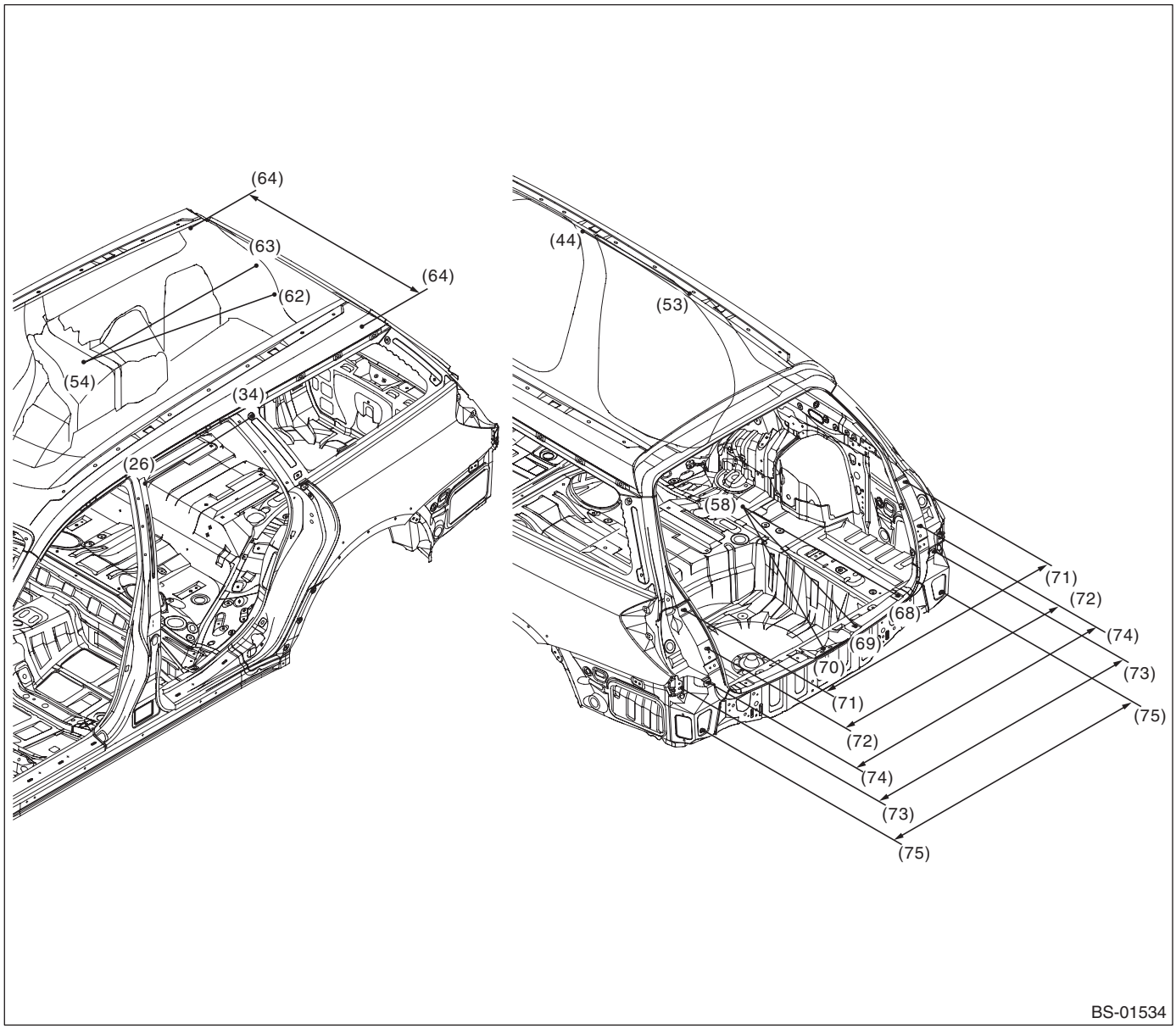



## 4. REAR

- Wagon model



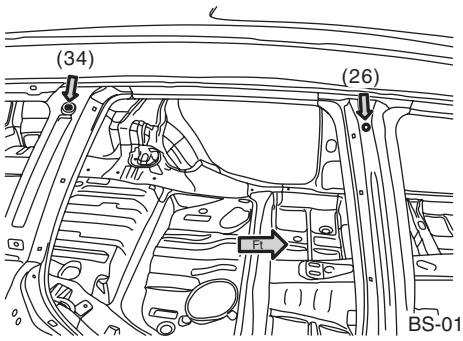

(26) Gauge hole (symmetrical)
(34) Rear quarter glass mounting hole (symmetrical)
(44) Trim clip mounting hole (symmetrical)
(53) Trim clip mounting hole (symmetrical)
(54) Rear seat striker mounting hole (symmetrical)
(58) Gauge hole (symmetrical)
(62) Trim clip mounting hole (symmetrical)
(63) Trim clip mounting hole (symmetrical)
(64) Harness clip mounting hole (symmetrical)
(68) Trim clip mounting hole (symmetrical)
(69) Trim clip mounting hole (symmetrical)
(70) Repair location hole (body center)
(71) Combination light mounting hole (symmetrical)
(72) Buffer mounting hole (symmetrical)
(73) Bumper mounting hole (symmetrical)
(74) Bracket corner mounting hole (symmetrical)
(75) Gauge hole (symmetrical)

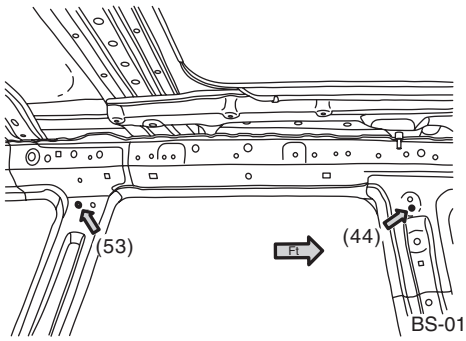
| Point of measurement | Datum dimension mm (in) |
|---|---|
| (26) — (34) | 613 (24.13) |
| (44) — (53) | 591 (23.27) |
| (54) — (62) | 969 (38.15) |
| (54) — (63) | 884 (34.80) |
| (58) — (68) | 900 (35.43) |
| (58) — (69) | 958 (37.72) |
| (58) — (70) | 990 (38.98) |
| (64) — (64) | 944 (37.17) |
| (71) — (71) | 1,224 (48.19) |
| (72) — (72) | 1,173 (46.18) |
| (73) — (73) | 1,438 (56.61) |
| (74) — (74) | 1,250 (49.21) |
| (75) — (75) | 1,320 (59.97) |

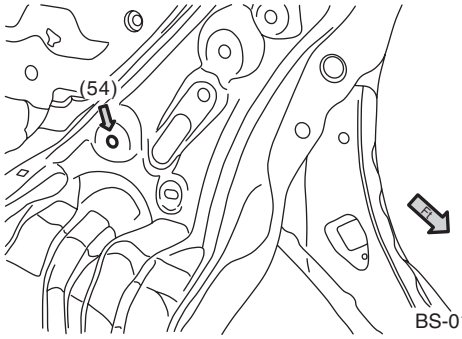
# Datum Dimensions

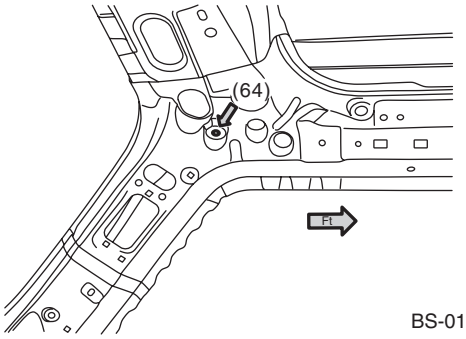
NOTE:

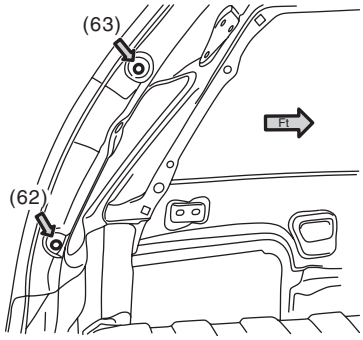
- The reference point (70) is at the body center, while the other points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.

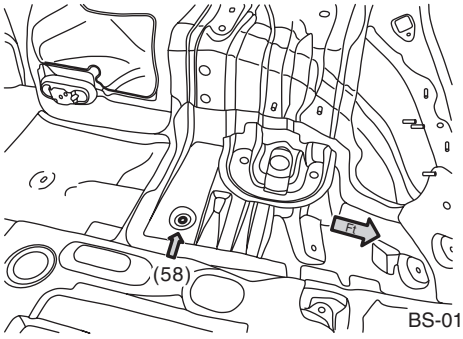


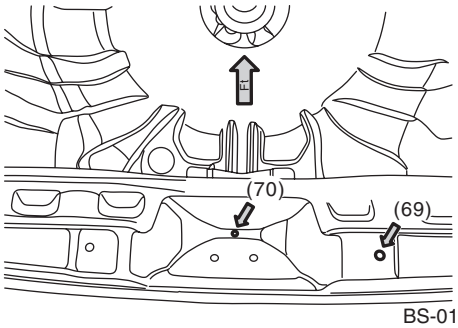



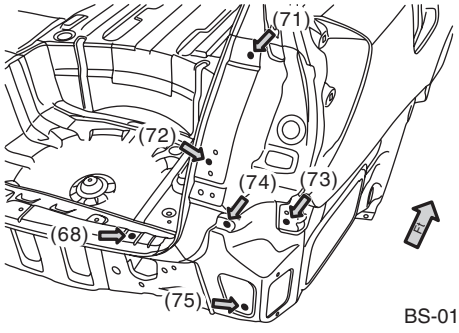



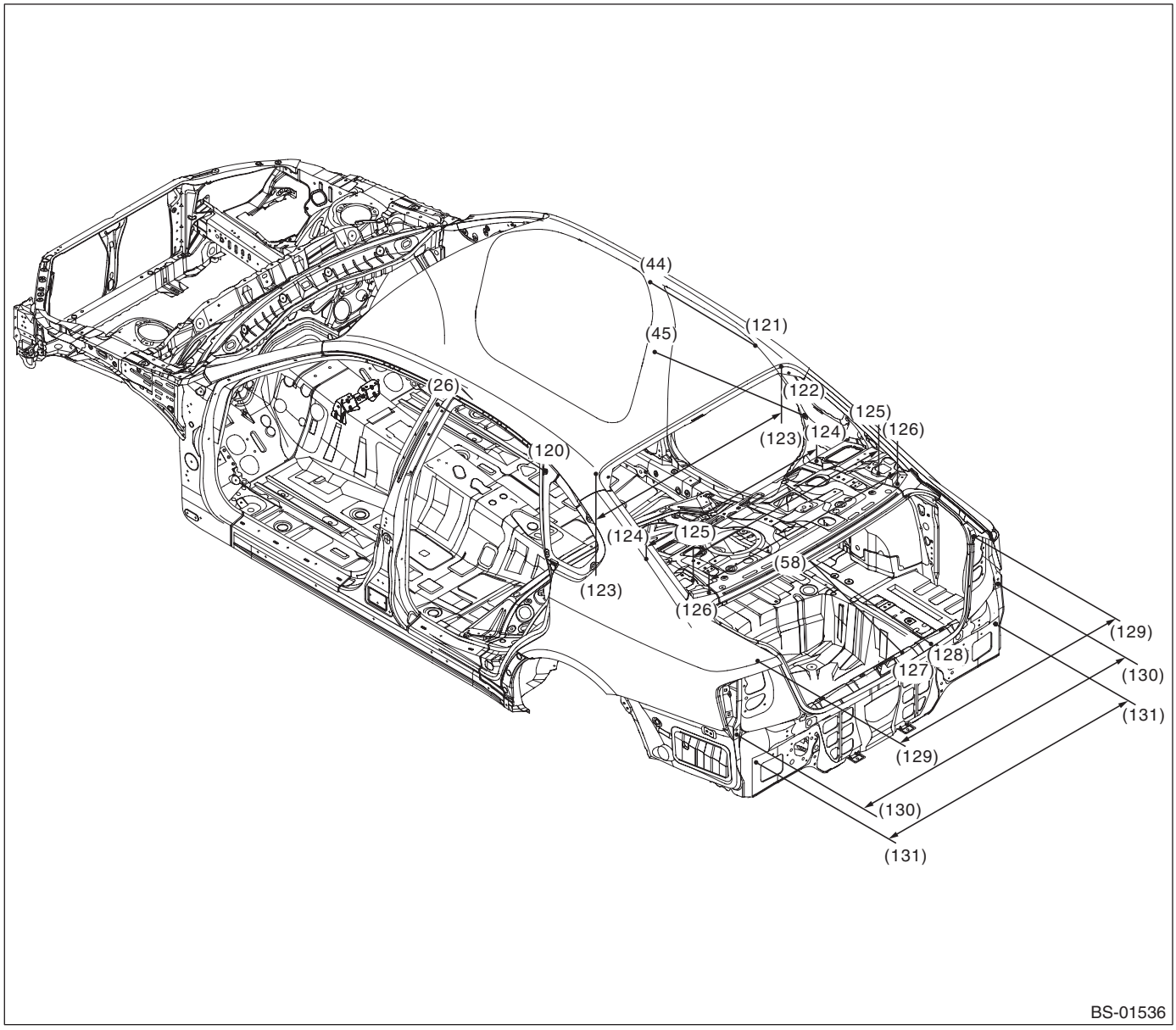



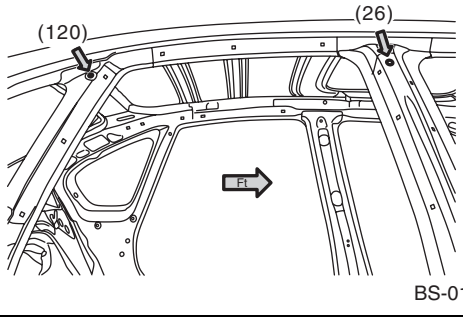
- Sedan model



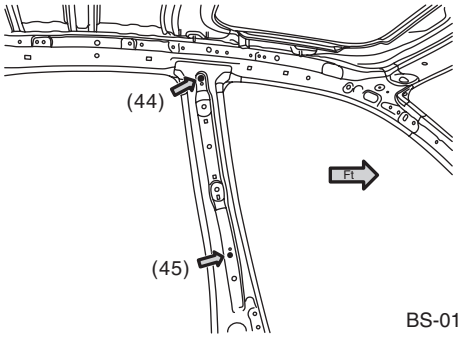

(26) Gauge hole (symmetrical)
(44) Trim clip mounting hole (symmetrical)
(45) Trim clip mounting hole (symmetrical)
(58) Gauge hole (symmetrical)
(120) Six light glass mounting hole (symmetrical)
(121) Trim clip mounting hole (symmetrical)
(122) Trim clip mounting hole (symmetrical)
(123) Sunroof drain hose clip mounting hole (symmetrical)
(124) Trim clip mounting hole (symmetrical)
(125) Harness clip mounting hole (symmetrical)
(126) Gauge hole (symmetrical)
(127) Trim clip mounting hole (symmetrical)
(128) ED hole (symmetrical)
(129) Combination light mounting hole (symmetrical)
(130) Bumper bracket mounting hole (symmetrical)
(131) ED hole (symmetrical)

| Point of measurement | Datum dimension mm (in) |
|---|---|
| (26) — (120) | 598 (23.54) |
| (44) — (121) | 570 (22.44) |
| (45) — (122) | 835 (32.87) |
| (58) — (127) | 916 (36.06) |
| (58) — (128) | 904 (35.59) |
| (123) — (123) | 1,024 (40.31) |
| (124) — (124) | 940 (37.01) |
| (125) — (125) | 1,024 (40.31) |
| (126) — (126) | 1,040 (40.94) |
| (129) — (129) | 1,191 (46.89) |
| (130) — (130) | 1,442 (56.77) |
| (131) — (131) | 1,322 (52.05) |

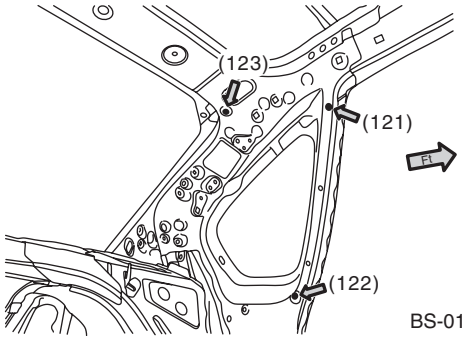
NOTE:
- All reference points are left-right symmetrical.
- The dimensions are the actual dimensions between the reference points.



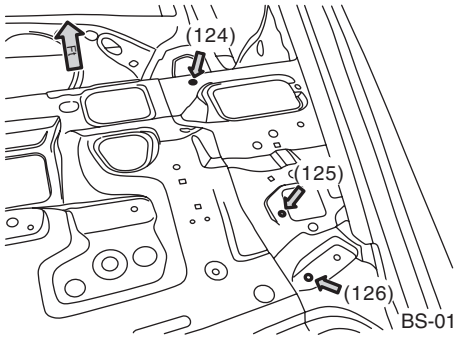
BS-01483



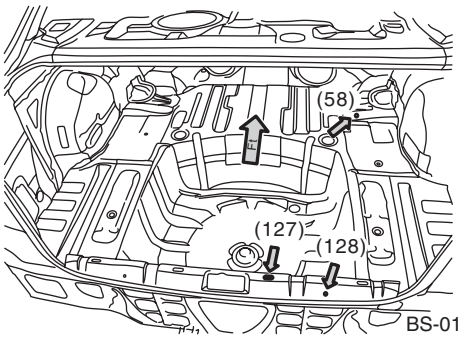
BS-01496



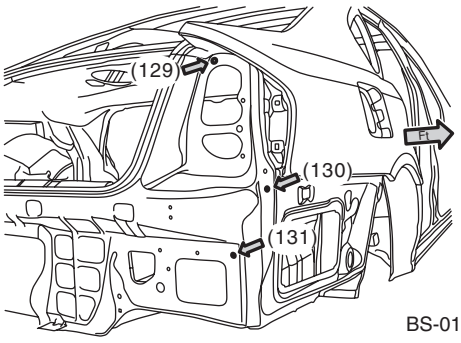
BS-01485



BS-01486



BS-01537

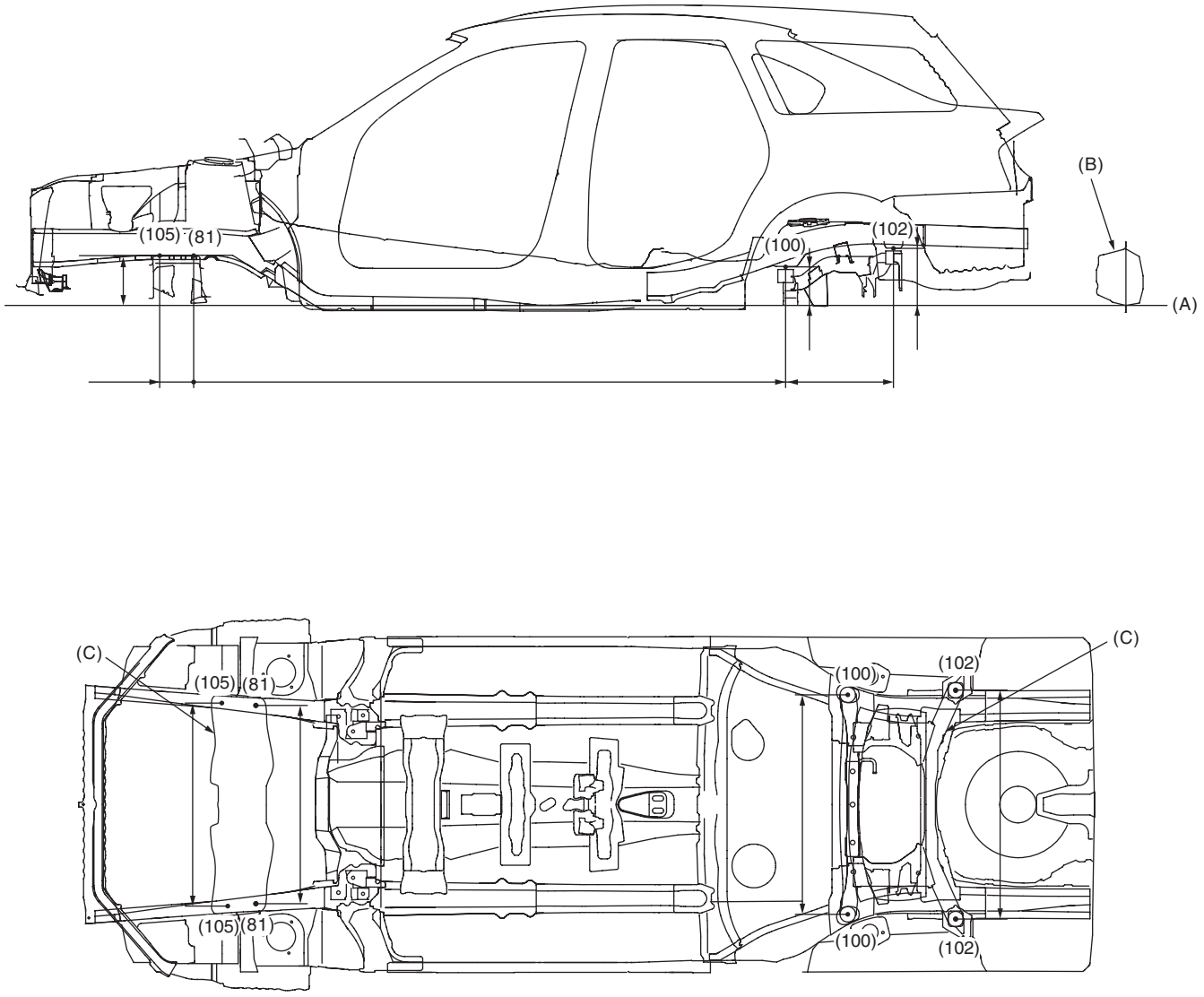


BS-01490

## 5. SUSPENSION MOUNT

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).

• For the reference point positions, refer to “Datum Dimensions”. <Ref. to BS-3, CENTER STRUCTURE, MEASUREMENT, Datum Dimensions.>

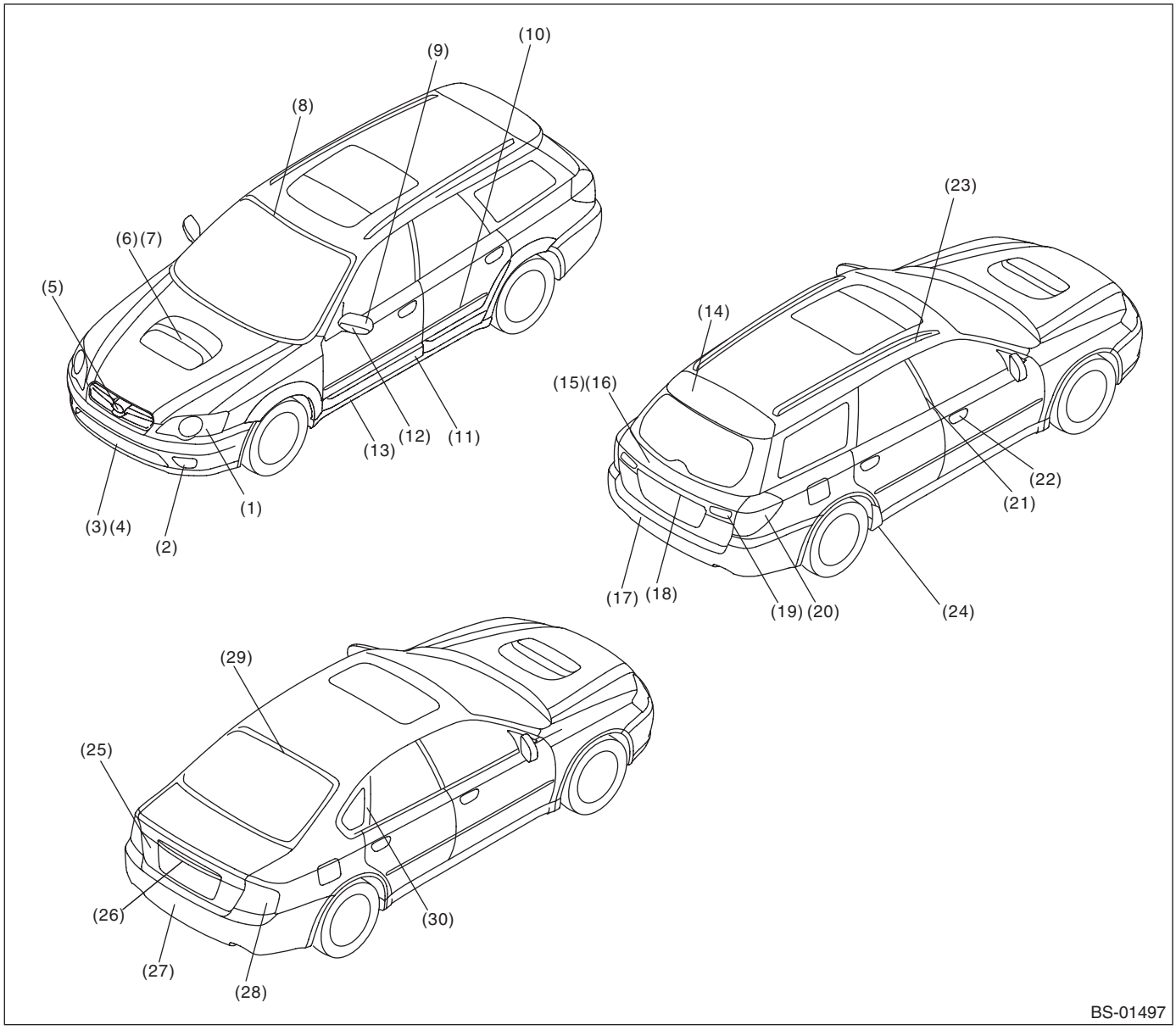



BS-01418

| | | | | | |
|---|---|---|---|---|---|
| (A) | Standard line | (B) | Side sill | (C) | Crossmember |
| (81) | Front crossmember mounting hole (symmetrical), rear | (102) | Rear suspension mounting hole (symmetrical) | (105) | Front crossmember mounting hole (symmetrical), front |
| (100) | Rear suspension mounting hole (symmetrical) | | | | |

# 3. Plastic Parts and Materials

## A: SPECIFICATION




| | | | | | |
|---|---|---|---|---|---|
| (1) | Headlight | (11) | Side garnish | (21) | Center pillar cover |
| (2) | Front fog light | (12) | Side turn light | (22) | Door handle |
| (3) | Front bumper | (13) | Side spoiler | (23) | Roof rail |
| (4) | Air intake cover | (14) | Rear spoiler | (24) | Rear quarter protector |
| (5) | Front grille | (15) | Rear garnish | (25) | Trunk garnish |
| (6) | Turbo grille | (16) | License plate light | (26) | License plate light |
| (7) | Hood duct inner | (17) | Rear bumper | (27) | Rear bumper |
| (8) | Front window moulding | (18) | Rear gate handle | (28) | Rear combination light |
| (9) | Door mirror | (19) | Back-up light | (29) | Rear window moulding |
| (10) | Side protector | (20) | Rear combination light | (30) | Six light moulding |

- Wagon model/Common for wagon and sedan model

| No. | Part name | | Material |
|---|---|---|---|
| (1) | Headlight | Lens | PC |
| | | Housing | PP |
| | | Extension | PBT + PET |
| (2) | Front fog light (standard) | Housing | PET |
| | Front fog light (OUTBACK) | Lens | PC |
| | | Reflector | UP - GF10 |
| | | Bracket | PP - GF30 |
| (3) | Front bumper | Face | PP |
| | | EA foam | Foamed PP |
| | | Fog light cover | PP |
| | | Hook cover | PP |
| | | Bumper cover (OUTBACK) | PP |
| (4) | Air intake cover | | PP |
| (5) | Front grille | | ABS |
| (6) | Turbo grille | | PA + PPE |
| (7) | Hood duct inner | | PP + EPDM |
| (8) | Front window moulding | | PVC |
| (9) | Door mirror | Body | ASA |
| | | Inner cover | AES |
| | | Outer cover | ABS |
| | | Mirror holder | PP |
| (10) | Side protector | | PP |
| (11) | Side Garnish | Door body | PC + PET |
| | | Other than door body | PP |
| | | Side sill end cover | PP + EPDM |
| (12) | Side turn light | Lens | PMMA + PC |
| | | Housing | PC |
| (13) | Side spoiler | Engine | PP |
| (14) | Rear Spoiler | Engine | PC + PET |
| | | High mount lens | PMMA |
| | | High mount housing | ABS |
| (15) | Rear garnish | Engine | PC + PET |
| | | Moulding | ABS |
| (16) | License plate light | Lens | PC |
| | | Housing | PBT + PET |
| (17) | Rear bumper | Face | PP |
| | | EA foam | Foamed PP |
| (18) | Rear gate handle | | PP - GF 20 |
| (19) | Back-up light | Lens | PMMA |
| | | Housing | ASA |
| (20) | Rear combination light | Lens | PMMA |
| | | Inner lens | PC |
| | | Housing | ASA |
| | | Reflex reflector | PMMA |
| | | Cover | ASA |
| (21) | Center pillar cover | | ABS |
| (22) | Door handle | Handle | PC + PET |
| | | End cover | PP |

| No. | Part name | | Material |
|---|---|---|---|
| (23) | Roof rail | Front cover | PC + PET |
| | | Center cover (OUTBACK) | PC + PET |
| | | Rear cover | PC + PET |
| (24) | Rear Quarter Protector | | PP |
| | Front mud guard | Engine | PE |
| | | Air flap | PE |
| | Rear mud guard | | PE |
| | Under cover | | PP |
| | Splash board | | PP |
| | Cowl panel | Body, side | PP |
| | | Cover | PP |
| | Rear wiper | Blade | PBT |
| | | Arm | PET |
| | | Arm cover | PBT |

- Sedan model

| No. | Part name | | Material |
|---|---|---|---|
| (25) | Trunk garnish | | PC + PET |
| (26) | License plate light | Lens | PMMA |
| | | Housing | ASA |
| (27) | Rear bumper | Face | PP |
| | | EA foam | Foamed PP |
| (28) | Rear combination light | Lens | PMMA |
| | | Inner lens | PC |
| | | Housing | ASA |
| | | Reflex reflector | PMMA |
| | | Cover | ASA |
| (29) | Rear window moulding | | EPDM |
| (30) | Six light moulding | | ABS |
| | High-mounted stop light | Lens | PC |
| | | Case | PP |
| | | Reflector | PBT + PET |

# 4. List of Plastic Material Notations

## A: SPECIFICATION

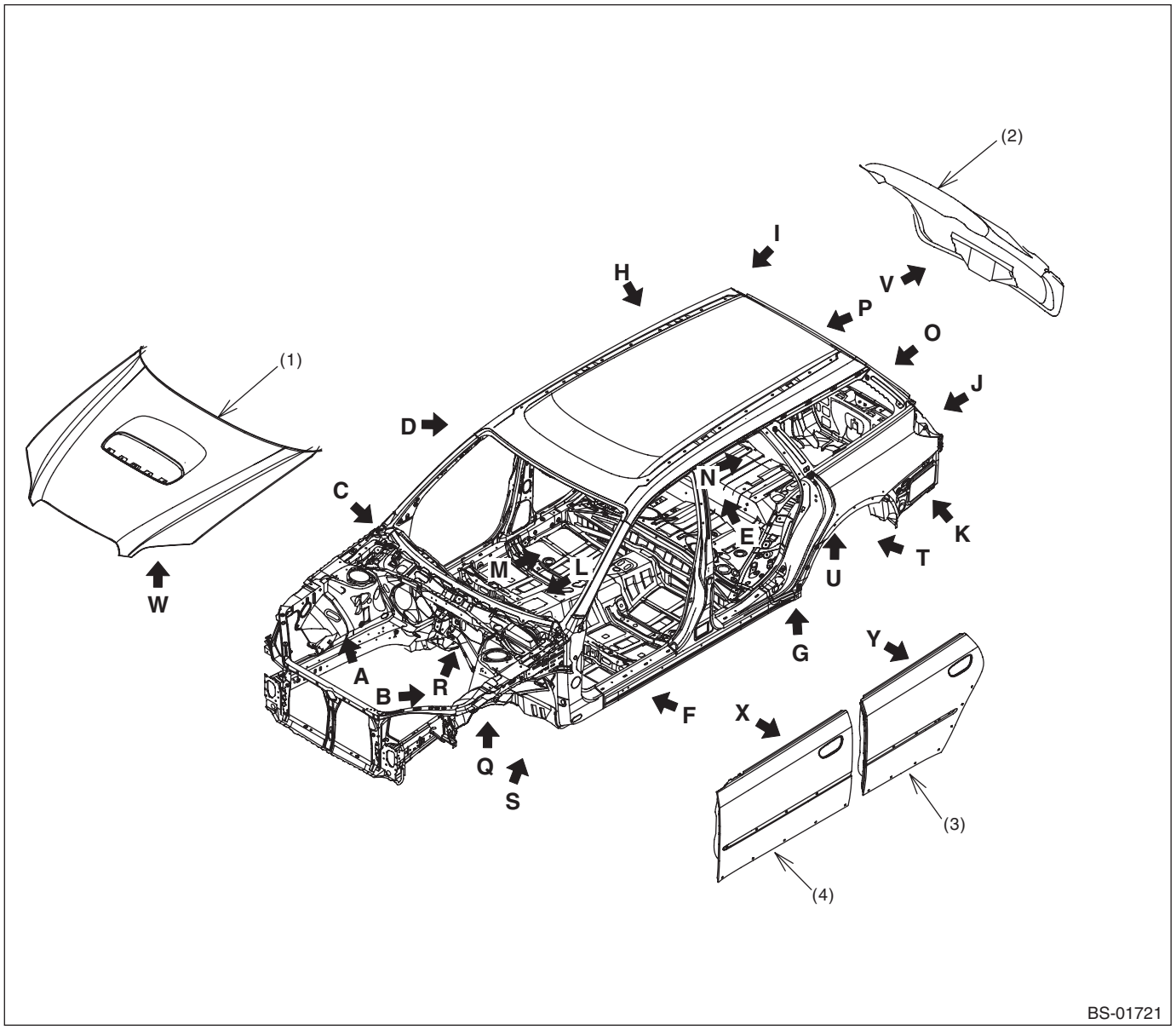
| Notation symbol | Material name | Notation symbol | Material name |
|---|---|---|---|
| ABS | ABS resin (acrylonitrile-butadiene-styrene resin) | PMMA | Polymethyl methacrylate |
| AES | Acrylonitrile/ethylene/styrene | PP | Polypropylene |
| ASA | Acrylonitrile/styrene/acrylate | PPE | Poly (phenylene ether) |
| EPDM | Ethylene/propylene/dien rubber | PP -GF20 | Polypropylene (20% glass fiber content) |
| GF | Glass fiber | PP - GF30 | Polypropylene (30% glass fiber content) |
| PA | Polyamide | PVC | Polyvinyl chloride |
| PBT | Poly (butylene terephthalate) | SEPM | Styrene/ethylene/propylene rubber |
| PC | Polycarbonate | TPO | Thermoplastic olefine |
| PE | Polyethylene | UP | Unsaturated polyester resin |
| PET | Polyethylene terephthalate | UP - GF10 | Unsaturated polyester resin (10% glass fiber content) |

# 5. Body Sealing

## A: SPECIFICATION

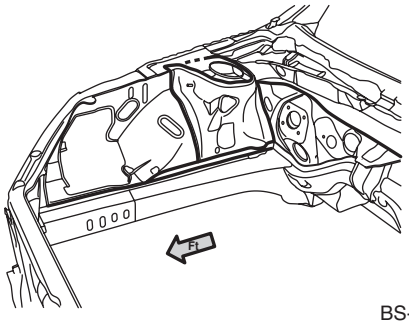
***Used material:***
***THREE BOND 4104 (004403063)***

- Common for wagon and sedan model

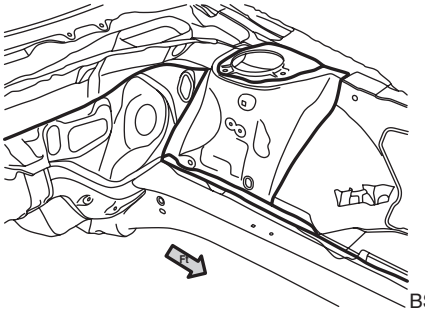



(1) Front hood
(2) Rear gate
(3) Rear door
(4) Front door

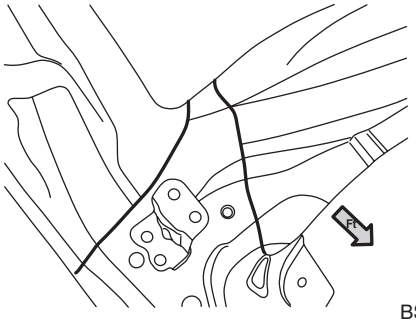
View A




View B

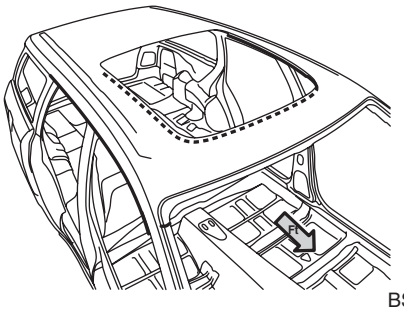


View C



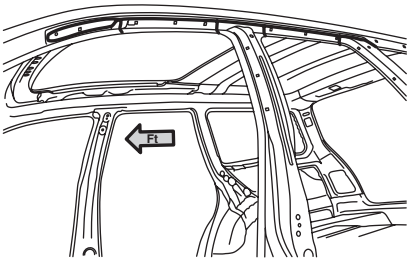

BS-00734

View D



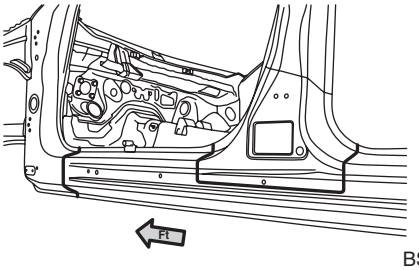

BS-00735

View E



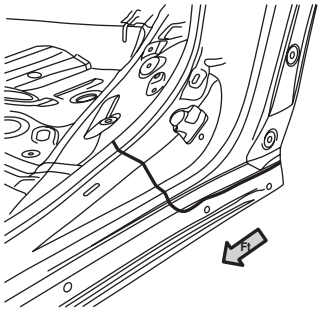

BS-00736

View F



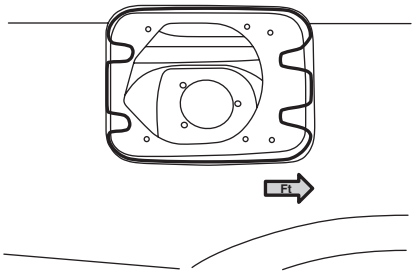

BS-01601

View G



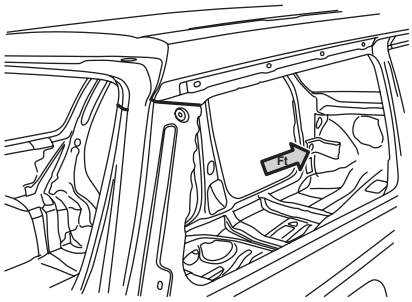

BS-00738

View H



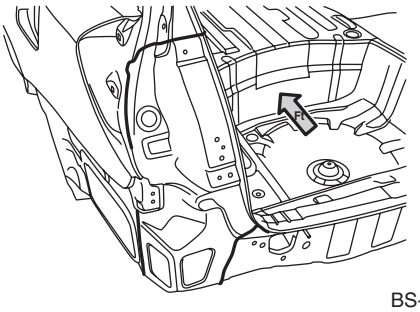

BS-00739

View I



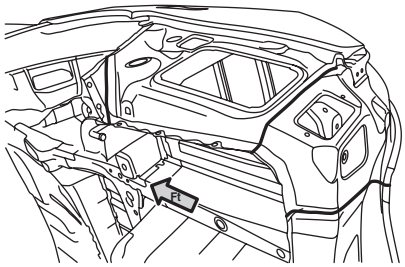

BS-00740

View J



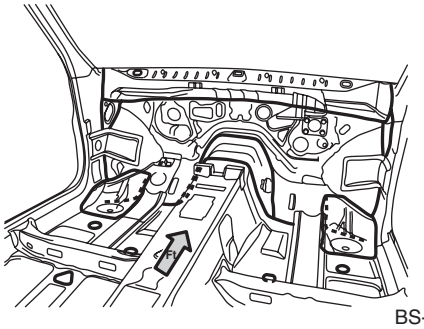

BS-00741

View K



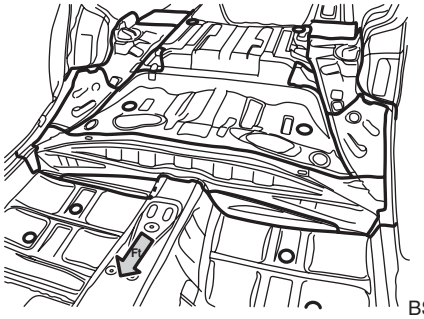

BS-00742

View L



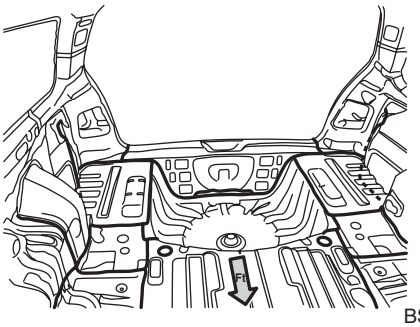

BS-00743

View M



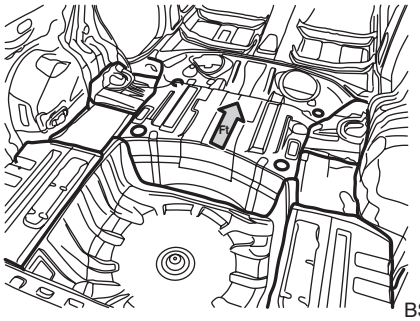

BS-01718

View N



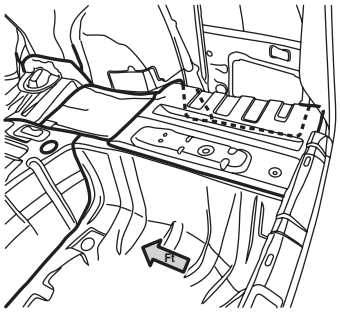

BS-01719

View O



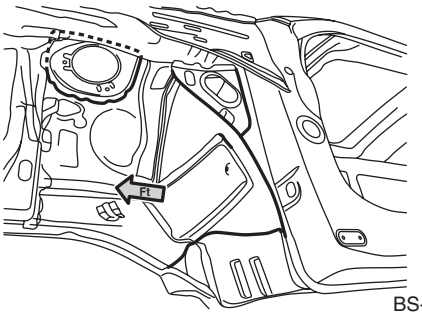

BS-01720

View P



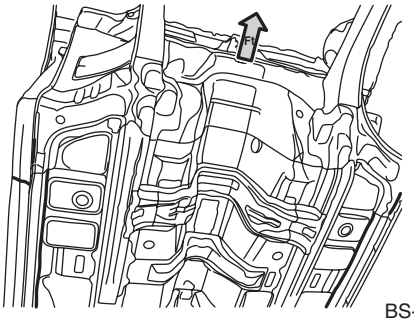

BS-00747

View Q



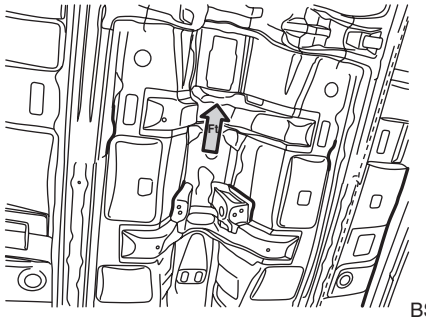

BS-00748

View R



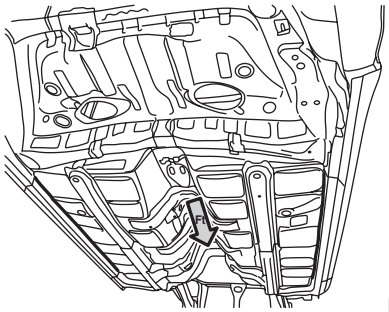

BS-01500

View S



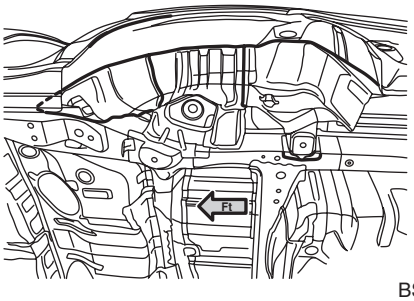

BS-01501

View T



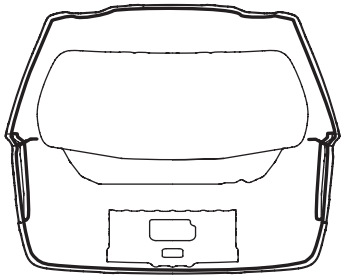

BS-01502

View U



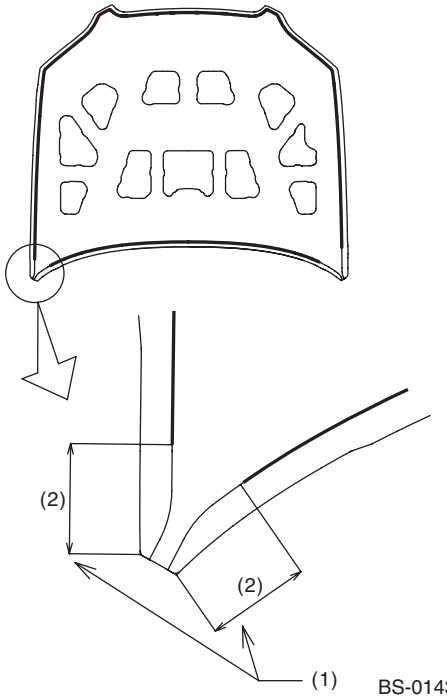

BS-01602

View V



BS-00756

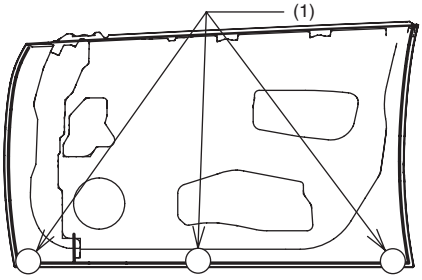
View W




BS-01436

(1) Application not required.
(2) 50 mm (1.97 in)

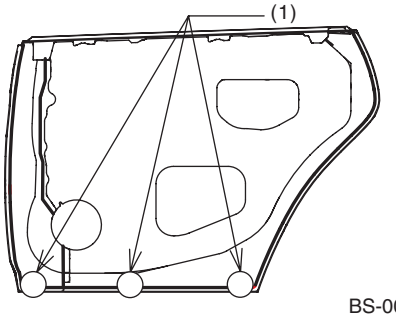
View X




BS-00754

(1) Do not block the water drain holes.

View Y

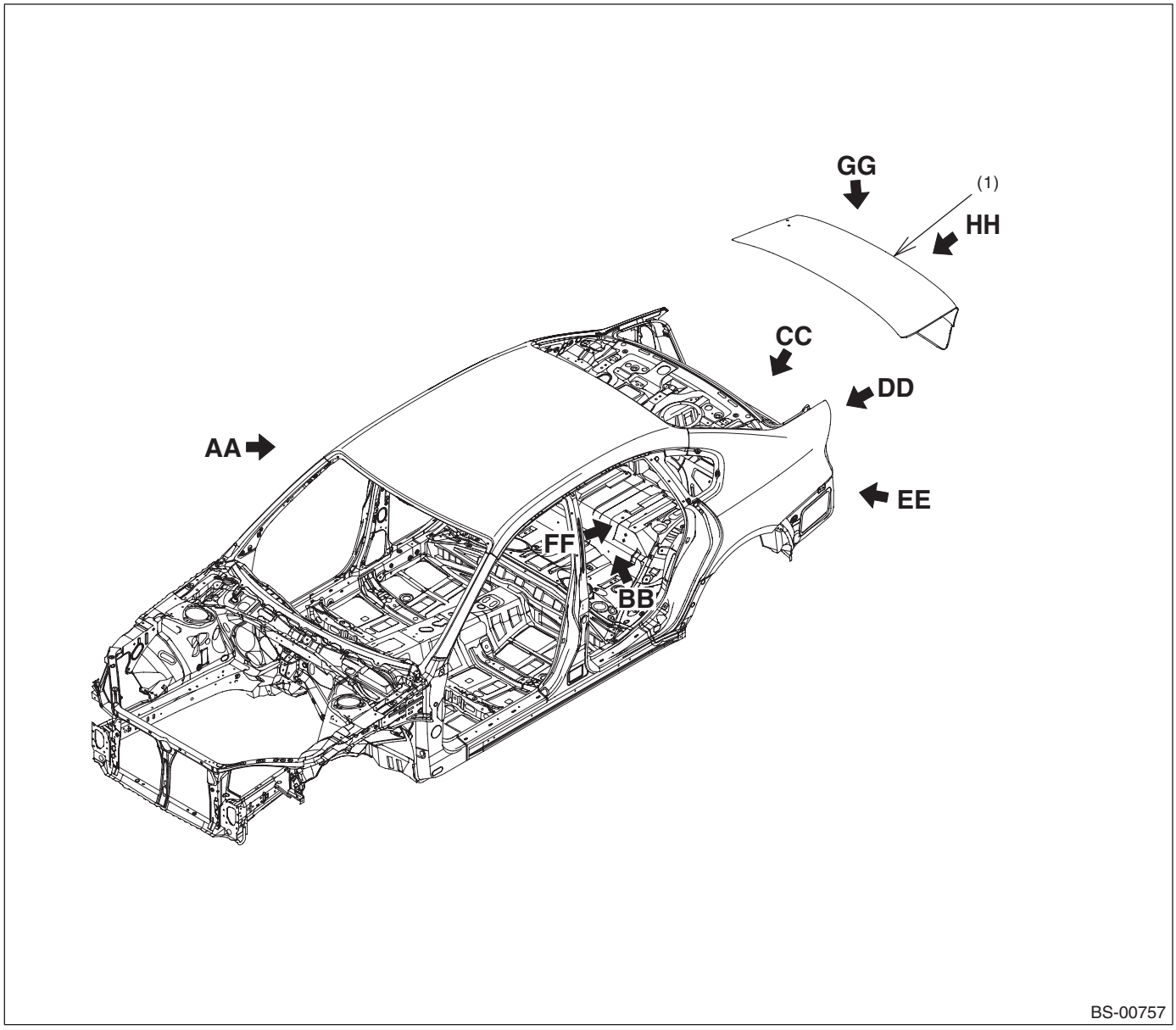



BS-00755

(1) Do not block the water drain holes.

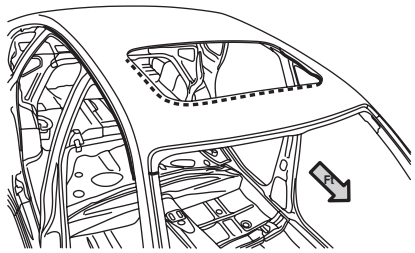
**CAUTION:**
**Sealer already has been applied to hood, door, and rear gate in replacement condition.**

- Sedan model



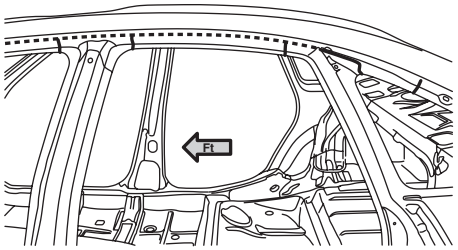

(1) Trunk

View AA



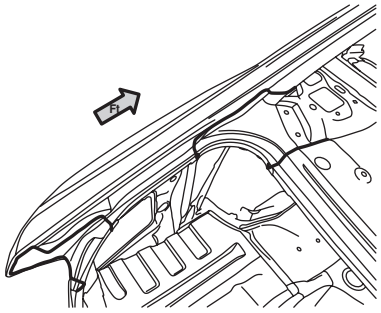

BS-00758

View BB



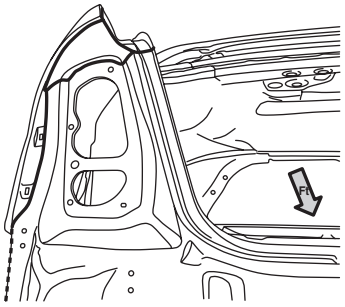

BS-00759

View CC



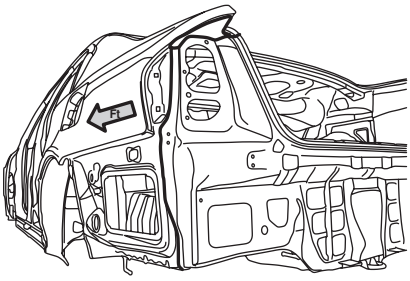

BS-00760

View DD



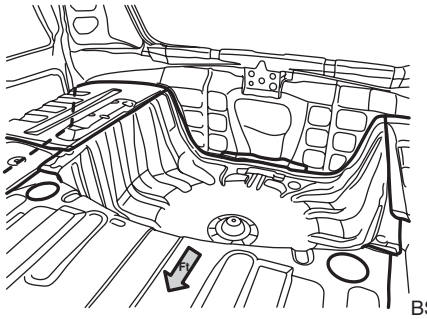

BS-00761

View EE



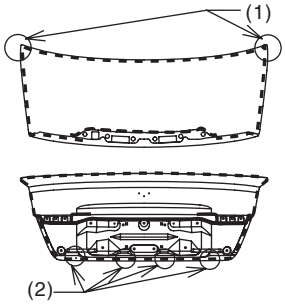

BS-00762

View FF




BS-00763

View GG
View HH




BS-00764

(1) The holes shall be blocked.
(2) Do not block the water drain holes.

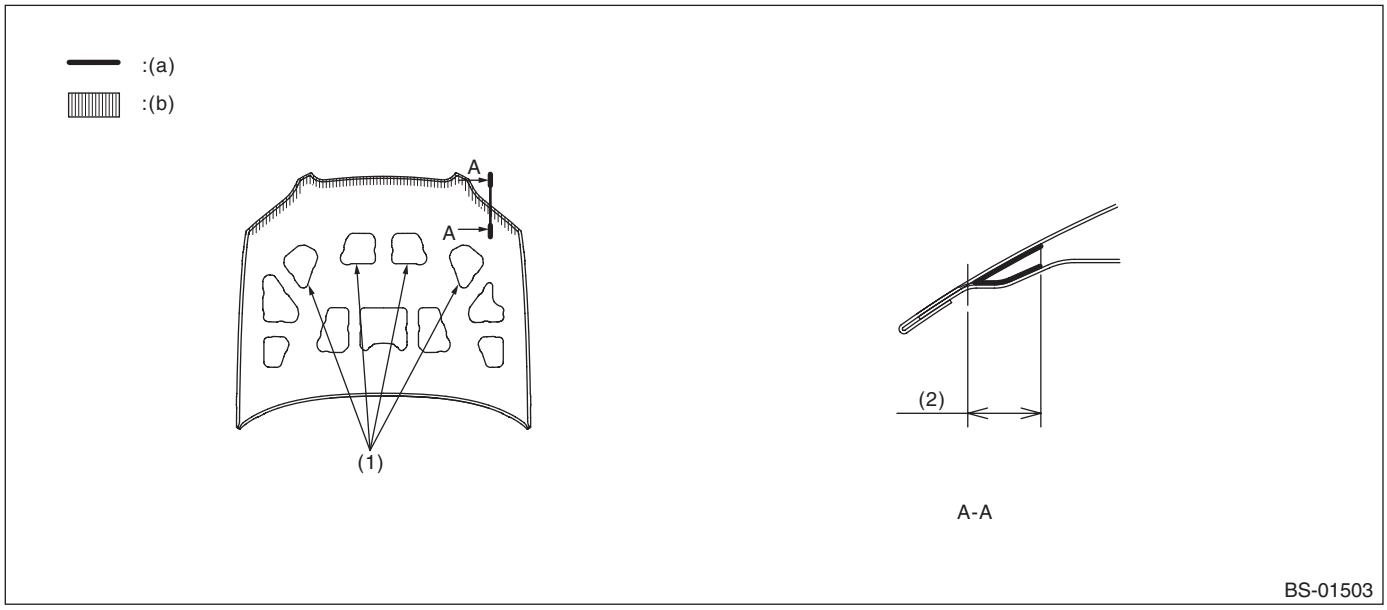
**CAUTION:**
**Sealer already has been applied to the trunk in replacement condition.**

# 6. Anticorrosion Wax

## A: SPECIFICATION

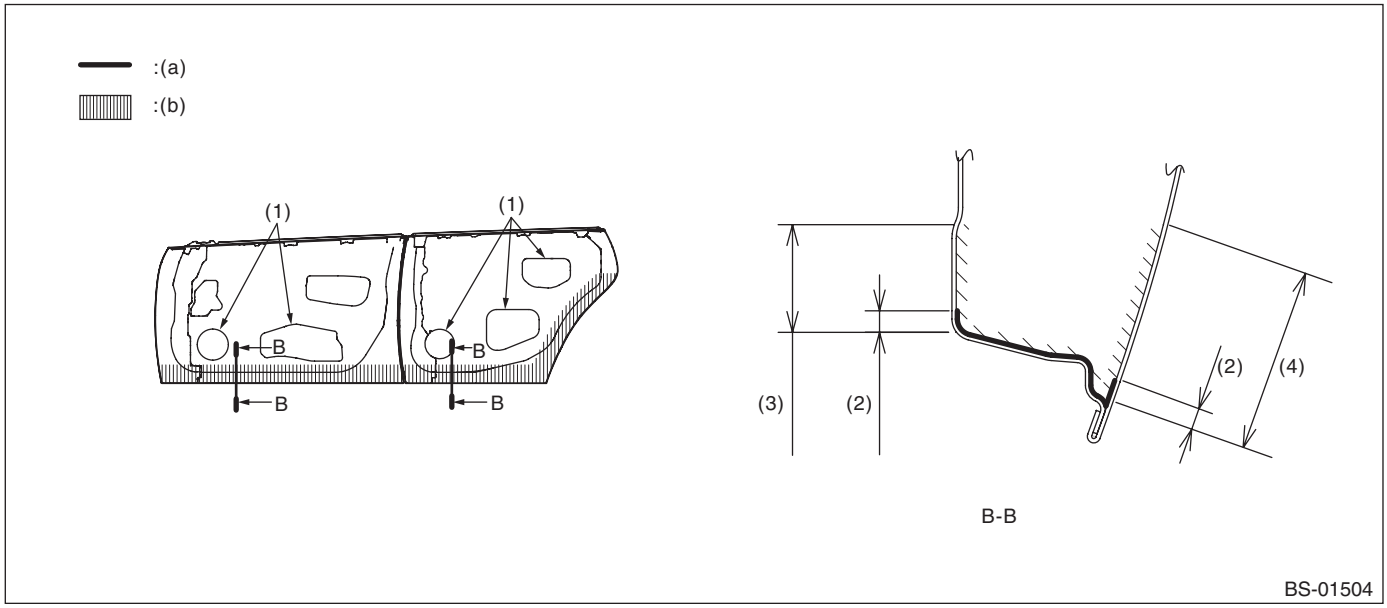
***Used material:***
***Rust-stop aerosol (K0877YA015)***

- Front hood



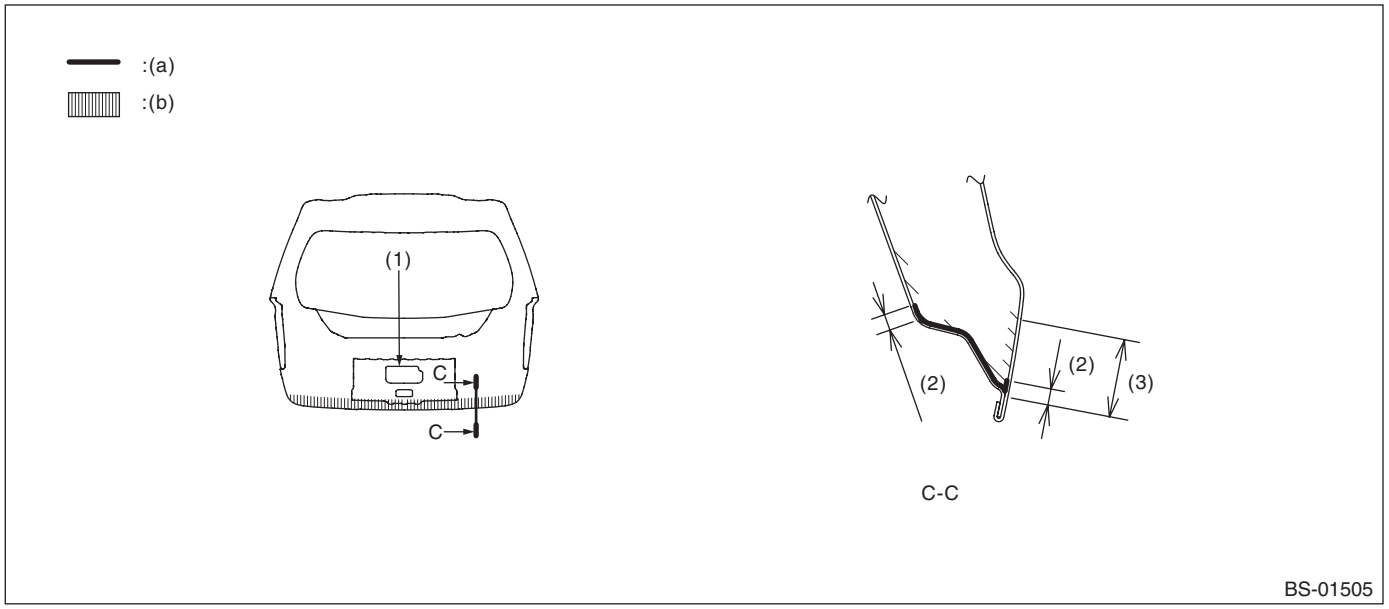

(a) Application thickness = 50 μm or more
(b) Application area
(1) Wax application work openings
(2) 10 mm (0.39 in)

- Door (front, rear)




(a) Application thickness = 50 μm or more
(b) Application area
(1) Wax application work openings
(2) 10 mm (0.39 in)
(3) 50 mm (1.97 in)
(4) 90 mm (3.54 in)

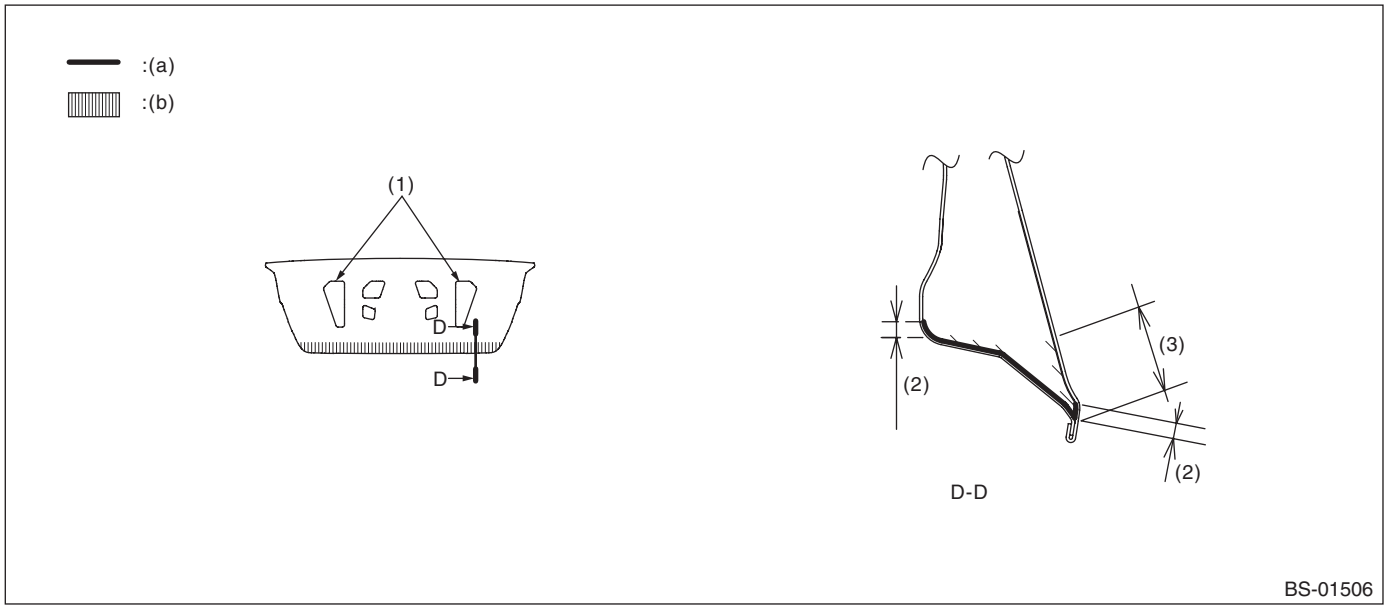
- Rear gate




(a) Application thickness = 50 µm or more
(b) Application area

(1) Wax application work openings
(2) 10 mm (0.39 in)
(3) 40 mm (1.57 in)

- Trunk

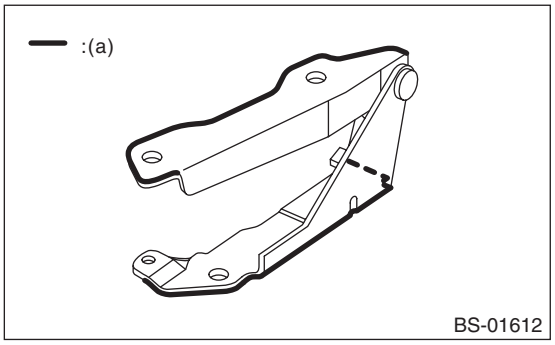



(a) Application thickness = 50 µm or more
(b) Application area

(1) Wax application work openings
(2) 10 mm (0.39 in)
(3) 40 mm (1.57 in)

• Front hood hinge

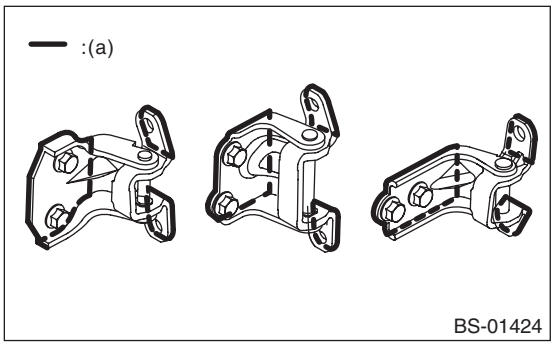
Apply around the installation outer circumference (indicated range) at two locations on the left and right.




(a) Application thickness = 15 μm or more

• Door hinge

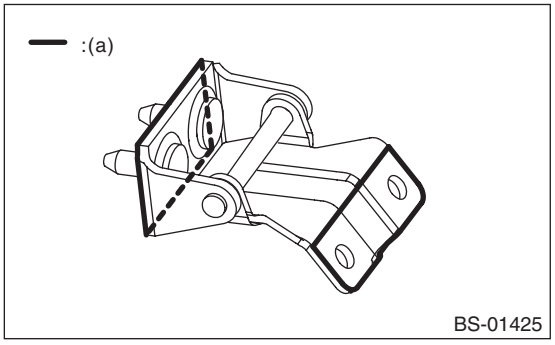
Apply to the installation outer circumference at two locations at the top and bottom (all eight locations).




(a) Application thickness = 15 μm or more

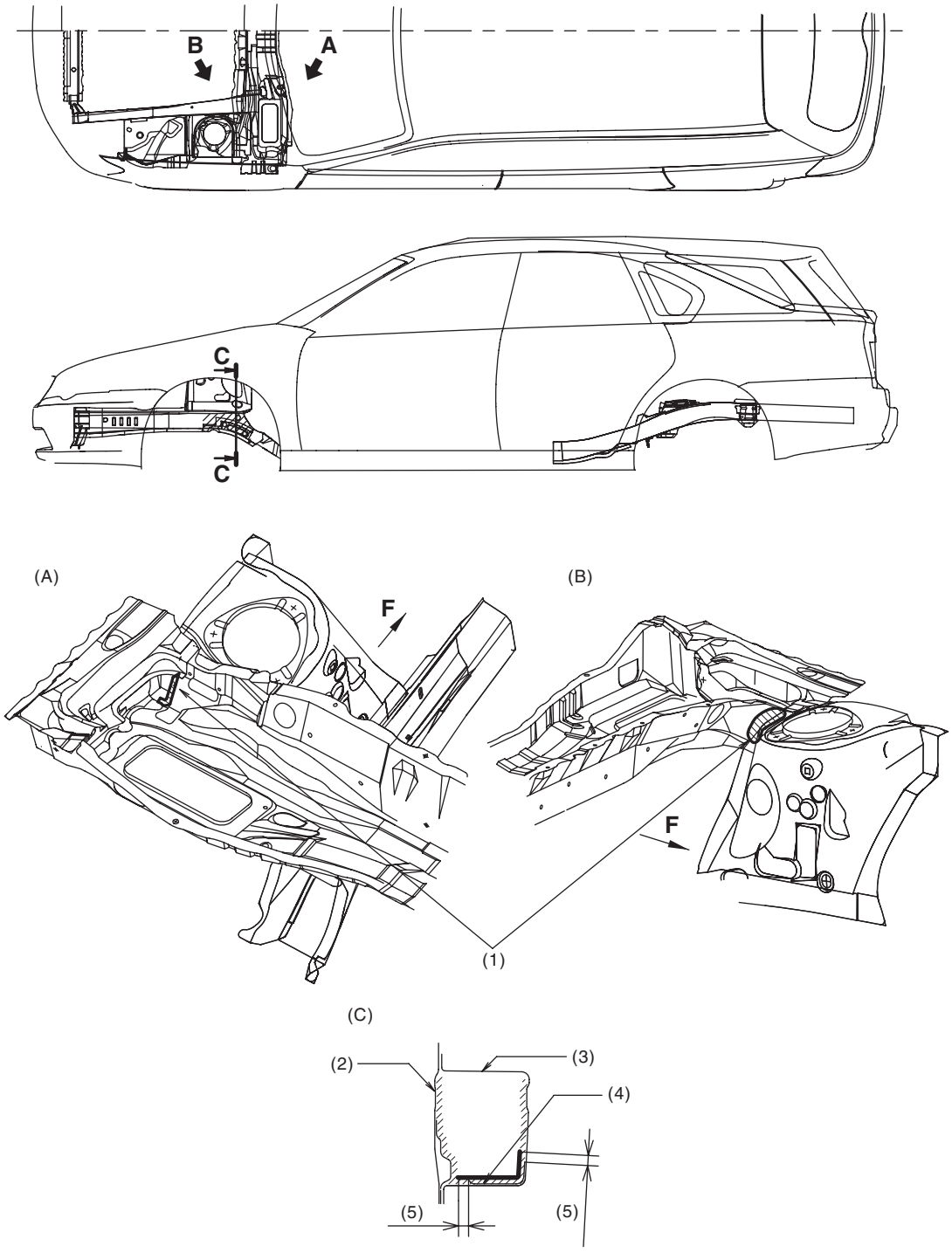
• Rear gate hinge

Apply around the installation outer circumference (plate edges) at two locations on the left and right.



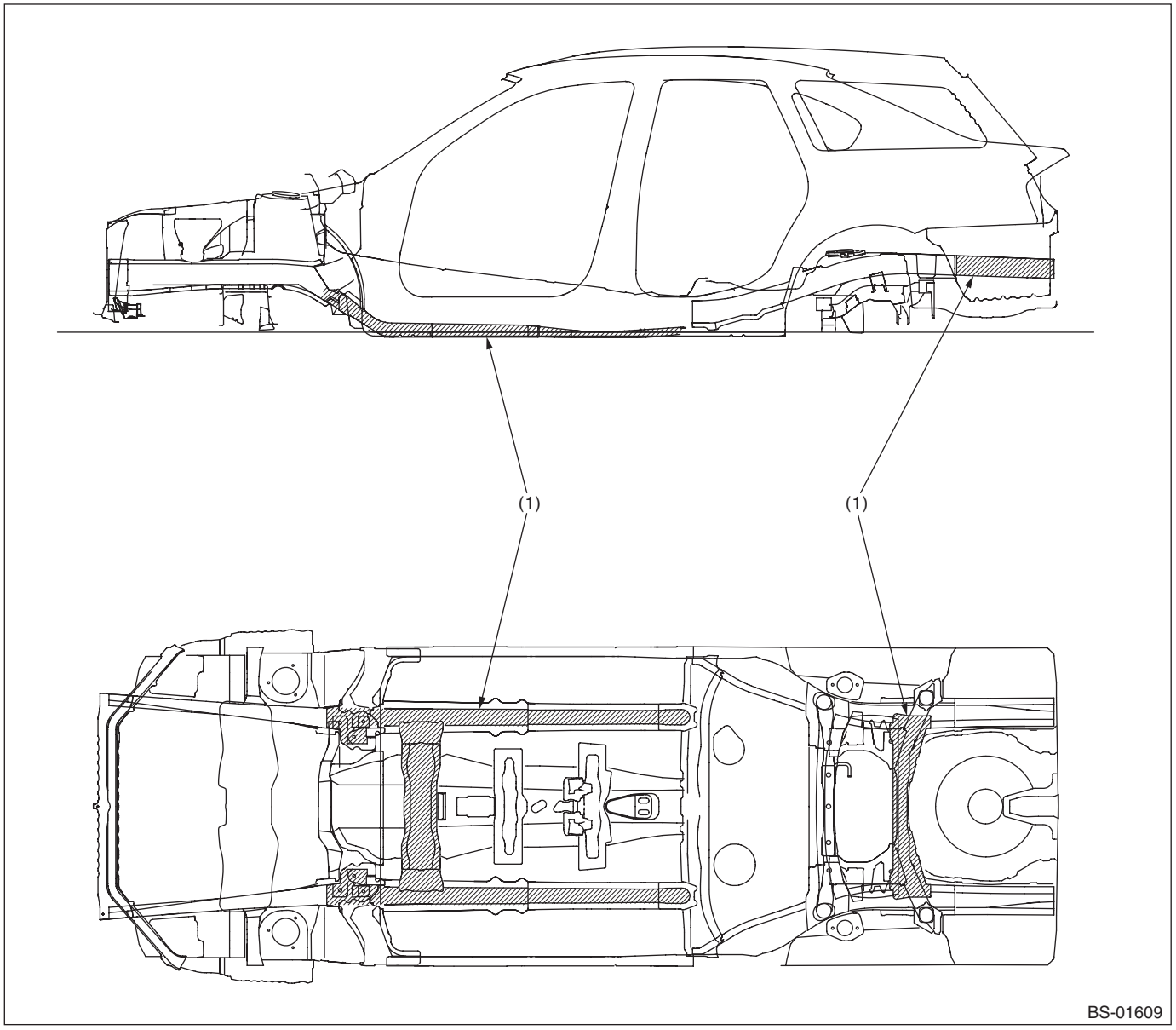

(a) Application thickness = 15 μm or more

- Overall view




BS-01426

| | | | | | |
|---|---|---|---|---|---|
| (A) | View A | (B) | View B | (C) | Section C — C |
| (1) | Apply to the contact surface between the front suspension bracket and duct. (15 μm or more) | (2) | Closing plate | (4) | Reinforcement |
| | | (3) | Front side frame front | (5) | 10 mm (0.39 in) |




(1) Apply wax to the underside of vehicle.

# 7. Under Coat

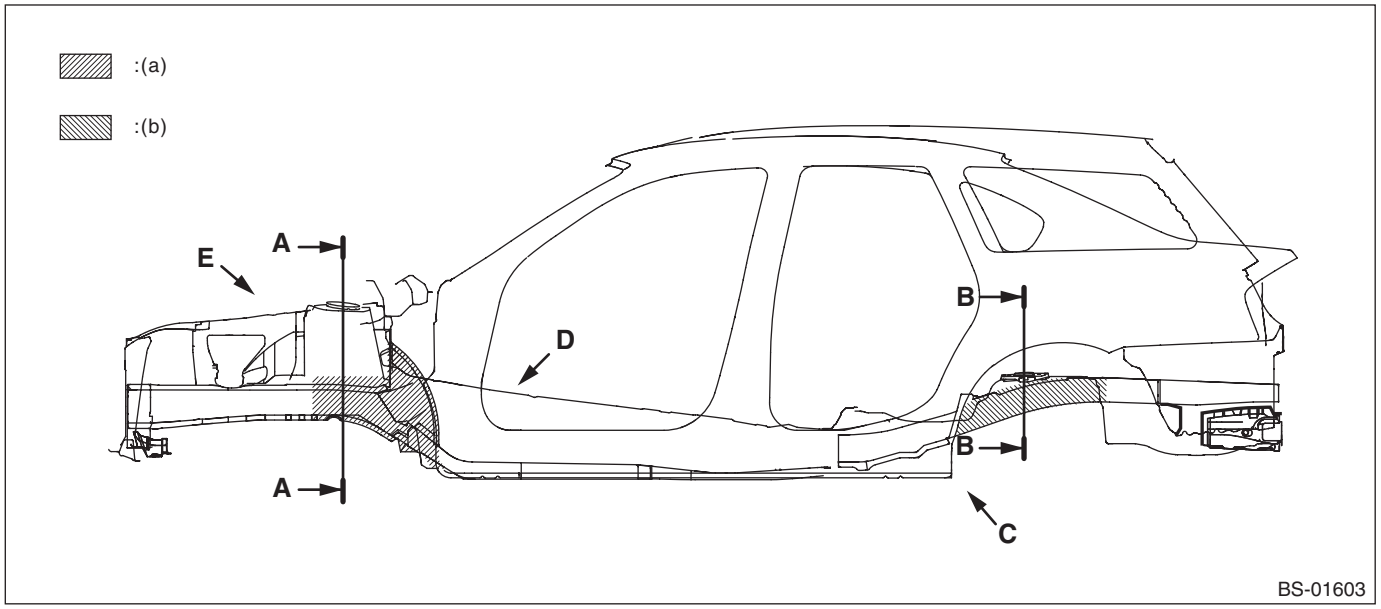
## A: SPECIFICATION

***Repair material:***
***THREE BOND 6115***

1) The application thickness is 0.4 mm or more when no instruction is indicated.
2) Take care that under coat does not become attached to other locations than shown in the figures and the following locations.
- High-temperature parts related to the exhaust pipe
- Hoses, tubes, and harness parts
- Installation surfaces of rear suspension, transmission, subframe, etc.

3) Application area

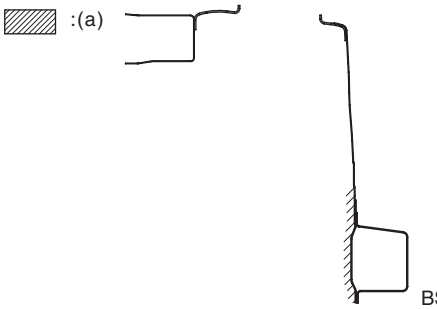
- Side view




(a) Under coat application locations

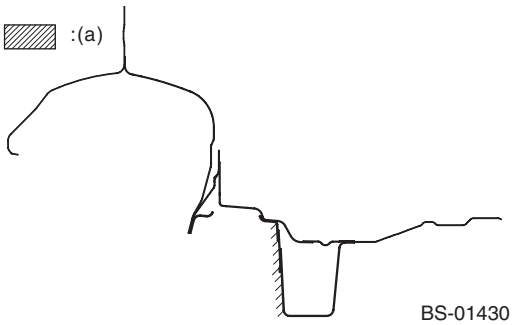
(b) Under coat application locations (Film thickness = 600 μm or more)

Cross section A — A



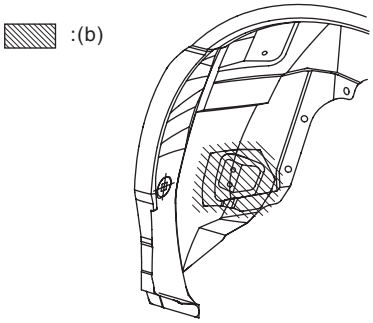

BS-01429

Cross section B — B



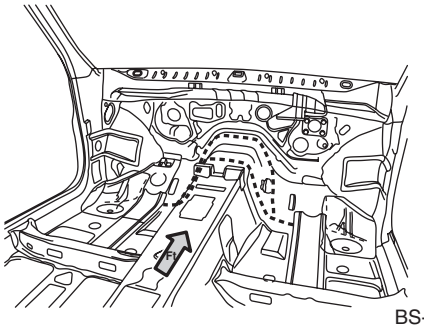

BS-01430

View C



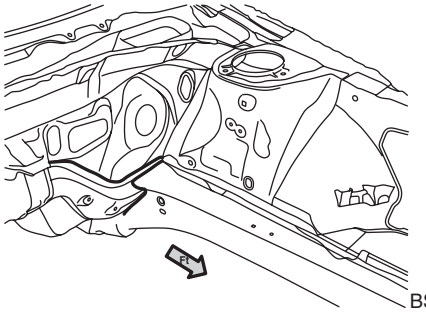

BS-01605

View D




BS-01509

View E

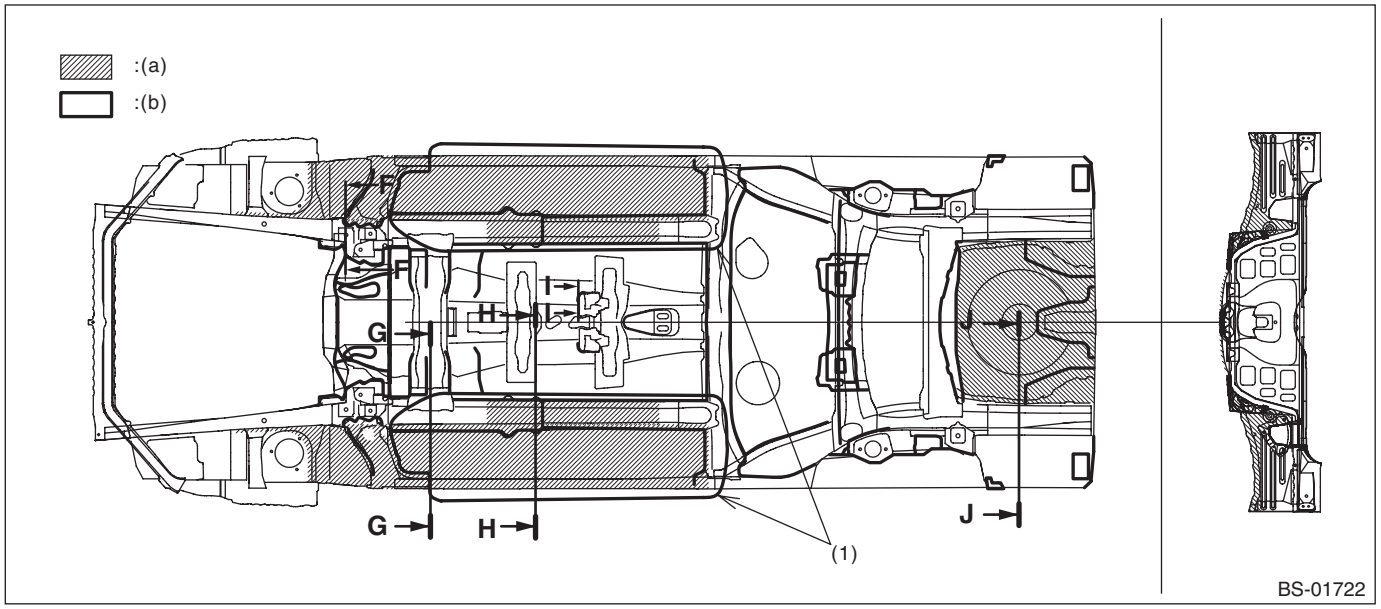



BS-01510

(a) Under coat application locations

(b) Under coat application locations (Film thickness = 600 μ or more)

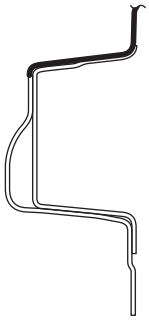
- Bottom view/rear view




(1) For models with an under cover, no under coat is required in this area.

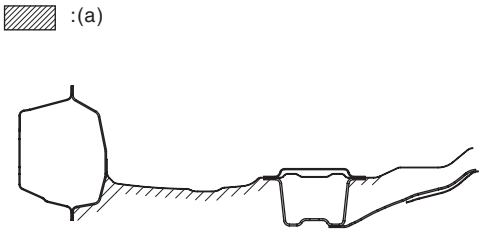
(a), (b) Under coat application locations

Cross section F — F



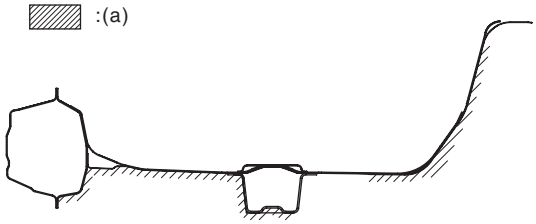
BS-01511

Section G — G (rotated 90°)



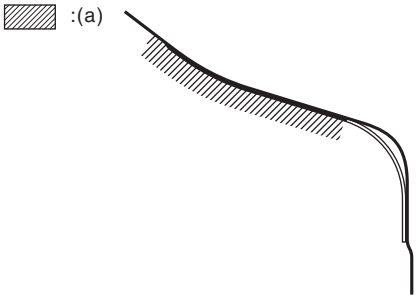

BS-01606

Section H — H (rotated 90°)



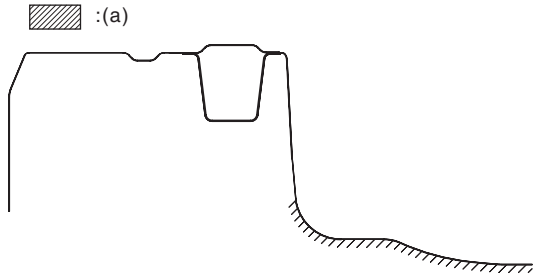

BS-01607

Section I — I




BS-01512

Section J — J (rotated 90°)

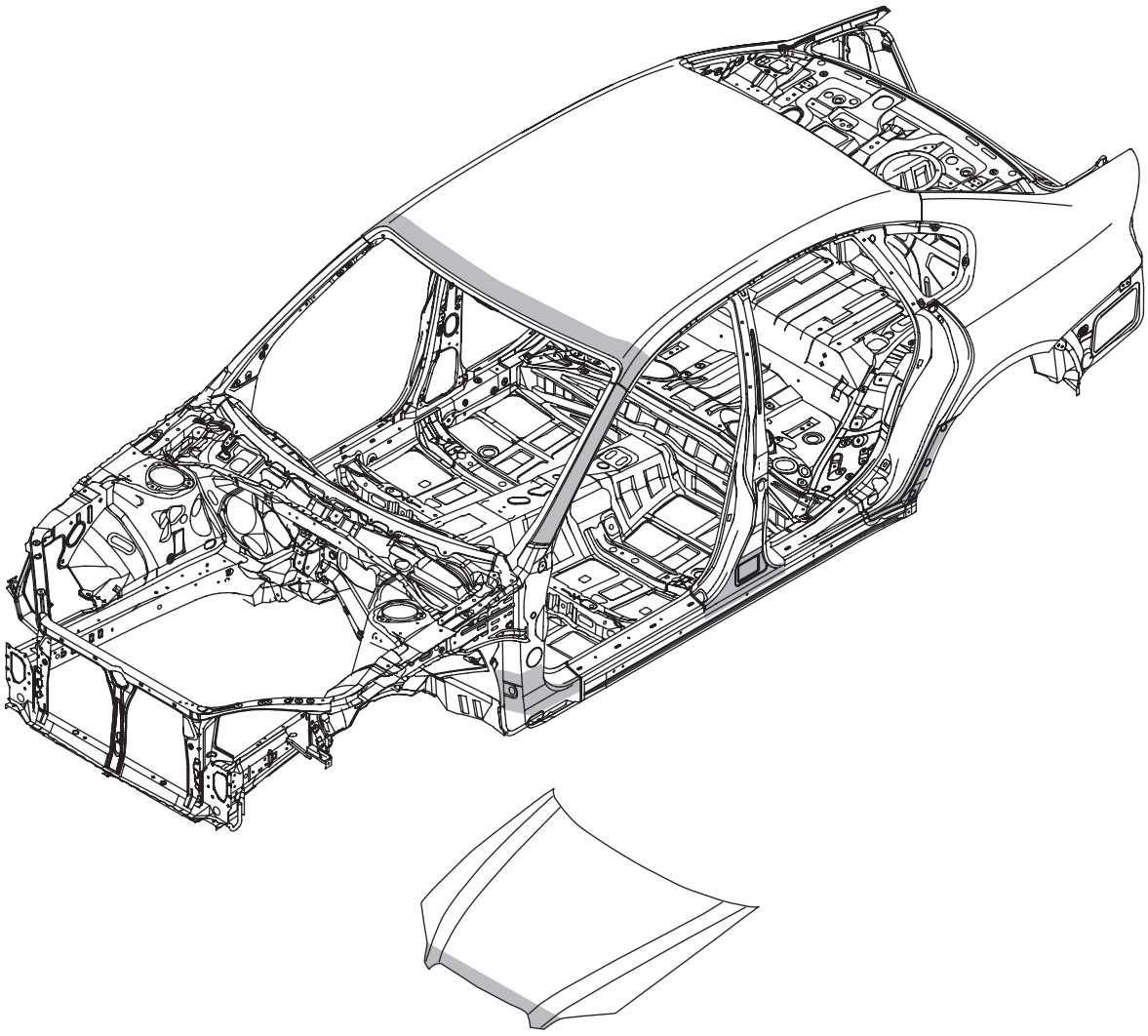



BS-01608

(a) Under coat application locations

# 8. Anti Chipping Coat

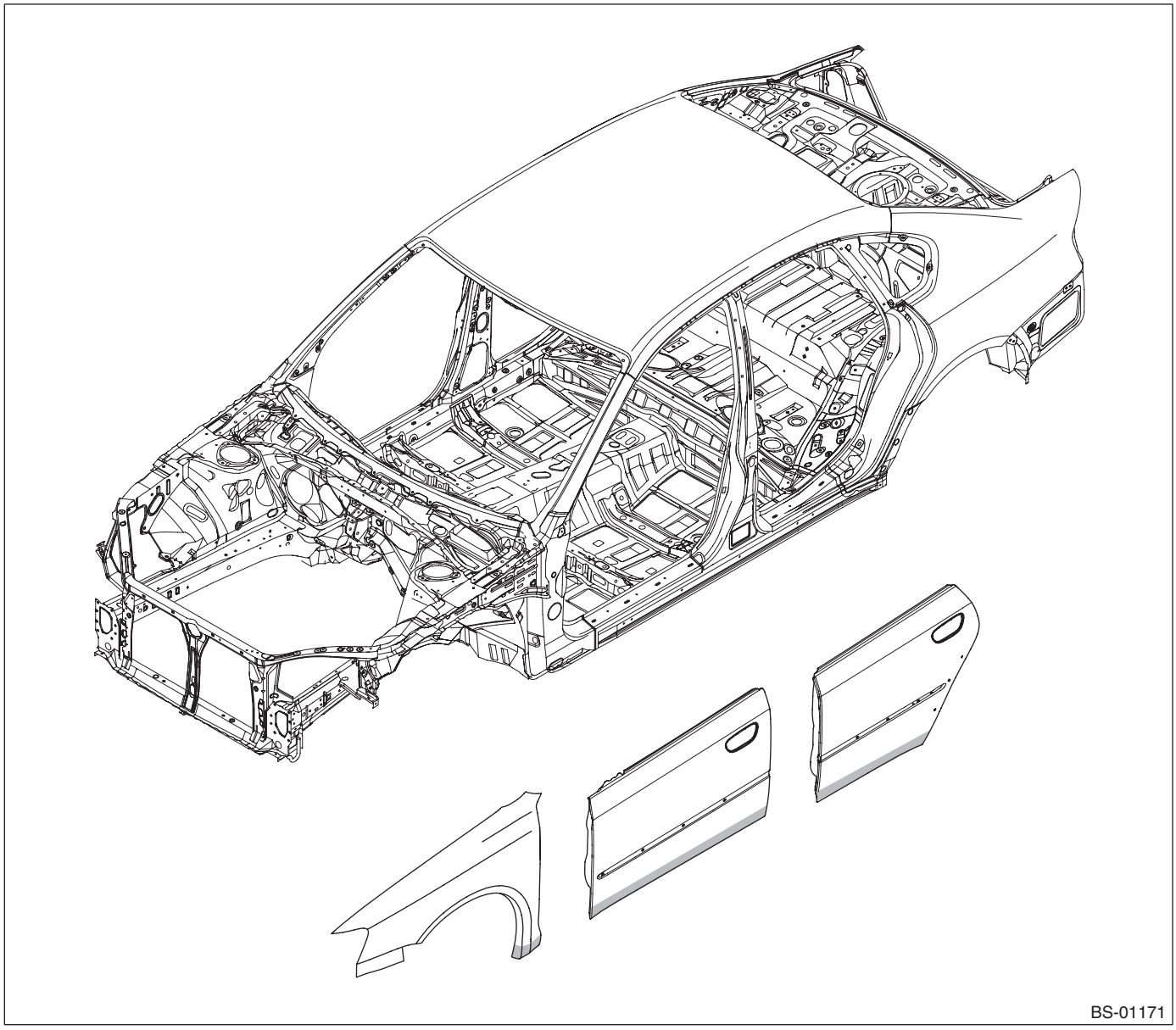
## A: SPECIFICATION



BS-01723

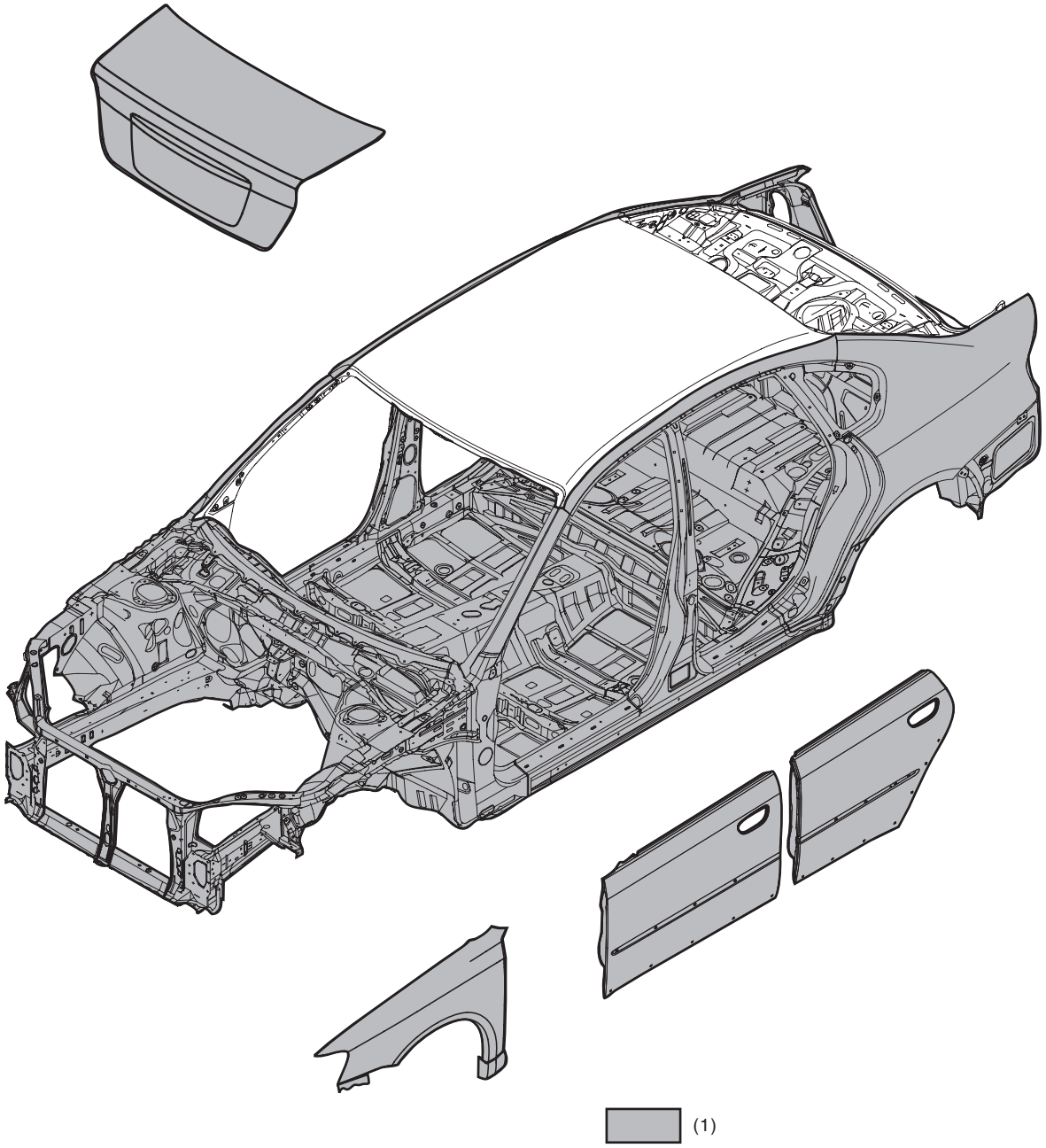
# 9. Stone Guard Coat

## A: SPECIFICATION



# 10.Galvanized Sheet Metal

## A: SPECIFICATION

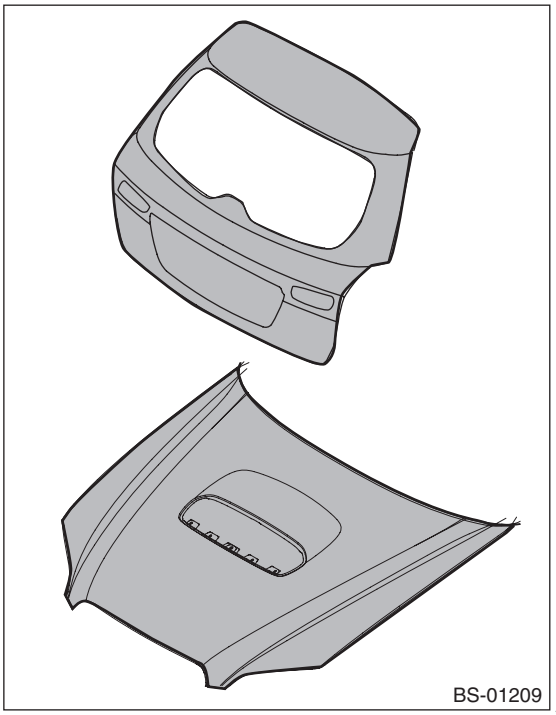



BS-01208

(1) Galvanized on both sides

# 11.Aluminium Sheet Metal

## A: SPECIFICATION



# INSTRUMENTATION/DRIVER INFO

# IDI


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Combination Meter System | 4 |
| 3. | Clock System | 17 |
| 4. | Combination Meter | 19 |
| 5. | Speedometer | 21 |
| 6. | Tachometer | 22 |
| 7. | Fuel Gauge | 23 |
| 8. | Engine Coolant Temperature Gauge | 24 |
| 9. | Clock | 25 |

# 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.

## B: PREPARATION TOOL

### 1. GENERAL TOOL

| TOOL NAME | REMARKS |
|---|---|
| Circuit tester | Used for measuring resistance and voltage. |
| TORX® bit 30 | Used for removing/installing driver's airbag module. |

• 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.

# 2. Horn System

## A: WIRING DIAGRAM

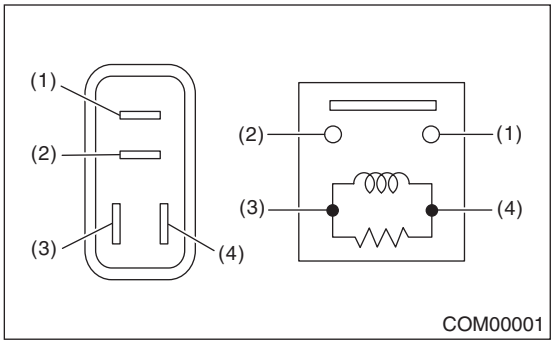
### 1. HORN

<Ref. to WI-156, 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.

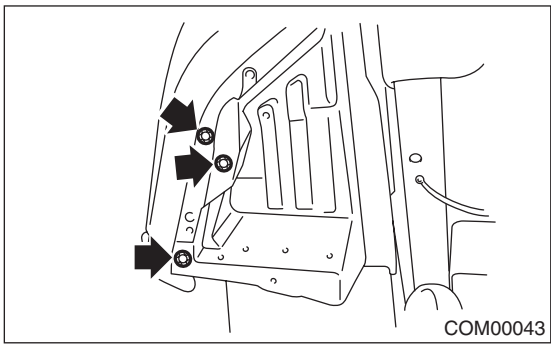



| Continuity | Terminal No. | Standard |
|---|---|---|
| Yes | 1 and 2 | Less than 1 Ω |
| No | | 1 MΩ or more |

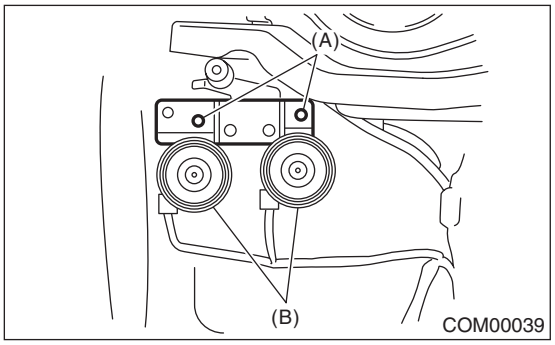
# 3. Horn

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the two clips and peel the right side lower mud guard upward.




3) Remove the horn bracket mounting bolt (A).
4) Disconnect the harness connector and remove the horn assembly (B).

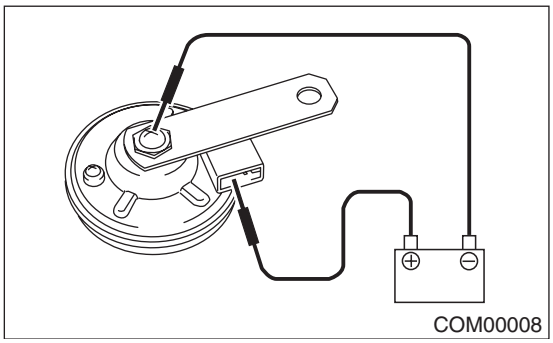



## B: INSTALLATION

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.>**

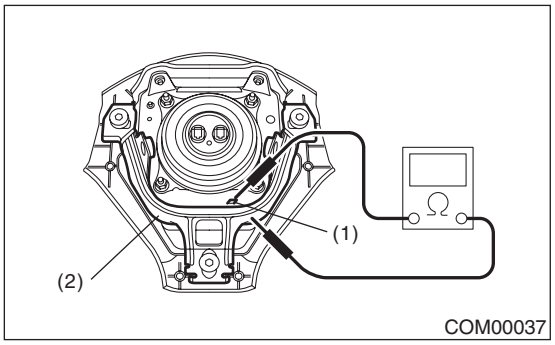
NOTE:
Horn switch is a unit with the driver's airbag module.
1) Disconnect the ground cable from battery.
2) Remove the driver's airbag module. <Ref. to AB-15, REMOVAL, Driver's Airbag Module.>

## 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 |

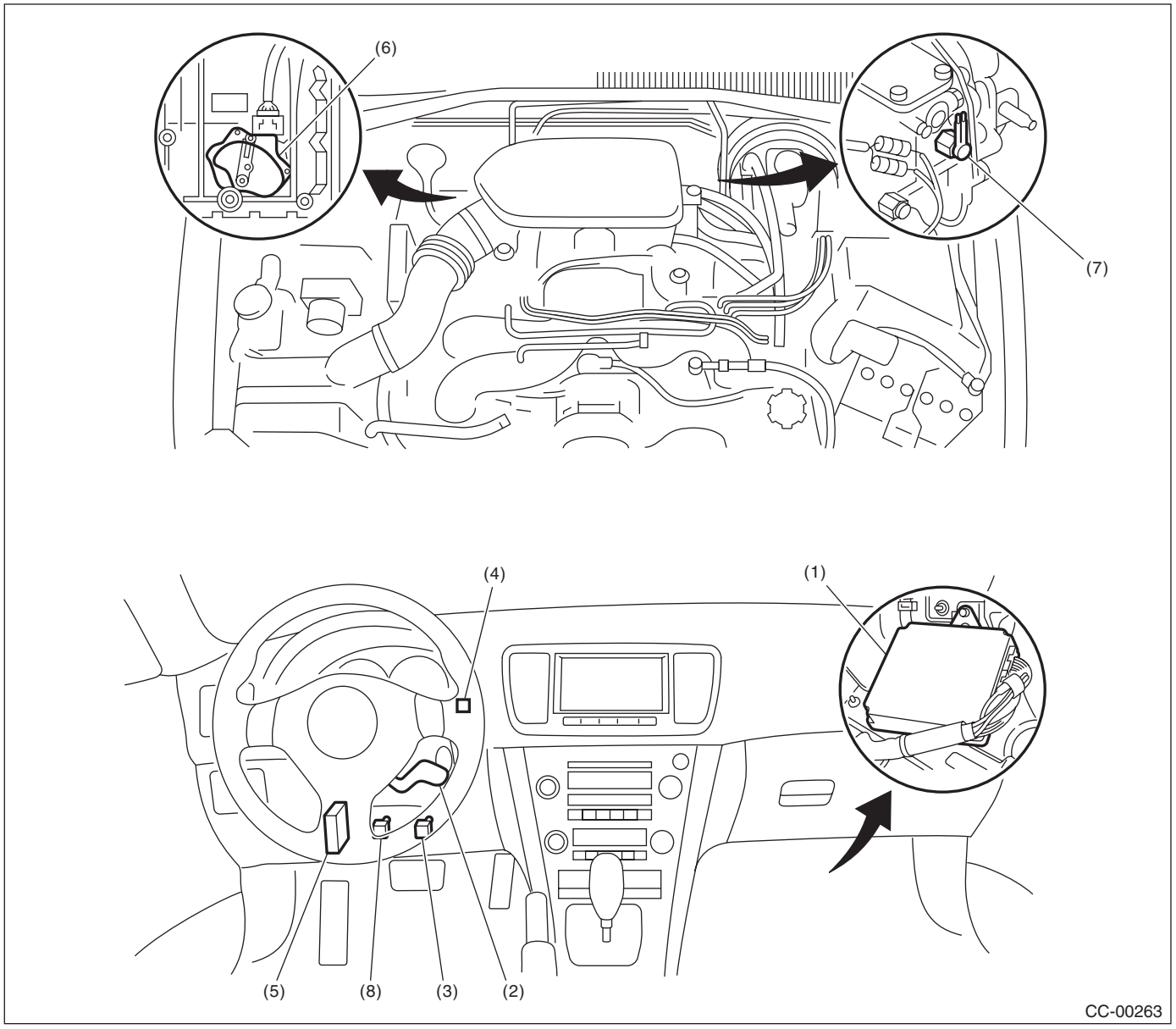
# GLASS/WINDOWS/MIRRORS

# GW


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Power Window System | 8 |
| 3. | Power Window Control Switch | 9 |
| 4. | Front Door Glass | 11 |
| 5. | Front Regulator and Motor Assembly | 16 |
| 6. | Remote Control Mirror System | 17 |
| 7. | Scalp Cap | 18 |
| 8. | Outer Mirror Assembly | 19 |
| 9. | Outer Mirror | 20 |
| 10. | Remote Control Mirror Switch | 21 |
| 11. | Rear Door Glass | 22 |
| 12. | Rear Regulator and Motor Assembly | 24 |
| 13. | Windshield Glass | 25 |
| 14. | Rear Gate Glass | 28 |
| 15. | Rear Window Glass | 29 |
| 16. | Rear Window Defogger System | 30 |
| 17. | Rear Window Defogger | 31 |
| 18. | Rear Quarter Glass | 33 |
| 19. | Sunroof Glass | 34 |
| 20. | Rearview Mirror | 35 |
| 21. | Wiper Deicer System | 36 |
| 22. | Wiper Deicer Switch | 37 |

# 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) (AT model)
(6) Inhibitor switch (AT model)
(7) Neutral position switch (MT model)
(8) Clutch switch (MT model)

## 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).

## B: REMOVAL

<Ref. to FU(H4SO)-35, REMOVAL, Engine Control Module (ECM).>
<Ref. to FU(H4DOTC)-44, REMOVAL, Engine Control Module (ECM).>
<Ref. to FU(H6DO)-33, REMOVAL, Engine Control Module (ECM).>

## C: INSTALLATION

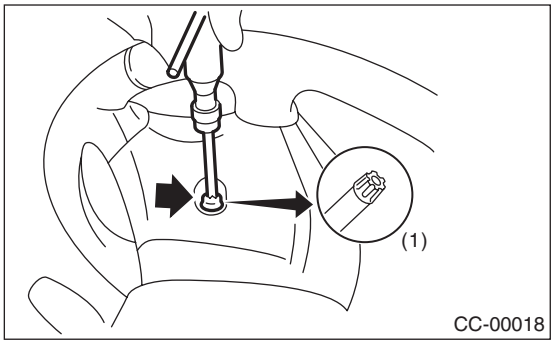
<Ref. to FU(H4SO)-35, INSTALLATION, Engine Control Module (ECM).>
<Ref. to FU(H4DOTC)-44, INSTALLATION, Engine Control Module (ECM).>
<Ref. to FU(H6DO)-33, INSTALLATION, Engine Control Module (ECM).>

# 3. Cruise Control Command Switch

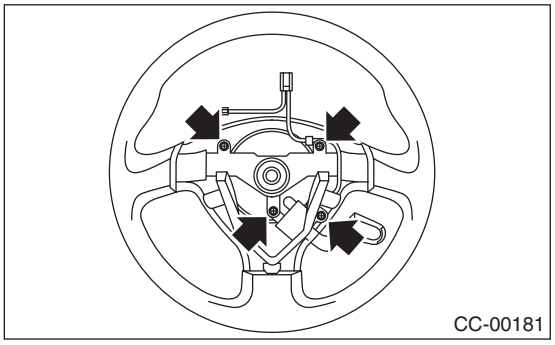
## A: REMOVAL

**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.>**

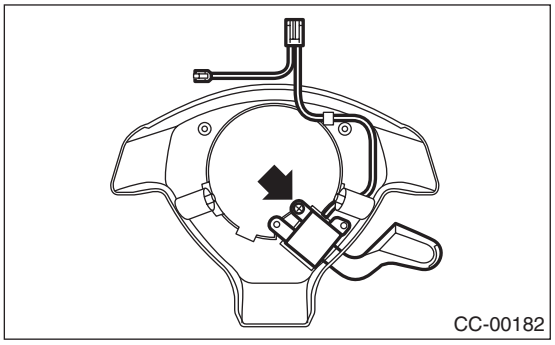
1) Set the front wheels in straight ahead position.
2) Turn the ignition switch to OFF.
3) Disconnect the ground cable from battery and wait for at least 20 seconds before starting work.
4) Using TORX® bit T30 (1), loosen two TORX® bolts which secure the driver's airbag module.




5) Disconnect the airbag module connector on back of the airbag module.
6) Remove the steering wheel. <Ref. to PS-14, 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.

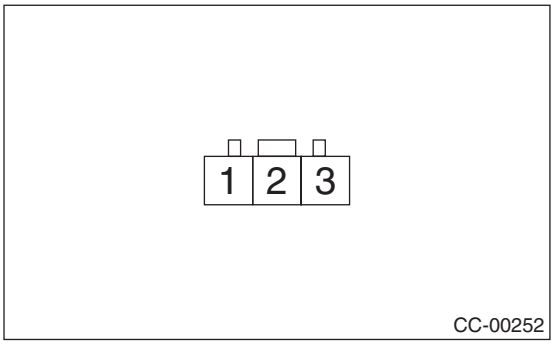



## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

Measure the cruise control command switch resistance.




| Switch | Position | 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. Stop Light & Brake Switch

## A: REMOVAL

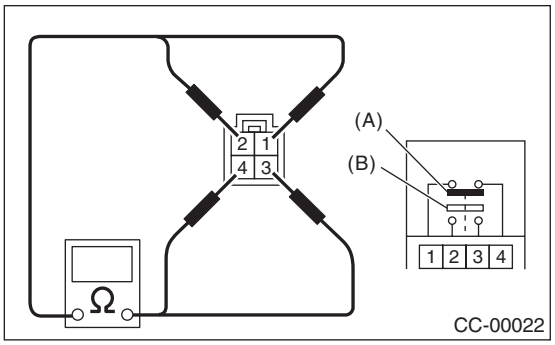
1) Disconnect the ground cable from the battery.
2) Disconnect the connector from the stop light & brake switch, and then remove the switch. <Ref. to BR-40, REMOVAL, Stop Light Switch.>

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

Measure the resistance of brake switch (A) and stop light switch (B).




| Switch | Pedal | Terminal No. | Standard |
|---|---|---|---|
| Brake | Released | 1 and 4 | Less than 1 Ω |
| | Depressed | 1 and 4 | 1 MΩ or more |
| Stop light | Released | 2 and 3 | 1 MΩ or more |
| | Depressed | 2 and 3 | Less than 1 Ω |

If NG, replace the stop light & brake switch.

# 5. Clutch Switch

## A: REMOVAL

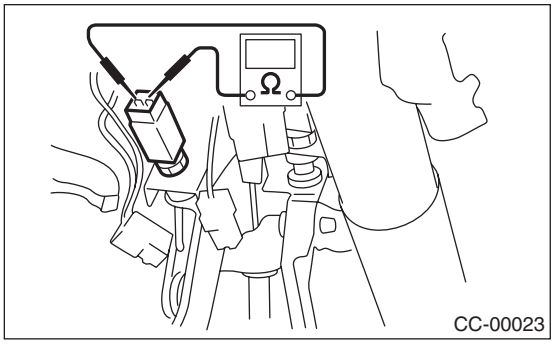
1) Disconnect the ground cable from the battery.
2) Disconnect the connector from the clutch switch, and then remove the switch. <Ref. to CL-31, DISASSEMBLY, Clutch Pedal.>

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

Measure the clutch switch resistance.




| Switch | Pedal | Terminal No. | Standard |
|---|---|---|---|
| Clutch | Released | 1 and 2 | Less than 1 Ω |
| | Depressed | 1 and 2 | 1 MΩ or more |

If NG, replace the clutch switch.

# 6. Inhibitor Switch

## A: REMOVAL

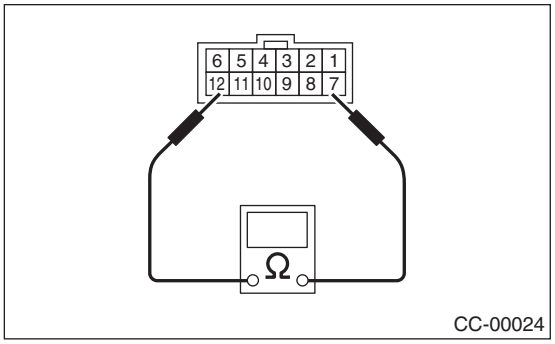
1) Disconnect the ground cable from the battery.
2) Disconnect the connector from inhibitor switch, then remove the switch. <Ref. to 4AT-45, REMOVAL, Inhibitor Switch.>

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

Measure the inhibitor switch resistance.




| Select lever position | Terminal No. | Standard |
|---|---|---|
| P | 7 and 12 | Less than 1 Ω |
| N | | Less than 1 Ω |
| Other than P or N | | 1 MΩ or more |

If NG, replace the inhibitor switch.

# 7. Neutral Position Switch

## A: REMOVAL

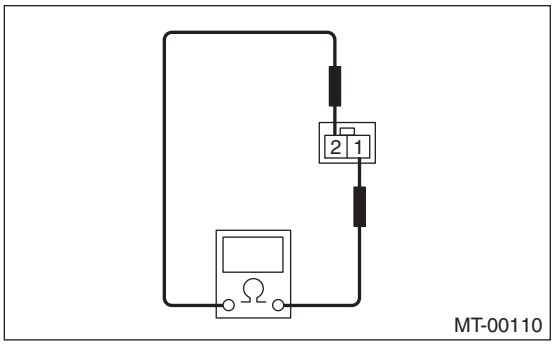
1) Disconnect the ground cable from the battery.
2) Disconnect the connector from the neutral position switch, and remove the switch. <Ref. to 5MT-33, BACK-UP LIGHT SWITCH & NEUTRAL POSITION SWITCH, REMOVAL, Switches and Harness.>

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

Measure the resistance of neutral position switch.




| Gear shift position | Terminal No. | Standard |
|---|---|---|
| Neutral position | 1 and 2 | Less than 1 Ω |
| Other positions | | 1 MΩ or more |

If NG, replace the neutral position switch.

# CRUISE CONTROL SYSTEM (DIAGNOSTICS)

# CC(diag)


Page

1. Basic Diagnostic Procedure .....2
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) .....12
8. Diagnostic Procedure with Diagnostic Trouble Code (DTC) .....15

# 1. Basic Diagnostic Procedure

## A: PROCEDURE

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK MALFUNCTION INDICATOR LIGHT.**<br>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.**<br>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.**<br>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.**<br>Check the cruise control setting operation. | Can the cruise control be set while driving at 40 km/h (25 MPH) or more? | Go to step **6**. | Go to step **5**. |
| 5 | **PERFORM CRUISE CONTROL CANCEL CONDITIONS DIAGNOSIS.**<br>Perform the cruise cancel conditions diagnosis. | Is DTC displayed? | Go to “List of Diagnostic Trouble Code (DTC)”. <Ref. to CC(diag)-12, 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.**<br>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.**<br>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.**<br>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.**<br>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.**<br>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.**<br>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.**<br>Check the cruise control release operation. | Is the cruise control released after shifting to the neutral position? | Go to step **13**. | Go to phenomenon 9. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> |
| 13 | **CHECK CRUISE CONTROL RELEASE OPERATION.**<br>Check the cruise control release operation. | Is the cruise control released after depressing the clutch pedal? | Finish the diagnosis. | Go to phenomenon 10. <Ref. to CC(diag)-9, DIAGNOSTIC PROCEDURE WITH PHENOMENON, Diagnostics with Phenomenon.> |

# 2. General Description

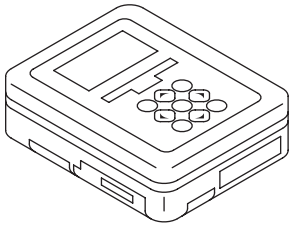
## A: CAUTION

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

**CAUTION:**
**• 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 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 |
|---|---|---|---|
|  ST1B020XU0 | 1B020XU0 | SUBARU SELECT MONITOR KIT | Used for troubleshooting the electrical system. |

### 2. GENERAL TOOL

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

## C: INSPECTION

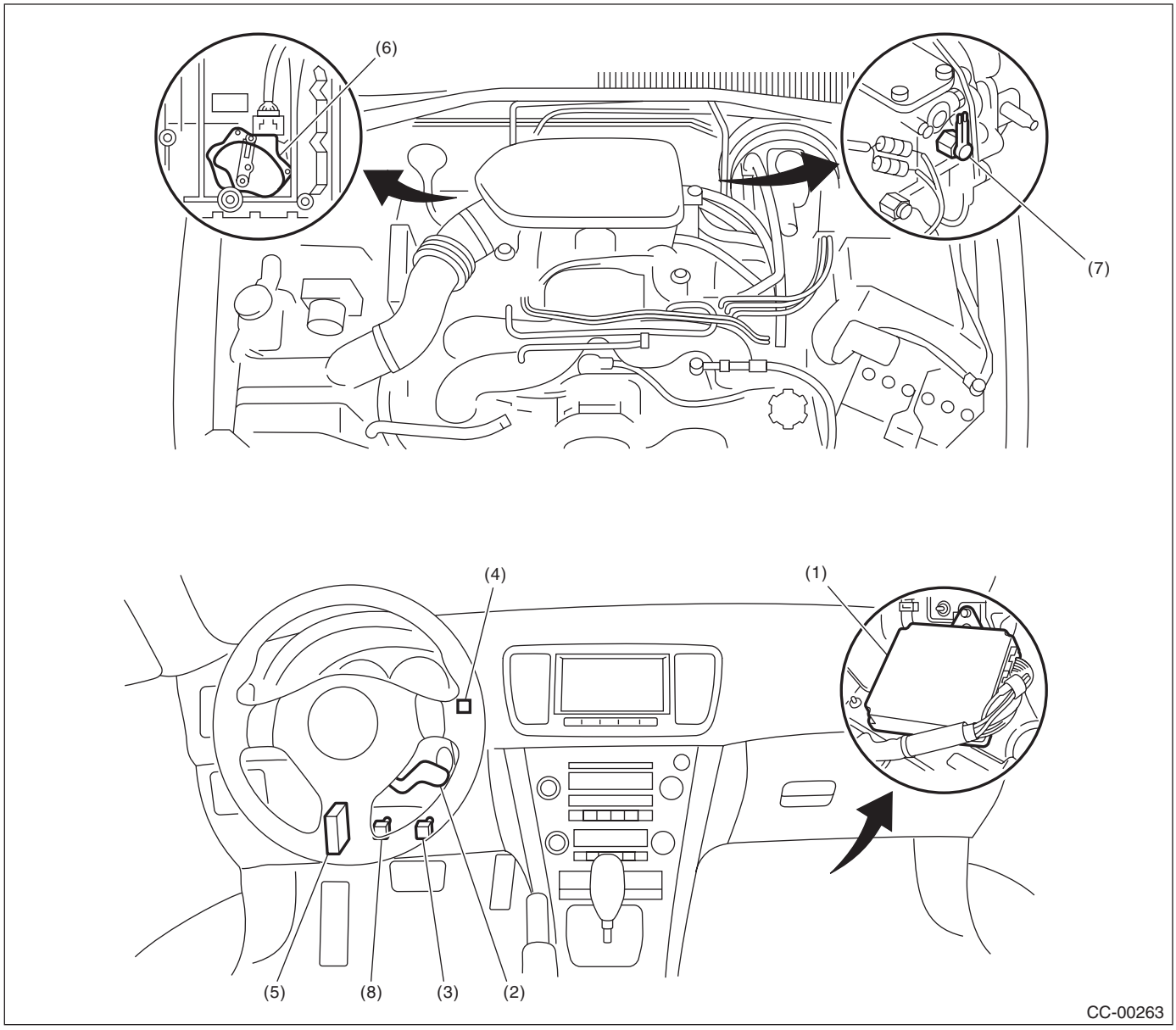
Measure the battery voltage and specific gravity of electrolyte.

***Standard voltage:***
***12 V or more***

***Specific gravity:***
***1.260 or more***

# 3. Electrical Component Location

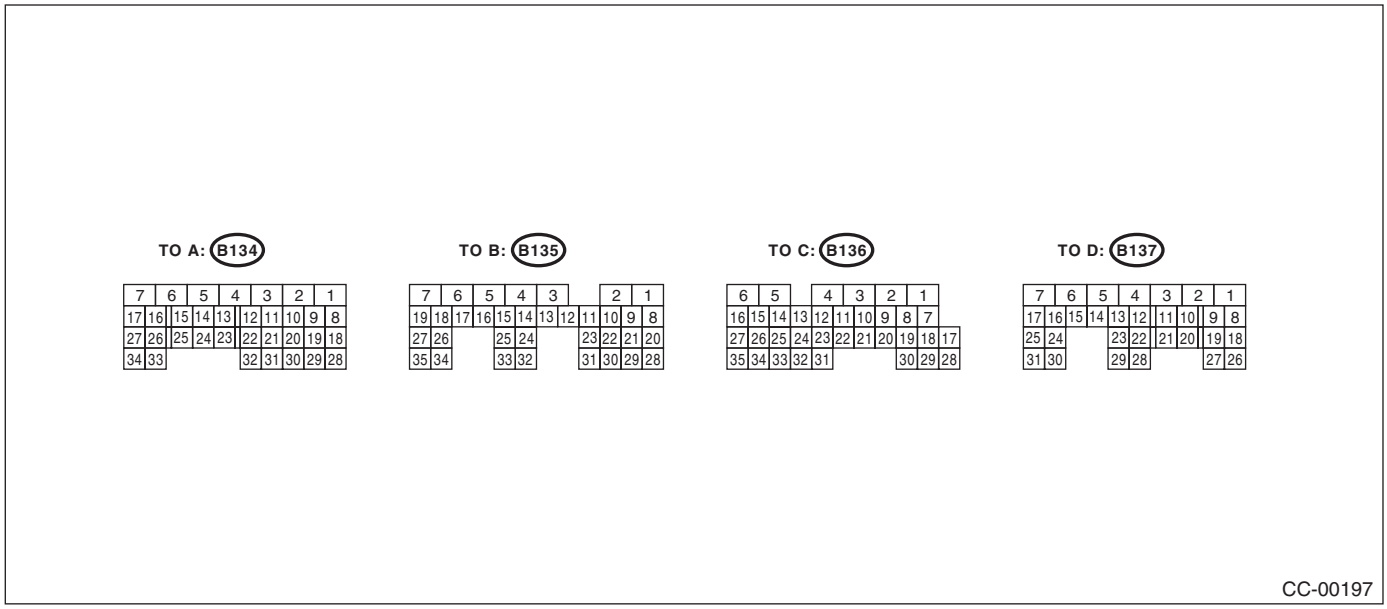
## A: LOCATION




(1) Engine control module (ECM)
(2) Cruise control command switch
(3) Stop light & brake switch
(4) Cruise indicator light and cruise set indicator light
(5) Transmission control module (TCM) (AT model)
(6) Inhibitor switch (AT model)
(7) Neutral position switch (MT model)
(8) Clutch switch (MT model)

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

## A: ELECTRICAL SPECIFICATION




| Contents | | Terminal No. | Measurement condition and I/O signal (Idling with ignition ON: Except cruise set light) |
|---|---|---|---|
| Main power supply | VB (CONTROL 1)<br>VB (CONTROL 2) | A7, B2 | • Battery voltage is detected when the main power is turned ON.<br>• “0 V” is detected when the main power is turned OFF. |
| Command switch | | B24 | • “0 V” is detected when the command switch is in CANCEL position.<br>• “Approx. 1 V” is present when the command switch is in SET/ COAST position.<br>• “Approx. 3 V” is detected when the command switch is in RESUME/ ACCEL position.<br>• “Approx. 4 V” is detected when the command switch is released. |
| Brake switch 1(Brake switch) | | B20 | • Battery voltage is detected when the brake pedal is released.<br>• “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.<br>• “0 V” is detected when the brake pedal is released. |
| Main switch | | B12 | • “0 V” is present while the main switch is pressed or turned on.<br>• Approx. “5 V” is detected when the main switch is OFF. |
| Ground | GND (CONTROL 1)<br>GND (CONTROL 2) | D2<br>D1 | — |
| Ignition switch | | B19 | • Battery voltage is detected when the ignition switch is turned ON.<br>• “0 V” is detected when the ignition switch is turned OFF. |
| Clutch switch(MT model) | | C25 | • “0 V ”is present when brake pedal is depressed.<br>• Battery voltage is detected when the clutch pedal is released. |
| Neutral position switch (MT model) | | C31 | • Battery voltage is present when the shift lever is set in any position other than neutral.<br>• “Approx. 0 V” is detected when the shift lever is in neutral position. |
| Neutral signal (AT model) | | C31 | • “Approx. 5 V” (4AT model) or battery voltage (5AT model) is detected when the shift lever is set in any position except “P” or “N”.<br>• “0 V” is detected when the shift lever is in “P” or “N” position. |

## B: WIRING DIAGRAM

<Ref. to WI-191, WIRING DIAGRAM, Cruise Control System.>

# 5. Subaru Select Monitor

## A: OPERATION

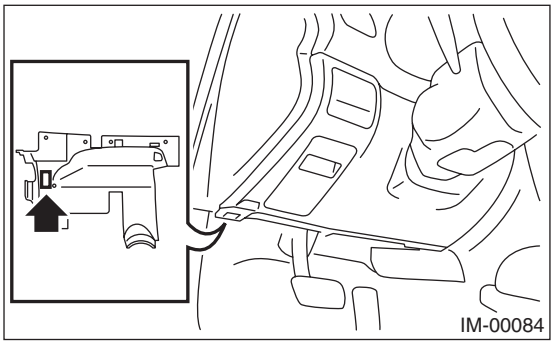
### 1. GENERAL DESCRIPTION

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 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 the 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.
4) Start the engine and turn the cruise control main switch to ON.
5) Run the Subaru Select Monitor.
6) On the «Main Menu» screen, select {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 40 km/h (25 MPH) or more 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 such as applying brake) or when the cruise control could not be set by performing the setting operation, selecting the {Check Cancel Code} on the engine malfunction diagnosis screen and then selecting the [OK] will display the DTC on the select monitor display.

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

9) Perform Engine DTC Clear Memory operation.
<Ref. to EN(H4SO)(diag)-53, OPERATION, Clear Memory Mode.>
<Ref. to EN(H4DOTC)(diag)-56, OPERATION, Clear Memory Mode.>
<Ref. to EN(H6DO)(diag)-54, OPERATION, Clear Memory Mode.>
DTCs of switches relating to the system and cruise control are deleted by clearing memory on the engine side.

NOTE:
The latest code will be cleared by turning ignition switch to OFF.

## 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 Monnitor.
4) On the «Main Menu» screen, select {2. Each System Check}.
5) On the «System Selection» display 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 are turned 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 procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.
- Refer to “List of Diagnostic Trouble Code (DTC)” for DTC. <Ref. to CC(diag)-12, List of Diagnostic Trouble Code (DTC).>

# 6. Diagnostics with Phenomenon

## A: DIAGNOSTIC PROCEDURE WITH PHENOMENON

| Phenomenon | | Check 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)-11, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.> |
| | | (2) Check the cruise control command switch. | <Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-24, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-25, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, 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)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-24, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-25, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| | | (2) Check stop light switch and brake switch. | <Ref. to CC(diag)-17, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 25, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, DTC 61, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| | | (3) Check clutch switch. | <Ref. to CC(diag)-19, DTC 13, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| | | (4) Check the neutral position switch. | <Ref. to CC(diag)-21, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, DTC 62, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| | | (5) Check vehicle speed sensor. | <Ref. to CC(diag)-26, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 32, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, 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)-11, CHECK CRUISE INDICATOR LIGHT AND CRUISE SET INDICATOR LIGHT, Diagnostics with Phenomenon.> |
| 4 | Vehicle speed is not held within set speed ±3 km/h (±2 MPH). | Check the vehicle speed sensor. | <Ref. to CC(diag)-26, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 32, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, DTC 63, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |

| Phenomenon | | Check 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)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-24, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-25, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, 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)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-24, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-25, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, 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)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-24, DTC 15, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-25, DTC 21, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, 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)-17, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-27, DTC 25, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, 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)-21, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br><Ref. to CC(diag)-28, DTC 62, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 10 | Cruise control is not released after clutch pedal has been depressed. | Check the clutch switch. | <Ref. to CC(diag)-19, DTC 13, 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.**<br>1) Perform self-diagnosis of the combination meter. <Ref. to IDI-4, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.><br>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-19, Combination Meter.> |
| 2 | **CHECK LAN COMMUNICATION CIRCUIT ERROR DISPLAY.**<br>1) Complete self-diagnosis, and turn the ignition switch to ON again.<br>2) Check if the communication error is displayed on the odo/trip meter in combination meter. | Is the error code “Er xx” displayed on odo/trip meter? | Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> | Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, 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)-15, 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)-17, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 13 | Clutch switch | Clutch switch is turned to ON, and then the cruise control is released. | This DTC is displayed without depressing the clutch pedal. <Ref. to CC(diag)-19, DTC 13, 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)-21, 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)-24, 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)-25, 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 when the ignition switch is turned to ON without operating the cruise control command switch. <Ref. to CC(diag)-25, 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)-26, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |

| DTC | Item | Contents of diagnosis | Reference |
|---|---|---|---|
| 24 | Cruise Control Related Switch Malfunction | Open circuit of cruise control switch is detected during cruise driving. (The system is judged as model without cruise control.) | This DTC is displayed with normal operation. <Ref. to CC(diag)-27, DTC 24, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 25 | Brake Switch Input Circuit Malfunction | Malfunction of brake switch input circuit in ECM is detected. | <Ref. to CC(diag)-27, DTC 25, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 31 | Engine speed signal | • Abnormal increase of engine speed is detected.<br>• Gear is placed in Neutral, 1st or Reverse position. | Cruise in 2nd shift position or more.<br><Ref. to CC(diag)-27, DTC 31, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 32 | Out of vehicle speed range of cruise control operation | • Controlled vehicle speed decreased under the limit during cruising.<br>• Set operation was performed at vehicle speed unavailable for setting.<br>• 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.<br><Ref. to CC(diag)-27, 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. | This DTC is displayed when driving for a long period of time at higher speed than appropriate cruise set vehicle speed by operating accelerator pedal. In this case, the cruise setting is deactivated.<br><Ref. to CC(diag)-27, 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. | This DTC is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause.<br><Ref. to CC(diag)-27, DTC 35, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |

| DTC | Item | Contents of diagnosis | Reference |
|---|---|---|---|
| 41 | VDC/TCS operation | Vehicle dynamics control (VDC) or TCS is operated during cruise driving or cruise setting. | This DTC is displayed when driving condition is not suitable for cruise control. Perform cruise set operation again after clearing the possible cause. <Ref. to CC(diag)-27, DTC 41, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 43 | ABS/VDC malfunction | ABS or Vehicle dynamics control (VDC) system malfunction is detected during cruise driving or cruise setting. | <Ref. to CC(diag)-27, 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)-27, 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)-28, DTC 45, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 61 | Brake switch malfunction | Malfunction in the stop light & brake switch is detected. | <Ref. to CC(diag)-28, DTC 61, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 62 | Neutral position switch malfunction | Neutral position switch malfunction is detected. | <Ref. to CC(diag)-28, DTC 62, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 63 | Vehicle speed variation malfunction 1 | Malfunction of vehicle speed signal variation is detected. | <Ref. to CC(diag)-28, 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)-28, DTC 64, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 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 condition is detected.) | <Ref. to CC(diag)-28, DTC 65, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 66 | Cruise control computational malfunction | Cruise control calculation (microcomputer) malfunction is detected. | <Ref. to CC(diag)-28, DTC 66, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |

# 8. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

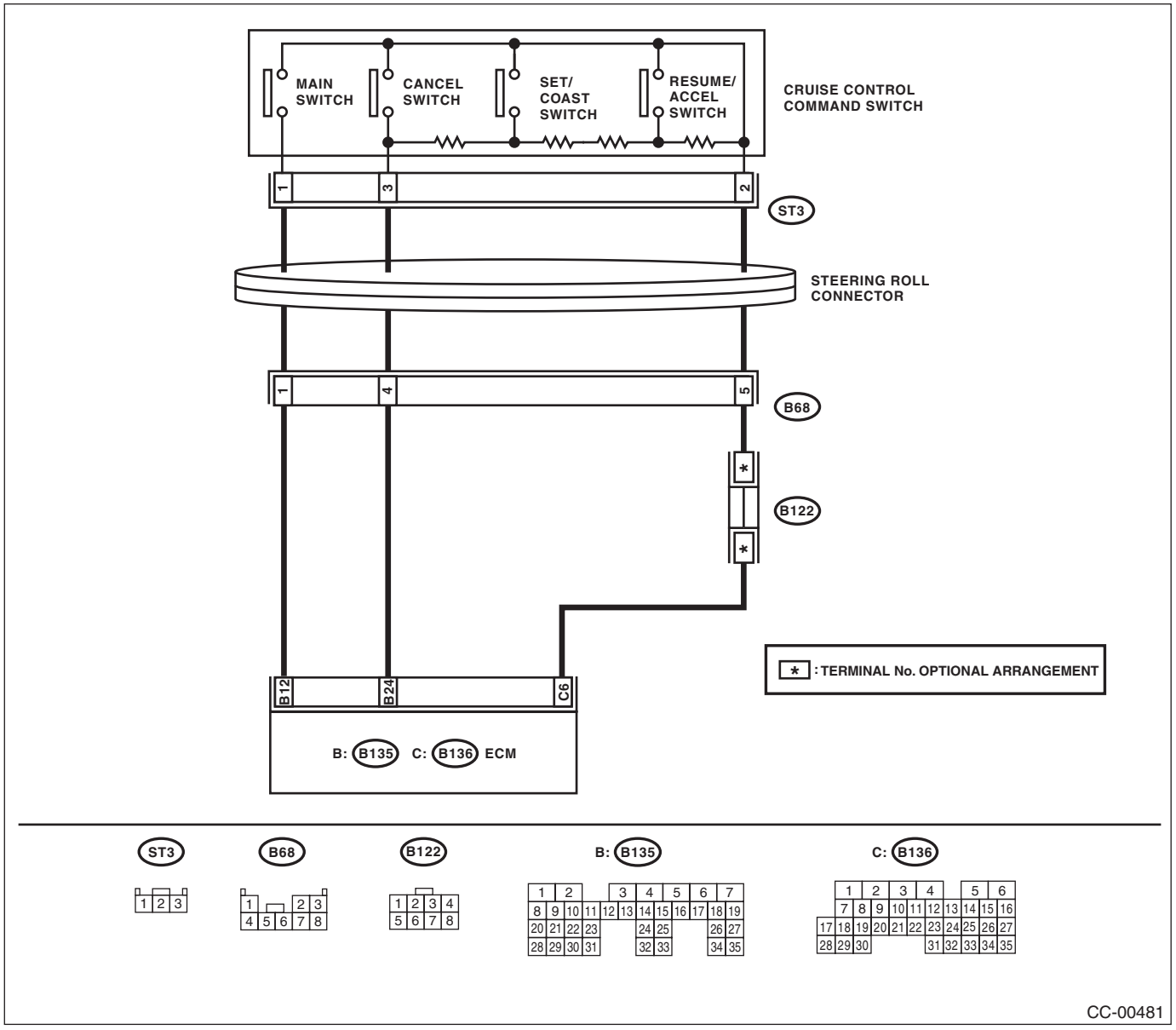
## A: DTC 11

The malfunction is detected when the main switch is pressed or problem relating to the main switch occurs.

**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.**<br>1) Remove the driver's airbag module. <Ref. to AB-15, REMOVAL, Driver's Airbag Module.><br>2) Disconnect the harness connector of cruise control command switch.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(ST3) No. 1 (+) — Chassis ground (–):***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the cruise control command switch. <Ref. to CC-5, REMOVAL, Cruise Control Command Switch.><br>3) Measure the resistance between harness connector terminal and chassis ground.<br>***Connector terminal***<br>***(ST3) No. 6 — 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.**<br>Measure the resistance between switch terminals when the cruise control command switch is not being pressed.<br>***Terminals***<br>***No. 6 — No. 7:*** | 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.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the cruise control command switch. <Ref. to CC-5, REMOVAL, Cruise Control Command Switch.><br>3) Measure the resistance between switch terminals when the CANCEL switch is pressed.<br>***Terminals***<br>***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.**<br>Measure the resistance between switch terminals when the SET/COAST switch is pressed.<br>***Terminals***<br>***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.**<br>Measure the resistance between switch terminals when the RESUME/ACCEL switch is pressed.<br>***Terminals***<br>***No. 2 — No. 3:*** | Is the resistance approx. 1,500 Ω when RESUME/ACCEL switch is pressed? | Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> | Replace the cruise control command switch. <Ref. to CC-5, Cruise Control Command Switch.> |

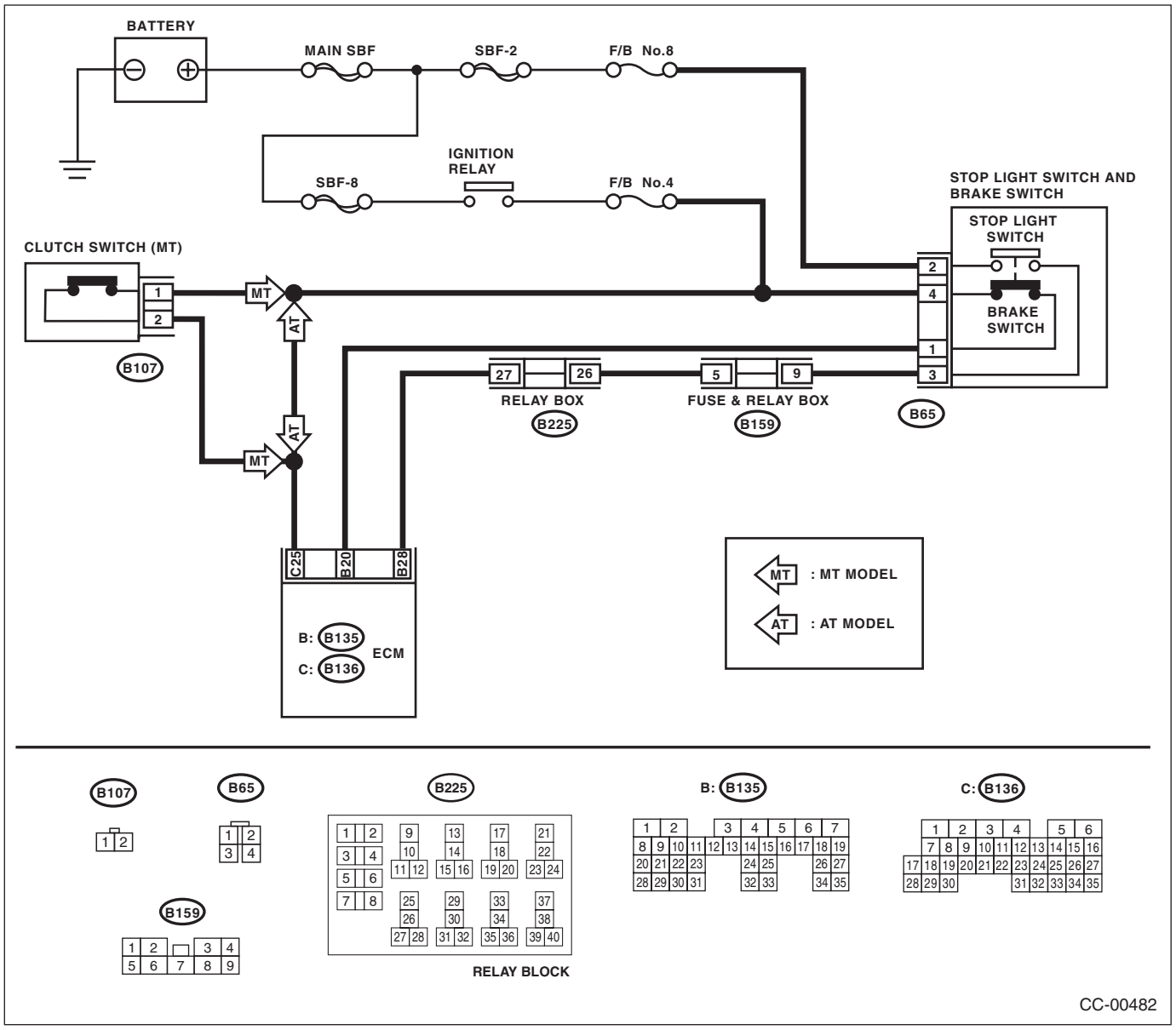
## B: DTC 12

The DTC is detected when the brake pedal is pressed or problem relating to stop lamp & brake switch occurs.

**TROUBLE SYMPTOM:**

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the stop light & brake switch harness connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B65) No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | • Check fuse No. 8 (in fuse & relay box).<br>• Check for open or short in the harness between stop light & brake switch and fuse & relay box. |
| 2 | **CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT.**<br>Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B65) No. 4 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | • Check fuse No. 4 (in fuse & relay box).<br>• Check for open or short in the harness between stop light & brake switch and fuse & relay box. |
| 3 | **CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of ECM.<br>3) Measure the resistance between ECM harness connector terminal and stop light & brake switch harness connector terminal.<br>***Connector & terminal***<br>***(B135) No. 28 — (B65) No. 3:***<br>***(B135) No. 20 — (B65) No. 1:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair the harness. |
| 4 | **CHECK STOP LIGHT & BRAKE SWITCH CIRCUIT.**<br>Remove and check the stop light & brake switch. <Ref. to CC-6, Stop Light & Brake Switch.> | Is the stop light & brake switch OK? | Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> | Replace the stop light & brake switch. |

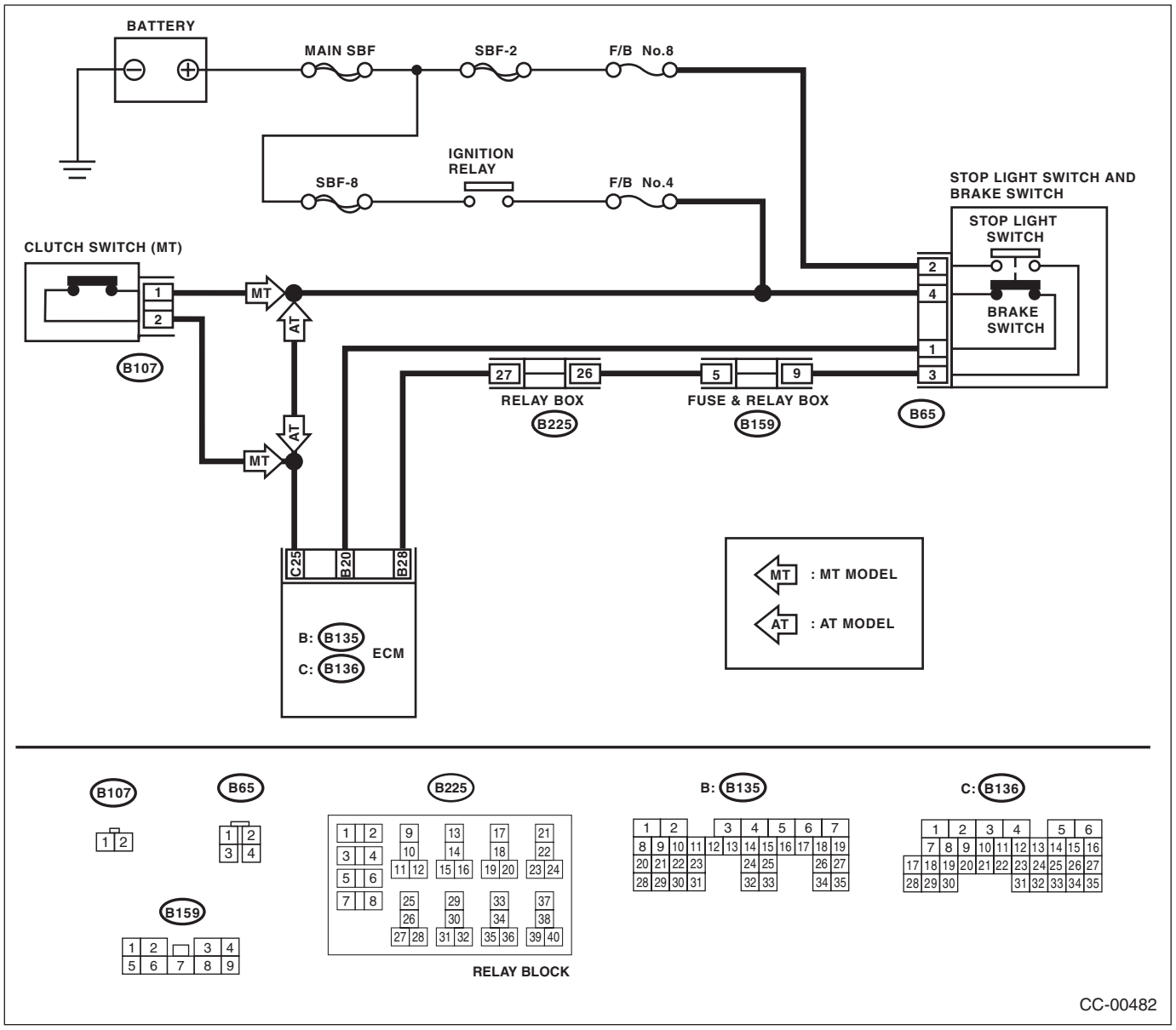
## C: DTC 13

The DTC is detected when the clutch pedal is depressed or problem relating to the clutch switch occurs.

**TROUBLE SYMPTOM:**

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

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK CLUTCH SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the clutch switch harness connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B107) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | • Check fuse No. 4 (in fuse & relay box).<br>• Check open or shorted circuit of harness between clutch switch and fuse & relay box. |
| 2 | **CHECK CLUTCH SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of ECM.<br>3) Measure the resistance between clutch switch harness connector terminal and ECM harness connector terminal.<br>***Connector & terminal***<br>***(B107) No. 2 — (B136) No. 25:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Repair the harness. |
| 3 | **CHECK CLUTCH SWITCH.**<br>Remove and check the clutch switch. <Ref. to CC-7, Clutch Switch.> | Is clutch switch OK? | Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> | Replace the clutch switch. |

## D: DTC 14

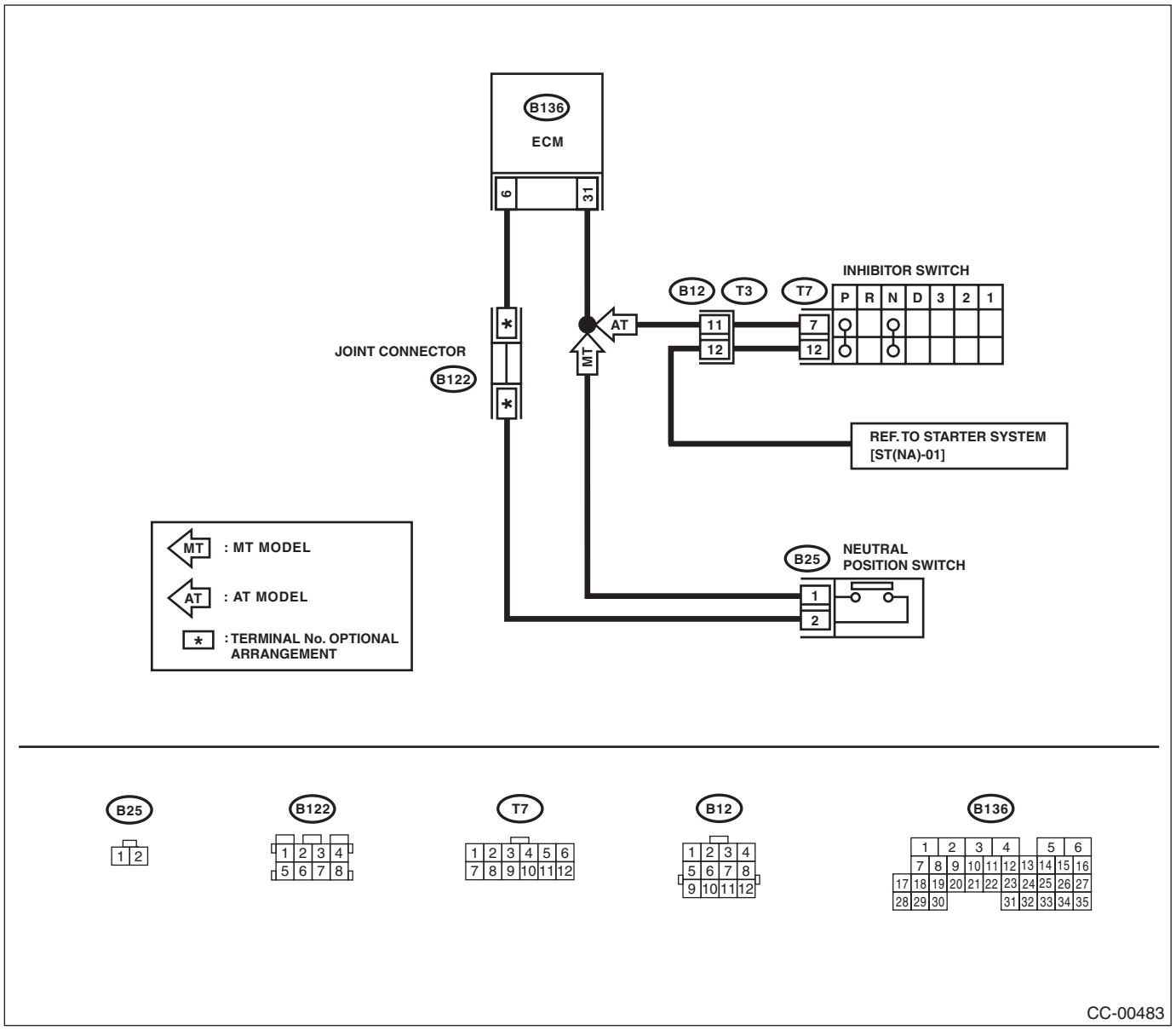
The DTC is detected when the select lever is placed in neutral position or problem relating to the neutral position switch occurs.

**TROUBLE SYMPTOM:**

Cruise control cannot be set.

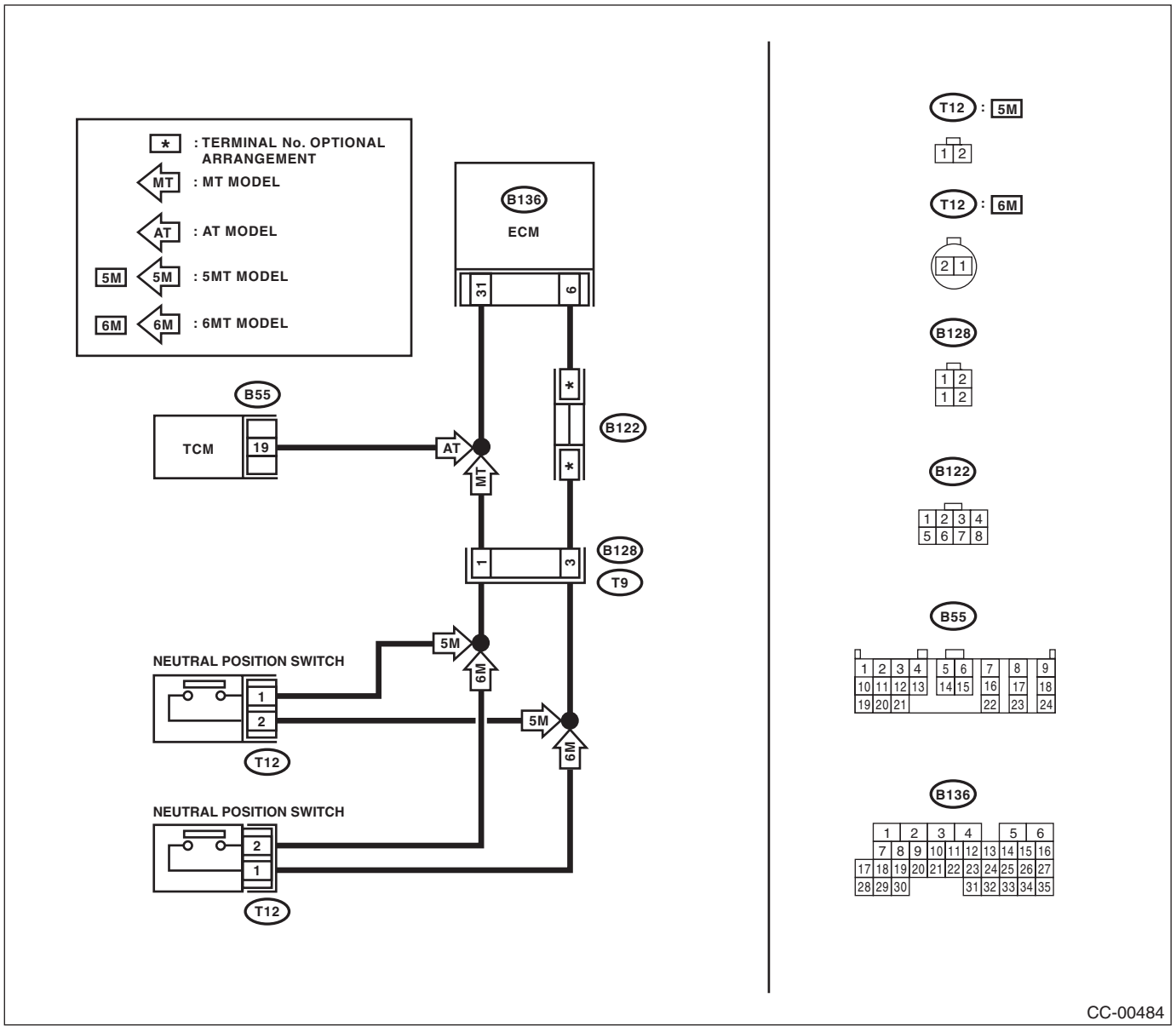
**WIRING DIAGRAM:**

- H4 Non-turbo model




CC-00483

- H4 turbo model
- H6 model



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK VEHICLE FOR SPECIFICATION.**<br>Check the vehicle destination and specification. | Is the vehicle a 5AT model? | Go to step **2**. | Go to step **5**. |
| 2 | **CHECK NEUTRAL POSITION SWITCH.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON and run the Subaru Select Monitor.<br>3) Select {Engine Control System} from the main menu.<br>4) Then, select {Current Data Display & Save}.<br>5) Check the neutral position switch signal by shifting the select lever to "P" or "N" range. | Is the Subaru Select Monitor run when select lever is shifted into "P" or "N" range? Is Subaru Select Monitor closed when select lever is shifted to a range other than the "P" or "N" range? | Replace the ECM. <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> | Go to step **3**. |
| 3 | **CHECK TCM OUTPUT VOLTAGE.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between TCM harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B55) No. 19 (+) — Chassis ground (–):*** | Is voltage 10 V or more 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 **4**. | Check the TCM. <Ref. to 5AT(diag)-2, Basic Diagnostic Procedure.> |
| 4 | **CHECK HARNESS BETWEEN TCM AND ECM.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector from TCM and ECM.<br>3) Measure the resistance between TCM harness connector terminal and ECM harness connector terminal.<br>***Connector & terminal***<br>***(B136) No. 31 — (B55) No. 19:*** | Is the resistance less than 10 Ω? | Replace the ECM. <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> | Repair the wiring harness. |
| 5 | **CHECK TRANSMISSION TYPE.** | Is the transmission type 4AT? | Go to step **6**. | MT model: Go to step **9**. |
| 6 | **CHECK INHIBITOR SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the inhibitor switch harness connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(T7) No. 7 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **7**. | Check for open or short in the harness between inhibitor switch and ECM. |
| 7 | **CHECK INHIBITOR SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the starter motor harness connector.<br>3) Measure the resistance between inhibitor switch harness connector terminal and starter motor.<br>***Connector & terminal***<br>***(T7) No. 12 — Starter motor:*** | Is the resistance less than 10 Ω? | Go to step **8**. | Repair the harness. |
| 8 | **CHECK INHIBITOR SWITCH.**<br>Remove and check the inhibitor switch. <Ref. to CC-8, Inhibitor Switch.> | Is the inhibitor switch OK? | Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> | Replace the inhibitor switch. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 9 | **CHECK NEUTRAL POSITION SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the neutral position switch harness connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Non-turbo model:***<br>***(B25) No. 1 (+) — Chassis ground (–):***<br>***Turbo model:***<br>***(B128) No. 1 (+) — Chassis ground (–):*** | Is the voltage approx. 5 V? | Go to step **10**. | Check for open or short in the harness between neutral position switch and ECM. |
| 10 | **CHECK NEUTRAL POSITION SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Measure resistance between harness connector terminal of neutral position switch and chassis ground.<br>***Connector & terminal***<br>***Non-turbo model:***<br>***(B25) No. 2 — Chassis ground:***<br>***Turbo model:***<br>***(B128) No. 3 — Chassis ground:*** | Is the resistance less than 10 Ω? | Go to step **11**. | Repair the harness. |
| 11 | **CHECK NEUTRAL POSITION SWITCH.**<br>Remove and check the neutral position switch. <Ref. to CC-9, Neutral Position Switch.> | Is the neutral position switch OK? | Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> | Replace the neutral position switch. |

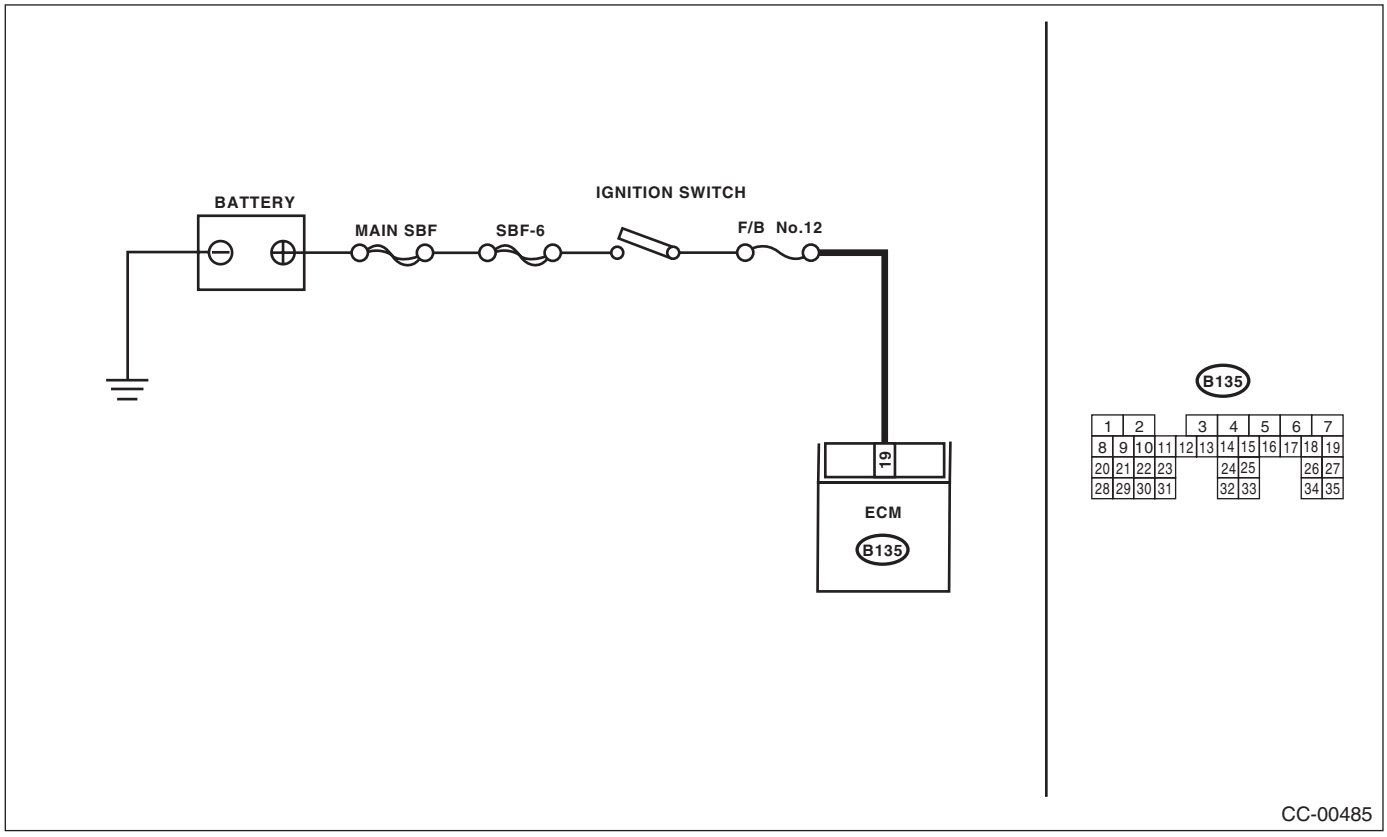
## E: DTC 15

This DTC is detected when the cancel switch is pressed or problem relating to the main switch occurs.
**TROUBLE SYMPTOM:**
- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## F: DTC 16

This DTC is detected when the ignition switch is turned OFF or problem relating to the ignition switch occurs.
**TROUBLE SYMPTOM:**
Cruise control cannot be set.
**WIRING DIAGRAM:**




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

## G: DTC 21

Cruise control command switch malfunction is detected.
**TROUBLE SYMPTOM:**
- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## H: DTC 22

Malfunction related to vehicle speed sensor is detected.
**DIAGNOSIS:**
Open or shorted circuit in vehicle speed sensor system.
**TROUBLE SYMPTOM:**
Cruise control cannot be set. (Cancelled immediately.)

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ABS OR VDC WARNING LIGHT.**<br>1) Turn the ignition switch to ON.<br>2) After the initial operation of combination meter is completed, check if ABS or VDC warning light continues to illuminate. | Does the warning light continue to illuminate? | Check ABSCM or VDCCM. <Ref. to ABS(diag)-2, Basic Diagnostic Procedure.> <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.> | Go to step **2**. |
| 2 | **CHECK LAN COMMUNICATION CIRCUIT ERROR DISPLAY.**<br>Check if the communication error is displayed on the odo/trip meter in combination meter. | Is the error code “Er xx” displayed on odo/trip meter? | Check the LAN communication circuit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> | Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> |

## I: DTC 24

Malfunction in cruise control-related switch is detected.
**TROUBLE SYMPTOM:**
- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## J: DTC 25

Malfunction of brake input circuit in ECM is detected.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H4SO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H4DOTC)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## K: DTC 31

Malfunction of the engine speed signal is detected.
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.

## L: DTC 32

This DTC is detected out of vehicle speed range.
Increase vehicle speed high enough to allow the cruise control to function, and then perform setting operation again.
If the DTC is detected after performing the setting operation, perform DTC 22 diagnosis.
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-26, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## M: DTC 34

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.
Perform the cruise control setting operation again. If the DTC is not detected, it is normal.

## N: 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.

## O: 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.>

## P: 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.>

## Q: 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.>

## R: 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.>

## S: DTC 61

Malfunction in the stop light & brake switch is detected.
**TROUBLE SYMPTOM:**
- Cruise control cannot be set.
- Cruise control cannot be released.

Refer to DTC 12 for diagnostic procedure.
<Ref. to CC(diag)-17, DTC 12, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## T: DTC 62

Neutral position switch malfunction is detected.
**TROUBLE SYMPTOM:**
Cruise control cannot be set.
Refer to DTC 14 for diagnostic procedure.
<Ref. to CC(diag)-21, DTC 14, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## U: DTC 63

Malfunction of vehicle speed signal variation is detected.
**TROUBLE SYMPTOM:**
Cruise control cannot be set. (Cancelled immediately.)
Refer to DTC 22 for diagnostic procedure.
<Ref. to CC(diag)-26, DTC 22, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## V: DTC 64

Malfunction related to engine is detected.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H4SO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H4DOTC)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

## W: 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 condition is detected.
**TROUBLE SYMPTOM:**
- Cruise control cannot be set. (Cancelled immediately.)
- Cruise control cannot be released.

Refer to DTC 11 for diagnostic procedure.
<Ref. to CC(diag)-15, DTC 11, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## X: DTC 66

Cruise control calculation malfunction is detected.
Refer to the Engine Diagnostic Procedure for diagnostic procedure.
<Ref. to EN(H4SO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H4DOTC)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
<Ref. to EN(H6DO)(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

# IMMOBILIZER (DIAGNOSTICS)

# IM(diag)


Page

1. Basic Diagnostic Procedure .....2
2. General Description .....3
3. Electrical Component Location .....5
4. Immobilizer Control Module I/O Signal .....6
5. Subaru Select Monitor .....7
6. Read Diagnostic Trouble Code (DTC) .....8
7. Clear Memory Mode .....9
8. Diagnostics Chart for Security Indicator Light .....10
9. List of Diagnostic Trouble Code (DTC) .....14
10. Diagnostic Procedure with Diagnostic Trouble Code (DTC) .....16

# 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.

## B: PREPARATION TOOL

### 1. GENERAL TOOL

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

• 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.

# 2. Audio System

## A: WIRING DIAGRAM

<Ref. to WI-149, 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.<br>2. Check the audio ground.<br>3. Remove the audio and repair them. |
| A specific speaker does not operate. | 1. Check the speaker.<br>2. Check the output circuit between audio and speaker. |
| Audio generates noise with engine is running. | 1. Check the audio ground.<br>2. Check the generator.<br>3. Check the ignition coil.<br>4. Remove the audio and repair them. |
| Volume is low in AM and FM modes or interference noise occurs. | 1. Check the antenna.<br>2. Check the antenna amplifier.<br>3. Check the noise suppressor.<br>4. Check the audio ground.<br>5. Remove the audio and repair them. |

# 3. Front Accessory Power Supply Socket System

## A: WIRING DIAGRAM

<Ref. to WI-151, WIRING DIAGRAM, Front Accessory Power Supply Socket System.>

# 4. Rear Accessory Power Supply Socket System

## A: WIRING DIAGRAM

<Ref. to WI-152, WIRING DIAGRAM, Rear Accessory Power Supply Socket System.>

# 5. Navigation System

## A: WIRING DIAGRAM

<Ref. to WI-153, 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-153, WIRING DIAGRAM, Navigation System.>" of the navigation device to perform inspection.

### 4. SWITCHING TO CONNECTION INSPECTION MODE

1) Press the menu key.
2) Select the navigation setup from the menu screen.
3) Select the 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 THE PARKING SIGNAL

NOTE:
The side brake signal is normally "OFF", so operating it will produce no change.

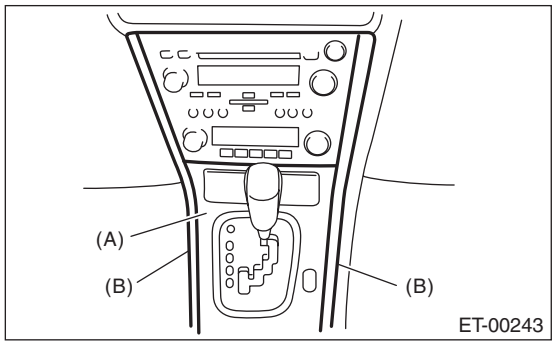
## 9. CHECK SPEED SENSOR

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.

# 6. Audio

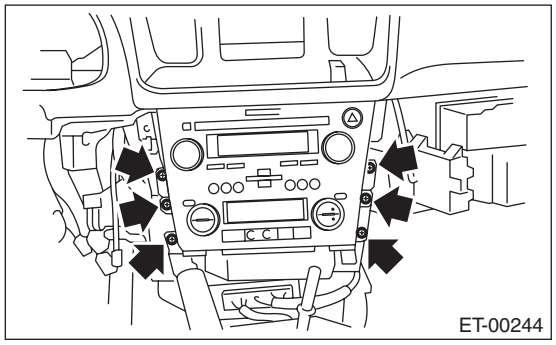
## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
3) Remove the console front panel. <Ref. to EI-52, REMOVAL, Center Console.>
4) Remove the console side garnish. <Ref. to EI-52, REMOVAL, Center Console.>




(A) Console front panel
(B) Console side garnish

5) Remove the screws, and partially pull the audio out from center console.

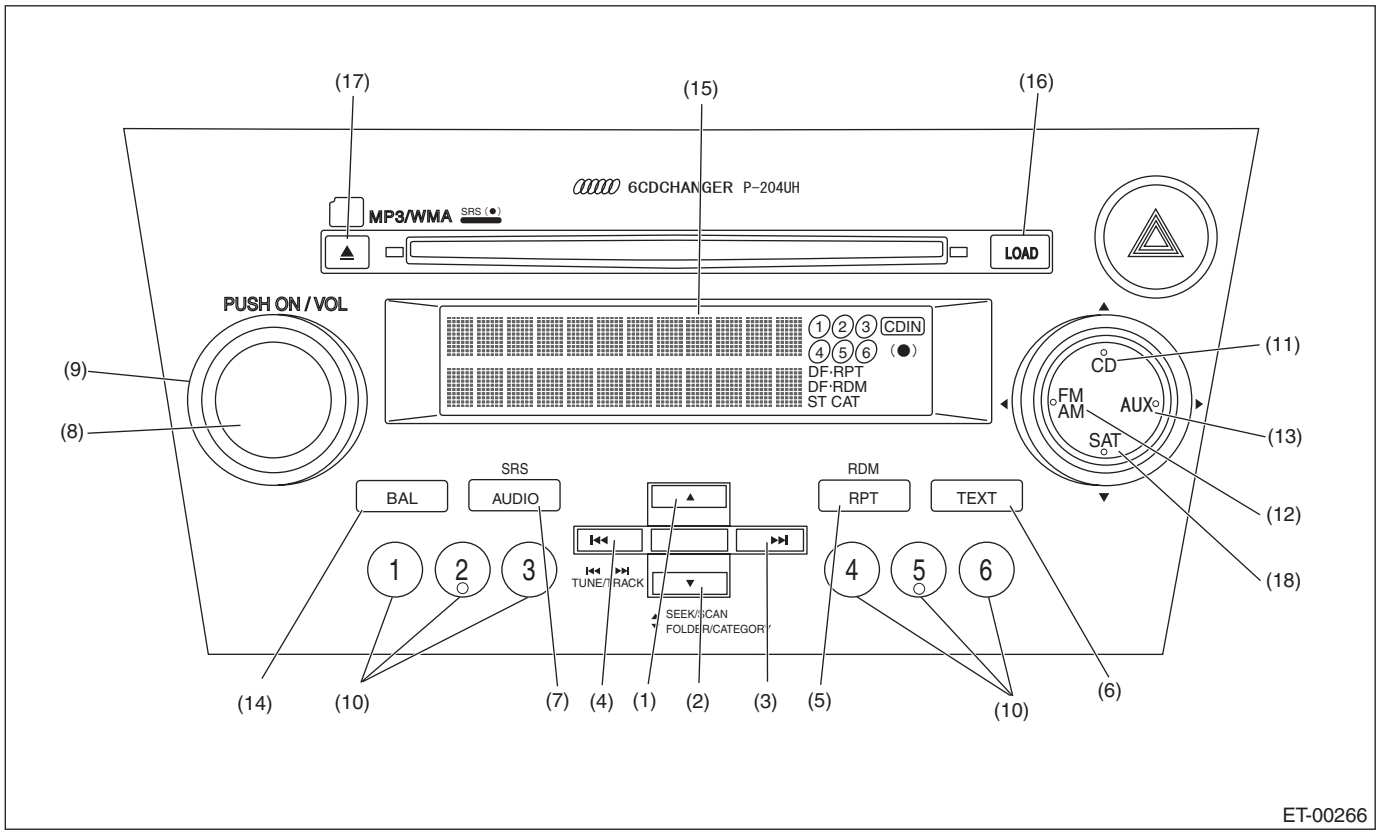



6) Disconnect the harness connector and antenna feeder cord, and then remove the audio.

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION




| | | | | | |
|---|---|---|---|---|---|
| (1) | SEEK UP switch | (7) | AUDIO switch | (13) | AUX switch |
| (2) | SEEK DOWN switch | (8) | PUSH/POWER switch | (14) | BAL switch |
| (3) | TUNE TRACK UP switch | (9) | VOLUME | (15) | VDF display |
| (4) | TUNE TRACK DOWN switch | (10) | Presets 1 — 6 | (16) | LOAD switch |
| (5) | RPT switch | (11) | CD switch | (17) | EJECT switch |
| (6) | TEXT switch | (12) | FM/AM switch | (18) | SAT switch |

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 15 seconds or more pass, a communications error will be displayed.
• During the diagnosis, do not press the POWER (8), FM/AM (12), CD (11), AUX (13), SAT (18) switches. Pressing these switches will disengage the self diagnosis mode. For the AUX switch, the self diagnosis mode will be disengaged if the switch is 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.**<br>1) Turn the audio system OFF with the ignition switch ACC or ON.<br>2) With the TUNE/TRACK UP switch and the SEEK/SCAN DOWN switch held down, hold the RPT switch down for 2 seconds or more.<br>3) A buzzer will sound and all the VFD display will illuminate, and then 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 **3**. | 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-8, REMOVAL, Audio.> |
| 3 | **CHECK THE VFD DISPLAY.** | Did all the VFD display illuminate? | Go to step **4**. | <Ref. to ET-8, REMOVAL, Audio.> |
| 4 | **CHECK THE COMMUNICATION STATUS.**<br>Press the preset 1 switch, and confirm the VFD display section of the control panel. | Is the «Main Check!» or «Sub Check!» displayed on the VFD display? | Repair or replace the audio unit. <Ref. to ET-8, REMOVAL, Audio.> | Go to step **5**. |
| 5 | **CHECK SWITCH.**<br>Operate the switches in the following list, and check the display content on the VFD display. | Does the switch check list and the operated switches match? <Ref. to ET-10, SWITCH CHECK LIST, INSPECTION, Audio.> | The self-diagnosis of the audio unit is normal. | Repair or replace the audio unit. <Ref. to ET-8, REMOVAL, Audio.> |

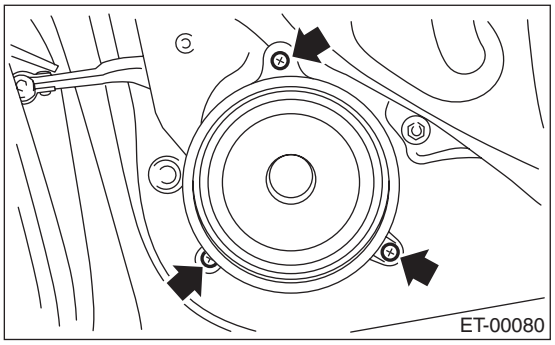
## 2. SWITCH CHECK LIST

| Switch | Display | Switch | Display |
|---|---|---|---|
| TUNE/TRACK ╱╲ | ▶▶\| UP OK | TONE/BAL | BAL OK |
| TUNE/TRACK ╲╱ | \|◀◀ DOWN OK | 1 (Preset) | P-1 OK |
| SEEK/FLDR ╱╲ | △UP OK | 2 (Preset) | P-2 OK |
| SEEK/FLDR╲╱ | ▽DOWN OK | 3 (Preset) | P-3 OK |
| EJECT | EJECT OK | 4 (Preset) | P-4 OK |
| RPT | RPT OK | 5 (Preset) | P-5 OK |
| VOL UP | VOL UP OK | 6 (Preset) | P-6 OK |
| VOL DOWN | VOL DOWN OK | LOAD | LOAD OK |

# 7. Front Speaker

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the front speaker mounting screws.




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

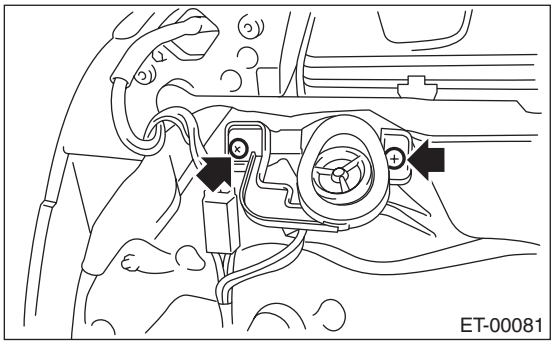
## B: INSTALLATION

Install in the reverse order of removal.

# 8. Tweeter

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the tweeter mounting screws.




4) Disconnect the harness connector and remove the tweeter.

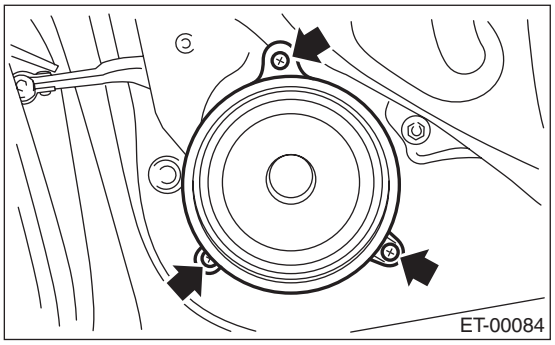
## B: INSTALLATION

Install in the reverse order of removal.

# 9. Rear Speaker

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the rear speaker mounting screws.




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

## B: INSTALLATION

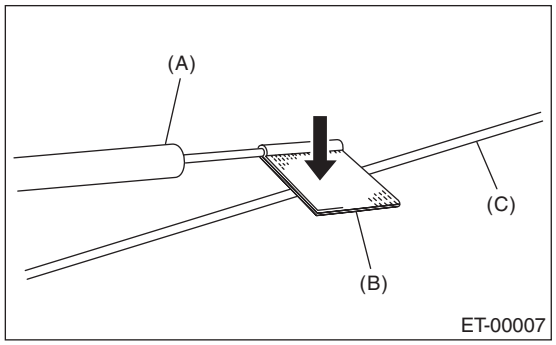
Install in the reverse order of removal.

# 10.Antenna

## A: INSPECTION

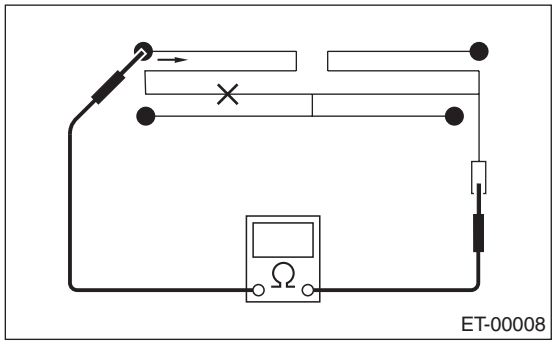
Measure the resistance between the antenna terminal and each antenna wire.
If an antenna wire is OK, resistance will be less than 1 Ω. If an antenna wire is broken, resistance will be more than 1 MΩ.

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.



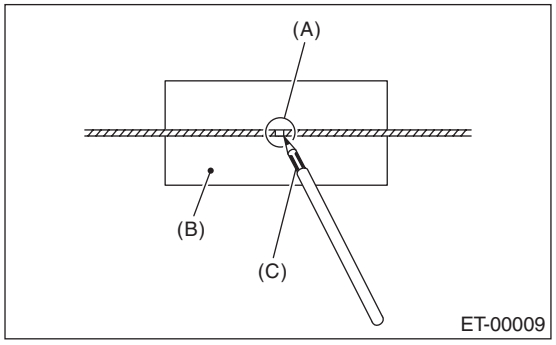

(A) Tester probe
(B) Aluminum foil
(C) Antenna wire

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




## B: REPAIR

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

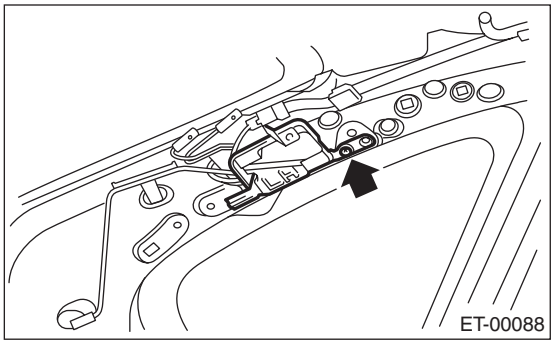
4) Dry out the deposited portion.
5) After repair has been completed, measure the resistance in repaired wire.

# 11.Antenna Amplifier

## A: REMOVAL

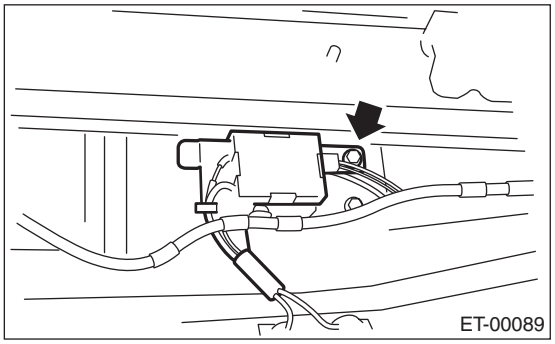
### 1. SEDAN MODEL

1) Disconnect the ground cable from the battery.
2) Remove the rear quarter trim. <Ref. to EI-60, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
3) Disconnect the harness connectors and terminals.
4) Remove the curtain airbag module. <Ref. to AB-19, REMOVAL, Curtain Airbag Module.>
5) Remove the screws and detach the antenna amplifier.




### 2. WAGON MODEL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
3) Disconnect the harness connectors and terminals.
4) Remove the screws and detach the antenna amplifier.



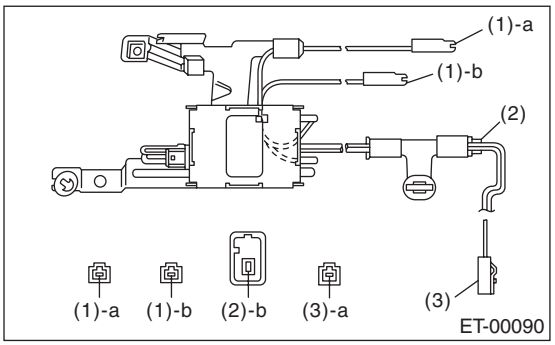

## B: INSTALLATION

Install in the reverse order of removal.

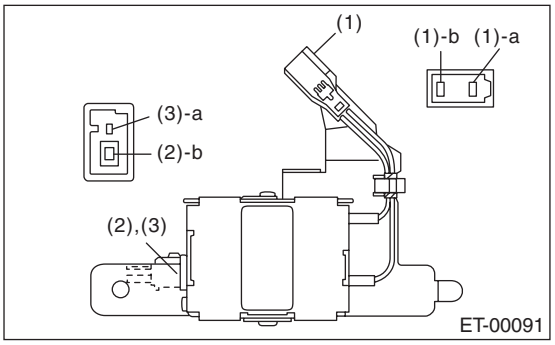
## C: INSPECTION

Measure the resistance of antenna amplifier.

- SEDAN MODEL




- WAGON MODEL



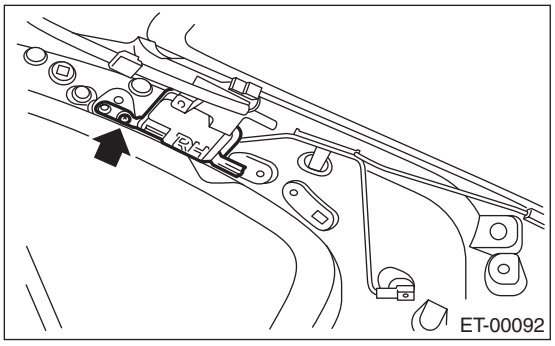

| Terminal No. | Standard |
|---|---|
| (1)-a and Amplifier body | 10 kΩ or more |
| (1)-b and Amplifier body | 10 kΩ or more |
| (2)-b and Amplifier body | 10 kΩ or more |
| (3)-a and Amplifier body | 10 kΩ or more |

# 12.Noise Suppressor

## A: REMOVAL

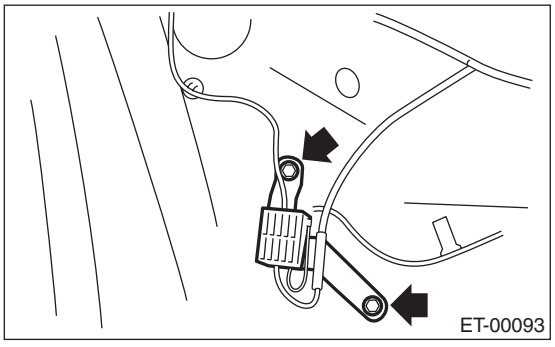
### 1. SEDAN MODEL

1) Disconnect the ground cable from the battery.
2) Remove the rear quarter trim. <Ref. to EI-60, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
3) Remove the curtain airbag module. <Ref. to AB-19, REMOVAL, Curtain Airbag Module.>
4) Disconnect harness connector from the noise suppressor.
5) Remove the harness clip.
6) Remove the screws and detach the noise suppressor.




### 2. WAGON MODEL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
3) Disconnect harness connector from the noise suppressor.
4) Remove the screws and detach the noise suppressor.



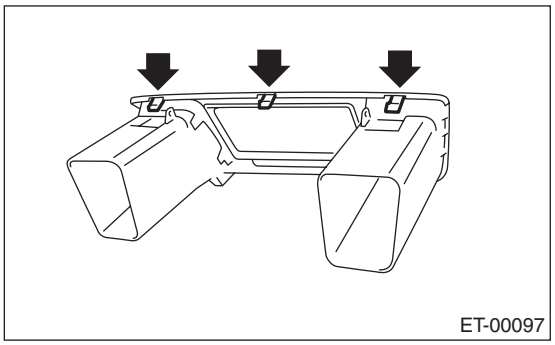

## B: INSTALLATION

Install in the reverse order of removal.

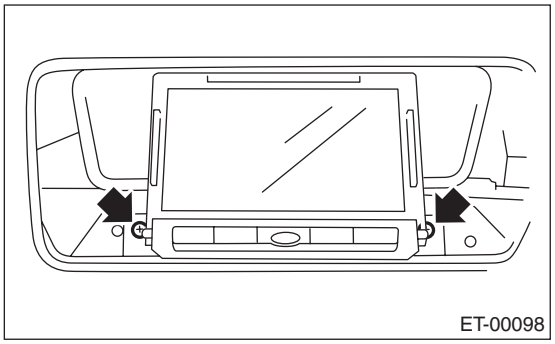
# 13.Navigation Display

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the clip, and remove the center upper panel.




3) Remove the display mounting screws.




4) Disconnect the harness connector and remove the navigation display.

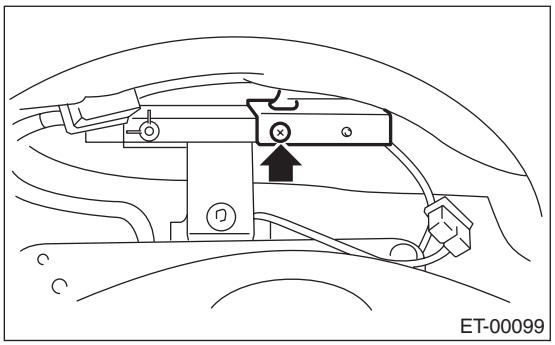
## B: INSTALLATION

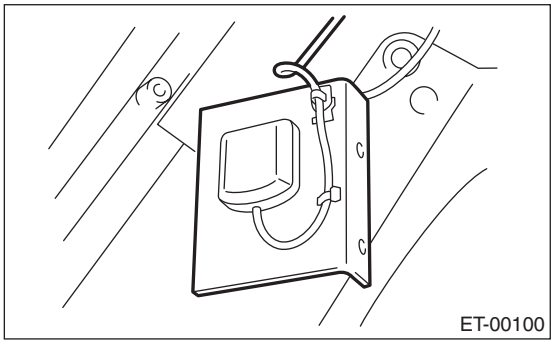
Install in the reverse order of removal.

# 14.GPS Antenna

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.>
3) Remove the GPS antenna mounting screws to remove the GPS antenna.


ET-00099


ET-00100

4) Remove the audio. <Ref. to ET-8, REMOVAL, Audio.>
5) Remove the GPS antenna cord connector from the steering support beam stay (on the driver's side).

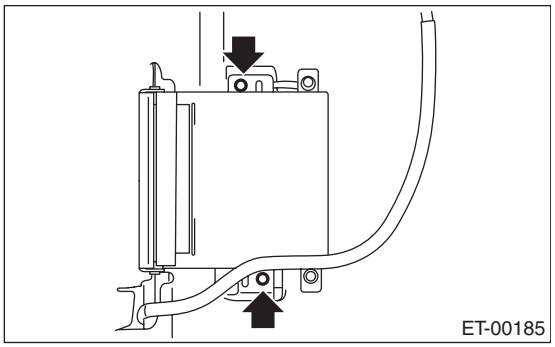
## B: INSTALLATION

Install in the reverse order of removal.

# 15.Navigation Body

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Slide the driver's seat to the forward position.
3) Disconnect the connector.
4) Remove the bolts and then remove the navigation unit.




## B: INSTALLATION

Install in the reverse order of removal.

# 16.AUX Input Terminal

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
3) Disconnect the harness connector, and remove the AUX input terminal from the console box.

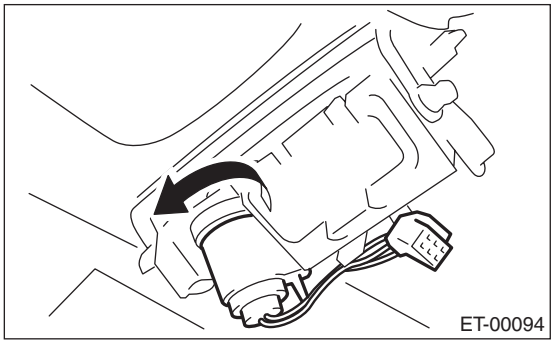
## B: INSTALLATION

Install in the reverse order of removal.

# 17.Front Accessory Power Supply Socket

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the console front panel. <Ref. to EI-52, REMOVAL, Center Console.>
3) Disconnect the harness connector, and remove the accessory power supply socket.



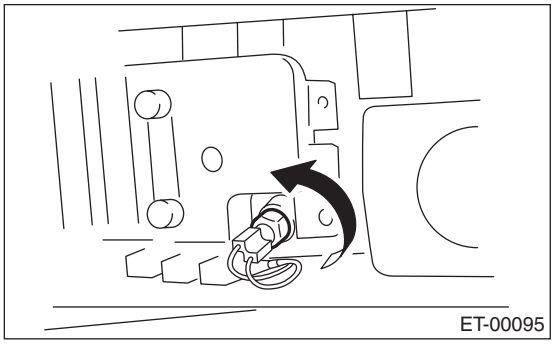

## B: INSTALLATION

Install in the reverse order of removal.

# 18. Rear Accessory Power Supply Socket

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
3) Disconnect the harness connector, and remove the accessory power supply socket.




## B: INSTALLATION

Install in the reverse order of removal.

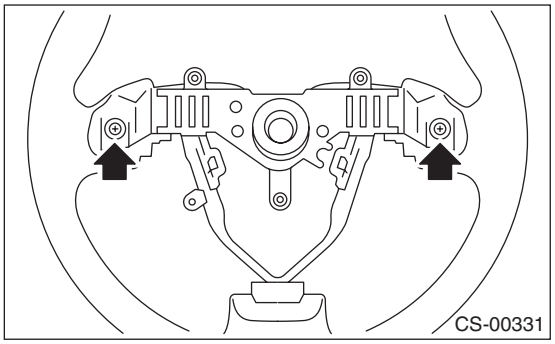
# 19.Steering Satellite Switch

## 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-15, 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-15, INSPECTION, Driver's Airbag Module.>**

4) Remove the steering wheel. <Ref. to PS-14, REMOVAL, Steering Wheel.>
5) Remove the cover from the steering wheel.
6) Remove 1 satellite switch mounting screws each from the left and right sides.

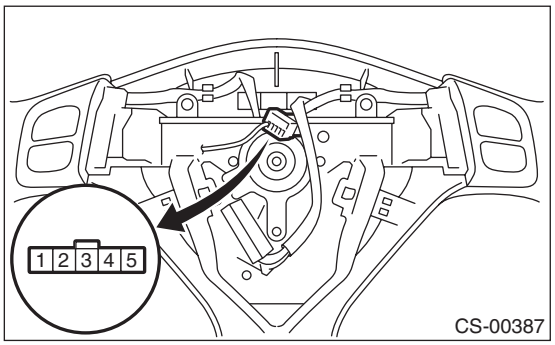



7) Remove the satellite switch.

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK MUTE SWITCH CONTINUITY.**<br>1) Press the mute switch.<br>2) Measure the resistance between satellite switch connector terminals.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance approx. 22 Ω? | Go to step **2**. | Replace the satellite switch. |
| 2 | **CHECK VOLUME SWITCH CONTINUITY.**<br>1) Press the volume switch.<br>2) Measure the resistance between satellite switch connector terminals.<br>***Terminals***<br>***No. 1 — No. 2: Volume up***<br>***No. 1 — No. 2: Volume down*** | Is the resistance approx. 90 Ω? (Volume up) And is the resistance approx. 200 Ω? (Volume down) | Go to step **3**. | Replace the satellite switch. |
| 3 | **CHECK MODE SWITCH CONTINUITY.**<br>1) Press the MODE switch.<br>2) Measure the resistance between satellite switch connector terminals.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance approx. 360 Ω? | Go to step **4**. | Replace the satellite switch. |
| 4 | **CHECK SEEK SWITCH CONTINUITY.**<br>1) Press the seek switch.<br>2) Measure the resistance between satellite switch connector terminals.<br>***Terminals***<br>***No. 1 — No. 2: Seek up***<br>***No. 1 — No. 2: Seek down*** | Is the resistance approx. 690 Ω? (Seek up) And is the resistance approx. 1.5 kΩ? (Seek down) | Go to step **5**. | Replace the satellite switch. |
| 5 | **CHECK SATELLITE SWITCH INSULATION.**<br>1) Not to operate the satellite switch.<br>2) Measure the resistance between satellite switch connector terminals.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance approx. 4.7 kΩ? | Satellite switch is normal. | Replace the satellite switch. |

# COMMUNICATION SYSTEM

# COM

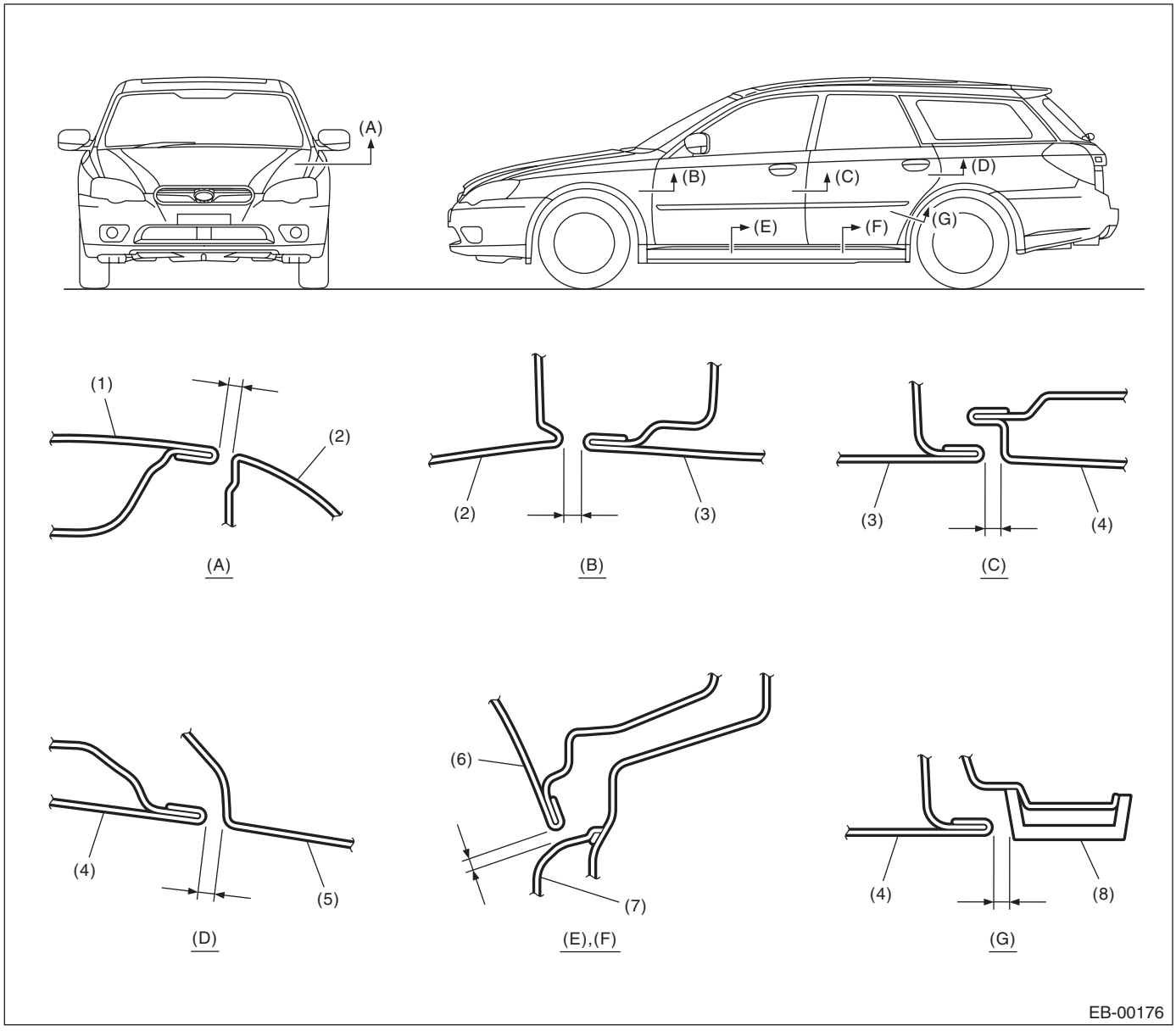

Page

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

# 1. General Description

## A: SPECIFICATION

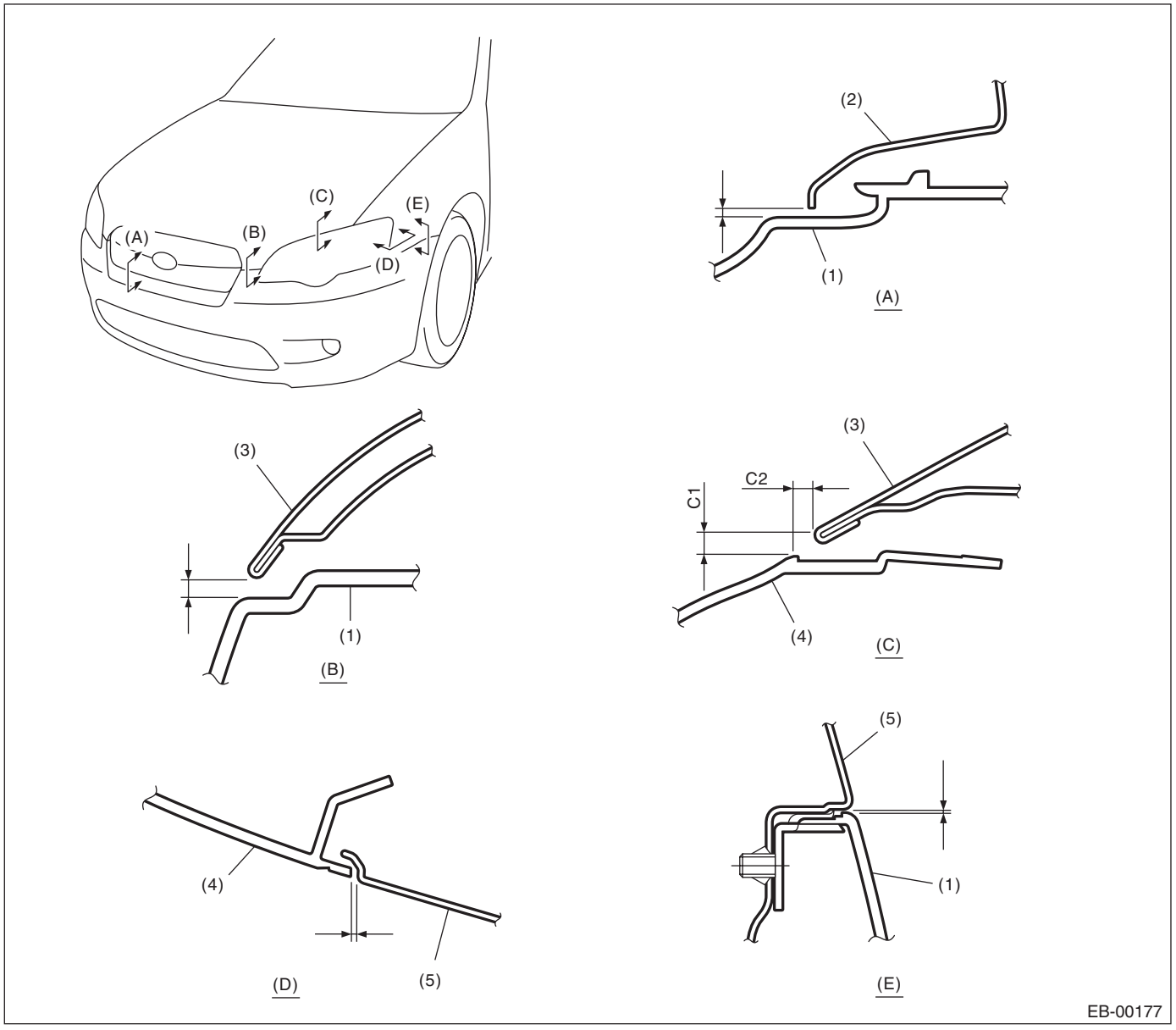
### 1. SIDE




(1) Front hood panel
(2) Front fender panel
(3) Front door panel
(4) Rear door panel
(5) Rear quarter panel
(6) Door panel
(7) Side sill
(8) Rear quarter lower protector

| Section | Part | Standard value |
|---|---|---|
| (A) | Front hood panel to Front fender panel | 3.5±1.0 mm (0.14±0.04 in) |
| (B) | Front fender panel to Front door panel | 4.7±1.0 mm (0.18±0.04 in) |
| (C) | Front door panel to Rear door panel | 5.1±1.0 mm (0.20±0.04 in) |
| (D) | Rear door panel to Rear quarter panel | 4.6±1.0 mm (0.18±0.04 in) |
| (E), (F) | Door panel to Side sill | 6.0±1.0 mm (0.24±0.04 in) |
| (G) | Rear door panel to Rear quarter lower protector | 4.8±1.0 mm (0.19±0.04 in) |

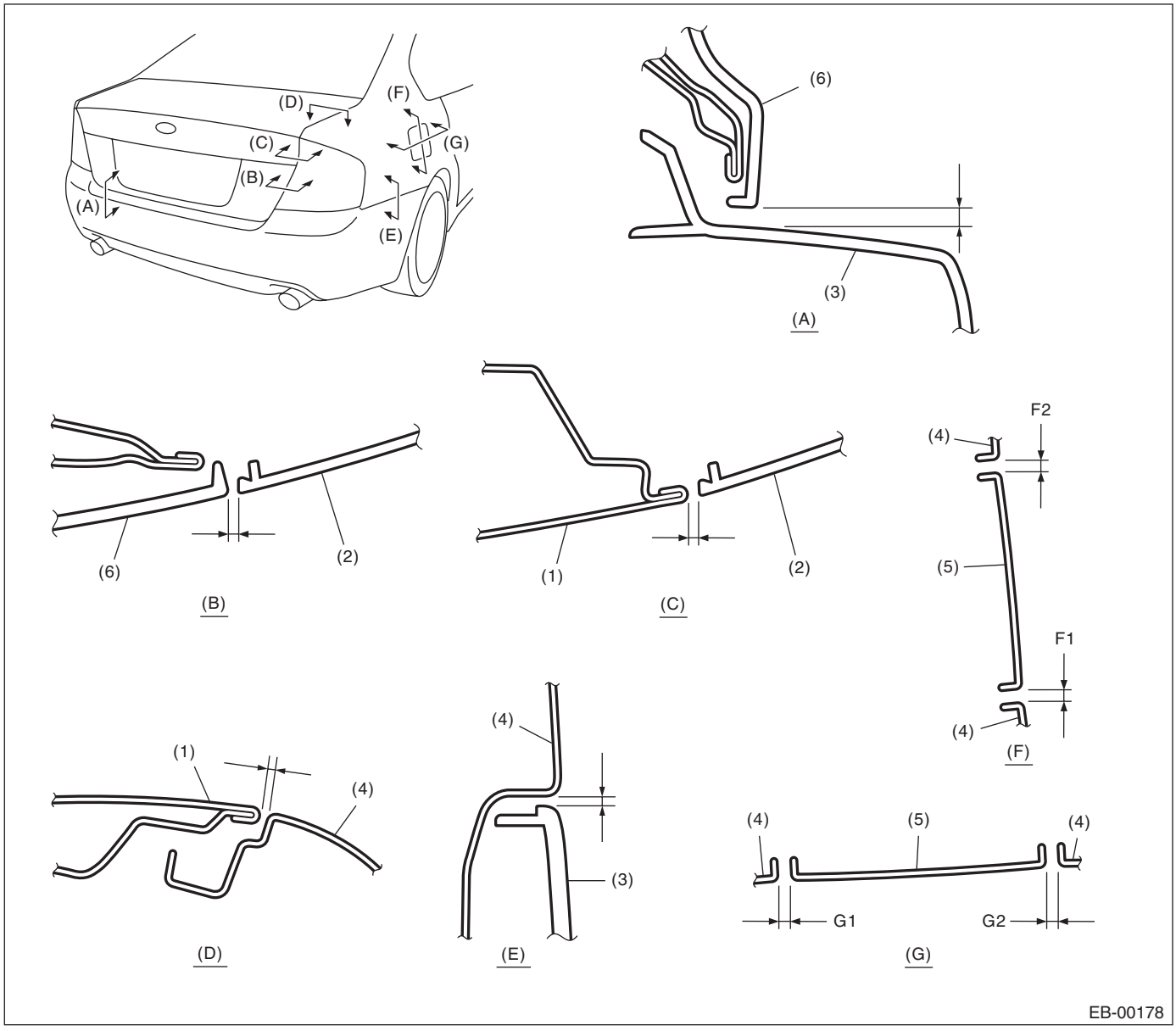
## 2. FRONT




(1) Front bumper
(2) Front grille
(3) Front hood panel
(4) Headlight
(5) Front fender panel

| Section | Part | Standard value |
|---|---|---|
| (A) | Front bumper to Front grille (longitudinal direction) | 1.0±0.7 mm (0.04±0.03 in) |
| (B) | Front hood panel to Front bumper | 4.0 — 6.0 mm (0.16 — 0.24 in) |
| (C) | Front hood panel to Headlight | C1: 6.0±1.0 mm (0.24±0.04 in)<br>C2: 5.0±1.0 mm (0.20±0.04 in) |
| (D) | Front fender panel to Headlight | 1.5±1.0 mm (0.06±0.04 in) |
| (E) | Front fender panel to Front bumper | 1.0±0.7 mm (0.04±0.03 in) |

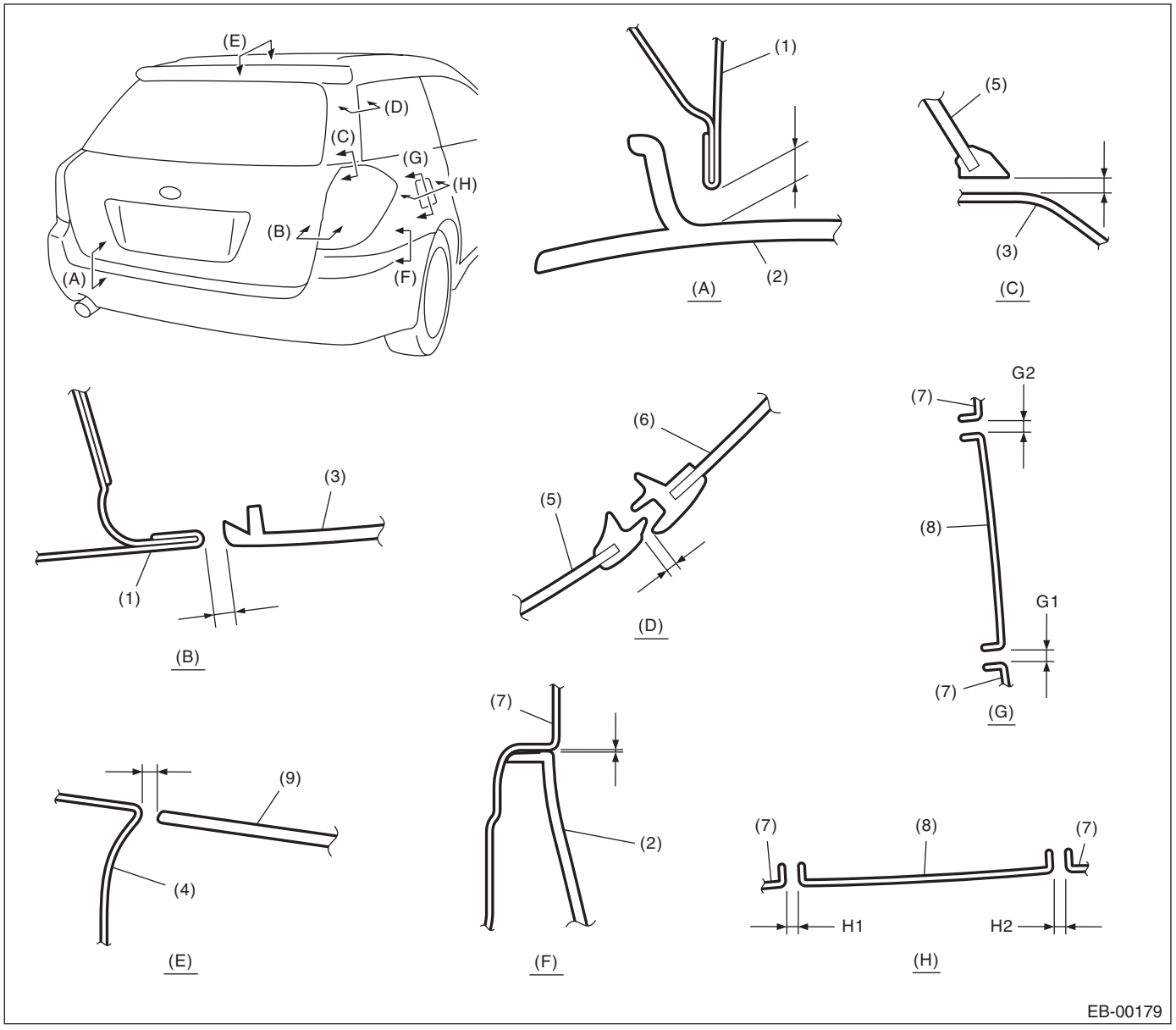
## 3. REAR (SEDAN MODEL)




(1) Trunk lid panel
(2) Rear combination light
(3) Rear bumper
(4) Rear fender panel
(5) Fuel filler flap lid
(6) Trunk lid garnish

| Section | Part | Standard value |
|---|---|---|
| (A) | Trunk lid garnish to Rear bumper | 7.0±1.0 mm (0.28±0.04 in) |
| (B) | Trunk lid garnish to Rear combination light | 4.0±1.0 mm (0.16±0.04 in) |
| (C) | Trunk lid panel to Rear combination light | 3.5±1.0 mm (0.14±0.04 in) |
| (D) | Trunk lid panel to Rear fender panel | 3.5±1.0 mm (0.14±0.04 in) |
| (E) | Rear fender panel to Rear bumper | 1.0±0.7 mm (0.04±0.03 in) |
| (F) | Rear fender panel to Fuel filler flap lid (longitudinal direction) | F1: 3.7±0.5 mm (0.15±0.02 in)<br>F2: 3.4±0.5 mm (0.13±0.02 in) |
| (G) | Rear fender panel to Fuel filler flap lid (lateral direction) | G1, G2: 3.5±0.5 mm (0.14±0.02 in) |

## 4. REAR (WAGON MODEL)

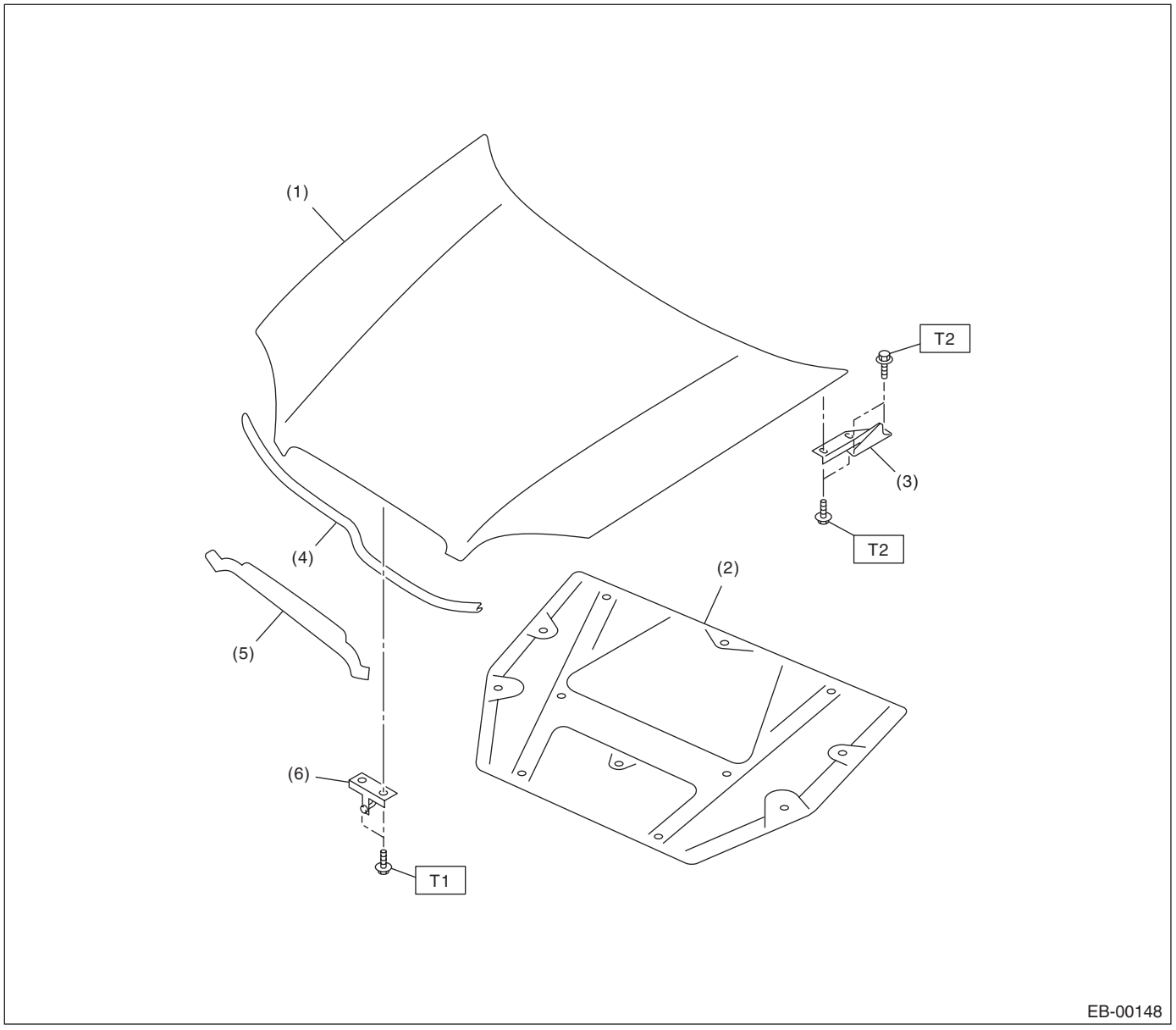



(1) Rear gate panel
(2) Rear bumper
(3) Rear combination light
(4) Roof panel
(5) Rear gate glass
(6) Rear quarter glass
(7) Rear fender panel
(8) Fuel filler flap lid
(9) Roof spoiler

| Section | Part | Standard value |
|---|---|---|
| (A) | Rear gate panel to Rear bumper | 8.0±1.0 mm (0.31±0.04 in) |
| (B) | Rear gate panel to Rear combination light | 5.0±1.0 mm (0.20±0.04 in) |
| (C) | Rear gate glass to Rear combination light | 5.5±1.0 mm (0.22±0.04 in) |
| (D) | Rear gate glass to the Rear quarter glass | 4.0±1.5 mm (0.16±0.06 in) |
| (E) | Roof panel to Roof spoiler | 5.0 — 6.5 mm (0.20 — 0.26 in) |
| (F) | Rear fender panel to Rear bumper | 1.0±0.7 mm (0.04±0.03 in) |
| (G) | Rear fender panel to Fuel filler flap lid (longitudinal direction) | G1: 3.7±0.5 mm (0.15±0.02 in)<br>G2: 3.4±0.5 mm (0.13±0.02 in) |
| (H) | Rear fender panel to Fuel filler flap lid (lateral direction) | H1, H2: 3.5±0.5 mm (0.14±0.02 in) |

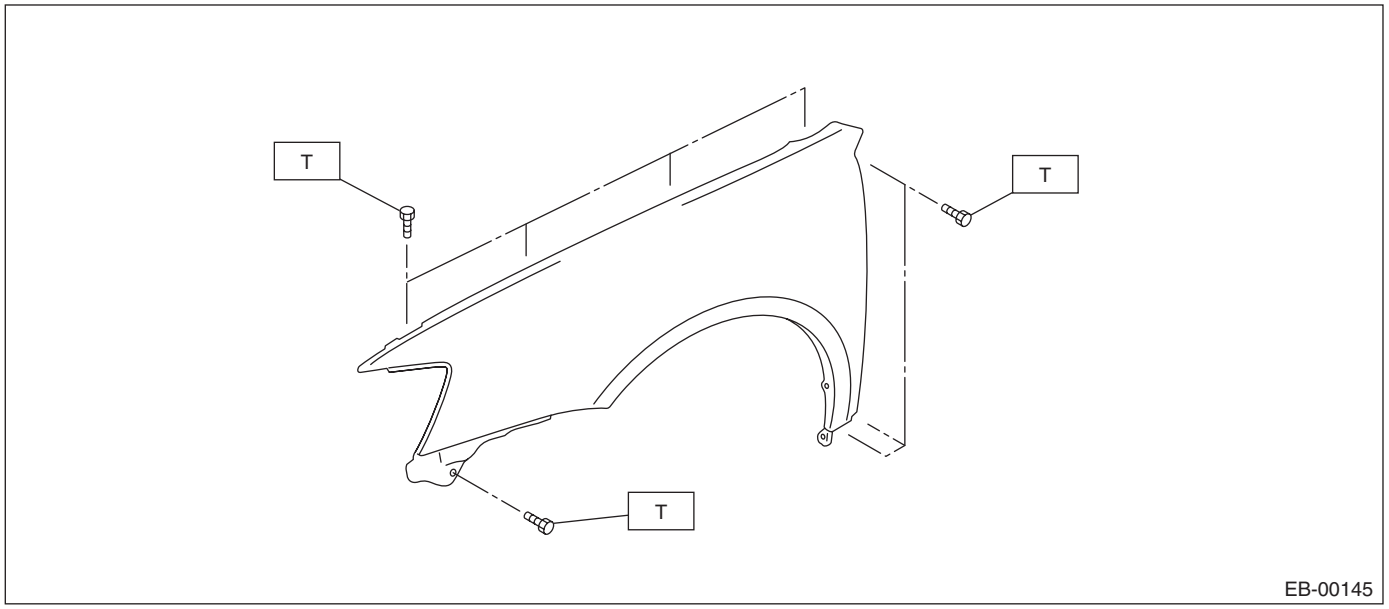
# B: COMPONENT

## 1. FRONT HOOD



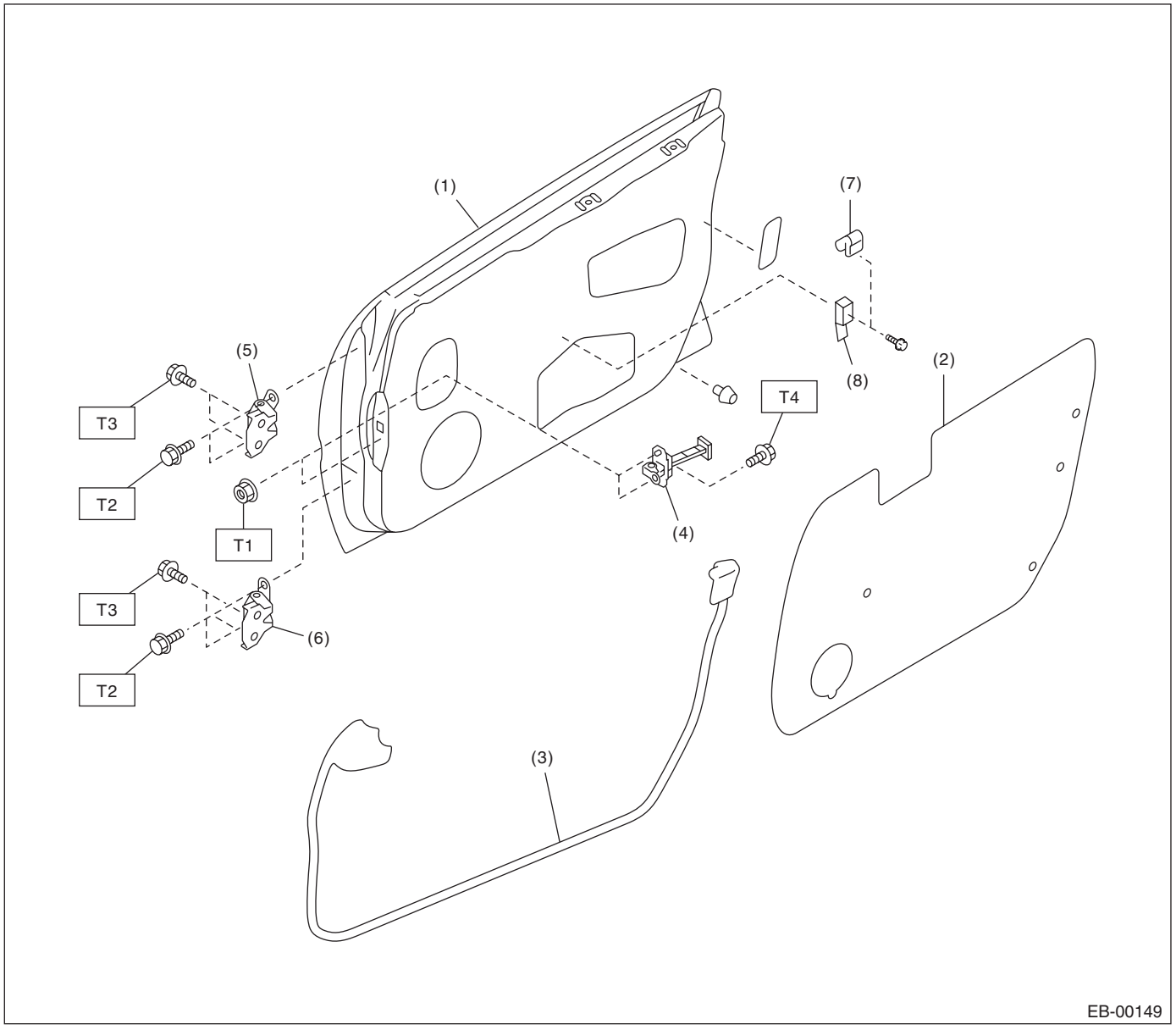

| | | | | |
|---|---|---|---|---|
| (1) | Front hood panel | (4) | Intake duct weather strip | ***Tightening torque:N·m (kgf-m, ft-lb)*** |
| (2) | Front hood insulator | (5) | Front hood weather strip | ***T1: 33 (3.4, 24.5)*** |
| (3) | Front hood hinge | (6) | Front hood striker | ***T2: 24.5 (2.5, 18.1)*** |

## 2. FRONT FENDER PANEL




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

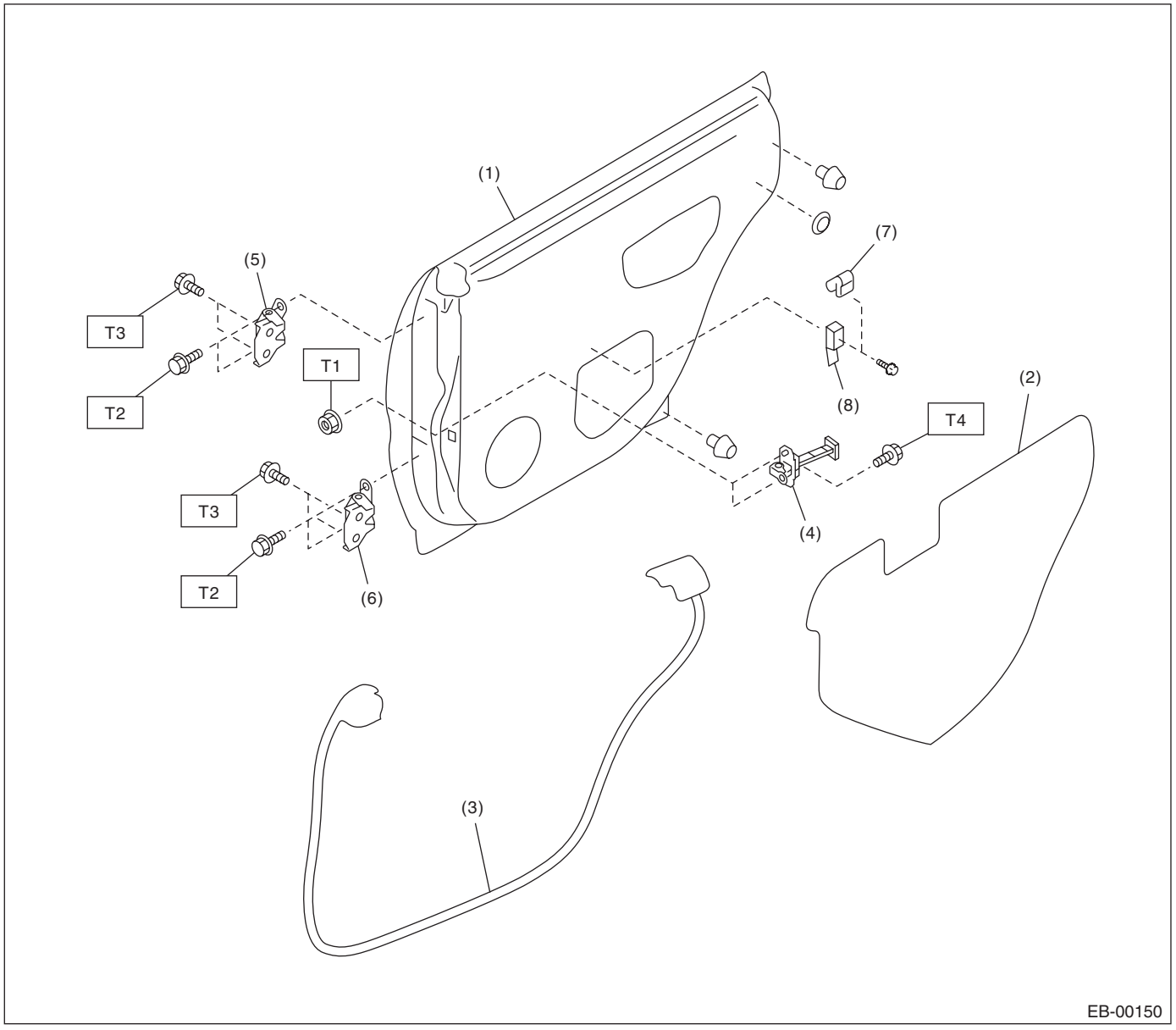
## 3. FRONT DOOR PANEL




| | | | |
|---|---|---|---|
| (1) | Front door panel | (6) | Lower hinge |
| (2) | Sealing cover | (7) | Door trim bracket upper |
| (3) | Front door weather strip | (8) | Door trim bracket lower |
| (4) | Checker | | |
| (5) | Upper 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)***

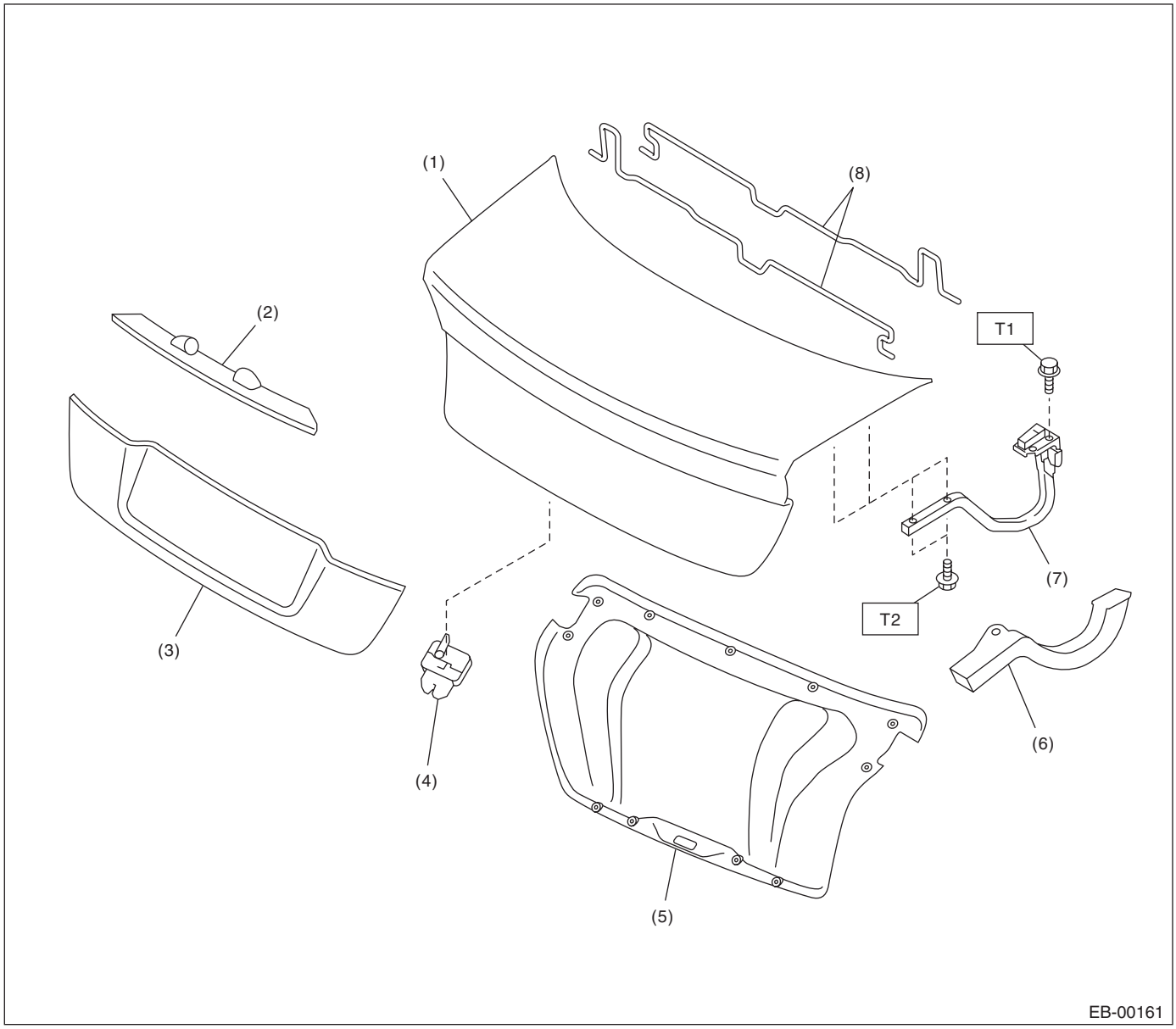
## 4. REAR DOOR PANEL




| | | | |
|---|---|---|---|
| (1) | Rear door panel | (6) | Lower hinge |
| (2) | Sealing cover | (7) | Door trim bracket upper |
| (3) | Rear door weather strip | (8) | Door trim bracket lower |
| (4) | Checker | | |
| (5) | Upper 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)***

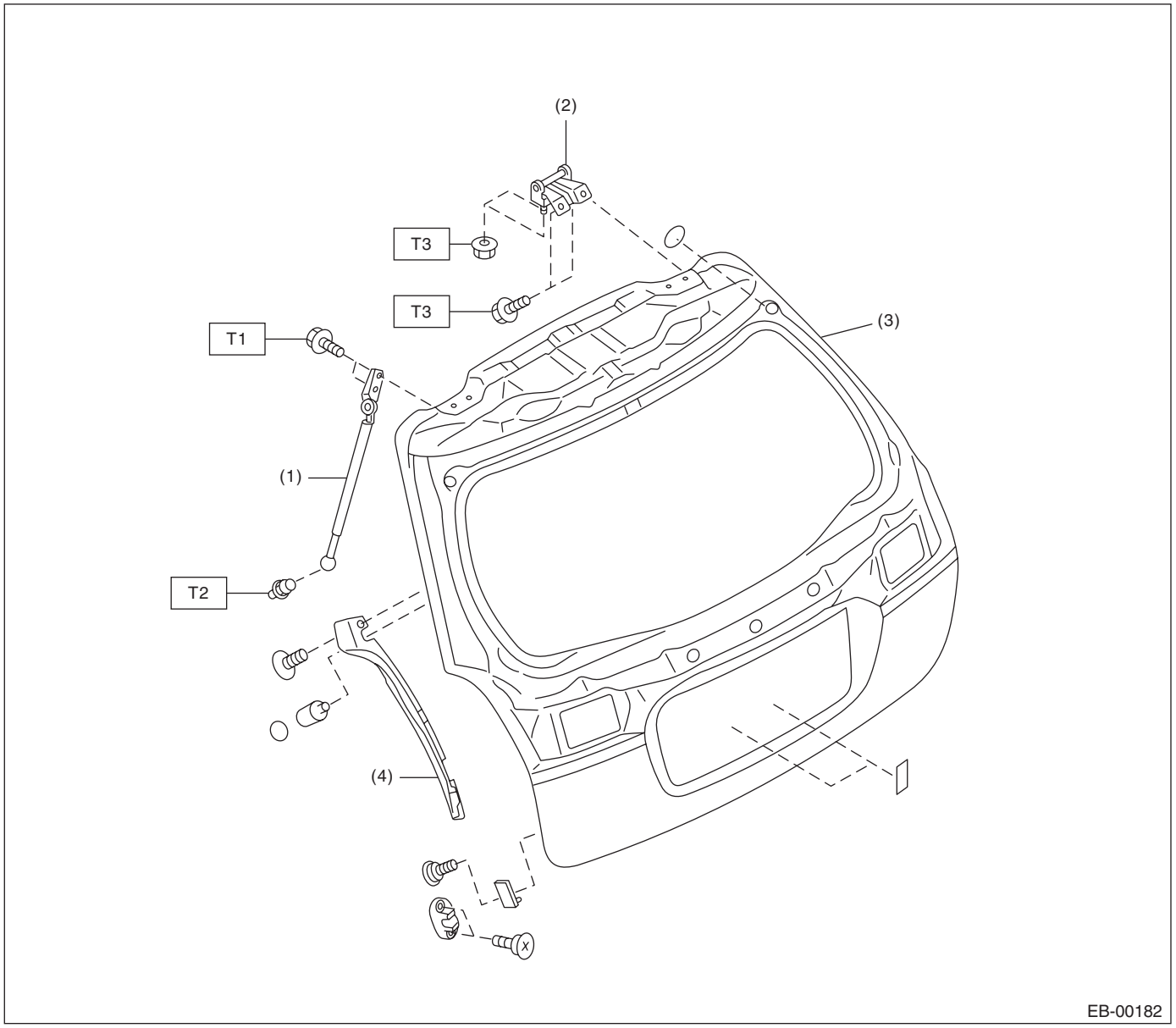
## 5. TRUNK LID PANEL




(1) Trunk lid panel
(2) License plate light cover
(3) Trunk lid garnish
(4) Trunk lid lock ASSY
(5) Trunk lid trim
(6) Trunk lid arm cover
(7) Trunk lid arm ASSY
(8) Torsion bar

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 17.6 (1.8, 12.9)***
***T2: 14 (1.43, 10.3)***

## 6. REAR GATE PANEL




(1) Rear gate damper stay
(2) Hinge
(3) Rear gate panel
(4) Rear gate side panel cover

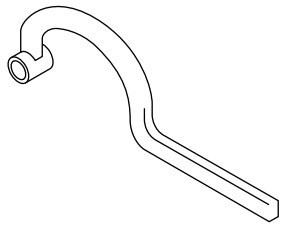
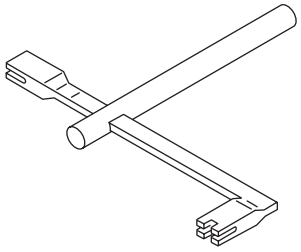
***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 7.5 (0.76, 5.5)***
***T2: 14 (1.43, 10.3)***
***T3: 25 (2.6, 18.4)***

## 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. |
|  ST-927780000 | 927780000 | REMOVER | Used for removing and installing the trunk torsion bar. |

## 2. GENERAL TOOL

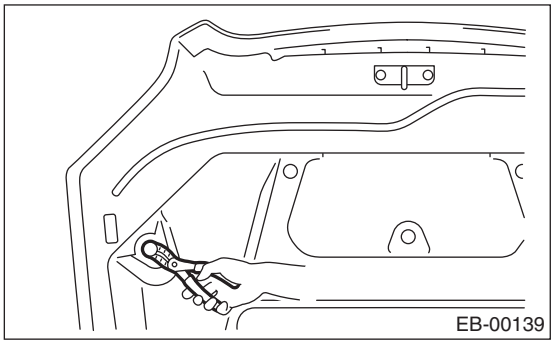
| TOOL NAME | REMARKS |
|---|---|
| Support jack | Used for supporting door panel. |
| Clip remover | Used for removing various types of clips. |

# 2. Front Hood

## A: REMOVAL

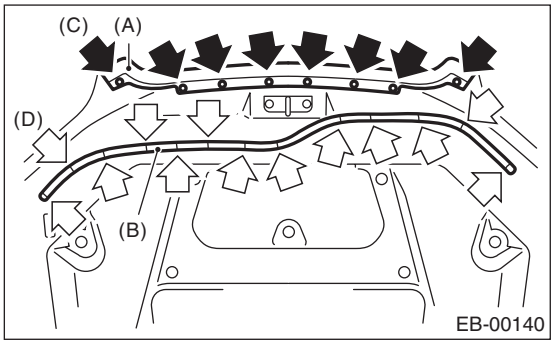
### 1. FRONT HOOD INSULATOR

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



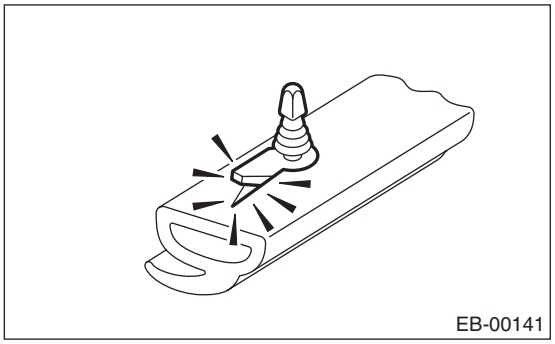

### 2. FRONT HOOD WEATHER STRIP

1) Open the front hood.
2) Remove the clips, and remove the front hood weather strip (A) and intake duct weather strip (B).



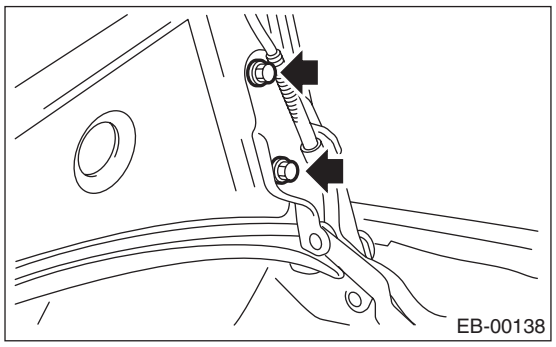

(C) Clip
(D) Weather strip clip

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.

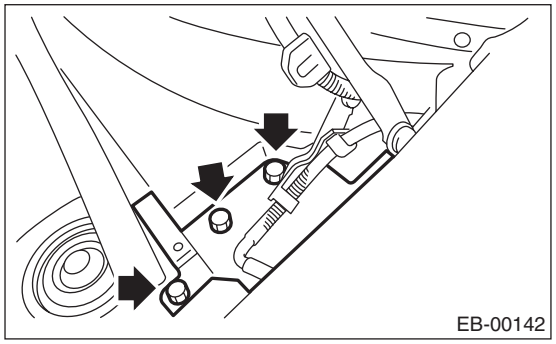



### 3. FRONT HOOD HINGE

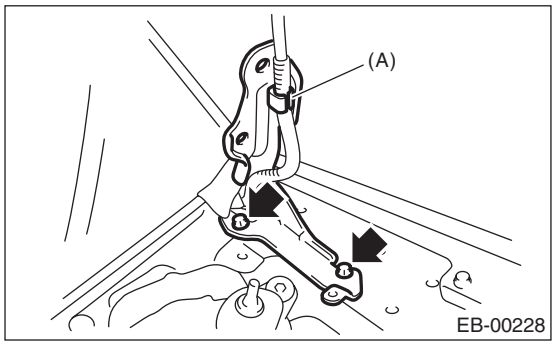
1) Remove the bolt, and remove the front hood panel. <Ref. to EB-14, FRONT HOOD PANEL, REMOVAL, Front Hood.>




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

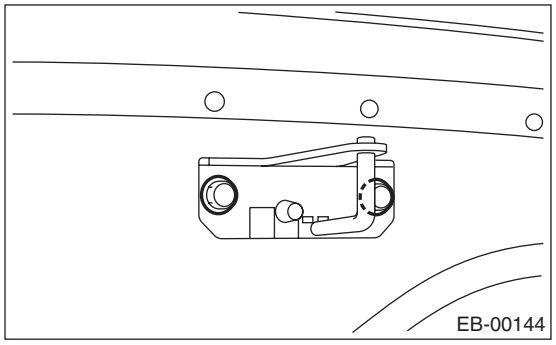



3) Remove clamp (A) of the window washer hose, and remove the bolt of the hinge.



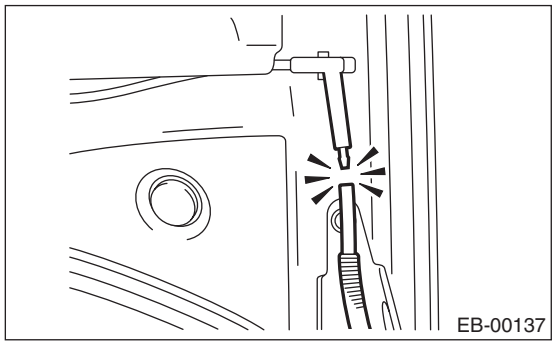

### 4. FRONT HOOD STRIKER

1) Open the front hood.
2) Remove the bolt, and remove the front hood striker.

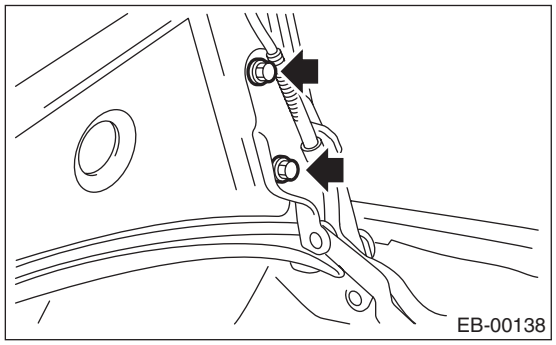


### 5. FRONT HOOD PANEL

1) Open the front hood to remove the window washer hose.




2) Remove the front hood insulator.
<Ref. to EB-13, FRONT HOOD INSULATOR, REMOVAL, Front Hood.>
3) Remove the front hood weather strip.
<Ref. to EB-13, FRONT HOOD WEATHER STRIP, REMOVAL, Front Hood.>
4) Remove the front hood striker.
<Ref. to EB-13, FRONT HOOD STRIKER, REMOVAL, Front Hood.>
5) Remove the front hood duct. (Turbo model)
<Ref. to EI-25, REMOVAL, Front Hood Grille.>
6) Remove the window washer hose and nozzle.
<Ref. to WW-14, REMOVAL, Front Washer Nozzle.>
7) Remove the bolt, and remove the front hood panel from the front hood hinge.




## B: INSTALLATION

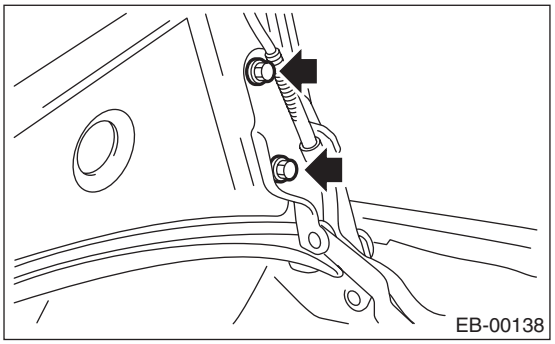
Install in the reverse order of removal.

NOTE:
Be careful not to catch the window washer hose in when installing the front food insulator.

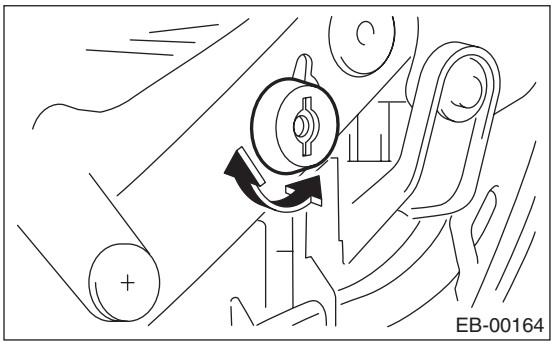
***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to EB-6, FRONT HOOD, COMPONENT, General Description.>***

## 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.



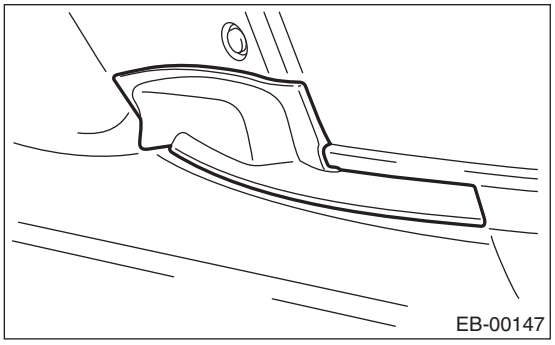

3) Adjust the height at the front end of hood. <Ref. to SL-44, ADJUSTMENT, Front Hood Lock Assembly.>
4) Rotate the hood buffer to adjust lateral height.



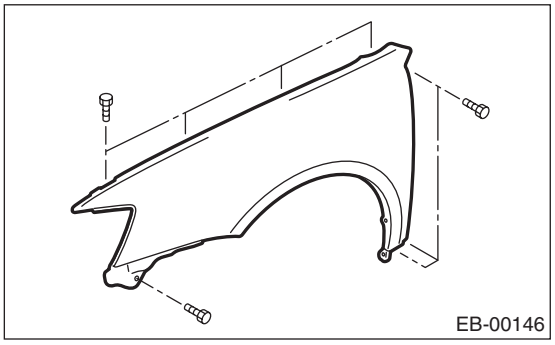
# 3. Front Fender

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the side sill spoilers. <Ref. to EI-41, REMOVAL, Side Sill Spoiler.>
3) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
4) Remove the front bumper face. <Ref. to EI-30, REMOVAL, Front Bumper.>
5) Remove the headlight assembly. <Ref. to LI-13, REMOVAL, Headlight Assembly.>
6) Remove the mud guard. <Ref. to EI-29, REMOVAL, Mud Guard.>
7) Remove the cowl panel side.


EB-00147

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


EB-00146

## 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.>

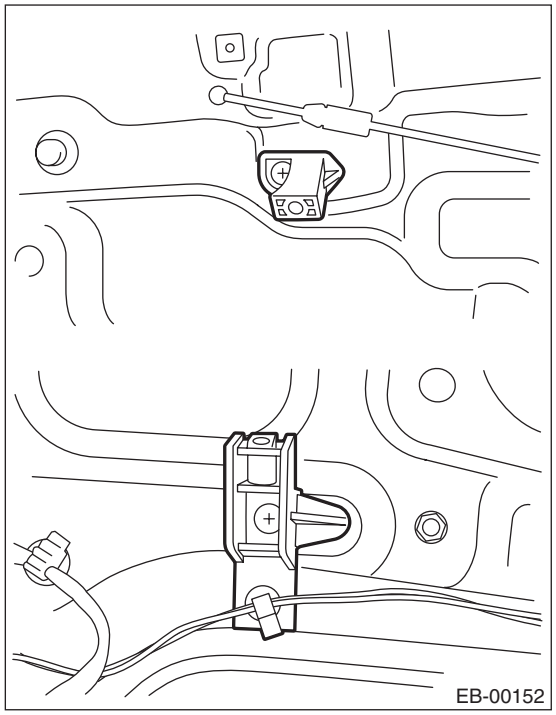
***Tightening torque:***
***7.4 N·m (0.75 kgf-m, 5.5 ft-lb)***

# 4. Front Door

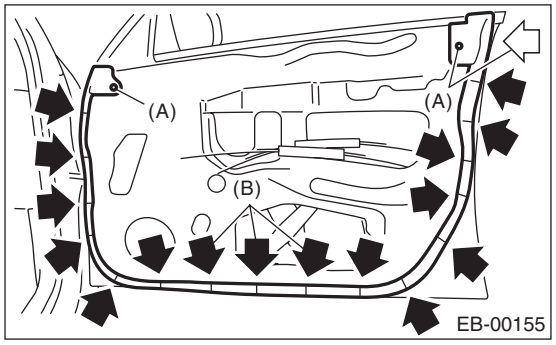
## A: REMOVAL

### 1. FRONT DOOR PANEL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the outer mirror assembly. <Ref. to GW-19, REMOVAL, Outer Mirror Assembly.>
4) Remove the front door speaker. <Ref. to ET-11, REMOVAL, Front Speaker.>
5) Remove the sealing cover. <Ref. to EB-19, REMOVAL, Front Sealing Cover.>
6) Remove the gusset and front door glass. <Ref. to GW-11, REMOVAL, Front Door Glass.>
7) Remove the door sash, and remove the front door regulator and motor. <Ref. to GW-16, REMOVAL, Front Regulator and Motor Assembly.>
8) Remove the front door latch assembly. <Ref. to SL-34, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
9) Remove the front outer handle. <Ref. to SL-33, REMOVAL, Front Outer Handle.>
10) Remove the screw to remove the door trim bracket.


EB-00152

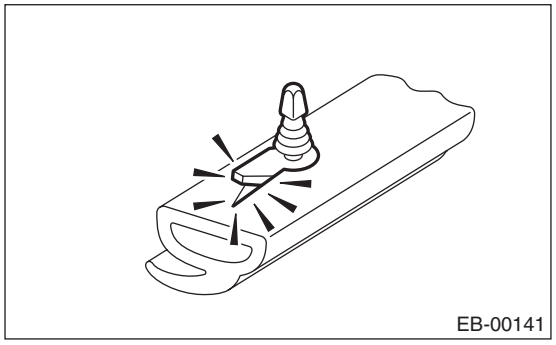
11) Remove the front door weather strip.



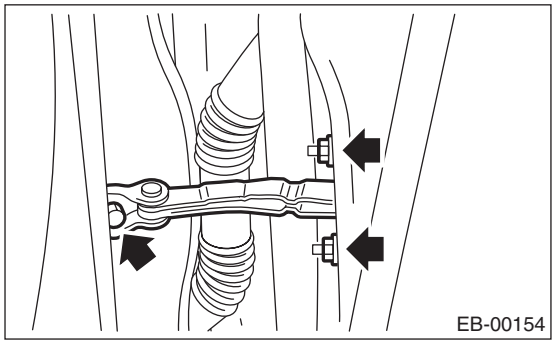
EB-00155

(A) Pin clip
(B) Weather strip clip

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

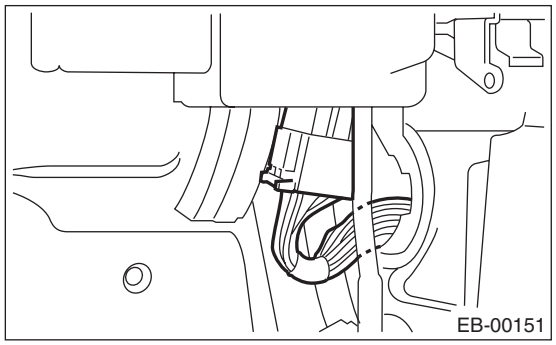
12) Remove the bolts and nuts to remove the door checker.


EB-00154

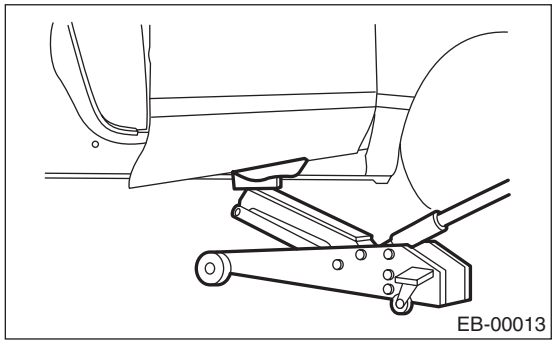
13) Remove the front door. <Ref. to EB-17, FRONT DOOR ASSEMBLY, REMOVAL, Front Door.>

### 2. FRONT DOOR ASSEMBLY

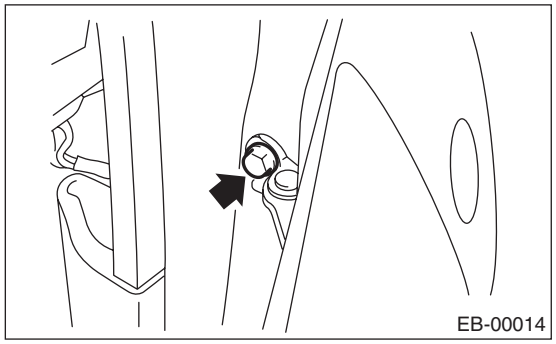
1) Disconnect the ground cable from the battery.
2) Remove the front pillar lower trim. <Ref. to EI-58, REMOVAL, Lower Inner Trim.>
3) Remove the instrument panel lower cover or glove box lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.> or <Ref. to EI-50, REMOVAL, Glove Box.>
4) Disconnect the connector of door harness from body harness.



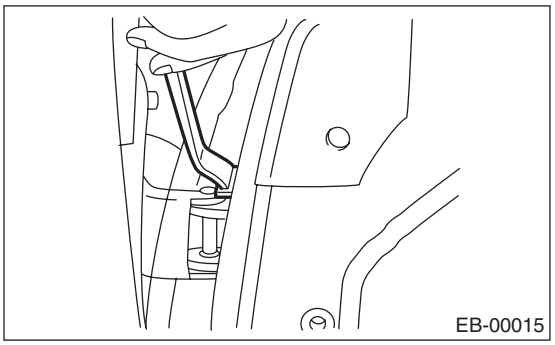

5) Put a wooden block on jack and place jack under the front door. Support the door with a jack to protect it from damage.




6) Remove the bolt from the door checker.




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




8) Remove the door hinge from vehicle.

## B: INSTALLATION

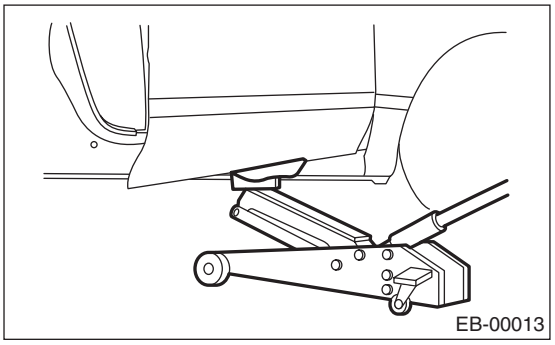
### 1. FRONT DOOR PANEL

Install in the reverse order of removal.

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

### 2. FRONT DOOR ASSEMBLY

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

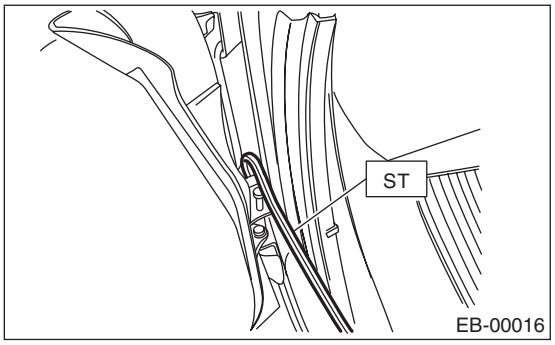



2) Apply grease to the sliding area of door hinges, and install the door hinge to vehicle.
3) Install the front door to upper hinge and lower hinge adjusting by jack.
4) Tighten bolt of door checker.
5) Connect door harness connector, and install the instrument panel lower cover.
6) Install the front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

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

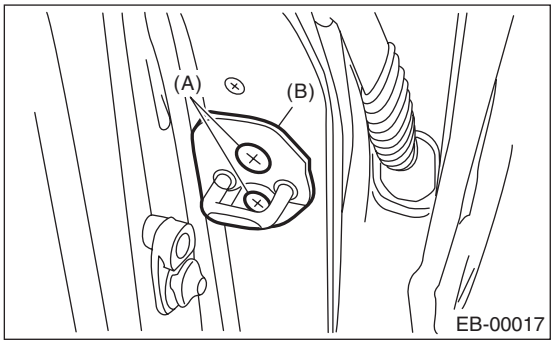
## C: ADJUSTMENT

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.**

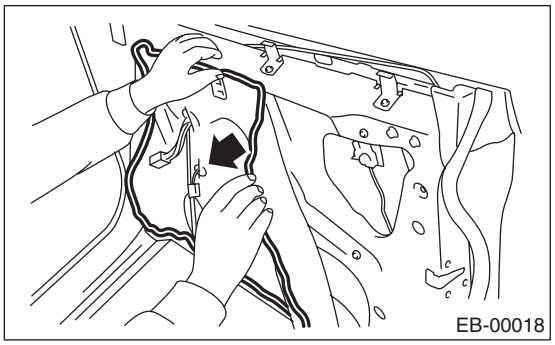


# 5. Front Sealing Cover

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the front speaker. <Ref. to ET-11, REMOVAL, Front Speaker.>
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

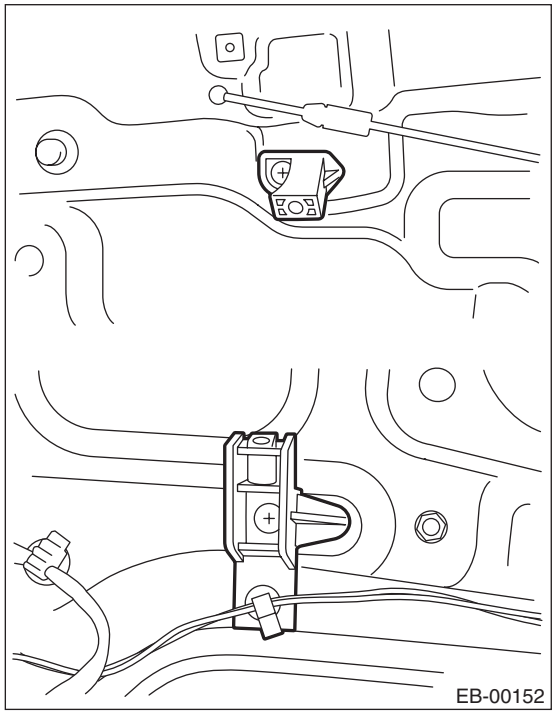
If the sealing cover gets damaged, replace it with a new part.

# 6. Rear Door

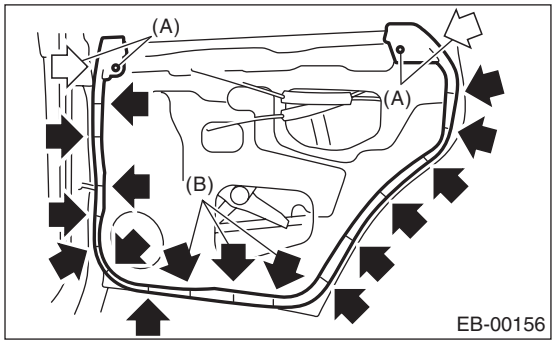
## A: REMOVAL

### 1. REAR DOOR PANEL

1) Disconnect the ground cable from the battery.
2) Remove the rear door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the rear speaker. <Ref. to ET-13, REMOVAL, Rear Speaker.>
4) Remove the sealing cover. <Ref. to EB-23, REMOVAL, Rear Sealing Cover.>
5) Remove the rear door glass. <Ref. to GW-22, REMOVAL, Rear Door Glass.>
6) Remove the door sash and rear door regulator and motor assembly. <Ref. to GW-24, REMOVAL, Rear Regulator and Motor Assembly.>
7) Remove the rear door latch. <Ref. to SL-38, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
8) Remove the rear outer handle. <Ref. to SL-37, REMOVAL, Rear Outer Handle.>
9) Remove the screw to remove the door trim bracket.


EB-00152

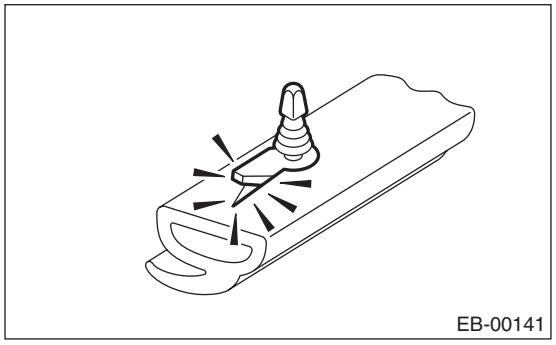
10) Remove the rear door inner weather strip.



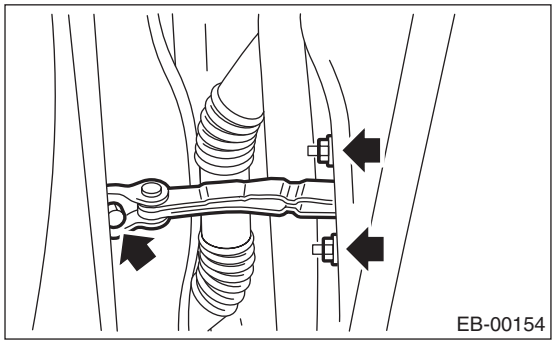
EB-00156

(A) Pin clip
(B) Weather strip clip

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

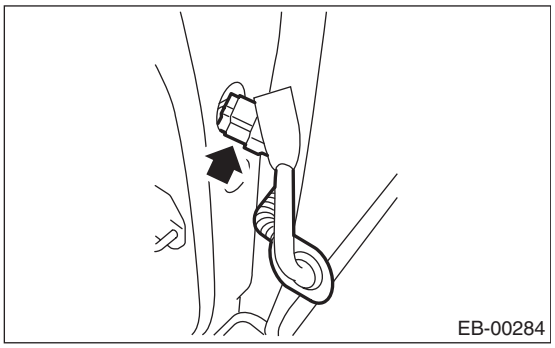
11) Remove the bolts and nuts to remove the door checker.


EB-00154

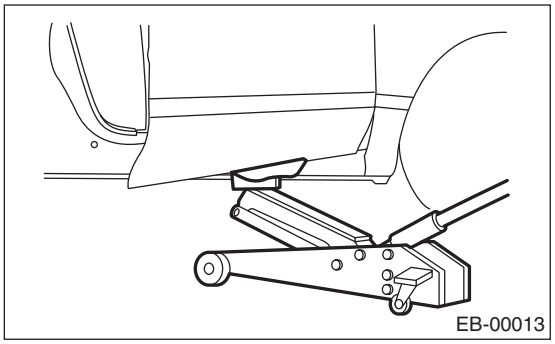
12) Remove the rear door. <Ref. to EB-21, REAR DOOR ASSEMBLY, REMOVAL, Rear Door.>

### 2. REAR DOOR ASSEMBLY

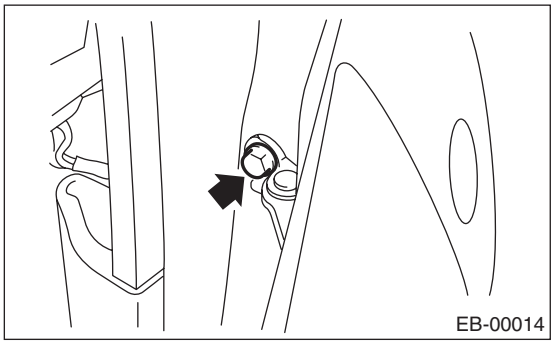
1) Disconnect the ground cable from the battery.
2) Pull the door harness connector inside the center pillar, then disconnect the connector.



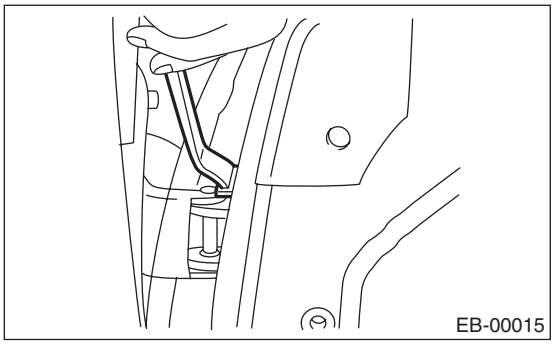

3) Put a wooden block on jack and place jack under the rear door. Support the rear door with the jack to protect it from damage.




4) Remove the bolt from the door checker.




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




6) Remove the door hinge from vehicle.

## B: INSTALLATION

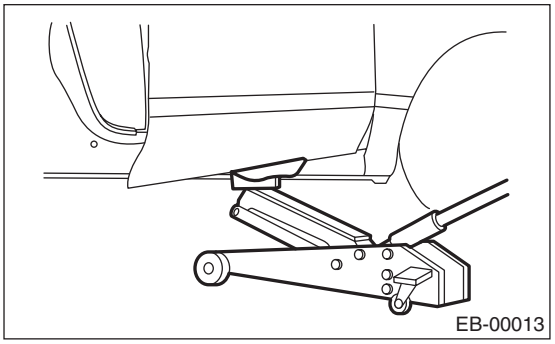
### 1. REAR DOOR PANEL

Install in the reverse order of removal.

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

### 2. REAR DOOR ASSEMBLY

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

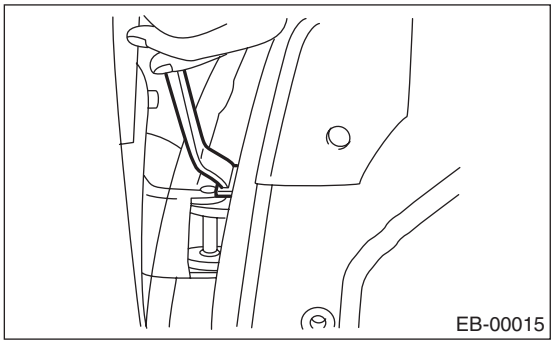



2) Apply grease to the moving part of door hinges.
3) Install the rear door to upper hinge and lower hinge adjusting by jack.
4) Tighten bolt of door checker.
5) Connect the door harness connector, and install the center pillar inner protector.
6) Install the center pillar lower trim.

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

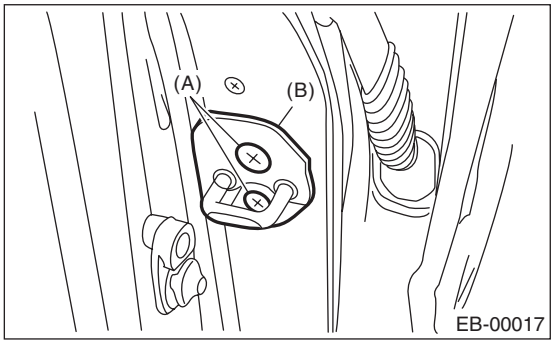
## C: ADJUSTMENT

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.**

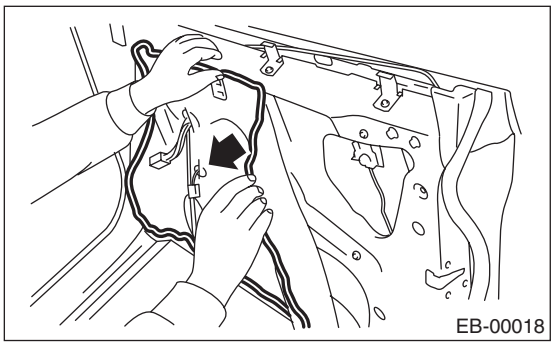


# 7. Rear Sealing Cover

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) 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.

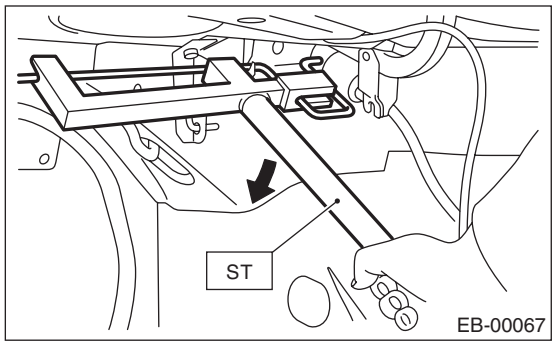
# 8. Trunk Lid

## A: REMOVAL

### 1. TORSION BAR

1) Open the trunk lid.
2) Using the ST, remove the torsion bar from the hinge link.
ST 927780000 REMOVER

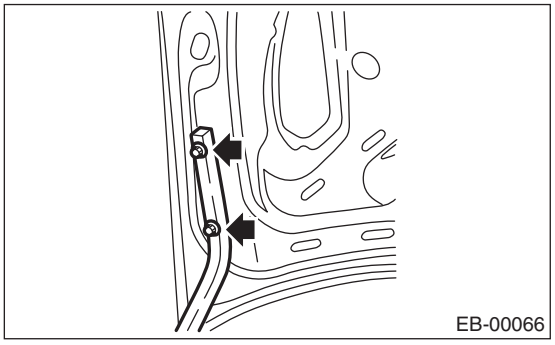
**CAUTION:**
**During removal and installation, handle the torsion bar carefully, because it will generate reactive force.**



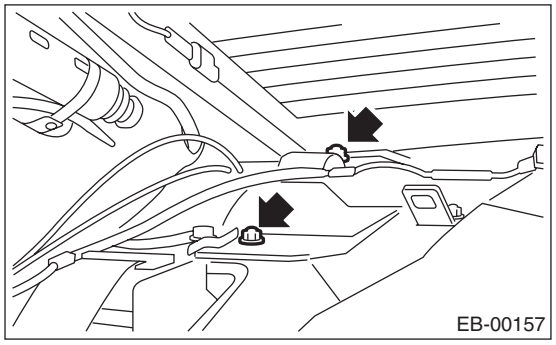

3) Remove the torsion bars RH/LH.

### 2. TRUNK LID ARM

1) Disconnect the ground cable from the battery.
2) Open the trunk lid to remove the trunk lid trim, trunk lid arm cover and trunk room trim. <Ref. to EI-67, REMOVAL, Trunk Room Trim.>
3) Disconnect the trunk lid release cable. <Ref. to SL-42, REMOVAL, Trunk Lid Lock Assembly.>
4) Disconnect the connectors, and remove the harness clip, etc.
5) Remove the trunk lid mounting bolts, to remove the trunk lid panel from the trunk lid arm.

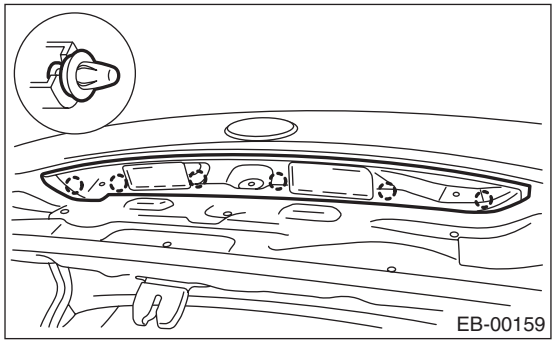



6) Remove the torsion bar from the trunk lid hinge link. <Ref. to EB-24, TORSION BAR, REMOVAL, Trunk Lid.>
7) Remove the rear shelf trim. <Ref. to EI-66, REMOVAL, Rear Shelf Trim.>
8) Remove the bolts, then remove the trunk lid arm.

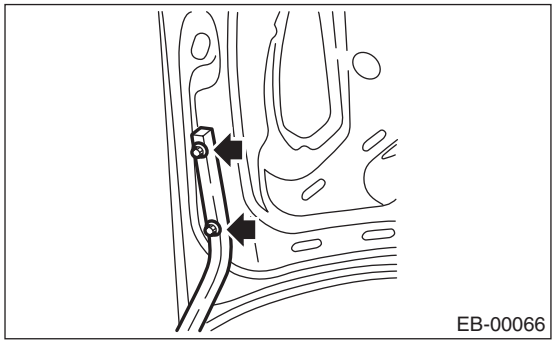



### 3. TRUNK LID PANEL

1) Disconnect the ground cable from the battery.
2) Open the trunk lid to remove the trunk lid trim and trunk lid arm cover. <Ref. to EI-67, TRUNK ROOM TRIM, REMOVAL, Trunk Room Trim.>
3) Disconnect the connector to remove the trunk lid harness.
4) Remove the trunk lid lock assembly. <Ref. to SL-42, REMOVAL, Trunk Lid Lock Assembly.>
5) Remove the trunk lid garnish. <Ref. to EI-71, REMOVAL, Trunk Lid Garnish.>
6) Remove the license plate light cover.




7) Remove the bolts, then remove the trunk lid panel from the trunk lid arm.



## B: INSTALLATION

1) Install in the reverse order of removal.
2) Apply grease to the rotating area of hinges and the torsion bar.
3) Install while paying attention to make a uniform clearance around the trunk lid panel. For the dimension of clearance, refer to “SPECIFICATION” in “General Description”. <Ref. to EB-2, SPECIFICATION, General Description.>

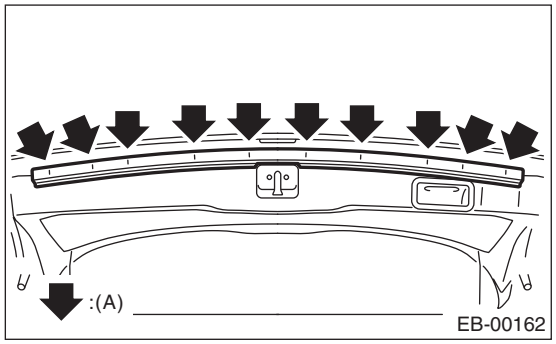
***Tightening torque:***
***Refer to “COMPONENT” of “General Description”.***
***<Ref. to EB-11, REAR GATE PANEL, COMPONENT, General Description.>***

# 9. Rear Gate

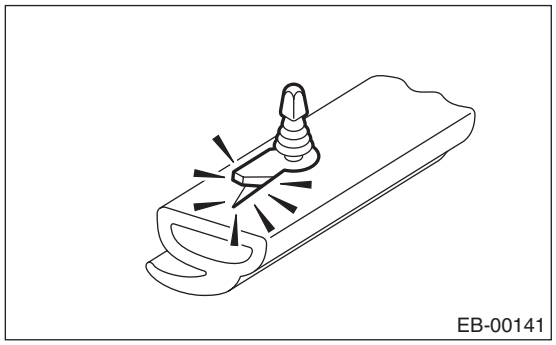
## A: REMOVAL

### 1. REAR GATE PANEL

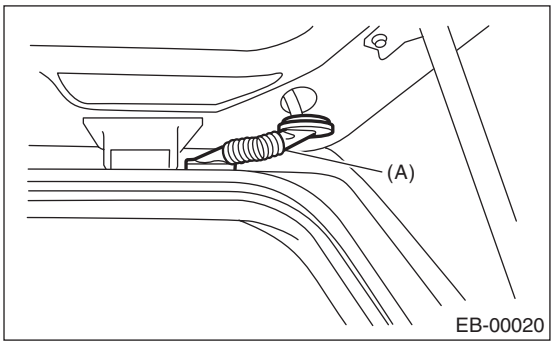
1) Disconnect the ground cable from the battery.
2) Open the rear gate.
3) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
4) Remove the rear gate garnish. <Ref. to EI-72, REMOVAL, Rear Gate Garnish.>
5) Remove the rear wiper arm. <Ref. to WW-15, REMOVAL, Rear Wiper Arm.>
6) Remove the rear wiper motor. <Ref. to WW-16, REMOVAL, Rear Wiper Motor.>
7) Remove the rear gate outer handle. <Ref. to SL-40, REMOVAL, Rear Gate Outer Handle.>
8) Remove the rear gate latch assembly. <Ref. to SL-41, REMOVAL, Rear Gate Latch Assembly.>
9) Remove the roof spoiler. <Ref. to EI-40, REMOVAL, Roof Spoiler.>
10) Remove harness clip of each connector from the rear gate panel.
11) Remove the weather strip clip (A), 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.

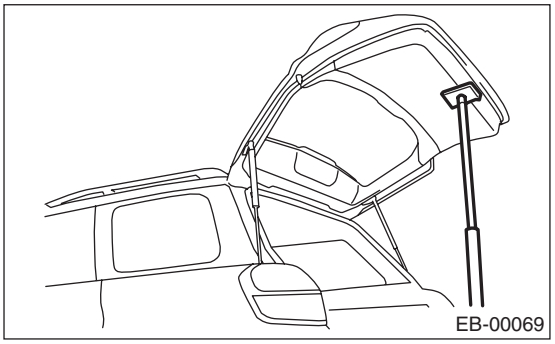



12) Remove the rubber duct (A) connection, and pull out the harness and washer hose from the rear gate.

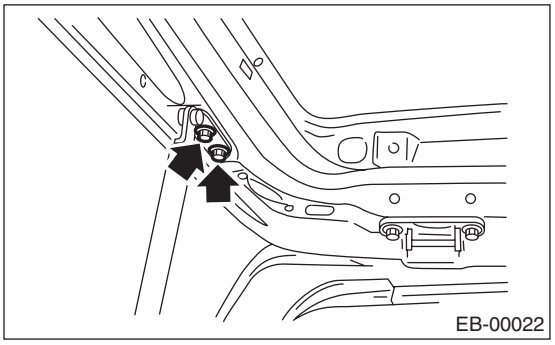



13) Before removing the rear gate damper stay, prevent the rear gate from closing using prop or the like.

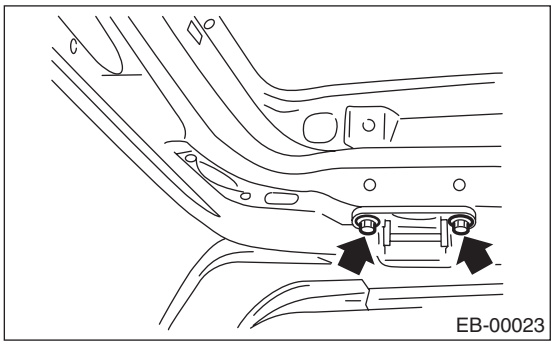
**CAUTION:**
**If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.**




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



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



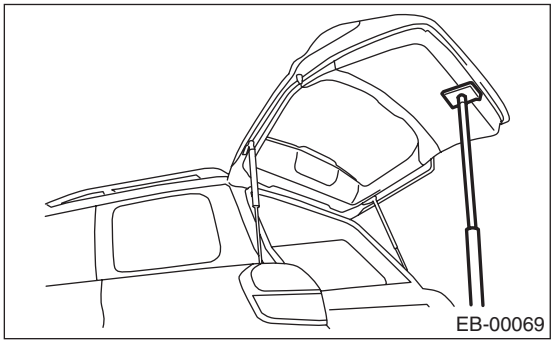

16) Remove the rear gate hinge from the vehicle.

## 2. REAR GATE DAMPER STAY

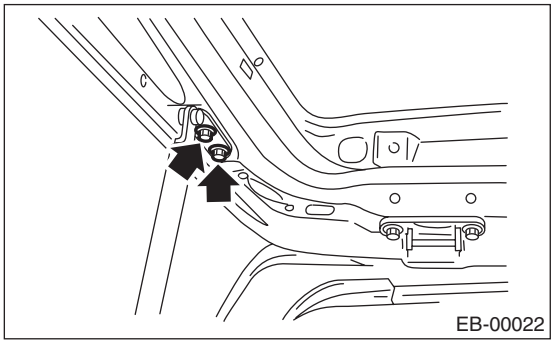
**CAUTION:**
- **Do not damage piston rods and oil seals.**
- **Never disassemble cylinders: They contain gas.**

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

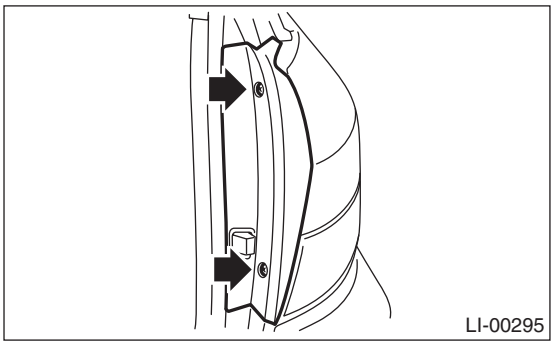
**CAUTION:**
**If the prop comes off, operators may get injured and vehicle may get damaged. Make sure to support the rear gate with secure material to prevent injury or damage.**



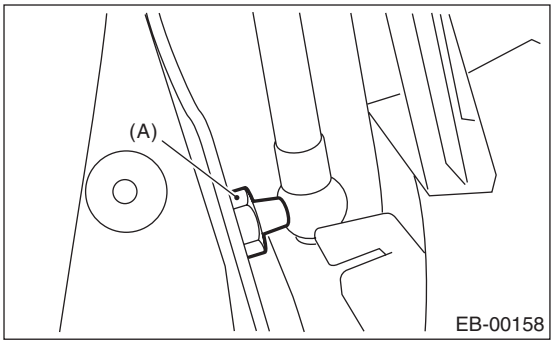

3) Remove the mounting bolt of rear gate damper stay.




4) Remove the clips and detach the rear combination light covers.




5) Remove mounting bolt (A), and remove the damper stay.



## B: INSTALLATION

### 1. REAR GATE PANEL

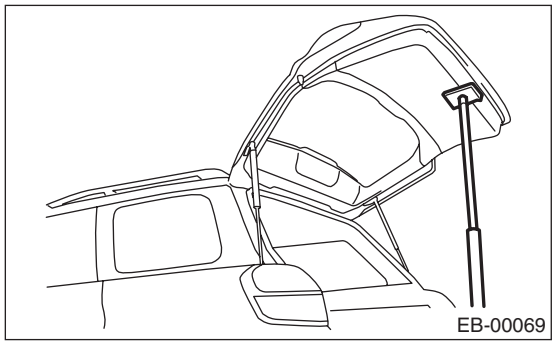
1) Install in the reverse order of removal.
2) Install with attention to make uniform clearance between rear gate panel and body. For the dimension of clearance, refer to “SPECIFICATION” in “General Description”. <Ref. to EB-2, SPECIFICATION, General Description.>

***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.**




2) Install in the reverse order of removal.

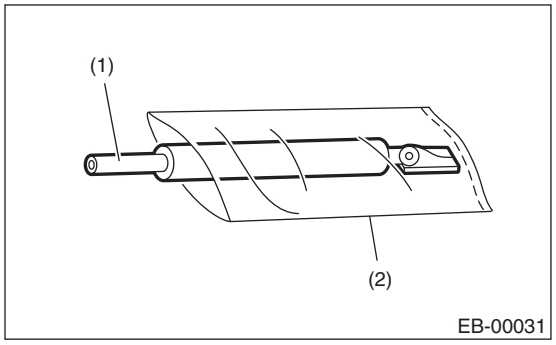
***Tightening torque:***
***Refer to “COMPONENT” of “General Description”.***
***<Ref. to EB-11, REAR GATE PANEL, COMPONENT, General Description.>***

## 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.**

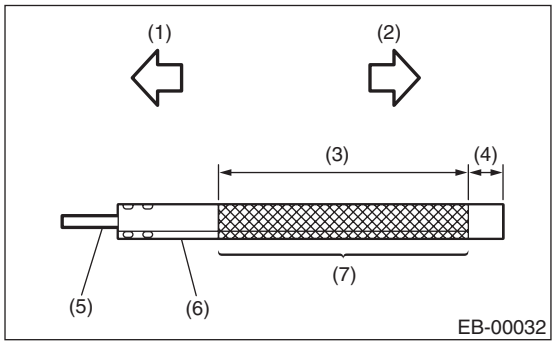
1) Cover with a vinyl sack as shown in the figure.




(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

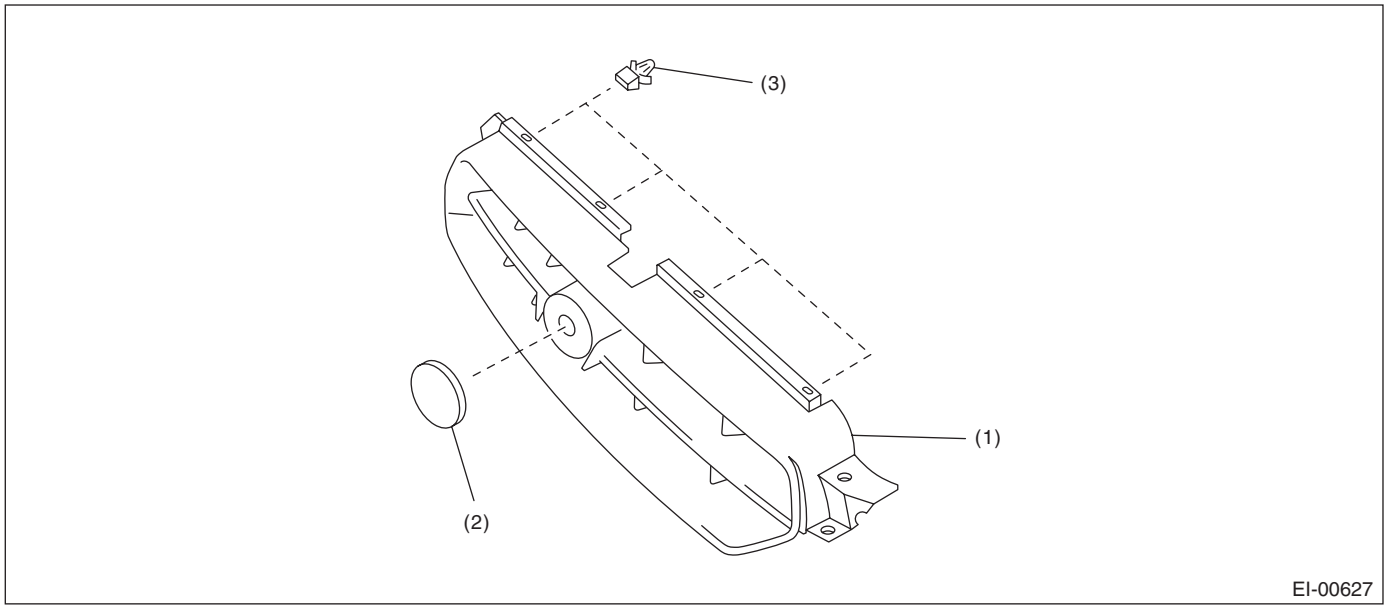

Page

1. General Description .....2
2. Cruise Control Unit .....4
3. Cruise Control Command Switch .....5
4. Stop Light & Brake Switch .....6
5. Clutch Switch .....7
6. Inhibitor Switch .....8
7. Neutral Position Switch .....9

# 1. General Description

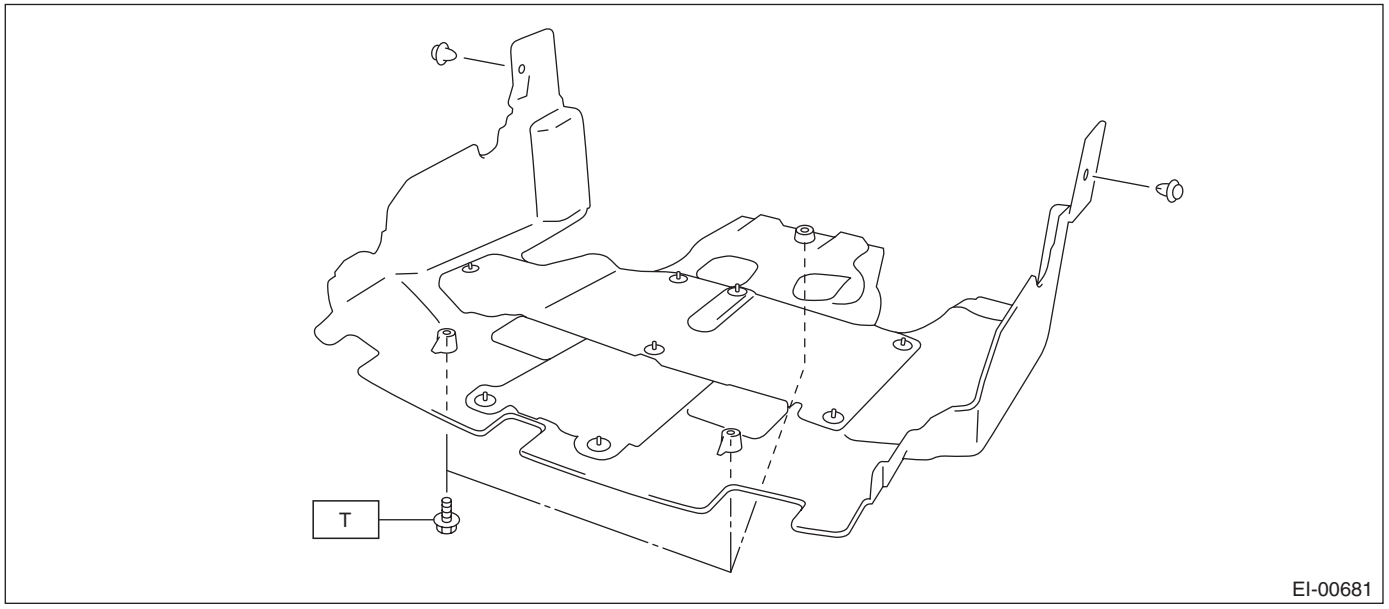
## A: COMPONENT

### 1. FRONT GRILLE



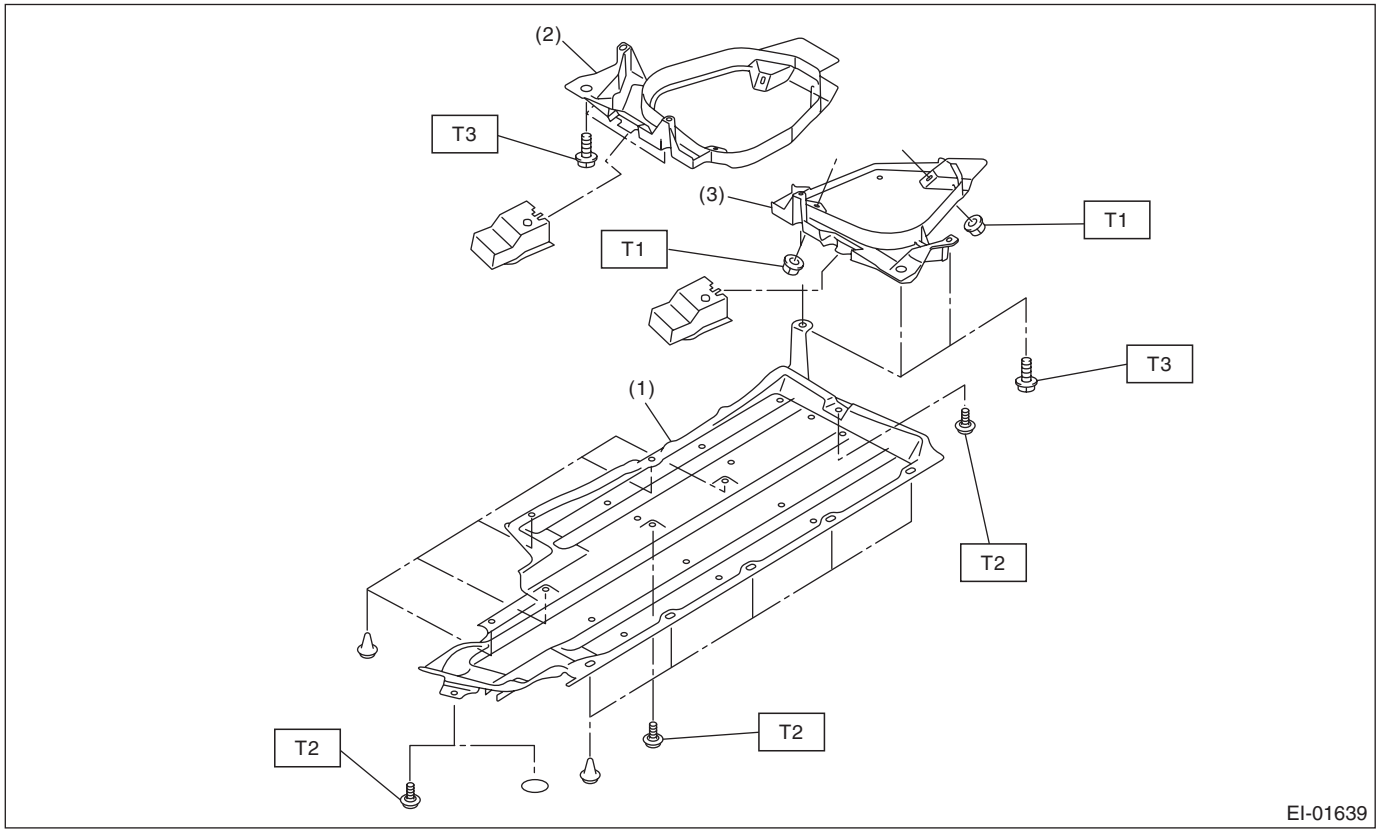

(1) Front grille (2) Front grille emblem (3) Front grille clip

### 2. UNDER COVER




***Tightening torque:N·m (kgf-m, ft-lb)***
***T: 14 (1.42, 10.3)***

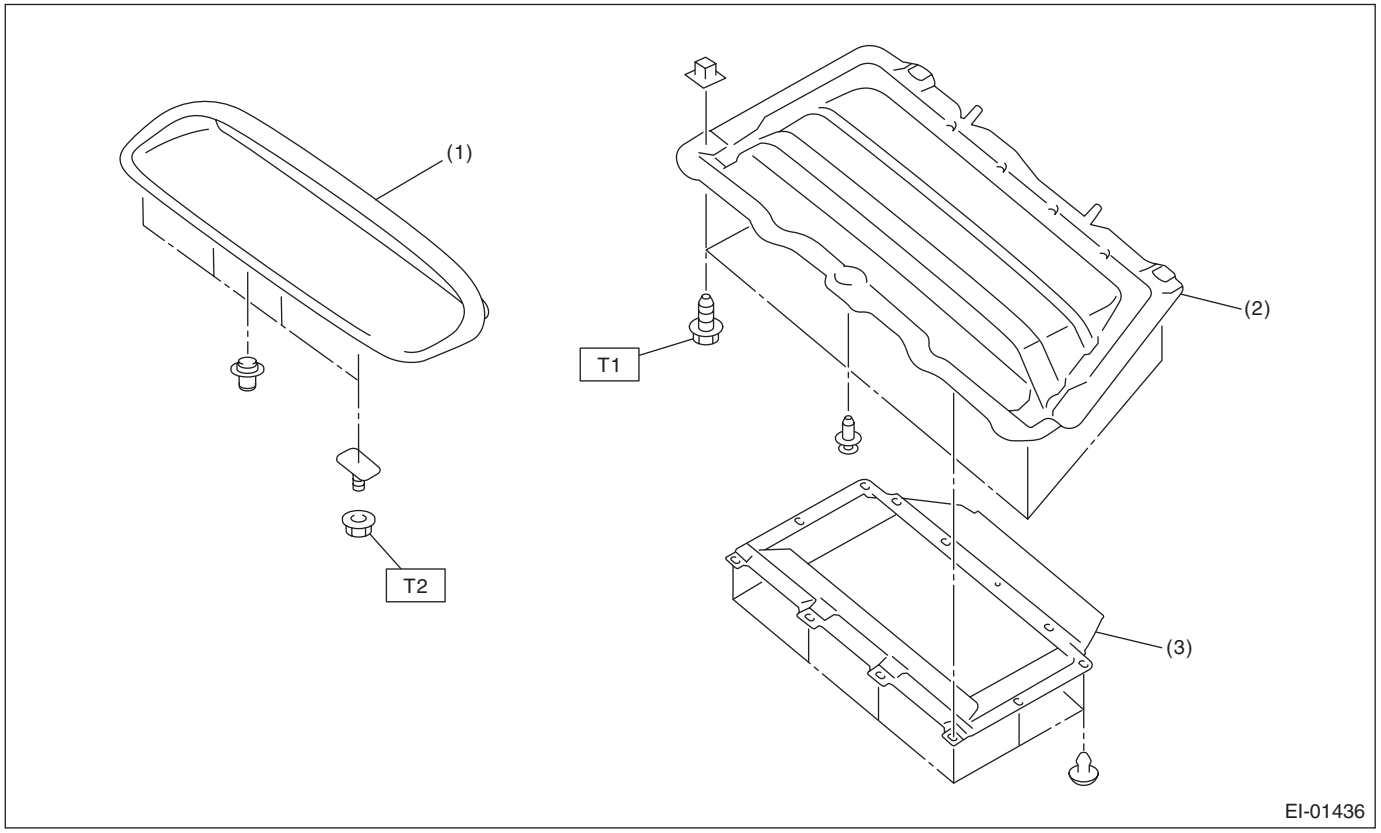
## 3. UNDER PROTECTOR




(1) Floor under protector
(2) Fuel tank protector RH
(3) Fuel tank protector LH

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 9 (0.92, 6.5)***
***T2: 14 (1.42, 10.3)***
***T3: 17.5 (0.92, 12.9)***

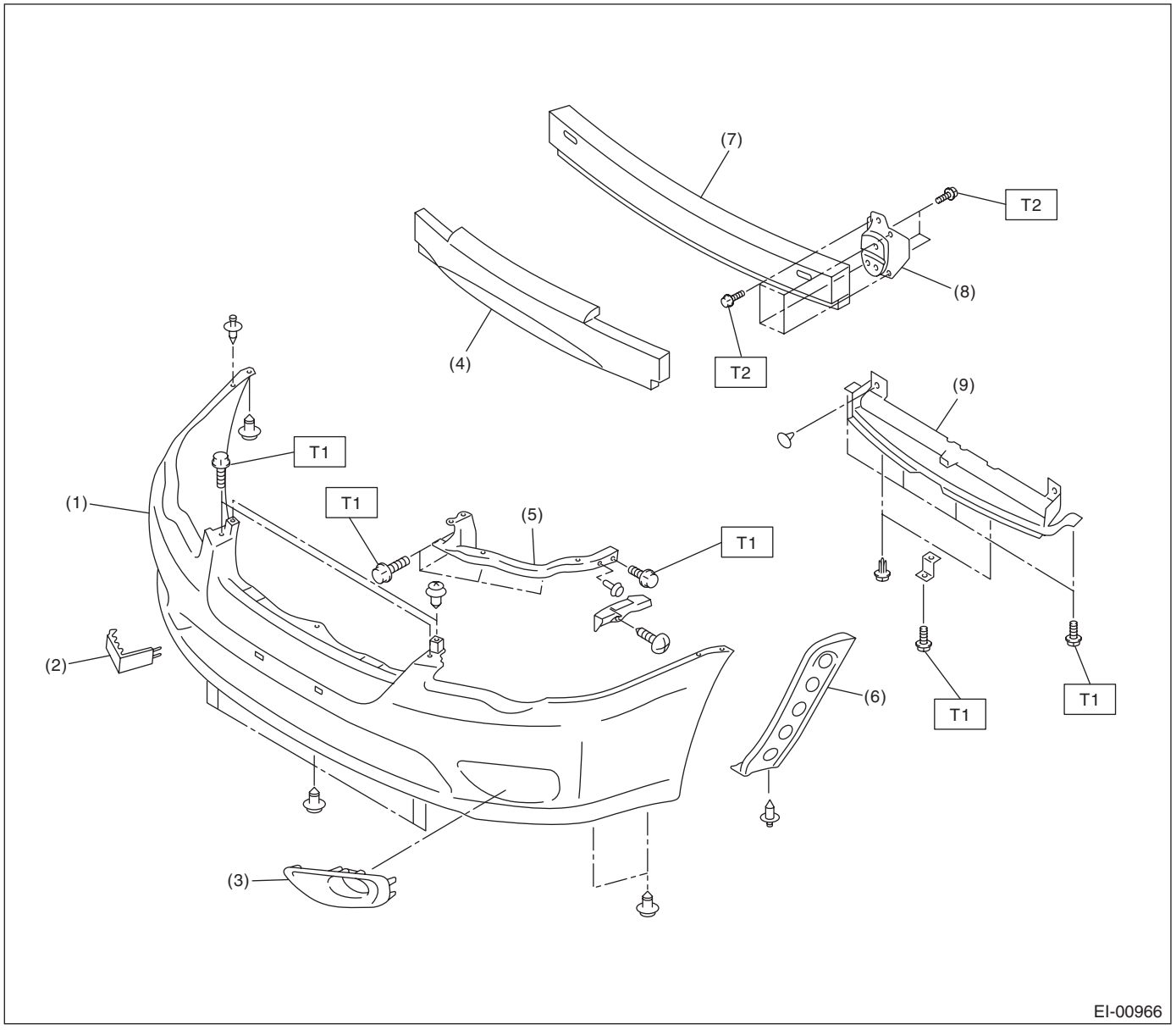
## 4. FRONT HOOD GRILLE




(1) Front hood grille
(2) Grille duct upper
(3) Grille duct lower

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 1.0 (0.1, 0.72)***
***T2: 4.4 (0.45, 3.18)***

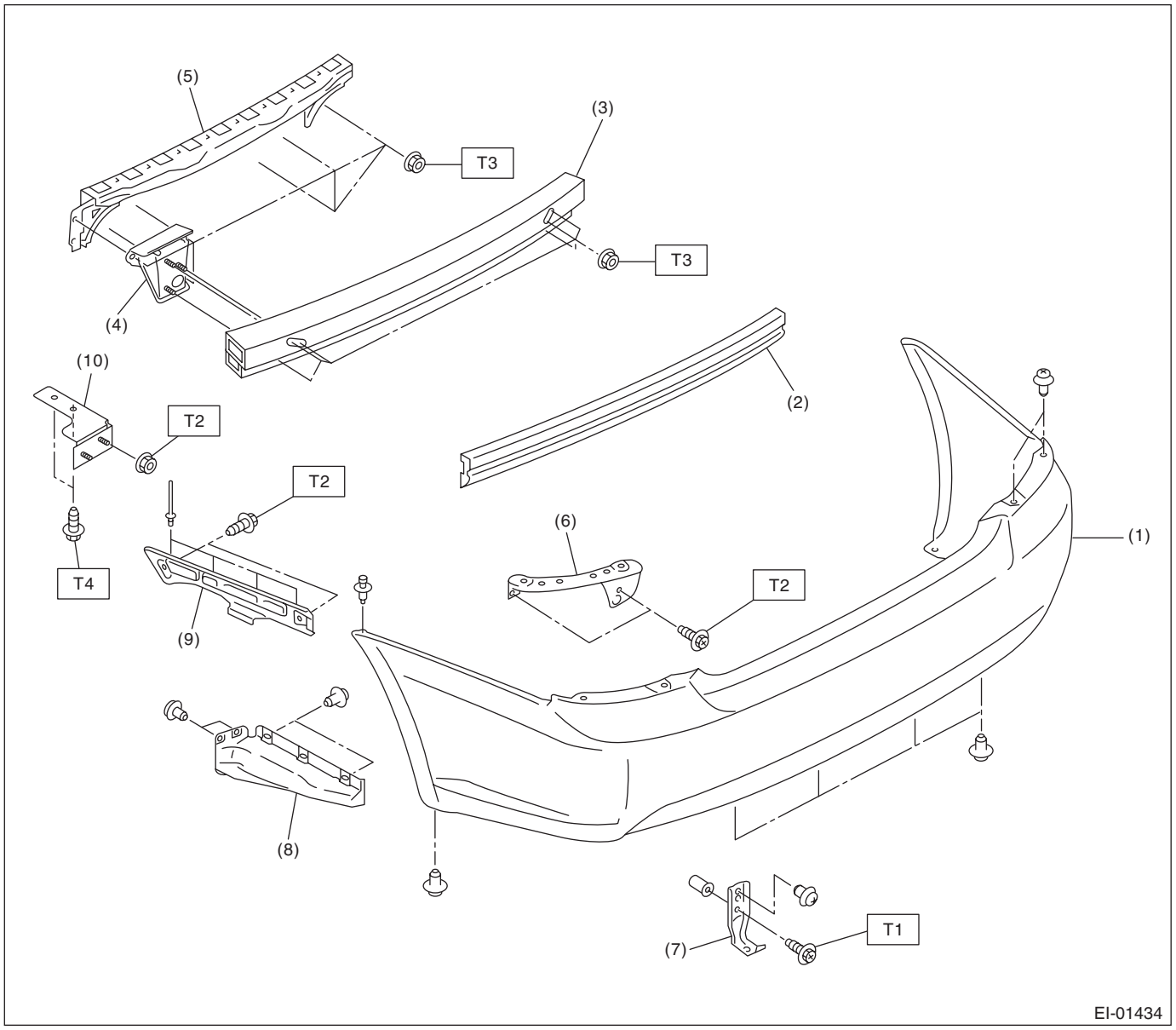
## 5. FRONT BUMPER




(1) Bumper face
(2) Towing hook cover
(3) Fog light cover
(4) Energy absorber foam
(5) Upper bracket
(6) Side bracket
(7) Bumper beam reinforcement
(8) Bumper beam bracket
(9) Radiator guide

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 7.5 (0.77, 5.53)***
***T2: 33 (3.4, 24)***

## 6. REAR BUMPER (SEDAN MODEL)

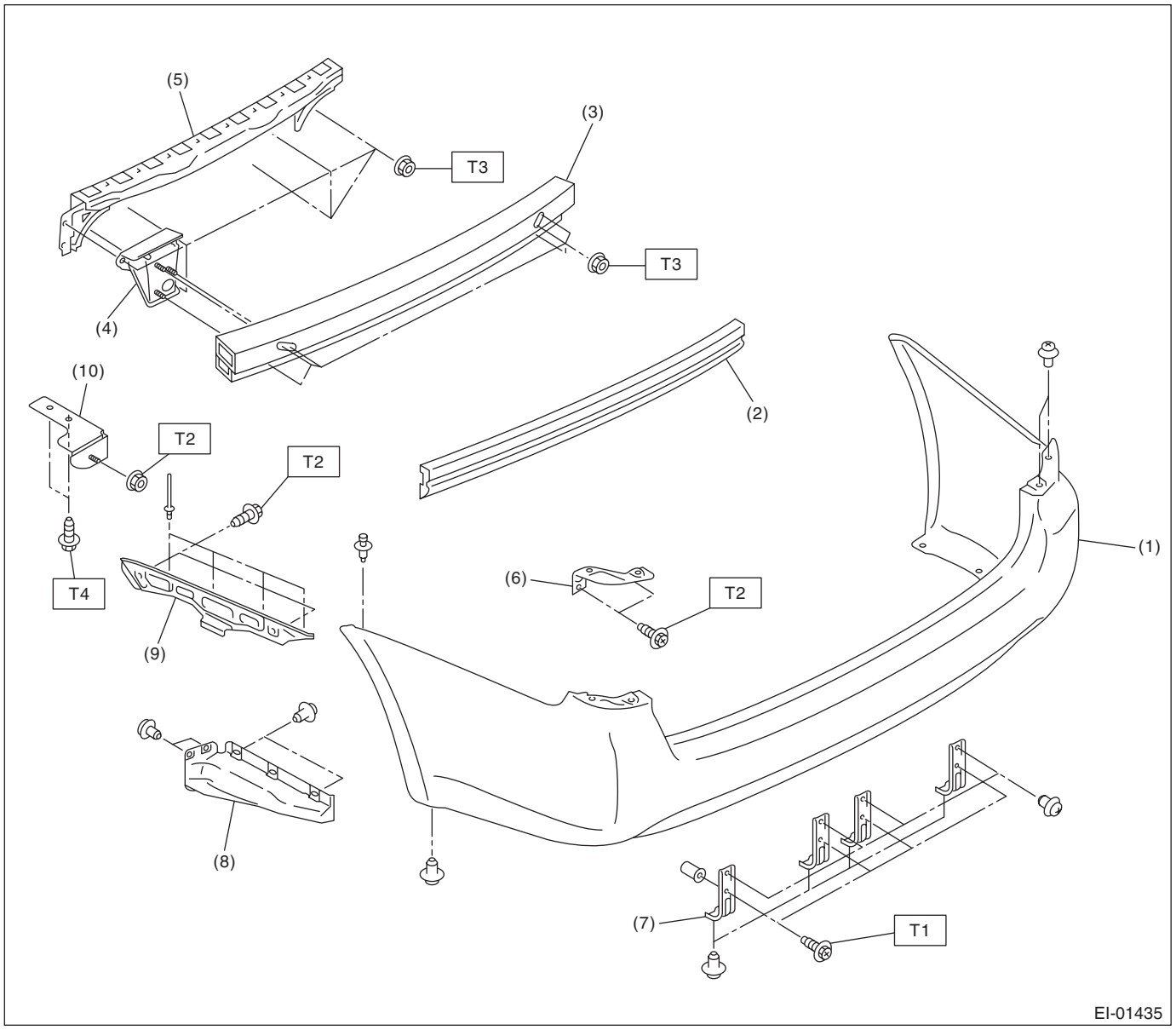



| | | | |
|---|---|---|---|
| (1) | Bumper face | (7) | Lower bracket |
| (2) | Energy absorber foam | (8) | Bumper side support lower |
| (3) | Bumper beam reinforcement | (9) | Bumper side support upper |
| (4) | Bumper beam bracket | (10) | Rear bumper gusset (for installing trailer hitch, OUTBACK only) |
| (5) | Beam upper rear | | |
| (6) | Bracket corner | | |

***Tightening torque:N·m (kgf-m, ft-lb)***

***T1: 2 (0.2, 1.48)***
***T2: 7.5 (0.77, 5.53)***
***T3: 33 (3.4, 24)***
***T4: 72 (7.3, 53.1)***

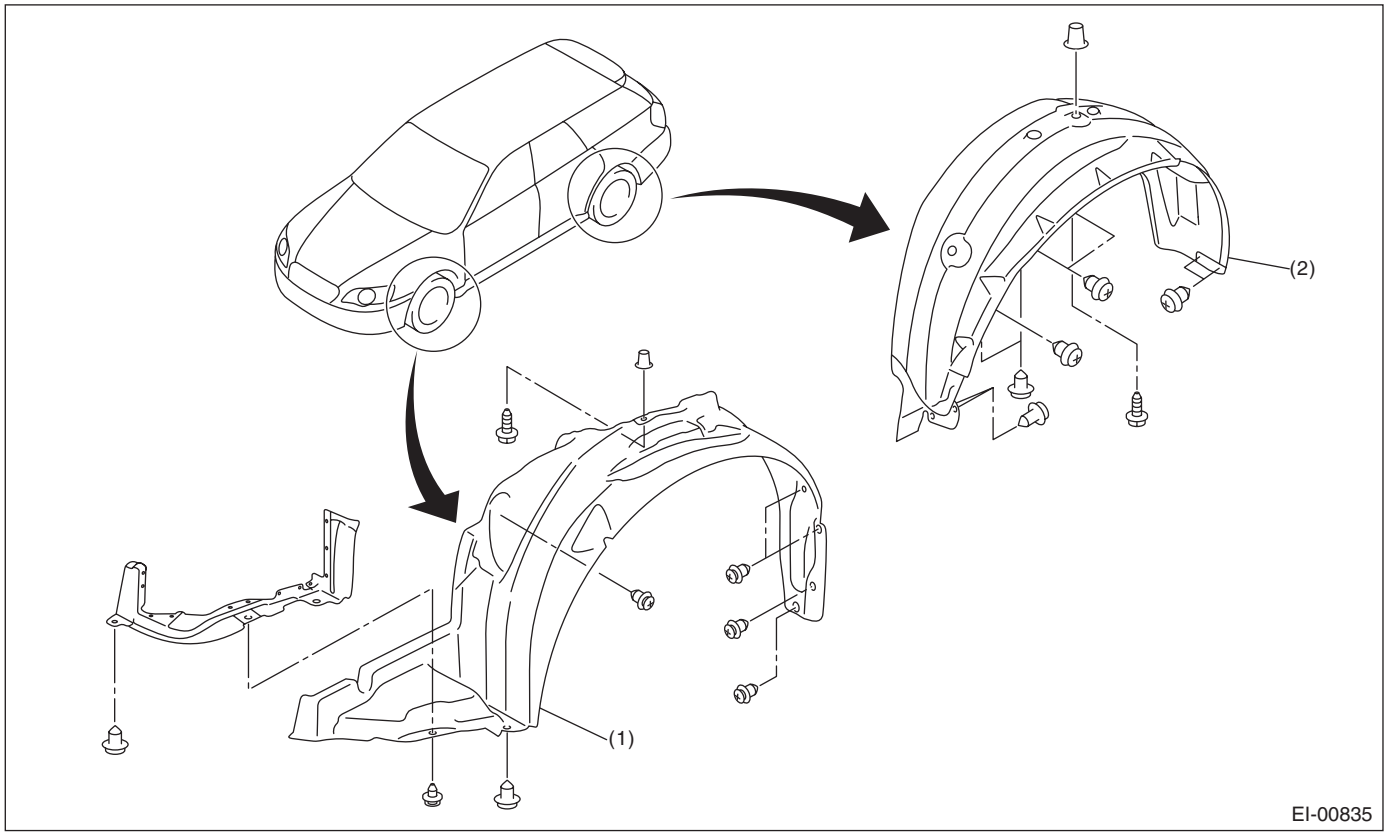
## 7. REAR BUMPER (WAGON MODEL)




(1) Bumper face
(2) Energy absorber foam
(3) Bumper beam reinforcement
(4) Bumper beam bracket
(5) Beam upper rear
(6) Bracket corner
(7) Lower bracket
(8) Bumper side support lower
(9) Bumper side support upper
(10) Rear bumper gusset (for installing trailer hitch, OUTBACK only)

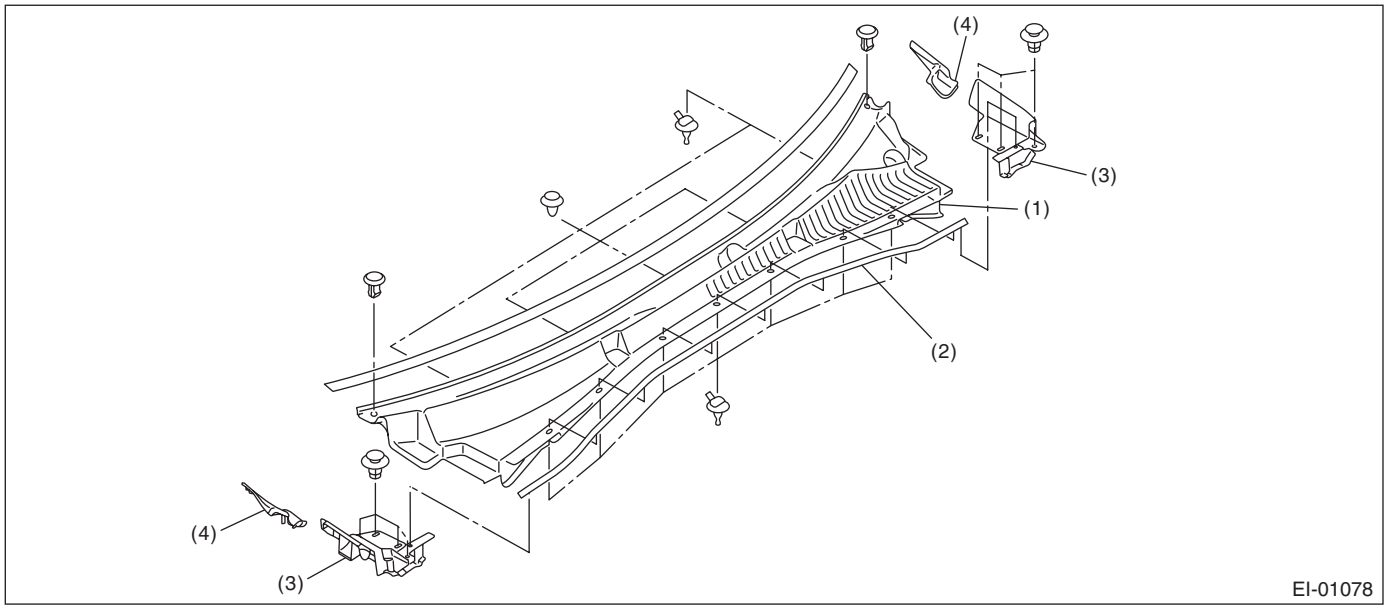
***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 2 (0.2, 1.48)***
***T2: 7.5 (0.77, 5.53)***
***T3: 33 (3.4, 24)***
***T4: 72 (7.3, 53.1)***

## 8. MUD GUARD



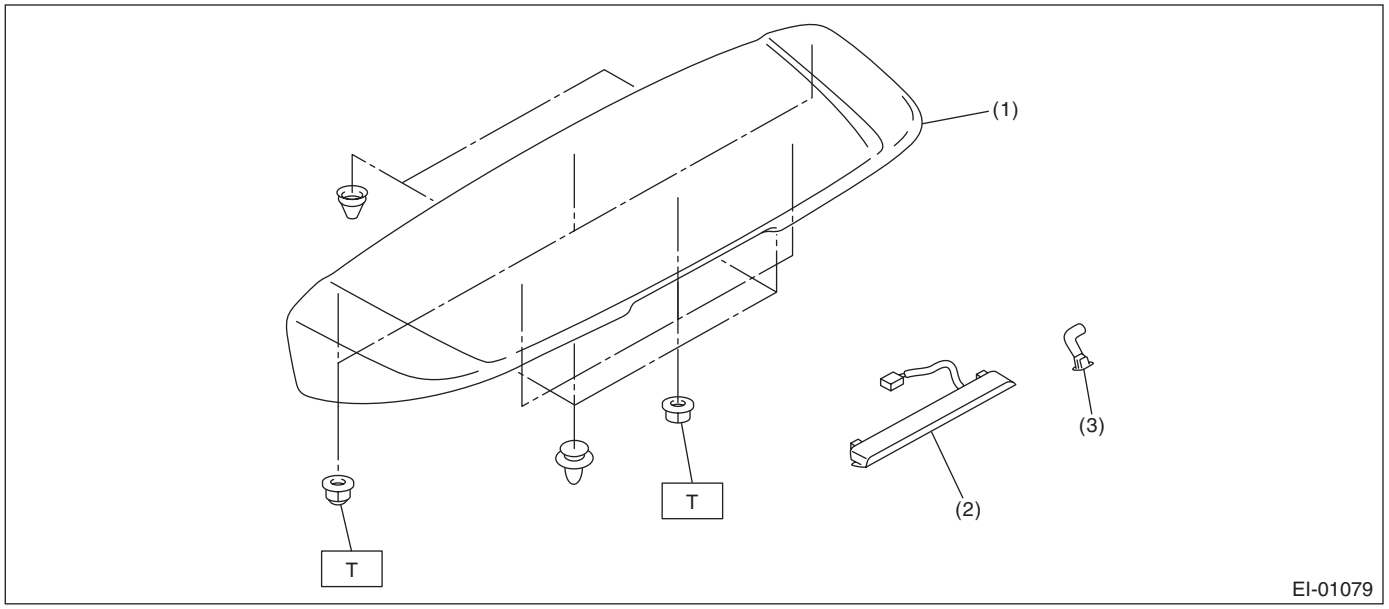

(1) Front mud guard
(2) Rear mud guard

## 9. COWL PANEL




(1) Cowl panel
(2) Weather strip
(3) Cover cowl panel
(4) Cowl side panel

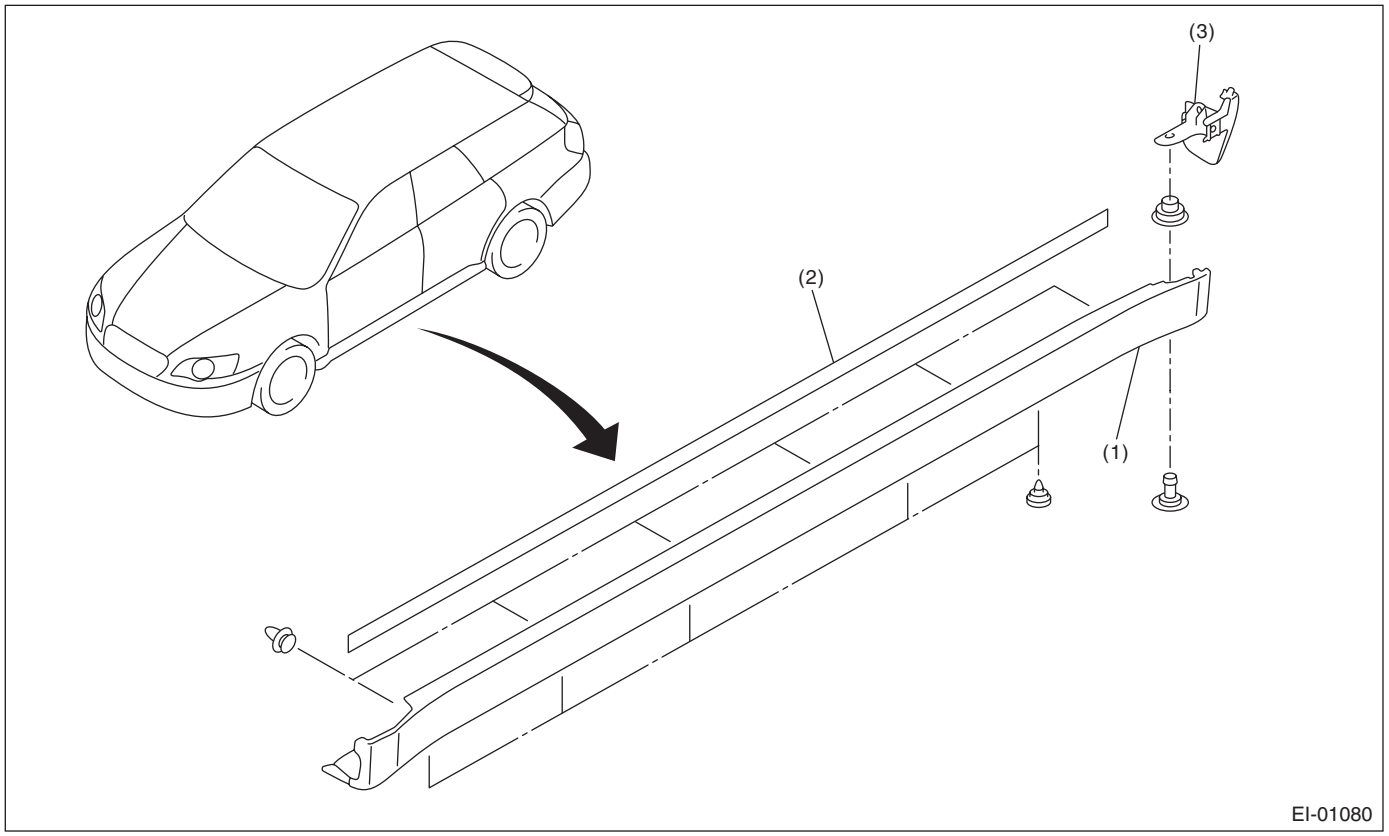
## 10.ROOF SPOILER




(1) Roof spoiler
(2) High-mounted stop light
(3) Washer nozzle

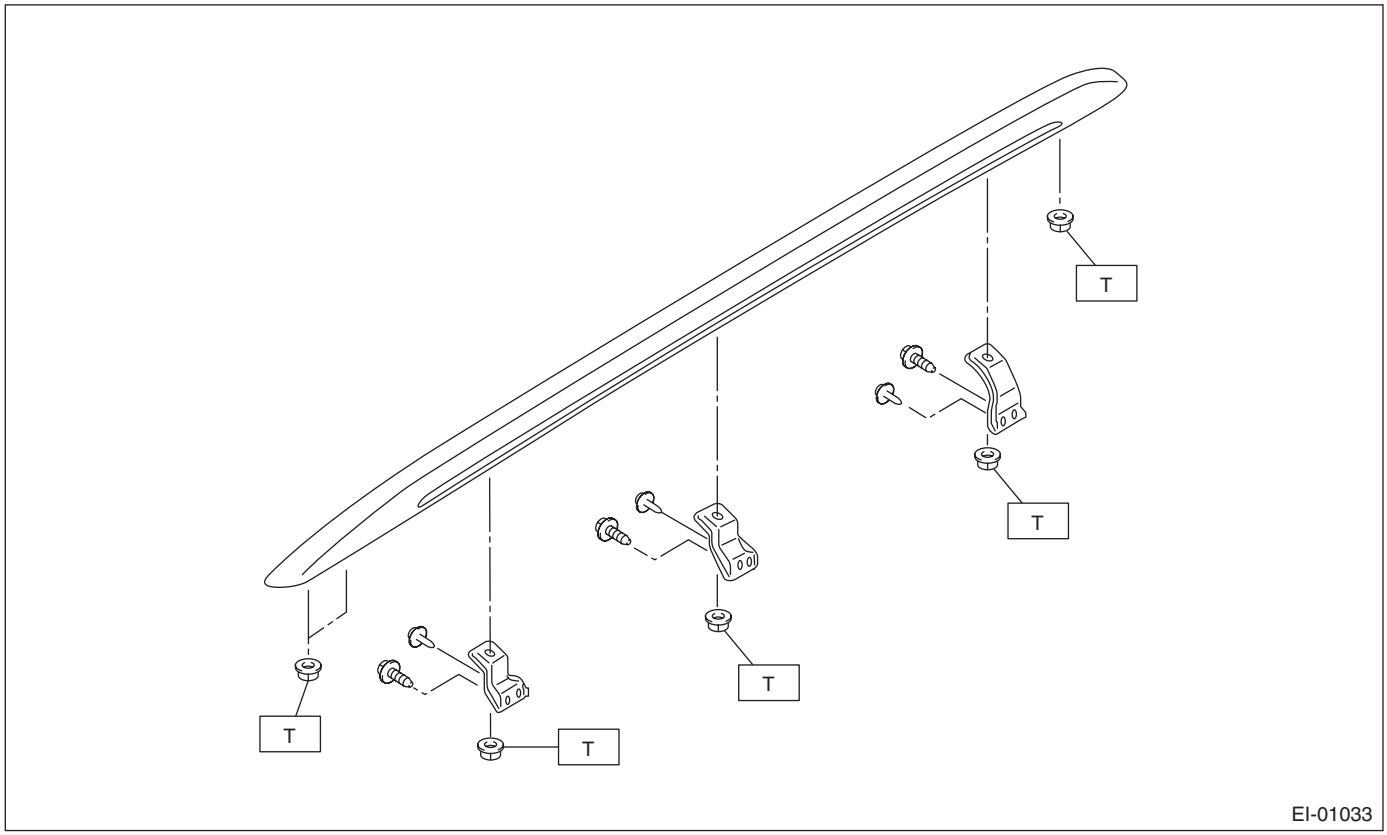
***Tightening torque:N·m (kgf-m, ft-lb)***
***T: 4.5 (0.46, 3.32)***

## 11.SIDE SILL SPOILER



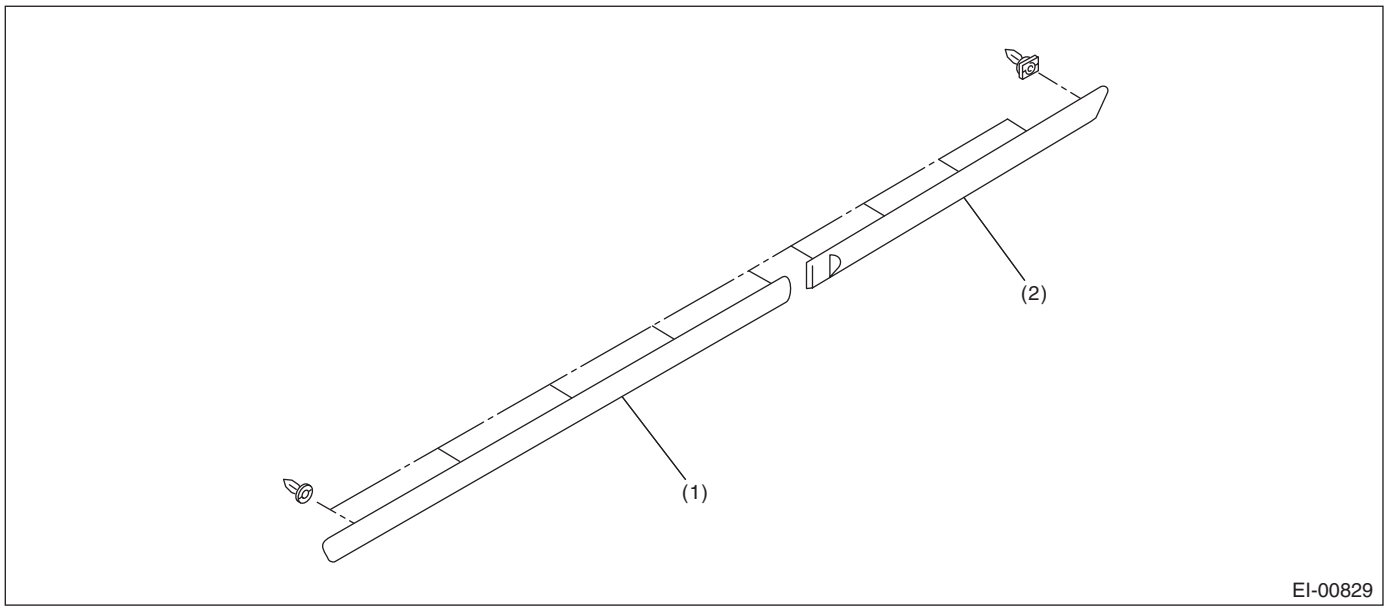

(1) Side sill spoiler
(2) Double-sided tape
(3) Air flap side sill end

## 12.ROOF RAIL



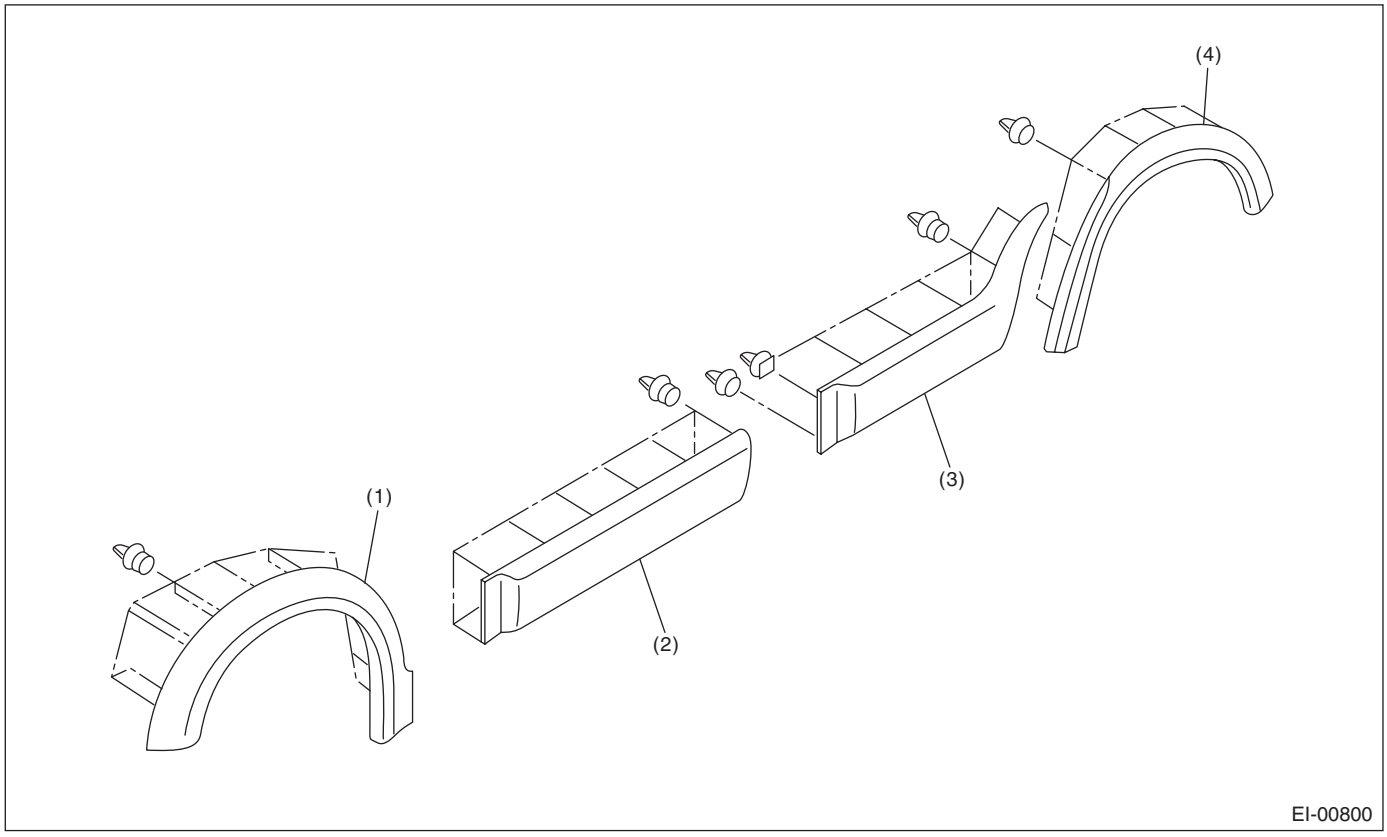

***Tightening torque:N·m (kgf-m, ft-lb)***
***T: 7.5 (0.77, 5.53)***

## 13.SIDE PROTECTOR



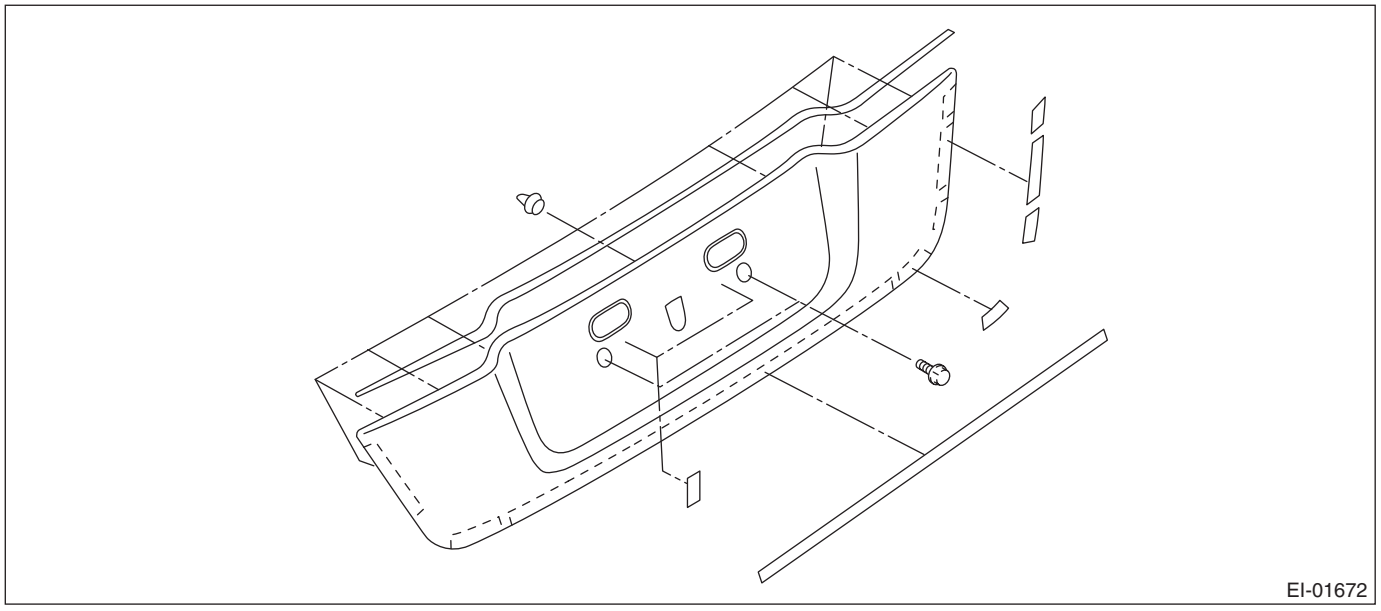

(1) Front door protector
(2) Rear door protector

## 14.SIDE GARNISH

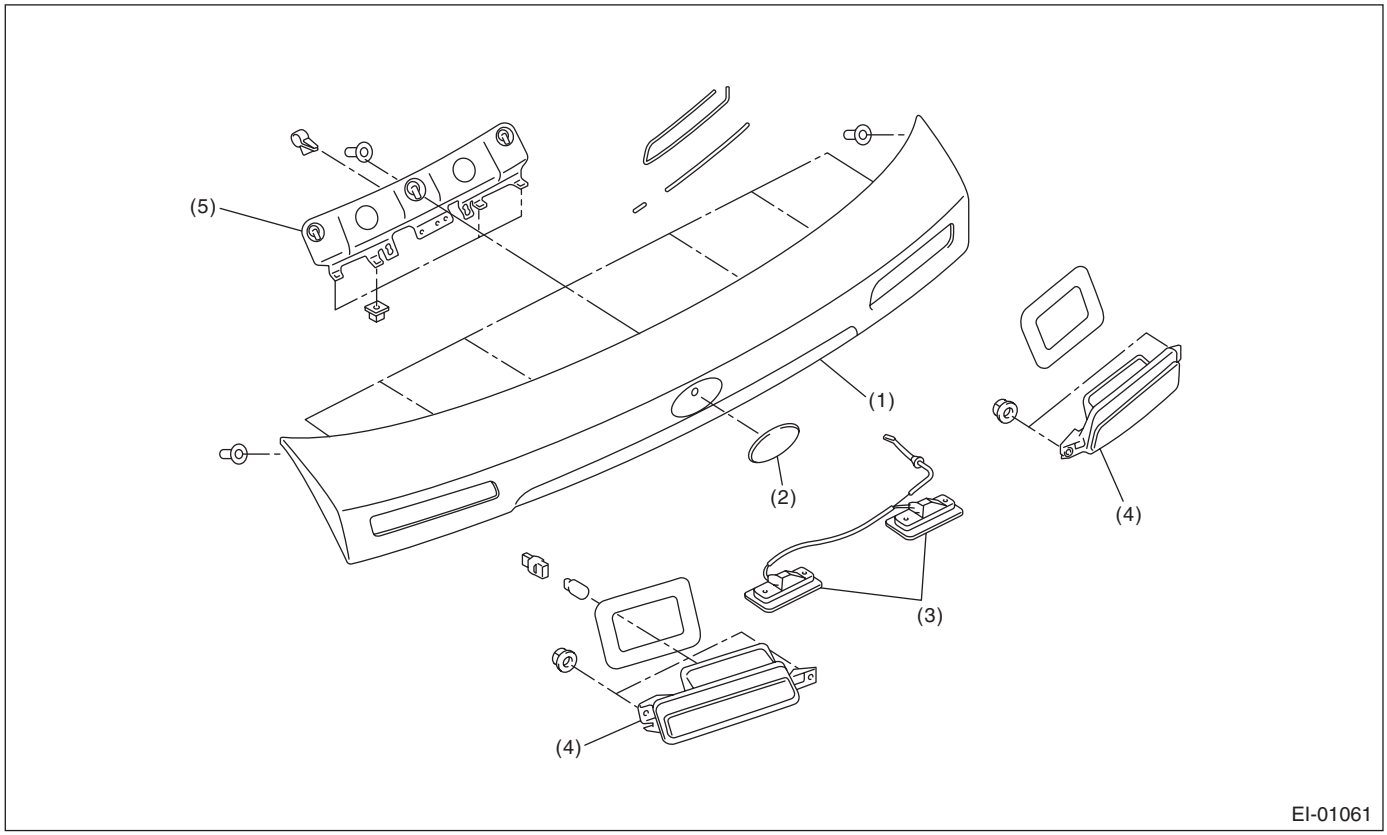



(1) Front fender garnish
(2) Front door garnish
(3) Rear door garnish
(4) Rear quarter garnish

## 15.TRUNK LID GARNISH

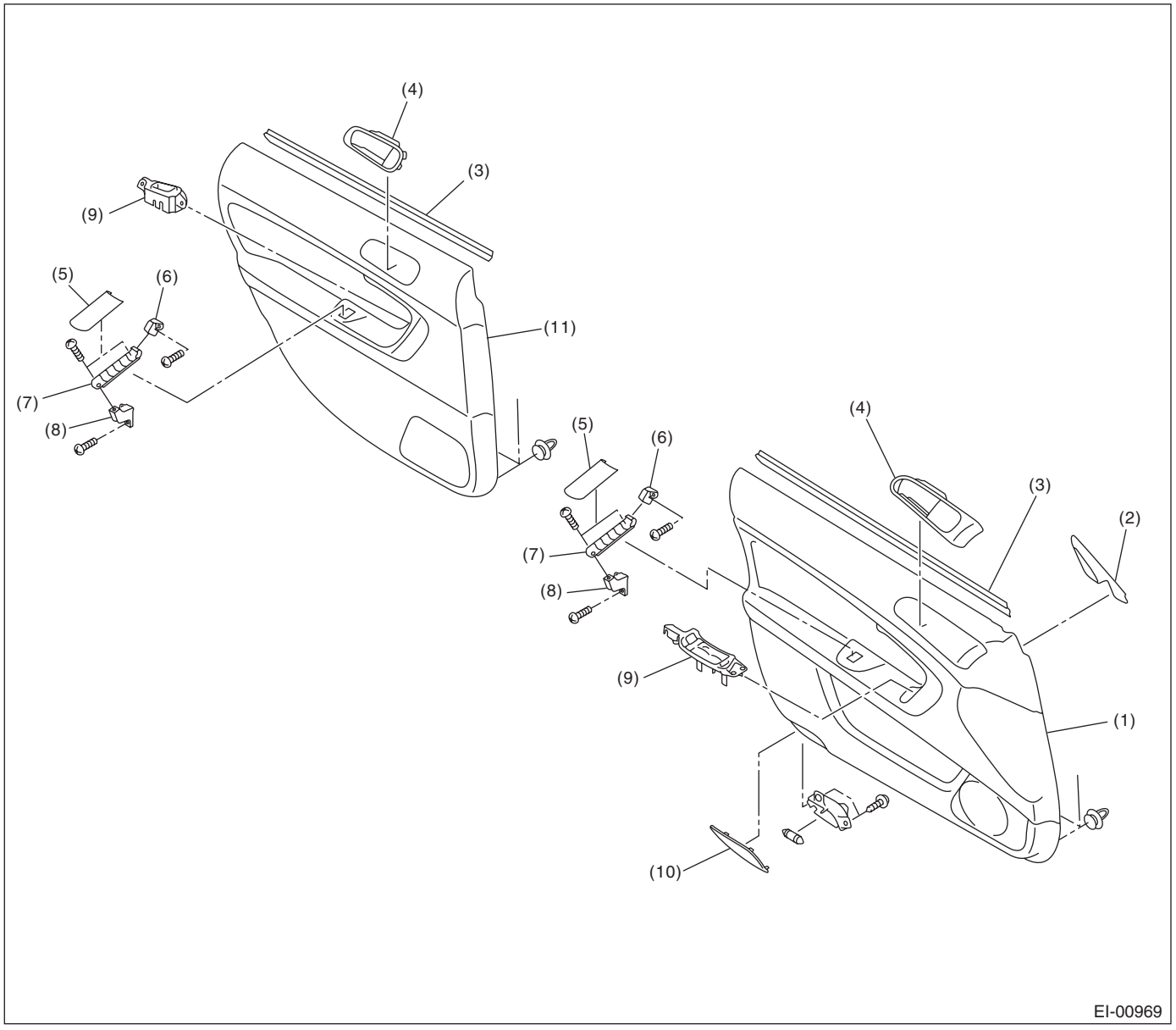


## 16.REAR GATE GARNISH



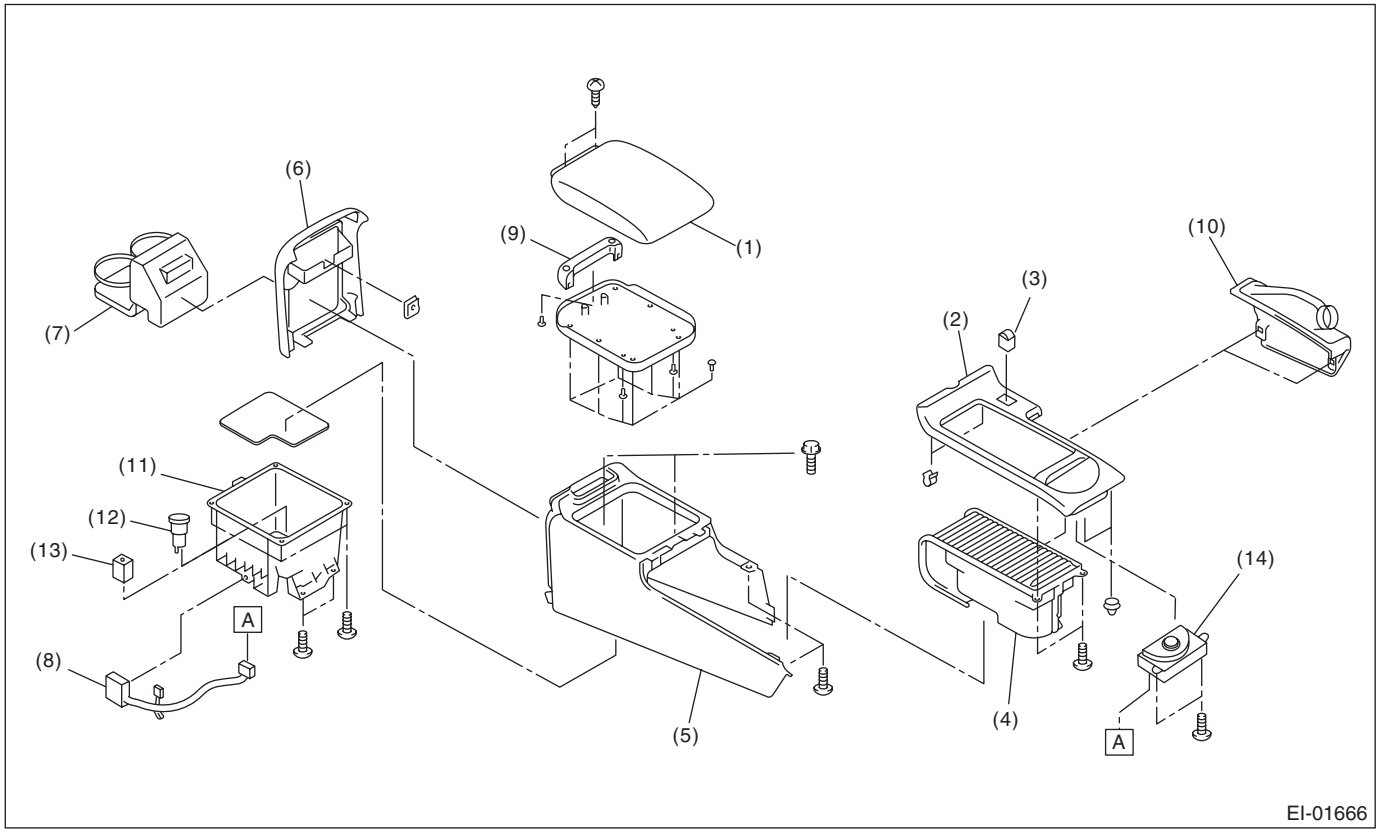

(1) Rear gate garnish
(2) Ornament
(3) License plate light
(4) Back-up light
(5) License plate light bracket

## 17.DOOR TRIM



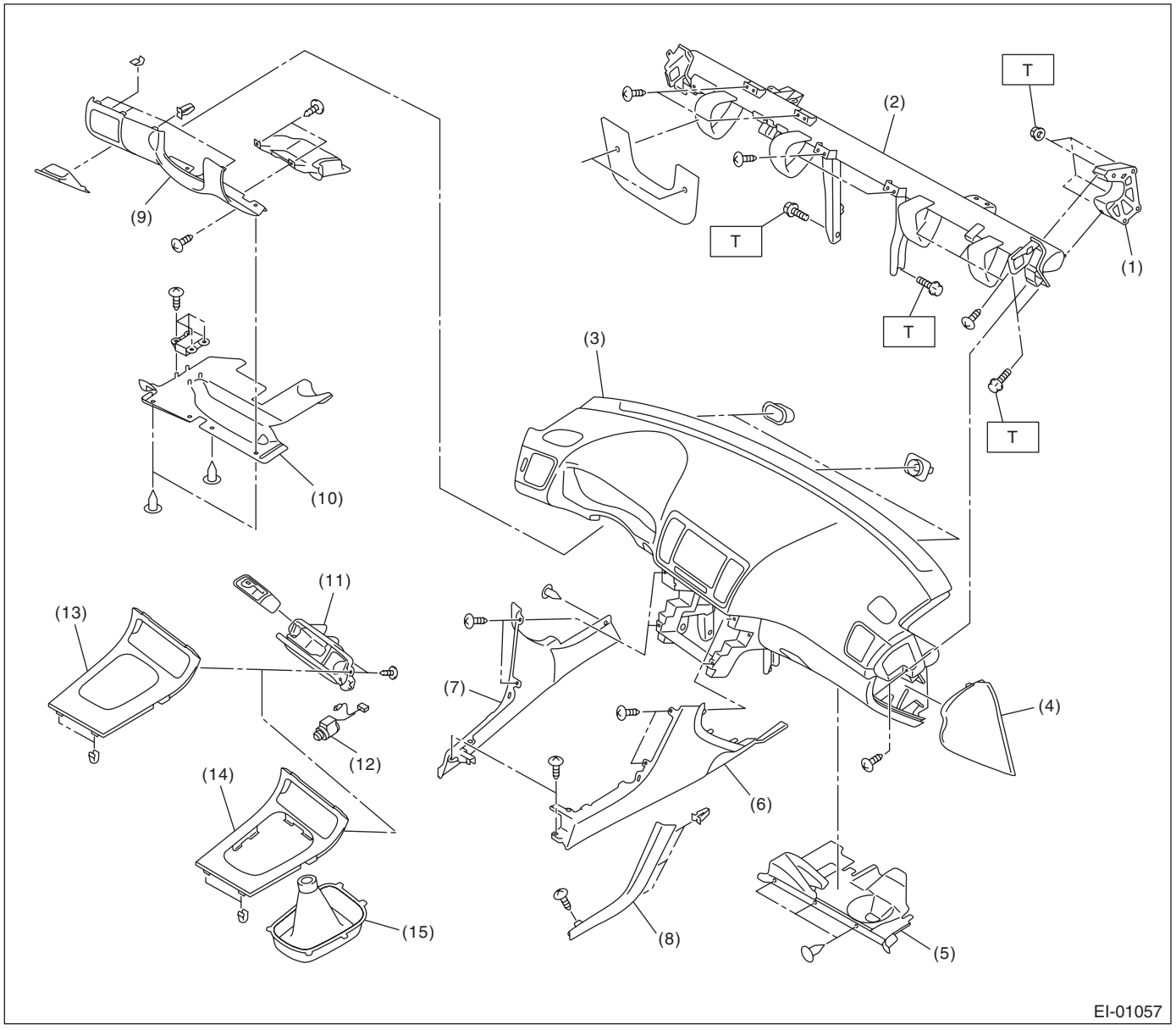

(1) Front door trim
(2) Gusset cover
(3) Upper weather strip
(4) Inner remote cover
(5) Door grip
(6) Door grip bracket upper
(7) Door grip frame
(8) Door grip bracket lower
(9) Power window switch
(10) Step light cover
(11) Rear door trim

## 18.CONSOLE BOX



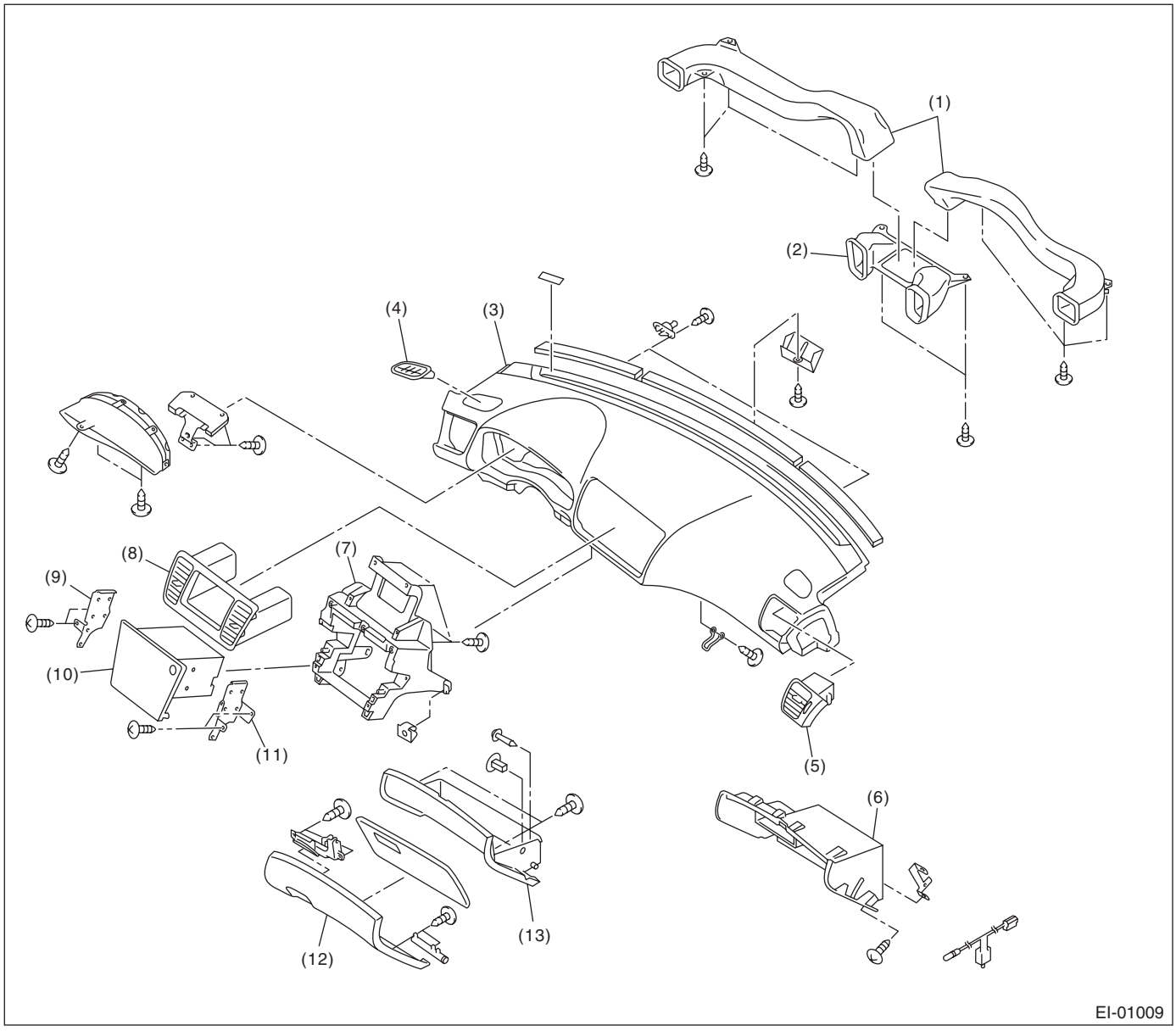

(1) Upper lid
(2) Console cover
(3) Seat heater switch
(4) Front cup holder
(5) Console box outer
(6) Rear lid
(7) Rear cup holder
(8) Console box harness
(9) Lid hinge
(10) Parking brake lever boot
(11) Console pocket
(12) Front accessory power supply socket
(13) AUX input terminal
(14) SI-DRIVE switch

## 19.INSTRUMENT PANEL



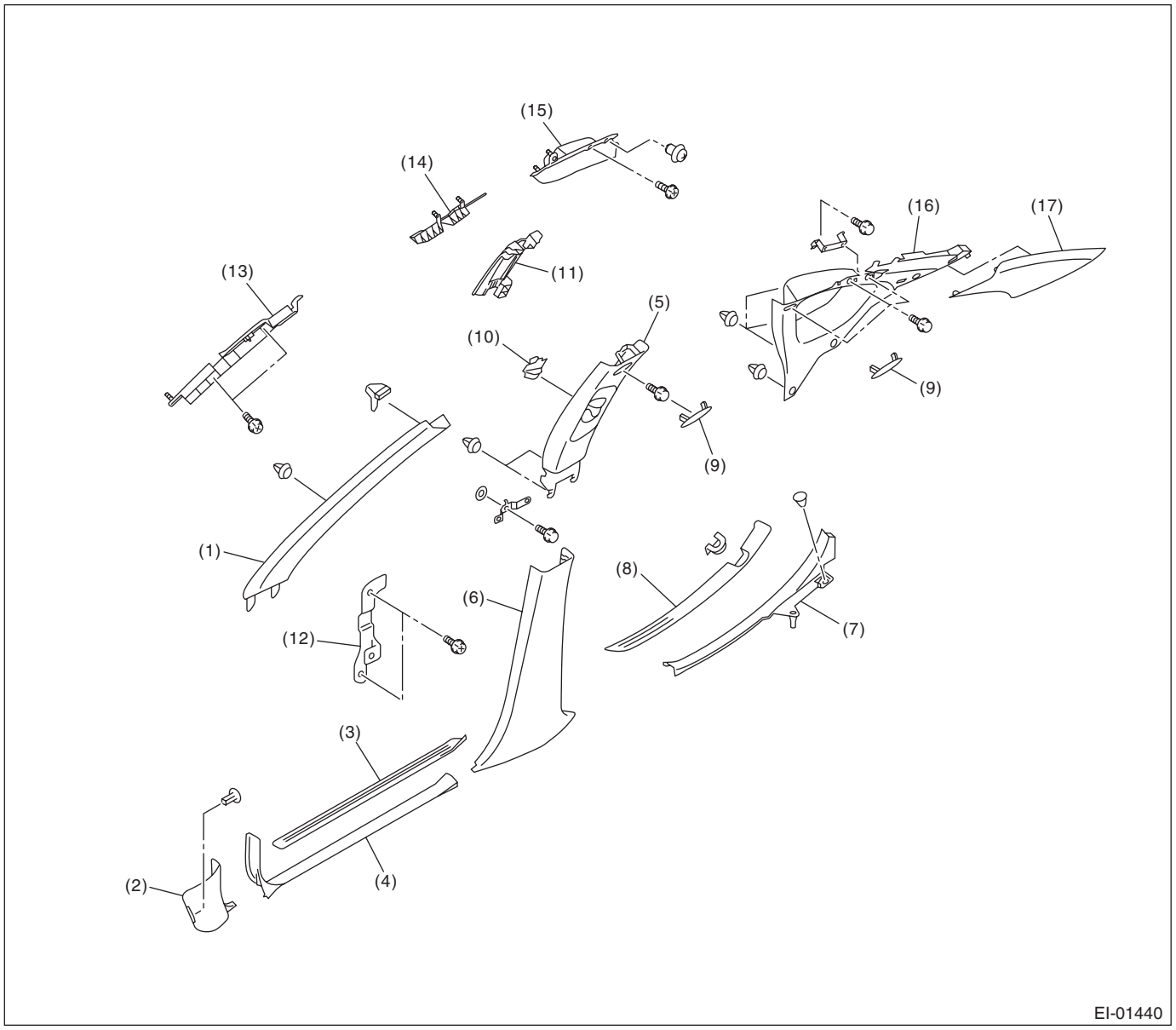

(1) Steering support beam bracket
(2) Steering support beam
(3) Instrument panel pad & frame ASSY
(4) Instrument panel side cover
(5) Glove box lower cover
(6) Console side panel RH
(7) Console side panel LH
(8) Console side garnish
(9) Instrument panel lower cover upper
(10) Instrument panel lower cover under
(11) Ash tray holder
(12) Front accessory power supply socket
(13) Console front panel (AT model)
(14) Console front panel (MT model)
(15) Shift lever boot (MT model)

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



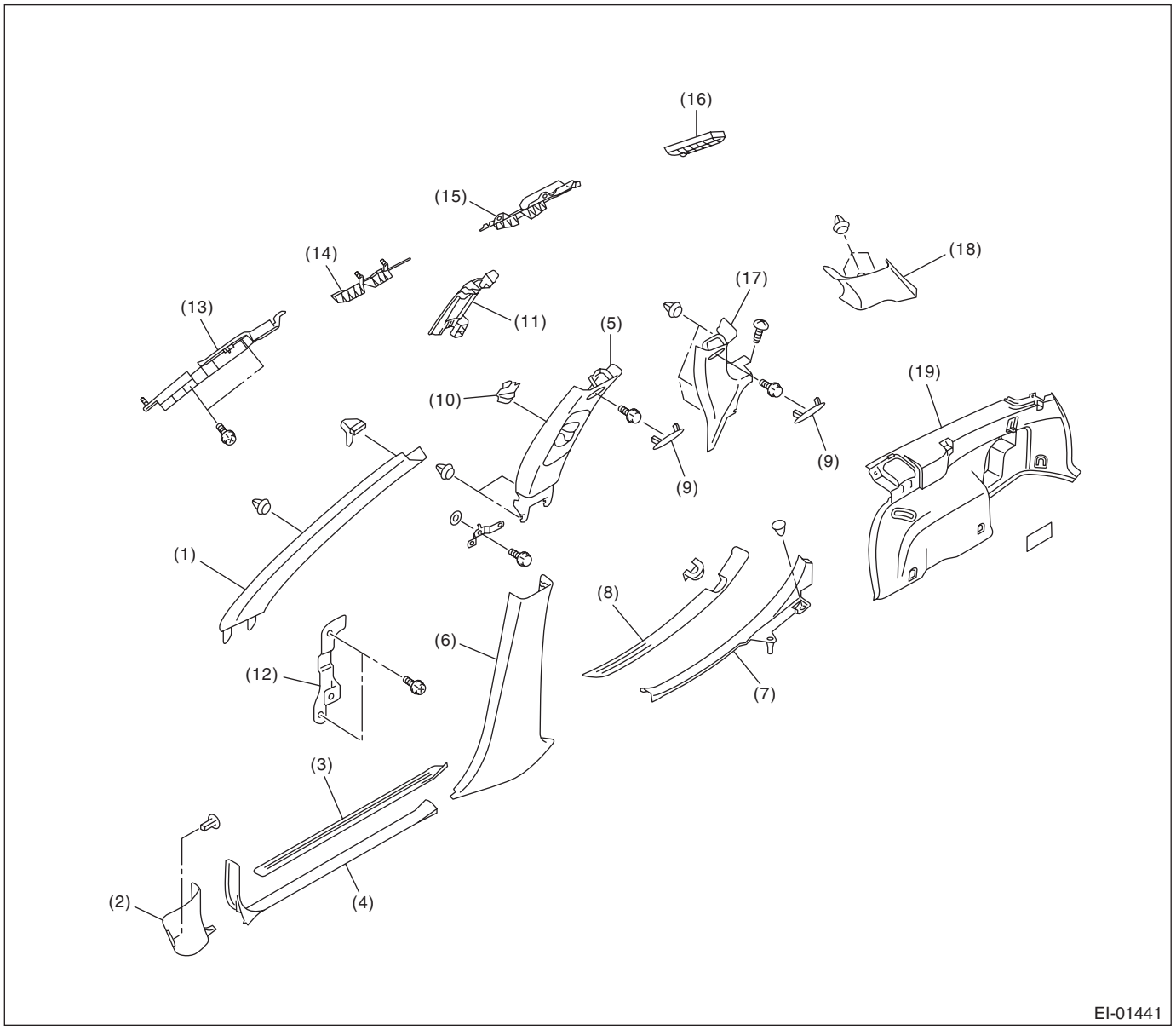

(1) Air vent side duct
(2) Air vent center duct
(3) Instrument panel pad & frame
(4) Air vent defroster grille
(5) Air vent side grille
(6) Glove box panel
(7) Center console frame
(8) Air vent center grille
(9) Audio bracket (LH)
(10) Center panel
(11) Audio bracket (RH)
(12) Glove box lid
(13) Glove box

## 20.INNER TRIM (SEDAN MODEL)



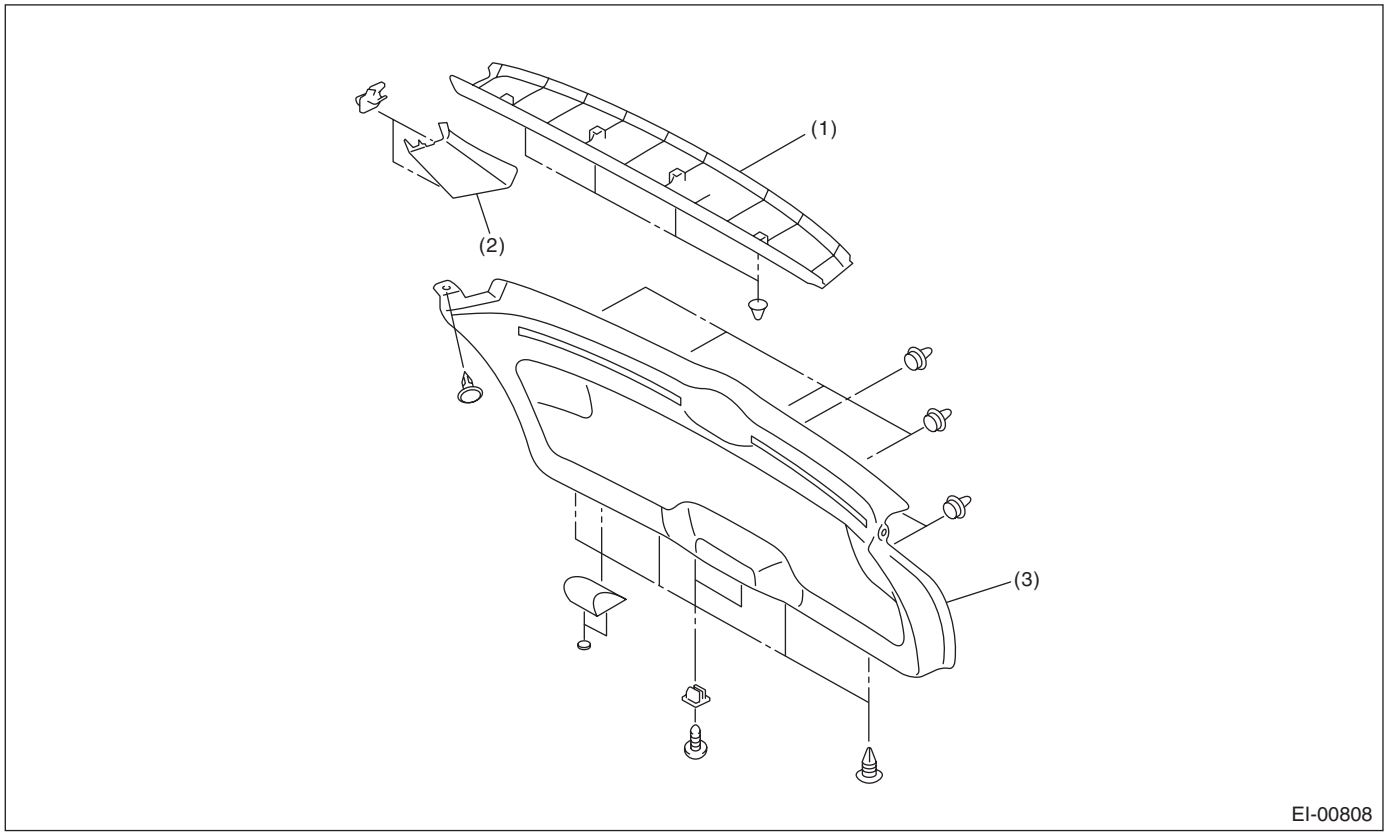

(1) Front pillar upper trim
(2) Front pillar lower trim
(3) Front outside scuff plate
(4) Front inside scuff plate
(5) Center pillar upper trim
(6) Center pillar lower trim
(7) Rear inside scuff plate
(8) Rear outside scuff plate
(9) Bolt cover
(10) Seat belt shoulder anchor adjuster button
(11) Center pillar inner protector upper
(12) Center pillar inner protector lower
(13) Curtain airbag guide front
(14) Curtain airbag guide center
(15) Curtain airbag guide rear
(16) Rear quarter trim front
(17) Rear quarter trim rear

## 21.INNER TRIM (WAGON MODEL)



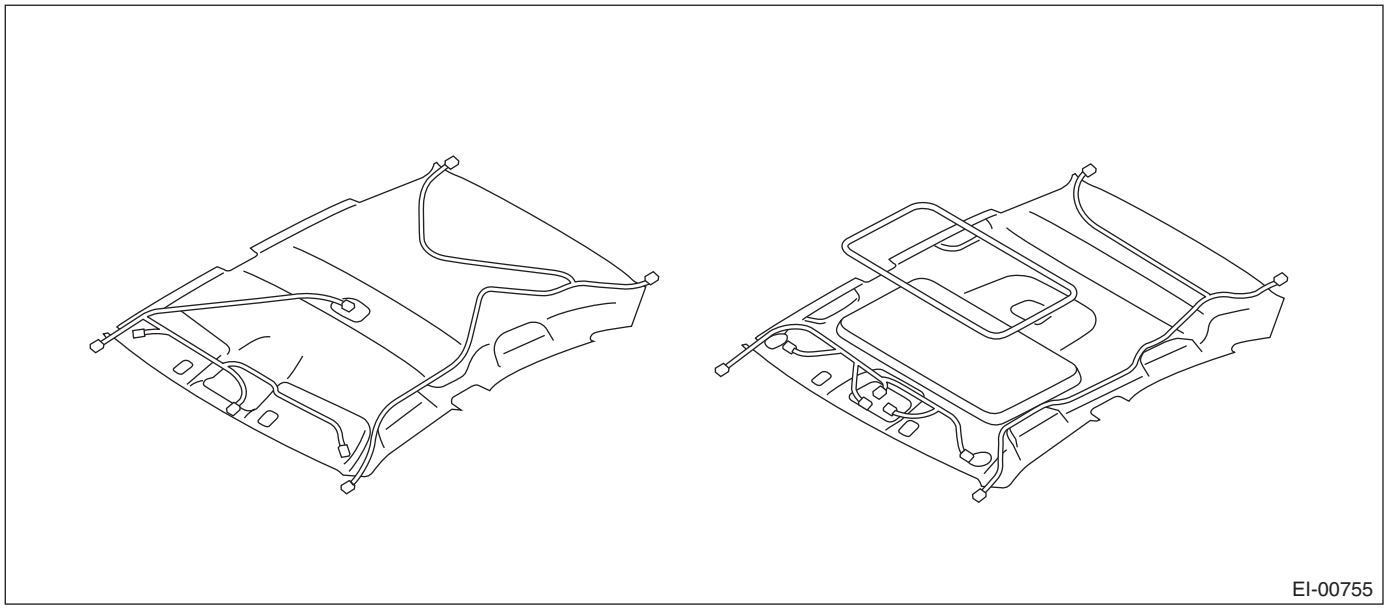

(1) Front pillar upper trim
(2) Front pillar lower trim
(3) Front outside scuff plate
(4) Front inside scuff plate
(5) Center pillar upper trim
(6) Center pillar lower trim
(7) Rear inside scuff plate
(8) Rear outside scuff plate
(9) Bolt cover
(10) Seat belt shoulder anchor adjuster button
(11) Center pillar inner protector upper
(12) Center pillar inner protector lower
(13) Curtain airbag guide front
(14) Curtain airbag guide center
(15) Curtain airbag guide rear
(16) Curtain airbag module protector
(17) Rear quarter front pillar trim
(18) Rear quarter rear pillar trim
(19) Rear quarter lower trim

## 22.REAR GATE TRIM

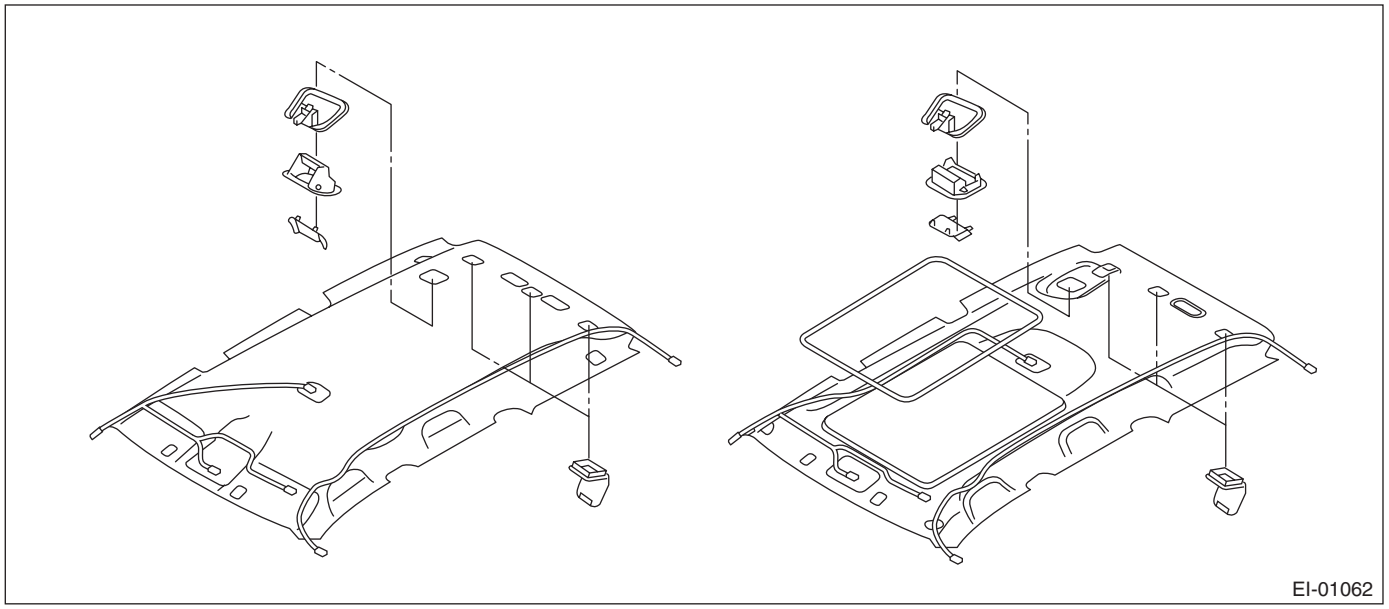



(1) Rear gate panel upper trim (2) Rear gate panel pillar trim (3) Rear gate panel lower trim

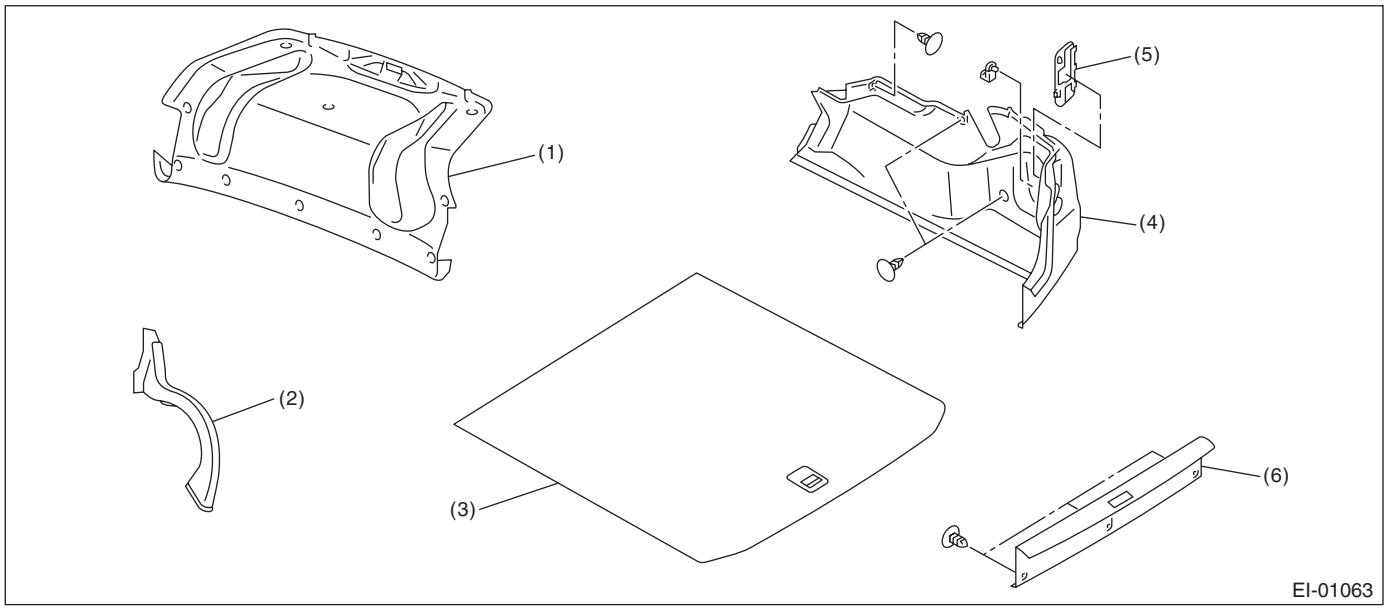
## 23.ROOF TRIM (SEDAN MODEL)



## 24.ROOF TRIM (WAGON MODEL)

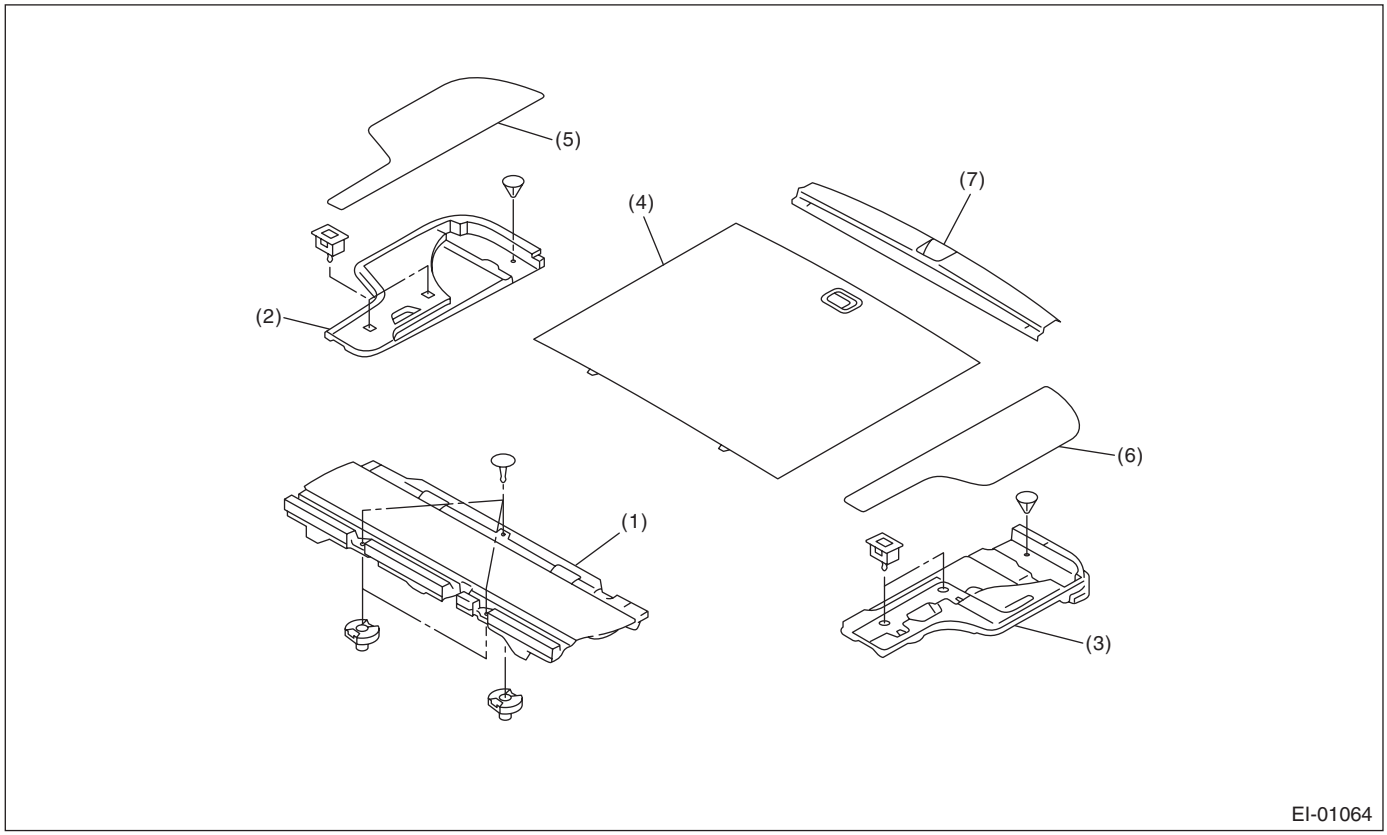



## 25.TRUNK ROOM TRIM



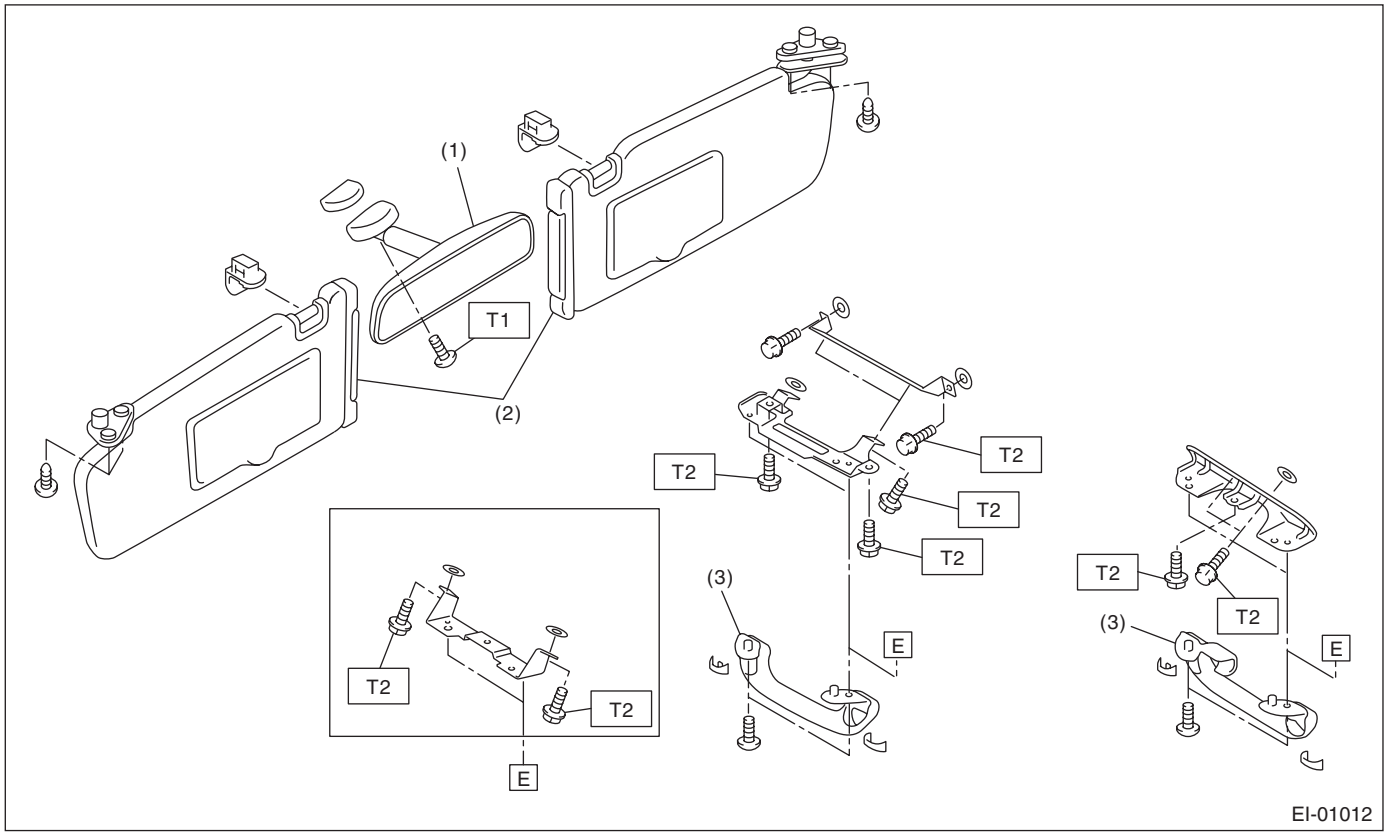

(1) Trunk lid trim
(2) Trunk lid arm cover
(3) Trunk room mat
(4) Trunk side trim
(5) Combination light cover
(6) Trunk room end cover

## 26.LUGGAGE FLOOR MAT




(1) Front floor mat
(2) Floor box (RH)
(3) Floor box (LH)
(4) Center floor mat
(5) Side floor mat (RH)
(6) Side floor mat (LH)
(7) Luggage floor end cover

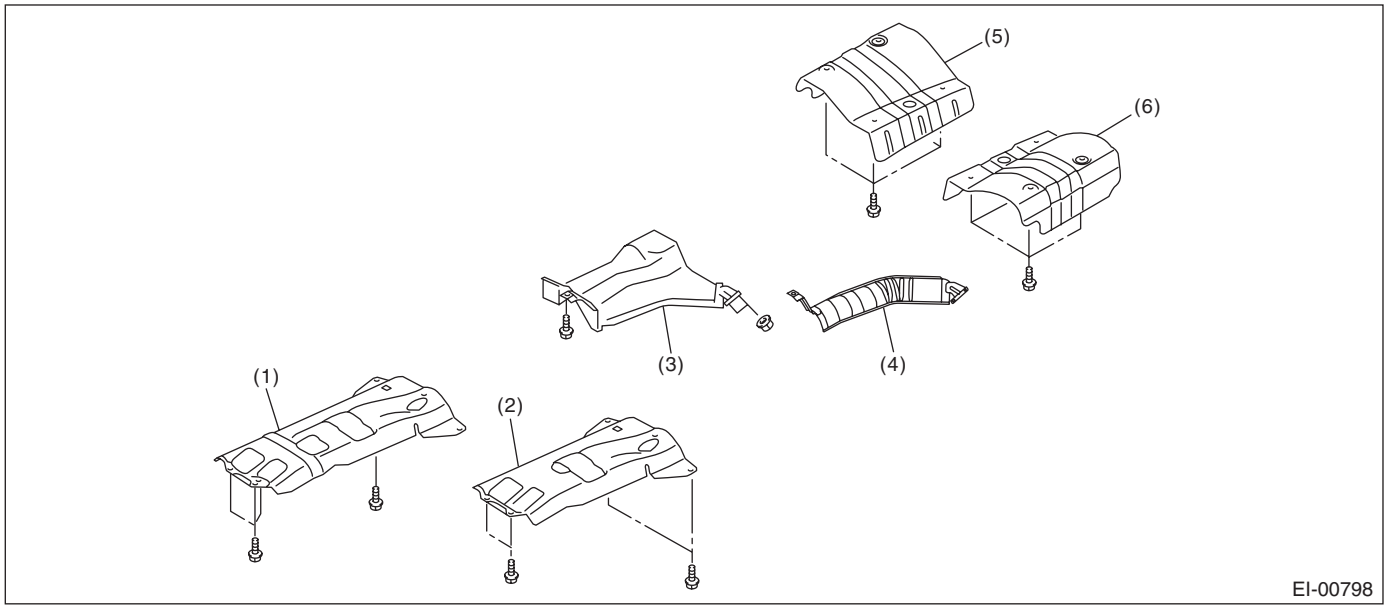
## 27.ROOM INNER PARTS




(1) Room mirror
(2) Sun visor
(3) Assist grip

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 2.0 (0.2, 1.48)***
***T2: 7.5 (0.77, 5.53)***

### 28.HEAT SHIELD COVER




(1) Front heat shield cover (4AT model and MT model)
(2) Front heat shield cover (5AT model)
(3) Center heat shield cover (Turbo model)
(4) Center heat shield cover (Non-turbo model)
(5) Rear heat shield cover RH
(6) Rear heat shield cover LH

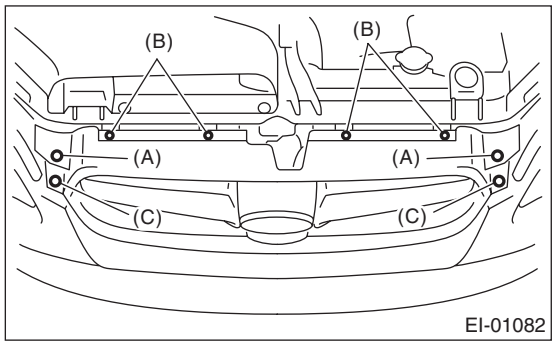
## B: PREPARATION TOOL

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

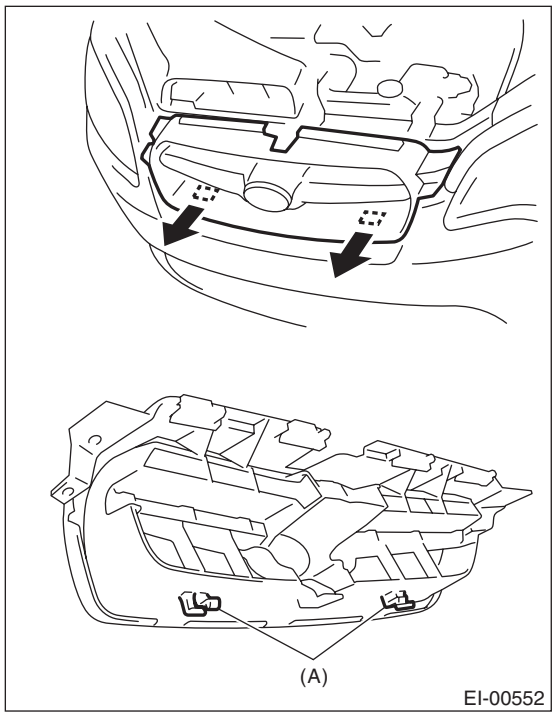
# 2. Front Grille

## A: REMOVAL

1) Open the front hood.
2) Remove push clips (A), front grille clips (B) and bolts (C) from each side of the front grille.




3) Pull the lower side of the front grille forward, remove hooks (A), and then remove the front grille from vehicle body.



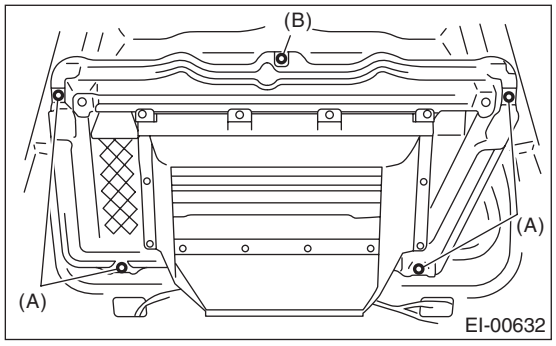

## B: INSTALLATION

Install in the reverse order of removal.

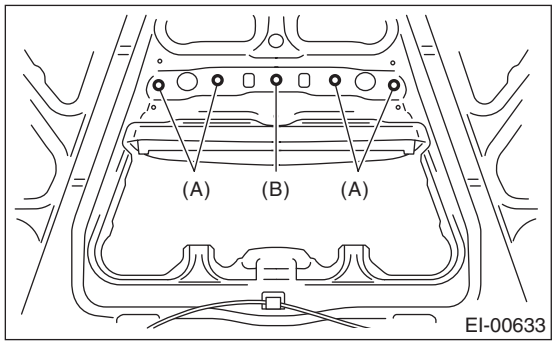
# 3. Front Hood Grille

## A: REMOVAL

1) Open the front hood.
2) Remove the front hood insulator. <Ref. to EB-13, FRONT HOOD INSULATOR, REMOVAL, Front Hood.>
3) Remove screws (A) and clip (B), and remove the front hood duct.

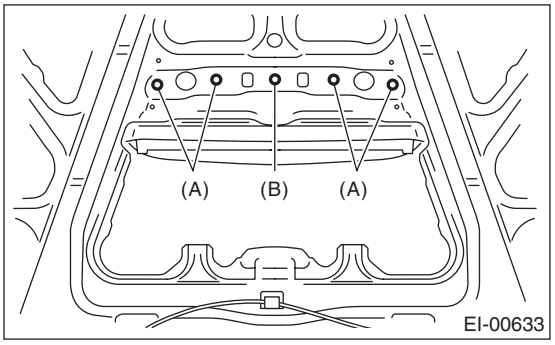



4) Loosen the nuts (A), remove the clip (B), and then remove the front hood grille.



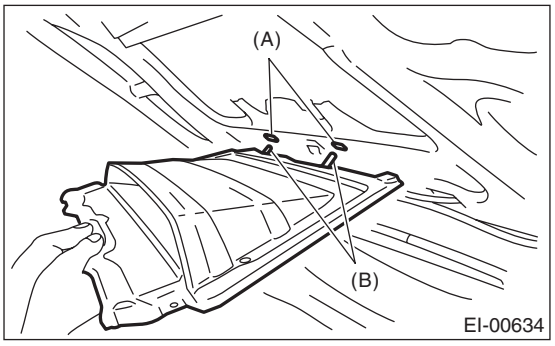

## B: INSTALLATION

1) Fit the clip (B) of the front hood grille, and install the front hood grille using nuts (A).

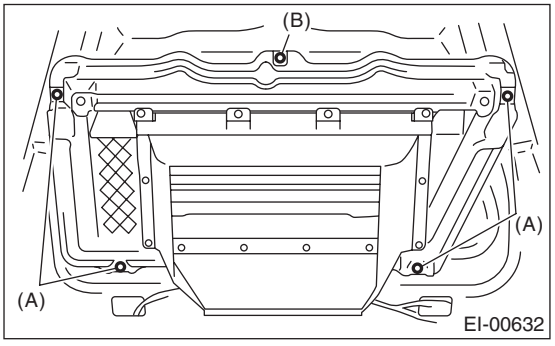



***Tightening torque:***
***4.5 N·m (0.46 kgf-m, 3.32 ft-lb)***

2) Insert the hooks (B) of the front hood duct into holes (A) of the front hood.




3) Install the front hood duct with screws (A) and clip (B).

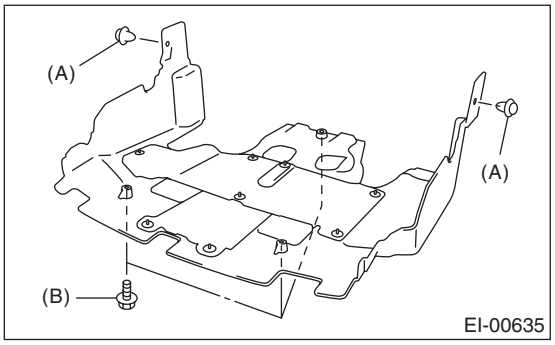


# 4. Front Under Cover

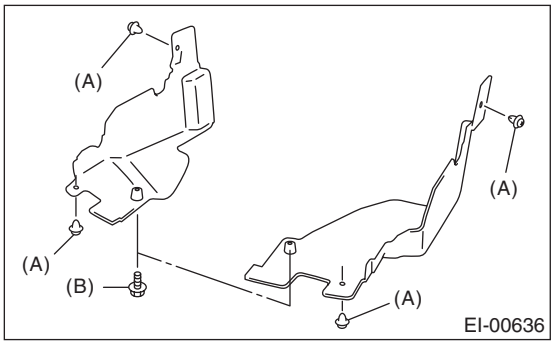
## A: REMOVAL

1) Lift up the vehicle.
2) Remove clips (A) in front fender and bolts (B), then remove the front under cover.

- Large type




- Small type




## B: INSTALLATION

Install in the reverse order of removal.

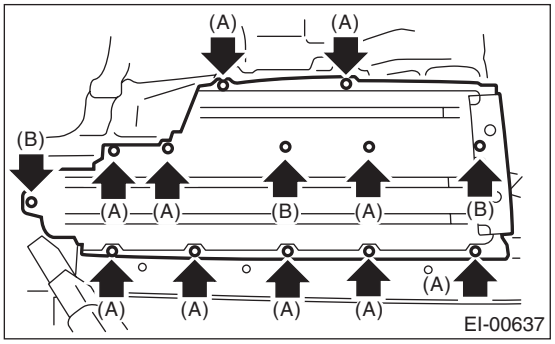
***Tightening torque:***
***14 N·m (1.42 kgf-m, 10.3 ft-lb)***

# 5. Floor Under Protector

## A: REMOVAL

1) Lift up the vehicle.

NOTE:
A plate type lift cannot be used.
2) Remove the push turn clips (A) and bolts (B), and remove the floor under protector.




## B: INSTALLATION

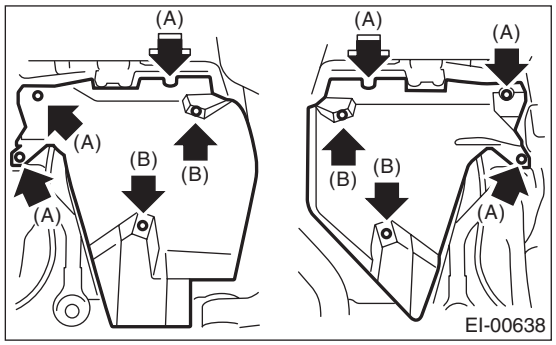
Install in the reverse order of removal.

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to EI-3, UNDER PROTECTOR, COMPONENT, General Description.>***

# 6. Fuel Tank Protector

## A: REMOVAL

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




## B: INSTALLATION

Install in the reverse order of removal.

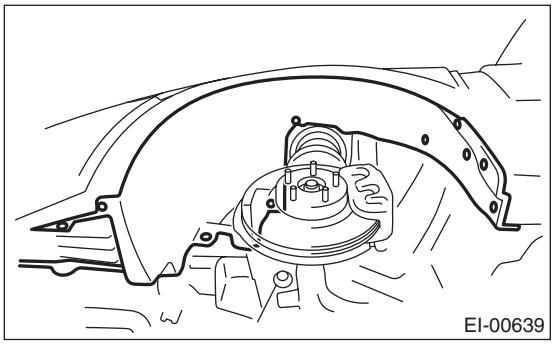
***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to EI-3, UNDER PROTECTOR, COMPONENT, General Description.>***

# 7. Mud Guard

## A: REMOVAL

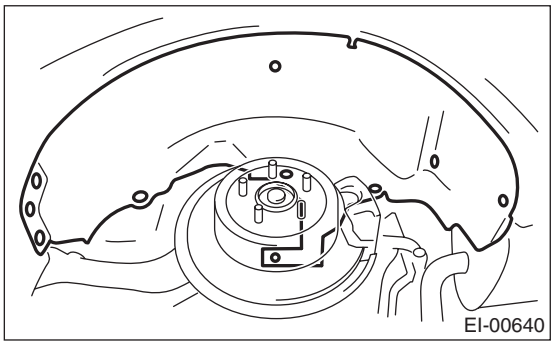
### 1. FRONT MUD GUARD

1) Jack-up the vehicle.
2) Remove the front wheels.
3) Loosen the screws and clips to remove mud guard.




### 2. REAR MUD GUARD

1) Jack-up the vehicle.
2) Remove the rear wheels.
3) Loosen the screws and clips to remove the mud guard.




## B: INSTALLATION

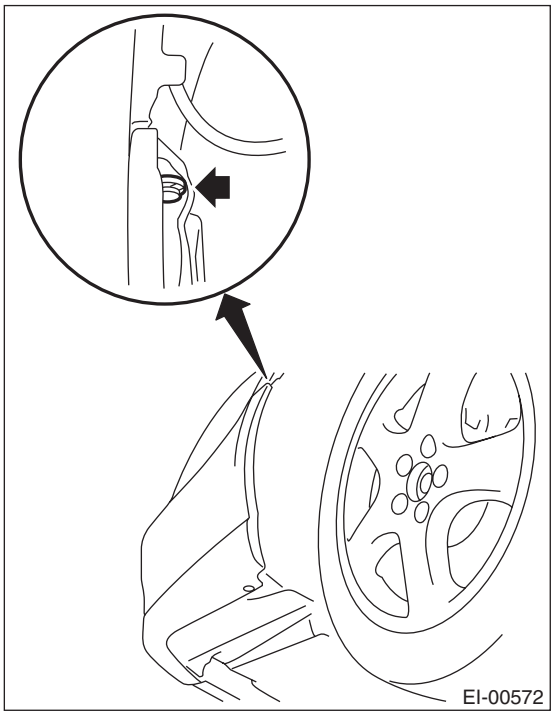
Install in the reverse order of removal.

# 8. Front Bumper

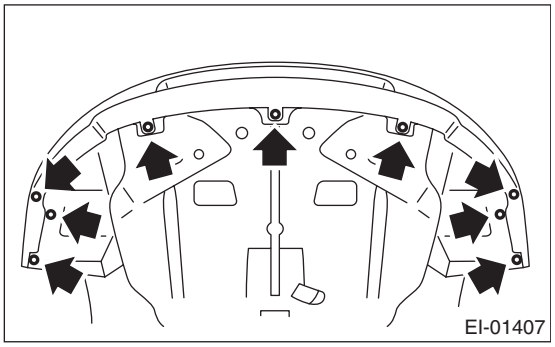
## A: REMOVAL

### 1. FRONT BUMPER FACE

1) Disconnect the ground cable from the battery.
2) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
3) Turn over the front mud guard, and remove the clips connecting the fender and bumper.



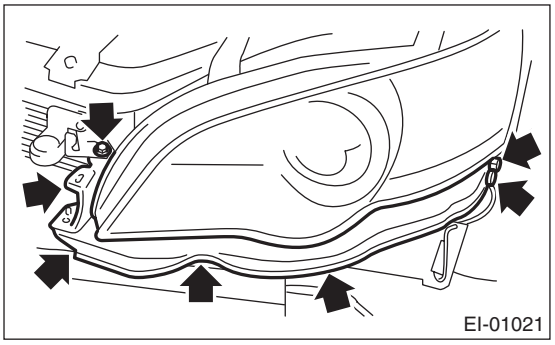

4) Remove the clips at the lower side of bumper.



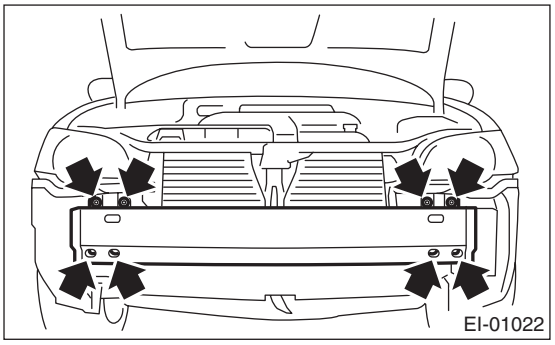

5) Disconnect the fog light connector. (Model with fog light)
6) Remove the bumper from the vehicle body.
7) Remove the fog light from bumper face. <Ref. to LI-19, REMOVAL, Front Fog Light Assembly.>

### 2. FRONT BUMPER BEAM ASSEMBLY

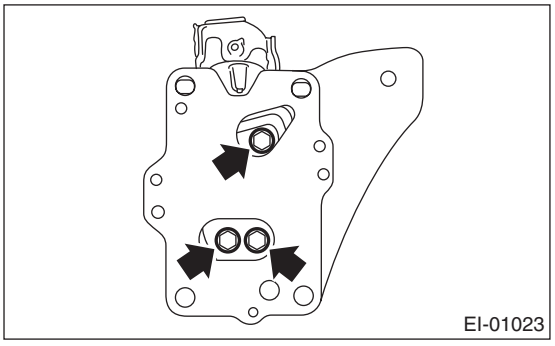
1) Disconnect the ground cable from the battery.
2) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
3) Remove the front bumper face. <Ref. to EI-30, FRONT BUMPER FACE, REMOVAL, Front Bumper.>
4) Remove the energy absorber foam from bumper beam.
5) Remove the upper bracket.




6) Remove the bolts, and remove the bumper beam assembly from vehicle body.

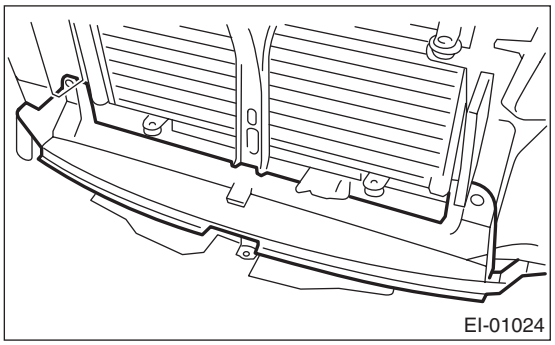



NOTE:
After all bolts are removed, raise the whole bumper beam a little to remove it from vehicle body.
7) Remove the bolts and nuts, and disassemble the bumper beam.




8) Remove the under cover.

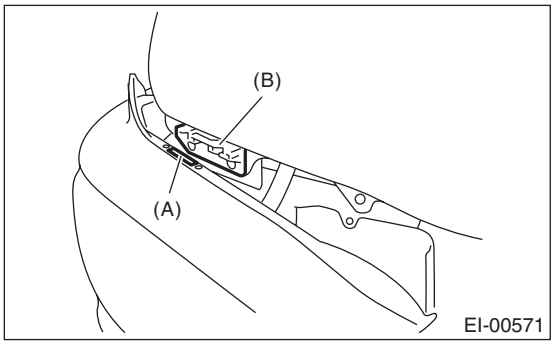
9) Remove the bolts and clips, and remove the radiator guide.




## B: INSTALLATION

### 1. FRONT BUMPER FACE

1) Install in the reverse order of removal.
2) Fit the slider (A) to the guide plate (B) securely.



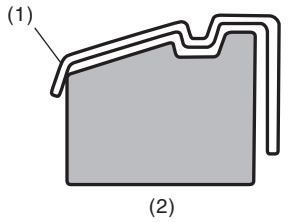

### 2. FRONT BUMPER BEAM ASSEMBLY

Install in the reverse order of removal.

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to EI-5, 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<br>(1) Bumper<br>(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)].<br>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.<br>• Paint to be used (for each color):<br>Solid paint<br>Hardener PB<br>Thinner T-301<br>• Mixture ratio:<br>Main agent : Hardener = 4 : 1<br>• Viscosity: 10 — 13 sec./20°C (68°F)<br>• Film thickness: 35 — 45 μ<br>• Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) | Use section (block) paint for top coat.<br>• Paint to be used (for each color):<br>Metallic paint<br>Hardener PB<br>Thinner T-306<br>• Mixture ratio:<br>Main agent : Hardener = 10 : 1<br>• Viscosity: 10 — 13 sec./20°C (68°F)<br>• Film thickness: 15 — 20 μ<br>• Spraying pressure: 245 — 343 kPa<br>(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)].<br>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.<br>• Paint to be used:<br>Metallic paint<br>Hardener PB<br>Thinner T-301<br>• Mixture ratio:<br>Clear coat : Hardener = 6 : 1<br>• Viscosity: 14 — 16 sec./20°C (68°F)<br>• Film thickness: 25 — 30 μ<br>• Spraying pressure: 245 — 343 kPa<br>(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.<br>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

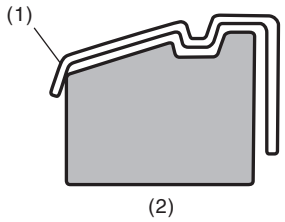
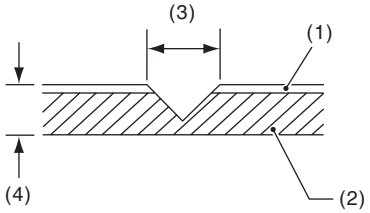
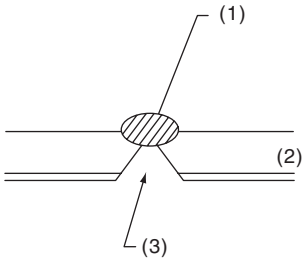
NOTE:
All PP bumpers are provided with a grained surface, and if the surface is damaged, it cannot normally be restored to its former condition. Damages limited to the shallow scratches that cause only a change in the luster of the base material or coating, can be almost fully restored. Before repairing 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.

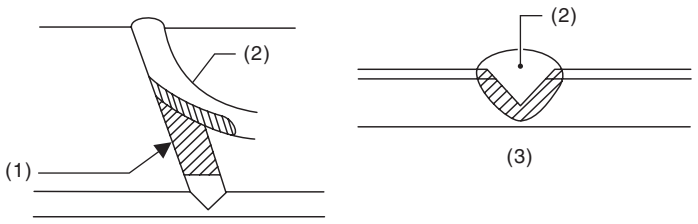
<table>
<tr><th>Process No.</th><th>Process name</th><th colspan="2">Job contents</th></tr>
<tr><td>1</td><td>Cleaning</td><td colspan="2">Clean the area to be repaired using water.</td></tr>
<tr><td>2</td><td>Sanding</td><td colspan="2">Grind the repairing area with #500 sand paper in a “feathering” 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">Grind 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.<br>It is recommended to use the paint worktable conforming to internal shape of bumper. |  <br>EI-00234<br>(1) Bumper<br>(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 to 30 mm (0.79 to 1.18 in) in length along the crack or hole up to the bumper base surface. Next, use a knife or grinder to carve a V-shaped groove in the area for repair. |  <br>EI-00235<br>(1) Paint surface<br>(2) PP base surface<br>(3) 20 — 30 mm (0.79 — 1.18 in)<br>(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.<br>Temporarily spot-weld the side, using PP welding rod and heater gun. |  <br>EI-00236<br>(1) Welded point (Use heater gun and PP welding rod)<br>(2) PP base surface<br>(3) Beveled section<br>NOTE:<br>• Do not melt welding rod until it flows out. This results in reduced strength.<br>• 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. |
| | |  <br>EI-00237<br>(1) Welding rod<br>(2) Melt hatched area<br>(3) Section<br>NOTE:<br>• Melt the sections indicated by hatched area.<br>• Do not melt the welding rod until it flows out, in order to provide strength.<br>• Always keep the heater gun 1 to 2 cm (0.4 to 0.8 in) away from the welding spot.<br>• 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. |
| | |  <br>EI-00042 |
| | | Sand the welded spot smooth with #240 sand paper. |
| 11 | Masking | Mask the black substrate section using masking tape.<br>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.<br>Recommended primer: Mp/ 364 PP Primer<br>NOTE:<br>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 to 15 minutes until primer is half-dry.<br>NOTE:<br>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.<br>• Recommended surfacer:<br>UPS 300 Flex Primer<br>No. 303 UPS 300 Exclusive hardener<br>NPS 725 Exclusive Reducer (thinner)<br>• Mixture ratio:<br>2 : 1 (UPS 300 : No. 303)<br>• Viscosity: 12 — 14 sec./20°C (68°F)<br>• Coating film thickness: 40 — 50 μ |

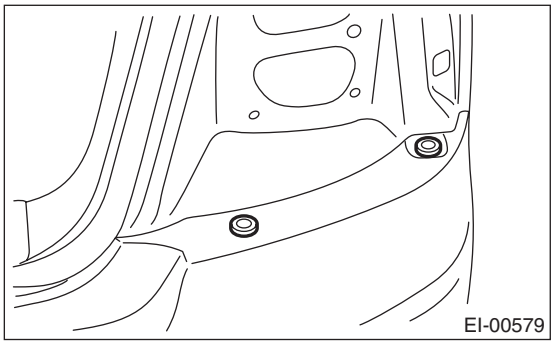
| Process No. | Process name | Job contents | |
|---|---|---|---|
| 16 | Drying | Allow the coated surface to dry for 20 minutes at 20°C (68°F) [or 30 minutes at 60°C (140°F)]. | |
| 17 | Sanding (III) | Sand the coated surface and its surrounding areas using #400 sand paper and water. | |
| 18 | Cleaning/degreasing | Same as Process No. 12. | |
| 19 | Top coat (I) | Non-colored | Metallic paint |
| | | Use a “block” coating method.<br>• Recommended paint:<br>Suncryl (SC)<br>No. 307 Flex Hardener<br>SC Reducer (thinner)<br>• Mixture ratio:<br>Suncryl (SC) : No. 307 Flex Hardener = 3 : 1<br>• Viscosity: 11 — 13 sec./20°C (68°F)<br>• Coating film thickness: 40 — 50 µ<br>• Spraying pressure: 245 — 343 kPa<br>(2.5 — 3.5 kg/cm$^2$, 36 — 50 psi) | Use a “block” coating method.<br>• Recommended paint:<br>Suncryl (SC)<br>No. 307 Flex Hardener<br>SC Reducer (thinner)<br>• Mixture ratio:<br>Suncryl (SC) : No. 307 Flex Hardener = 3 : 1<br>• Viscosity: 11 — 13 sec./20°C (68°F)<br>• Coating film thickness: 20 — 30 µ<br>• Spraying pressure: 245 — 343 kPa<br>(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 topcoated area is half-dry.<br>NOTE:<br>Be careful to keep dust or dirt from coming in contact with the affected area. |
| 21 | Top coat (II) | Not required. | Apply a clear coat three times at an interval of 3 to 5 minutes.<br>• Recommended paint:<br>SC710 Overlay Clear<br>No. 307 Flex Hardener<br>SC Reducer (thinner)<br>• Mixture ratio:<br>Suncryl (SC) : No. 307 Flex Hardener = 3 : 1<br>• Viscosity: 10 — 13 sec./20°C (68°F)<br>• Coating film thickness: 20 — 30 µ<br>• Spraying pressure: 245 — 343 kPa<br>(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).<br>NOTE:<br>Do not allow the temperature to exceed 80°C (176°F) since this will deform the PP substrate. | |
| 23 | INSPECTION | Carefully check the condition of the repaired area. | |
| 24 | Removal of masking | Remove the masking tape applied in Process No. 11 and 13. | |
| 25 | Parts installation | Install parts on the bumper in reverse order of removal. | |
| 26 | Bumper installation | Install the bumper. | |

# 9. Rear Bumper

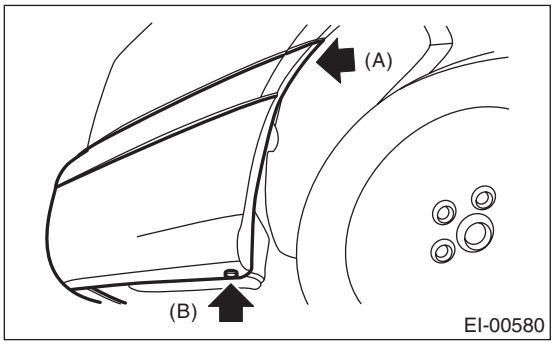
## A: REMOVAL

### 1. REAR BUMPER FACE

1) Disconnect the ground cable from the battery.
2) Remove the rear combination light assembly. <Ref. to LI-23, REMOVAL, Rear Combination Light Assembly.>
3) Remove the two clips.

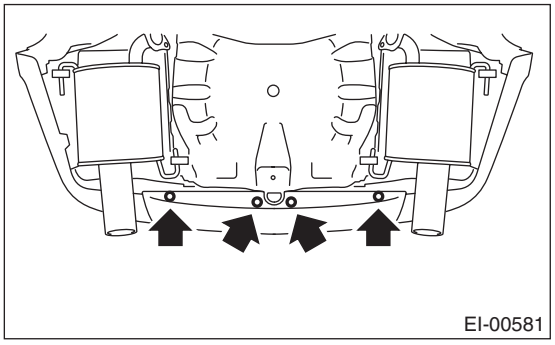

EI-00579

4) Turn over the mud guard, and remove the bolt (A) inside wheel house, and the clips (B) on the lower side of the bumper.

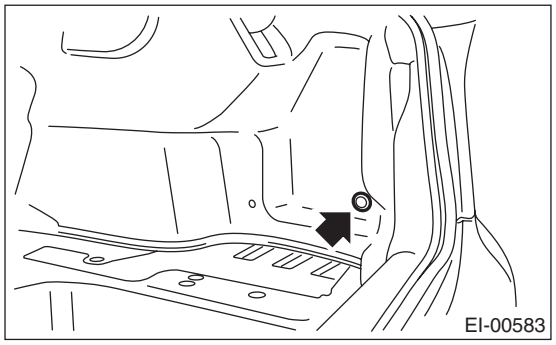


EI-00580

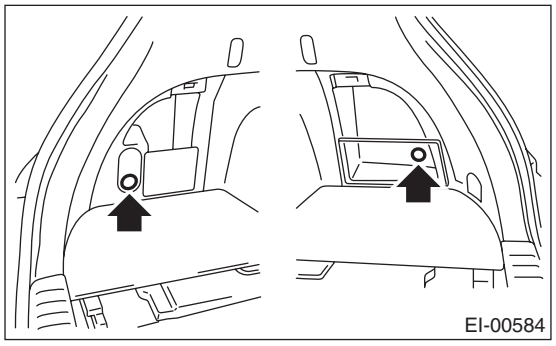
5) Remove the clips on the lower side of rear bumper.


EI-00581

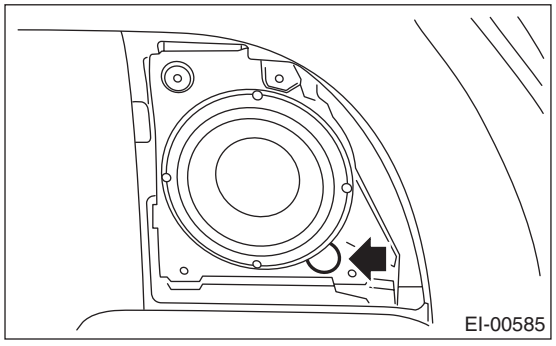
6) Remove the service hole cover, and remove the bolt.
- Sedan model: trunk side trim


EI-00583

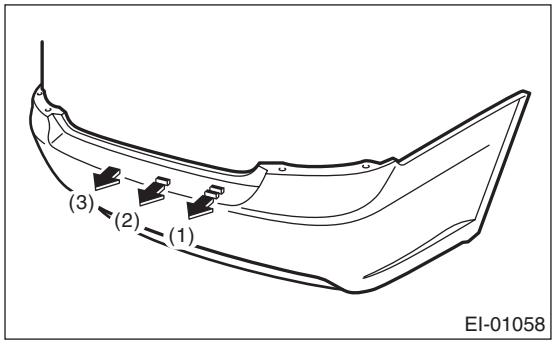
- Wagon model: rear quarter lower trim


EI-00584

NOTE:
For models with woofers, remove the woofer cover.


EI-00585

7) Remove the rear bumper from vehicle body.

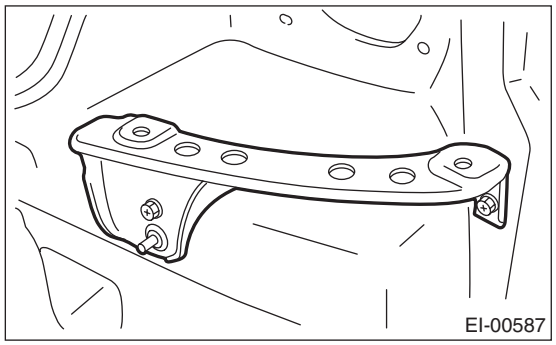


EI-01058

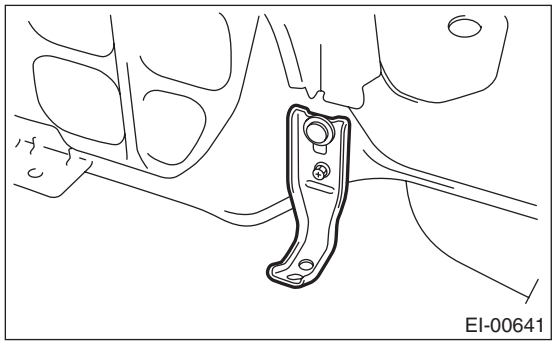
NOTE:
- Do not pull with a excessive force. Otherwise the bracket installation area may be damaged.
- When removing the bumper face from bracket, it is easier to remove from the end in order.

### 2. REAR BUMPER BRACKET

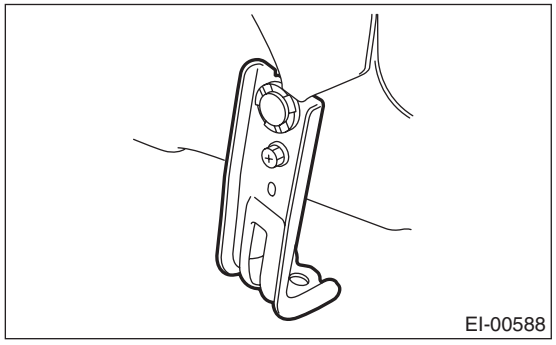
1) Remove the rear bumper face from vehicle body.
2) Remove the rear bumper bracket corner from the vehicle body. (both sides)




3) Remove the lower brackets from vehicle body.
- Sedan model: 2 locations

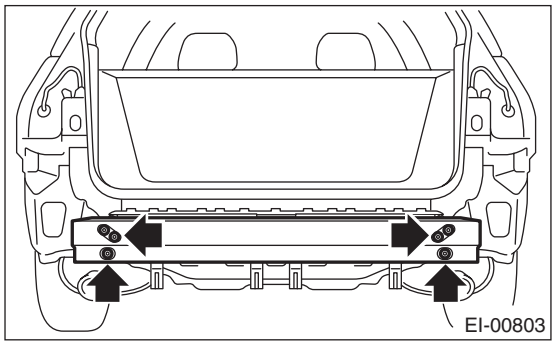



- Wagon model: 4 locations

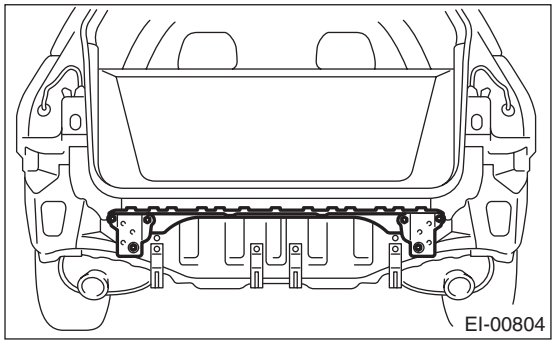



### 3. REAR BUMPER BEAM ASSEMBLY

1) Disconnect the ground cable from the battery.
2) Remove the rear bumper face. <Ref. to EI-37, REAR BUMPER FACE, REMOVAL, Rear Bumper.>
3) Remove the energy absorber foam.
4) Remove the nuts, and remove the beam main reinforcement from the vehicle body.




5) Remove the nuts, and remove the bumper beam bracket and beam upper rear from the vehicle body.




## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
If the bumper face comes off easily from the beam upper rear, adjust the hook of the bracket side.

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to EI-6, REAR BUMPER (SEDAN MODEL), COMPONENT, General Description.> <Ref. to EI-7, REAR BUMPER (WAGON MODEL), COMPONENT, General Description.>***

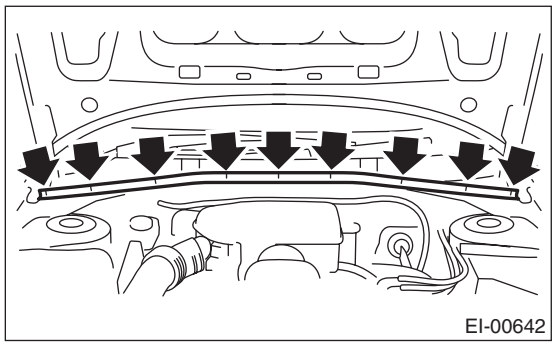
## C: REPAIR

Refer to front bumper repair. <Ref. to EI-32, REPAIR, Front Bumper.>

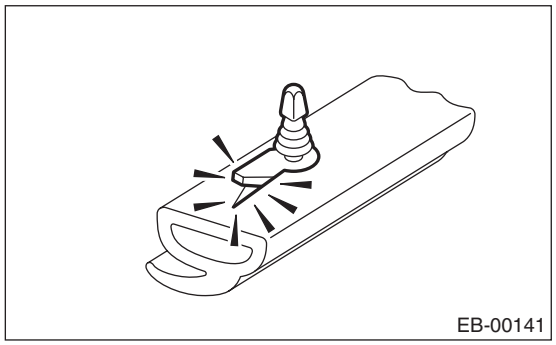
# 10.Cowl Panel

## A: REMOVAL

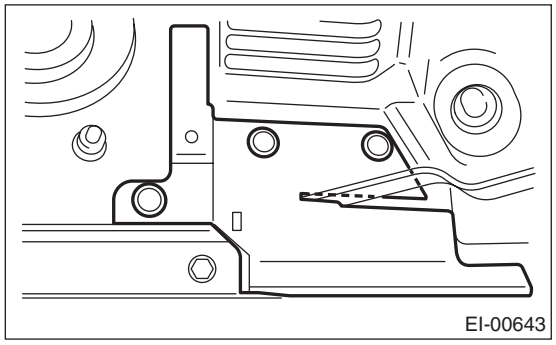
1) Open the front hood.
2) Remove the wiper arm. <Ref. to WW-12, REMOVAL, Front Wiper Arm.>
3) Remove the weather strip clips, and remove the weather strip.



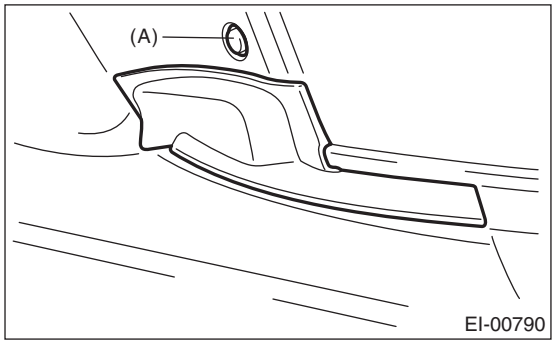

NOTE:
If the weather strip clip is removed with excessive force, the weather strip may be damaged. Be sure to use a clip remover to remove.



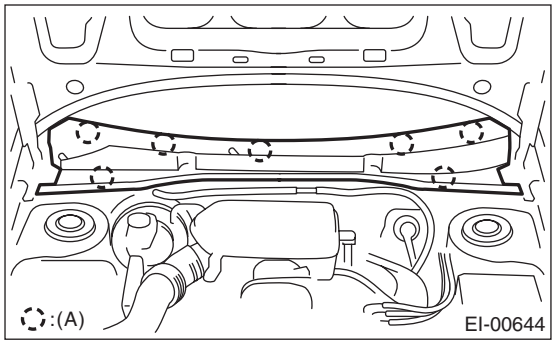

4) Remove the clip, and remove the cover cowl panel.




5) Remove the cowl panel side and clip (A).




6) Remove the clips (A), and remove the cowl panel.



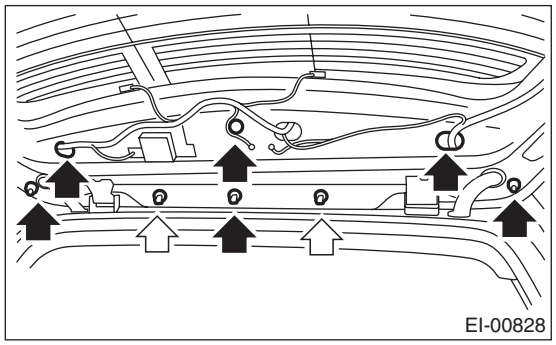

## B: INSTALLATION

Install in the reverse order of removal.

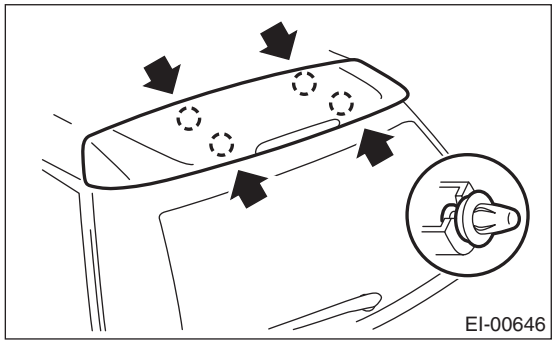
# 11.Roof Spoiler

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
3) Disconnect the connector of high-mounted stop light and the washer hose of rear washer.
4) Remove the nut and plastic caps.




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




## B: INSTALLATION

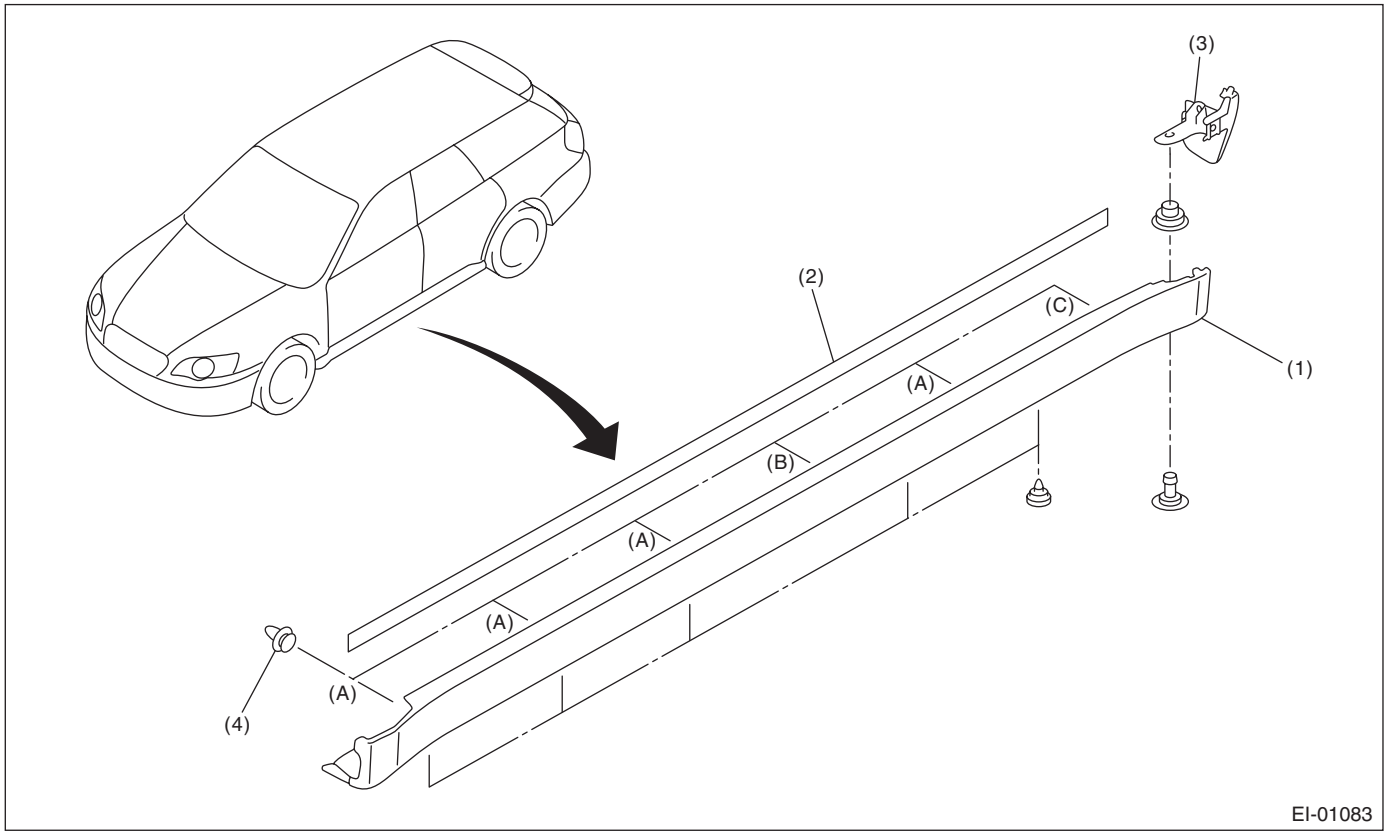
Install in the reverse order of removal.

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

# 12.Side Sill Spoiler

## A: REMOVAL

Remove the clips (two in the front fender arch, six for side sill spoiler lower area), and remove the side spoiler.




(1) Side sill spoiler
(2) Double-sided tape
(3) End cover
(4) Clip

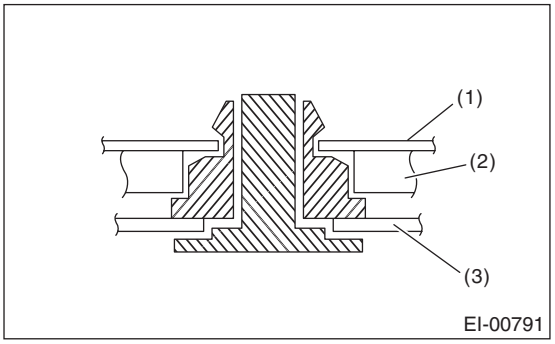
(A) Gray clip
(B) Green clip
(C) Black clip

NOTE:
When peeling the double sided tape, refer to removal procedures for the side protector. <Ref. to EI-42, REMOVAL, Side Protector.>

## B: INSTALLATION

Install in the reverse order of removal.

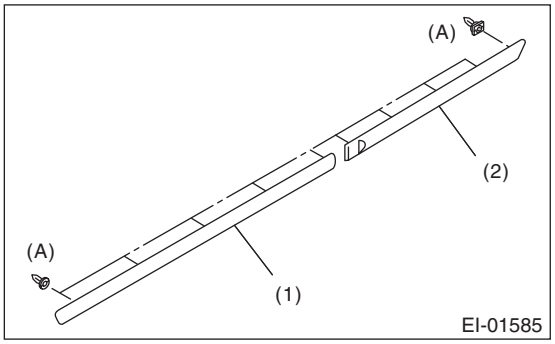
NOTE:
For the rearmost clip securing the side sill spoiler, install through the end cover.




(1) Vehicle body
(2) End cover
(3) Side sill spoiler

# 13.Side Protector

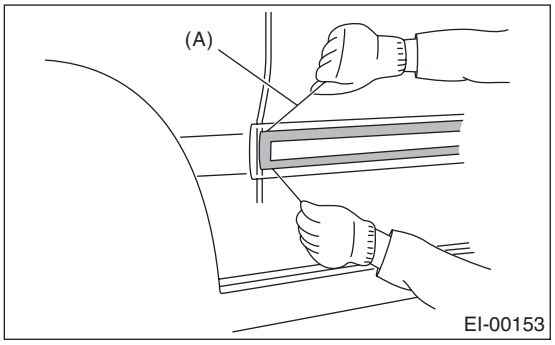
## A: REMOVAL



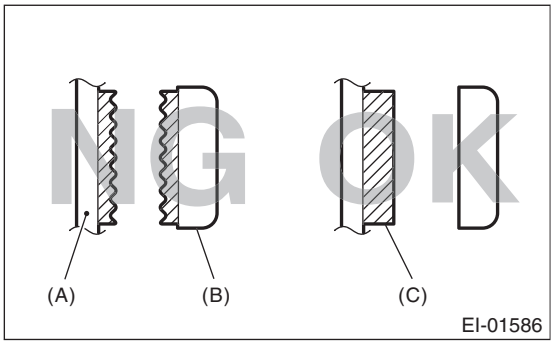

(A) White clip

(1) Front door protector
(2) Rear door protector

1) Slide in a thin thread (A) of 0.8 mm (0.031 in) diameter or less (fishing line etc.) between the body and the protector, and cut the double-sided tape. Pull the protector, and remove the clip using the 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.



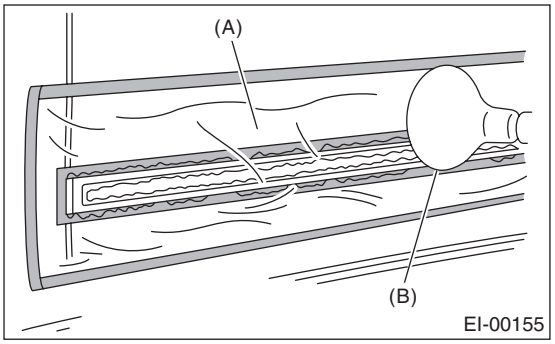

(A) Panel
(B) Side protector
(C) Double-sided tape

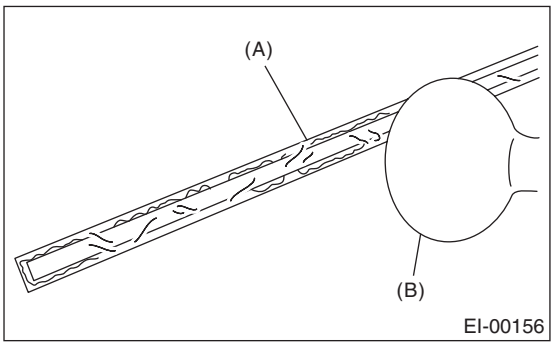
2) Apply masking tape around the double-sided tape remaining on the surface of body or spoiler.
3) Apply solvent uniformly on the double-sided tape using a brush.

**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***

4) 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).



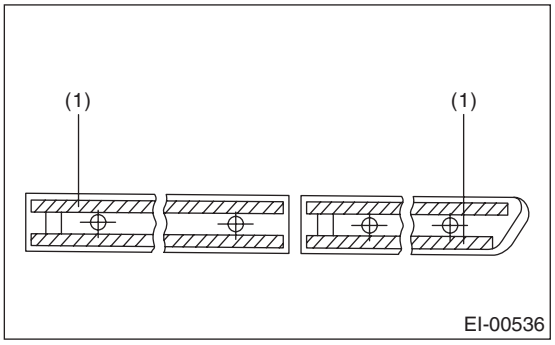




**CAUTION:**
**Do not heat the double-sided tape until the surface becomes white and excessively dried.**

5) Remove the double-sided tape using a plastic spatula.
6) After completely removing the double-sided tape, detach the masking tape and clean the surface using a cotton cloth damped with white gasoline.

## B: INSTALLATION

1) Apply primer to the protector 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 mm (0.197 in)

***Primer:***
***3M K-500 or equivalent***

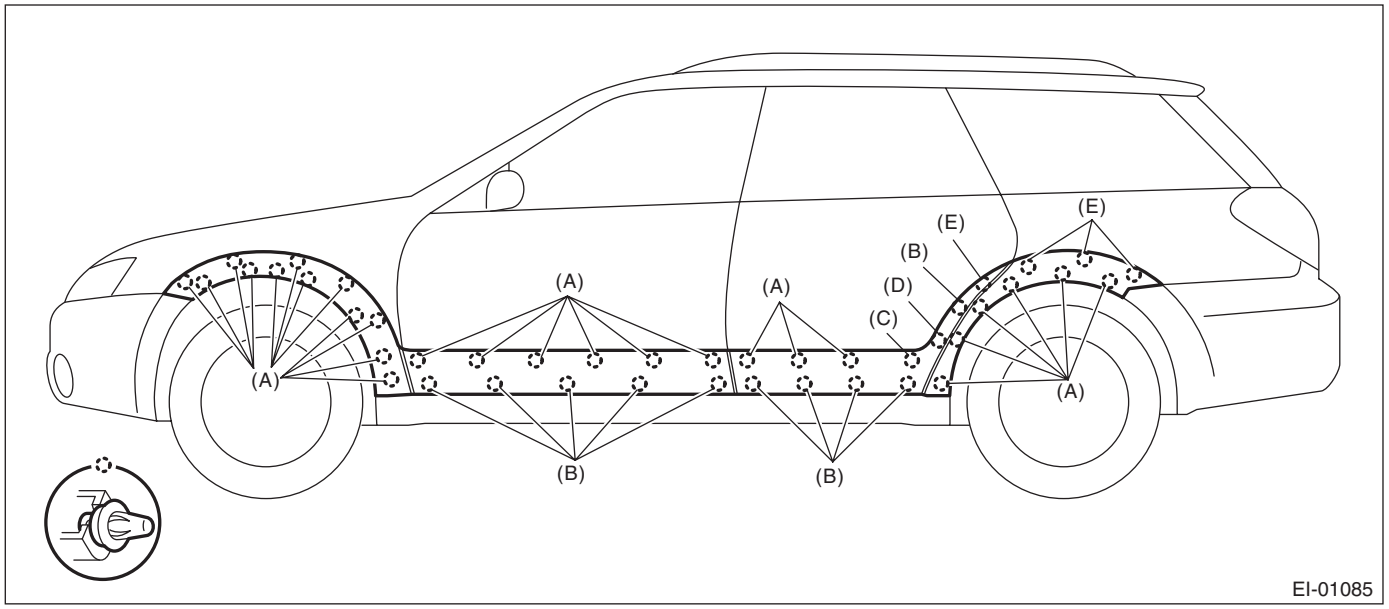
***Double-sided tape:***
***3M 5531-5 or equivalent***

2) Heat the adhering part using a heat light.
Body side: 40 — 60°C (104 — 140°F)
Protector 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.**

# 14.Side Garnish

## A: REMOVAL




(A) Black clip
(B) White clip
(C) Pink clip
(D) Gray clip
(E) Green clip

1) Remove the side sill spoilers. <Ref. to EI-41, REMOVAL, Side Sill Spoiler.>
2) For removal of the side garnish, refer to the removal procedure of “Side Protector”. <Ref. to EI-42, REMOVAL, Side Protector.>

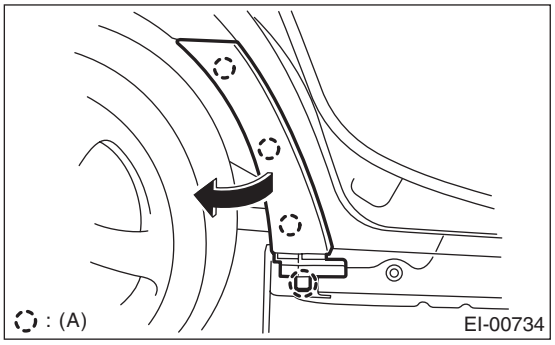
## B: INSTALLATION

Check the color of the clip, and install in the reverse order of removal.

# 15.Rear Quarter Protector

## A: REMOVAL

1) Remove the side sill spoilers. <Ref. to EI-41, REMOVAL, Side Sill Spoiler.>
2) Remove clips (A) by rotating it rearward using the fender arch as a fulcrum, and then remove the rear quarter protector.



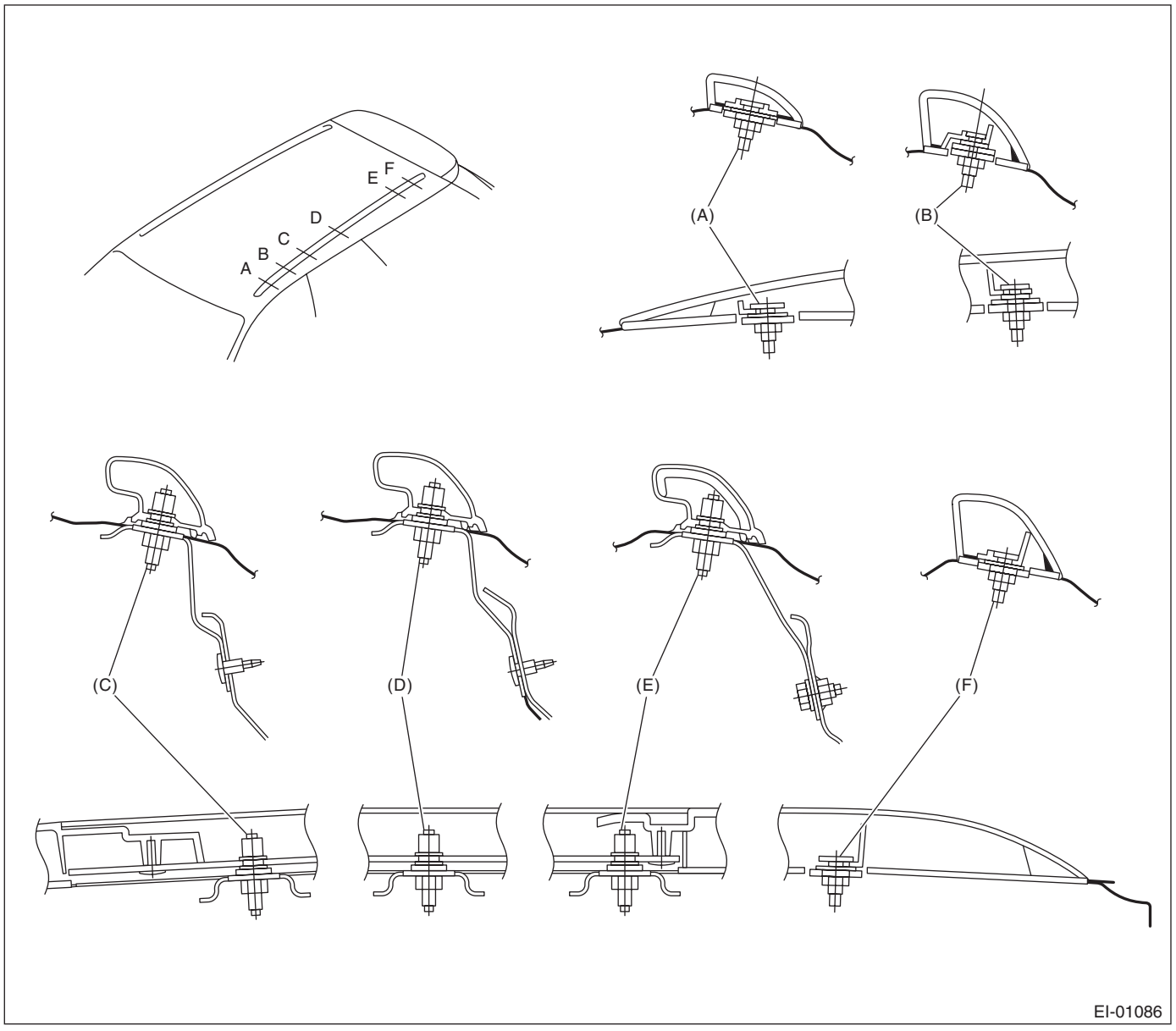

## B: INSTALLATION

Install in the reverse order of removal.

# 16.Roof Rail

## A: REMOVAL

1) Remove the roof trim. <Ref. to EI-64, REMOVAL, Roof Trim.>
2) Remove the six nuts.




NOTE:
Perform the removal procedures by referring to above illustration. (OUTBACK model)

## B: INSTALLATION

Install in the reverse order of removal.

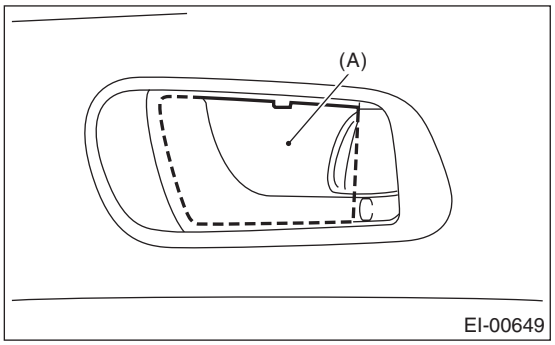
**CAUTION:**
**When removing or installing the roof rail, be careful not to scratch the body panel with the stud bolt of roof rail.**

***Tightening torque:***
***7.5 N·m (0.77 kgf-m, 5.53 ft-lb)***

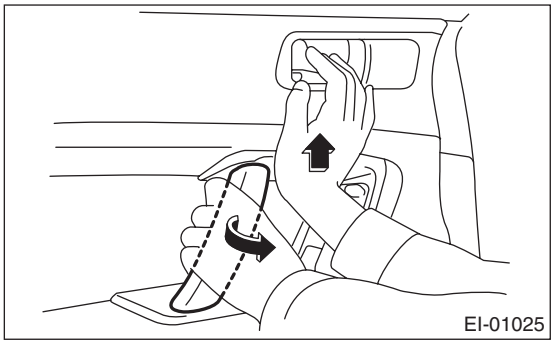
# 17.Door Trim

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the cover (A) at the inner remote area.

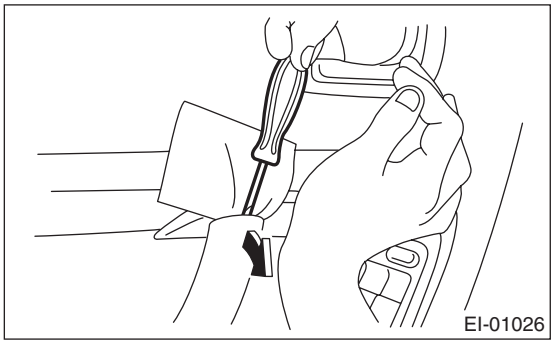



3) Push the root of hand grip upward, and remove the hand grip cover by twisting it towards the front of the vehicle.

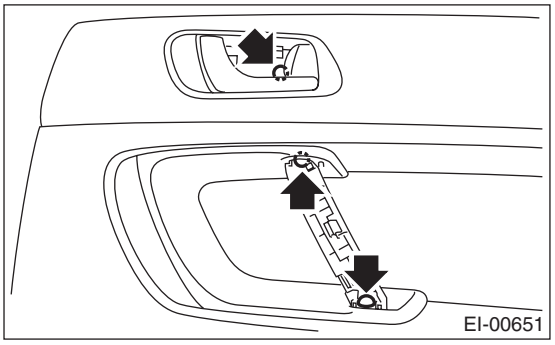



LH side: Counterclockwise
RH side: Clockwise

NOTE:
If it does not come off using the procedures above, apply protective tape to the tip of a flat tip screwdriver and the door trim, and pry out the upper side of the hand grip cover.

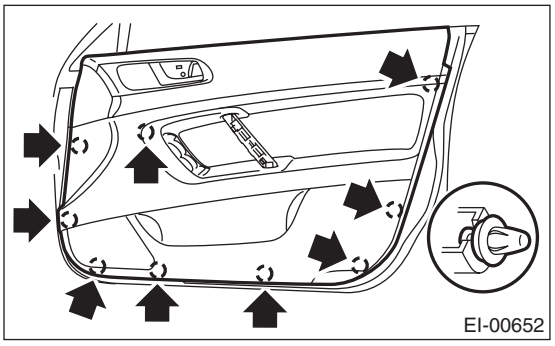



4) Loosen the screws.

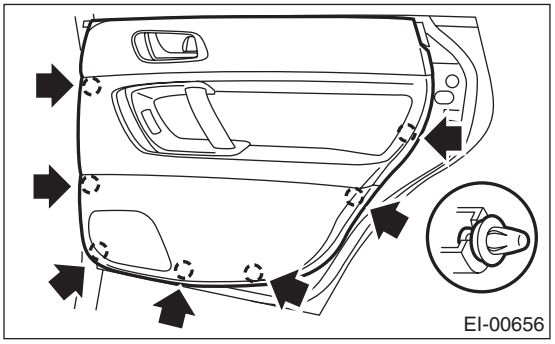



5) Remove the clips, and disconnect all connectors and wire cables to remove the door trim.

- Front door trim




- Rear door trim



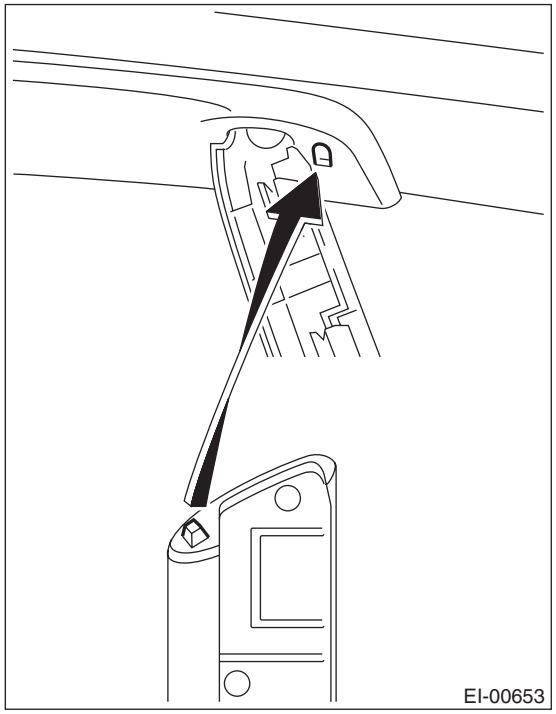
## B: INSTALLATION

Install in the reverse order of removal.

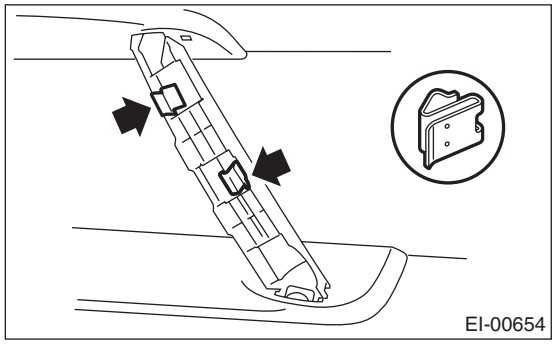
NOTE:
Be careful not to install the hand grip cover and plate clip of the hand grip in the wrong direction.

- Hand grip cover (front and rear door)

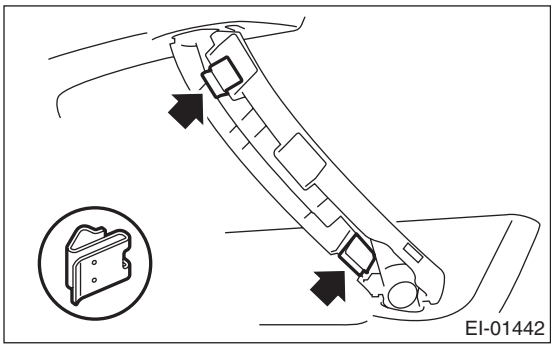
The side with the protrusion is the upper side.




- Bottom clip of the front door faces the opposite direction



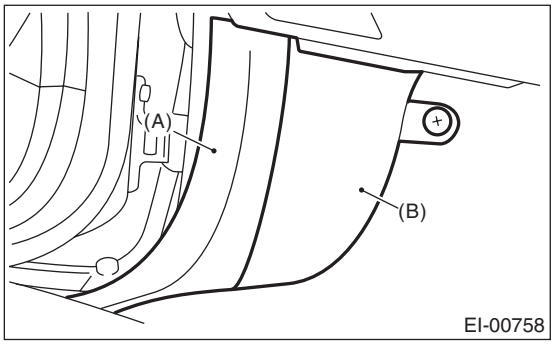

- Lower side of the hand grip cover for the front door has a claw.
- The bottom clip of the rear door faces the opposite direction



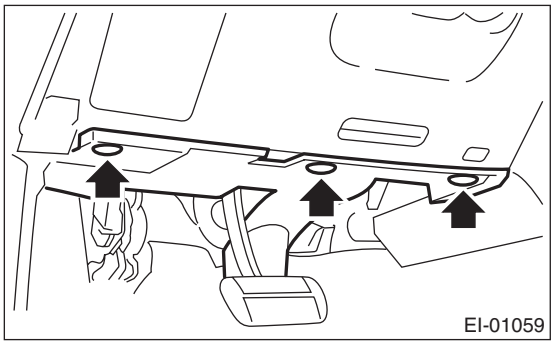
# 18.Instrument Panel Lower Cover

## A: REMOVAL

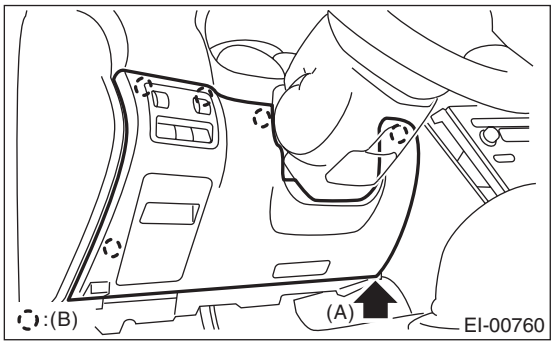
1) Disconnect the ground cable from the battery.
2) Remove the front door inside scuff plate (A) and front pillar lower trim (B) on the driver's side. <Ref. to EI-58, REMOVAL, Lower Inner Trim.>




3) Remove the clips, and remove the instrument panel lower cover under.




4) Loosen the screw (A), disconnect the connectors, and remove the instrument panel lower cover upper.




(B) Clip

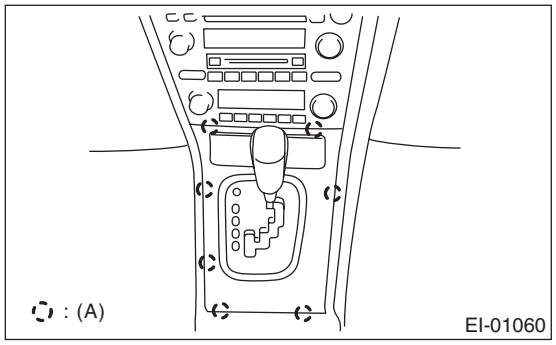
## B: INSTALLATION

Install in the reverse order of removal.

# 19.Glove Box

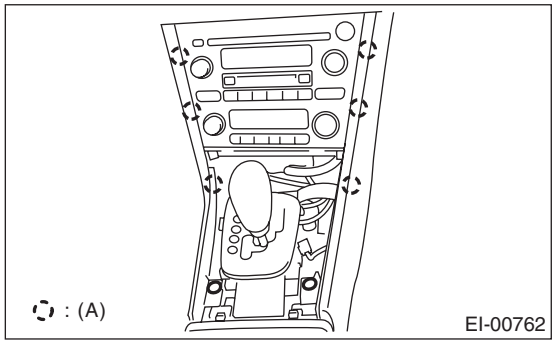
## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
3) Remove the console front panel.



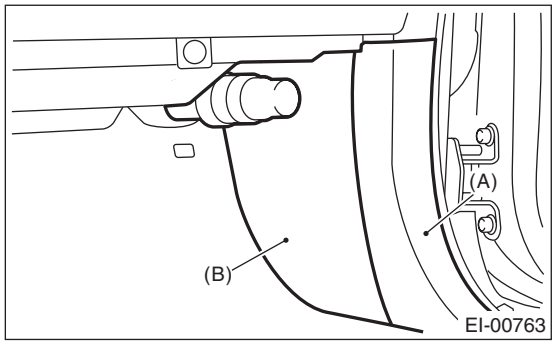

(A) Hook

NOTE:
For the AT model, remove the ring indicator.
For the MT model, remove the shift knob.
4) Remove the console side garnish.

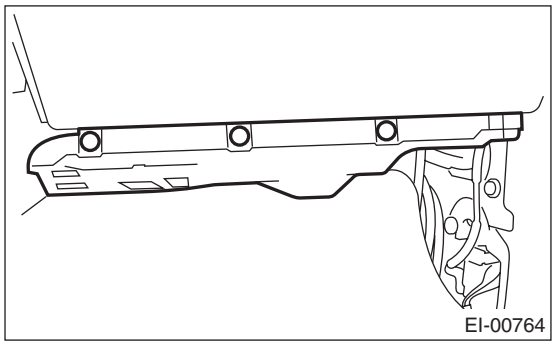



(A) Hook

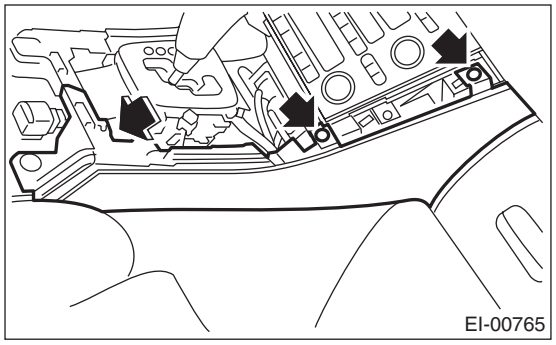
5) Remove the front inside scuff plate (A) and front pillar lower trim (B). <Ref. to EI-58, REMOVAL, Lower Inner Trim.>



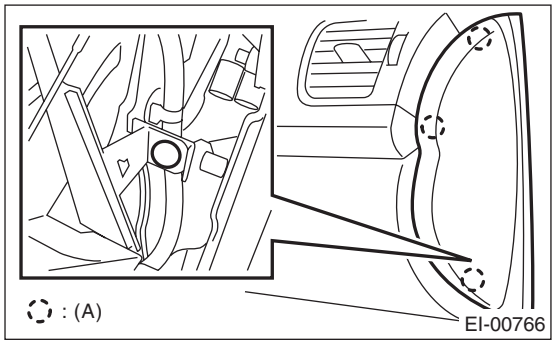

6) Remove the clips, and remove the glove box lower cover.




7) Remove the console side panel.

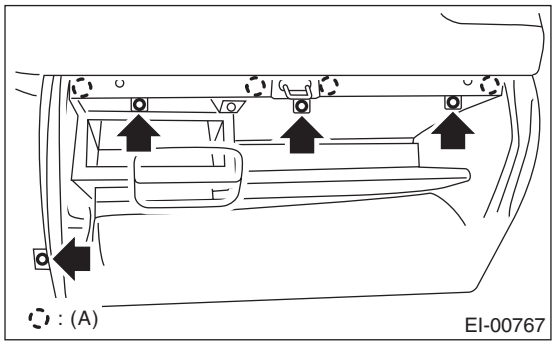



8) Remove the instrument panel side cover, and remove the clip.




(A) Clip

9) Remove the screw, and remove the glove box.




(A) Clip

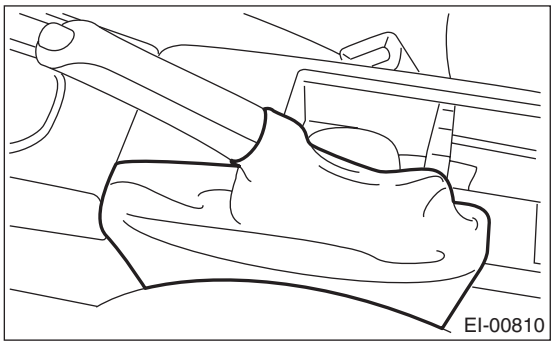
## B: INSTALLATION

Install in the reverse order of removal.

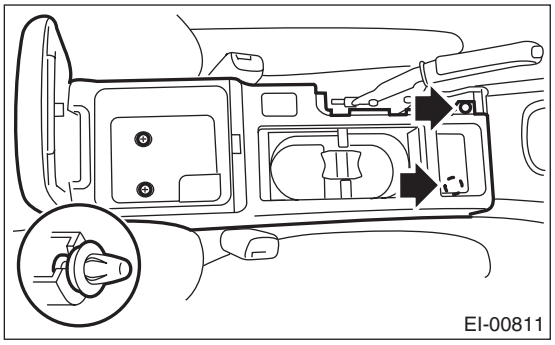
# 20.Console Box

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the parking brake lever cover.




3) Remove the bolts and clips.




4) Disconnect the connector, and remove the console box.

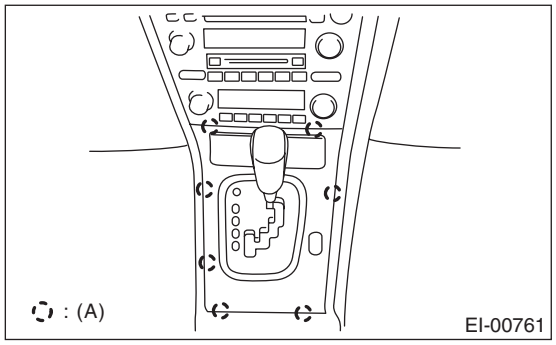
## B: INSTALLATION

Install in the reverse order of removal.

# 21.Center Console

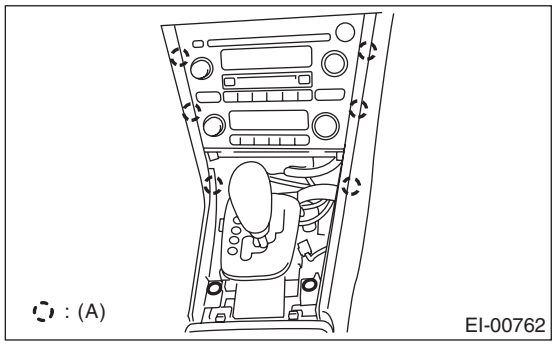
## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
3) Remove the console front panel.



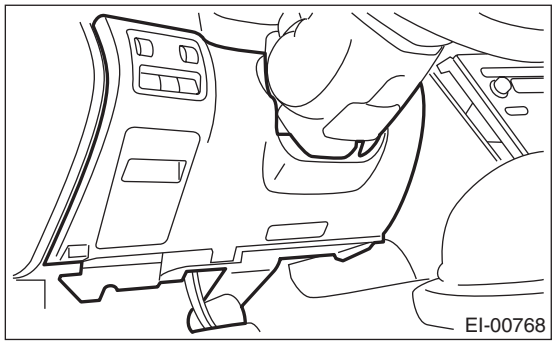

(A) Hook

NOTE:
For the AT model, remove the ring indicator.
For the MT model, remove the shift knob.
4) Loosen the screw, remove the hook, and remove the console side garnish.

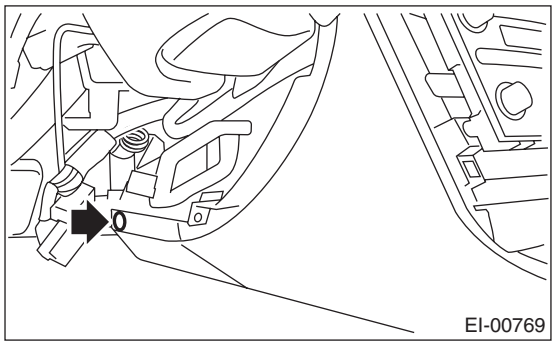



(A) Hook

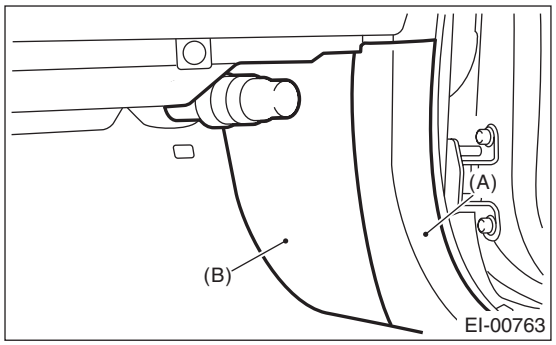
5) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>



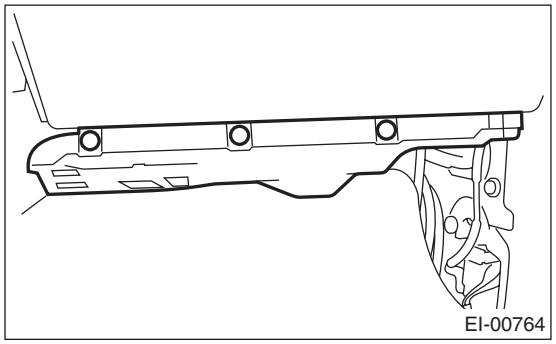

6) Remove the clip at the tip of the console side panel.



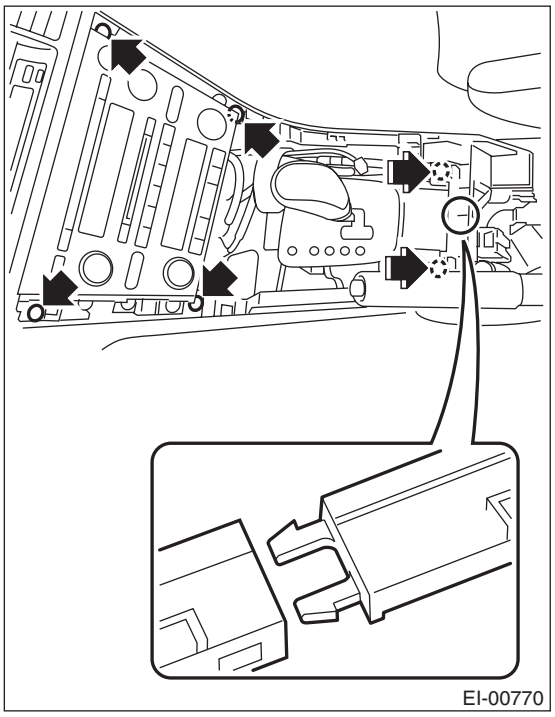

7) Remove the passenger's side front inside scuff plate (A) and front pillar lower trim (B). <Ref. to EI-58, REMOVAL, Lower Inner Trim.>



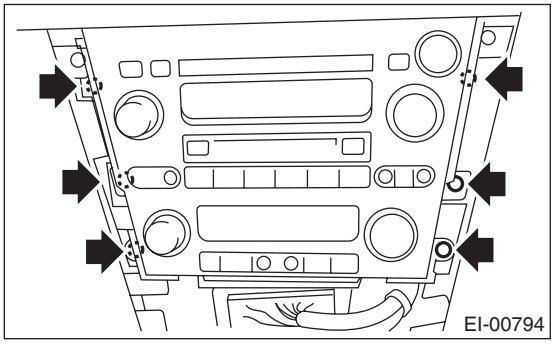

8) Remove the clips, and remove the glove box lower cover.



9) Remove the screws, and remove the console side panel.




10) Loosen screws to pull out the audio unit assembly, and disconnect the connectors to remove.




NOTE:
The audio unit assembly can be removed without removing the console side panel.

## B: INSTALLATION

Install in the reverse order of removal.

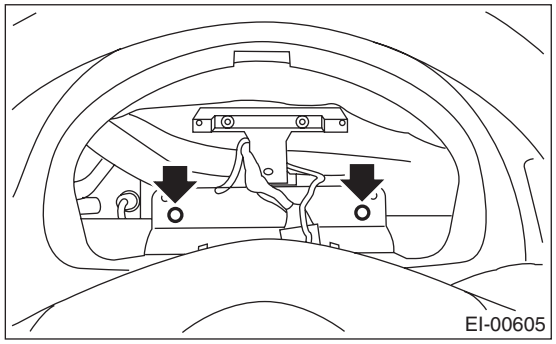
# 22.Instrument Panel Assembly

## A: REMOVAL

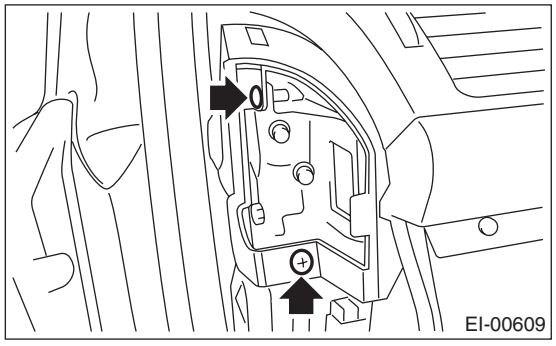
### 1. INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM)

**CAUTION:**
**Be careful not to damage the airbag system harness when servicing the instrument panel. Damage may cause the system to malfunction.**

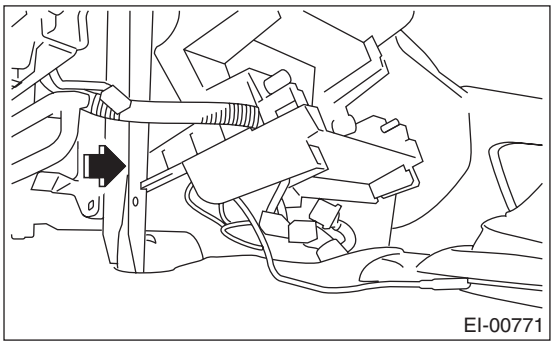
1) Disconnect the ground cable from the battery.
2) Remove the front pillar upper trim. <Ref. to EI-59, REMOVAL, Upper Inner Trim.>
3) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
4) Remove the center console. <Ref. to EI-52, REMOVAL, Center Console.>
5) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>
6) Remove the glove box. <Ref. to EI-50, REMOVAL, Glove Box.>
7) Remove the combination meter assembly. <Ref. to IDI-19, REMOVAL, Combination Meter.>
8) Remove the screws.


EI-00605

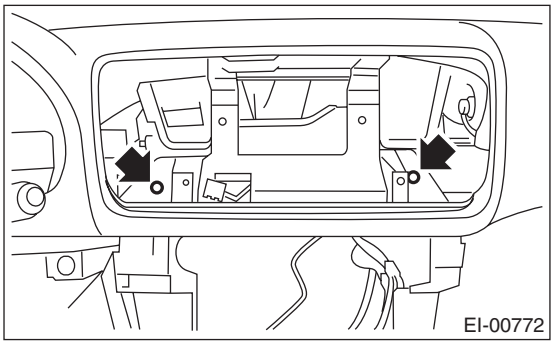
9) Remove the driver's side instrument panel side cover, and remove the screws.


EI-00609

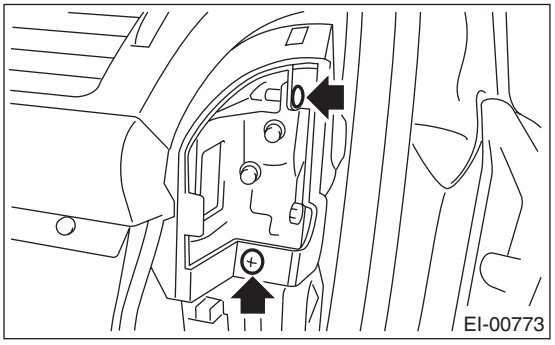
10) Remove the screw at the side of the center console.


EI-00771

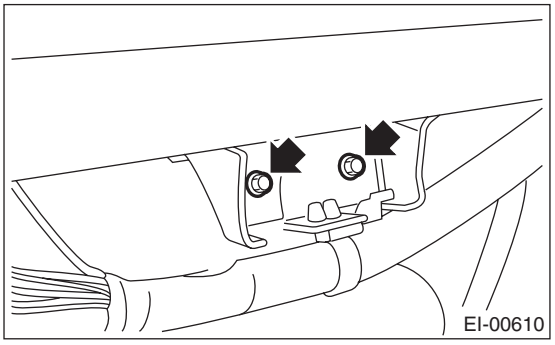
11) Remove the center air vent grille of the instrument panel. <Ref. to AC-44, CENTER GRILLE, REMOVAL, Air Vent Grille.>
12) Remove the screws.


EI-00772

13) Remove the screws at the side of the passenger's side instrument panel.


EI-00773

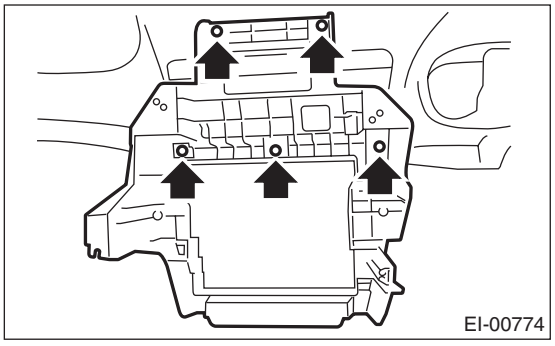
14) Remove the bolts securing the passenger's side airbag module to the steering support beam.


EI-00610

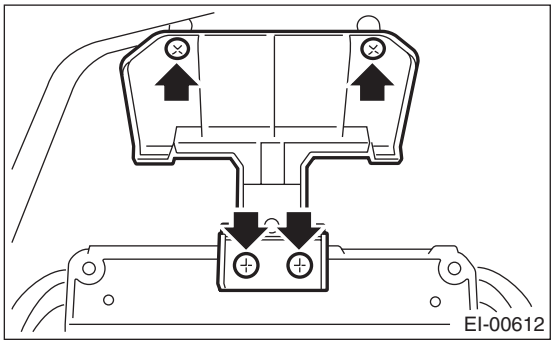
15) Disconnect the connectors, and remove the instrument panel from vehicle body.

NOTE:
• If necessary, make alignment marks for easy reassembly.
• When storing the removed instrument panel, be sure to prepare a table or the like to place the instrument panel, in order to prevent scratches or other damage to the panel.

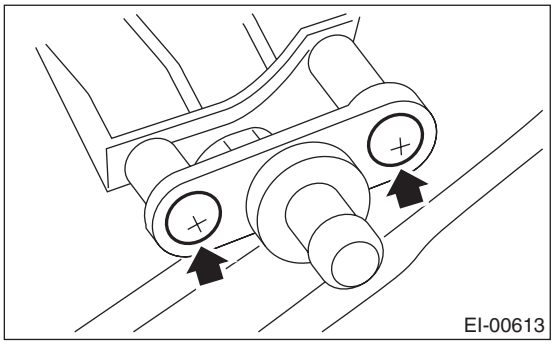
16) Remove the side air vent grille. <Ref. to AC-44, REMOVAL, Air Vent Grille.>
17) Remove the heater vent duct. <Ref. to AC-46, REMOVAL, Heater Vent Duct.>
18) Loosen the screws to remove the center console frame.


EI-00774

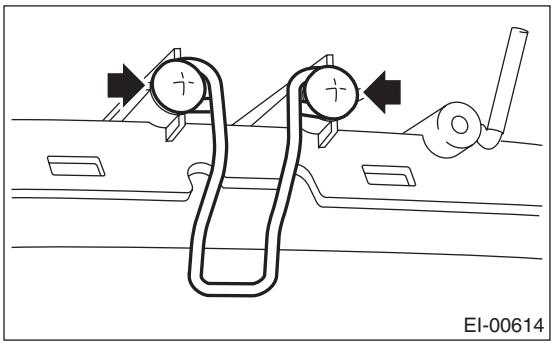
19) Loosen the screws to remove the meter bracket


EI-00612

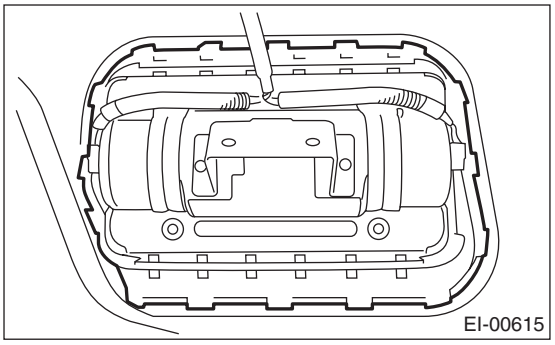
20) Loosen the screws to remove the instrument panel matching pins.


EI-00613

21) Loosen the screws to remove the glove box striker.


EI-00614

22) Remove the claw, and remove the passenger's airbag module.

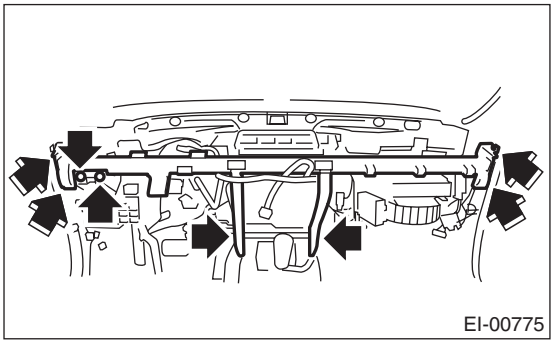

EI-00615

## 2. STEERING SUPPORT BEAM

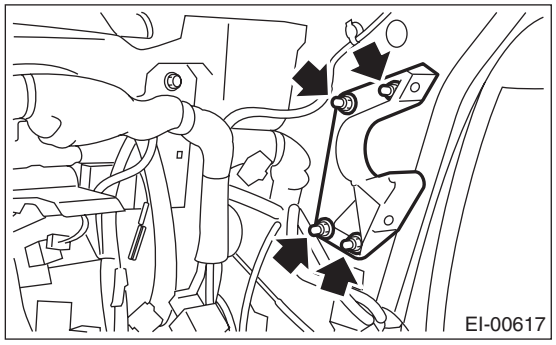
1) Remove the instrument panel. <Ref. to EI-54, INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM), REMOVAL, Instrument Panel Assembly.>
2) Remove the steering shaft assembly. <Ref. to PS-17, REMOVAL, Tilt Steering Column.>
3) Remove all harness clips, and remove the harness from the steering support beam.

NOTE:
If necessary, make alignment marks for easy reassembly.

4) Remove the bolts and remove the steering support beam.


EI-00775

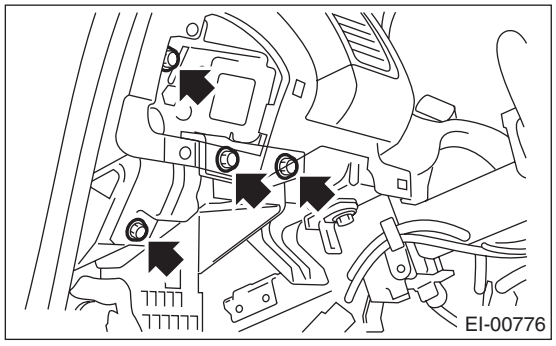
5) Remove the steering support beam bracket.



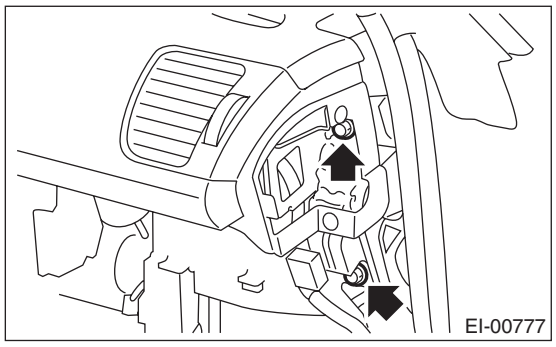

### 3. INSTRUMENT PANEL ASSEMBLY (INCLUDING STEERING SUPPORT BEAM)

**CAUTION:**
**Be careful not to damage the airbag system harness when servicing the instrument panel. Damage may cause the system to malfunction.**

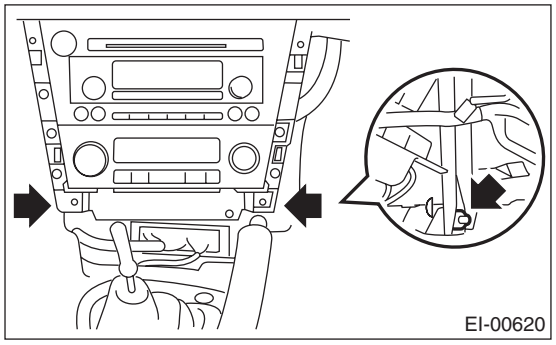
1) Remove the front pillar upper trim. <Ref. to EI-59, REMOVAL, Upper Inner Trim.>
2) Remove the center console. <Ref. to EI-52, REMOVAL, Center Console.>
3) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the glove box. <Ref. to EI-50, REMOVAL, Glove Box.>
5) Remove the steering shaft assembly. <Ref. to PS-17, REMOVAL, Tilt Steering Column.>
6) Remove the driver's side instrument panel side cover, and remove the bolts.




7) Remove the bolts at the side of the passenger's side instrument panel.




8) Loosen the bolts on the center console side.



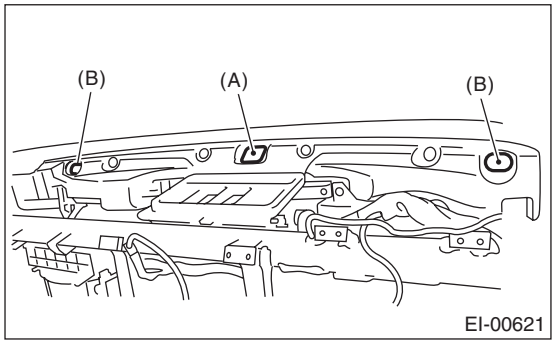

9) Disconnect the connectors, and remove the instrument panel assembly.

NOTE:
If necessary, make alignment marks for easy reassembly.

## B: INSTALLATION

### 1. INSTRUMENT PANEL (EXCLUDING STEERING SUPPORT BEAM)

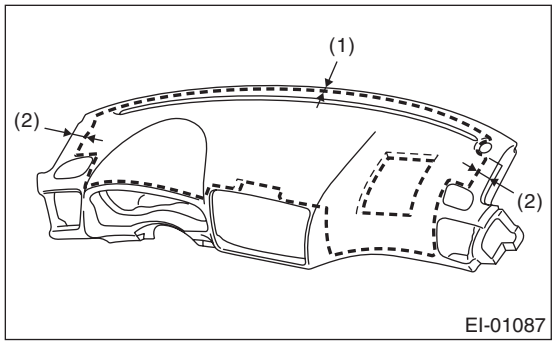
1) Insert the matching pins (three places) on the instrument panel tip into the grommet (A) and (B) on the body panel side.




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.)
• Locations




(1) 10 mm
(2) 40 mm

Apply at a position spaced by 10 mm from the instrument panel front end, and 40 mm from the ends on both sides.

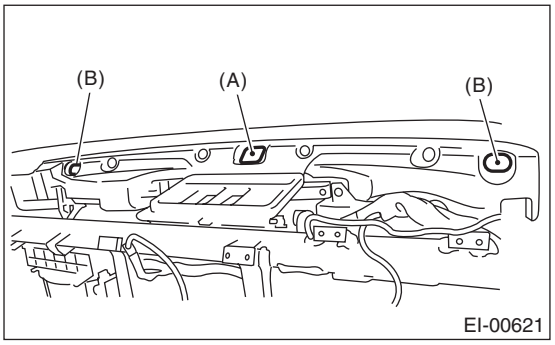
## 2. STEERING SUPPORT BEAM

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 (INCLUDING STEERING SUPPORT BEAM)

1) Insert the matching pins (three places) on the instrument panel tip into the grommet (A) and (B) on the body panel side.



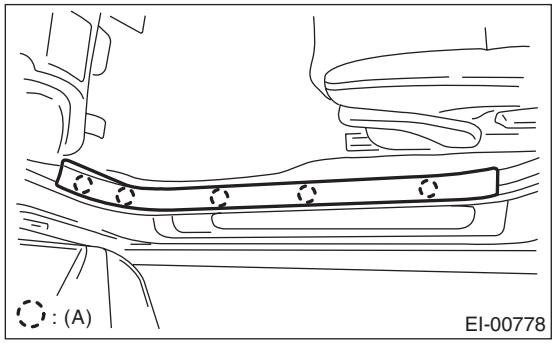

2) Check that the matching pins are inserted securely, and then route the harness.
3) Temporarily tighten the steering support beam with bolts, and then route the harness.
4) Make sure that there is no mutual interference in each pedal, and then tighten each bolt.

***Tightening torque:***
***25 N·m (25.5 kgf-m, 18 ft-lb)***
5) Install in the reverse order of removal.

# 23.Lower Inner Trim

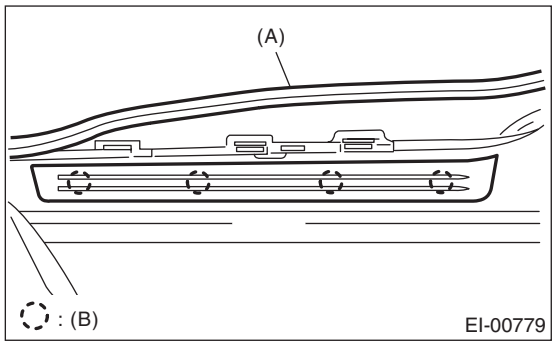
## A: REMOVAL

1) Remove the hook, and remove the inside scuff plate.



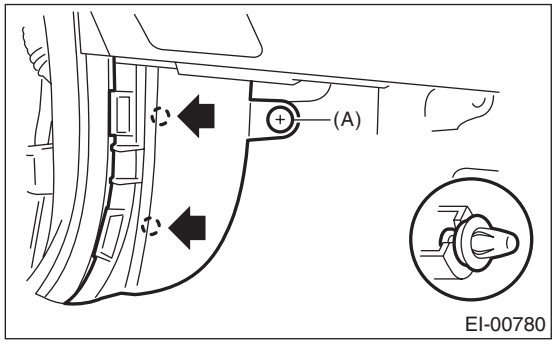

(A) Hook

2) Remove the door molding (A), and remove the outside scuff plate.



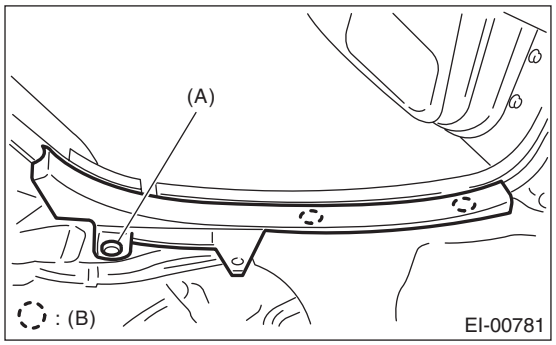

(B) Clip

3) Remove clip (A), and remove the front pillar lower trim.



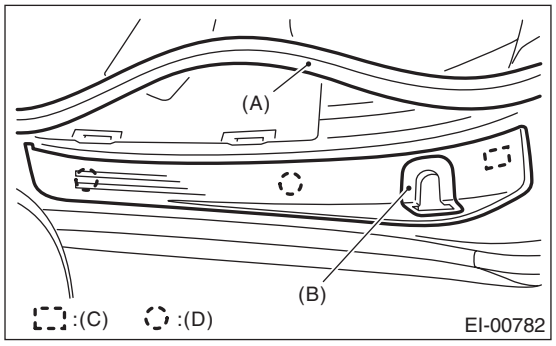

4) Remove the rear seat cushion. <Ref. to SE-17, REMOVAL, Rear Seat.>

5) Remove clip (A), and remove the inside scuff plate.



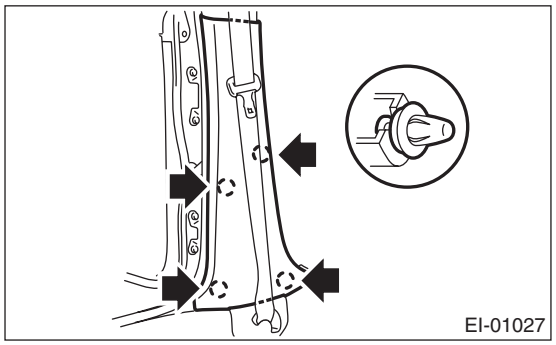

(B) Hook

6) Remove door molding (A) and door catcher cover (B), then remove the outside scuff plate.




(C) Hook with plate clip
(D) Clip

7) Remove the clips of the center pillar lower trim.



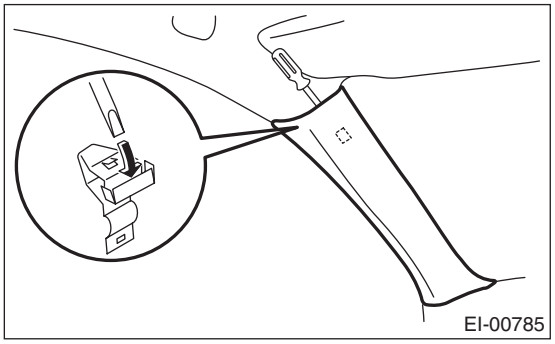

## B: INSTALLATION

Install in the reverse order of removal.

# 24.Upper Inner Trim

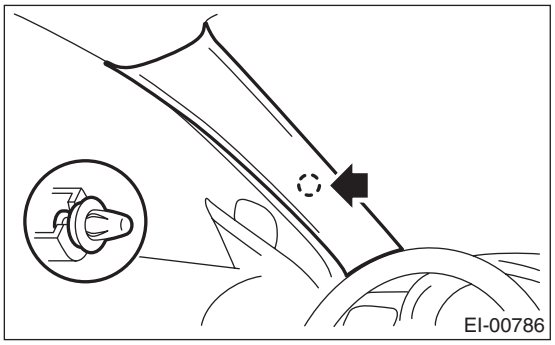
## A: REMOVAL

1) From the top side of the trim, remove the metal clip using a flat tip screwdriver.


EI-00785

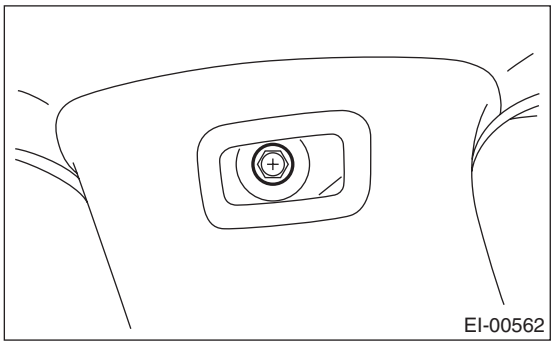
**CAUTION:**
**When the metal clip comes off or becomes damaged, replace both trim and metal clips with new parts.**

2) Remove the front pillar upper trim.

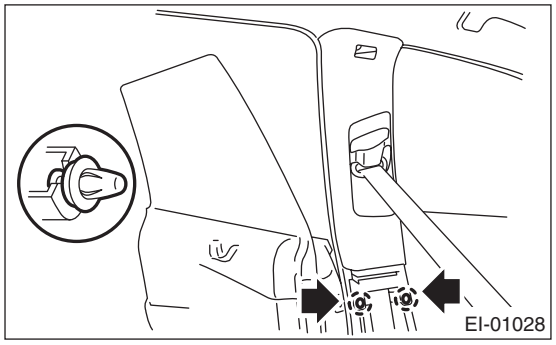

EI-00786

3) Remove the front inside scuff plate, rear inside scuff plate and center pillar lower trim. <Ref. to EI-58, REMOVAL, Lower Inner Trim.>

4) Remove the cap on the upper side of the pillar trim, and remove the bolt inside.


EI-00562

5) Remove the center pillar upper trim.


EI-01028

6) Remove the seat belt lower anchor bolt at the center pillar lower port. (Driver's seat)

7) Refer to the removal procedure of "Front Seat Belt" for the passenger's seat. <Ref. to SB-10, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>

## B: INSTALLATION

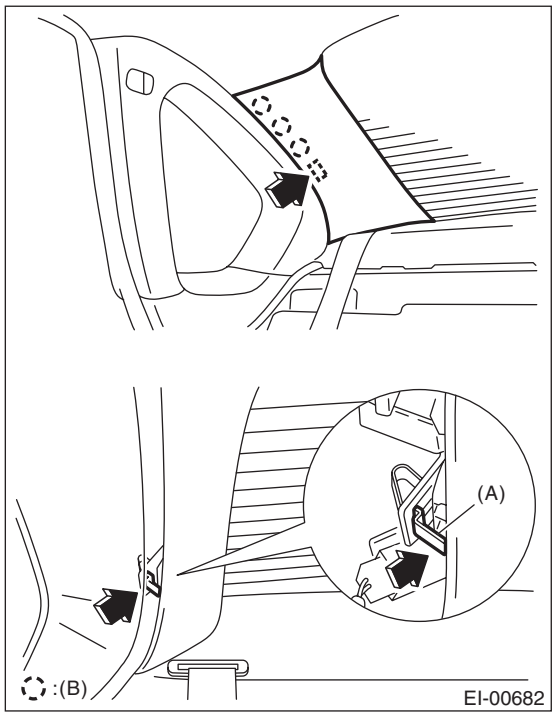
Install in the reverse order of removal.

# 25.Rear Quarter Trim

## A: REMOVAL

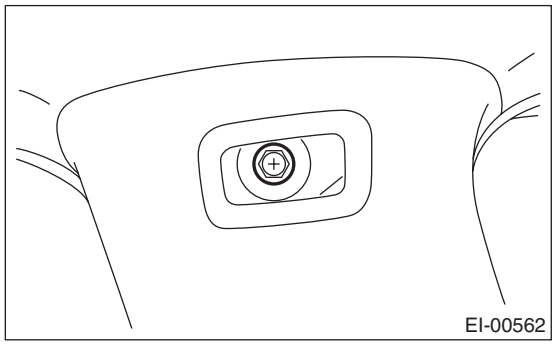
### 1. SEDAN MODEL

1) Remove the rear seat. <Ref. to SE-17, SEDAN MODEL, REMOVAL, Rear Seat.>
2) Turn over the trim, and remove the quarter trim rear by pressing the claw (A) of the metal clip using a flat screwdriver, etc.

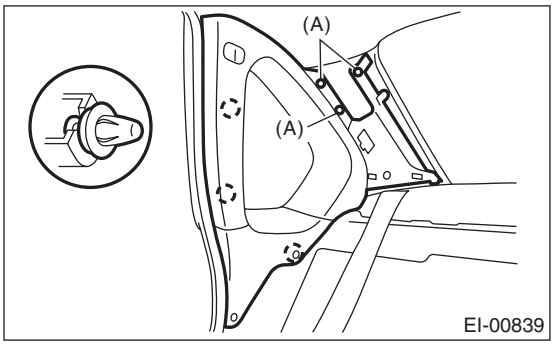



(B) Hook

**CAUTION:**
**When the metal clip comes off or becomes damaged, replace both trim and metal clips with new parts.**
3) Remove the cap on the upper side of the trim, and remove the bolt inside.

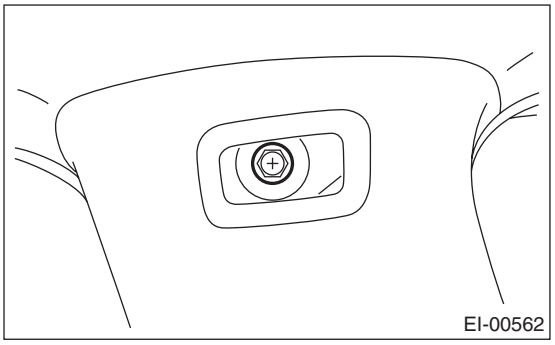



4) Remove the bolts (A), and remove the quarter trim (front).

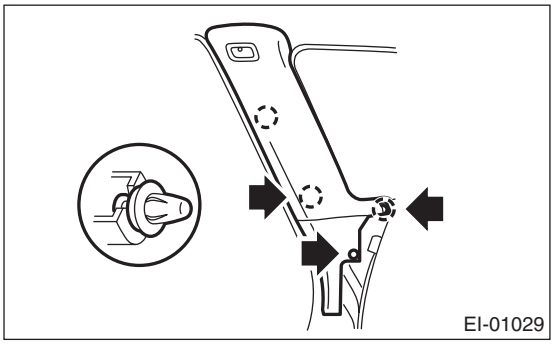



### 2. WAGON MODEL

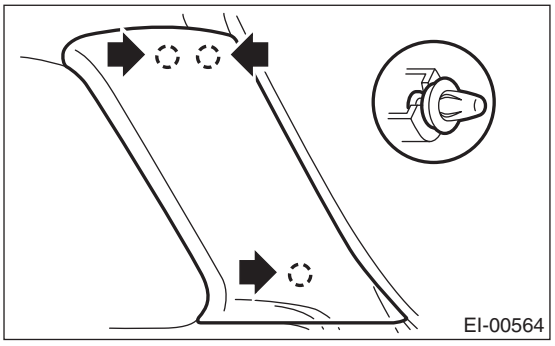
1) Remove the rear seat cushion and backrest shoulder. <Ref. to SE-18, WAGON MODEL, REMOVAL, Rear Seat.>
2) Remove the cap on the upper side of the pillar trim, and remove the bolt inside.



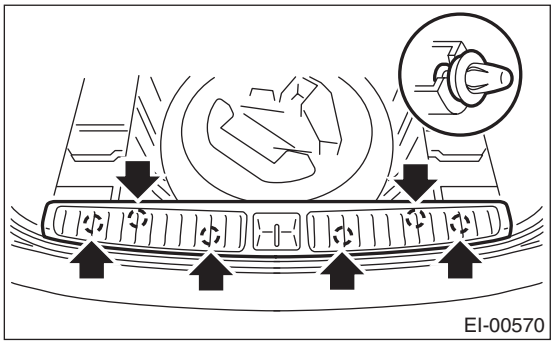

3) Remove the clip, and remove the quarter front pillar trim.



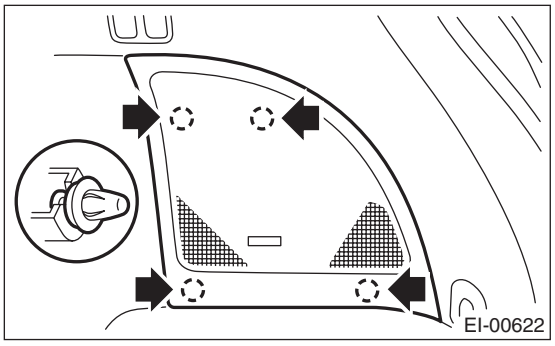

4) Remove the quarter rear pillar trim.



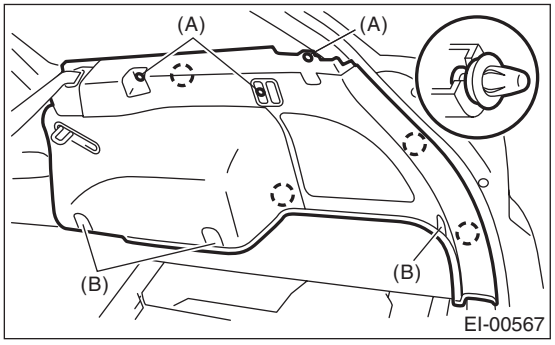
5) Remove the luggage floor box. <Ref. to EI-70, REMOVAL, Luggage Floor Box.>
6) Remove the luggage floor end cover.




7) Remove the woofer cover. (Model with woofer)




8) Remove the screws (A) and bolts (B), and remove the quarter lower trim.




NOTE:
• Remove the screw cover on the tonneau cover installation area.
• Pull out the shopping bag hook, and remove the screw on the far end.

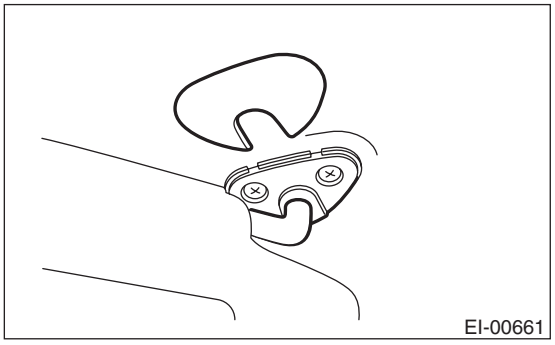
## B: INSTALLATION

Install in the reverse order of removal.

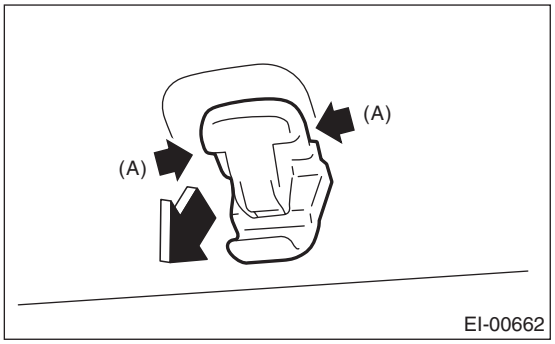
# 26.Sun Visor

## 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.



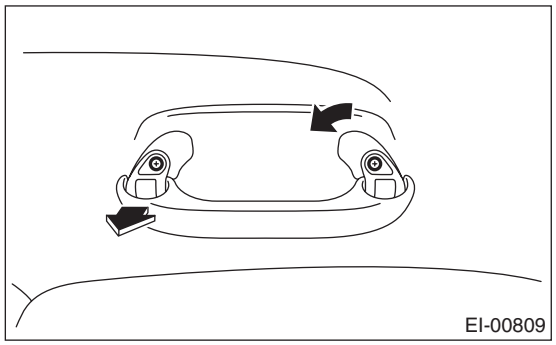

## B: INSTALLATION

Install in the reverse order of removal.

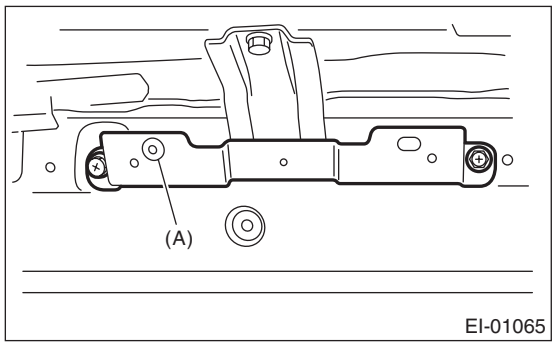
# 27.Assist Grip

## 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-64, REMOVAL, Roof Trim.>
4) Remove the bolts, and remove the assist grip bracket.




(A) Grommet

## B: INSTALLATION

Install in the reverse order of removal.

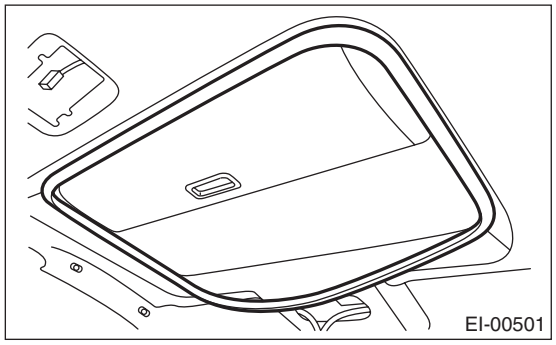
**CAUTION:**
**Be sure to install the grommet to assist grip bracket.**
**When the assist grip is installed with no grommet, it ill cause the grip to not return properly.**

# 28.Roof Trim

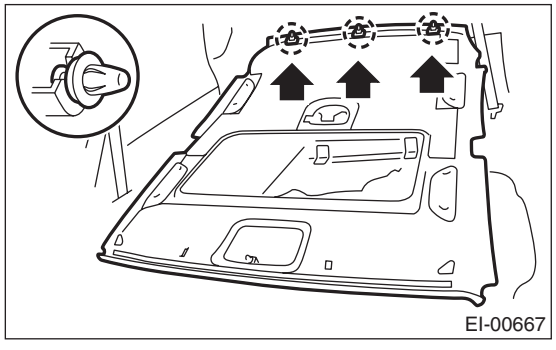
## A: REMOVAL

### 1. SEDAN MODEL

1) Disconnect the ground cable from the battery.
2) Remove the front seats. <Ref. to SE-9, REMOVAL, Front Seat.>
3) Remove the rear seat. <Ref. to SE-17, REMOVAL, Rear Seat.>
4) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
5) Remove the center console. <Ref. to EI-52, REMOVAL, Center Console.>
6) Remove the select lever. (AT model)
<Ref. to CS-24, REMOVAL, Select Lever.>
7) Remove the spot map light. <Ref. to LI-32, REMOVAL, Spot Map Light.>
8) Remove the room light. <Ref. to LI-33, REMOVAL, Room Light.>
9) Remove the sun visor. <Ref. to EI-62, REMOVAL, Sun Visor.>
10) Remove the assist grip. <Ref. to EI-63, REMOVAL, Assist Grip.>
11) Remove the upper inner trim. <Ref. to EI-59, REMOVAL, Upper Inner Trim.>
12) Remove the rear quarter trim. <Ref. to EI-60, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
13) Remove the sunroof opening trim. (Model with sunroof)


EI-00501

14) Remove the clips and harnesses, and remove the roof trim.
15) Pull out the roof trim from the vehicle.

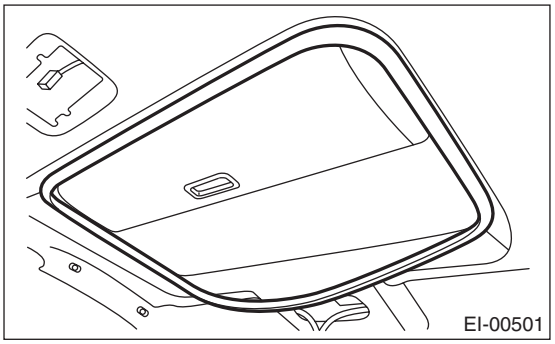

EI-00667

### 2. WAGON MODEL

1) Disconnect the ground cable from the battery.
2) Remove the spot map light. <Ref. to LI-32, REMOVAL, Spot Map Light.>
3) Remove the room light. <Ref. to LI-33, REMOVAL, Room Light.>
4) Remove the luggage room light. <Ref. to LI-34, REMOVAL, Luggage Room Light.>
5) Remove the sun visor. <Ref. to EI-62, REMOVAL, Sun Visor.>
6) Remove the assist grip. <Ref. to EI-63, REMOVAL, Assist Grip.>
7) Remove the upper inner trim. <Ref. to EI-59, REMOVAL, Upper Inner Trim.>
8) Remove the rear quarter trim. <Ref. to EI-60, WAGON MODEL, REMOVAL, Rear Quarter Trim.>

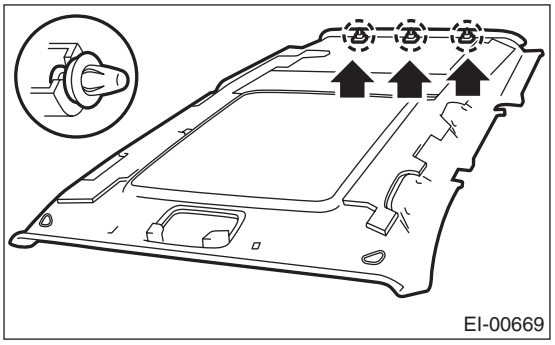
**CAUTION:**
**Do not remove the roof end trim with excessive force. Otherwise the roof trim may become damaged. Roof trim and roof end trim are fastened by rivets.**

9) Remove the sunroof opening trim. (Model with sunroof)


EI-00501

10) Remove the clips and each harness, pull out the rear center seat belt, and remove the roof trim.

**CAUTION:**
**Do not remove the roof end trim with excessive force. Otherwise the roof trim may become damaged.**


EI-00669

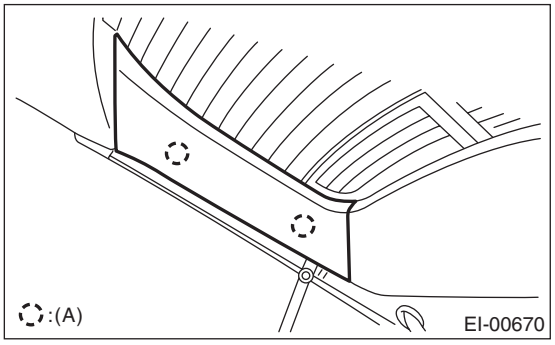
## B: INSTALLATION

Install in the reverse order of removal.

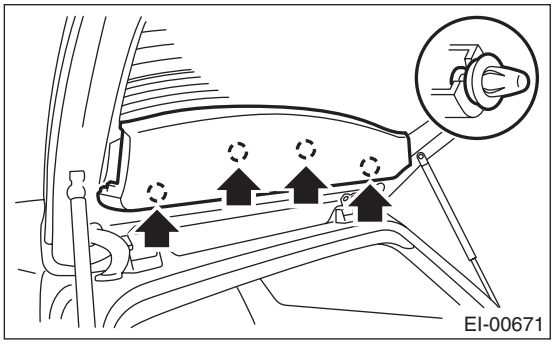
# 29.Rear Gate Trim

## A: REMOVAL

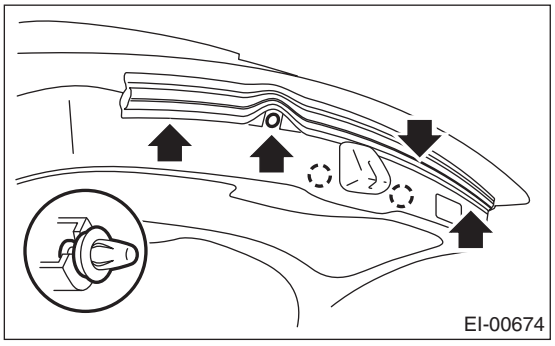
1) Remove clips (A), and remove the rear gate pillar trim.



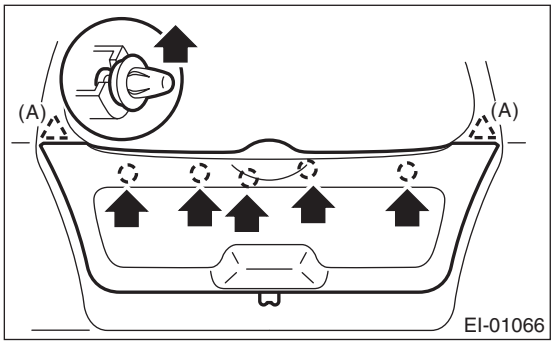

2) Remove the clips, and remove the rear gate upper trim.



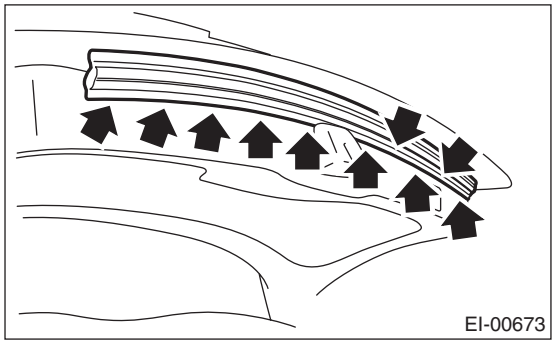

3) Remove the cover in the inner handle, and loosen the inside screw.
4) Turn over the weather strip, and remove the clips.



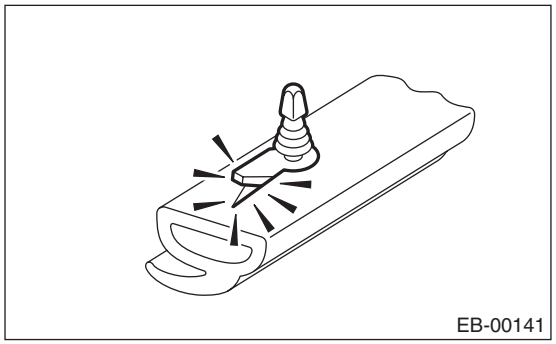

5) Remove the clips (A), and remove the rear gate lower trim.




6) Remove the rear gate 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.



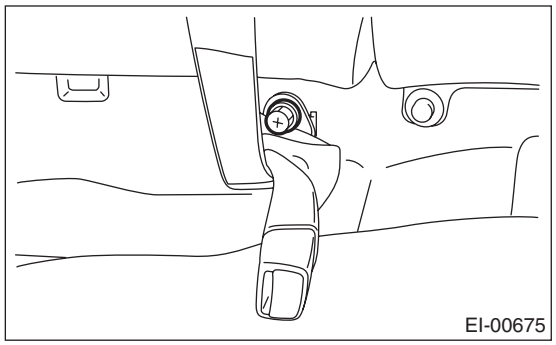

## B: INSTALLATION

Install in the reverse order of removal.

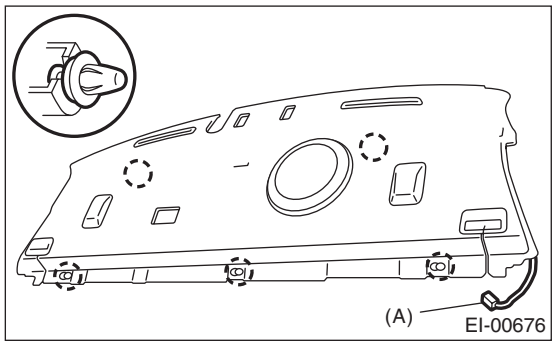
# 30.Rear Shelf Trim

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear quarter trim. <Ref. to EI-60, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
3) Remove the high-mounted stop light. <Ref. to LI-31, REMOVAL, High-mounted Stop Light.>
4) Remove the rear seat cushion. <Ref. to SE-18, WAGON MODEL, REMOVAL, Rear Seat.>
5) Remove the lower anchor bolt of the rear center seat belt.



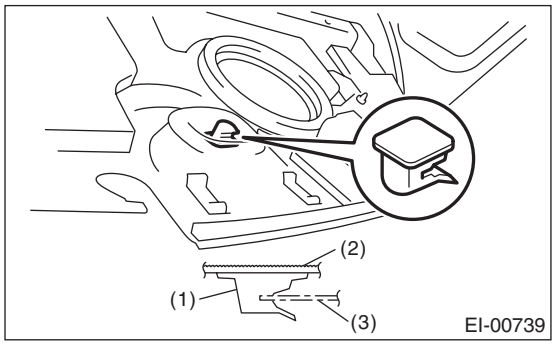

6) After disconnecting the high-mounted stop light harness connector (A) and removing the five clips, remove the rear shelf trim by pulling it frontward.




## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Securely insert the vehicle body panel into the hook of the rear shelf trim center, and install the rear shelf trim.



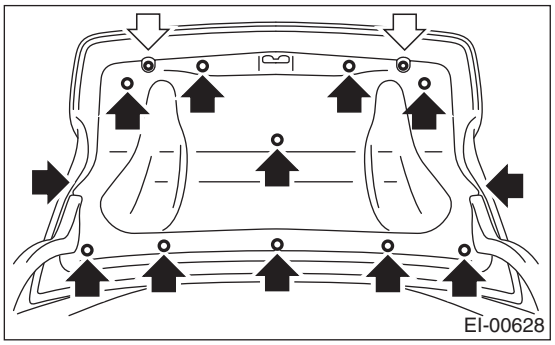

(1) Hook
(2) Rear Shelf Trim
(3) Vehicle body panel

# 31.Trunk Room Trim

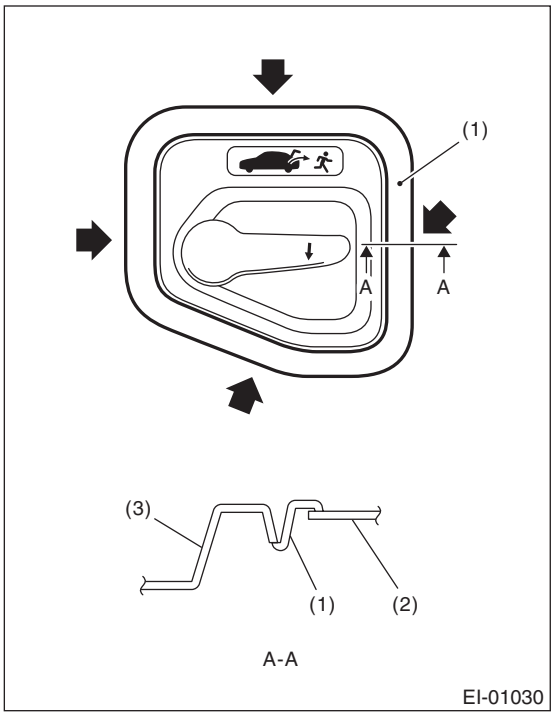
## A: REMOVAL

### 1. TRUNK LID TRIM

1) Remove the trim clips and stopper rubber, and remove the trunk lid trim.

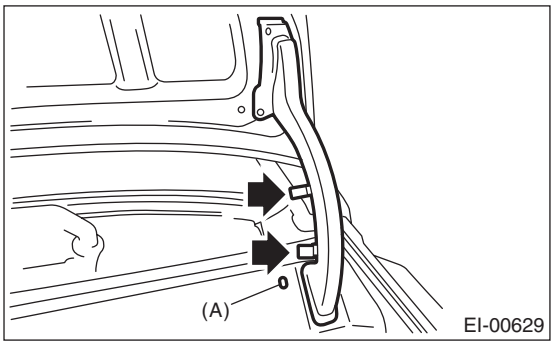



2) Remove the four claws, and remove the trunk handle cover (1).



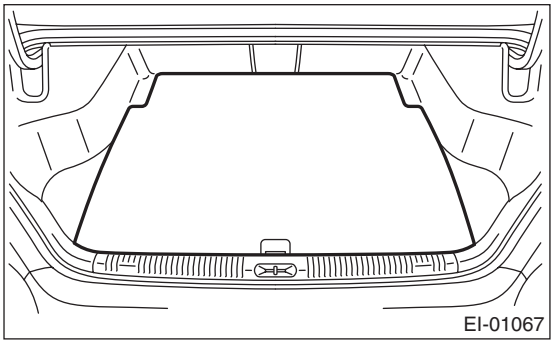

(1) Trunk handle cover
(2) Trunk lid trim
(3) Trunk release handle

3) Remove clip (A) of the trunk side trim, and remove the trunk lid arm cover.

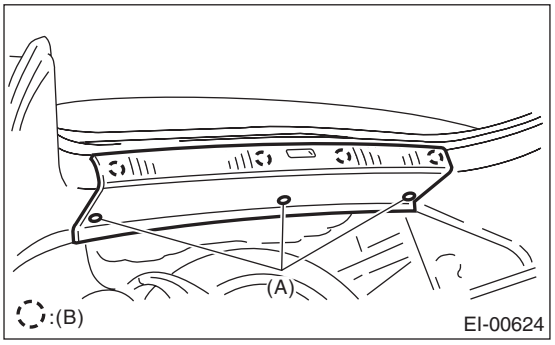



### 2. TRUNK ROOM TRIM

1) Remove the trunk room mat.

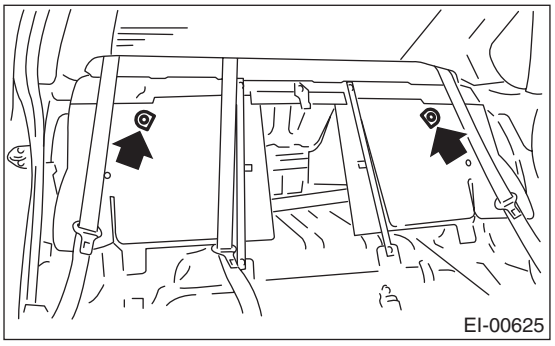



2) Remove the trim clips (A), and remove the trunk room end cover.

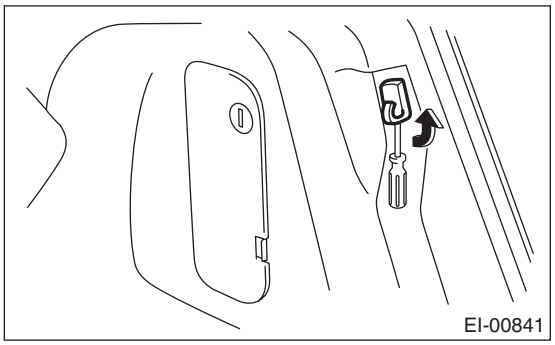



(B) Clip

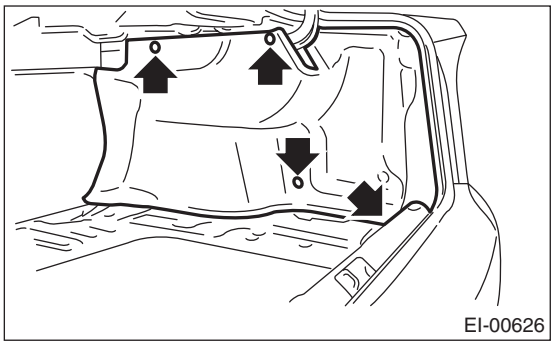
3) Remove the rear seat backrest, and remove the trim clips at the front side of the trunk side trim. <Ref. to SE-18, WAGON MODEL, REMOVAL, Rear Seat.>



4) Insert the flat tip screwdriver from the lower side of the trunk hook, and then remove the trunk hook by rotating it 90°.




5) Remove the trim clips, and remove the trunk side trim.



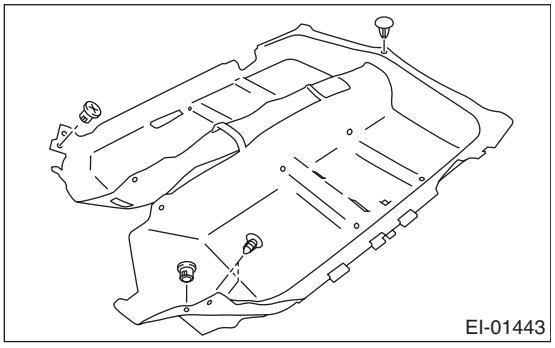

## B: INSTALLATION

Install in the reverse order of removal.

# 32.Floor Mat

## A: REMOVAL

1) Remove the front seats. <Ref. to SE-9, REMOVAL, Front Seat.>
2) Remove the rear seat cushion. <Ref. to SE-17, REMOVAL, Rear Seat.>
3) Remove the console box. <Ref. to EI-51, Console Box.>
4) Remove the console side panel. <Ref. to EI-52, REMOVAL, Center Console.>
5) Remove the lower inner trim. <Ref. to EI-58, REMOVAL, Lower Inner Trim.>
6) Remove the clips from the floor mat.
7) Remove the mat hook on both sides.
8) Remove the mat from toe board area.
9) Remove the mat from rear heater duct.
10) Roll the mat, and then take it out of opened rear door.


EI-01443

## B: INSTALLATION

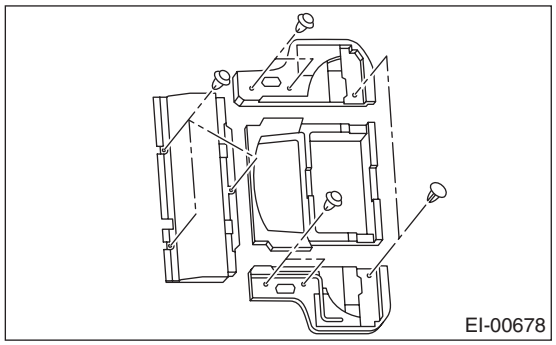
Install in the reverse order of removal.

NOTE:
- Secure the mat firmly with hook and clip.
- Insert the mat edge firmly into the groove of side sill cover.

# 33.Luggage Floor Box

## A: REMOVAL

1) Remove the luggage floor mat.
2) Remove the clips, and remove the luggage floor box.



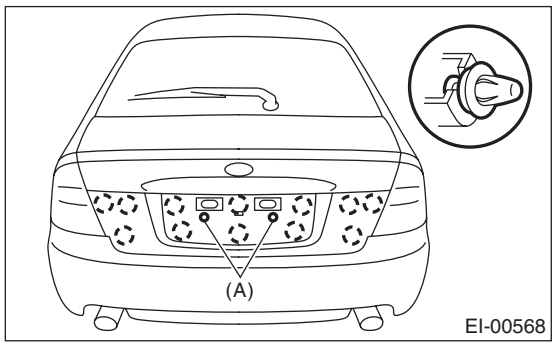

## B: INSTALLATION

Install in the reverse order of removal.

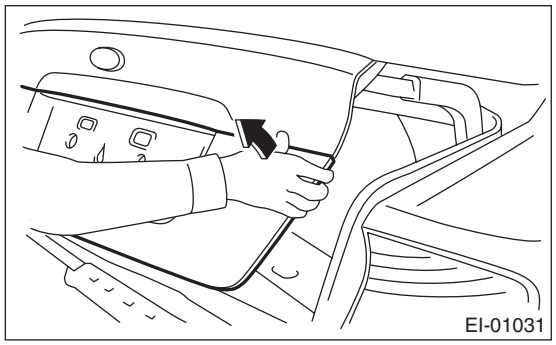
# 34.Trunk Lid Garnish

## A: REMOVAL

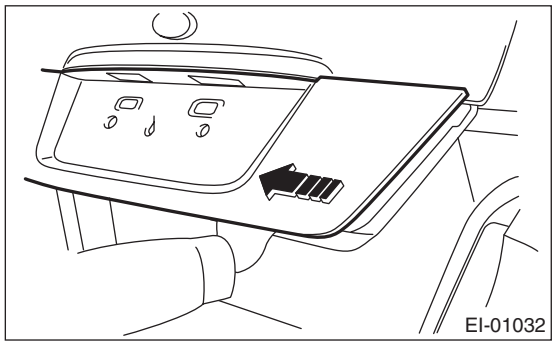
1) Remove the license plate, and loosen bolts (A).




2) Remove the clip in the upper corner of the trunk lid garnish.




3) Place your hands between the trunk lid garnish and the trunk lid panel, and remove the trunk lid garnish starting from the edge, in order.




## B: INSTALLATION

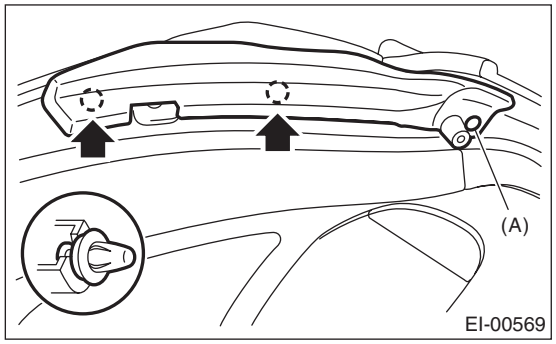
Install in the reverse order of removal.

***Tightening torque:***
***7.5 N·m (0.77 kgf-m, 5.53 ft-lb)***

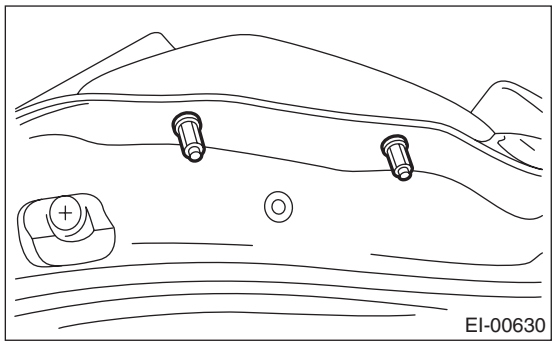
# 35.Rear Gate Garnish

## A: REMOVAL

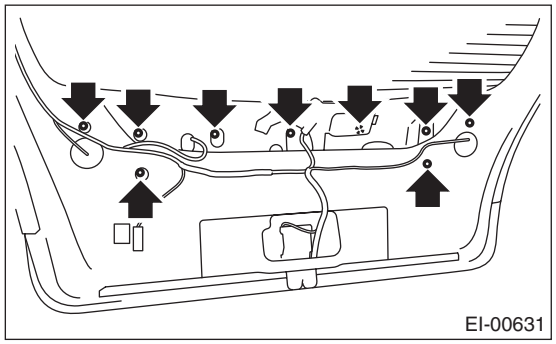
1) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
2) Remove clip (A), and remove the rear gate panel side cover.




3) Remove the hexagon cap nut.




4) Remove the nuts, disconnect connectors, and remove the rear gate garnish.




## B: INSTALLATION

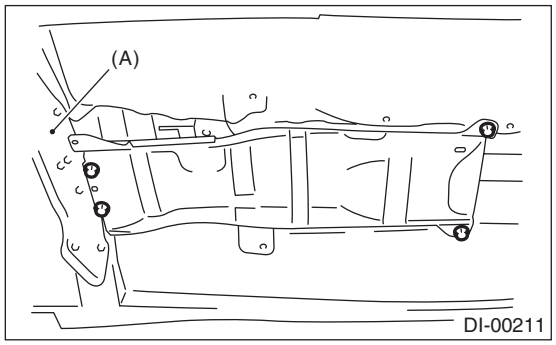
Install in the reverse order of removal.

# 36.Heat Shield Cover

## A: REMOVAL

### 1. FRONT HEAT SHIELD COVER

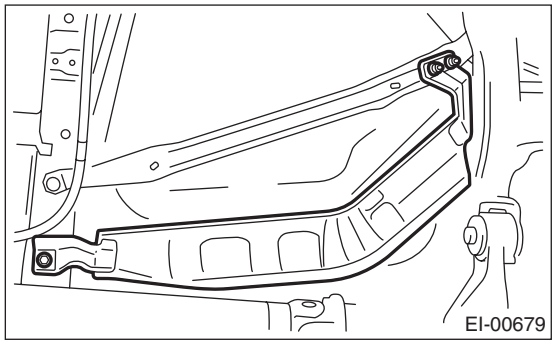
Remove the four bolts to remove the front heat shield cover.




(A) Transmission mount

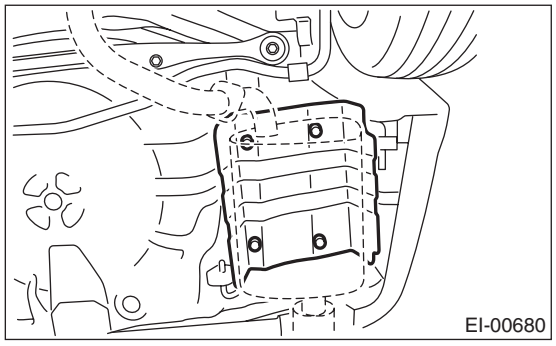
### 2. CENTER HEAT SHIELD COVER

Remove the nut and bolt to remove center heat shield cover.




### 3. REAR HEAT SHIELD COVER

1) Remove the muffler. <Ref. to EX(H4SO)-10, REMOVAL, Muffler.> <Ref. to EX(H4DOTC)-14, REMOVAL, Muffler.>
2) Remove the four bolts to remove the rear heat shield cover.




## B: INSTALLATION

Install in the reverse order of removal.

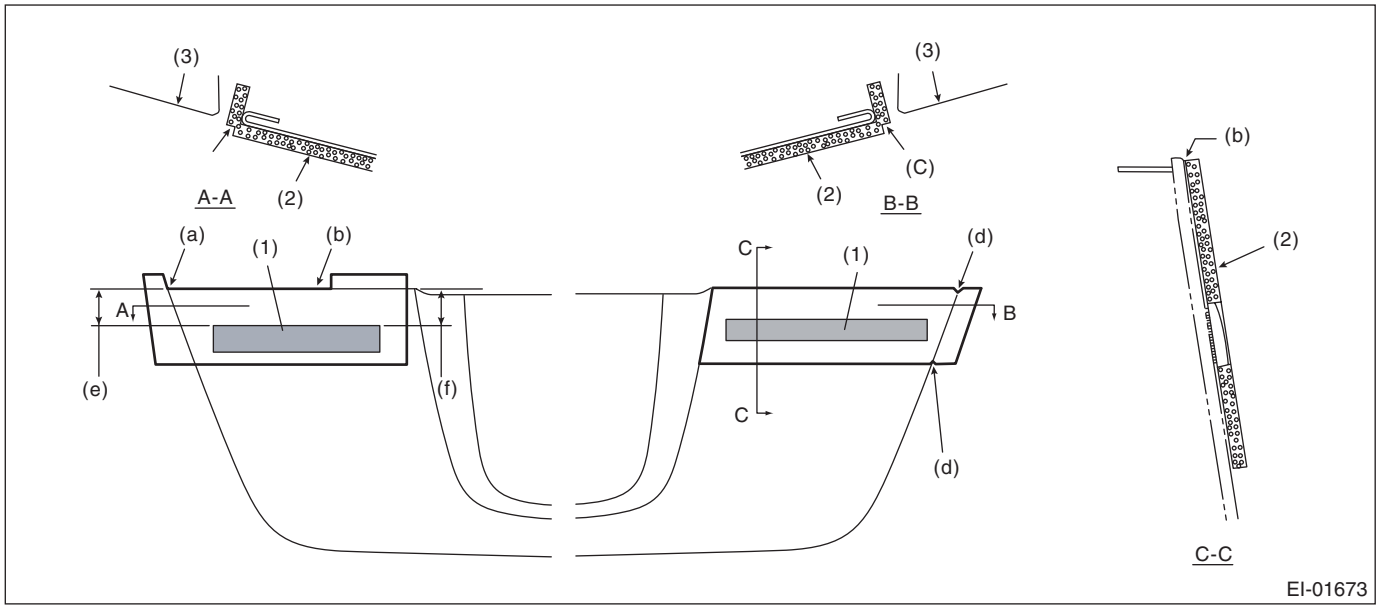
# 37.Ornament

## A: INSTALLATION

### 1. LETTER MARK

Adhere the letter mark according to the following measurements.

- Sedan model




(a) Apply the edge of application tape by aligning with the end of the radius for the trunk lid garnish.

(b) Apply the application tape by aligning with the end of the radius, at the upper edge of the trunk lid garnish.

(c) Align the slit of the application tape to the panel end.

(d) Apply the application tape by aligning the cut out to the edge of the trunk lid garnish.

(e) 33 mm (1.3 in)

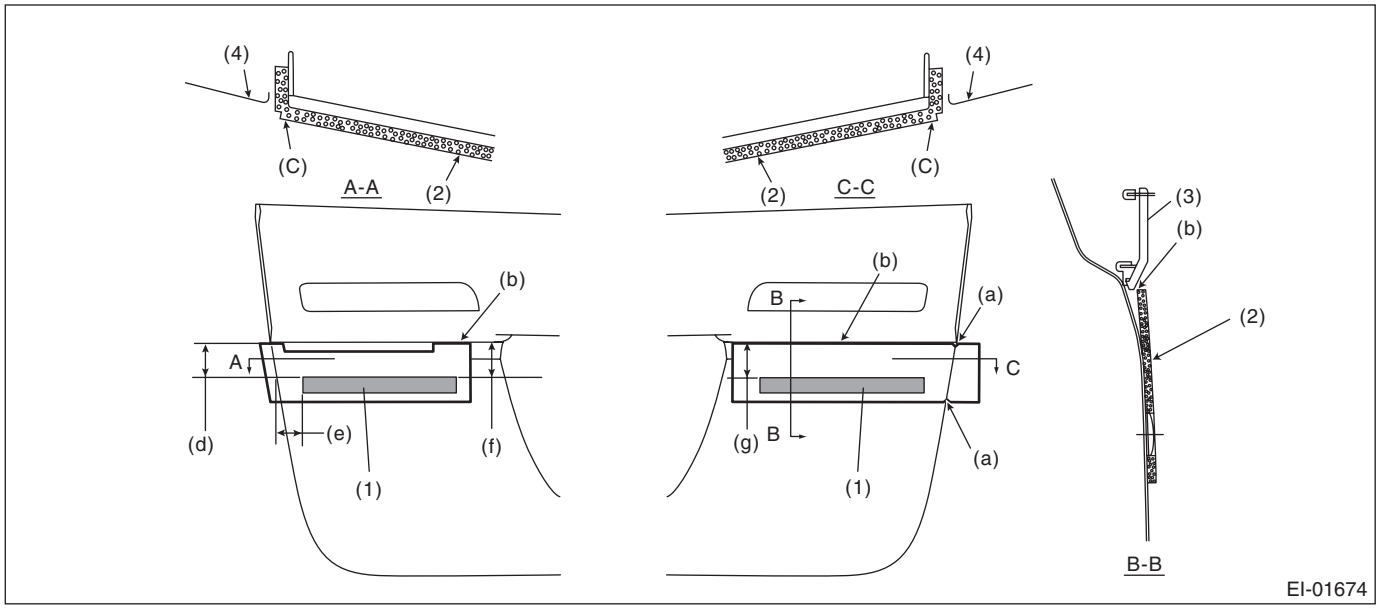
(f) 35 mm (1.38 in)

(1) Letter mark

(2) Application tape

(3) Rear combination light

- Wagon model




(a) Apply the application tape by aligning the cut out to the edge of the rear gate panel.

(b) Apply the application tape by aligning it with the outer bottom end of the rear gate garnish.

(c) Align the slit of the application tape to the panel end.

(d) 44.5 mm (1.75 in)

(e) 45 mm (1.77 in)

(f) 45.5 mm (1.79 in)

(1) Letter mark

(2) Application tape

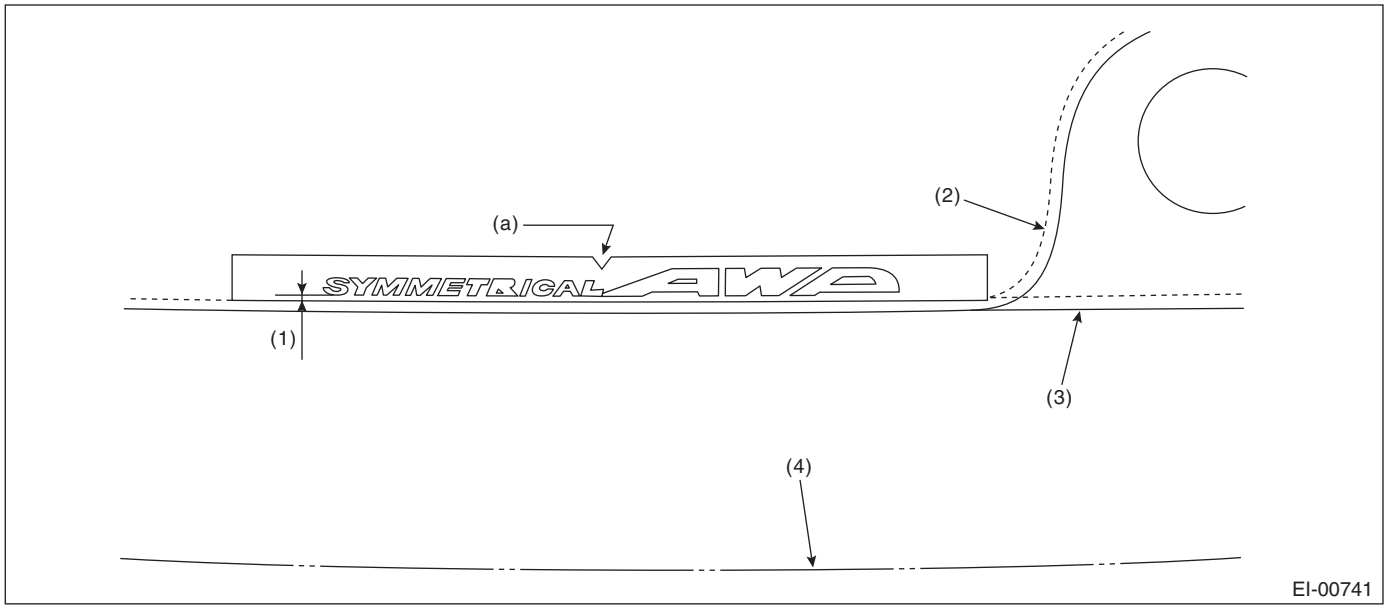
(3) Rear gate garnish

(4) Rear combination light

## 2. AWD STICKER

Apply the AWD sticker from inside of the glass according to the following dimensions.

- Sedan model




(a) Apply the application tape by aligning the cut out to the edge of the rear glass center.

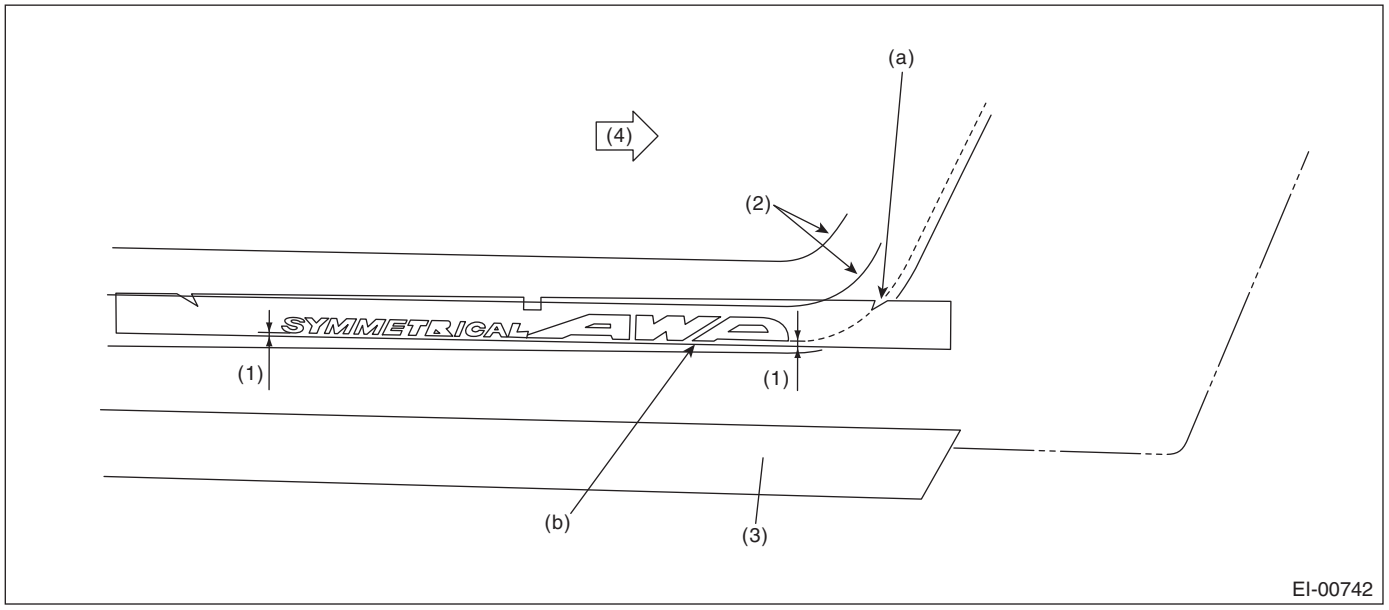
(1) 1 mm (0.04 in)

(2) Gradation end of the ceramic print (with rear wiper)

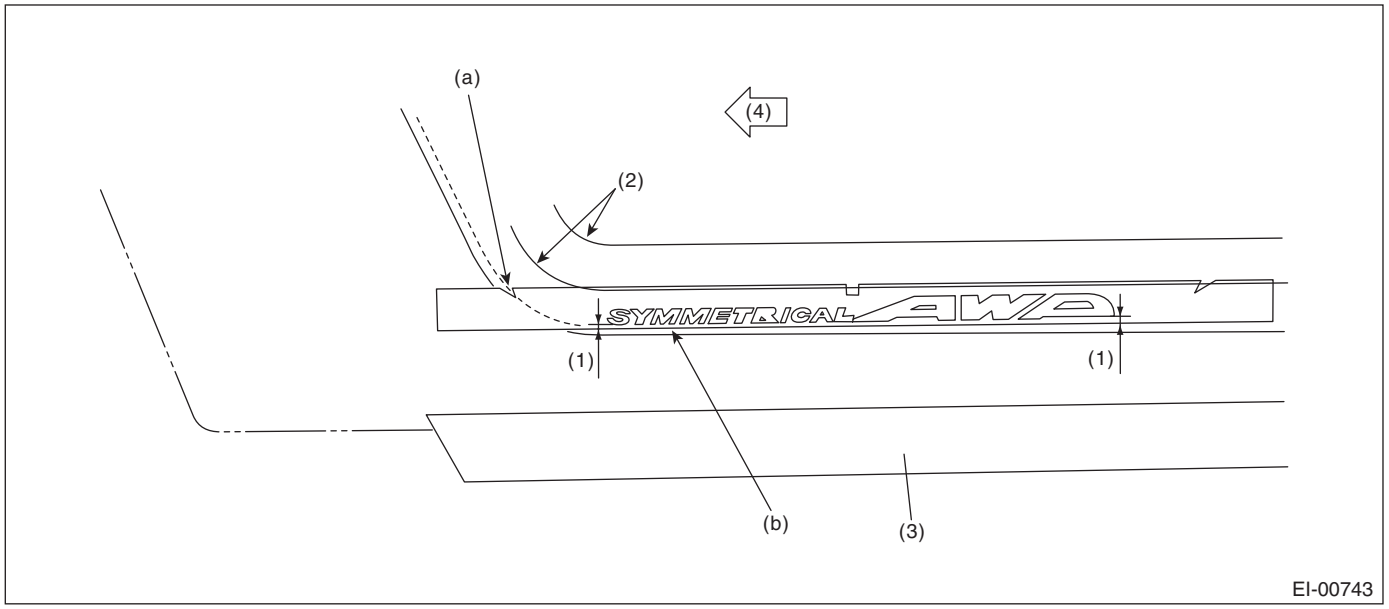
(3) Gradation end of the ceramic print (without rear wiper)

(4) End of rear glass

- Wagon model (RH side)



- Wagon model (LH side)




(a) Apply the application tape by aligning the cut out to the ceramic print.
(b) Gradation end of the ceramic print
(1) 1 mm (0.04 in)
(2) Glass antenna wire
(3) Molding
(4) Front side of vehicle

# EXTERIOR BODY PANELS

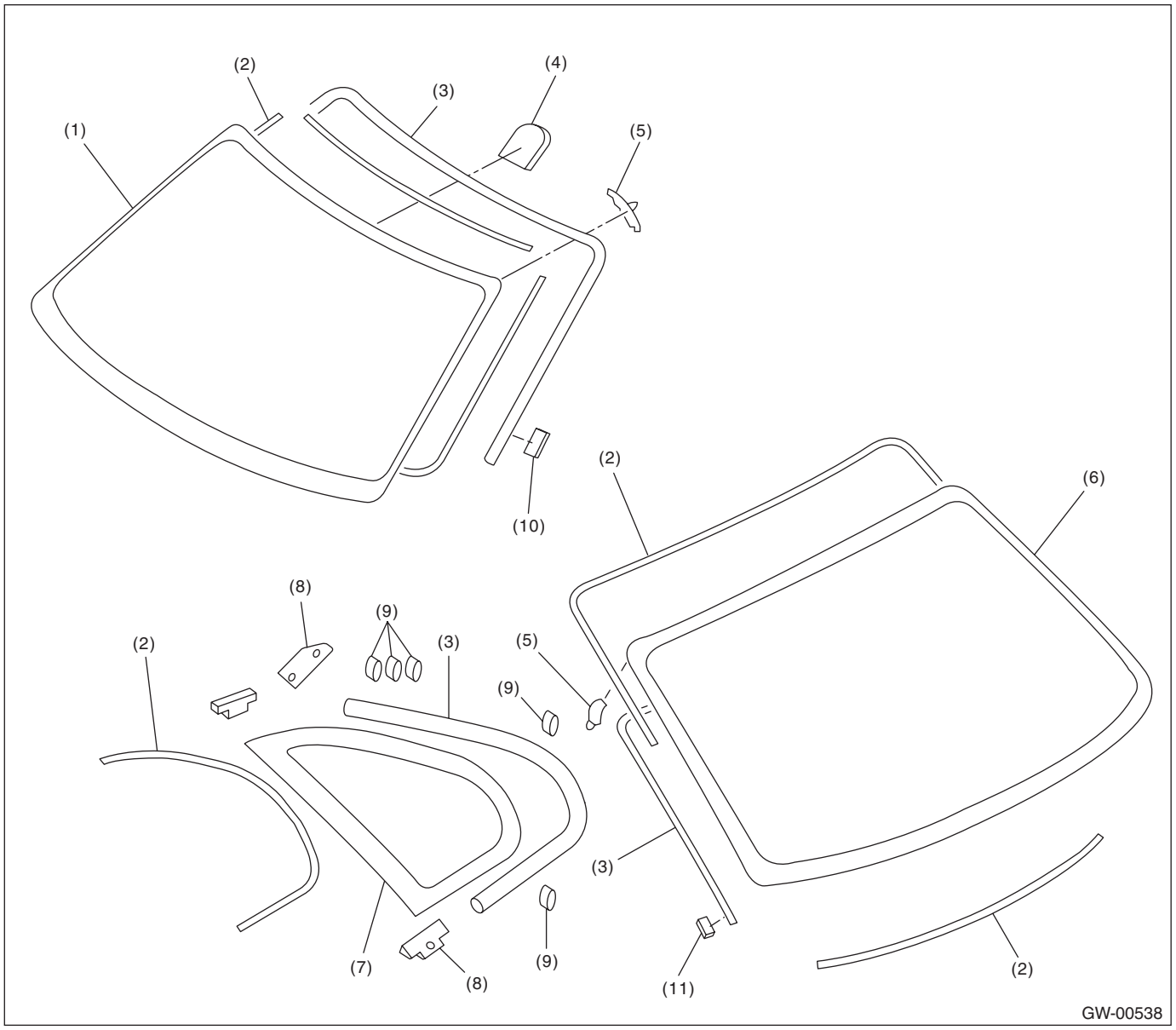
EB


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Front Hood | 13 |
| 3. | Front Fender | 15 |
| 4. | Front Door | 16 |
| 5. | Front Sealing Cover | 19 |
| 6. | Rear Door | 20 |
| 7. | Rear Sealing Cover | 23 |
| 8. | Trunk Lid | 24 |
| 9. | Rear Gate | 26 |

# 1. General Description

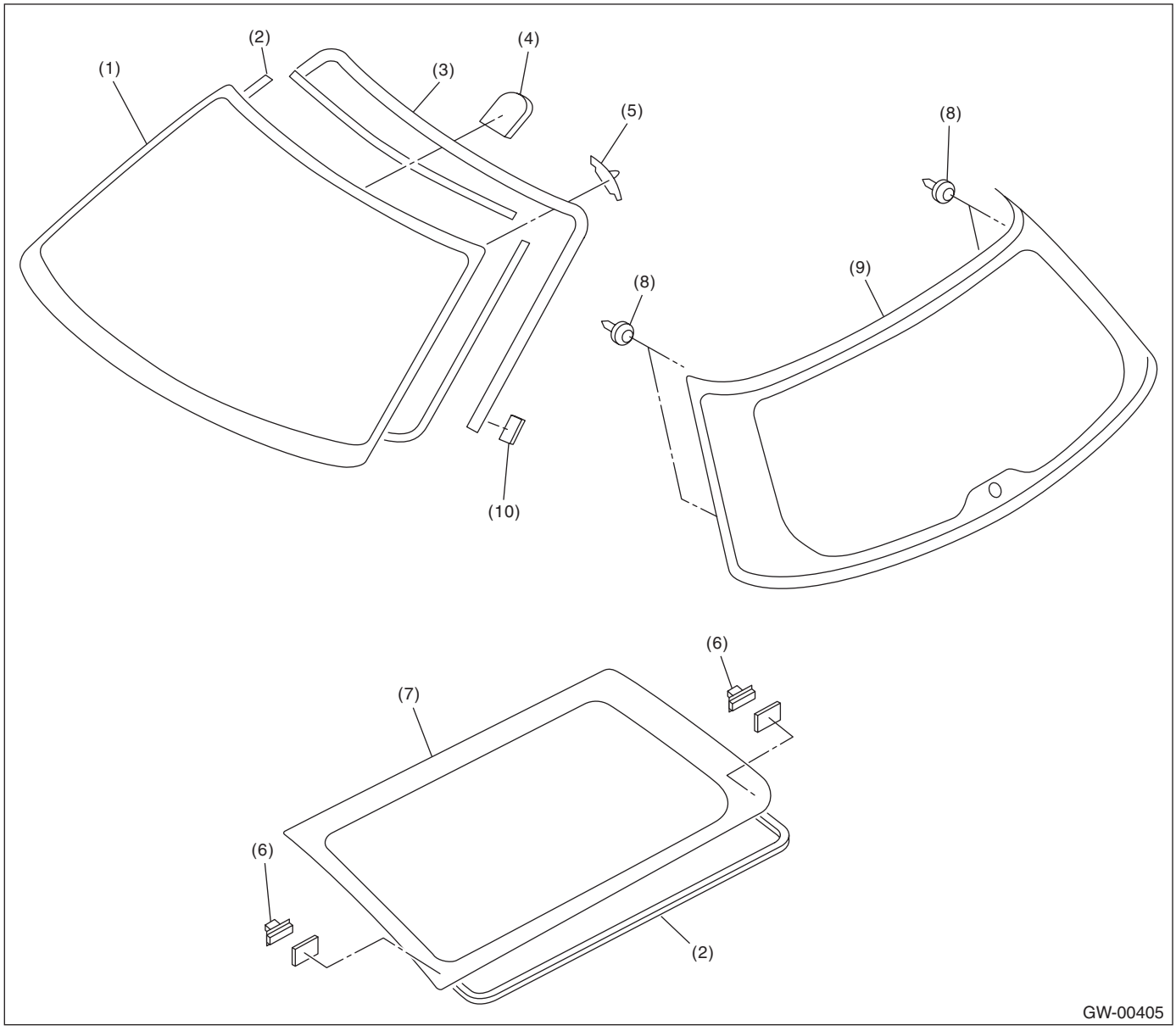
## A: COMPONENT

### 1. FIXED GLASS (SEDAN MODEL)



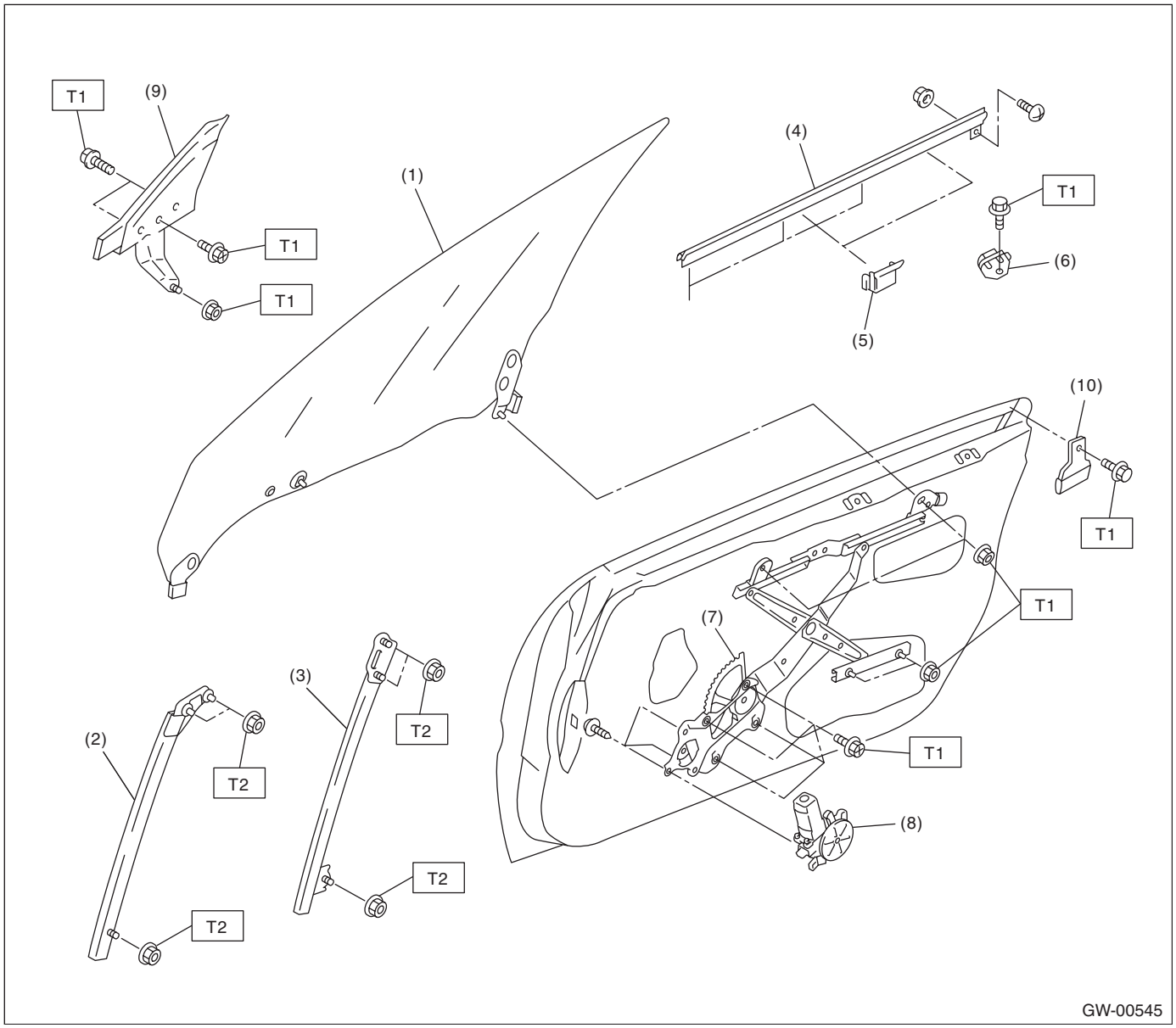

(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Locating pin
(6) Rear window glass
(7) Six light glass
(8) Bracket
(9) Clip
(10) Seal
(11) Spacer

## 2. FIXED GLASS (WAGON MODEL)




(1) Windshield glass
(2) Dam rubber
(3) Molding
(4) Rearview mirror mount
(5) Locating pin
(6) Fastener
(7) Rear quarter glass
(8) Locating pin
(9) Rear gate glass
(10) Seal

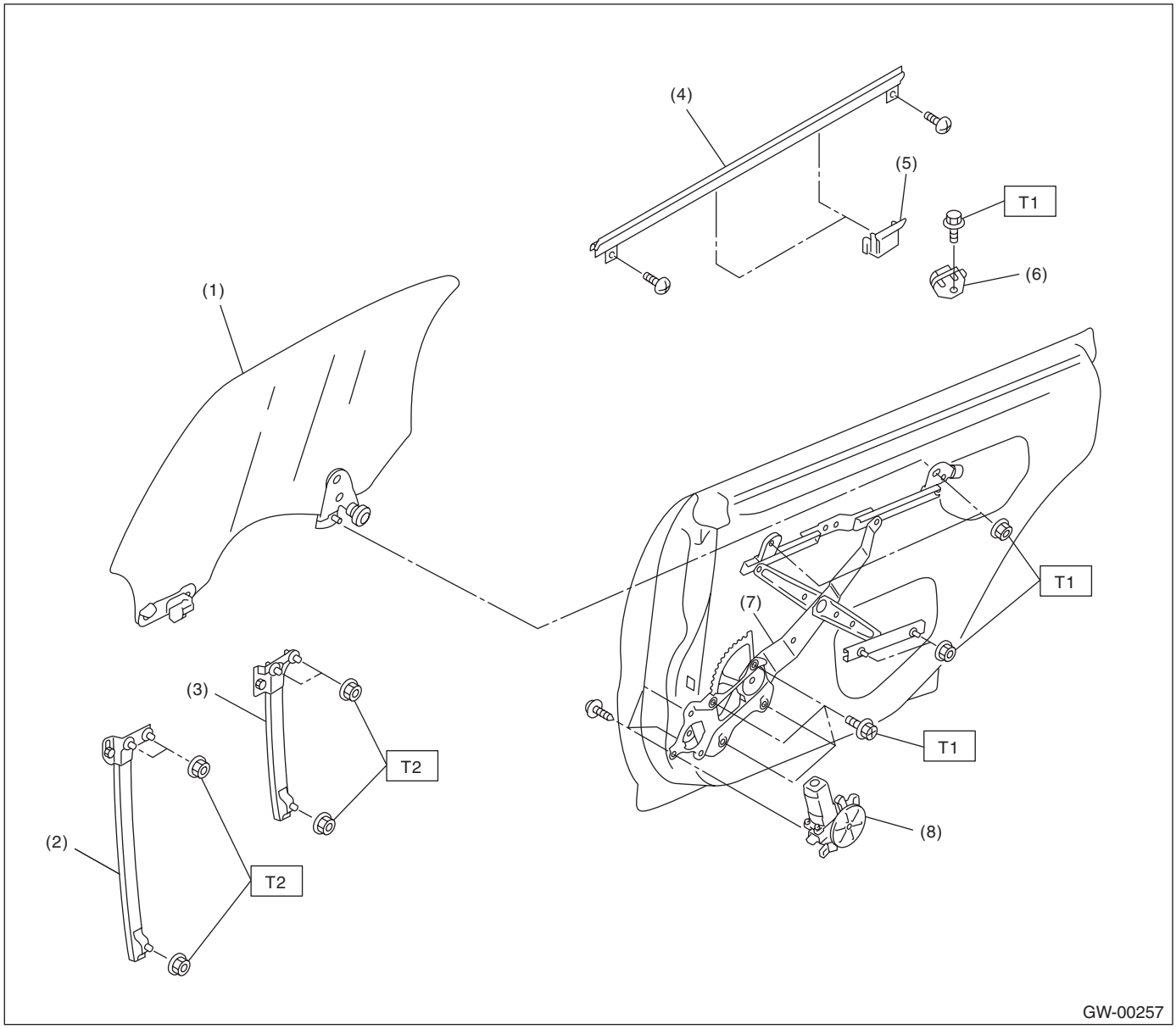
## 3. FRONT DOOR GLASS




(1) Glass
(2) Door sash (front)
(3) Door sash (rear)
(4) Weather strip
(5) Stabilizer (outer)
(6) Stabilizer (inner)
(7) Regulator ASSY
(8) Motor ASSY
(9) Mirror gusset
(10) Guide ASSY

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 7.4 (0.75, 5.5)***
***T2: 13.7 (1.4, 10.1)***

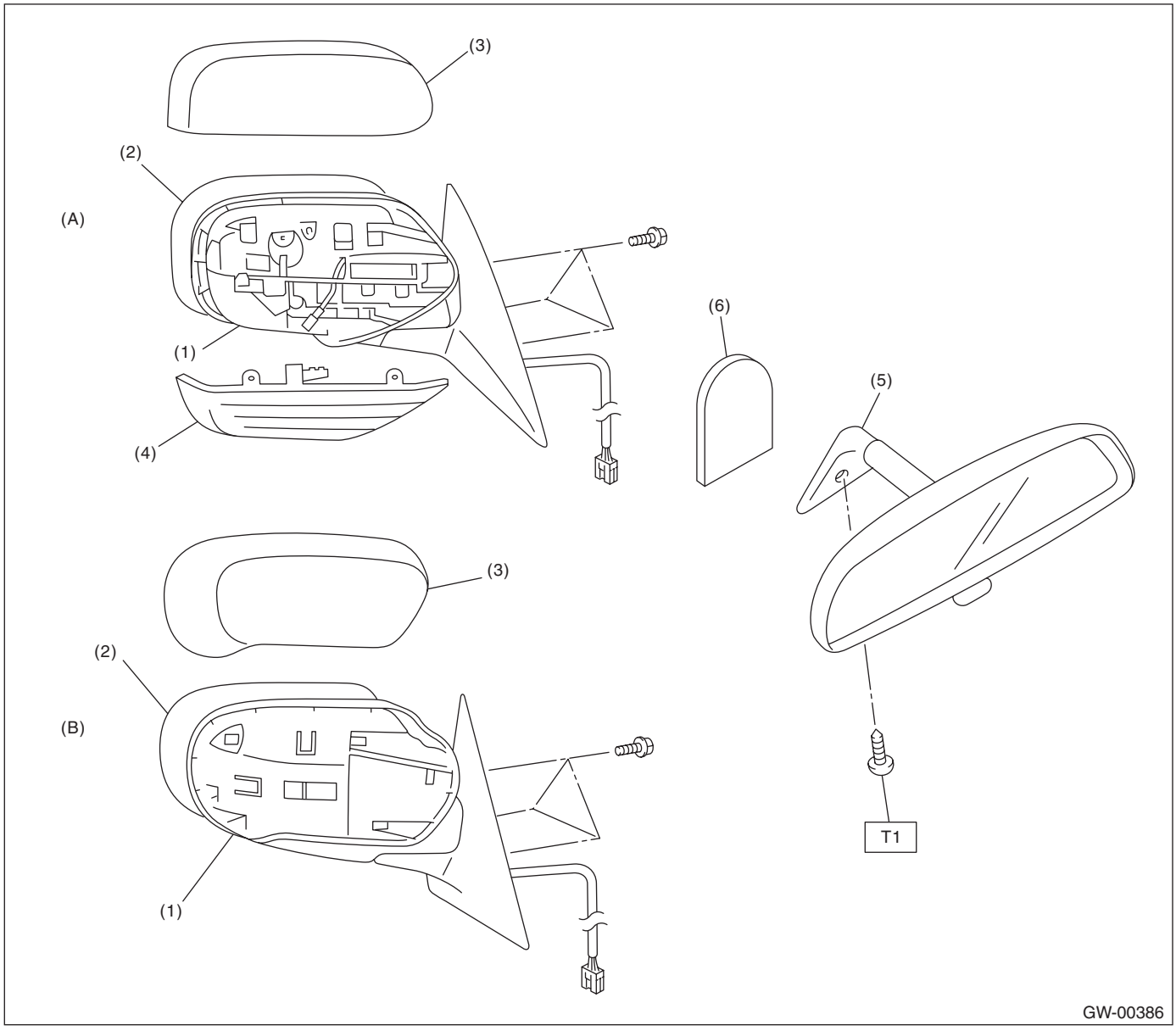
## 4. REAR DOOR GLASS




(1) Glass
(2) Door sash (front)
(3) Door sash (rear)
(4) Weather strip
(5) Stabilizer (outer)
(6) Stabilizer (inner)
(7) Regulator ASSY
(8) Motor ASSY

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 7.4 (0.75, 5.5)***
***T2: 13.7 (1.4, 10.1)***

## 5. MIRROR




(A) Model with side turn signal light
(B) Model without side turn signal light

(1) Outer mirror
(2) Mirror
(3) Scalp cap
(4) Side turn signal light
(5) Rearview mirror
(6) Mount

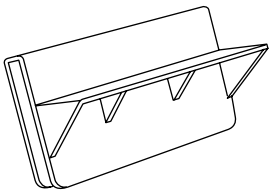
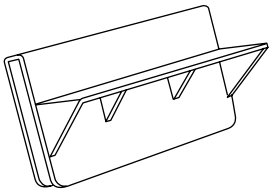
***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 1.9 (0.19, 1)***

## 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 |
|---|---|---|---|
|  ST61299AE000 | 61299AE000 | SPACER | Used for adjusting the upper end position of the front door glass. (Glass thickness: 5 mm (0.197 in)) |
|  ST61299AE010 | 61299AE010 | SPACER | Used for adjusting the upper end position of rear door glass. (Glass thickness: 4 mm (0.157 in)) |

## 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-157, Power Window System.>

## B: INSPECTION

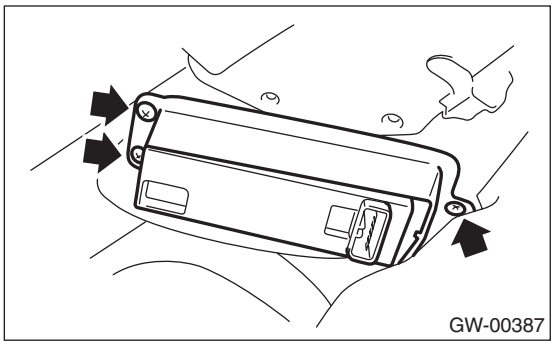
| Symptom | Repair order |
|---|---|
| All power windows do not operate. | 1. Fuse (SBF-4)<br>2. Power window circuit breaker<br>3. Power window relay<br>4. Wiring harness<br>5. Body integrated unit |
| Particular window does not operate. | 1. Power window main switch<br>2. Power window sub-switch<br>3. Power window motor<br>4. Wiring harness |
| “Window Lock” does not operate. | Power window main switch |

# 3. Power Window Control Switch

## A: REMOVAL

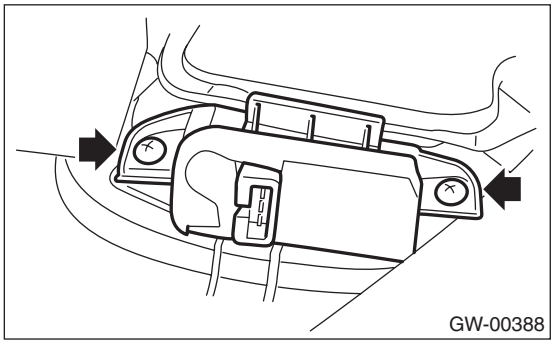
### 1. MAIN SWITCH

1) Disconnect the ground cable from the battery.
2) Remove the front door trim.
<Ref. to EI-47, REMOVAL, Door Trim.>
3) Disconnect the harness connector.
4) Remove the screws from the reverse side of the front door trim to remove the power window main switch.




### 2. SUB-SWITCH

1) Disconnect the ground cable from the battery.
2) Remove the door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Disconnect the connector.
4) Remove the screws from the reverse side of door trim to remove the power window sub-switch.



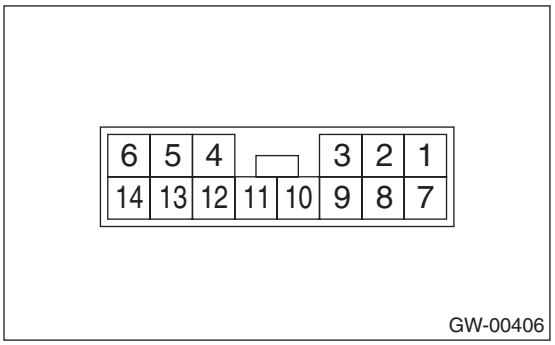

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

### 1. MAIN SWITCH

Measure the switch resistance.

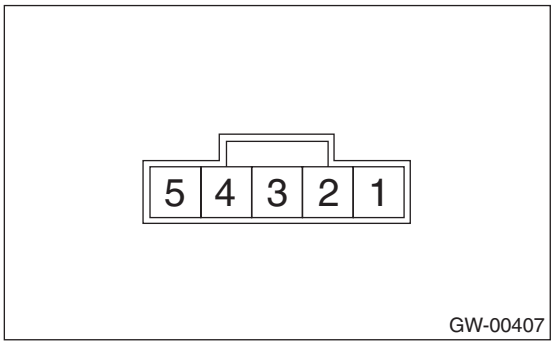



| | Switch position | Terminal No. | Standard |
|---|---|---|---|
| Driver's side | UP | 10 and 2<br>7 and 1 | Less than 1 Ω |
| | OFF | 2 and 7<br>1 and 2 | Less than 1 Ω |
| | DOWN | 10 and 1<br>7 and 2 | Less than 1 Ω |
| | AUTO DOWN | 10 and 1<br>7 and 2 | Less than 1 Ω |
| Passenger's side | UP | 10 and 14<br>7 and 11 | Less than 1 Ω |
| | OFF | 7 and 14<br>7 and 11 | Less than 1 Ω |
| | DOWN | 10 and 11<br>7 and 14 | Less than 1 Ω |
| Rear RH seat | UP | 10 and 13<br>7 and 12 | Less than 1 Ω |
| | OFF | 7 and 13<br>7 and 12 | Less than 1 Ω |
| | DOWN | 10 and 12<br>7 and 13 | Less than 1 Ω |
| Rear LH seat | UP | 10 and 8<br>7 and 9 | Less than 1 Ω |
| | OFF | 7 and 8<br>7 and 9 | Less than 1 Ω |
| | DOWN | 9 and 10<br>7 and 8 | Less than 1 Ω |

Replace the main switch if faulty.

## 2. SUB-SWITCH

Measure the switch resistance.



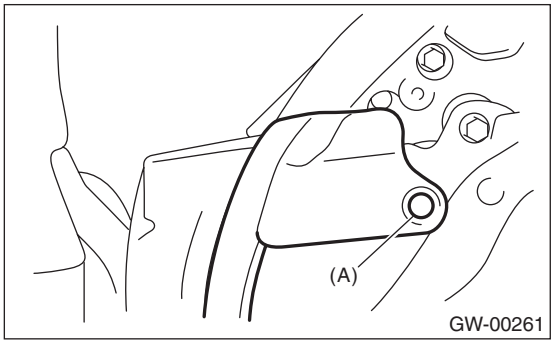

| | Switch position | Terminal No. | Standard |
|---|---|---|---|
| Passenger's side and rear seat | UP | 2 and 3<br>4 and 5 | Less than 1 Ω |
| | OFF | 1 and 2<br>4 and 5 | Less than 1 Ω |
| | DOWN | 1 and 2<br>3 and 4 | Less than 1 Ω |

Replace the sub-switch if faulty.

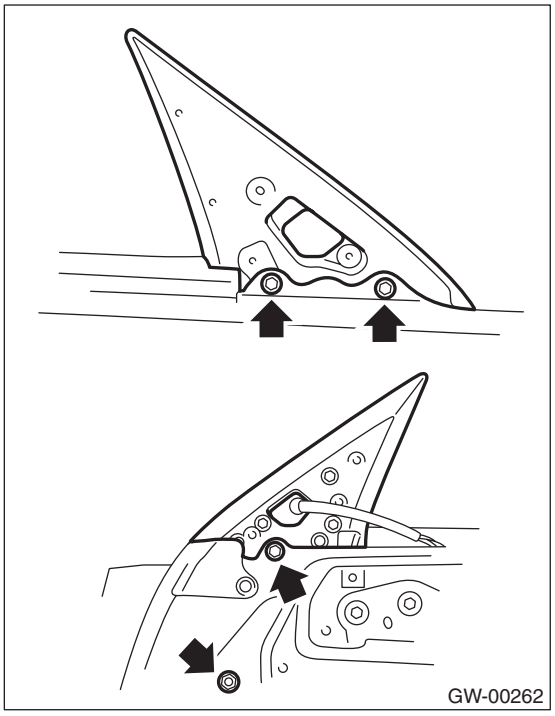
# 4. Front Door Glass

## A: REMOVAL

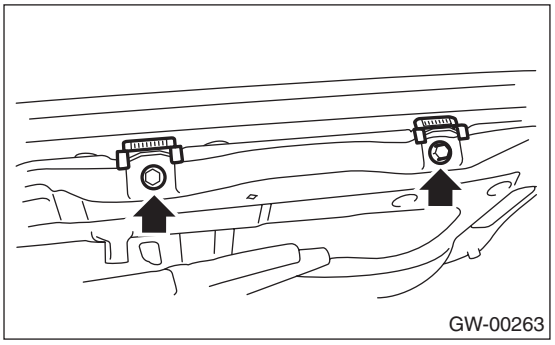
1) Remove the front door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-19, REMOVAL, Front Sealing Cover.>
3) Remove the outer mirror assembly. <Ref. to GW-19, REMOVAL, Outer Mirror Assembly.>
4) Remove clip (A), and remove the front end of the weather strip.



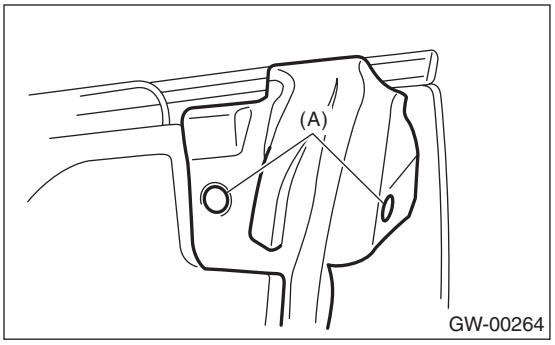

5) Remove the gusset.



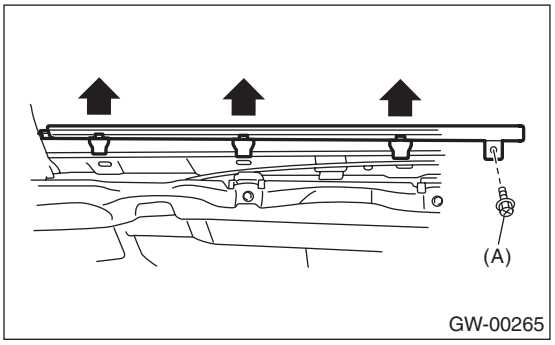

6) Remove the stabilizers.



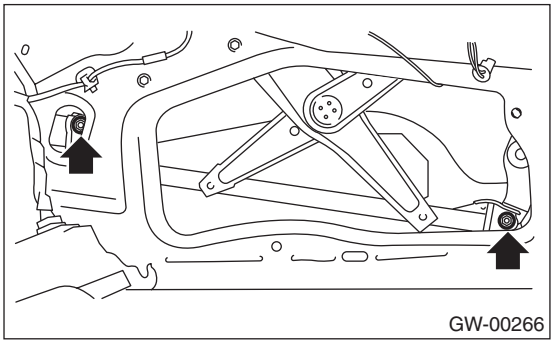

7) Remove clips (A), and remove the rear end of the weather strip.



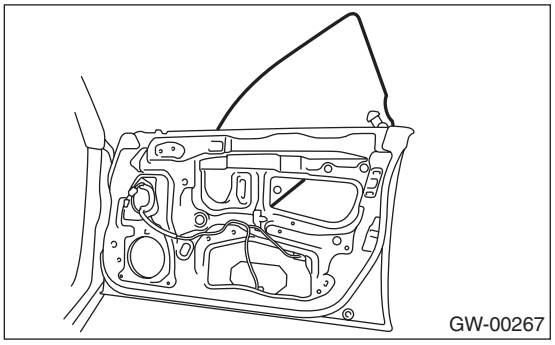

8) Remove screw (A) from the rear end of the weather strip outer, to remove the weather strip outer.




9) Remove the screws to remove the guide assembly.
10) Operate the power window switch to move the glass to the position shown in the figure, then remove the two nuts through the service holes.



11) 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.**

## B: INSTALLATION

1) Install in the reverse order of removal.

**CAUTION:**
**Make sure that the glass stay is placed securely in sash.**

2) Adjust the front door glass. <Ref. to GW-12, ADJUSTMENT, Front Door Glass.>

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to GW-4, FRONT DOOR GLASS, COMPONENT, General Description.>***

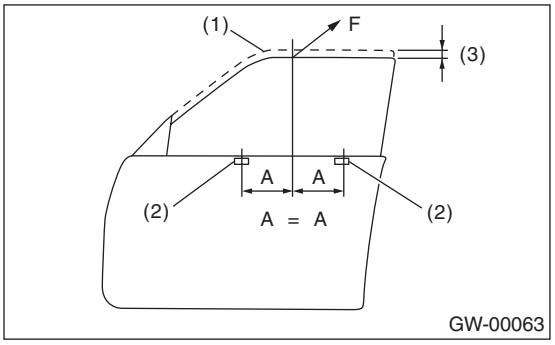
## C: ADJUSTMENT

NOTE:
Before adjustment, ensure that all adjusting bolts of stabilizer, upper stopper and sash are loose and door glass rises until it makes contact with the weather strip.

1) Temporarily tighten the adjusting bolt on one side of the rear sash, at the midpoint of the slotted hole in the inner panel.

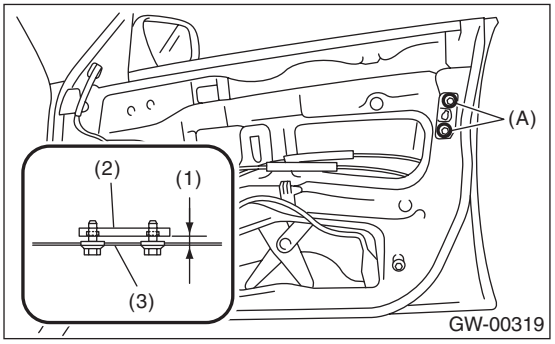
2) Temporarily tighten the regulator B channel at the top position of slotted hole.

3) Lower the door glass 10 — 15 mm (0.39 — 0.59 in) from fully closed position. While applying an outward pressure (F) of 45.0±5.0 N (4.5±0.5 kgf, 9.9±1.1 lb) to the upper edge of the glass above the midpoint of the two outer stabilizers, press the inner stabilizer to the glass at a pressure of 25±5 N (2.5±0.5 kgf, 5.5±1.1 lb) to secure it.

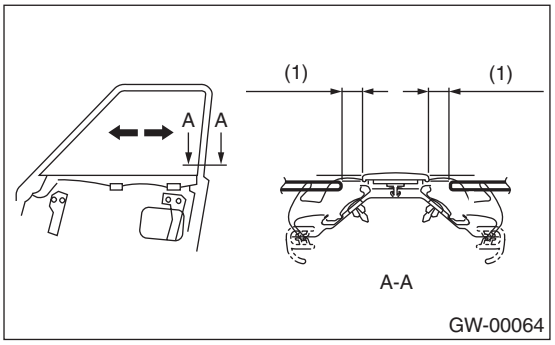



(1) Fully closed position
(2) Stabilizer
(3) 10 — 15 mm (0.39 — 0.59 in)

4) To adjust the clearance between front glass and center pillar cover, loosen nuts (A), and move the glass sash back and forth until the clearance becomes the value shown.

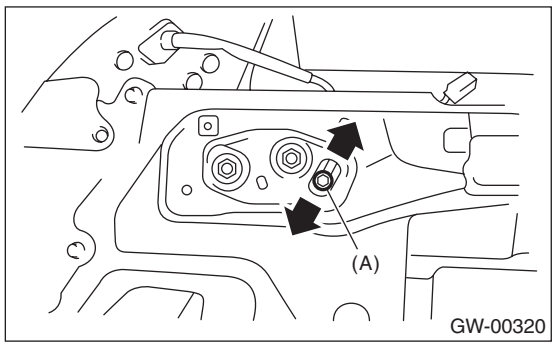


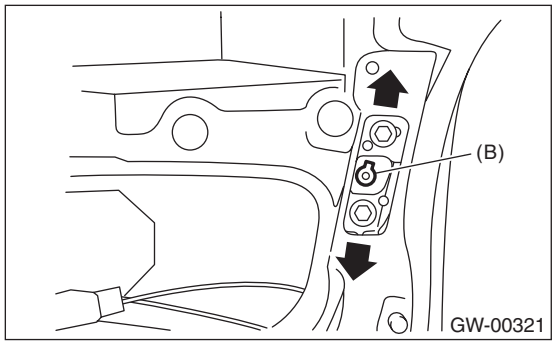

(1) Adjust the lines parallel
(2) Sash
(3) Inner panel



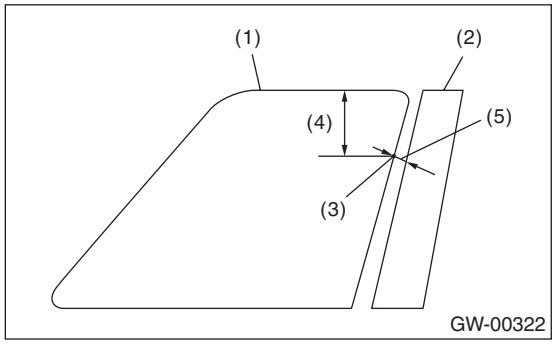

(1) 11 mm (0.433 in)

5) To adjust the upper end and lower end of the center pillar, loosen the stopper bolt (A) or nut (B) securing the door sash (front, rear), and move the stopper position until the clearance between center pillar cover is equal.



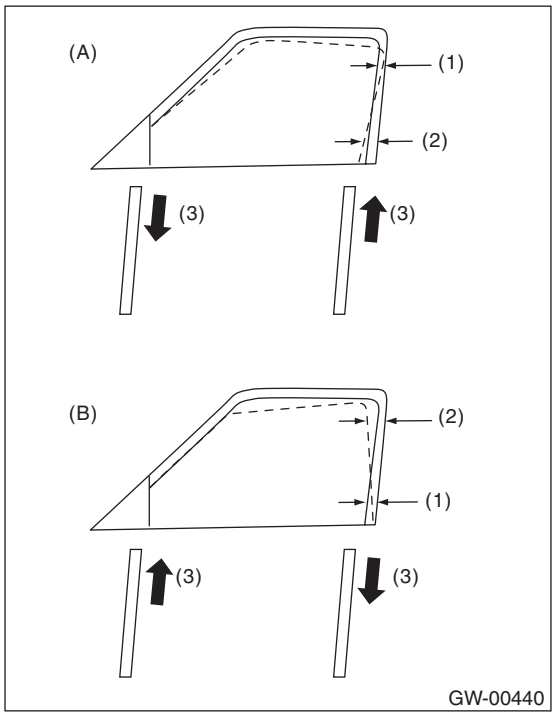




**CAUTION:**
**Measure the clearance between center pillar at 50 mm (1.969 in) from upper end of window glass.**



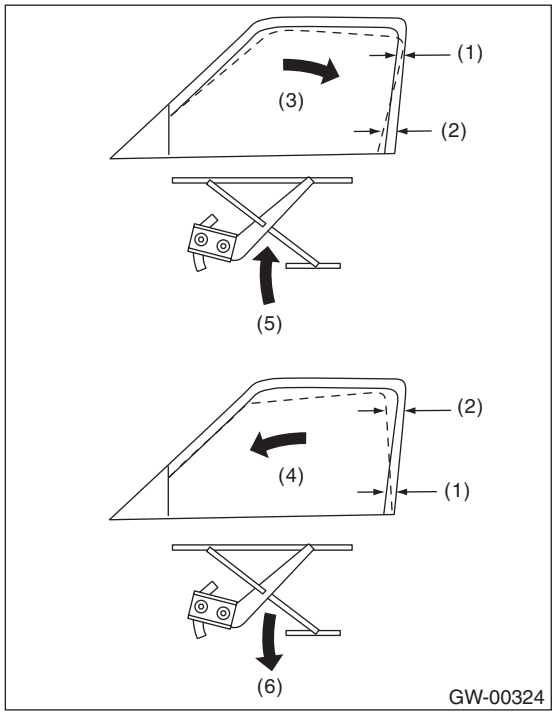

(1) Glass
(2) Center pillar cover
(3) Check point
(4) 50 mm (1.969 in)
(5) 11 mm (0.433 in)

6) Adjust so that the upper and lower ends of the center pillar are the same size.




(A) Glass tilts too far rearward
(B) Glass tilts too far forward
(1) Narrow
(2) Wide
(3) Stopper adjusting direction

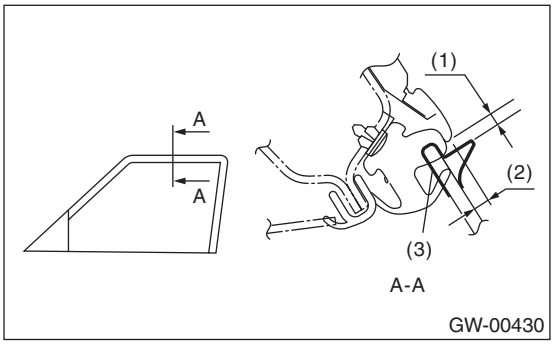
7) After adjusting the clearance between the center pillar, raise and lower the glass several times to check glass contact to the stopper when the glass is fully closed. Adjust the centerpillar clearance to contact the front and rear stopper simulaneously.




(1) Narrow
(2) Wide
(3) When the stopper of the door sash (front) contacts first
(4) When the stopper of the door sash (rear) contacts first
(5) Raise B channel
(6) Lower B channel

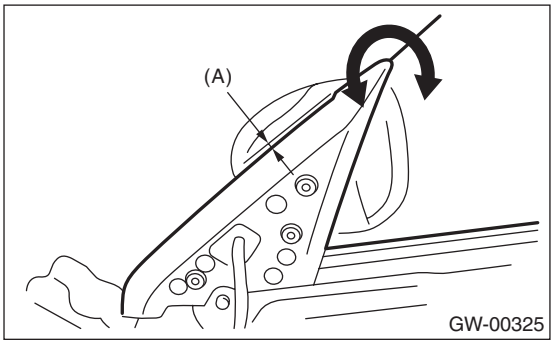
8) For glass stroke adjustment, attach special tool to the glass, close door, and raise the glass to the top edge using regulator until positional relationship between glass and weather strip becomes as shown. And secure the glass so that the upper stopper touches the glass holder without fail.

ST 61299AE000 SPACER (glass thickness: 5 mm (0.197 in) for front door glass)




(1) 3.2 — 4.8 mm (0.126 — 0.189 in)
(2) When re-using weather strip: 5.5 mm (0.217 in)
When replacing the weather strip: 3 mm (0.118 in)
(3) ST

For preventing wind noise, adjust the glass at the position where the tip of the gusset is raised up slightly.



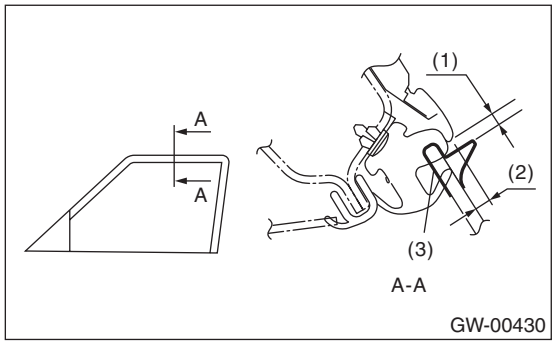

(A) 0 — 1.5 mm (0 — 0.059 in)

9) After stabilizer adjustment, carry out glass cohesion adjustment. First, visually ensure the positional relationship between the retainer & molding and the glass of the roof side, then start the rear sash adjustment. Attach the ST to the glass and adjust two adjusting bolts alternately step by step, to obtain dimensions shown below (cross-section A).

NOTE:
If two nuts are loosened at the same time, the sash moves back and forth. Therefore, when one nut is adjusted, secure the other.

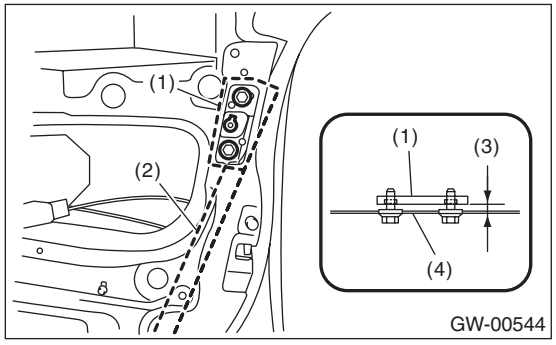
10) Make the same adjustment of two adjusting bolts of rear sash.

ST 61299AE000 SPACER (glass thickness: 5 mm (0.197 in) for front door glass)




(1) 3.2 — 4.8 mm (0.126 — 0.189 in)
(2) When re-using weather strip: 5.5 mm (0.217 in)
When replacing the weather strip: 3 mm (0.118 in)
(3) ST

NOTE:
Do not tilt the sash bracket to inner panel during adjustment. If tilting, the regulator does not operate smoothly.




(1) Sash bracket
(2) Rear sash
(3) Adjust the lines parallel
(4) Inner panel

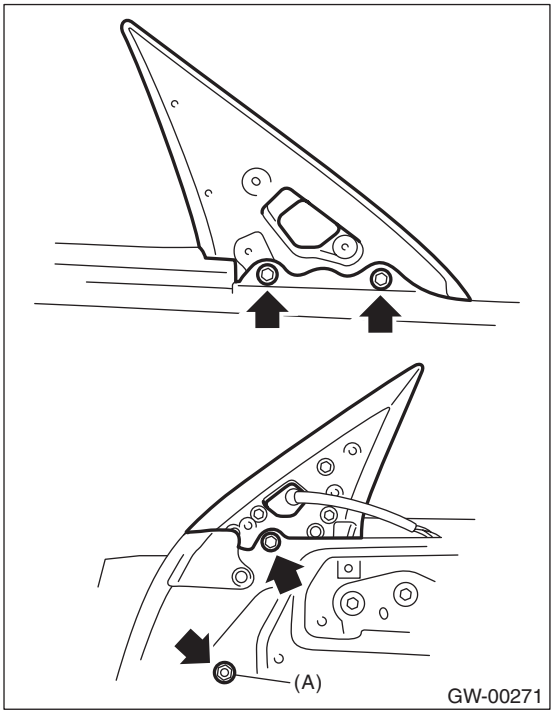
11) Make adjustment of front sash in the same manner as that of rear sash.

NOTE:
Although front and rear sashes must, as a rule, be adjusted in the same manner, in some door installation, the adjustment in a different manner may be required. However, adjustment of one sash to the maximum amount and the other to the minimum amount is not permitted. Such adjustment may result in applying excessive load against regulator.

12) After adjustments, tighten the nuts.

13) After adjustment of the glass, close the door. If there is a gap between outer lip of gusset and glass surface, adjust the gap by adjusting bolt (A) at the attachment hardware at the lower side of the gusset to prevent generation of wind noise.

14) During adjustment, loosen the other three clamping bolts.

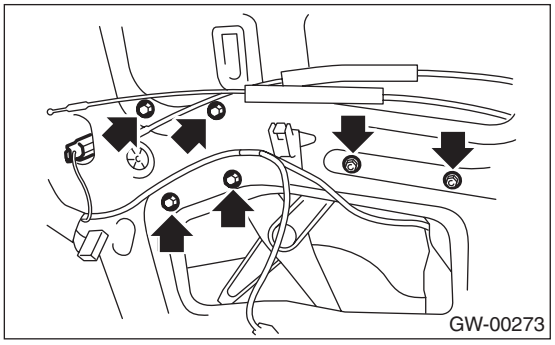



15) After adjustment, tighten the bolts and nuts.

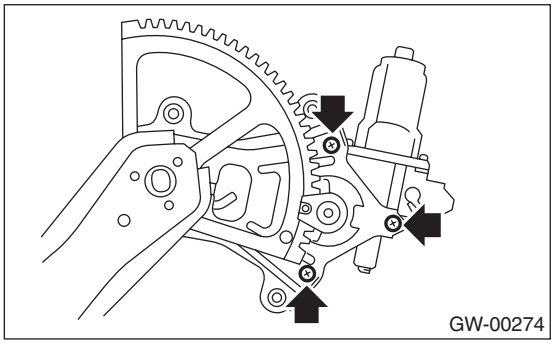
# 5. Front Regulator and Motor Assembly

## A: REMOVAL

1) Remove the door glass. <Ref. to GW-11, 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

1) Install in the reverse order of removal.
2) Adjust the front door glass. <Ref. to GW-12, ADJUSTMENT, Front Door Glass.>

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to GW-4, 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-161, Remote Control Mirror System.>

## B: INSPECTION

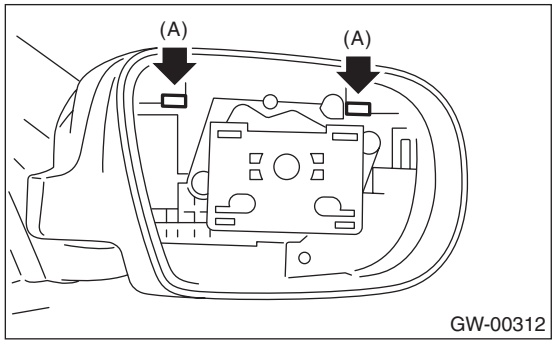
| Symptom | Repair order |
|---|---|
| All function does not operate. | 1. Fuse (F/B No. 6)<br>2. Mirror switch<br>3. Wiring harness |
| One side of the mirror motor does not operate. | 1. Mirror switch<br>2. Mirror motor<br>3. Wiring harness |
| Mirror heater does not operate. | 1. Mirror switch<br>2. Mirror heater<br>3. Wiring harness |

# 7. Scalp Cap

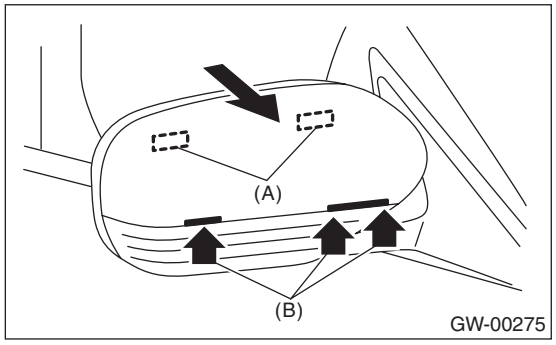
## A: REPLACEMENT

### 1. MODEL WITH SIDE TURN SIGNAL LIGHT

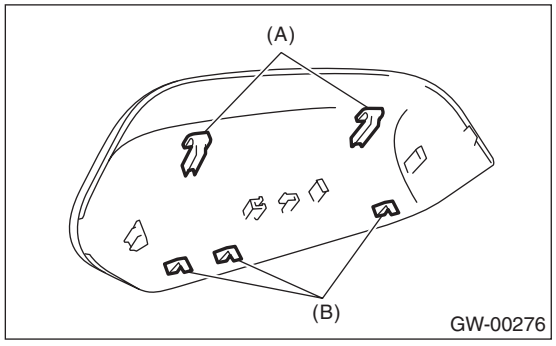
1) Remove the mirror. <Ref. to GW-20, REPLACEMENT, Outer Mirror.>
2) Press-in the upper side clips (A) from inside of outer mirror.




3) Pull the scalp cap frontward of outer mirror, remove the upper side clips (A) and lower side hooks (B), and then remove the scalp cap.




4) Insert the lower hooks (B) of scalp cap to the outer mirror and push the upper clips (A) in.

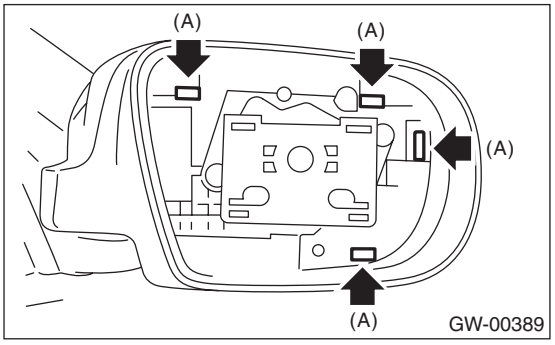



5) Install the scalp cap securely.

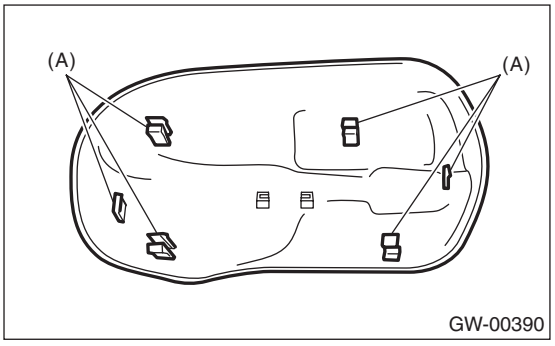
**CAUTION:**
**Do not remove the scalp cap forcibly. The lower hooks may be damaged.**

### 2. MODEL WITHOUT SIDE TURN SIGNAL LIGHT

1) Remove the mirror. <Ref. to GW-20, REPLACEMENT, Outer Mirror.>
2) Press-in the clips (A) from inside of outer mirror.




3) Pull the scalp cap towards the front of the outer mirror, then remove the scalp cap.
4) Align clip (A) on the reverse side of the scalp cap and the clip attachment hole of the outer mirror, and push the scalp cap in.

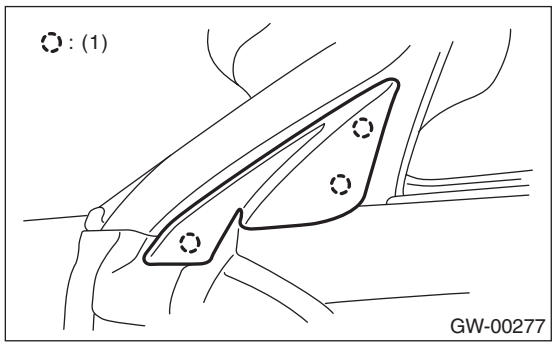



5) Install the scalp cap securely.

# 8. Outer Mirror Assembly

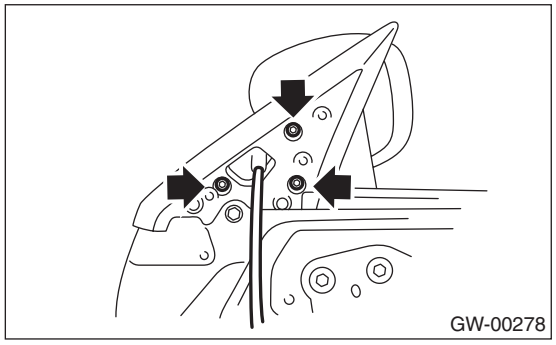
## A: REMOVAL

1) Remove the mirror gusset cover.




(1) Hook

2) Remove the door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Disconnect the outer mirror connector.
4) Remove the screws to remove outer mirror assembly.



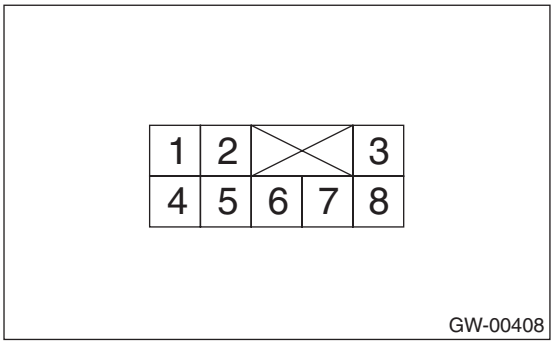

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

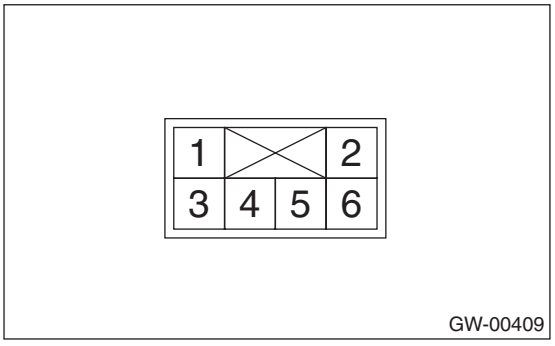
Check that the rearview mirror moves properly when the battery voltage is applied to terminals.

- Model with side turn signal light




| Switch position | Terminal No. |
|---|---|
| OFF | — |
| UP | 6 (+) and 3 (–) |
| DOWN | 3 (+) and 6 (–) |
| LEFT | 7 (+) and 3 (–) |
| RIGHT | 3 (+) and 7 (–) |

- Model without side turn signal light



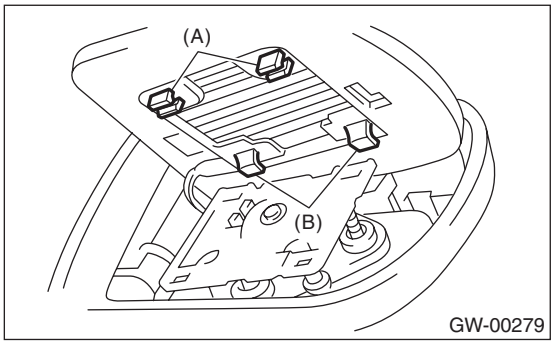

| Switch position | Terminal No. |
|---|---|
| OFF | — |
| UP | 4 (+) and 2 (–) |
| DOWN | 2 (+) and 4 (–) |
| LEFT | 5 (+) and 2 (–) |
| RIGHT | 2 (+) and 5 (–) |

Replace the outer mirror assembly if defective.

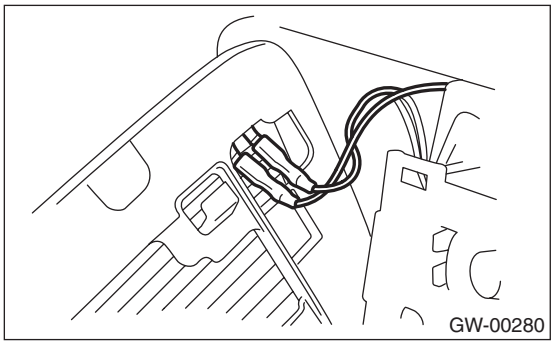
# 9. Outer Mirror

## A: REPLACEMENT

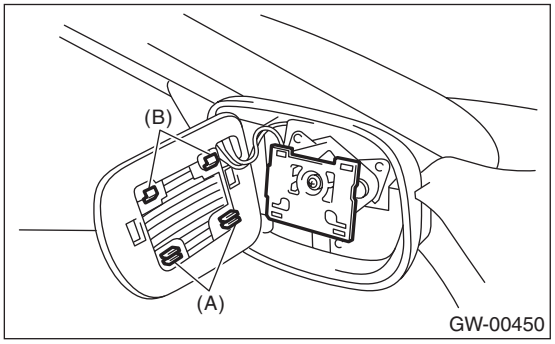
1) Face the mirror upward.
2) Use a flat tip screwdriver to remove clip (A).
3) Lift the lower mirror up to remove hooks (B).




4) Disconnect the mirror heater connector from side of the mirror. (Model with mirror heater)




5) Catch the hooks (B) and install clips (A).

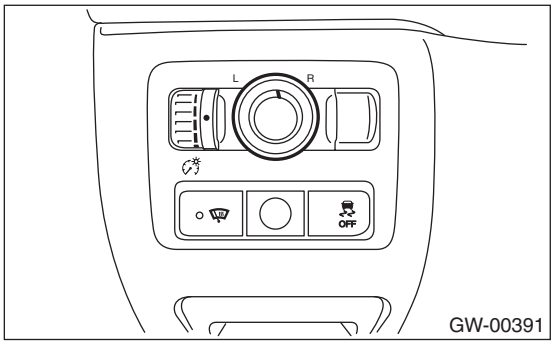



**CAUTION:**
**• When removing the mirror, be careful not to damage the back surface of mirror with a flat tip screwdriver.**
**• When installing the mirror, insert the hook and clip securely.**

# 10.Remote Control Mirror Switch

## A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the connector.




3) Remove the remote control mirror switch from instrument panel lower cover.

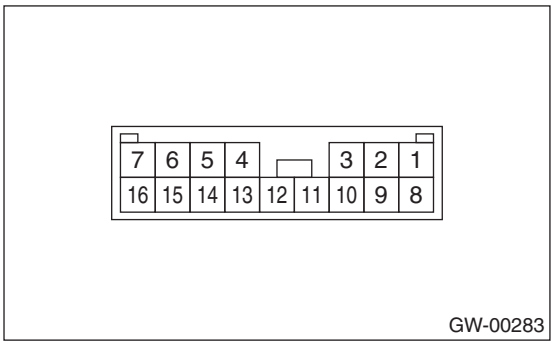
## B: INSTALLATION

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<br>15 and 14 | Less than 1 Ω |
| DOWN | 10 and 15<br>12 and 14 | Less than 1 Ω |
| LEFT | 10 and 11<br>15 and 14 | Less than 1 Ω |
| RIGHT | 10 and 15<br>11 and 14 | Less than 1 Ω |

- Change over switch L

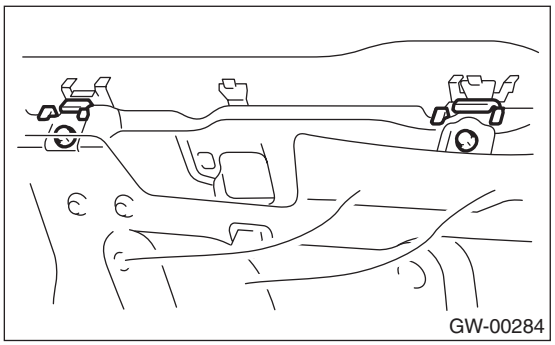
| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | 1 MΩ or more |
| UP | 10 and 8<br>15 and 14 | Less than 1 Ω |
| DOWN | 10 and 15<br>8 and 14 | Less than 1 Ω |
| LEFT | 10 and 9<br>15 and 14 | Less than 1 Ω |
| RIGHT | 10 and 15<br>9 and 14 | Less than 1 Ω |

Replace the remote control mirror switch if defective.

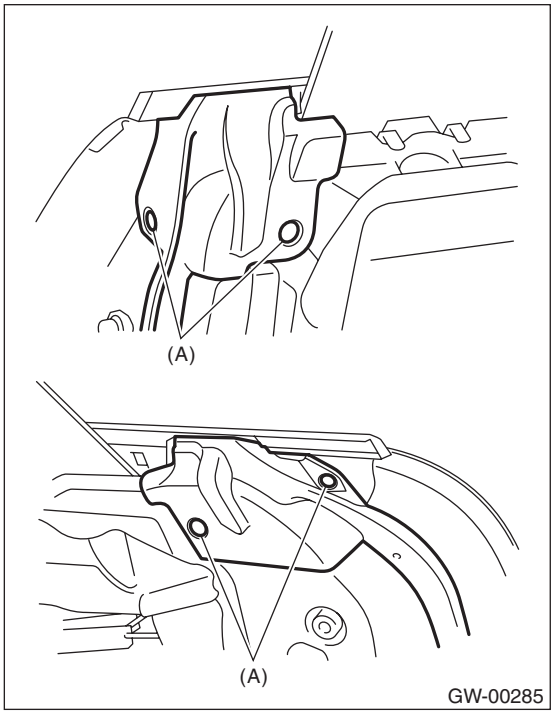
# 11.Rear Door Glass

## A: REMOVAL

1) Remove the rear door trim.
<Ref. to EI-47, REMOVAL, Door Trim.>
2) Remove the sealing cover. <Ref. to EB-23, REMOVAL, Rear Sealing Cover.>
3) Remove the stabilizers.

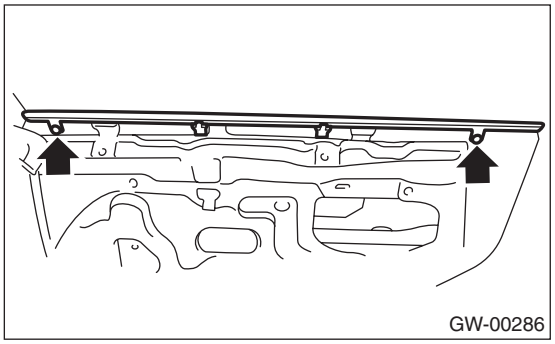

GW-00284

4) Remove clips (A), and remove the front end and rear end of the weather strip.

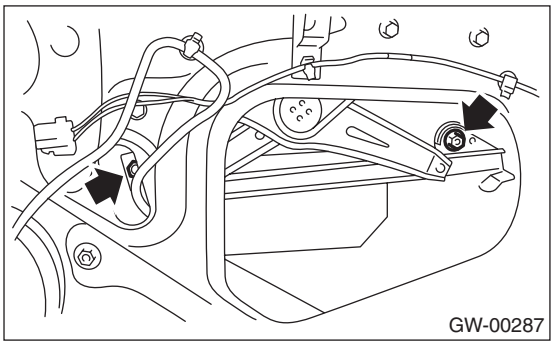


GW-00285

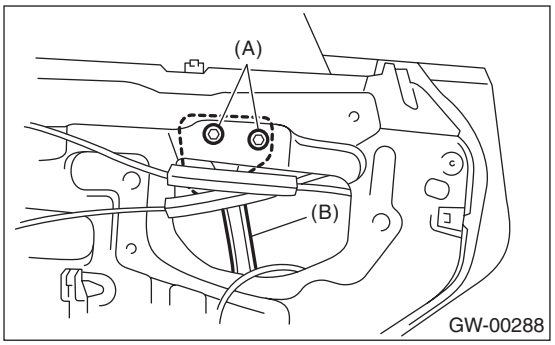
5) Remove the two screws to remove the weather strip outer.


GW-00286

6) Operate the power window switch to move the glass to the position shown in the figure, then remove the two nuts through the service holes.


GW-00287

7) Remove the rear sash retaining nuts (A) and move the rear sash (B) rearward.



GW-00288

8) 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.**

## B: INSTALLATION

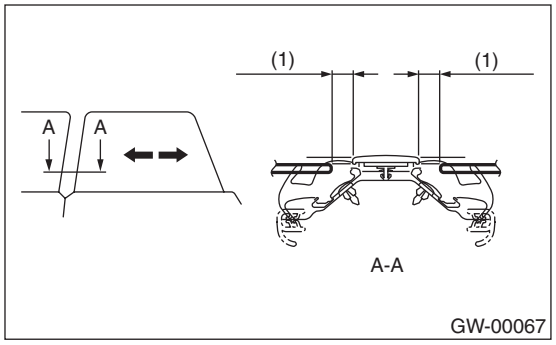
1) Install in the reverse order of removal.

**CAUTION:**
**Make sure that the glass stay is placed securely in sash.**
2) Adjust the rear door glass. <Ref. to GW-23, ADJUSTMENT, Rear Door Glass.>

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to GW-5, REAR DOOR GLASS, COMPONENT, General Description.>***

## C: ADJUSTMENT

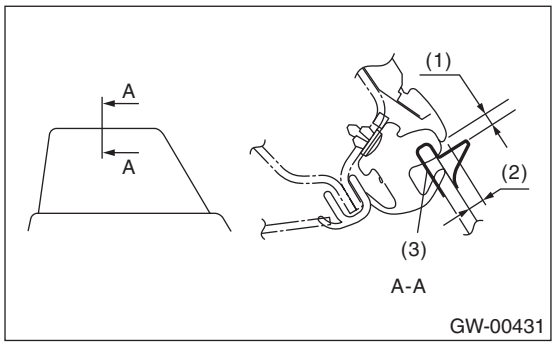
NOTE:
The rear door glass, as a rule, should be adjusted in the same manner as the front door glass, although they are different in dimension. <Ref. to GW-12, ADJUSTMENT, Front Door Glass.>
1) Adjust the glass position using the dimensions in the figure as a guide.




(1) 11 mm (0.433 in)

NOTE:
• If dimensions are smaller than the given dimensions, glass may get caught in weather strip during lifting/lowering operation and may not be fully open.
• After adjustment, move the glass up and down to check whether it is caught.

2) Attach the special tool to the glass, and adjust the glass adhesion until the dimensional value becomes as shown below.
ST 61299AE010 SPACER (glass thickness: 4 mm (0.157 in) for rear door glass)



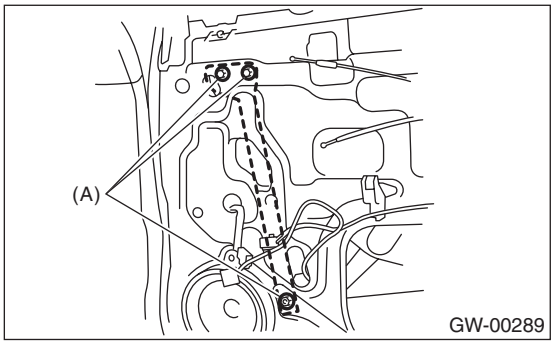

(1) 3.2 — 4.8 mm (0.126 — 0.189 in)
(2) When re-using weather strip: 5.5 mm (0.217 in)
When replacing the weather strip: 5.0 mm (0.179 in)
(3) ST

NOTE:
• If rear glass adhesion is higher than necessary, glass may get caught in weather strip of center pillar corner, resulting in early wear of weather strip. Be careful when adjusting.
• After adjustment, move the glass up and down to check whether it is caught.

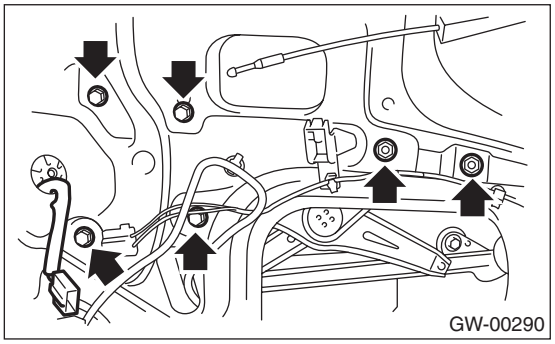
# 12.Rear Regulator and Motor Assembly

## A: REMOVAL

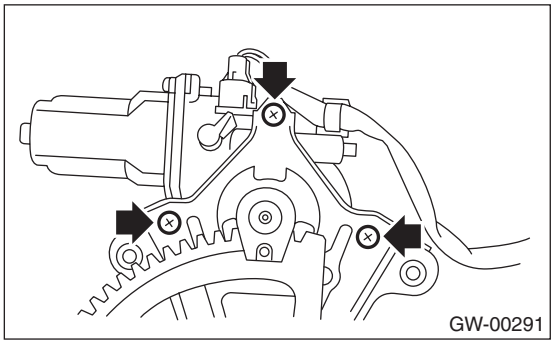
1) Remove the rear door glass. <Ref. to GW-22, REMOVAL, Rear Door Glass.>
2) Remove the nut (A) to remove the front sash.




3) Disconnect the motor connector.
4) Remove the four bolts and two nuts to remove regulator assembly.




5) Remove the screws to remove motor assembly.




## B: INSTALLATION

1) Install in the reverse order of removal.
2) Adjust the rear door glass. <Ref. to GW-23, ADJUSTMENT, Rear Door Glass.>

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to GW-5, 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.

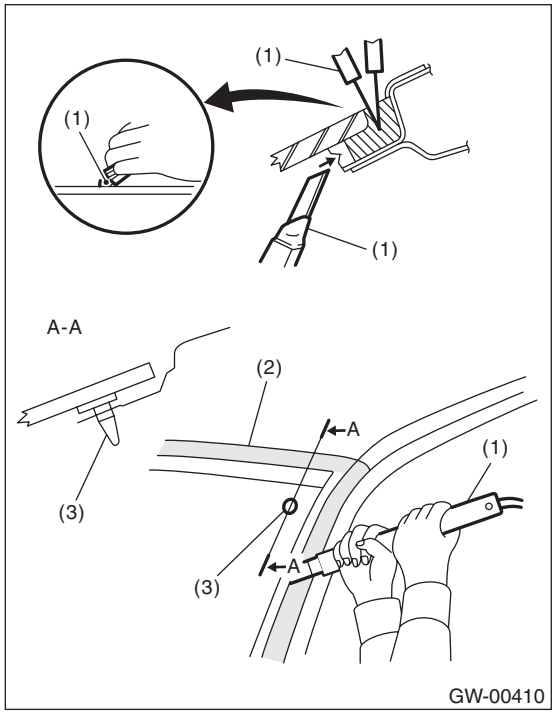
# 13.Windshield Glass

## A: REMOVAL

### 1. USING WINDSHIELD GLASS KNIFE

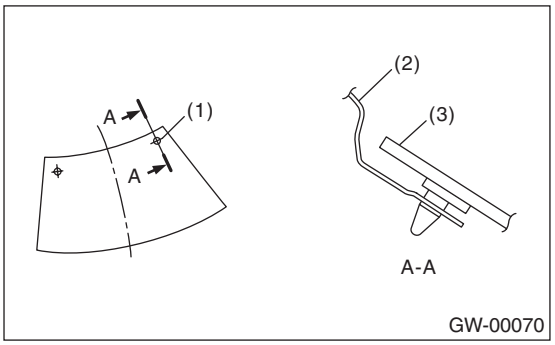
1) Remove the cowl panel.
<Ref. to EI-39, REMOVAL, Cowl Panel.>
2) Remove the molding.
3) Tape the body side of the circumference of windshield glass for protection.
4) Apply sufficient amount of soapy water to the adhesive part.
5) Insert the windshield glass knife into the adhesive.
6) While holding 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

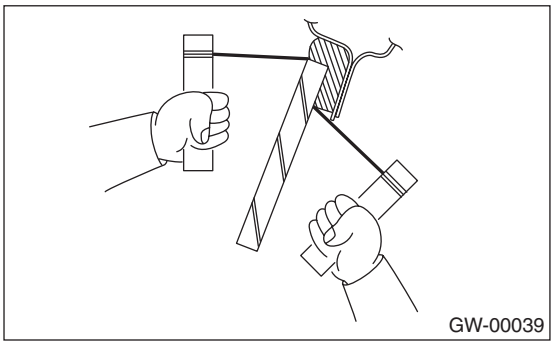
• The locating pins are bonded to the corners of glass. Use piano wire to disconnect the pins.




(1) Locating pin
(2) Body panel
(3) Windshield glass

### 2. USING PIANO WIRE

1) Remove the cowl panel.
<Ref. to EI-39, REMOVAL, Cowl Panel.>
2) Remove the molding.
3) Tape the body side of the circumference of windshield glass for protection.
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.

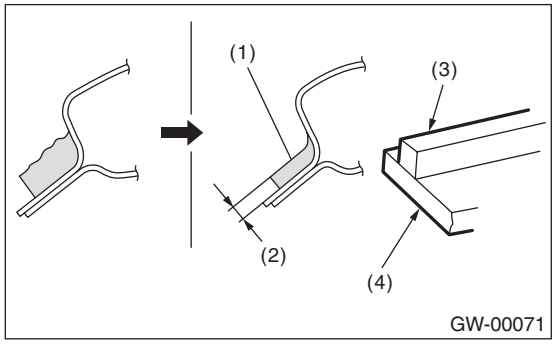
**CAUTION:**
**• Do not tightly pull the piano wire against the windshield glass edge.**
**• Be careful not to damage interior and exterior parts.**
**• When removal is made with area close to instrument panel, place a protection plate over it. Pay particular attention to the removal.**
**• Do not cross piano wires. Otherwise they may be cut.**

## B: INSTALLATION

1) Clean the external circumference of windshield glass with alcohol or white gasoline.

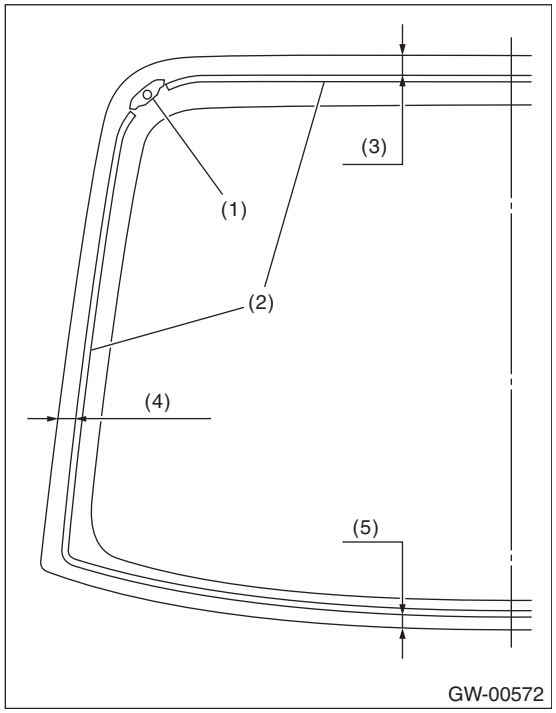
2) Remove the adhesive layer on the body using cutter knife to obtain smooth face of 2 mm (0.08 in) thick.

**CAUTION:**
**Be careful not to damage the body and paint surface.**



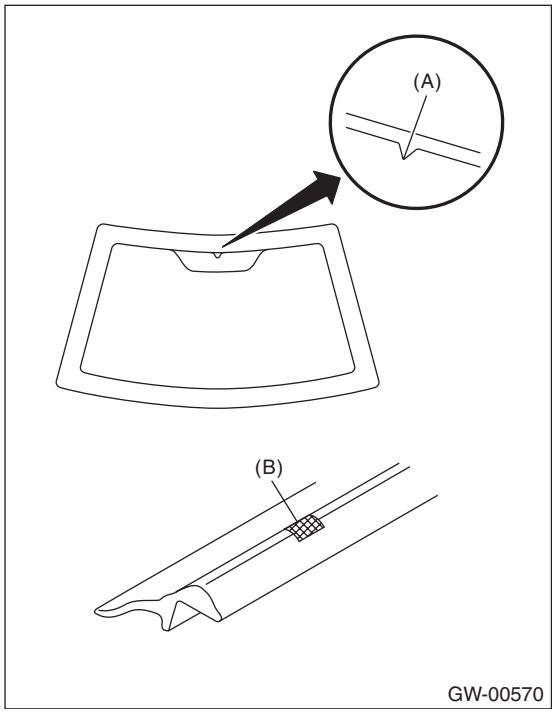

(1) Adhesive
(2) 2 mm (0.08 in)
(3) Dam rubber
(4) Glass

3) Clean the body with alcohol or white gasoline to eliminate cutting powder, dust and dirt completely from body.
4) Install the dam rubber.




(1) Locating pin (adhered)
(2) Dam rubber
(3) 11 mm (0.433 in)
(4) 11 mm (0.433 in)
(5) 9 mm (0.354 in)

5) Fit the mark (B) on molding to the notch (A) of glass side, and install the molding to entire perimeter of glass.



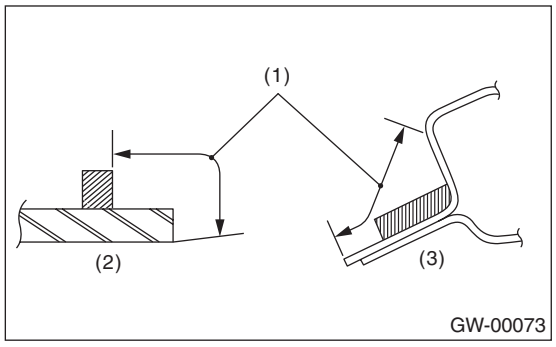

6) Apply two types of primers to the adhesive layer of glass using sponge.

***Glass primer:***
***Dow Automotive***
***ESSEX U-401, U-402***

7) Apply the primer to the adhesive layer of body.

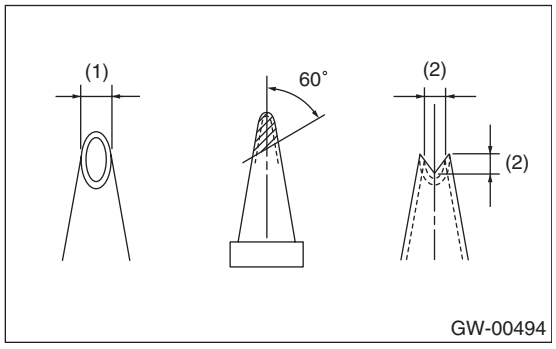
***Painted surface primer:***
***Dow Automotive***
***ESSEX U-413***

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

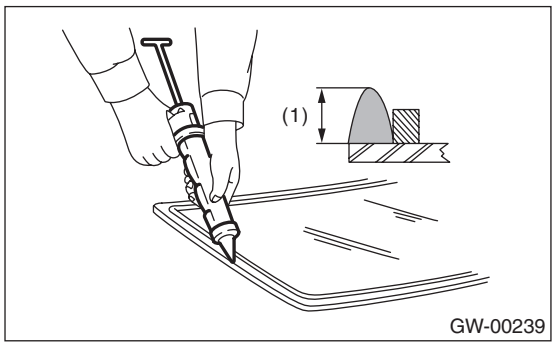
8) Cut off the cartridge nozzle tip as shown and set it in sealant gun.




(1) 10 mm (0.39 in)
(2) 15 mm (0.59 in)

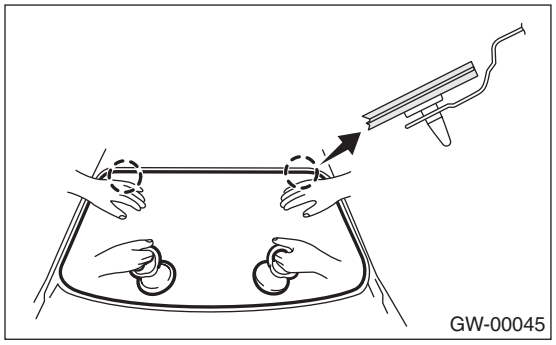
9) Apply adhesive to the glass end surface as shown.

***Adhesive:***
***Dow Automotive***
***ESSEX U-400HV or equivalent***




(1) 9 — 12 mm (0.35 — 0.47 in)

10) Fit the locating pins, and install windshield glass using suction rubber cup.




11) Lightly press the windshield glass for tight fit.
12) Make flush the adhesive surface jutted out using spatula.
13) 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.
14) After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

NOTE:
When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.
15) Install the cowl panel.
<Ref. to EI-39, INSTALLATION, Cowl Panel.>

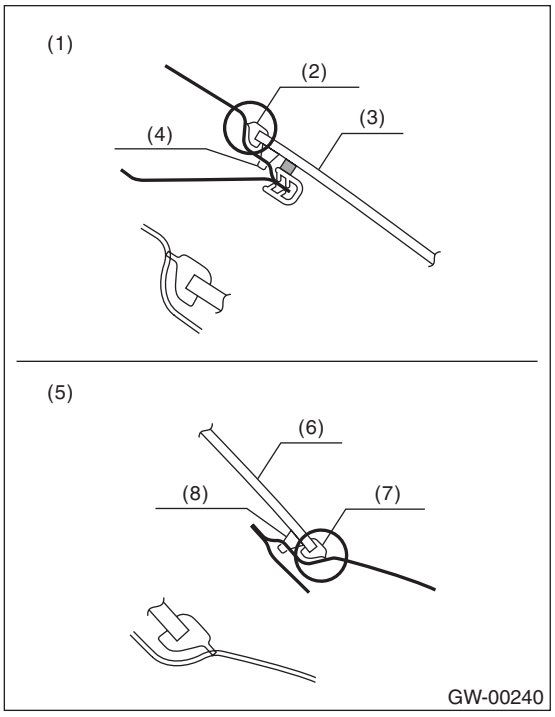
# 14.Rear Gate Glass

## A: REMOVAL

1) Remove the rear wiper motor.
<Ref. to WW-16, 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-25, REMOVAL, Windshield Glass.>

## B: INSTALLATION

1) Apply adhesive in the same procedure as for windshield glass. <Ref. to GW-25, INSTALLATION, Windshield Glass.>
2) 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.
3) About one hour after installation, conduct a leak test.




(1) Upside
(2) Molding
(3) Glass
(4) Adhesive
(5) Downside
(6) Glass
(7) Molding
(8) Adhesive

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.
• 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.

5) Connect the rear defogger terminals.
6) Install the rear wiper.
<Ref. to WW-16, INSTALLATION, Rear Wiper Motor.>

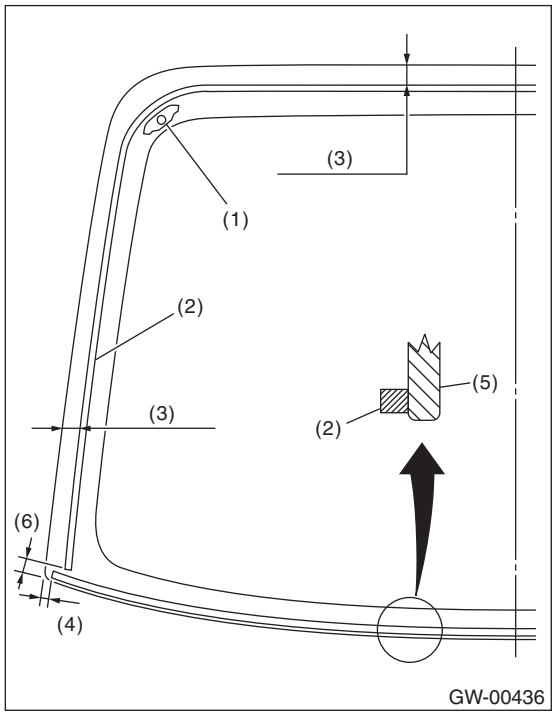
# 15.Rear Window Glass

## A: REMOVAL

1) Disconnect the electrical connectors from rear defogger terminal.
2) Remove the glass in the same procedure as for windshield glass. <Ref. to GW-25, REMOVAL, Windshield Glass.>

## B: INSTALLATION

1) Adhere the dam rubber.




(1) Locating pin (adhered)
(2) Dam rubber
(3) 11 mm (0.433 in)
(4) 4 mm (0.157 in)
(5) Rear window glass
(6) 40 mm (1.575 in)

2) Install the glass in the same procedure as for windshield glass. <Ref. to GW-25, INSTALLATION, Windshield Glass.>
3) Connect the rear defogger and antenna terminal connectors.
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.

# 16.Rear Window Defogger System

## A: WIRING DIAGRAM

<Ref. to WI-162, Rear Defogger System.>

## B: INSPECTION

| Symptom | Repair order |
|---|---|
| Rear window defogger does not operate. | 1. Fuse (M/B No. 10) (F/B No. 22)<br>2. Rear defogger relay<br>3. Defogger switch<br>4. Rear defogger condenser<br>5. Defogger wire<br>6. Wiring harness<br>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

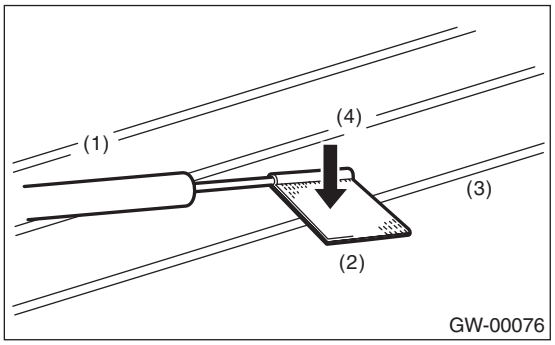
**CAUTION:**
**Check that the rear window defogger timer is in initial setting or customize setting before performing inspection.**

1) Check the input signal when the rear window defogger switch is operated using Subaru Select Monitor.
   (1) Connect the Subaru Select Monitor to the data link connector.
   (2) Turn the ignition switch to ON.
   (3) Select {Integ. unit} from the «main menu».
   (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, check whether it turns to OFF in 15 minutes or repeats 15 minutes operation and 2 minutes stop?
3) When it becomes OFF on above 2), it is normal. When it repeats 15 minutes operation and 2 minutes stop, replace 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.**

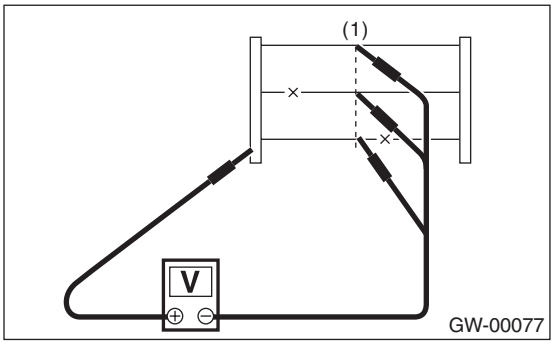
1) Turn the ignition switch to ON.
2) Turn the defogger switch to ON.
3) Wrap the tips of tester probe with aluminum foil to avoid damage to heat wire.




(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

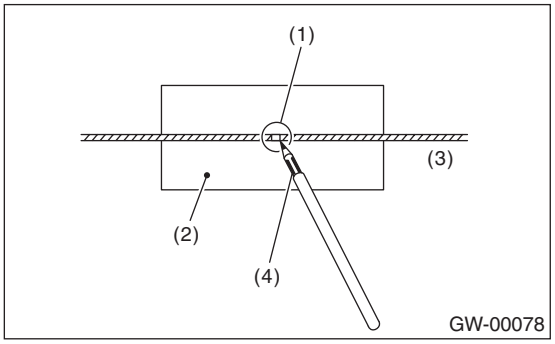
| Voltage | Criteria |
|---|---|
| Approx. 6 V | Normal operation |
| Approx. 12 V or 0 V | Open |

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.



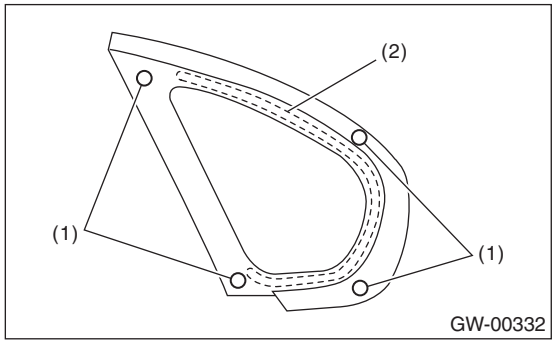

(1) Broken portion
(2) Thin film
(3) Broken wire
(4) Conductive silver composition (DUPONT No. 4817)

4) After repair, check the wire.

# 18.Rear Quarter Glass

## A: REMOVAL

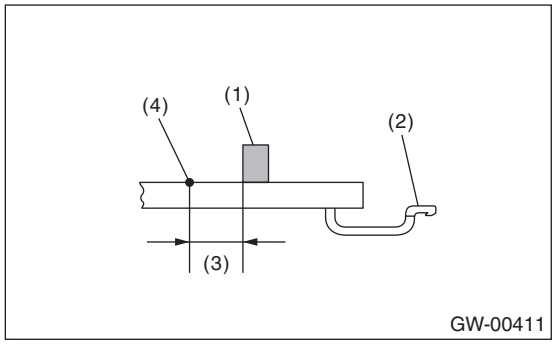
Remove the glass in the same procedure as for windshield glass. <Ref. to GW-25, REMOVAL, Windshield Glass.>




(1) Locating pin
(2) Dam rubber

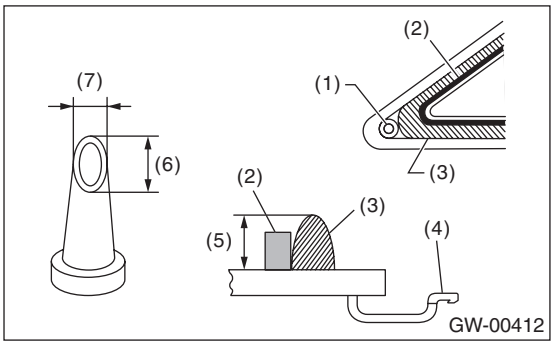
## B: INSTALLATION

1) Install the dam rubber.




(1) Dam rubber
(2) Molding
(3) 10.5 mm (0.413 in) (constant)
(4) Ceramic terminal

2) Cut out the nozzle head and apply adhesive to the glass end surface as shown.




(1) Locating pin
(2) Dam rubber
(3) Adhesive
(4) Molding
(5) 8 — 10 mm (0.31 — 0.39 in)
(6) 15 mm (0.59 in)
(7) 10 mm (0.39 in)

3) Install the glass in the same procedure as for windshield glass. <Ref. to GW-25, 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

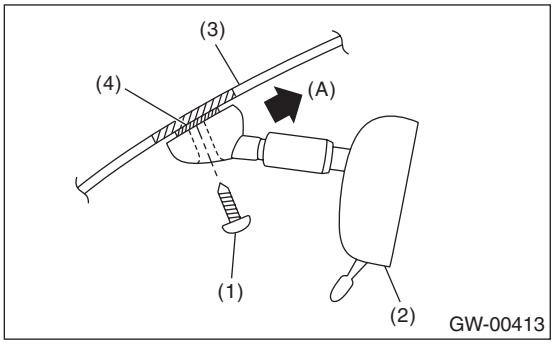
## A: PROCEDURE

For sunroof glass removal, installation and adjustment, refer section of sunroof.
<Ref. to SR-6, REMOVAL, Glass Lid.>
<Ref. to SR-7, INSTALLATION, Glass Lid.>
<Ref. to SR-7, 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 the windshield glass (3), and remove the rearview mirror from the button (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-6, 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.
Check that the spring is not damaged.

# 21.Wiper Deicer System

## A: WIRING DIAGRAM

<Ref. to WI-148, Wiper Deicer System.>

## B: INSPECTION

| Symptom | Repair order |
|---|---|
| Wiper de-icer does not operate. | 1. Fuse (F/B No. 4, 9)<br>2. Wiper de-icer relay<br>3. Wiper de-icer switch<br>4. Wiring harness<br>5. Body integrated unit |

Refer to “Rear Window Defogger” for inspection.
<Ref. to GW-31, INSPECTION, Rear Window Defogger.>

NOTE:
Wiper de-icer system can be customized on the Subaru Select Monitor.

| System name | Initial setting | Customize setting |
|---|---|---|
| Wiper de-icer 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.

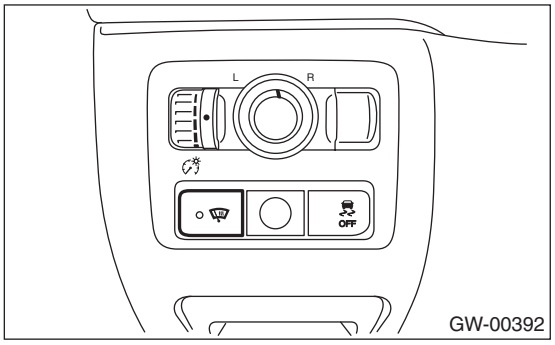
## C: REPAIR

Refer to “Rear Window Defogger” for repair.
<Ref. to GW-32, REPAIR, Rear Window Defogger.>

# 22.Wiper Deicer Switch

## A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>
2) Disconnect the harness connector and remove wiper de-icer switch.




## B: INSTALLATION

Install in the reverse order of removal.

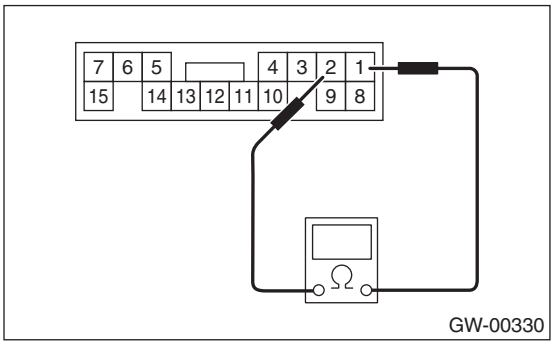
## C: INSPECTION

### 1. CHECK WITH SUBARU SELECT MONITOR

**CAUTION:**
**Check whether the wiper de-icer timer is in initial setting or customize setting before performing inspection.**
1) Check the input signal when the wiper de-icer switch is operated using Subaru Select Monitor.
   (1) Connect the Subaru Select Monitor to the data link connector.
   (2) Turn the ignition switch to ON.
   (3) Select {Integ. unit} from the «main menu».
   (4) Select the {Current Data Display & Save}.
   (5) Display the data of wiper deicer switch.
2) After the wiper de-icer switch is set to ON, check whether it turns OFF in 15 minutes or operates continuously.
3) When it becomes OFF on above 2), it is normal. When it operates continuously, replace the body integrated unit.

### 2. CHECK SWITCH.

Remove the wiper de-icer 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 de-icer switch if faulty.

# BODY STRUCTURE

# BS


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Datum Dimensions | 3 |
| 3. | Plastic Parts and Materials | 24 |
| 4. | List of Plastic Material Notations | 27 |
| 5. | Body Sealing | 28 |
| 6. | Anticorrosion Wax | 35 |
| 7. | Under Coat | 40 |
| 8. | Anti Chipping Coat | 45 |
| 9. | Stone Guard Coat | 46 |
| 10. | Galvanized Sheet Metal | 47 |
| 11. | Aluminium Sheet Metal | 48 |

# 1. Basic Diagnostic Procedure

## A: PROCEDURE

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **START INSPECTIONS.**<br>1) Perform the pre-inspection. <Ref. to AC(diag)-3, INSPECTION, General Description.><br>2) Perform the self-diagnosis. <Ref. to AC(diag)-9, OPERATION, Diagnostic Chart for Self-diagnosis.> | Does the self-diagnosis operate? | Go to step **2**. | <Ref. to AC(diag)-14, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.> |
| 2 | **IDENTIFY MALFUNCTION PART.**<br>Identify the malfunction part with self-diagnosis. | Can the malfunction part be confirmed? | Repair the malfunctioning part in accordance with each diagnostic chart. | Go to step **3**. |
| 3 | **CHECK COMPARTMENT TEMPERATURE.**<br>1) Turn on the A/C switch.<br>2) Turn the temperature control dial at maximum cool position.<br>3) Check the compartment temperature change. | Does the compartment temperature change? | Go to step **4**. | <Ref. to AC(diag)-18, 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.**<br>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)-18, 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. Doing so may immediately damage the auto A/C control module.
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 sensors and the auto A/C control module, be sure to turn off the ignition switch. 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:**
**• Do not use electrical test equipment on wiring harness and connector circuits of the airbag system.**
**• Be careful not to damage the airbag system wiring harness when servicing the A/C control panel and junction box.**

## B: INSPECTION

Before performing the diagnosis, check the following items which may cause problems in the A/C system.

### 1. BATTERY

1) Measure the battery voltage and specific gravity of electrolyte.

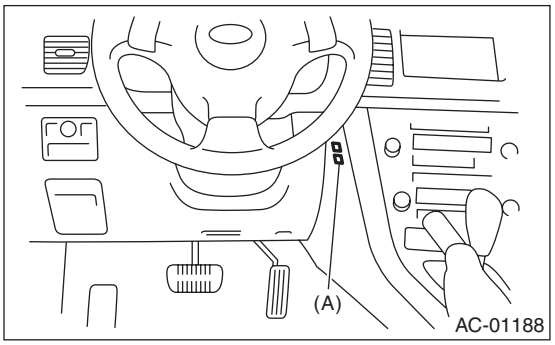
***Standard voltage: 12 V***

***Specific gravity: 1.260 or more***
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 dial to MAX.
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.

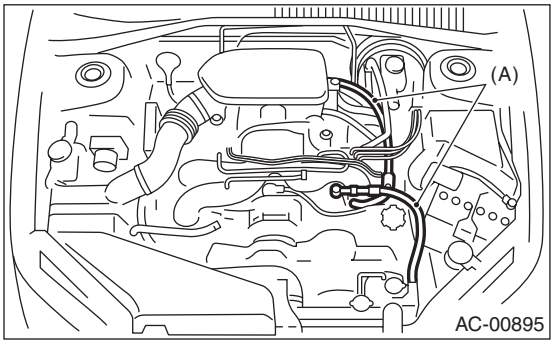
NOTE:
Be careful not to let the paper get sucked into the port.




6) If the paper does not move at all, remove the driver’s side console side panel <Ref. to EI-52, 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 LINKAGE

1) Check the state of mode door linkage.
2) Check the state of air mix door linkage.
3) Check the state of RESH/RECIRC door linkage.

## 5. 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.<br>• Blower fan: OFF<br>• Inlet opening: FRESH<br>• Compressor: OFF |
| 2 | AUTO switch, driver's side temperature control dial and passenger's side temperature control dial | 1) Press the AUTO switch.<br>2) Turn the temperature control dial to the left fully, and set to 18°C (65°F) (maximum cool position). | AUTO display illuminates.<br>• Outlet air temperature: COOL<br>• Blower fan: HI (AUTO)<br>• Outlet opening: FACE<br>• Inlet opening: AUTO<br>• 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<br>• Blower fan: AUTO<br>• Outlet opening: FACE → B/L → FOOT<br>• Inlet opening: AUTO<br>• 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<br>• Blower fan: HI (AUTO)<br>• Outlet opening: FOOT<br>• Inlet opening: FRESH (AUTO)<br>• Compressor: AUTO |
| 3 | Defroster switch | Press the defroster switch. | Defroster switch indicator illuminates.<br>• Outlet air temperature: AUTO<br>• Blower fan: AUTO<br>• Outlet opening: DEF<br>• Inlet opening: FRESH<br>• 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 → FOOT → F/D each time pressing the switch. |
| 6 | FAN switch | Press the FAN switch (+). | Inlet opening switches LO → M1 → M2 → M3 → M4 → HI each time pressing the switch. |

2) Compressor operation inspection

| No. | Point to check | Switch operation | Judgment standard |
|---|---|---|---|
| 1 | Compressor | 1) Turn the A/C switch to ON.<br>2) Set the FAN switch between LO and HI. | Compressor: ON |

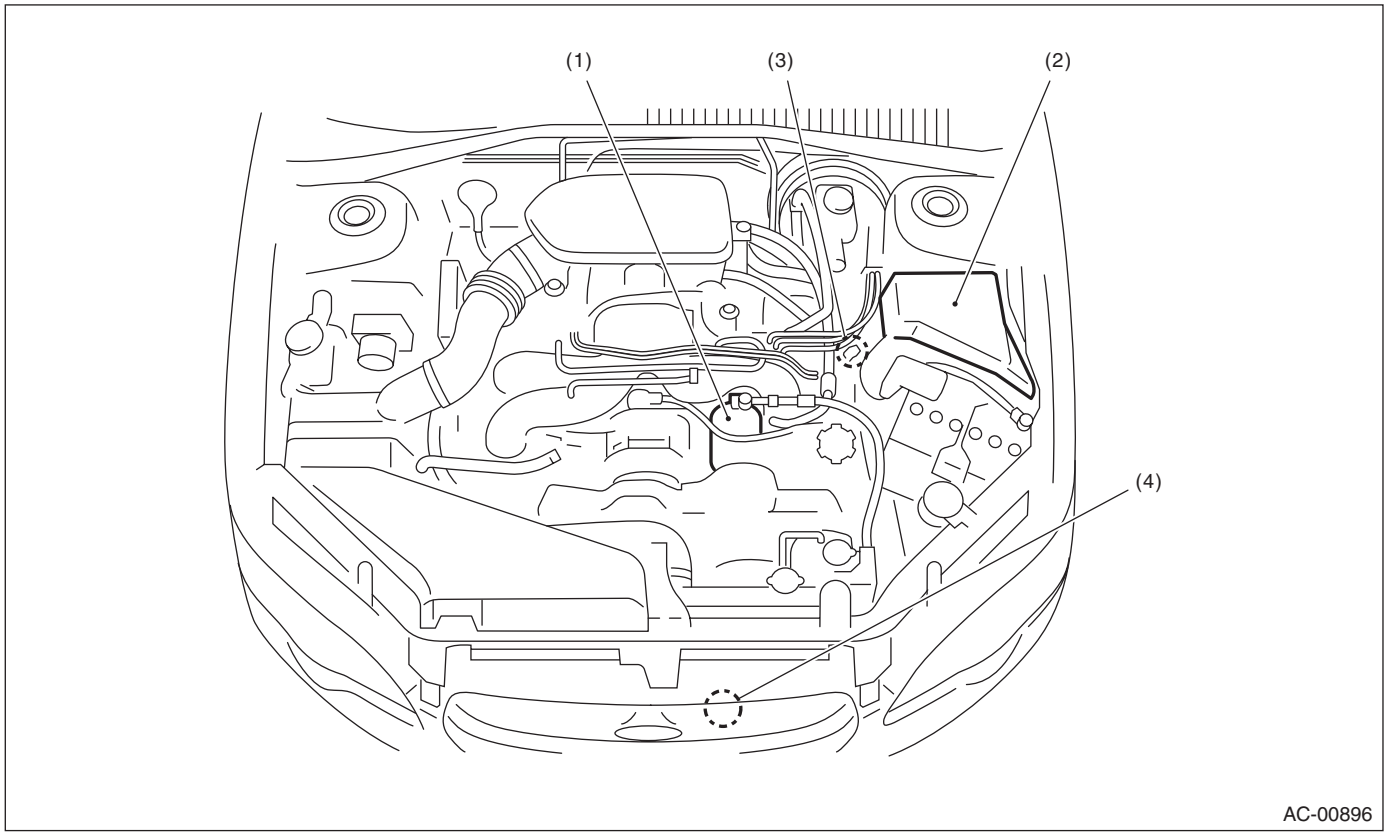
3) Inspection of illumination control

| No. | Point to check | Switch operation | Judgment standard |
|---|---|---|---|
| 1 | Illumination | Turn the lighting switch to ON. | Illumination comes on. |

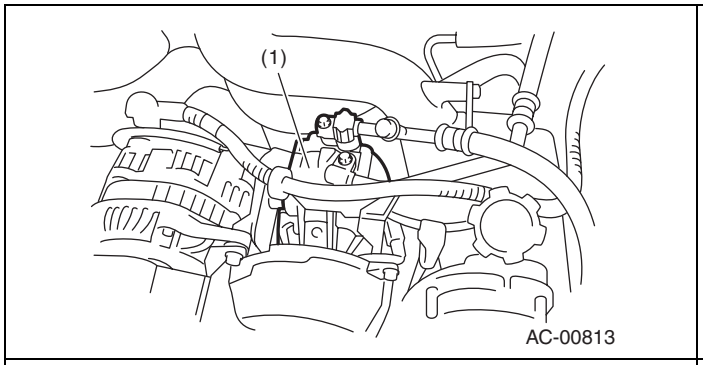
# 3. Electrical Component Location

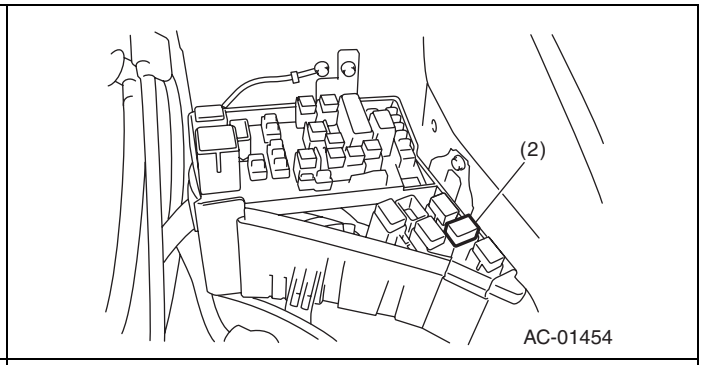
## A: LOCATION

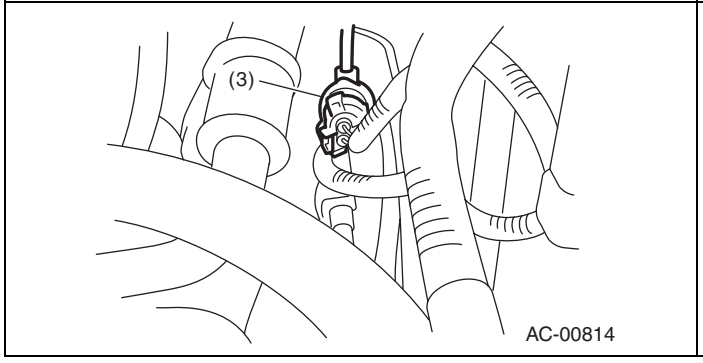
### 1. ENGINE COMPARTMENT

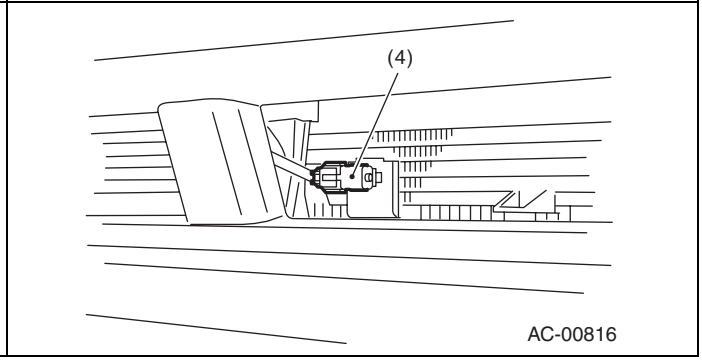



(1) A/C compressor
(2) A/C relay
(3) Pressure switch
(4) Ambient sensor

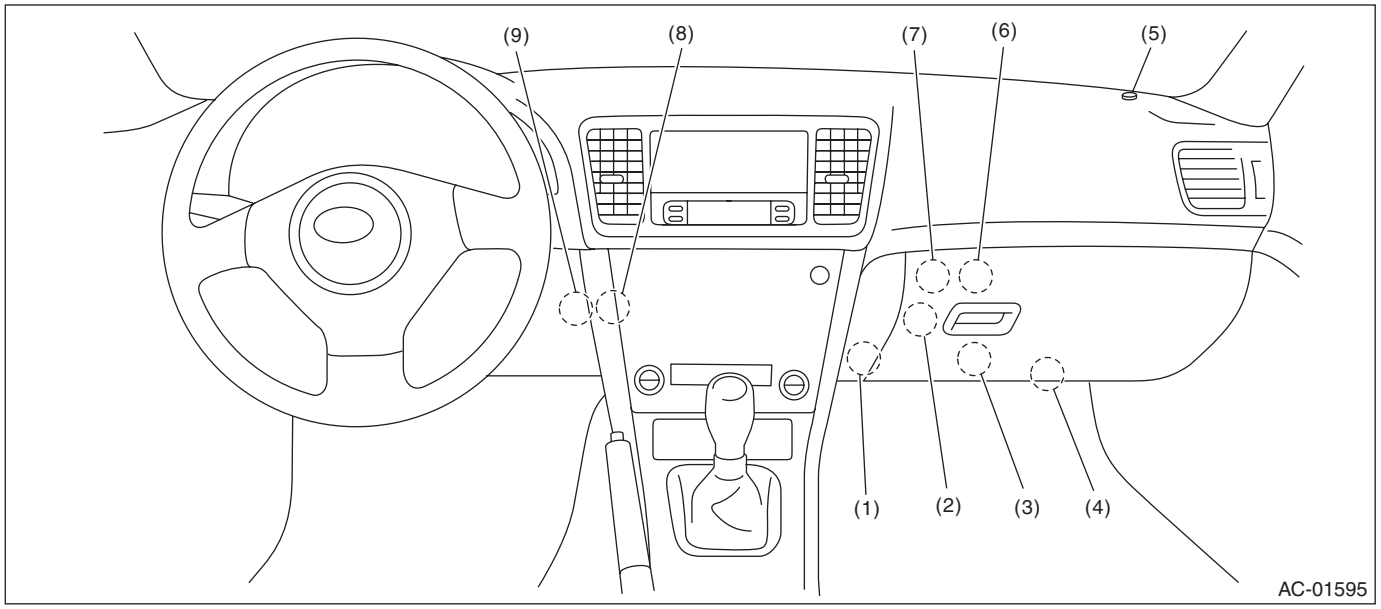


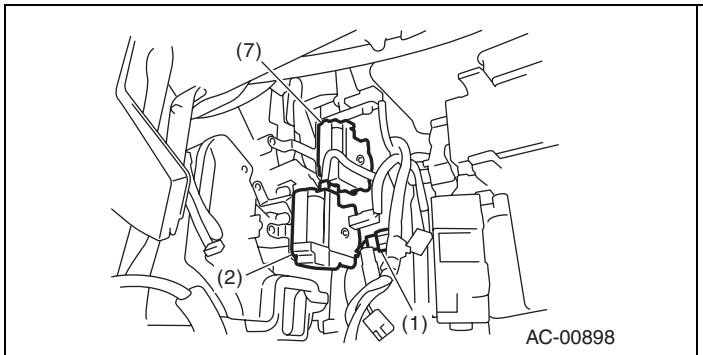



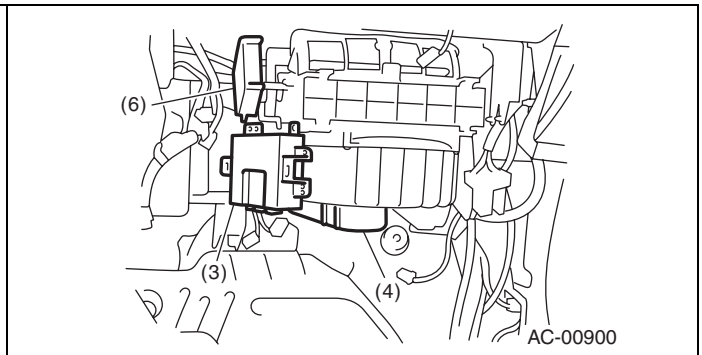



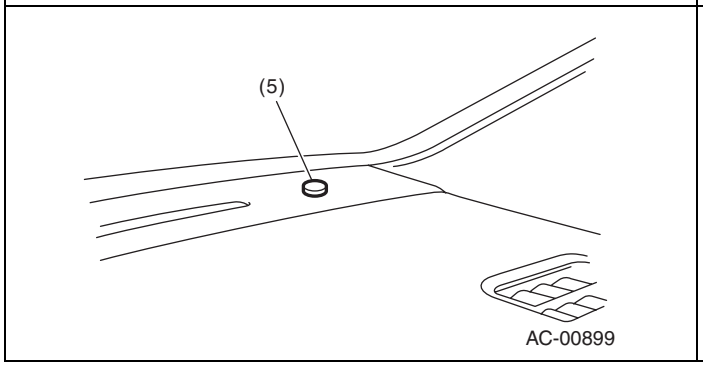
## 2. PASSENGER COMPARTMENT

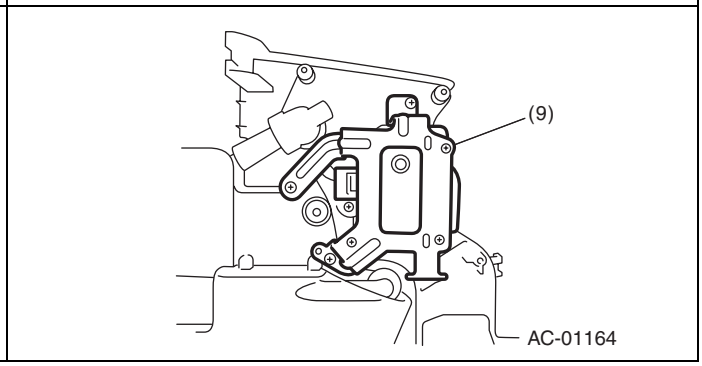



(1) Evaporator sensor
(2) Passenger's side air mix door actuator
(3) Auto A/C control module
(4) Blower motor
(5) Sunload sensor
(6) Intake door actuator
(7) Mode door actuator
(8) In-vehicle sensor
(9) Driver's side air mix door actuator



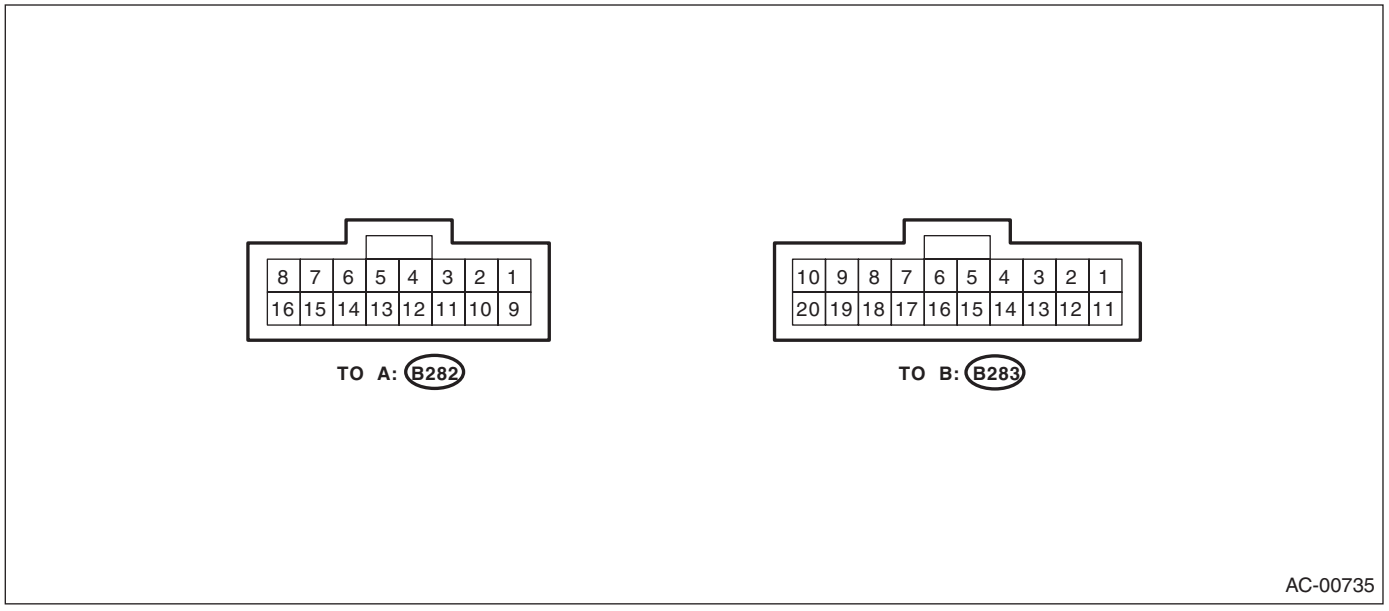



# 4. Auto A/C Control Module I/O Signal

## A: ELECTRICAL SPECIFICATION



| Terminal No. | Remarks | Measuring condition | Standard |
|---|---|---|---|
| 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 | 5 V or less |
| A6 | Sunload sensor | Ignition switch: ON, With Sunload (No sunload: 0 V) | 3 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 | 5 V or less |
| A14, A16 | Ground | Continuity to chassis ground | 0 Ω |
| A15 | Sensor ground | Continuity to chassis ground | 0 Ω |
| B1, B11 | Ambient sensor, engine coolant temperature sensor | — | *1 |
| B2 | Blower motor control | Ignition switch : ON, Blower switch : ON | 0.45 V |
| B3 | Blower motor control | Ignition switch : ON, Blower switch : ON | 9.05 V |
| B4 | RAM monitor | — | *1 |
| B5 | RAM monitor | — | *1 |
| B6 | A/C ON signal | A/C: ON (A/C OFF: 0 V) | 7 — 14 V |
| B7 | Mode door actuator power supply | When switching mode door from DEF → FACE | Battery voltage |
| B17 | | When switching mode door from FACE → DEF | Battery voltage |
| B8 | Passenger's side air mix door actuator power supply | When switching air mix door from HOT → COOL | Battery voltage |
| B18 | | When switching air mix door from COOL → HOT | Battery voltage |
| B9 | Driver's side air mix door actuator power supply | When switching air mix door from HOT → COOL | Battery voltage |
| B19 | | When switching air mix door from COOL → HOT | Battery voltage |
| B10 | Intake door actuator | FRESH (RECIRC: Battery voltage) | 0 V |
| B20 | | RECIRC (FRESH: Battery voltage) | 0 V |
| B13 | Blower fan ON signal | When blower fan is rotating (Not rotating: Battery voltage) | 0 V |
| B14 | RAM monitor | — | *1 |
| B15, B16 | Control panel | — | *1 |

*1: Unable to measure the voltage for digital signal.

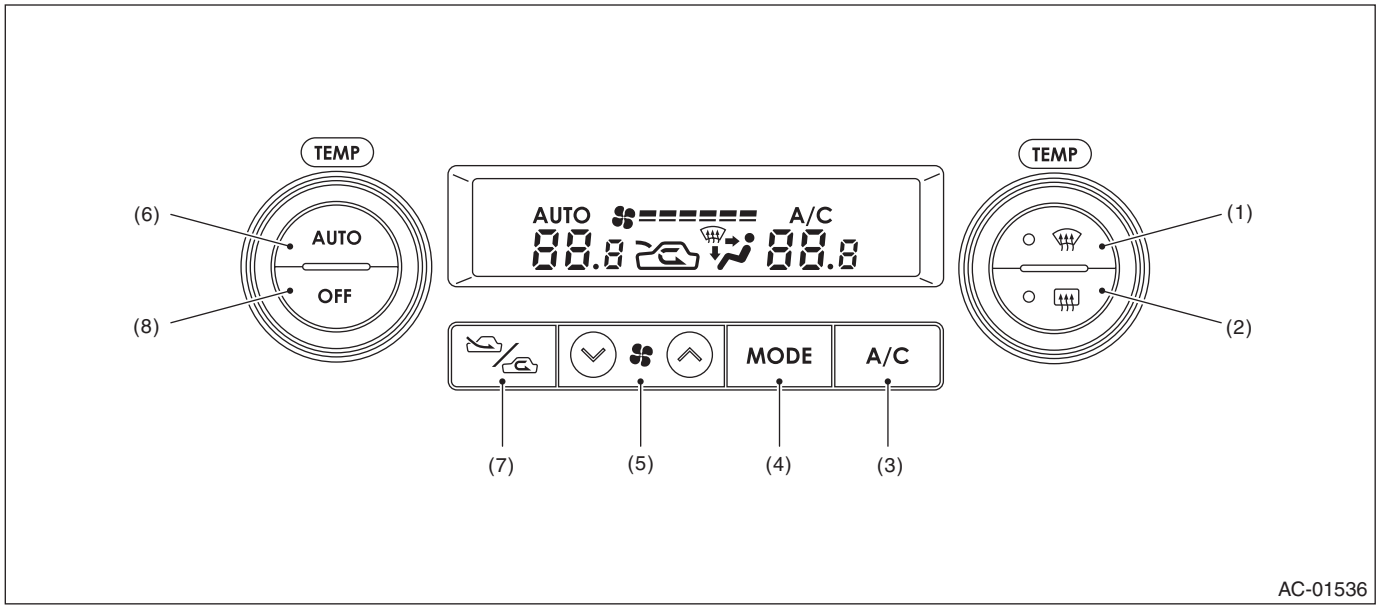
# B: WIRING DIAGRAM

## 1. AIR CONDITIONER AUTO A/C MODEL

<Ref. to WI-112, WIRING DIAGRAM, Air Conditioning System.>

# 5. Diagnostic Chart for Self-diagnosis

## A: OPERATION



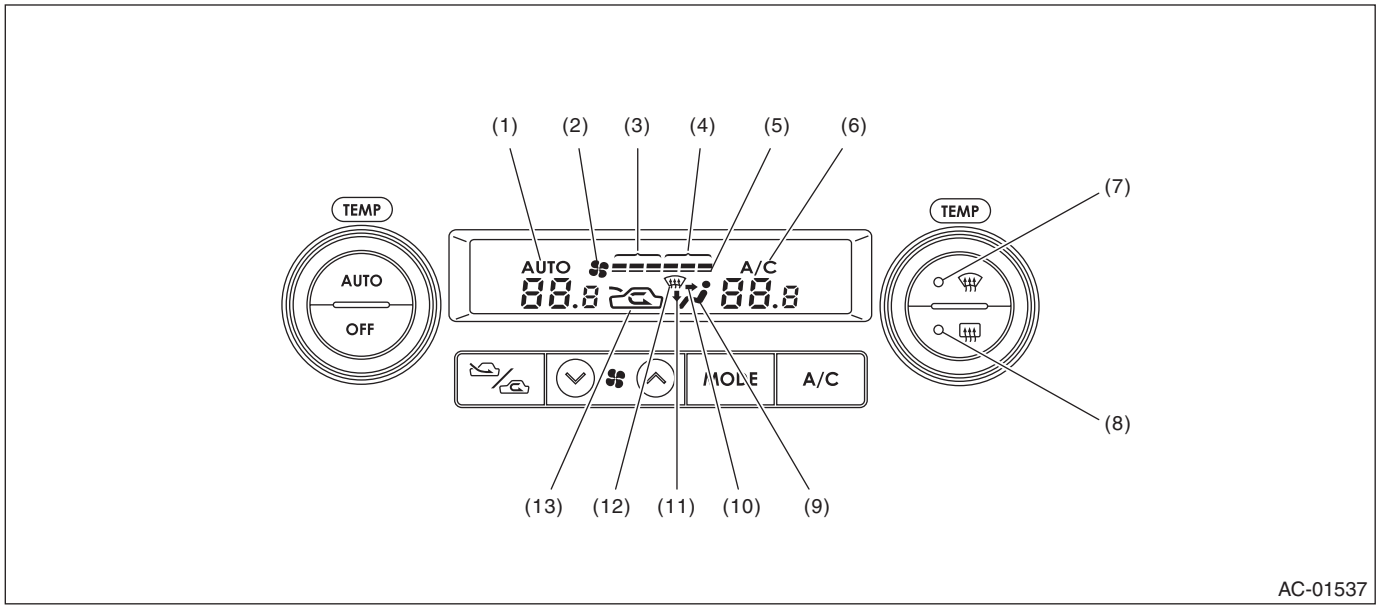

(1) Front defroster switch
(2) Rear window defogger switch
(3) A/C switch
(4) Air flow control switch
(5) FAN switch
(6) AUTO switch
(7) FRESH/RECIRC switch
(8) OFF switch

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.**<br>1) Turn the ignition switch to ON with the A/C switch and MODE switch pressed.<br>2) The screen display and indicator illuminate. | Does the self-diagnosis function operate? | Go to step **2**. | <Ref. to AC(diag)-14, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.> |
| 2 | **CHECK DISPLAY AND INDICATOR.**<br>Check if all the screen display and indicators come on and then go off.<br>NOTE:<br>"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**. | Write down that they did not go off. Go to step **3**. |
| 3 | **CHECK SWITCH AND TEMPERATURE CONTROL DIAL INPUT.**<br>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)-11, 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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the auto A/C control module harness connector.<br>3) Using a suitable lead wire, short the terminal No. 15 and No. 16 of auto A/C control module harness connector (B283).<br>4) Turn the ignition switch to ON with the AUTO switch and A/C switch pressed.<br>5) According to SWITCH CHECK TABLE, press each switch or turn the temperature control dial. When no malfunction occurs in the control panel communication, "CL" is displayed in the screen; and when malfunction occurs, "OP" 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 | (10), (12) |
| FRESH/RECIRC | (13) | Passenger's side temperature control dial | (11), (12) |
| Defroster switch | (7) | OFF switch | (2), (5) |
| Rear defogger switch | (8) | | |

## 3. A/C CONTROL SYSTEM SELF-DIAGNOSIS

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **SET SELF-DIAGNOSIS MODE BY OPERATING A/C CONTROL PANEL.**<br>1) Start the engine with the AUTO switch and FRESH/RECIRC switch pressed.<br>NOTE:<br>Self-diagnosis can also be performed with ignition switch ON, but start the engine because observing the magnet clutch operation is difficult.<br>2) All the indicators blink four times. | Does the self-diagnosis function operate? | Go to step **2**. | <Ref. to AC(diag)-14, A/C OR SELF-DIAGNOSIS SYSTEMS DO NOT OPERATE, Diagnostics for A/C System Malfunction.> |
| 2 | **CHECK EACH SENSOR AND POTENTIOMETER.**<br>1) After the indicators stop blinking, automatically change to the Inspection Mode of sensor and potentiometer.<br>NOTE:<br>Display items can be changed each time the A/C switch is pressed. (Step Operation)<br>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.<br>3) Identify the defective sensor according to the sensor check table. <Ref. to AC(diag)-13, SENSOR CHECK TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.> | Are other codes except 20 displayed? | Repair the defective sensor. <Ref. to AC(diag)-29, Diagnostic Procedure for Sensors.> | Go to step **3**. |
| 3 | **CHECK EACH ACTUATOR, BLOWER FAN AND MAGNET CLUTCH.**<br>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.<br>2) Each mode will change and operate automatically every four seconds.<br>NOTE:<br>Operation mode items can be changed each time the A/C switch is pressed. (Step Operation)<br>3) Check the operation of actuator, blower fan and magnet clutch in each mode according to the operating mode table. <Ref. to AC(diag)-13, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-diagnosis.> | Do the actuator, blower fan and 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)-14, Diagnostics for A/C System Malfunction.> or <Ref. to AC(diag)-22, 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 |
| 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 | FOOT | 50% | M1 | ON |
| 36 | FRESH | FOOT | Maximum hot | M3 | ON |
| 37 | FRESH | F/D | Maximum hot | M3 | ON |
| 38 | FRESH | DEF | Maximum hot | HI | ON |

* Same opening angle for both driver's and passenger's side

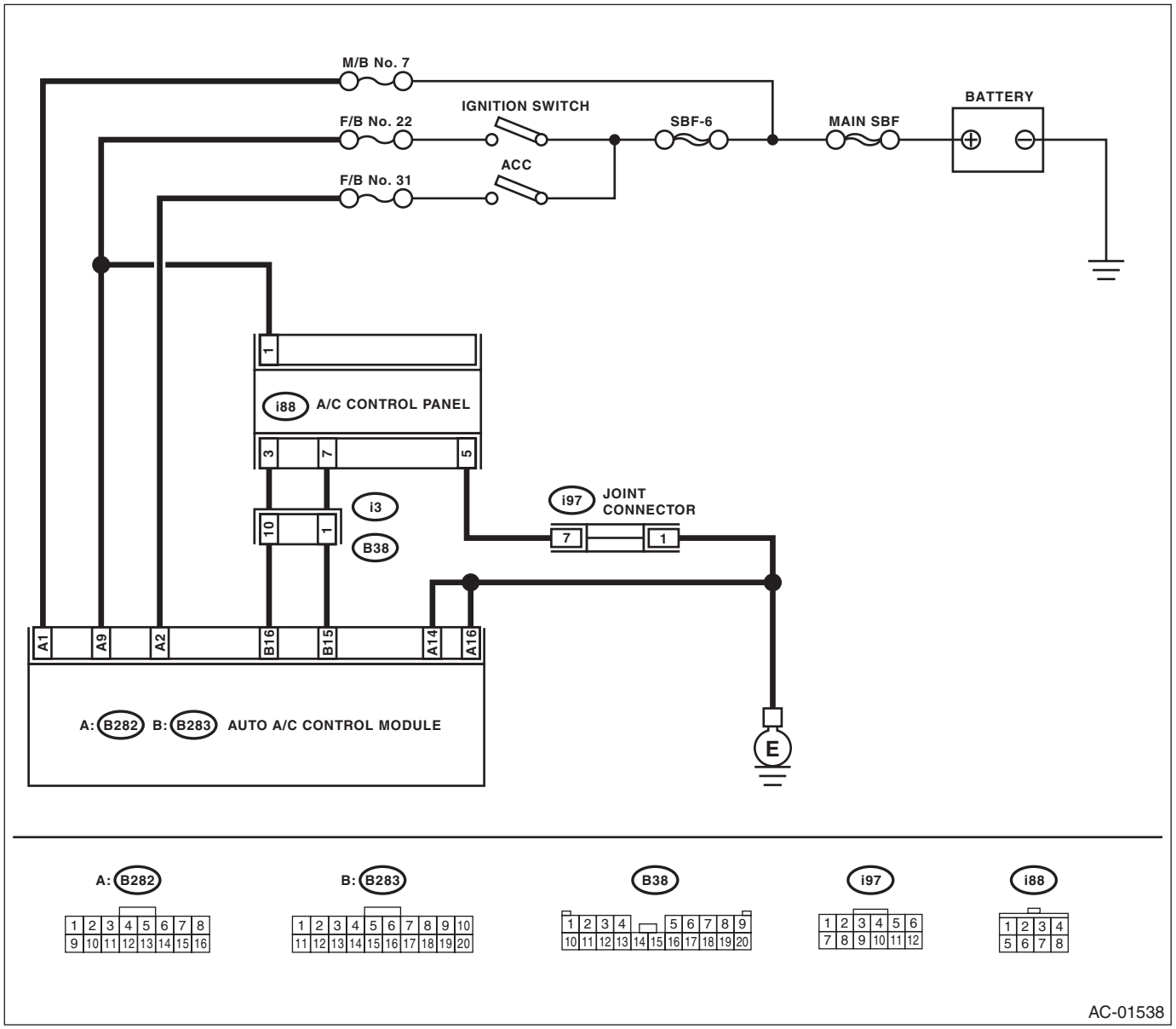
# 6. Diagnostics for A/C System Malfunction

## 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.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the fuse No. 7 from main fuse box.<br>3) Check the condition of fuse. | Is the fuse blown out? | Replace the fuse. | Go to step **2**. |
| 2 | **CHECK FUSE.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the fuse No. 22 and No. 31 from fuse & relay box.<br>3) Check the condition of fuse. | Is the fuse blown out? | Replace the fuse. | Go to step **3**. |

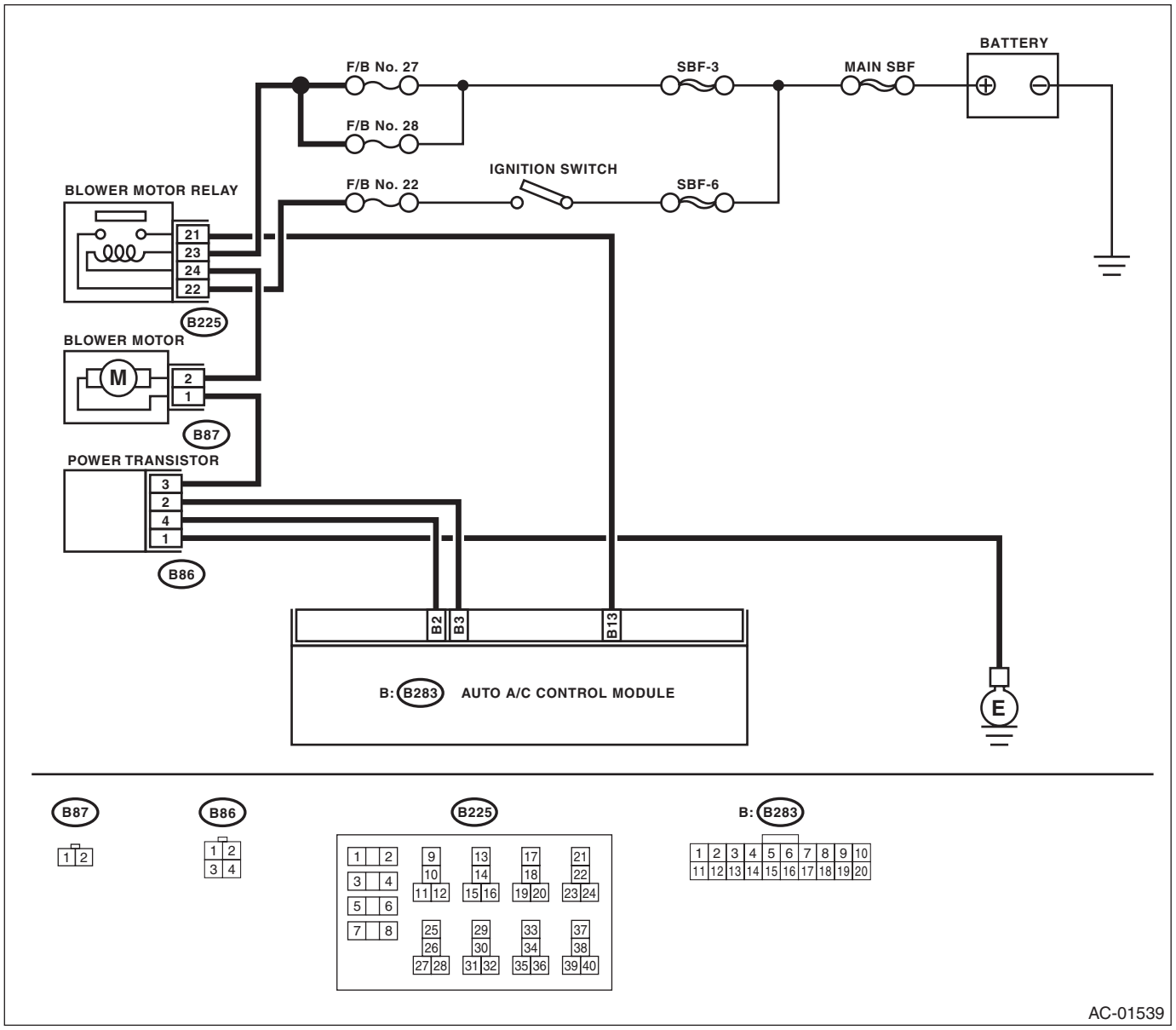
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK A/C CONTROL PANEL POWER CIRCUIT.**<br>Measure the voltage between A/C control panel harness connector terminal and chassis ground after turning the ignition switch to ON.<br>***Connector & terminal***<br>***(i88) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **4**. | Check for open or short circuit in the harness between A/C control panel and fuse. |
| 4 | **CHECK A/C CONTROL PANEL GROUND POWER CIRCUIT.**<br>Measure the resistance of harness between A/C control panel and chassis ground after turning the ignition switch to OFF.<br>***Connector & terminal***<br>***(i88) No. 5 — Chassis ground:*** | Is resistance less than 10 Ω? | Go to step **5**. | Repair the harness for ground line. |
| 5 | **CHECK AUTO A/C CONTROL MODULE POWER CIRCUIT.**<br>Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to OFF.<br>***Connector & terminal***<br>***(B282) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | 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.**<br>Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to ACC.<br>***Connector & terminal***<br>***(B282) No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | 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.**<br>Measure the voltage between auto A/C control module connector terminal and chassis ground after turning the ignition switch to the ON position.<br>***Connector & terminal***<br>***(B282) No. 9 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | 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.**<br>Measure the resistance of harness between auto A/C control module and chassis ground.<br>***Connector & terminal***<br>***(B282) No. 14 — Chassis ground:***<br>***(B282) No. 16 — Chassis ground:*** | Is resistance less than 5 Ω? | Go to step **9**. | Repair the harness for ground line. |
| 9 | **CHECK COMMUNICATION CIRCUIT.**<br>Measure the resistance of harness between A/C control panel and auto A/C control module.<br>***Connector & terminal***<br>***(i88) No. 3 — (B283) No. 16:***<br>***(i88) No. 7 — (B283) No. 15:*** | Is the resistance less than 1 Ω? | Go to step **10**. | Repair the harness. |
| 10 | **CHECK POOR CONTACT.**<br>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. |

## B: BLOWER FAN DOES NOT ROTATE

**TROUBLE SYMPTOM:**

- Blower motor does not rotate.
- Blower motor does not rotate in “HI”.

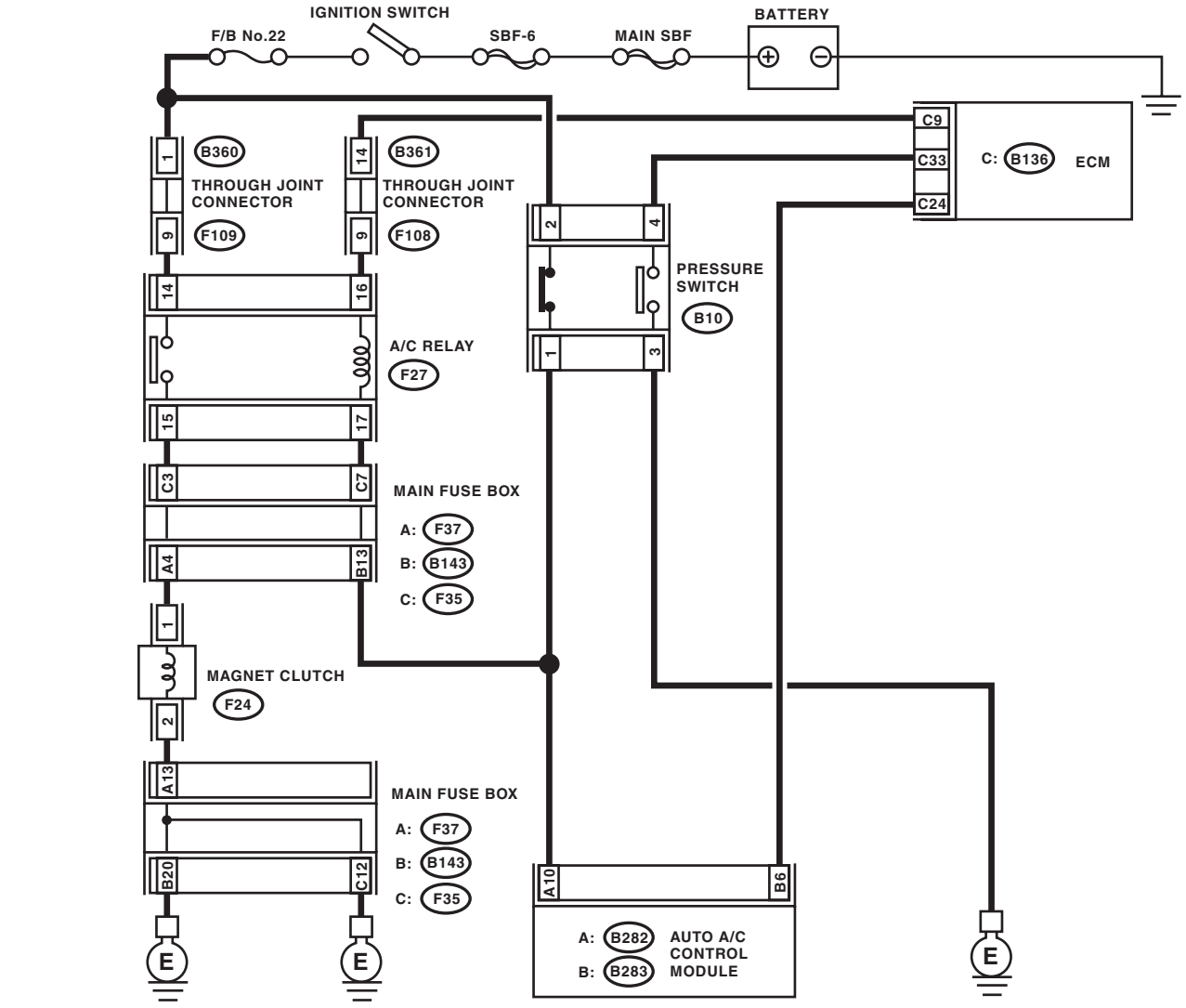
**WIRING DIAGRAM:**

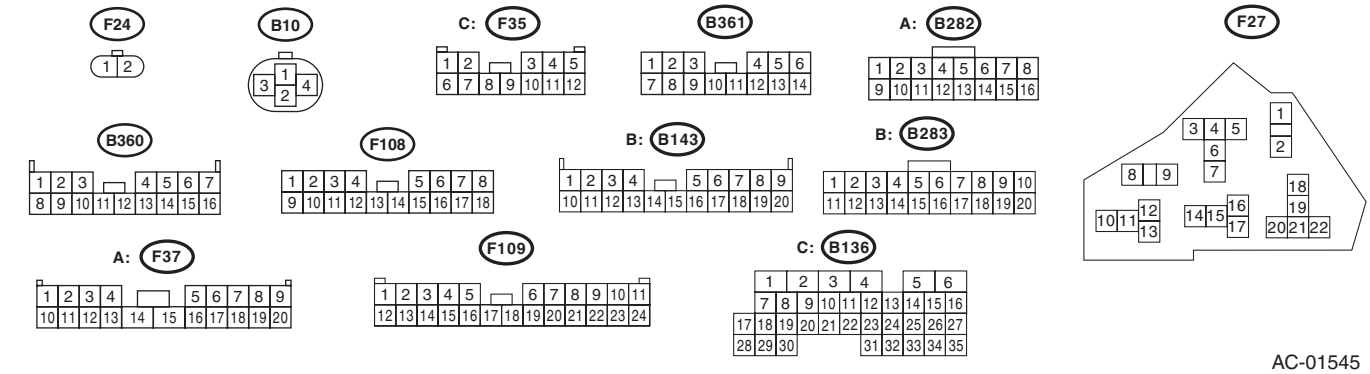


| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>1) Remove fuse No. 22, 27 and 28 from fuse & relay box.<br>2) Check the condition of fuse. | Is any fuse blown out? | Replace the fuse. | Go to step **2**. |
| 2 | **CHECK POWER SUPPLY FOR BLOWER MOTOR.**<br>1) Turn the ignition switch to ON.<br>2) Turn the blower switch to ON.<br>3) Measure the voltage between blower motor and chassis ground.<br>***Connector & terminal***<br>***(B87) No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Repair the open circuit of blower motor power supply line harness. |
| 3 | **CHECK BLOWER MOTOR RELAY.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the blower motor relay.<br>3) Connect the battery positive (+) terminal to terminal No. 23 of blower motor relay, and negative (–) terminal to terminal No. 24.<br>4) Measure the resistance between terminals No. 21 and No. 22.<br>***Terminals***<br>***(B225) No. 21 — (B225) No. 22:*** | Is resistance less than 1 Ω? | Go to step **4**. | Replace the blower motor relay. |
| 4 | **CHECK BLOWER MOTOR.**<br>1) Disconnect the connector from the blower motor.<br>2) Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (–) terminal to terminal No. 1.<br>3) Make sure the blower motor runs. | Does the blower motor run? | Go to step **5**. | Replace the blower motor. |
| 5 | **CHECK POOR CONTACT.**<br>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. |

# C: COMPARTMENT TEMPERATURE DOES NOT CHANGE, OR A/C SYSTEM DOES NOT RESPOND PROMPTLY

**WIRING DIAGRAM:**




AC-01545

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the fuse No. 22 from fuse & relay box.<br>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.**<br>1) Disconnect the A/C relay and auto A/C control module harness connector.<br>2) Turn the ignition switch to ON.<br>3) Measure the voltage between A/C relay connector terminal and chassis ground.<br>4) Measure the voltage between auto A/C control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(F27) No. 17 (+) — Chassis ground (–):***<br>***(B282) No. 10 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **5**. | Go to step **3**. |
| 3 | **CHECK POWER SUPPLY FOR PRESSURE SWITCH.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the pressure switch harness connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between pressure switch harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B10) No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | 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.**<br>1) Turn the ignition switch to OFF.<br>2) Measure the resistance of harness between pressure switch connector and A/C relay connector.<br>3) Measure the resistance of harness between pressure switch connector and auto A/C control module connector.<br>***Connector & terminal***<br>***(B10) No. 1 — (F27) No. 17:***<br>***(B10) No. 1 — (B282) No. 10:*** | Is the resistance less than 1 Ω? | Check the pressure switch. <Ref. to AC-39, INSPECTION, Pressure Switch (Triple Pressure Switch).> | Repair the harness. |
| 5 | **CHECK POWER SUPPLY FOR A/C RELAY.**<br>Measure the voltage between A/C relay connector terminal and chassis ground.<br>***Connector & terminal***<br>***(F27) No. 14 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **6**. | Check open or short circuit of harness between fuse and A/C relay. |
| 6 | **CHECK A/C RELAY.**<br>Check the A/C relay. <Ref. to AC-38, INSPECTION, Relay and Fuse.> | Is there a malfunction in the A/C relay? | Replace the A/C relay. | Go to step **7**. |

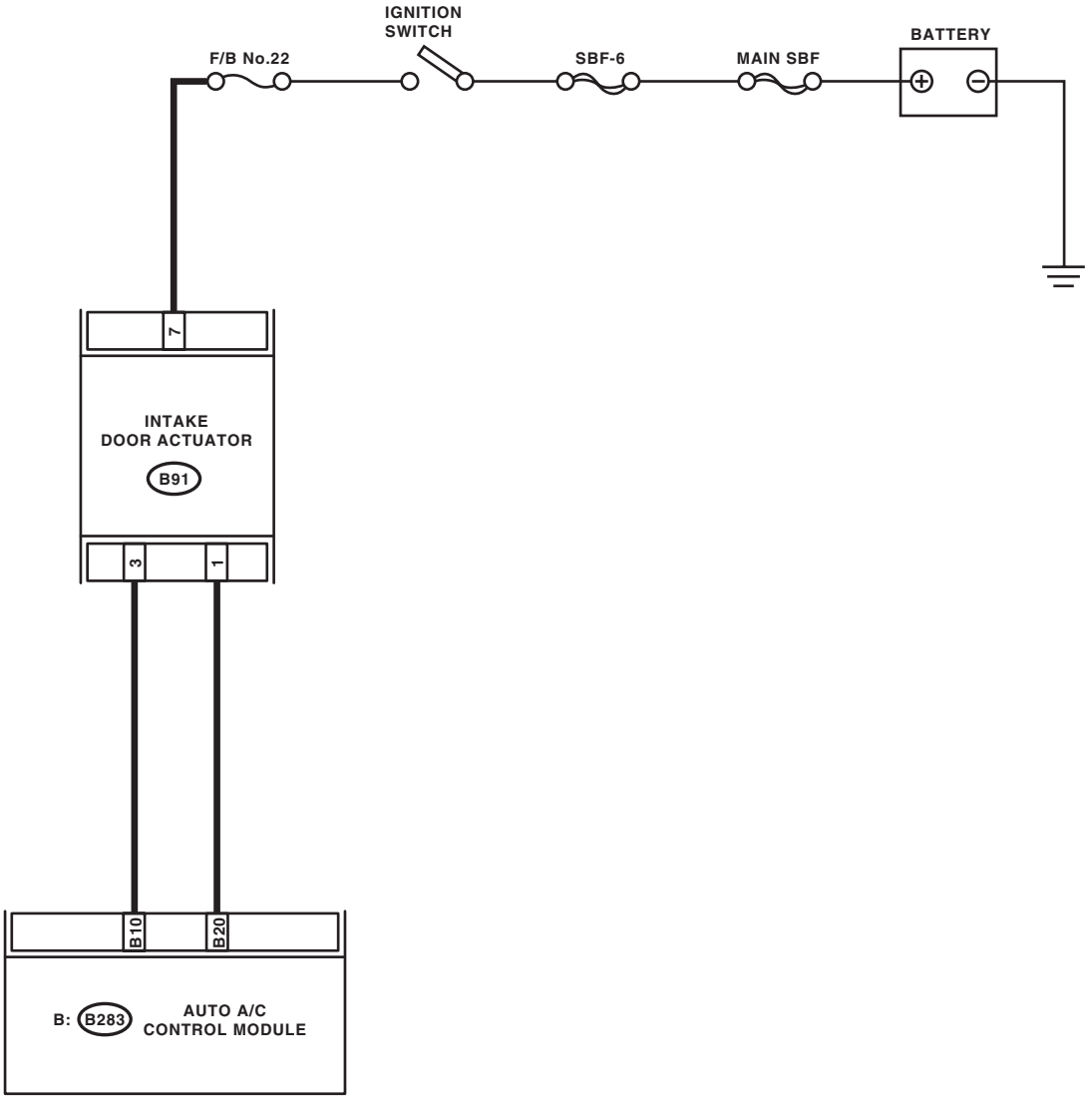
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 7 | **CHECK A/C ON SIGNAL.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the A/C relay and all disconnected connectors.<br>3) Start the engine and turn the AUTO switch to ON.<br>4) Turn the temperature control dial at maximum cool position.<br>5) Measure the voltage between auto A/C control module harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B283) No. 6 (+) — Chassis ground (–):*** | Is the voltage 5.5 V or more? | Go to step **9**. | Go to step **8**. |
| 8 | **CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of auto A/C control module and ECM.<br>3) Measure the resistance of harness between auto A/C control module connector and ECM connector.<br>***Connector & terminal***<br>***(B283) No. 6 — (B136) No. 24:*** | Is the resistance less than 1 Ω? | Replace the auto A/C control module. | Repair the harness. |
| 9 | **CHECK MAGNET CLUTCH ON SIGNAL.**<br>1) Stop the engine, and turn the AUTO switch to OFF.<br>2) Turn the ignition switch to ON.<br>3) Measure the voltage between ECM connector terminal and chassis ground.<br>***Connector & terminal***<br>***(C136) No. 9 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **10**. | Check for open or short circuit in the harness between A/C relay and ECM. |
| 10 | **CHECK MAGNET CLUTCH ON SIGNAL.**<br>1) Start the engine and turn the AUTO switch to ON.<br>2) Turn the temperature control dial at maximum cool position.<br>3) Measure the voltage between ECM connector terminal and chassis ground.<br>***Connector & terminal***<br>***(C136) No. 9 (+) — Chassis ground (–):*** | Is the voltage 0 V? | Go to step **11**. | Replace the ECM. |
| 11 | **CHECK POWER SUPPLY FOR MAGNET CLUTCH.**<br>1) Stop the engine, and turn the AUTO switch to OFF.<br>2) Disconnect the harness connector of magnet clutch.<br>3) Start the engine and turn the AUTO switch to ON.<br>4) Turn the temperature control dial at maximum cool position.<br>5) Measure the voltage between magnet clutch harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(F24) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **12**. | Check for open or short circuit in the harness between A/C relay and magnet clutch. |

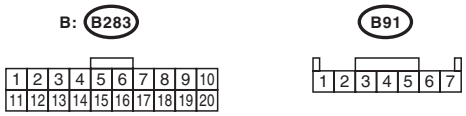
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 12 | **CHECK HARNESS BETWEEN AUTO A/C CONTROL MODULE AND ECM.**<br>1) Stop the engine, and turn the AUTO switch to OFF.<br>2) Measure the resistance between magnet clutch harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(F24) No. 2 — Chassis ground:*** | Is the resistance less than 1 Ω? | Inspect the compressor. <Ref. to AC-33, INSPECTION, Compressor.> | Repair the harness. |

# 7. Diagnostic Procedure for Actuators

## A: INTAKE DOOR ACTUATOR

**TROUBLE SYMPTOM:**
FRESH/RECIRC mode is not changed.
**WIRING DIAGRAM:**



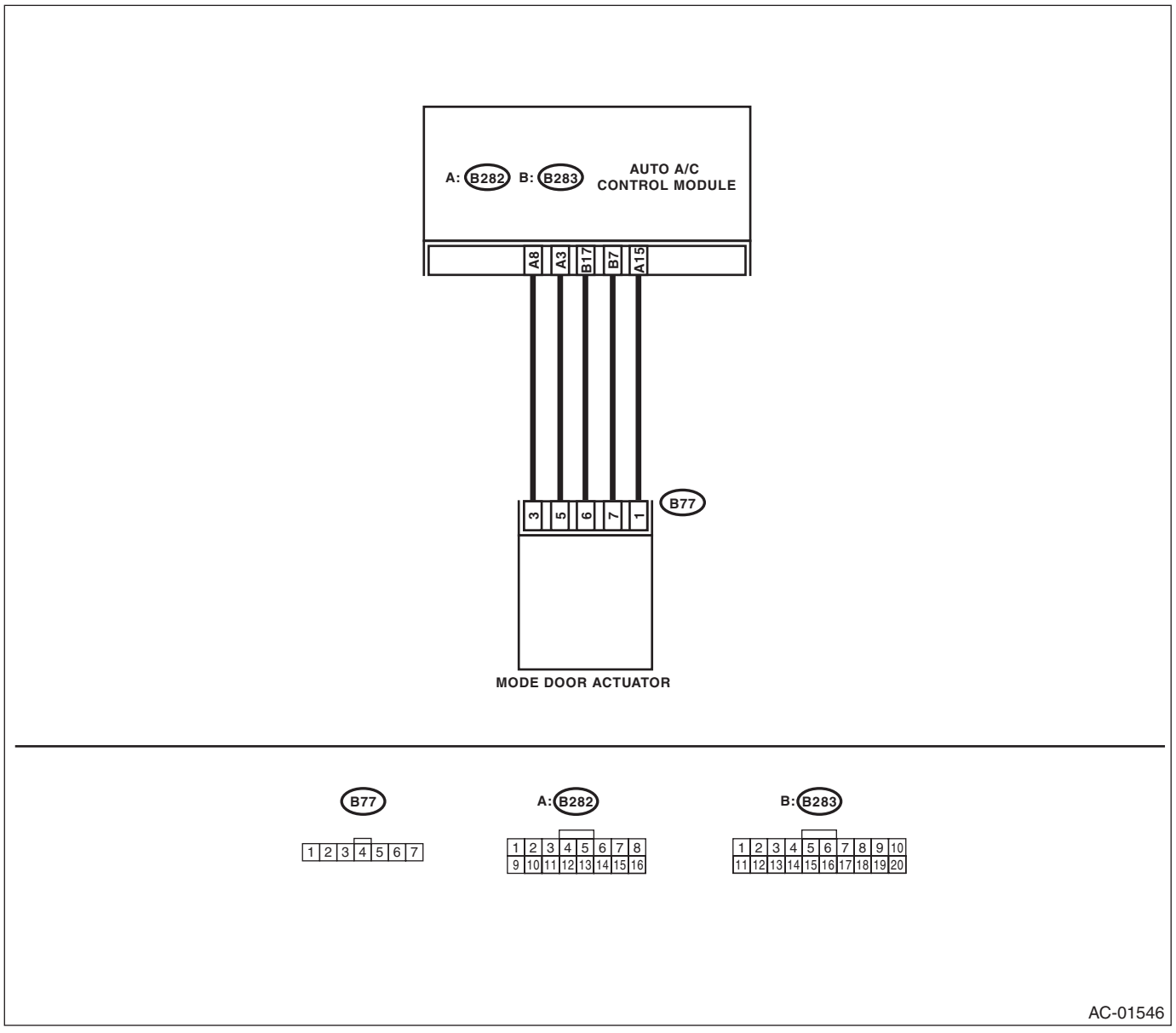




AC-01192

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY FOR INTAKE DOOR ACTUATOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the intake door actuator connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between intake door actuator connector and chassis ground.<br>***Connector & terminal***<br>***(B91) No. 7 (+) — Chassis ground (–):*** | Is the voltage 7 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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the auto A/C control module connector.<br>3) Measure the resistance between intake door actuator connector and auto A/C control module connector.<br>***Connector & terminal***<br>***(B283) No. 10 — (B91) No. 3:***<br>***(B283) No. 20 — (B91) No. 1:*** | 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.**<br>1) Connect the intake door actuator connector.<br>2) Ground the auto A/C control module connector with a suitable wire.<br>3) Turn the ignition switch to ON, and check the operation of intake door actuator.<br>***Connector & terminal***<br>***(B283) No. 10 — Chassis ground:*** | Does the actuator move to the FRESH side? | Go to step **4**. | Replace the intake door actuator. |
| 4 | **CHECK OPERATION OF INTAKE DOOR ACTUATOR.**<br>1) Turn the ignition switch to OFF.<br>2) Ground the auto A/C control module connector with a suitable wire.<br>3) Turn the ignition switch to ON, and check the operation of intake door actuator.<br>***Connector & terminal:***<br>***(B283) No. 20 — Chassis ground:*** | Does the actuator move to the RECIRC side? | Replace the auto A/C control module. | Replace the intake door actuator. |

## B: MODE DOOR ACTUATOR

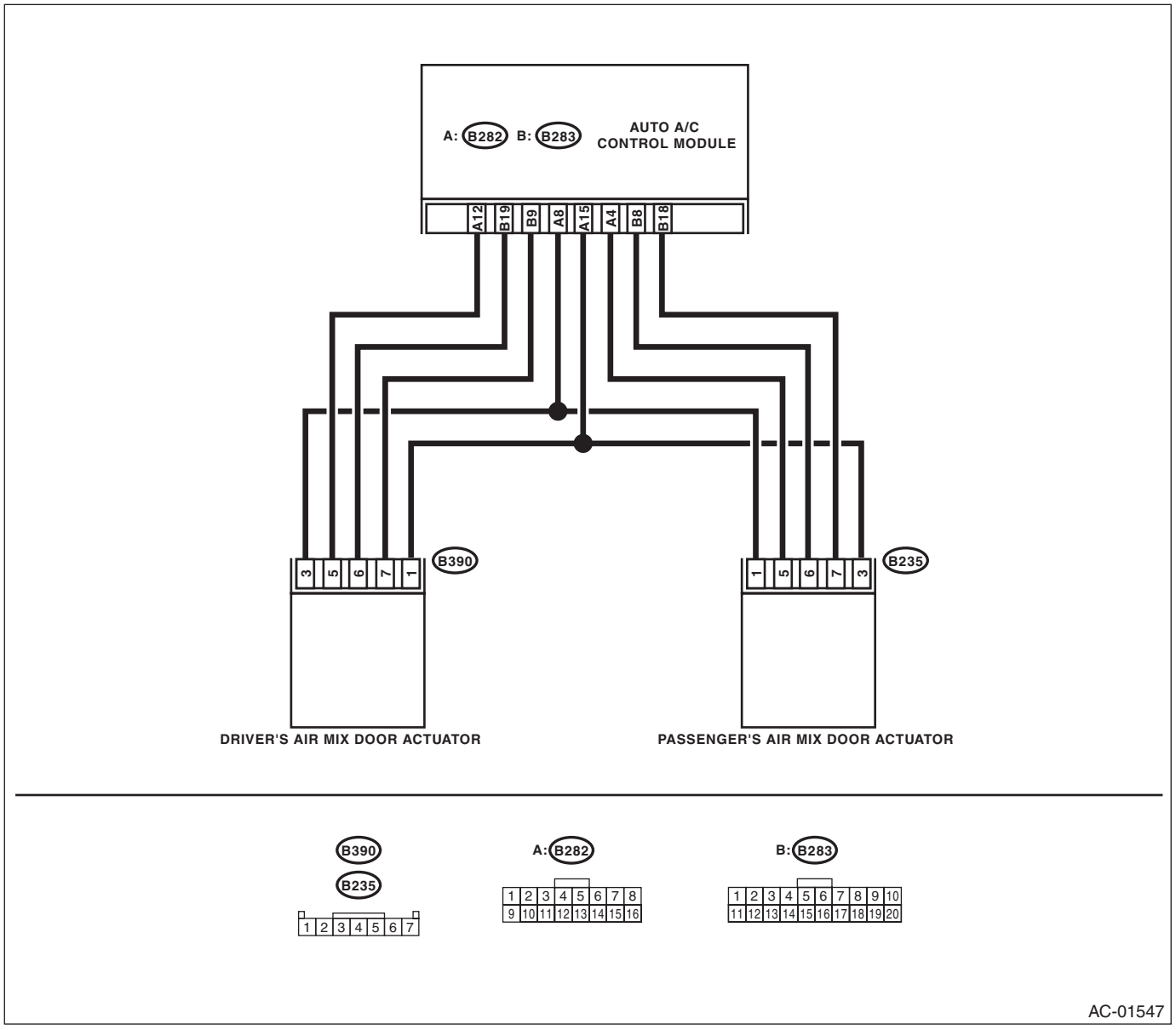
**TROUBLE SYMPTOM:**
Air flow outlet is not changed.
**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR POSITION SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the mode door actuator connector.<br>3) Turn the ignition switch and AUTO switch to ON.<br>4) Measure the voltage between auto A/C control module connector terminals.<br>***Connector & terminal***<br>***(B282) No. 8 (+) — (B282) No. 15 (–):*** | Is the voltage approx. 5 V? | Go to step **2**. | Replace the auto A/C control module. |
| 2 | **CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.**<br>Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to FACE position.<br>***Connector & terminal***<br>***(B283) No. 7 (+) — Chassis ground (–):*** | Is the voltage 7 V (at normal temperature)? | Go to step **3**. | Replace the auto A/C control module. |
| 3 | **CHECK POWER SUPPLY FOR MODE DOOR ACTUATOR.**<br>Measure the voltage between auto A/C control module connector and chassis ground after turning the air flow control switch to DEF position.<br>***Connector & terminal***<br>***(B283) No. 17 (+) — Chassis ground (–):*** | Is the voltage 7 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.**<br>1) Turn the A/C and ignition switch to OFF.<br>2) Disconnect the auto A/C control module connector.<br>3) Measure the resistance between auto A/C control module and mode door actuator connector.<br>***Connector & terminal***<br>***(B77) No. 1 — (B282) No. 15:***<br>***(B77) No. 3 — (B282) No. 8:***<br>***(B77) No. 5 — (B282) No. 3:***<br>***(B77) No. 6 — (B283) No. 17:***<br>***(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.**<br>1) Connect the connector of auto A/C control module and mode door actuator.<br>2) Turn the ignition switch and AUTO switch to ON.<br>3) Check the voltage between auto A/C control module connector terminals while changing the mode between DEF and FACE.<br>***Connector & terminal***<br>***(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. |
| 6 | **CHECK POOR CONTACT.**<br>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. |

## 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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the air mix door actuator connector.<br>3) Turn the ignition switch and AUTO switch to ON.<br>4) Measure the voltage between auto A/C control module connector terminals.<br>***Connector & terminal***<br>***(B282) No. 8 (+) — (B282) No. 15 (–):*** | Is the voltage approx. 5 V? | Go to step **2**. | Replace the auto A/C control module. |
| 2 | **CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.**<br>Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum COOL position.<br>***Connector & terminal***<br>***Driver's side***<br>***(B283) No. 9 (+) — Chassis ground (–):***<br>***Passenger's side***<br>***(B283) No. 8 (+) — Chassis ground (–):*** | Is the voltage 7 V (at normal temperature)? | Go to step **3**. | Replace the auto A/C control module. |
| 3 | **CHECK POWER SUPPLY FOR AIR MIX DOOR ACTUATOR.**<br>Measure the voltage between auto A/C control module connector and chassis ground after turning the temperature control dial to maximum HOT position.<br>***Connector & terminal***<br>***Driver's side***<br>***(B283) No. 19 (+) — Chassis ground (–):***<br>***Passenger's side***<br>***(B283) No. 18 (+) — Chassis ground (–):*** | Is the voltage 7 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 AIR MIX DOOR ACTUATOR.**<br>1) Turn the A/C and ignition switch to OFF.<br>2) Disconnect the auto A/C control module connector.<br>3) Measure the resistance between auto A/C control module and air mix door actuator connector.<br>***Connector & terminal***<br>***Driver's side***<br>***(B390) No. 1 — (B282) No. 15:***<br>***(B390) No. 3 — (B282) No. 8:***<br>***(B390) No. 5 — (B282) No. 12:***<br>***(B390) No. 6 — (B283) No. 19:***<br>***(B390) No. 7 — (B283) No. 9:***<br>***Passenger's side***<br>***(B235) No. 1 — (B282) No. 8:***<br>***(B235) No. 3 — (B282) No. 15:***<br>***(B235) No. 5 — (B282) No. 4:***<br>***(B235) No. 6 — (B283) No. 8:***<br>***(B235) No. 7 — (B283) No. 18:*** | 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.**<br>1) Connect the connector of auto A/C control module and air mix door actuator.<br>2) Turn the ignition switch and AUTO switch to ON.<br>3) Check the voltage between auto A/C control module connector terminals while changing the setting temperature between maximum COOL and maximum HOT.<br>***Connector & terminal***<br>***Driver's side***<br>***(B282) No. 12 (+) — (B282) No. 15 (–):***<br>***Passenger's side***<br>***(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. |
| 6 | **CHECK POOR CONTACT.**<br>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. |

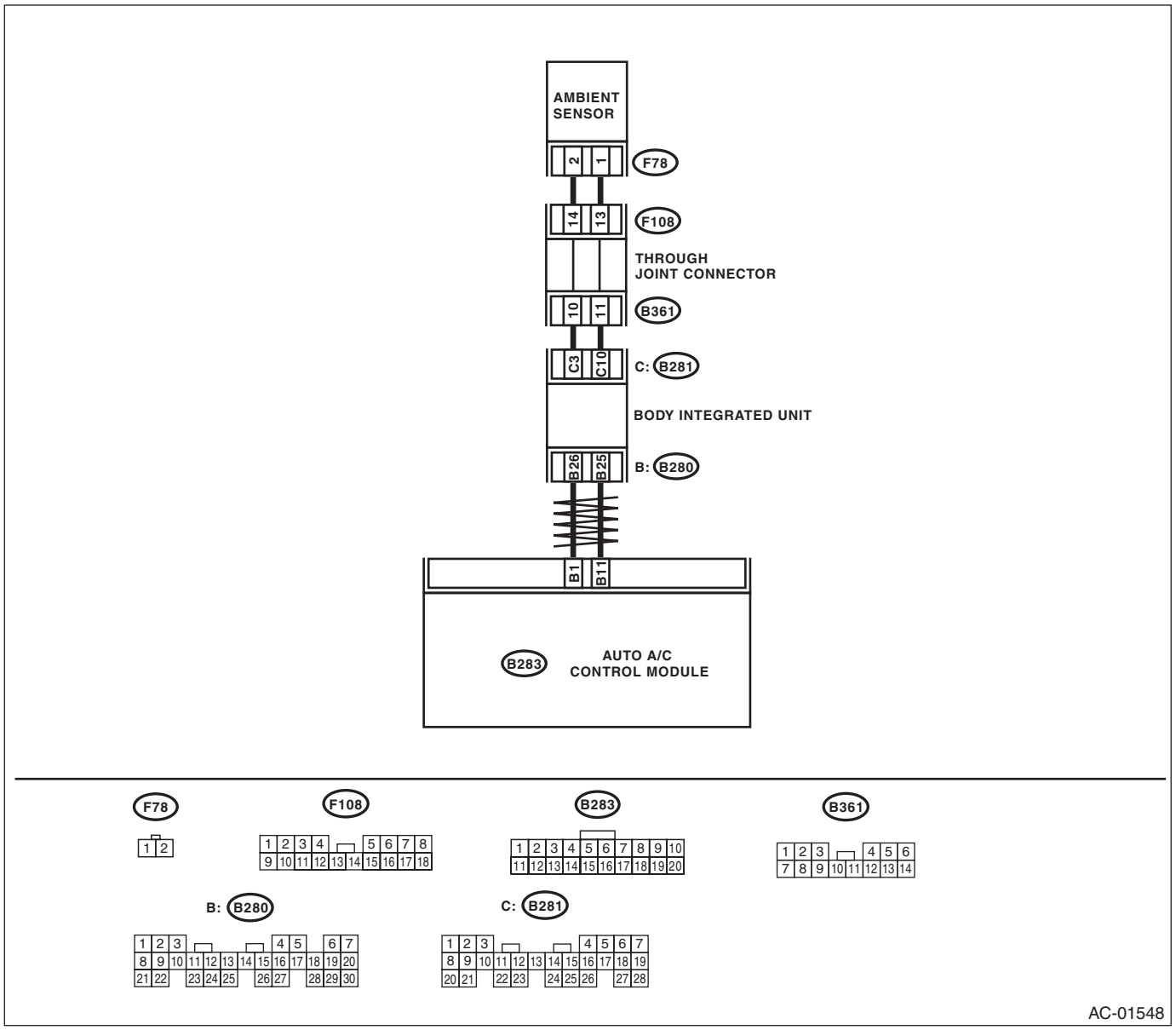
# 8. Diagnostic Procedure for Sensors

## A: AMBIENT SENSOR

**TROUBLE SYMPTOM:**

Fan speed is not switched when the fan speed control dial is in AUTO position.

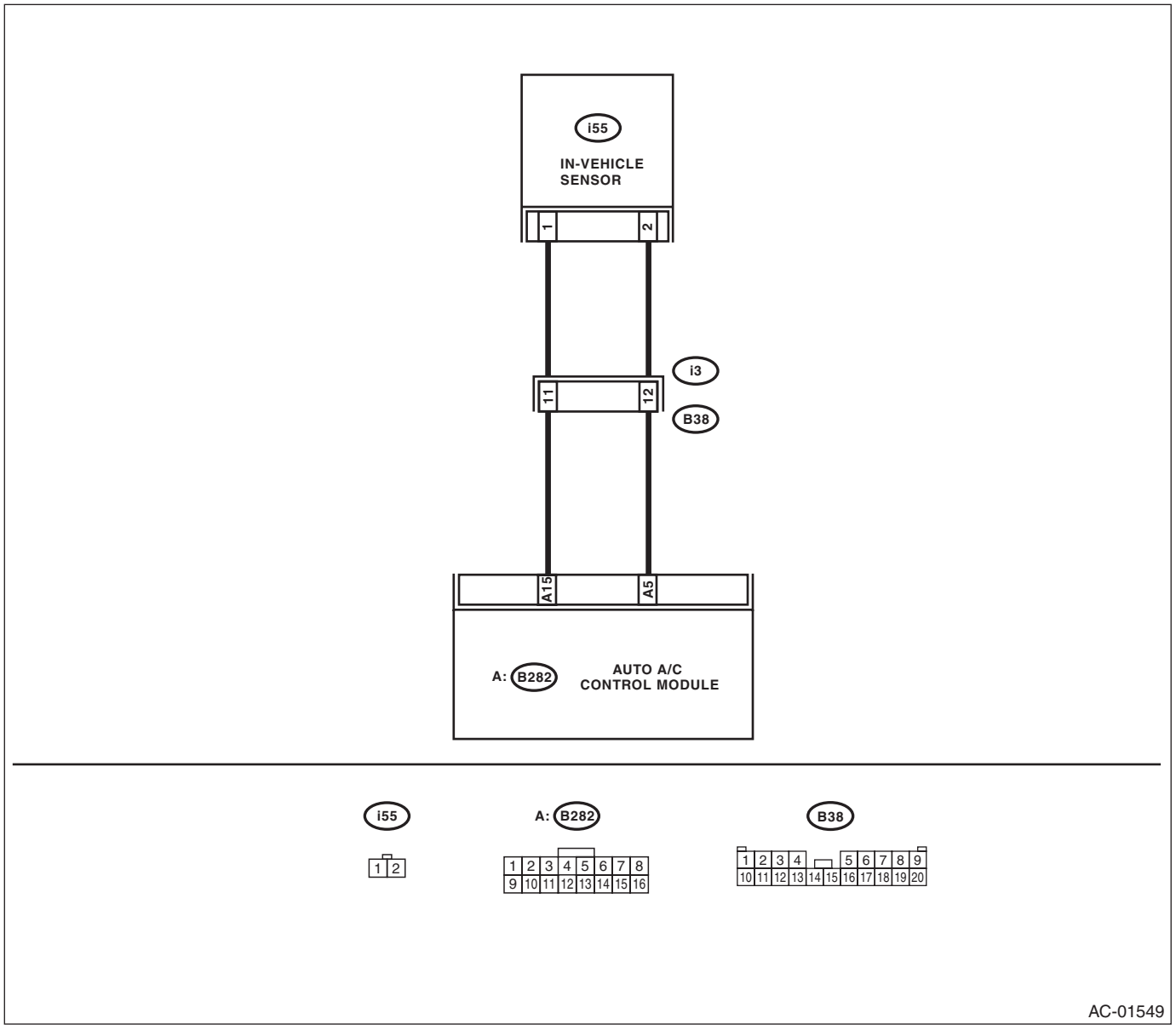
**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK AMBIENT SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from ambient sensor.<br>3) Measure the resistance between connector terminals of ambient sensor.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance approximately 2.2 kΩ at 25°C (77°F)? | Go to step **2**. | Replace the ambient sensor. |
| 2 | **CHECK INPUT SIGNAL FOR AMBIENT SENSOR.**<br>1) Turn the ignition to ON.<br>2) Measure the voltage between connector (F78) terminals.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Draw out the body integrated unit.<br>3) Disconnect the connector from ambient sensor.<br>4) Turn the ignition switch to ON.<br>5) Measure the voltage between connector terminals of body integrated unit.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from body integrated unit.<br>3) Measure the resistance of harness between body integrated unit and ambient sensor.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance of harness between body integrated unit and ambient sensor.<br>***Connector & terminal***<br>***(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.**<br>1) Connect the connectors of body integrated unit and ambient sensor as originally connected.<br>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.**<br>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. |

## B: IN-VEHICLE SENSOR

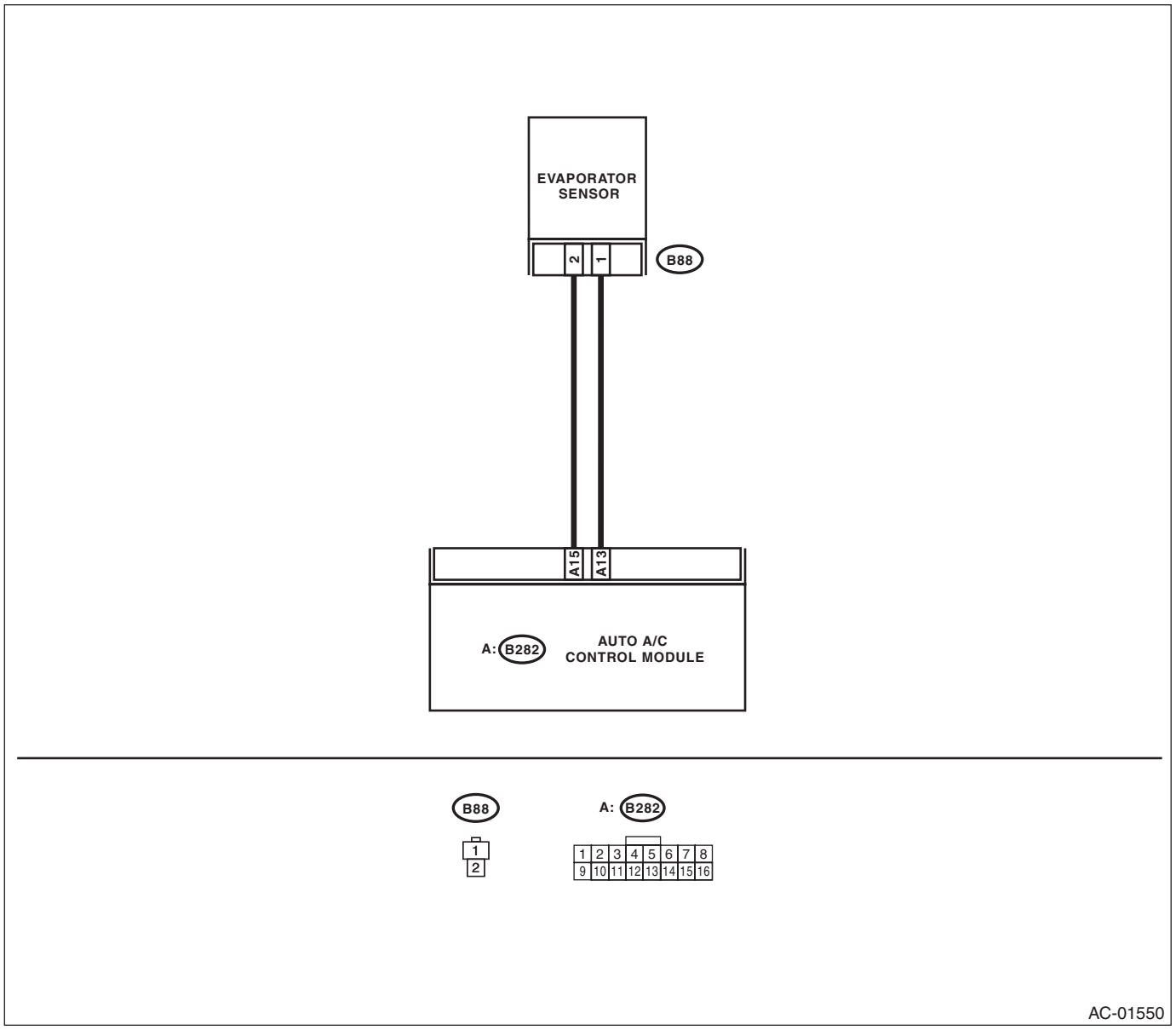
**TROUBLE SYMPTOM:**
Blower fan speed, outlet port and inlet port do not change after turning the AUTO switch to ON
**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK IN-VEHICLE SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the driver's side lower cover.<br>3) Disconnect the connector from in-vehicle sensor.<br>4) Measure the resistance between connector terminals of in-vehicle sensor.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance approximately 2.7 kΩ at 20°C (68°F)? | Go to step **2**. | Replace the in-vehicle sensor. |
| 2 | **CHECK INPUT SIGNAL FOR IN-VEHICLE SENSOR.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between in-vehicle sensor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(i55) No. 2 (+) — No. 1 (–):*** | Is the voltage approx. 5 V? | Go to step **6**. | Go to step **3**. |
| 3 | **CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the auto A/C control module.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between connector terminals of auto A/C control module.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from the auto A/C control module.<br>3) Measure the resistance of harness between auto A/C control module and in-vehicle sensor.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance of harness between auto A/C control module and in-vehicle sensor.<br>***Connector & terminal***<br>***(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.**<br>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. |

## C: EVAPORATOR SENSOR

**WIRING DIAGRAM:**



# Diagnostic Procedure for Sensors

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK EVAPORATOR SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the glove box.<br>3) Disconnect the connector from evaporator sensor.<br>4) Measure the resistance between connector terminals of the evaporator sensor.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance approximately 3.3 kΩ at 20°C (68°F)? | Go to step **2**. | Replace the evaporator sensor. |
| 2 | **CHECK INPUT SIGNAL FOR EVAPORATOR SENSOR.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between connector (B88) terminal and chassis ground.<br>***Connector & terminal***<br>***(B88) No. 1 (+) — No. 2 (–):*** | Is the voltage approx. 5 V? | Go to step **6**. | Go to step **3**. |
| 3 | **CHECK AUTO A/C CONTROL MODULE OUTPUT SIGNAL.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the auto A/C control module.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between connector terminals of auto A/C control module.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from the auto A/C control module.<br>3) Measure the resistance of harness between auto A/C control module and evaporator sensor.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance of harness between auto A/C control module and evaporator sensor.<br>***Connector & terminal***<br>***(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.**<br>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. |

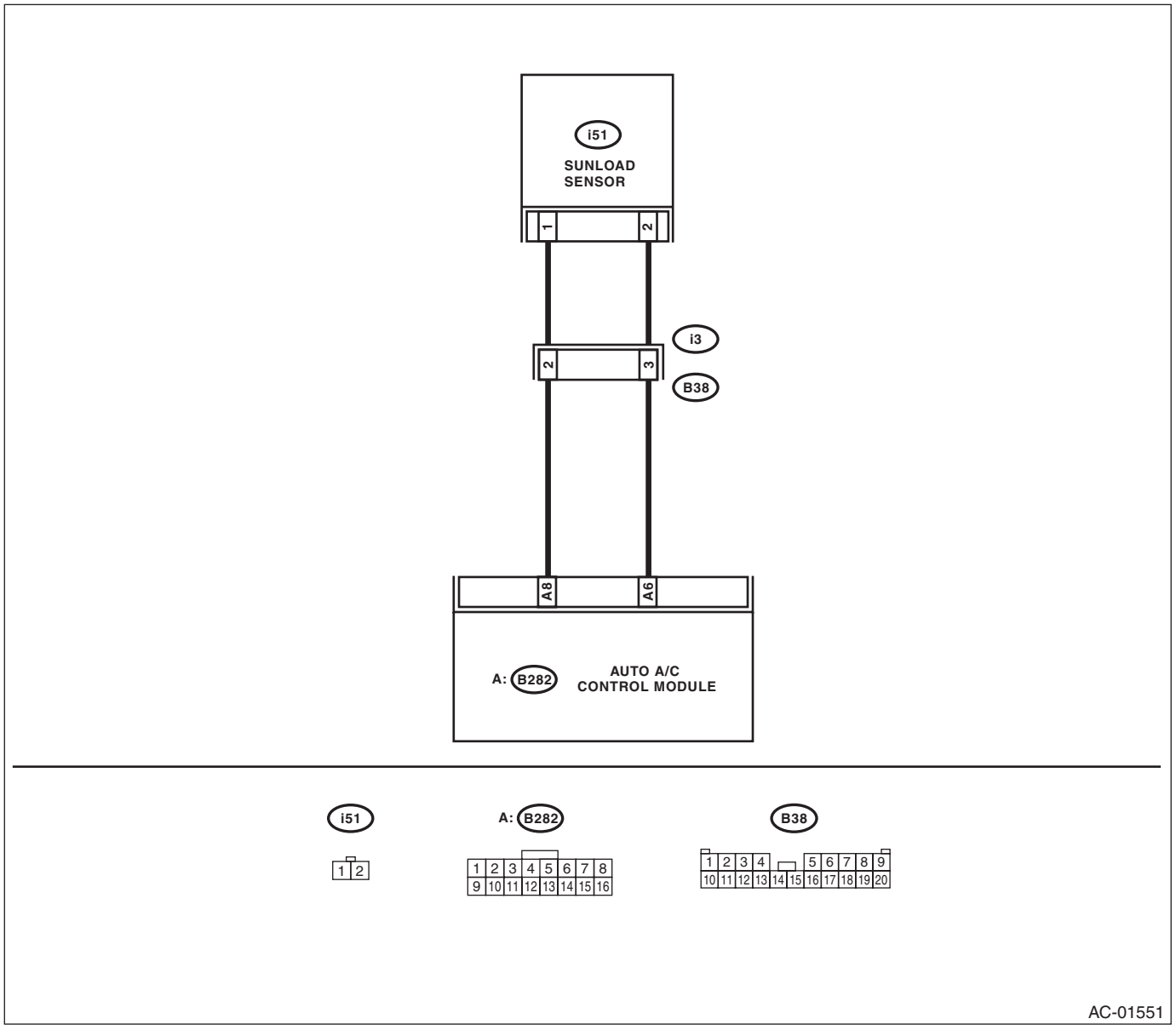
## D: SUNLOAD SENSOR

**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:**



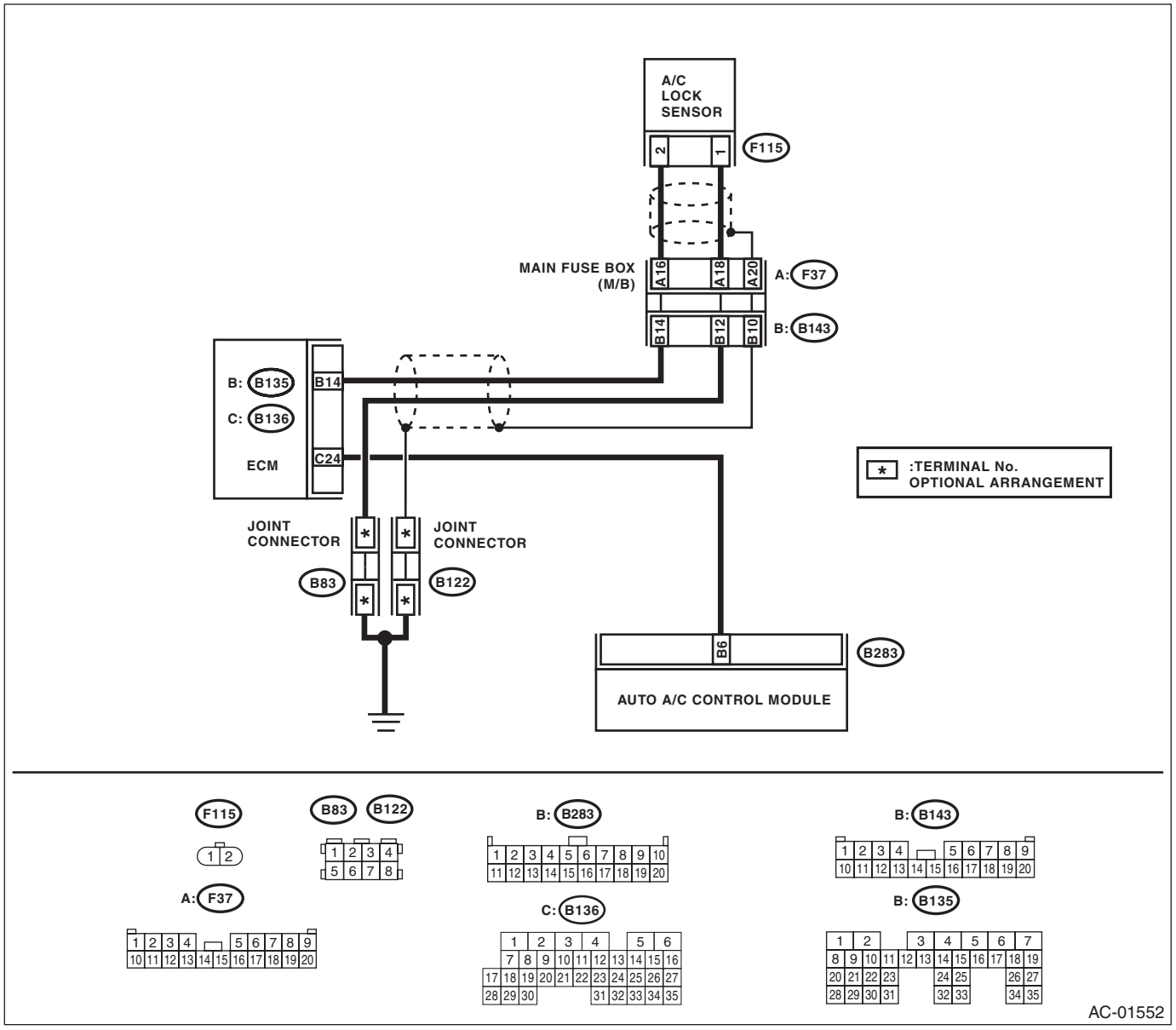
# Diagnostic Procedure for Sensors

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY VOLTAGE FOR SUNLOAD SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from sunload sensor.<br>3) Turn the ignition switch to ON.<br>4) Measure the power supply voltage for sunload sensor.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from the auto A/C control module.<br>3) Measure the resistance of the harness between the auto A/C control module and sunload sensor.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance of the harness between the auto A/C control module and sunload sensor.<br>***Connector & terminal***<br>***(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.**<br>1) Connect the connectors of sunload sensor and auto A/C control module.<br>2) Turn the ignition switch to ON.<br>3) Measure the voltage between connector terminals of auto A/C control module.<br>***Connector & terminal***<br>***(B282) No. 8 (+) — (B282) No. 6 (–):*** | Is the voltage approx. 2.5 V? | Go to step **5**. | Replace the sunload sensor. |
| 5 | **CHECK POOR CONTACT.**<br>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. |

## E: A/C LOCK SENSOR

H6 model

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK A/C LOCK SENSOR SIGNAL.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the Subaru Select Monitor to the data link connector.<br>3) Start the engine and turn the A/C switch to ON.<br>4) Read the data of A/C lock signal using Subaru Select Monitor.<br>NOTE:<br>• Subaru Select Monitor<br>For detailed operation procedure, refer to "READ CURRENT DATA FOR ENGINE". <Ref. to EN(H6DO)(diag)-34, READ CURRENT DATA FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> | Is the A/C lock signal switch ON? | Go to step **4**. | Go to step **2**. |
| 2 | **CHECK A/C LOCK SENSOR SIGNAL.**<br>1) Start the engine and turn the A/C switch to ON.<br>2) Measure the voltage between auto A/C control module harness connector and chassis ground.<br>***Connector & terminal***<br>***(B283) No. 6 (+) — Chassis ground (–):*** | Is the voltage 7 — 14 V? | Replace the auto A/C control module. | Go to step **3**. |
| 3 | **CHECK ECM.**<br>Measure the voltage between ECM and chassis ground.<br>***Connector & terminal***<br>***(B136) No. 24 (+) — Chassis ground (–):*** | Is the voltage 7 — 14 V? | Repair the harness between the ECM and the auto A/C control module connector. | Replace the ECM. |
| 4 | **CHECK A/C LOCK SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from ECM.<br>3) Measure the resistance between ECM connector and chassis ground.<br>***Connector & terminal***<br>***(B135) No. 14 — Chassis ground:*** | Is the resistance between 240 — 290 Ω? | Replace the ECM. | Go to step **5**. |
| 5 | **CHECK A/C LOCK SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the main fuse box harness connector.<br>3) Measure the resistance between main fuse box terminal.<br>***Connector & terminal***<br>***(F37) No. 16 — No. 18:*** | Is the resistance between 240 — 290 Ω? | Go to step **7**. | Go to step **6**. |
| 6 | **CHECK A/C LOCK SENSOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the A/C lock sensor connector.<br>3) Measure the resistance between A/C lock sensor terminals.<br>***Connector & terminal***<br>***(F115) No. 1 — No. 2:*** | Is the resistance between 240 — 290 Ω? | Repair or Replace the harness between A/C lock sensor and main fuse box. | Replace the A/C compressor assembly. (A/C lock switch malfunction) |
| 7 | **CHECK MAIN FUSE BOX.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector and then measure the resistance between main fuse box terminal.<br>***Connector & terminal***<br>***(F37) No. 16 — (F143) No. 12:***<br>***(F37) No. 18 — (F143) No. 14:*** | Is the resistance less than 10 Ω? | Repair or Replace the harness between A/C lock sensor and main fuse box. | Replace the main fuse box. |

# 9. Diagnostics with Phenomenon

## A: INSPECTION

| Symptom | Problem parts |
|---|---|
| A/C system fails to operate. | • Fuse (M/B No. 8, F/B No. 22, 31)<br>• Connector (Poor contact)<br>• Ground<br>• Auto A/C control module<br>• Blower fan motor<br>• Blower fan relay<br>• A/C relay<br>• Compressor (Magnet clutch)<br>• Evaporator sensor |
| Fuse is blown out. | • Fuse (M/B No. 8, F/B No. 22, 31)<br>• Connector (Poor contact) |
| Illumination cannot dim. | • Fuse (M/B No. 8, F/B No. 22, 31)<br>• Connector (Poor contact)<br>• Auto A/C control module<br>• Body integrated unit |
| Blower fan does not rotate or fan speed cannot be controlled. | • Fuse (F/B No. 22, 27, 28)<br>• Connector (Poor contact)<br>• Ground<br>• Auto A/C control module<br>• Blower fan motor<br>• Blower fan relay |
| Unable to switch suction vents. | • Connector (Poor contact)<br>• Auto A/C control module<br>• Intake door actuator |
| Unable to switch vents. | • Connector (Poor contact)<br>• Auto A/C control module<br>• Mode door actuator |
| The compartment temperature does not rise. (Warm air does not come out.) | • Connector (Poor contact)<br>• Auto A/C control module<br>• Air mix door actuator<br>• In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor<br>• In-vehicle sensor aspirator hose |
| The compartment temperature does not lower. (Cold air does not come out.) | • Connector (Poor contact)<br>• Auto A/C control module<br>• Air mix door actuator<br>• A/C relay<br>• Compressor (Magnet clutch)<br>• Radiator fan motor<br>• Radiator fan relay<br>• In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor<br>• In-vehicle sensor aspirator hose |
| Compartment temperature is higher or lower than setting temperature. | • Auto A/C control module<br>• Air mix door actuator<br>• In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor<br>• In-vehicle sensor aspirator hose |
| Compartment temperature does not quickly respond to setting temperature. | • Air mix door actuator<br>• In-vehicle sensor, ambient sensor, evaporator sensor and sunload sensor<br>• In-vehicle sensor aspirator hose |
| Radiator fan does not rotate during A/C operation. | • Radiator fan motor<br>• Radiator fan relay |

# AIRBAG SYSTEM

# AB


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Airbag Connector | 9 |
| 3. | Inspection Locations After a Collision | 12 |
| 4. | Driver's Airbag Module | 15 |
| 5. | Passenger's Airbag Module | 16 |
| 6. | Side Airbag Module | 17 |
| 7. | Curtain Airbag Module | 19 |
| 8. | Airbag Control Module | 21 |
| 9. | Side Airbag Sensor | 22 |
| 10. | Curtain Airbag Sensor | 23 |
| 11. | Roll Connector | 24 |
| 12. | Front Sub Sensor | 25 |

# 1. General Description

## A: SPECIFICATION

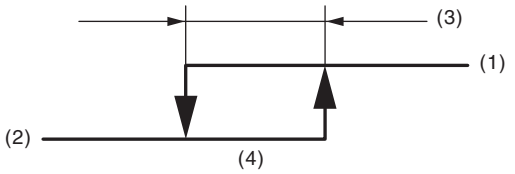
### 1. HEATER SYSTEM

| Item | | Specification | On condition |
|---|---|---|---|
| Heating capacity | | 5.1 kW (4,385 kcal/h, 17,401 BTU/h) or more | • Mode selector switch: HEAT<br>• Temperature control switch: FULL HOT<br>• Temperature difference between hot water and inlet air: 65°C (149°F)<br>• How water flow rate: 360 ℓ (95.1 US gal, 79.2 Imp gal)/h |
| Air flow rate | | 320 $m^3$ (11,301 cu ft)/h | Heat mode (FRESH), FULL HOT at 12.5 V |
| Max air flow rate | | 510 $m^3$ (18.01 cu ft)/h | • Temperature control switch: FULL COLD<br>• Blower fan speed:<br>Auto A/C: 6th position<br>Manual A/C: 4th position<br>• Mode selector lever: RECIRC |
| Heater core size (height × length × width) | | 264 × 110 × 27 mm (10.4 × 4.33 × 1.06 in) | — |
| Blower motor | Type | Magnet motor 220 W or less | 12 V |
| | Fan type and size (diameter × width) | Sirocco fan type 150 × 75 mm (5.91 × 2.95 in) | — |

### 2. A/C SYSTEM

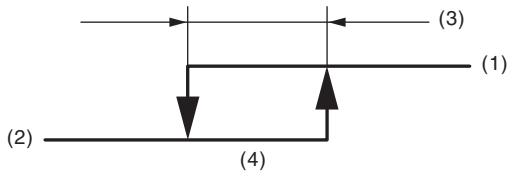
• Auto A/C model

| Item | | Specification |
|---|---|---|
| Type of air conditioner | | Reheat air-mix type |
| Cooling capacity | | 5.3 kW (4,557 kcal/h, 18,084 BTU/h) |
| Refrigerant | | HFC-134a ($CH_2FCF_3$) [0.4±0.03 kg (0.88±0.07 lb)] |
| Compressor | Type | Scroll, constant volume (SCSA 08C) |
| | Discharge | 74.5 cc (4.55 cu in)/rev |
| | Max. permissible speed | 9,000 rpm |
| Magnet clutch | Type | Dry, single-disc type |
| | Power consumption | 35 W |
| | Type of belt | 2.5 L SOHC Non-turbo and 2.5 L DOHC Turbo model: V-belt 4 PK<br>3.0 L DOHC Non-turbo model: V-belt 6 PK |
| | Pulley dia. (effective dia.) | 93 mm (3.7 in) |
| | Pulley ratio | 1.43 |
| Condenser | Type | Corrugated fin (Sub cool type) |
| | Core face area | 0.193 $m^2$ (2.077 sq ft) |
| | Core thickness | 16 mm (0.63 in) |
| | Radiation area | 5.72 $m^2$ (61.57 sq ft) |
| Receiver drier | Effective inner capacity | 190 $cm^3$ (11.6 cu in) |
| Expansion valve | Type | Externally equalizing |
| Evaporator | Type | Single tank |
| | Dimensions (W × H × T) | 298.6 × 151 × 38 mm (11.76 × 5.94 × 1.50 in) |
| Blower fan | Fan type | Sirocco fan |
| | Outer diameter × width | 150 × 75 mm (5.91 × 2.95 in) |
| | Power consumption | 220 W |

| Item | | | Specification |
|---|---|---|---|
| Condenser fan (Sub fan) | | Motor type | Magnet |
| | | Power consumption | 2.5 L SOHC Non-turbo model: 90 W<br>2.5 L DOHC Turbo model: 120 W<br>3.0 L DOHC Non-turbo model: 160 W |
| | | Fan outer diameter | 2.5 L SOHC Non-turbo model: 300 mm (11.8 in)<br>2.5 L DOHC Turbo and 3.0 L DOHC Non-turbo model: 320 mm (12.6 in) |
| Radiator fan (Main fan) | | Motor type | Magnet |
| | | Power consumption | 2.5 L SOHC Non-turbo model: 90 W<br>2.5 L DOHC Turbo model: 120 W<br>3.0 L DOHC Non-turbo model: 160 W |
| | | Fan outer diameter | 2.5 L SOHC Non-turbo model: 300 mm (11.8 in)<br>2.5 L DOHC Turbo and 3.0 L DOHC Nonturbo model: 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<br>(2.00±0.20 kg/cm$^2$, 28.4±2.9 psi) |
| | | OFF → ON | $225^{+25}_{-29}$ kPa<br>($2.29^{+0.25}_{-0.30}$ kg/cm$^2$, $32.6^{+3.6}_{-4.2}$ psi) |
| | High-pressure switch operating pressure | ON → OFF | $3{,}140^{+50}_{-200}$ kPa<br>($32.02^{+0.51}_{-2.04}$ kg/cm$^2$, $455.4^{+7.25}_{-29.0}$ psi) |
| | | OFF → ON | 2,550±200 kPa<br>(26.00±2.04 kg/cm$^2$, 369.8±29.0 psi) |
| | Middle-pressure switch operating pressure | ON → OFF | 1,370±120 kPa<br>(13.97±1.22 kg/cm$^2$, 198.65±17.35 psi) |
| | | OFF → ON | 1,770±80 kPa<br>(18.05±0.82 kg/cm$^2$, 256.81±11.60 psi) |
| Thermo-control amplifier working temperature (Evaporator outlet air) | | |  <br>AC-00601<br>(1) ON<br>(2) OFF<br>(3) 1±0.5°C (33.8±0.9°F)<br>(4) $4^{+1.5}_{0}$°C ($39.2^{+2.7}_{0}$°F) |

- Manual A/C model

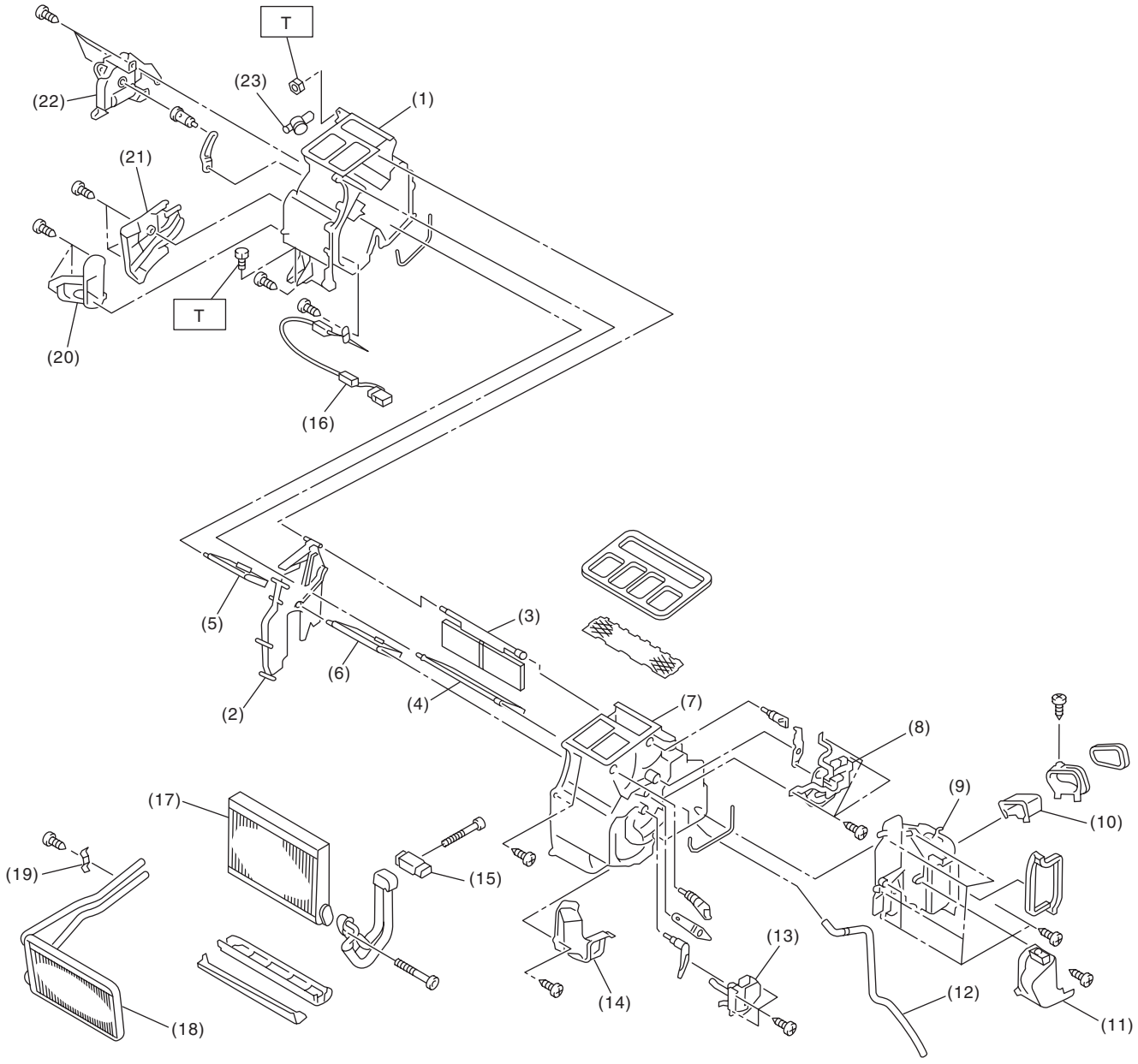
| Item | | Specification |
|---|---|---|
| Type of air conditioner | | Reheat air-mix type |
| Cooling capacity | | 5.3 kW (4,557 kcal/h, 18,084 BTU/h) |
| Refrigerant | | HFC-134a ($CH_2FCF_3$)<br>[0.4±0.03 kg (0.88±0.07 lb)] |
| Compressor | Type | Scroll, constant volume (SCSA 08C) |
| | Discharge | 74.5 cc (4.55 cu in)/rev |
| | Max. permissible speed | 9,000 rpm |

| Item | | | Specification |
|---|---|---|---|
| Magnet clutch | | Type | Dry, single-disc type |
| | | Power consumption | 35 W |
| | | Type of belt | V-belt 4 PK |
| | | Pulley dia. (effective dia.) | 93 mm (3.7 in) |
| | | Pulley ratio | 1.43 |
| Condenser | | Type | Corrugated fin (Sub cool type) |
| | | Core face area | 0.193 $m^2$ (2.077 sq ft) |
| | | Core thickness | 16 mm (0.63 in) |
| | | Radiation area | 5.7 $m^2$ (61.57 sq ft) |
| Receiver drier | | Effective inner capacity | 190 $cm^3$ (11.6 cu in) |
| Expansion valve | | Type | Externally equalizing |
| Evaporator | | Type | Single tank |
| | | Dimensions (W × H × T) | 298.6 × 151 × 38 mm (11.7 × 5.94 × 1.50 in) |
| Blower fan | | Fan type | Sirocco fan |
| | | Outer diameter × width | 150 × 75 mm (5.91 × 2.95 in) |
| | | Power consumption | 220 W |
| Condenser fan (Sub fan) | | Motor type | Magnet |
| | | Power consumption | 90 W |
| | | Fan outer diameter | 300 mm (11.8 in) |
| Radiator fan (Main fan) | | Motor type | Magnet |
| | | Power consumption | 90 W |
| | | Fan outer diameter | 300 mm (11.8 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) |
| Thermo control amplifier working temperature (Evaporator outlet air) | | |  AC-00601<br>(1) ON<br>(2) OFF<br>(3) 1±0.5°C (33.8±0.9°F)<br>(4) $4^{+1.5}_{0}$°C ($39.2^{+2.7}_{0}$°F) |

# B: COMPONENT

## 1. HEATER COOLING UNIT

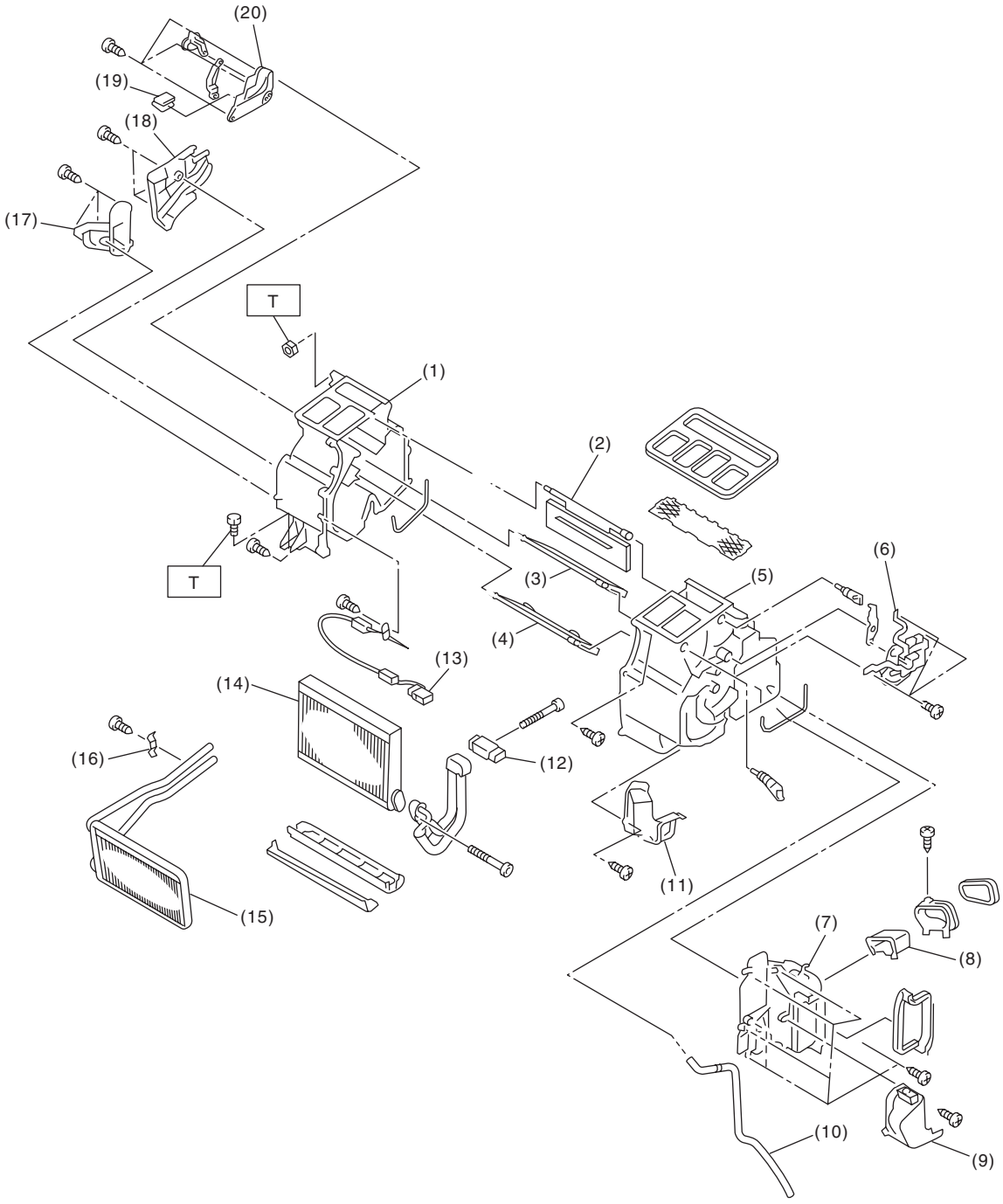
- Auto A/C model



(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) Grommet
(11) Pipe cover
(12) Drain hose
(13) Air mix door actuator RH
(14) Foot duct RH
(15) Expansion valve
(16) Evaporator sensor
(17) Evaporator
(18) Heater core
(19) Heater pipe clamp
(20) Foot duct LH
(21) Heater core cover
(22) Air mix door actuator LH
(23) Aspirator

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

- Manual A/C model

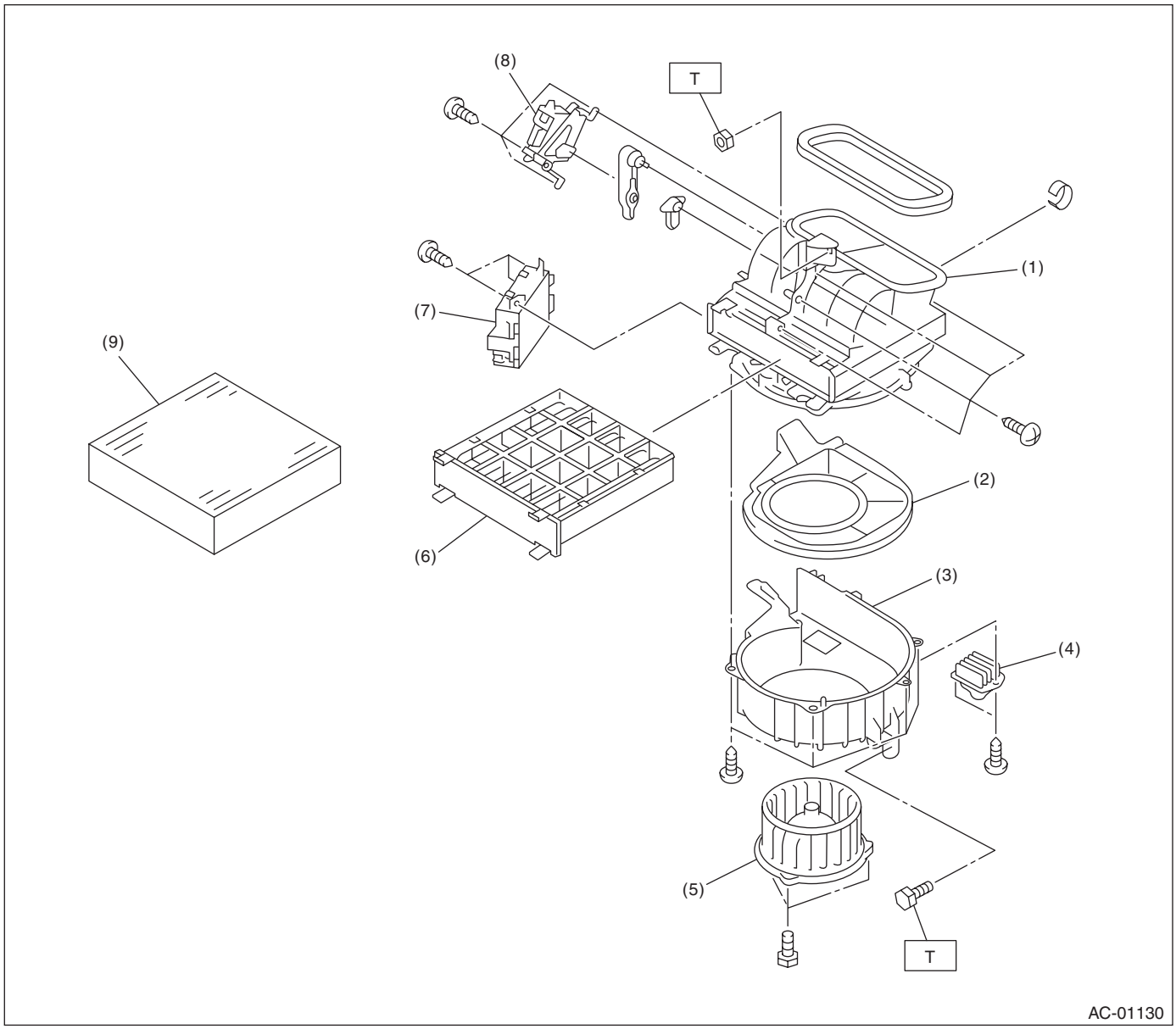



AC-01430

(1) Heater unit case LH
(2) Mode door RR
(3) Mode door FR
(4) Air mix door
(5) Heater unit case RH
(6) Mode door actuator
(7) Evaporator cover
(8) Grommet
(9) Pipe cover
(10) Drain hose
(11) Foot duct RH
(12) Expansion valve
(13) Thermo amplifier
(14) Evaporator
(15) Heater core
(16) Heater pipe clamp
(17) Foot duct LH
(18) Heater core cover
(19) Clip
(20) Air mix door linkage

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

## 2. BLOWER MOTOR UNIT

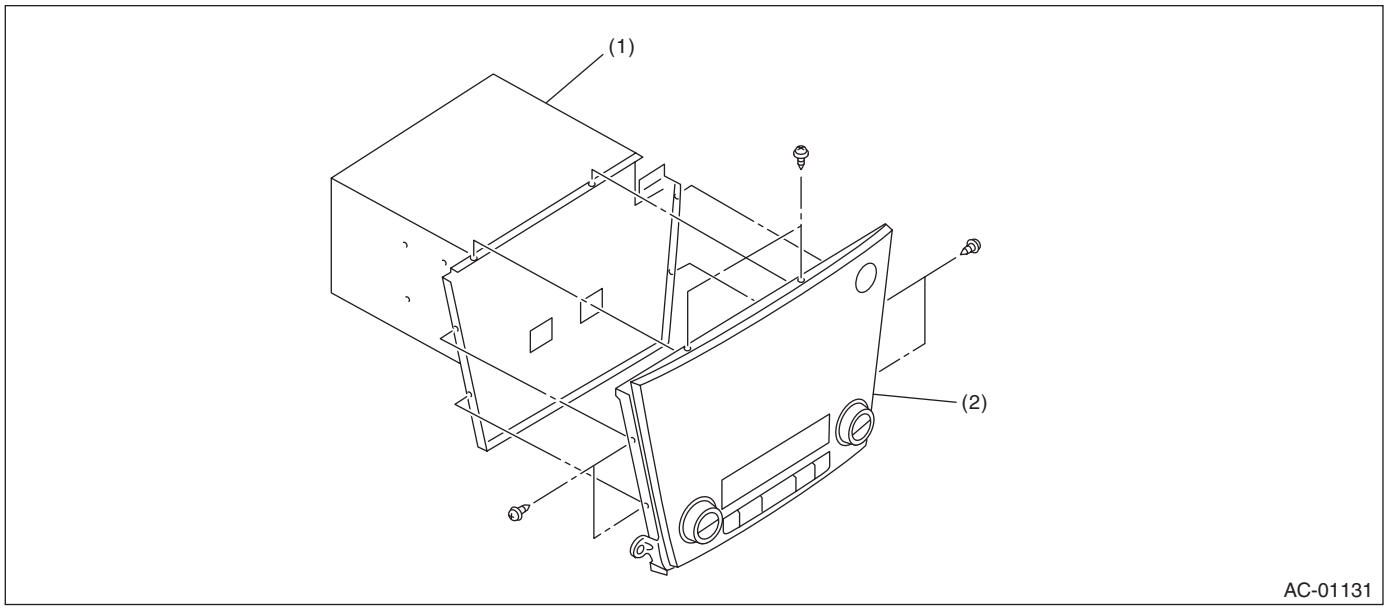



(1) Upper case
(2) Blower plate
(3) Lower case
(4) Power Transistor (Auto A/C Model)
Blower Resistor (Manual A/C Model)
(5) Blower motor
(6) Filter cover
(7) Control unit (Auto A/C model)
(8) Intake door actuator
(9) Filter

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

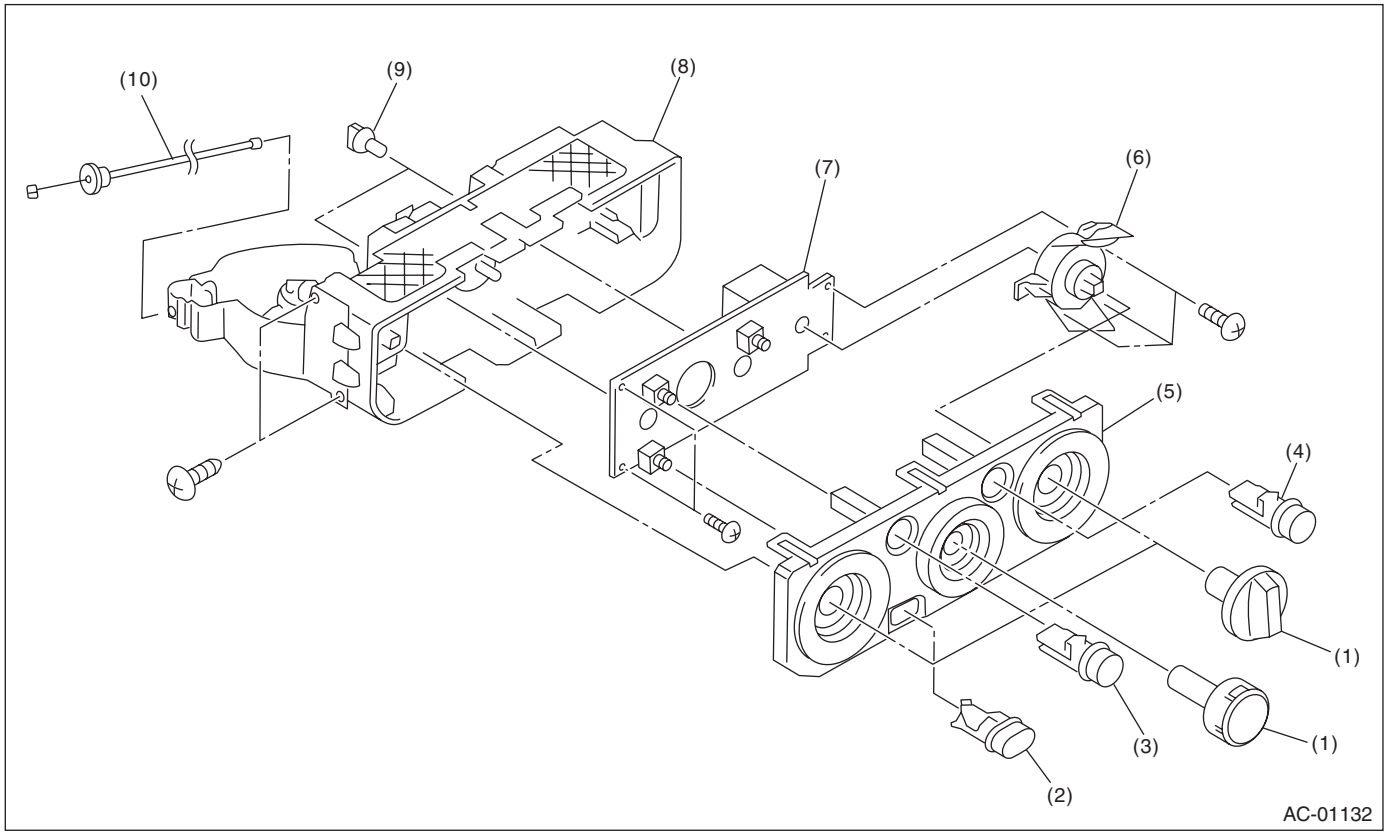
## 3. CONTROL PANEL

- Auto A/C model



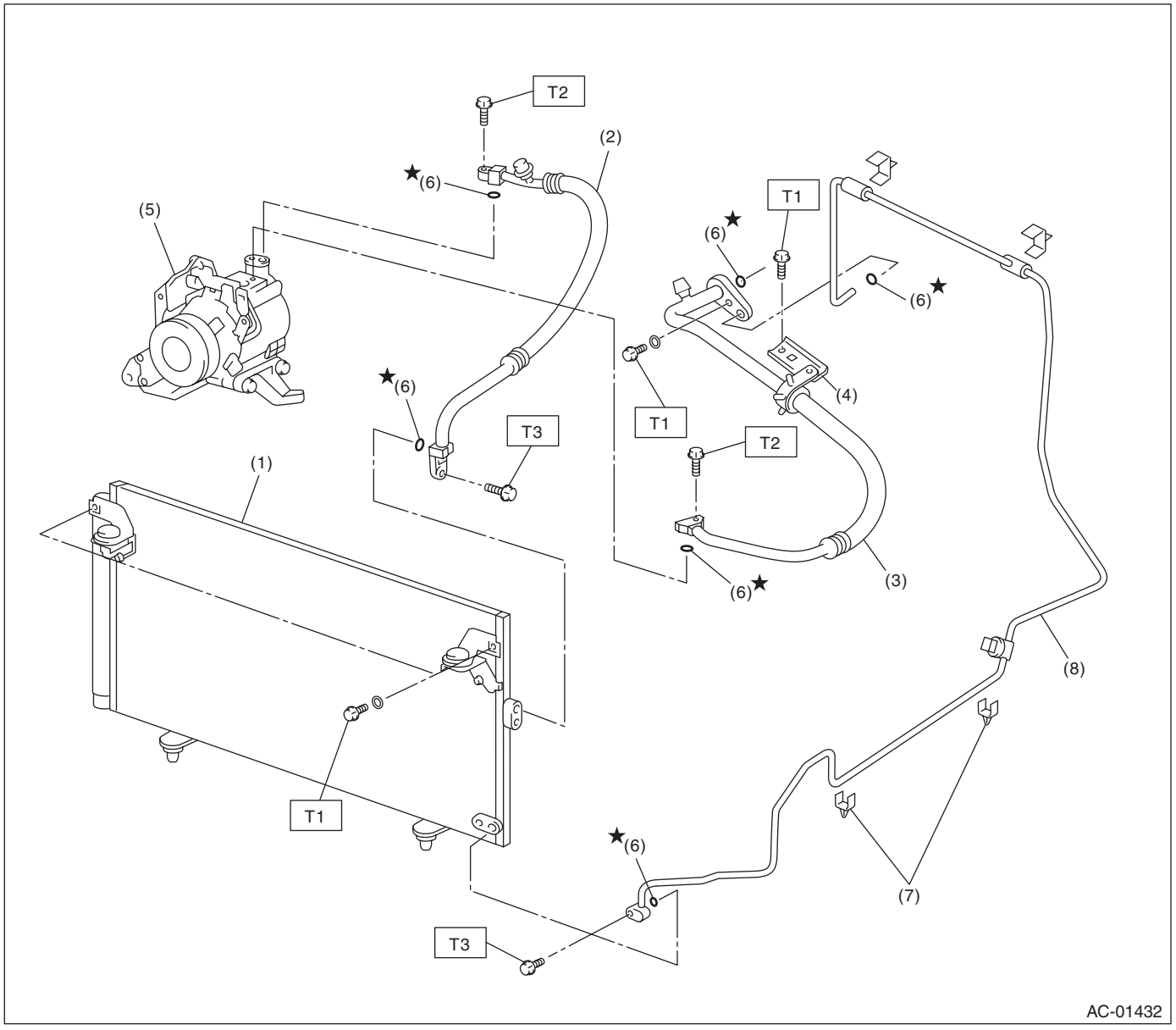

(1) Audio ASSY
(2) Control panel

- Manual A/C model




(1) Dial
(2) A/C switch
(3) FRESH/RECIRC switch
(4) Rear window defogger switch
(5) Heater control panel
(6) Air flow control switch
(7) Switch board
(8) Heater control base
(9) Light
(10) Temperature control cable

## 4. AIR CONDITIONING UNIT

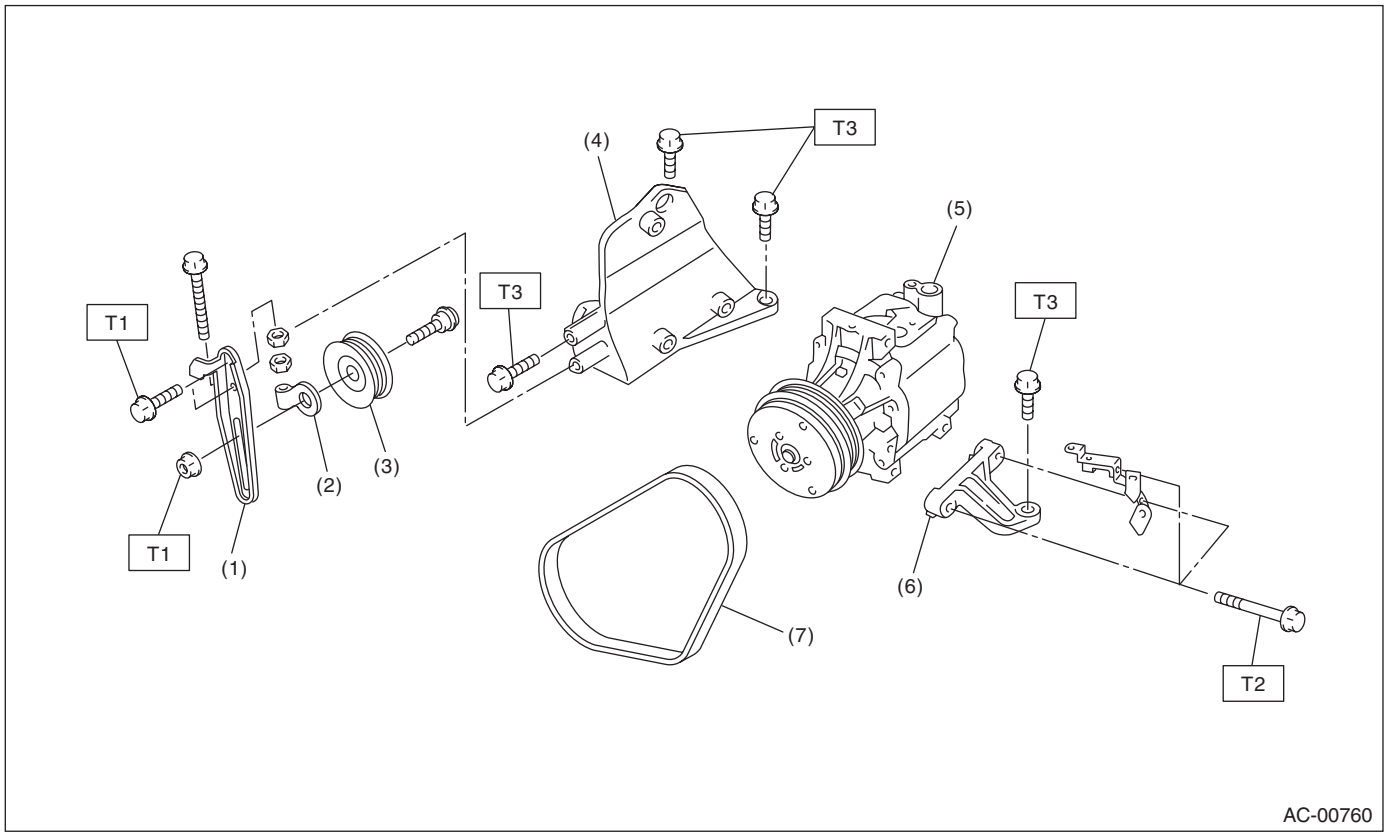



| | | | |
|---|---|---|---|
| (1) | Condenser | (5) | Compressor |
| (2) | Hose (High-pressure) | (6) | O-ring |
| (3) | Hose (Low-pressure) | (7) | Clamp |
| (4) | Bracket | (8) | Tube |

***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)***

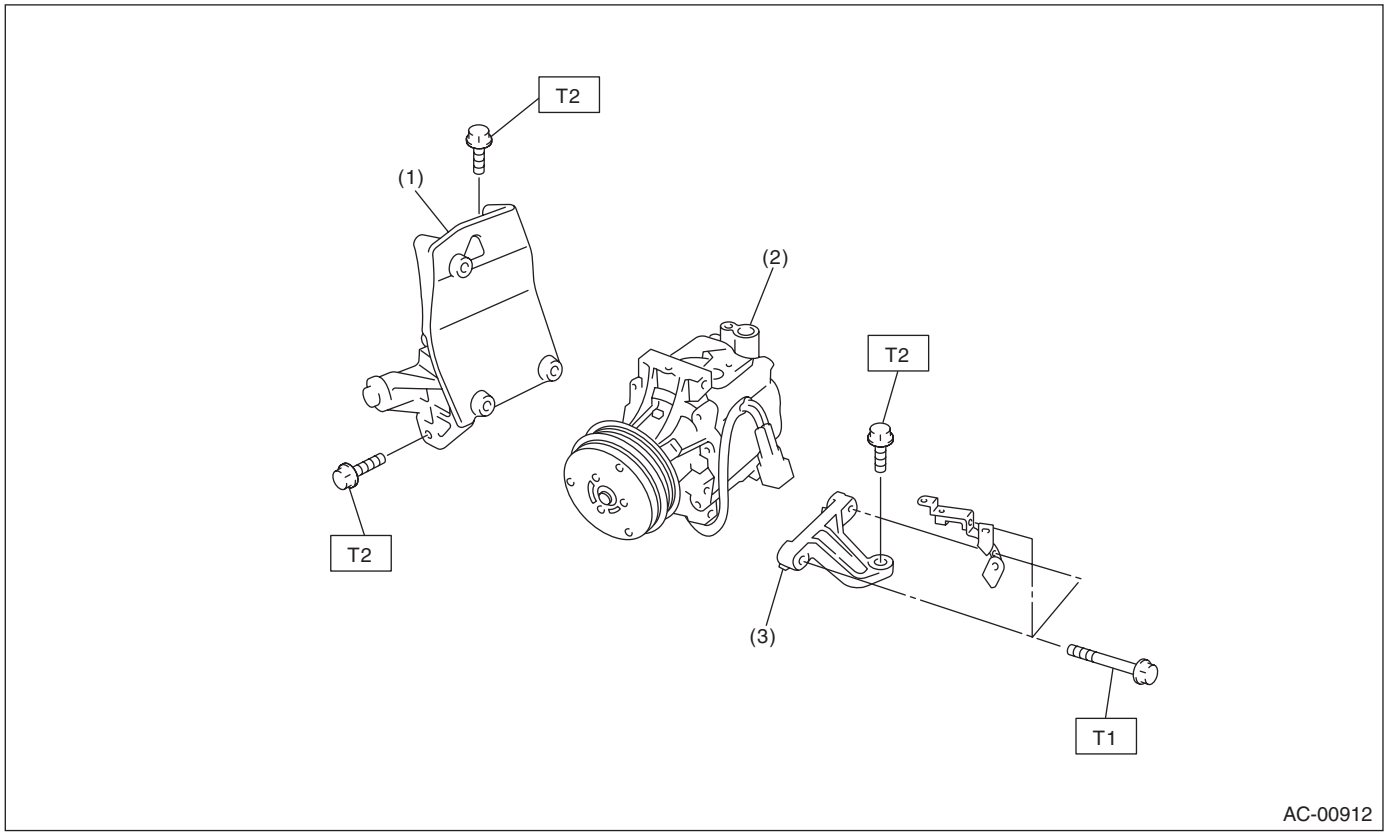
## 5. COMPRESSOR

- H4 model




| | | | | |
|---|---|---|---|---|
| (1) | Idler pulley bracket | (5) | Compressor | ***Tightening torque:N·m (kgf-m, ft-lb)*** |
| (2) | Idler pulley adjuster | (6) | Compressor lower bracket | ***T1: 23.0 (2.35, 17.0)*** |
| (3) | Idler pulley | (7) | V-belt | ***T2: 28.9 (2.95, 21.3)*** |
| (4) | Compressor upper bracket | | | ***T3: 36 (3.7, 26.6)*** |

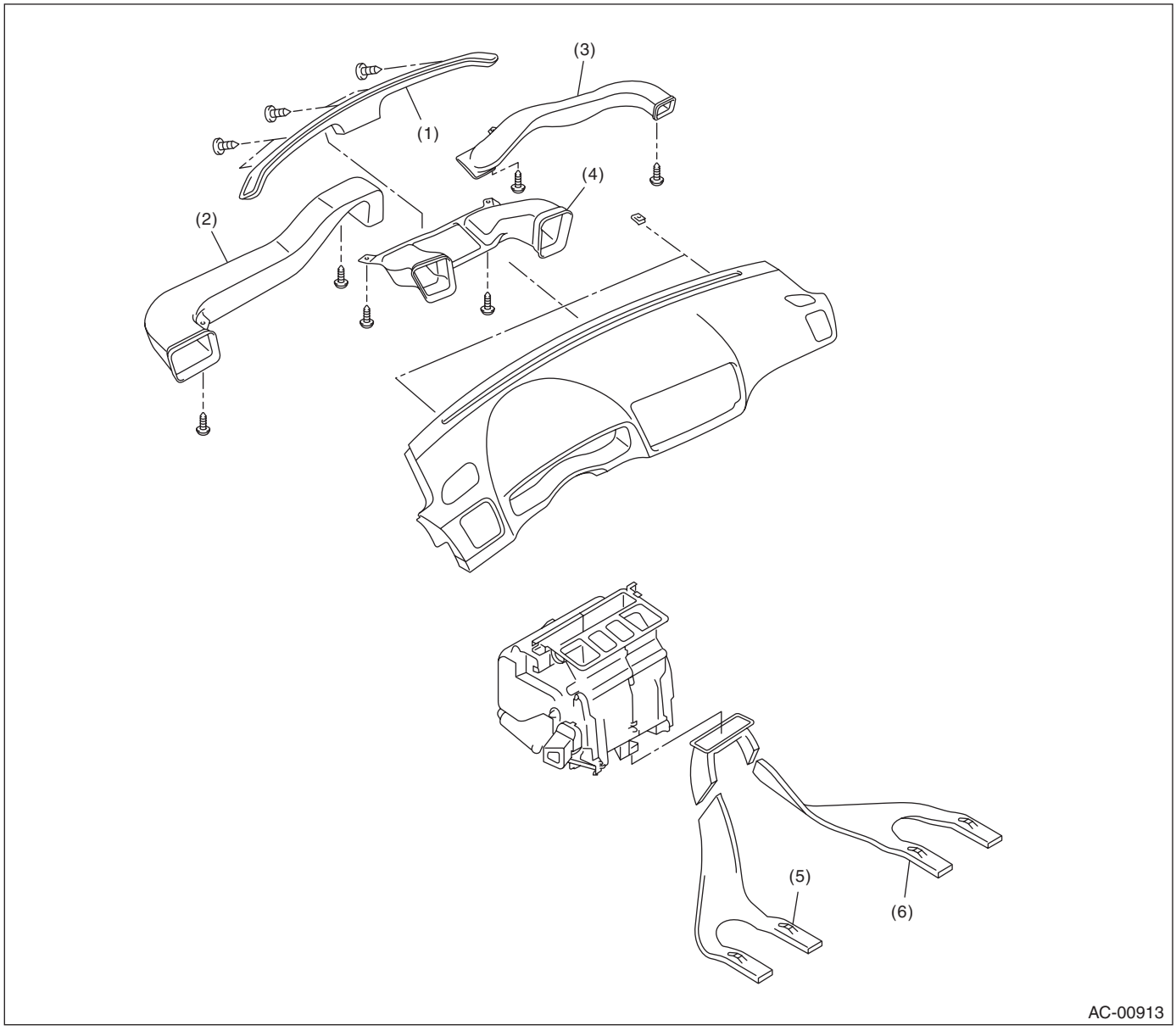
- H6 model




(1) Compressor upper bracket
(2) Compressor
(3) Compressor lower bracket

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 28.9 (2.95, 21.3)***
***T2: 36 (3.7, 26.6)***

## 6. HEATER DUCT

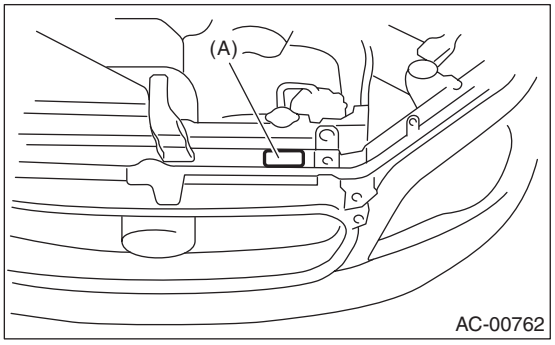



(1) Front defroster nozzle
(2) Side ventilation duct (LH)
(3) Side ventilation duct (RH)
(4) Center ventilation duct
(5) Rear heater duct (LH)
(6) Rear heater duct (RH)

# 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

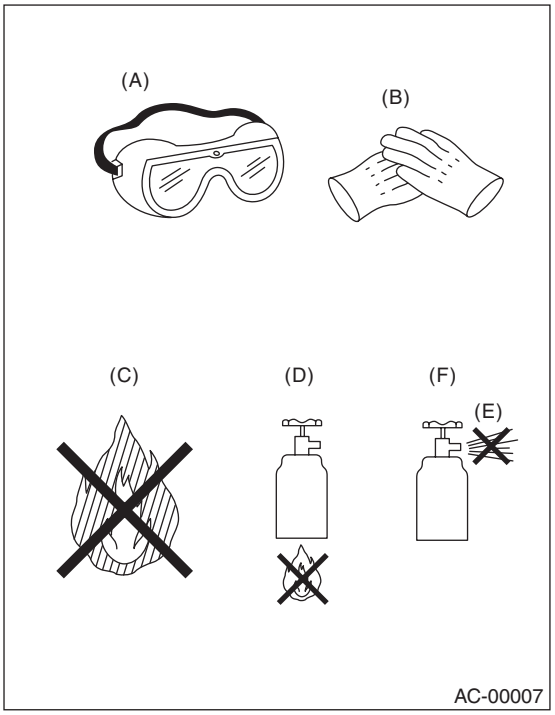
• HFC-134a compressor oil has no compatibility with that of CFC-12 system.
• Use only Denso Oil 8, the manufacturer-authorized compressor oil for the HFC-134a system.
• Do not mix multiple compressor oils.
If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may become stuck due 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

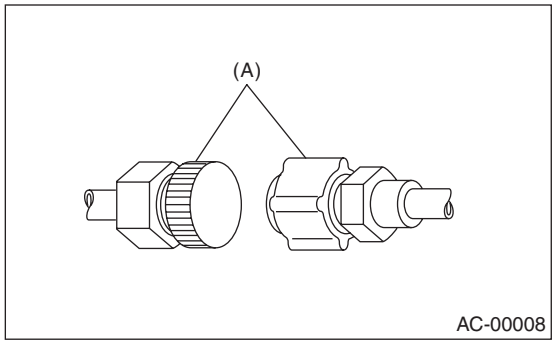
• The refrigerant boils at approx. –30°C (22°F). When handling it, be sure to wear protective goggles and protective gloves. Direct contact of the refrigerant with skin may cause frostbite.
If the refrigerant gets into your eye, avoid rubbing your eyes with your hands. Wash your eye with plenty of water, 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 impact a service can. (Observe the precautions and operation procedure described on the refrigerant can.)
• When the engine is running, do not open the high-pressure valve of 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

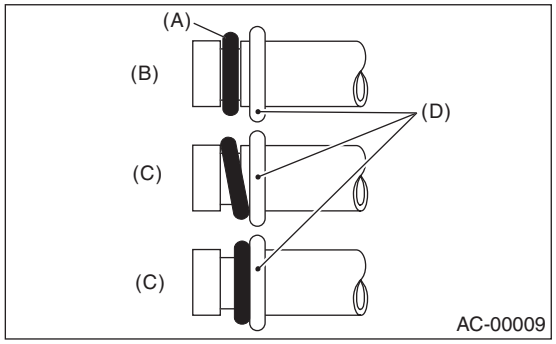
### 5. O-RING CONNECTIONS

- 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

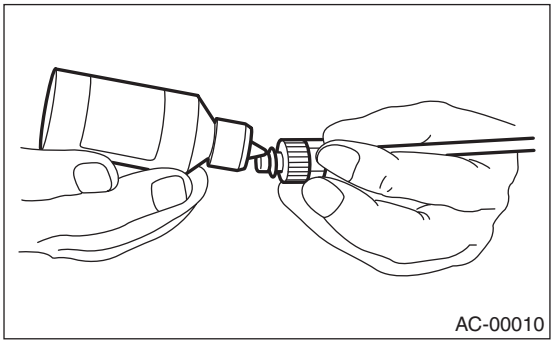
- Visually check the surfaces and mating surfaces of O-rings, threads and connecting points. If a failure is found, replace the applicable parts.
- Install the O-rings at a right angle to tube beads.




(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.

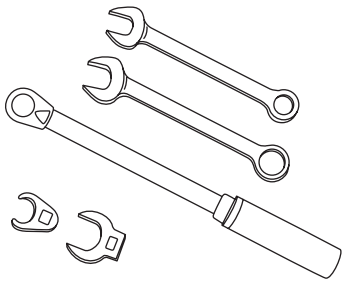
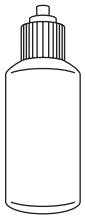
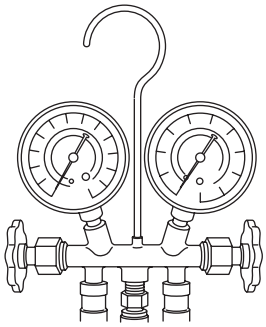
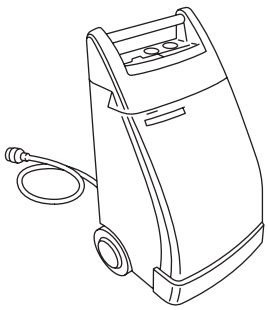
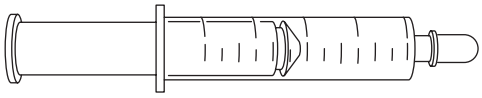


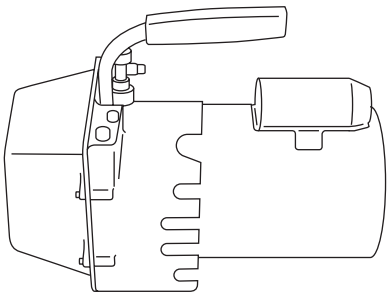
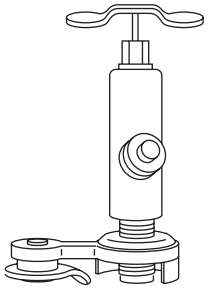
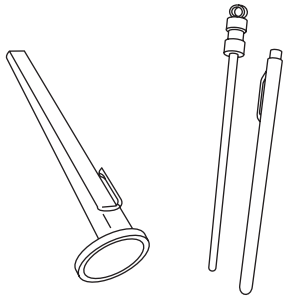
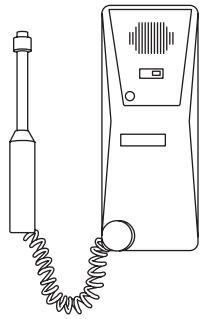
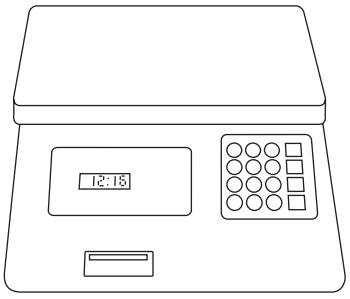

- After tightening, use a clean cloth to remove excess compressor oil from the connections and any oil which may have run on the vehicle body or other parts.
- If any leakage is suspected after tightening, do not tighten the connections further, but disconnect the connections, remove the O-rings, and 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 |

| ILLUSTRATION | NAME AND FUNCTION |
|---|---|
|  AC-00213 | Wrench<br>Various **WRENCHES** will be required to service any A/C system. A 7 to 40 N·m (0.7 to 4.1 kgf-m, 5 to 30 ft-lb) torque wrench and various crow-foot wrenches will be needed. Open end or flare nut wrenches will be needed to hold the tube and hose fittings. |
|  AC-00012 | Applicator bottle<br>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<br>A **MANIFOLD GAUGE SET** (with hoses) is available either from a refrigerant supplier or an automotive equipment supplier. |
|  AC-00014 | Refrigerant recovery system<br>A **REFRIGERANT RECOVERY SYSTEM** is used for the recovery and recycling of A/C system refrigerant after contaminants and moisture have been removed from the refrigerant. |
|  AC-00015 | Syringe<br>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. |

| ILLUSTRATION | NAME AND FUNCTION |
|---|---|
|  AC-00016 | Vacuum pump<br>A **VACUUM PUMP** is necessary (for a good working condition), and is available either at a refrigerant supplier or an automotive equipment supplier. |
|  AC-00017 | Can tap<br>A **CAN TAP** for the 397 g (14 oz.) can is available at an automotive equipment supplier. |
|  AC-00018 | Thermometer<br>A Pocket **THERMOMETER** is available either at a industrial hardware store or a refrigerant supplier. |
|  AC-00019 | Electronic leak detector<br>An **ELECTRONIC LEAK DETECTOR** can be available either at a specialty tool supplier or an A/C equipment supplier. |
|  AC-00020 | Weight scale<br>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 the front windows and close all doors.
4) Open the front hood.
5) Increase the engine to 1,500 rpm.
6) Turn on the A/C switch.
7) Turn the temperature control switch to MAX COOL.
8) Put in RECIRC position.
9) Turn the blower control switch to HI.
10) Read the gauge.

***Standard:***
***Low: 127 — 196 kPa (1.3 — 2.0 kg/cm$^2$, 18 — 28 psi)***
***High: 1,471 — 1,667 kPa (15 — 17 kg/cm$^2$, 213 — 242 psi)***
***Ambient temperature: 30 — 35°C (86 — 95°F)***

## B: INSPECTION

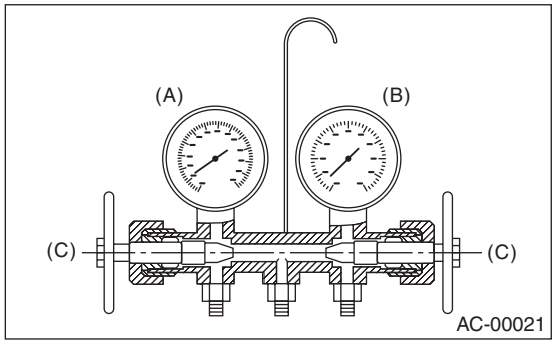
| Symptom | Probable cause | Repair order |
|---|---|---|
| High-pressure side is unusually high. | • Defective condenser fan motor<br>• Clogged condenser fin<br>• Too much refrigerant<br>• Air inside the system<br>• Defective receiver dryer | • Replace the fan motor.<br>• Clean the condenser fin.<br>• Discharge refrigerant.<br>• Replace the receiver dryer.<br>• After evacuating again, charge an appropriate amount of refrigerant. |
| High-pressure side is unusually low. | • Defective compressor<br>• Not enough refrigerant<br>• Clogged expansion valve<br>• Expansion valve frozen temporarily by moisture. | • Replace the compressor.<br>• Check for leaks.<br>• Replace the expansion valve.<br>• Fully evacuate the expansion valve. |
| Low-pressure side is unusually high. | • Defective compressor<br>• Defective expansion valve<br>• Too much refrigerant | • Replace the compressor.<br>• Replace the expansion valve.<br>• Discharge refrigerant. |
| Low-pressure side is unusually low. | • Not enough refrigerant<br>• Clogged expansion valve<br>• Expansion valve frozen temporarily by moisture.<br>• Saturated receiver dryer | • Check for leaks.<br>• Replace the expansion valve.<br>• Replace the receiver dryer. |

# 3. Refrigerant Recovery Procedure

## A: PROCEDURE

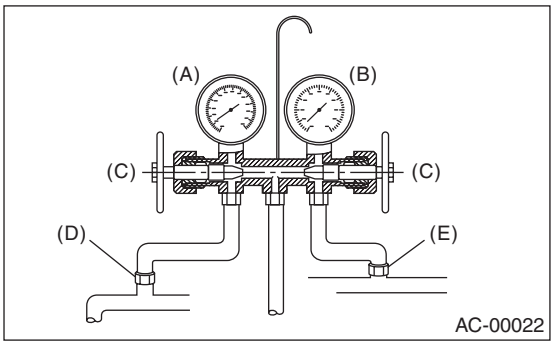
**CAUTION:**
**• During operation, be sure to wear protective goggles and protective gloves.**
**• Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and recycle the gas.**
**• When recycling the discharged refrigerant, keep service cans 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-24, 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.

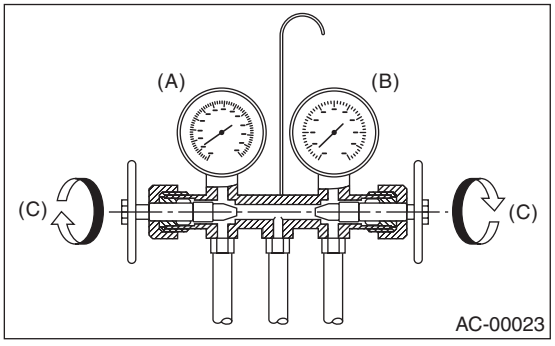
# 4. Refrigerant Charging Procedure

## 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) |

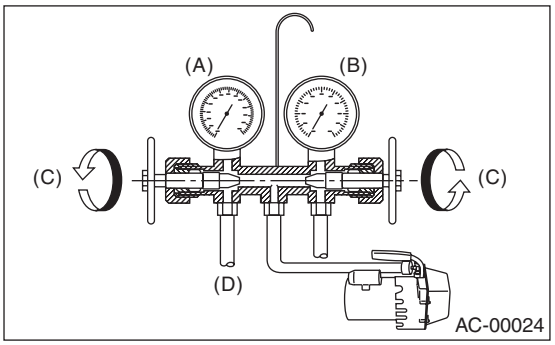
1) Close the valves on low/high pressure sides of the manifold gauge.




(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

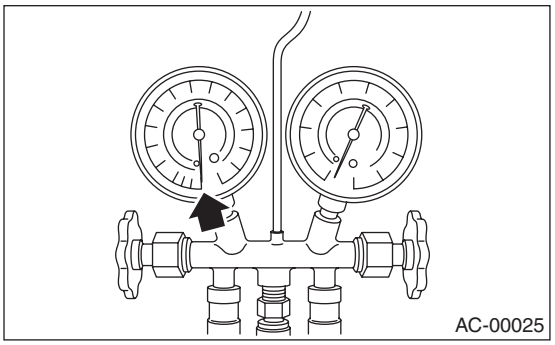
2) Install the low/high pressure hoses to the corresponding service ports on the vehicle.
3) Connect the center hose of the manifold gauge set with the vacuum pump.

4) Carefully open the valves on the low/high pressure sides to activate the vacuum pump.

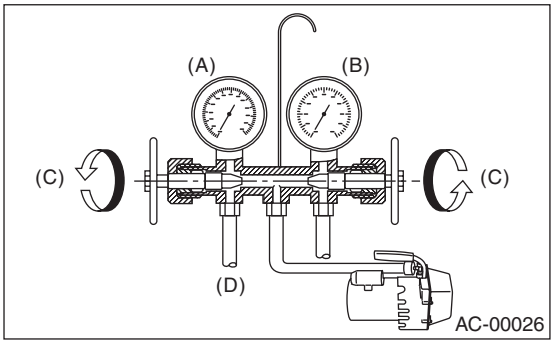



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Slowly open
(D) Vacuum pump turn on

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).

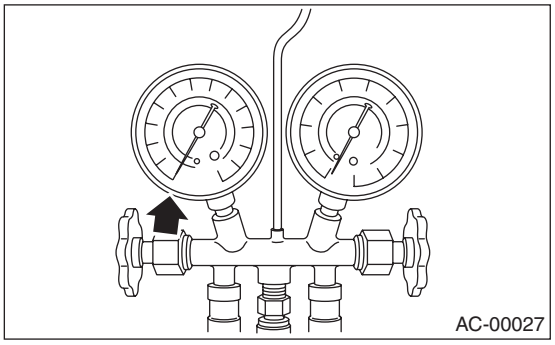



6) After 15 minutes of evacuation, if the reading shows 100.0 kPa (750 mmHg, 29.5 inHg) or higher, close the valves on the both sides to stop the vacuum pump.

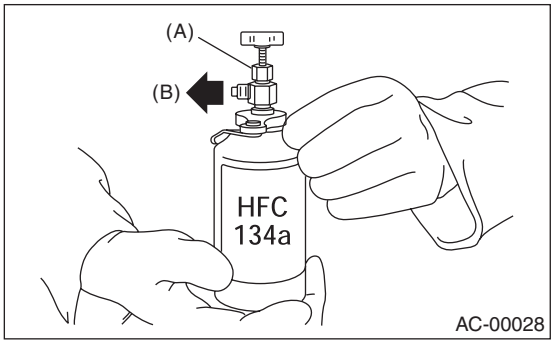



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Vacuum pump turn off

7) Note the low-pressure gauge reading.

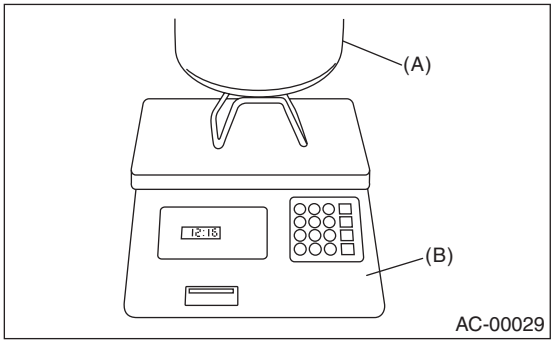



8) Leave it at least 5 minutes, and then check the low-pressure gauge reading for any changes.
If the gauge indicator shows near zero point, it is a sign of leakage. Check pipe connector points, repair them, and make sure there is no leakage.
9) Follow the can tap operation manual, install to the refrigerant can.



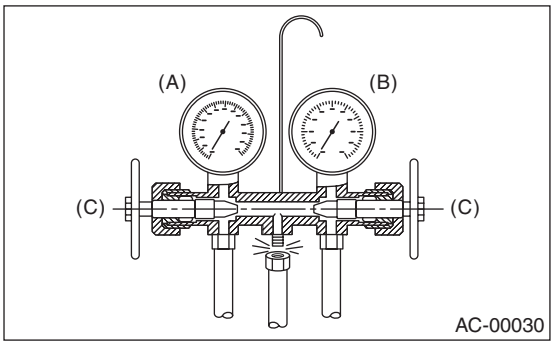

(A) Tap valve
(B) Center manifold hose

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) Weight scale

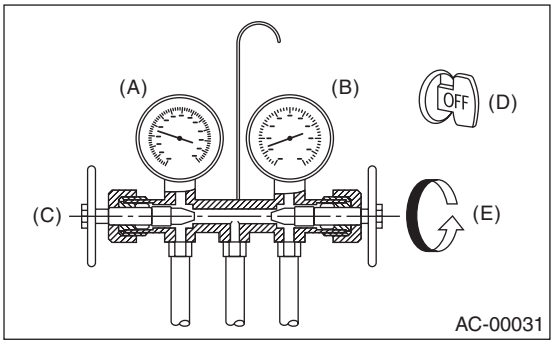
12) Confirm that all the 3 hoses are connected securely to the manifold gauge set.




(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 allow the air in the center hose to escape by the refrigerant pressure.
15) Stop the engine and carefully open the high-pressure valve.

**CAUTION:**
**Do not open the low-pressure valve.**



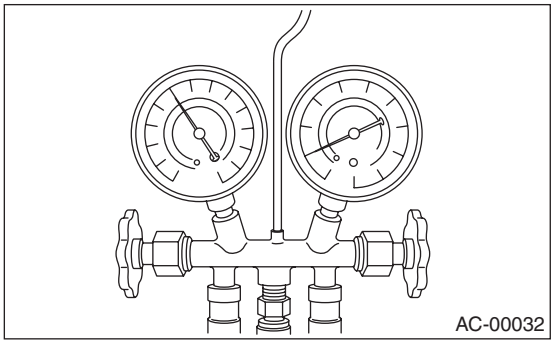

(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close
(D) Ignition switch OFF
(E) Slowly open

**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.

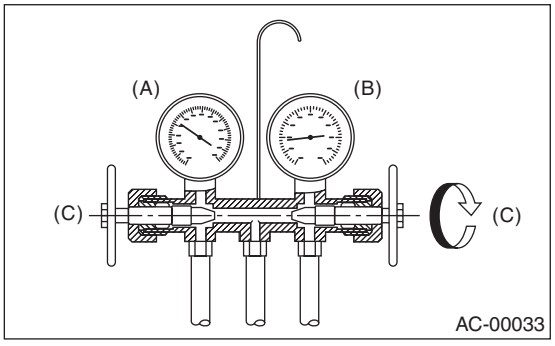
17) After confirming that there are no leaks with the leak test, charge the required amount of refrigerant.

**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.

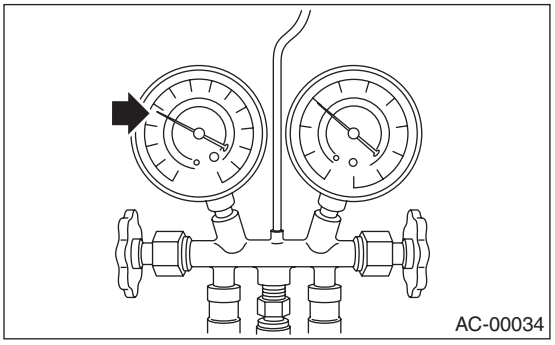



(A) Low-pressure gauge (Compound pressure gauge)
(B) High-pressure gauge
(C) Close

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 to the following status:
- A/C switch ON
- Engine running at 1,500 rpm
- Blower speed setting 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.

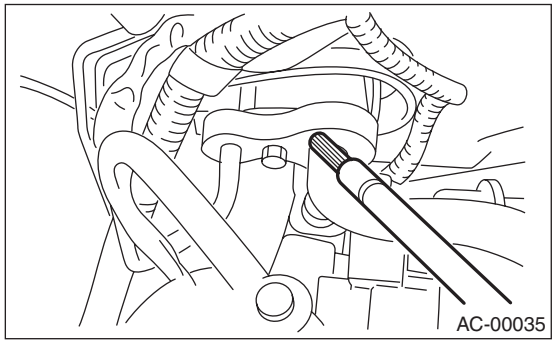
| Refrigerant amount | | |
|---|---|---|
| Refrigerant | Minimum | Maximum |
| HFC-134a | 370 g (0.82 lb) | 430 g (0.95 lb) |

27) Disconnect the hose from the service port, and install the service port cap.

# 5. Refrigerant Leak Check

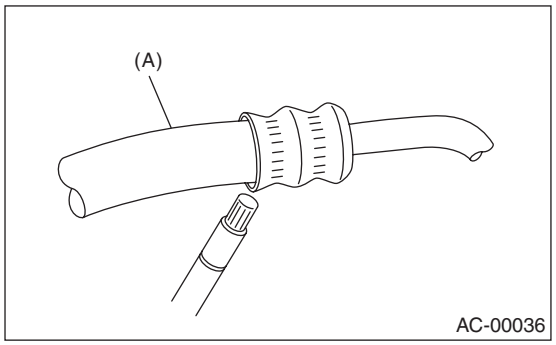
## A: INSPECTION

1) Operate the A/C system for approx. 10 minutes, and check 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 (dual 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


AC-00035

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.

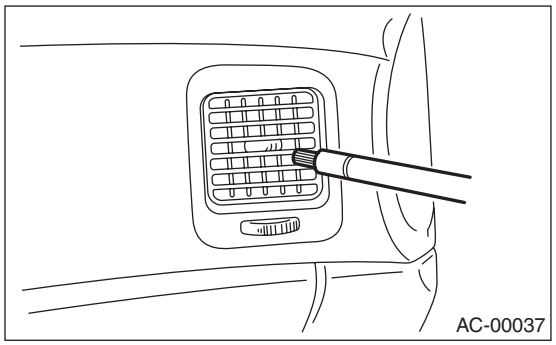
**CAUTION:**
**Carefully check the external surface of hoses and tubes at approx. 25 mm (0.98 in) per second.**



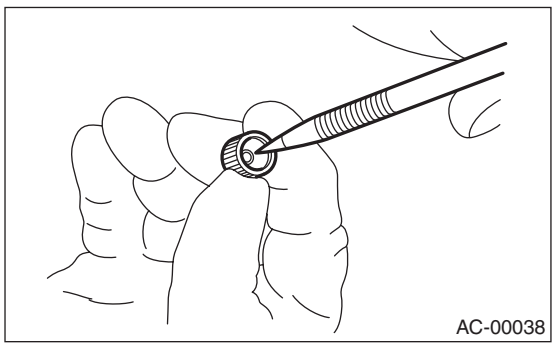
AC-00036

(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 grill on the instrument panel. While moving the tester closer to the grill, run the blower for 1 or 2 seconds, then stop it. Check the grill at that point for at least 10 seconds.


AC-00037

12) Check the valve in the service port.
13) Visually check the rubber seal in the service port cap.


AC-00038

# 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.
6) Leave in this condition for 10 minutes.

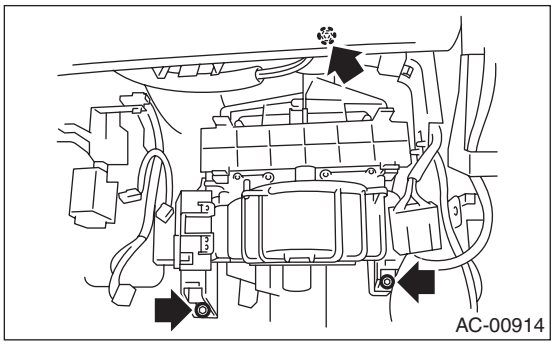
## B: REPLACEMENT

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. Adjust the oil amount (so that the amount remains the same as that of the removed compressor) and install the new compressor.

# 7. Blower Motor Unit Assembly

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-50, REMOVAL, Glove Box.>
3) Disconnect the connectors of the A/C control module, intake door actuator, blower motor, power transistor and blower resistor.
4) Loosen the bolt and nut to remove blower motor unit assembly.




## B: INSTALLATION

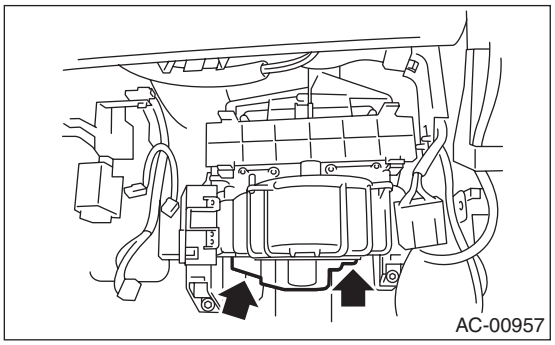
Install in the reverse order of removal.

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.> <Ref. to AC-8, BLOWER MOTOR UNIT, COMPONENT, General Description.>***

# 8. Blower Motor

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box lower cover. <Ref. to EI-50, REMOVAL, Glove Box.>
3) Disconnect the connector of the blower motor.
4) Loosen the screw to remove the blower motor.

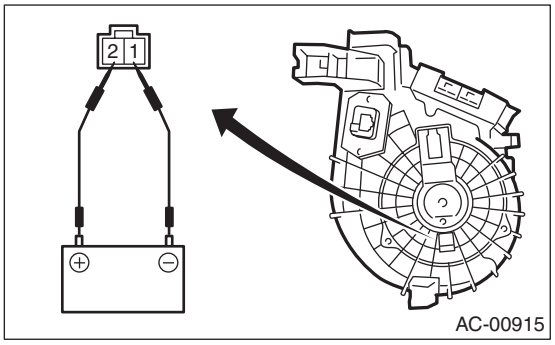



## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

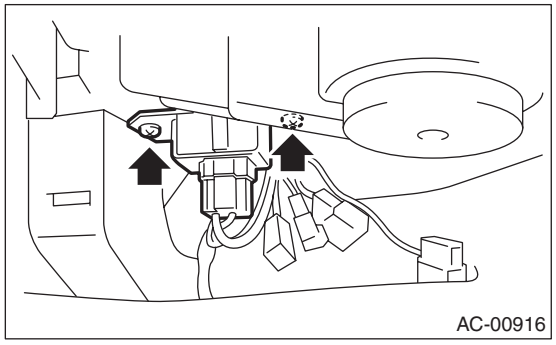
Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (–) terminal to terminal No. 1. Check the blower motor for smooth rotation.



# 9. Power Transistor (Auto A/C Model)

## A: REMOVAL

1) Remove the glove box lower cover on passenger side. <Ref. to EI-50, REMOVAL, Glove Box.>
2) Disconnect the power transistor connector.
3) Remove the two screws and remove the power transistor.



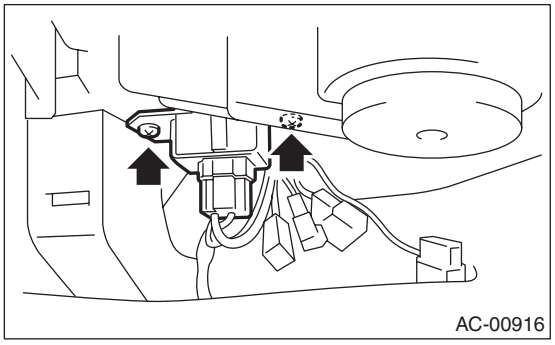

## B: INSTALLATION

Install in the reverse order of removal.

# 10. Blower Resistor (Manual A/C Model)

## A: REMOVAL

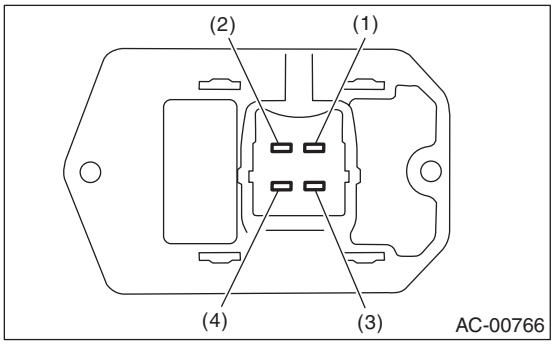
1) Remove the glove box lower cover on passenger side. <Ref. to EI-50, REMOVAL, Glove Box.>
2) Disconnect the blower resistor connector.
3) Remove the two screws and remove the blower resistor.




## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION




Measure the blower resistor resistance.

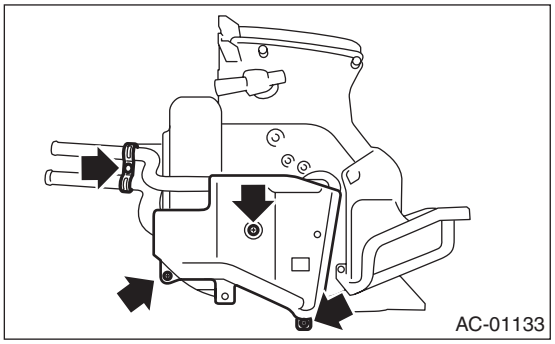
| Terminal No. | Standard |
|---|---|
| 4 and 2 | Approx. 0.44 Ω |
| 4 and 3 | Approx. 1.12 Ω |
| 4 and 1 | Approx. 2.92 Ω |

If NG, replace the blower resistor.

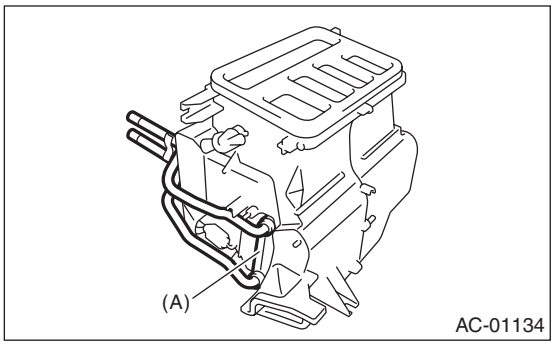
# 11.Heater Core

## A: REMOVAL

1) Remove the heater and cooling unit. <Ref. to AC-35, REMOVAL, Heater and Cooling Unit.>
2) Remove the screws and remove the heater core cover and pipe clamp.




3) Remove the heater core (A).




## B: INSTALLATION

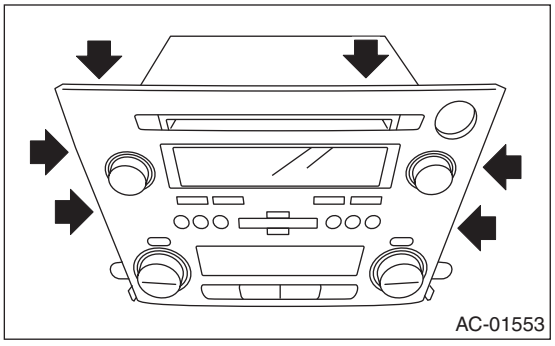
Install in the reverse order of removal.

# 12.Control Panel (Auto A/C Model)

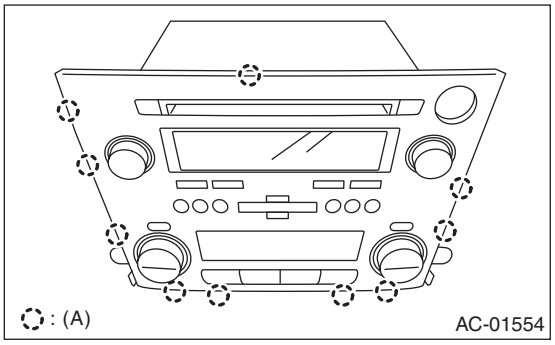
## A: REMOVAL

1) Remove the audio assembly. <Ref. to ET-8, REMOVAL, Audio.>
2) Remove the six screws.

NOTE:
When working with the removed audio assembly with its back facing down, place wooden blocks between the audio assembly and the workbench to prevent the ground terminal from folding.




3) Use a fine flat tip screwdriver to lift the hooks in 10 locations gradually. Starting from the sides, proceed to loosen the lower hooks, then the upper hooks, then remove.




(A) Hook

4) Pull the panel straight out to remove.

**CAUTION:**
**Be careful not to touch the circuitboard of the panel to prevent damage by static electricity.**

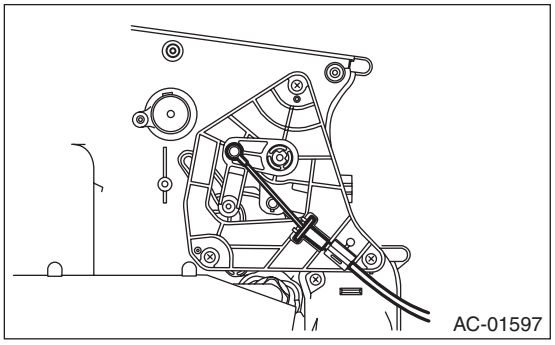
## B: INSTALLATION

1) After attaching the hooks, push the center of the panel by hand and secure the connection between the circuitboard and the connector.
2) Install in the reverse order of removal.

# 13.Control Unit (Manual A/C Model)

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>
3) Remove the control wires.




4) Remove the audio assembly. <Ref. to ET-8, REMOVAL, Audio.>
5) Loosen the screw to remove the control unit from the bracket.

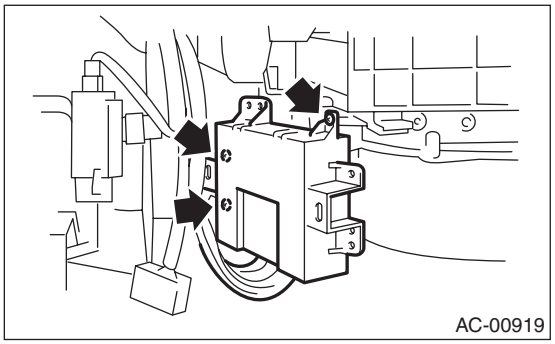
## B: INSTALLATION

Install in the reverse order of removal.

# 14.Control Unit (Auto A/C Model)

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-50, REMOVAL, Glove Box.>
3) Remove the screw, disconnect the connector and remove the control unit.




## B: INSTALLATION

Install in the reverse order of removal.

# 15.Compressor

## A: INSPECTION

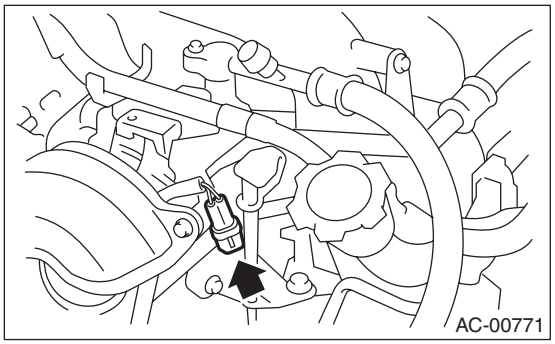
### 1. MAGNETIC CLUTCH CLEARANCE

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

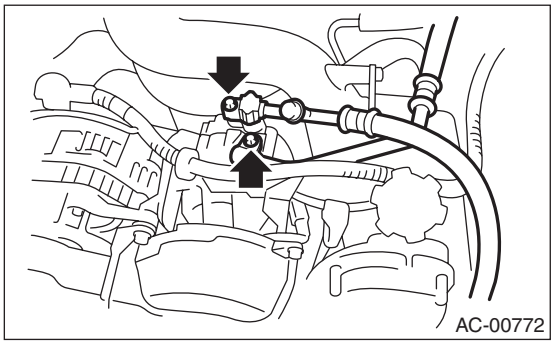
1) Disconnect the compressor connector.
2) Connect the battery positive (+) terminal to terminal No. 1 of the compressor connector, and the negative (–) terminal to terminal No. 2.


AC-00771

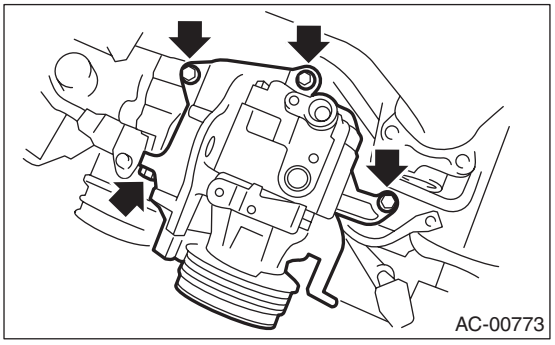
3) Check the magnet clutch engagement.
If there is a problem, replace the compressor.

## B: REMOVAL

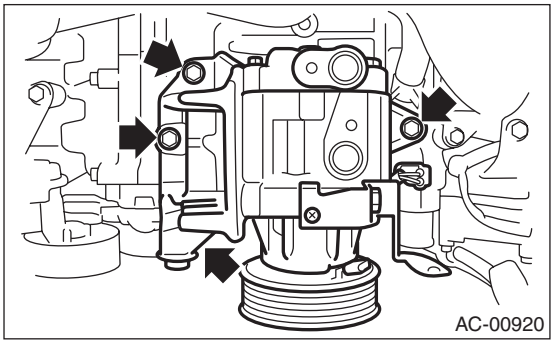
1) Perform the compressor oil return operation. <Ref. to AC-24, PROCEDURE, Compressor Oil.>
2) Turn the A/C switch to OFF and stop the engine.
3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-19, PROCEDURE, Refrigerant Recovery Procedure.>
4) Disconnect the ground cable from battery.
5) Remove the V-belts. <Ref. to ME(H4SO)-37, REMOVAL, V-belt.> <Ref. to ME(H4DOTC)-37, REMOVAL, V-belt.> <Ref. to ME(H6DO)-38, REMOVAL, V-belt.>
6) Remove the generator. <Ref. to SC(H4SO)-20, REMOVAL, Generator.>
7) Remove the bolt and remove the low-pressure hose and high-pressure hose.


AC-00772

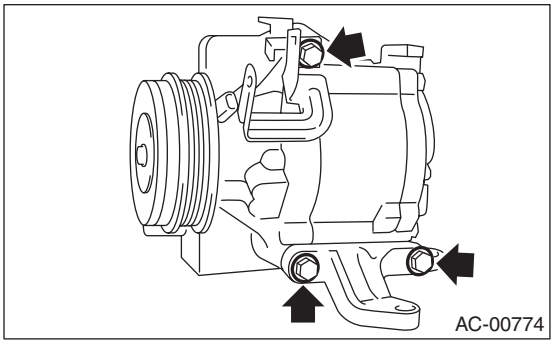
8) Disconnect the compressor harness from the body harness.
9) Remove the bolts and remove the compressor bracket.
- H4 model


AC-00773

- H6 model


AC-00920

10) Remove the bolts, then remove the bracket from the compressor.


AC-00774

## C: INSTALLATION

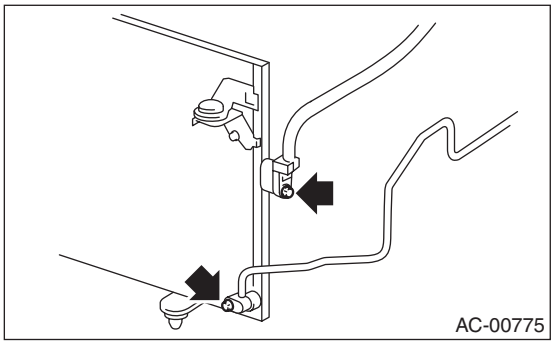
1) Install in the reverse order of removal.
2) Replace the O-rings on low-/high-pressure hoses with new parts, then apply compressor oil.
3) After replacing the compressor, adjust the amount of compressor oil. <Ref. to AC-24, PROCEDURE, Compressor Oil.>
4) Charge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Charging Procedure.>

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to AC-11, COMPRESSOR, COMPONENT, General Description.>***

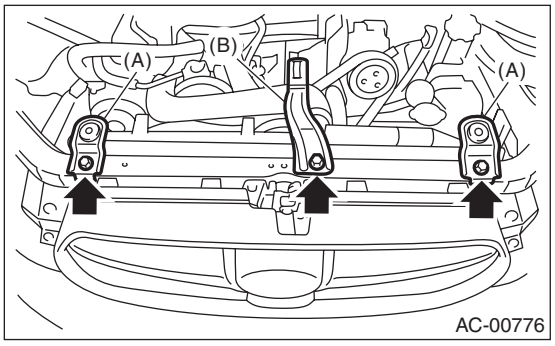
# 16.Condenser

## A: REMOVAL

1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-19, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from battery.
3) Disconnect the pressure hose and pipe from the condenser.

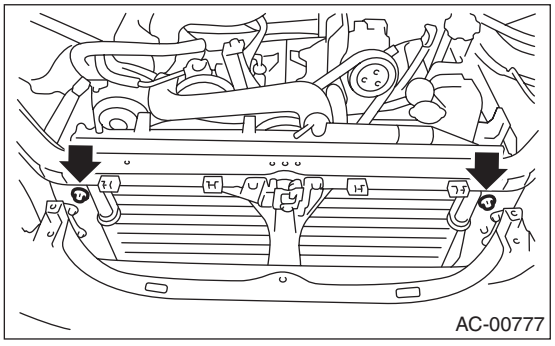

AC-00775

4) Remove the radiator bracket (A) and hood stay (B).



AC-00776

5) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
6) Remove two bolts. While lifting the condenser, pull out through space between the radiator and the radiator panel.

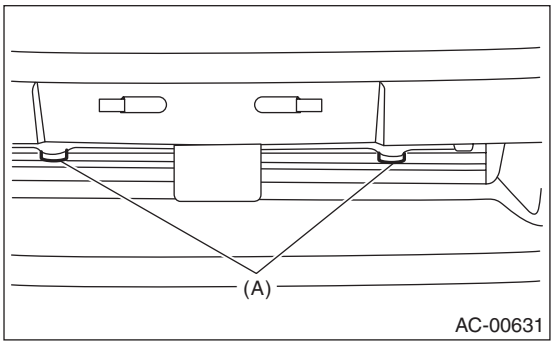

AC-00777

**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-24, 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. Confirm that lower guide (A) of condenser fits into holes on radiator panel.**



AC-00631

2) Charge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Charging Procedure.>

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to CO(H4SO)-5, RADIATOR & RADIATOR FAN, COMPONENT, General Description.>***

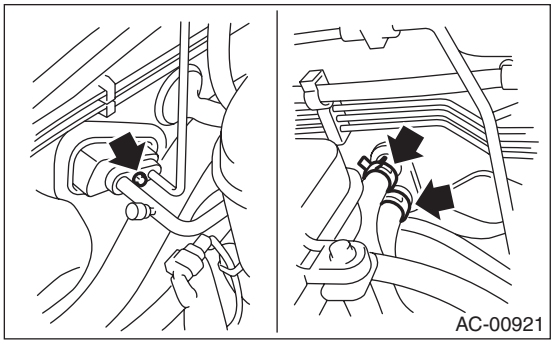
## C: INSPECTION

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.

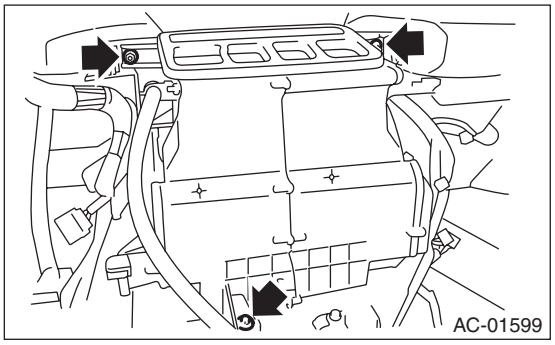
# 17.Heater and Cooling Unit

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-19, 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-54, REMOVAL, Instrument Panel Assembly.>
6) Remove the support beam.
7) Remove the blower motor unit assembly. <Ref. to AC-25, REMOVAL, Blower Motor Unit Assembly.>
8) Disconnect the actuator connector.
9) Remove the bolt and nuts and remove the heater and cooling unit.




## B: INSTALLATION

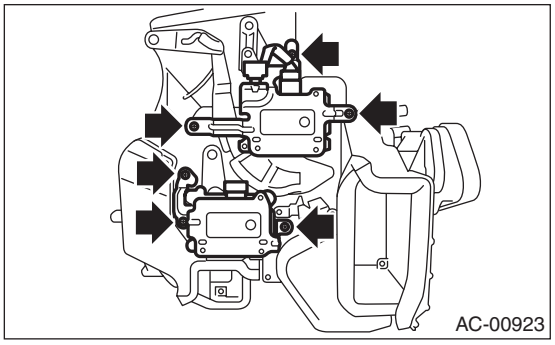
1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Charging Procedure.>

***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>***

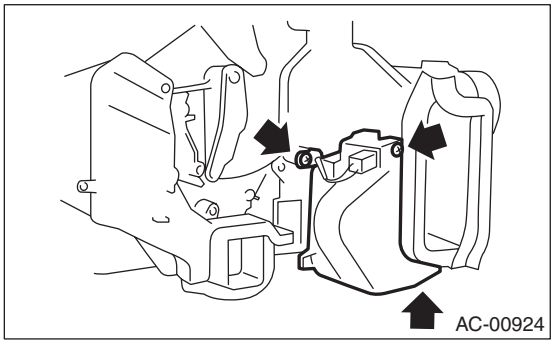
# 18.Evaporator

## A: REMOVAL

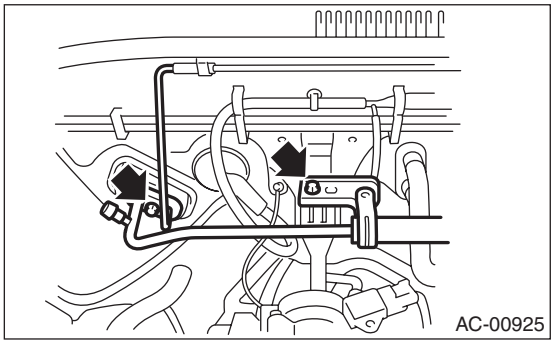
1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-19, PROCEDURE, Refrigerant Recovery Procedure.>
2) Disconnect the ground cable from battery.
3) Remove the blower motor unit assembly. <Ref. to AC-25, REMOVAL, Blower Motor Unit Assembly.>
4) Disconnect the connector, remove the screw and then remove the air-mix door actuator and mode door actuator.



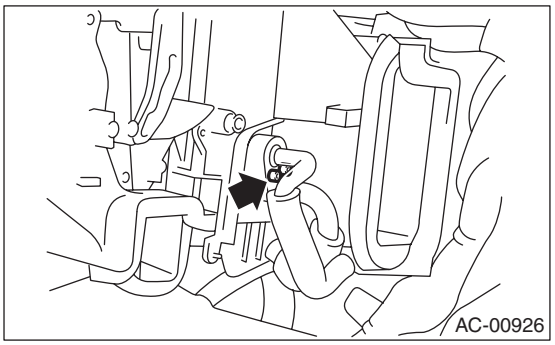

5) Disconnect the connector, remove the pipe cover and evaporator sensor.



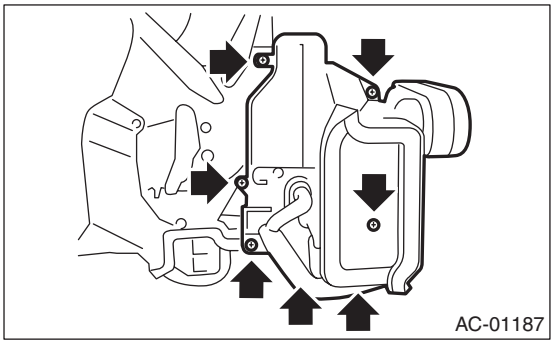

6) Remove the bolts securing expansion valve and pipe in engine compartment.



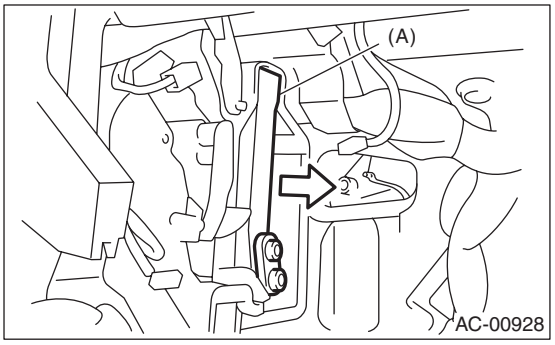

7) Remove the bolt which holds the pipe to the evaporator.




8) Remove the screws and clip to remove the evaporator cover.




9) Pull out the evaporator (A) in the direction of the arrow.




**CAUTION:**
**If the evaporator is replaced, add an appropriate amount of compressor oil to evaporator. <Ref. to AC-24, REPLACEMENT, Compressor Oil.>**

## B: INSTALLATION

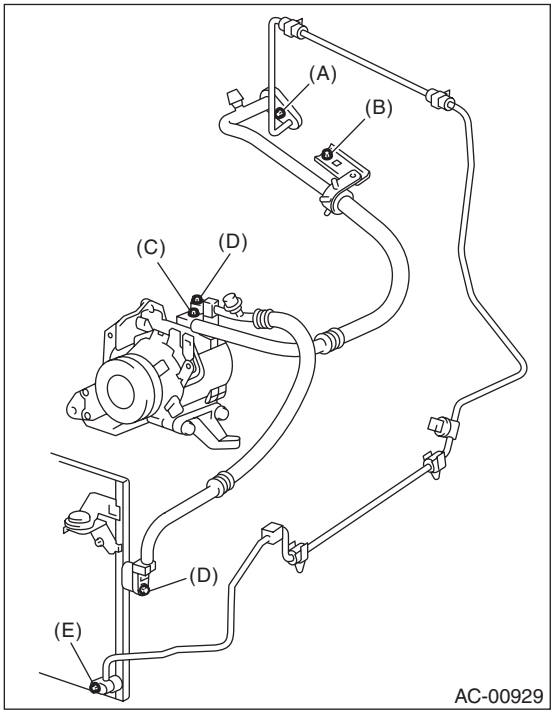
Install in the reverse order of removal.

# 19.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) Disconnect the ground cable from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-19, 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.




## 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-20, PROCEDURE, Refrigerant Charging Procedure.>

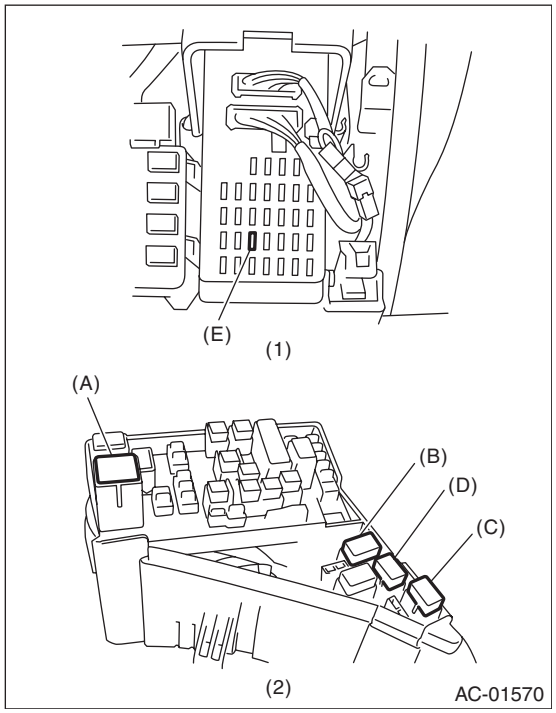
***Tightening torque:***
***Refer to "COMPONENT" of "General Description". <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.>***

## C: INSPECTION

Check the hoses for cracks, damage and expansion. If any fault is found, replace with new parts.

# 20.Relay and Fuse

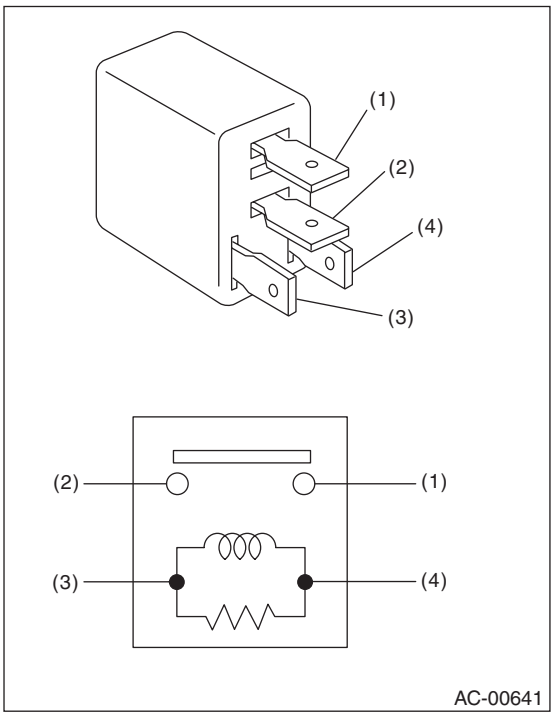
## A: LOCATION




(1) Joint box
(2) Main fuse box

| | |
|---|---|
| Main fan relay 1 | (A) |
| Main fan relay 2 | (B) |
| Sub fan relay | (C) |
| A/C relay | (D) |
| A/C Fuse | (E) |

## B: INSPECTION



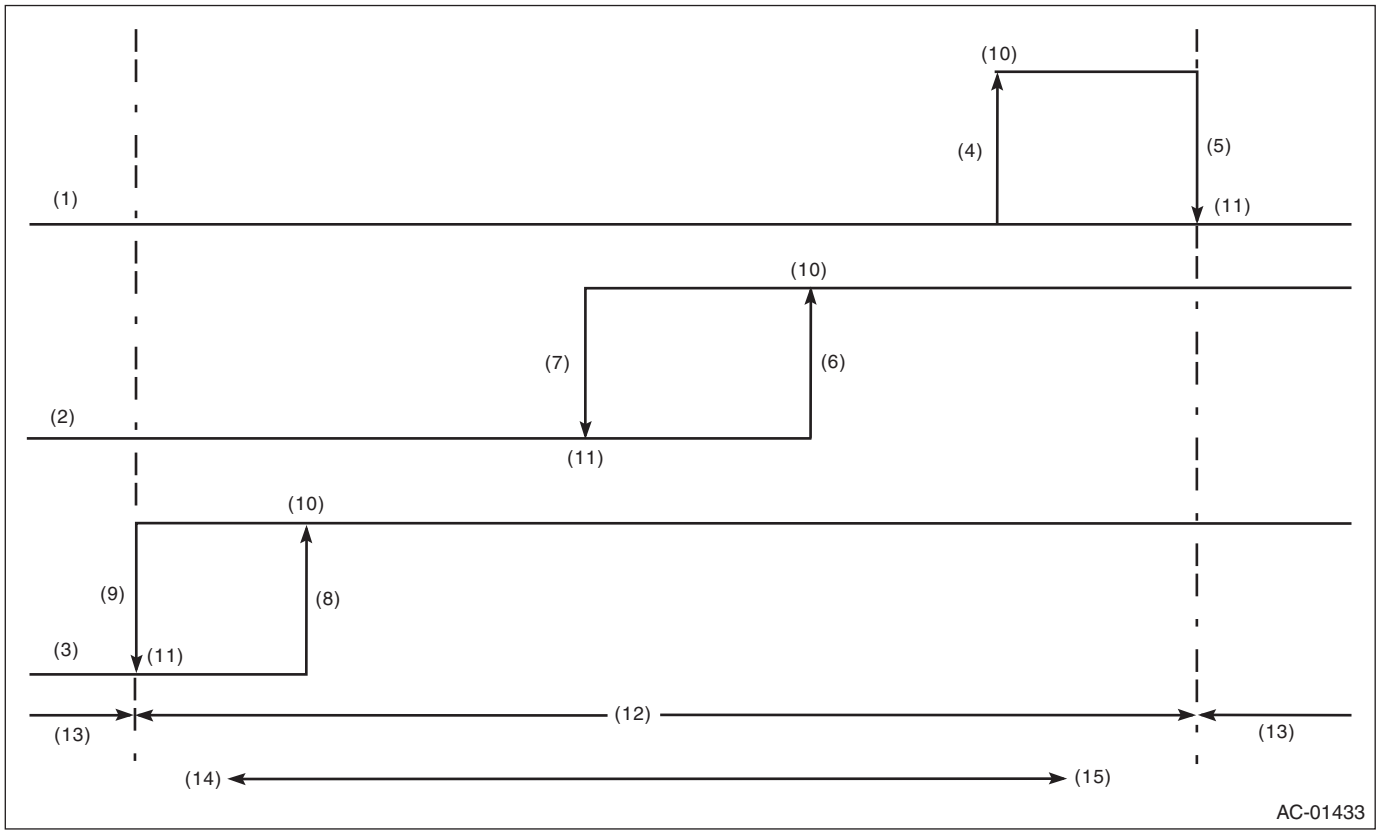

(3) — (4): Continuity exists
(1) — (2): Continuity does not exist

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.

# 21.Pressure Switch (Triple Pressure Switch)

## A: INSPECTION

1) Connect the manifold gauge to the service valve on the high-pressure side.
2) Start the air conditioner, and check the operating pressure of switch by turning the compressor (magnet clutch) to ON/OFF. Operation of each switch is as follows.




(1) High pressure switch
(2) Middle pressure switch
(3) Low pressure switch
(4) 2550±200 kPa (24±2 kg/cm$^2$, 341±28 psi)
(5) 3140±200 kPa (32.02$^{+0.51}_{-2.04}$ kg/cm$^2$, 455.4$^{+72.5}_{-29.0}$ psi)
(6) 1770±80 kPa (18.05±0.82 kg/cm$^2$, 256.81±11.6 psi)
(7) 1370±120 kPa (13.97±1.22 kg/cm$^2$, 198.65±14.5 psi)
(8) 225$^{+25}_{-29}$ kPa (2.99$^{+0.25}_{-0.3}$ kg/cm$^2$, 3.6$^{+32.6}_{-4.2}$ psi)
(9) 196±20 kPa (2.0±0.2 kg/cm$^2$, 28.4±2.9 psi)
(10) ON
(11) OFF
(12) Operative range of compressor
(13) Inoperative range of compressor
(14) Low pressure
(15) High pressure

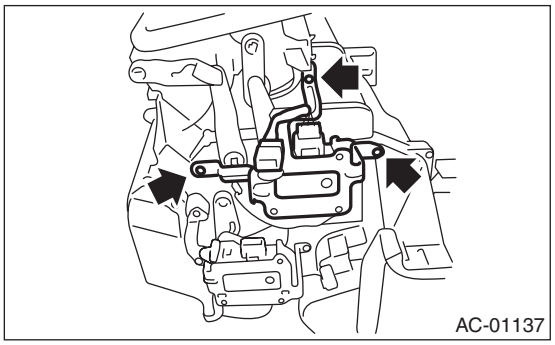
NOTE:
• High pressure switch turns the compressor (magnet clutch) to OFF when the refrigerant pressure becomes extremely high to prevent the evaporator, air conditioner piping and expansion valve from getting damaged or frozen.
• Middle pressure switch effectively controls the radiator fan output by judging hight load/low load in normal range.
• Low pressure switch turns the compressor (magnet clutch) to OFF, judging as low refrigerant level when the refrigerant pressure becomes extremely low, to prevent the possible seizure if the compressor rotates.

# 22.Actuator

## A: REMOVAL

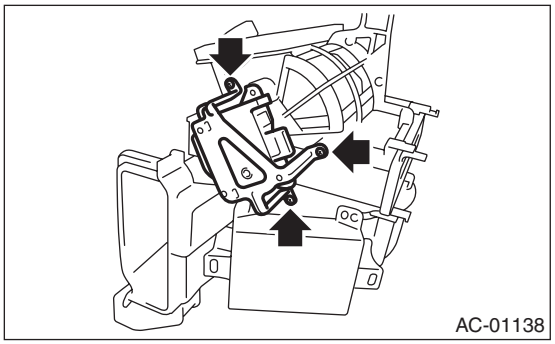
### 1. MODE DOOR ACTUATOR

Disconnect the connector, remove the screw, and then remove the mode door actuator from the heater and cooling unit.




### 2. INTAKE DOOR ACTUATOR

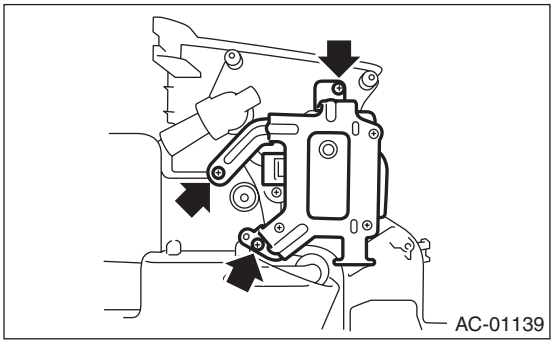
Disconnect the connector, remove the screw, and then remove the intake door actuator from the blower motor unit.



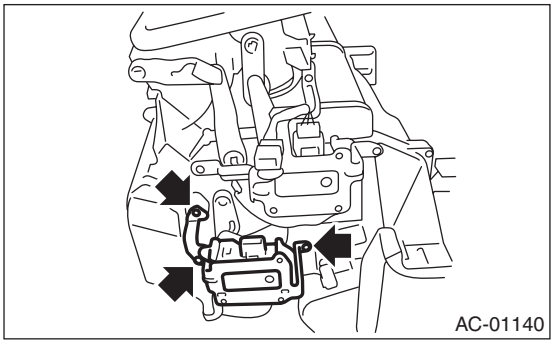

### 3. AIR MIX DOOR ACTUATOR (AUTO A/C MODEL)

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



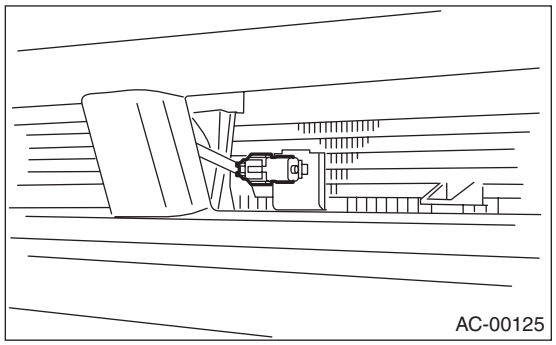

## B: INSTALLATION

Install in the reverse order of removal.

# 23. Ambient Sensor (Auto A/C Model)

## A: REMOVAL

1) Open the front hood.
2) Disconnect the ground cable from battery.
3) Disconnect the ambient sensor connector.
4) Remove the ambient sensor from the radiator lower panel.




## B: INSTALLATION

Install in the reverse order of removal.

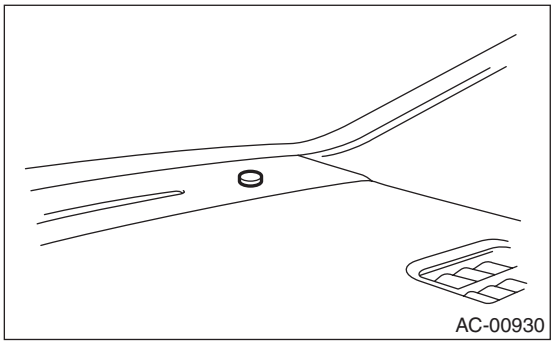
## C: INSPECTION

<Ref. to AC(diag)-29, AMBIENT SENSOR, Diagnostic Procedure for Sensors.>

# 24.Sunload Sensor (Auto A/C Model)

## A: REMOVAL

1) Disconnect the ground cable from 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)-35, SUNLOAD SENSOR, Diagnostic Procedure for Sensors.>

# 25.In-vehicle Sensor (Auto A/C Model)

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the console side panel of the driver's side. <Ref. to EI-52, REMOVAL, Center Console.>
3) Disconnect the connector and aspirator hose, remove the claw and remove the in-vehicle sensor from the center console frame.

**CAUTION:**
**Be careful not to damage the sensors and interior trims when removing.**

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

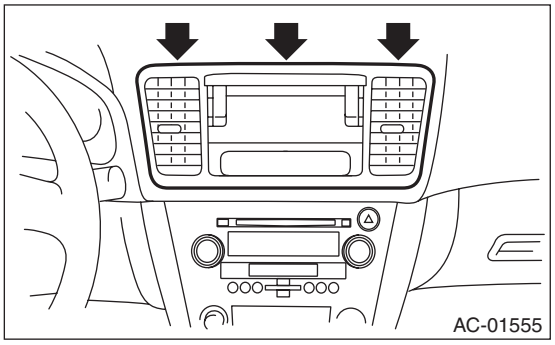
<Ref. to AC(diag)-31, IN-VEHICLE SENSOR, Diagnostic Procedure for Sensors.>

# 26.Air Vent Grille

## A: REMOVAL

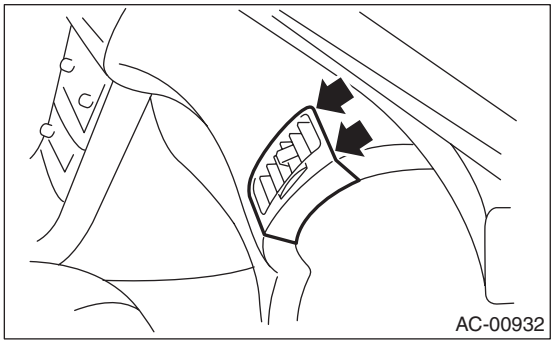
### 1. CENTER GRILLE

1) Disconnect the ground cable from battery.
2) Remove the three claws and connector to remove center air vent grill.




### 2. SIDE GRILLE

Remove the catch in 2 locations to remove the side air vent grill.




## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

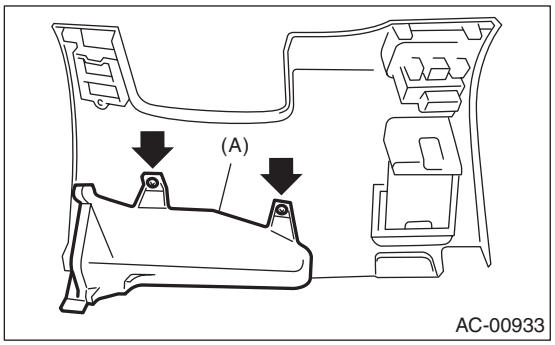
1) Check that the direction and amount of air can be adjusted smoothly.
2) Check that the adjustment can be maintained in each position.

# 27.Heater Duct

## A: REMOVAL

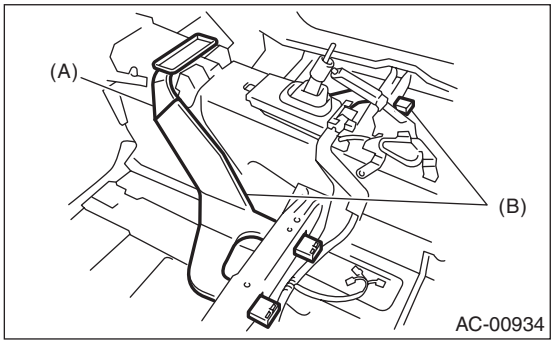
### 1. FRONT HEATER DUCT

1) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>
2) Remove the screws and detach the front heater duct (A).




### 2. REAR HEATER DUCT

1) Remove the heater cooling unit. <Ref. to AC-35, REMOVAL, Heater and Cooling Unit.>
2) Remove the front seats. <Ref. to SE-9, 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).



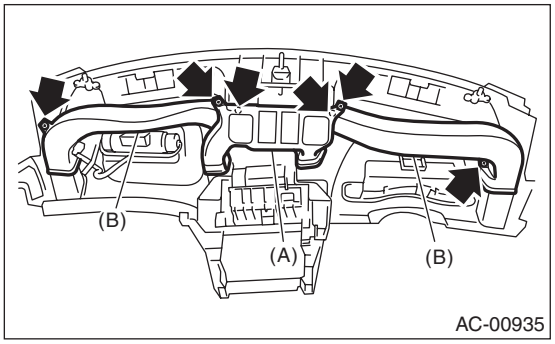

## B: INSTALLATION

Install in the reverse order of removal.

# 28.Heater Vent Duct

## A: REMOVAL

1) Remove the instrument panel. <Ref. to EI-49, 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 insulator, remove the screws and detach the defroster duct.



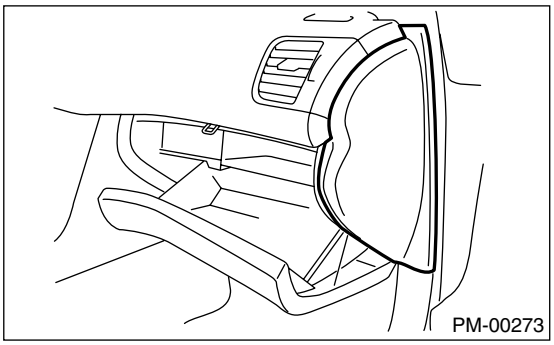

## B: INSTALLATION

Install in the reverse order of removal.

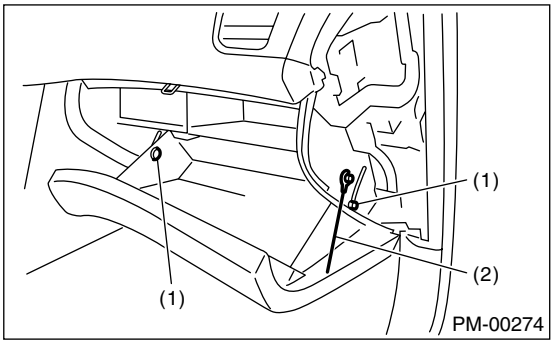
# 29.A/C Filter

## A: REPLACEMENT

1) Remove the instrument panel side cover.

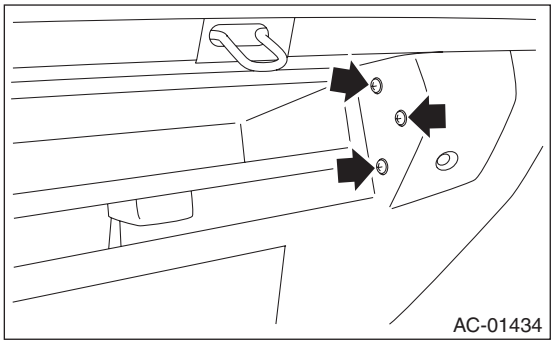


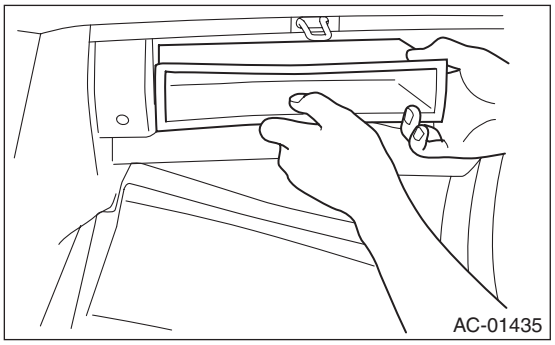

2) Remove the clip and the damper (string).



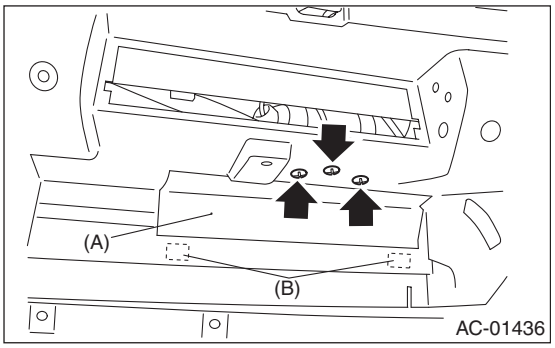

(1) Clip
(2) Damper

3) Remove the screws, and then remove the upper storage box.

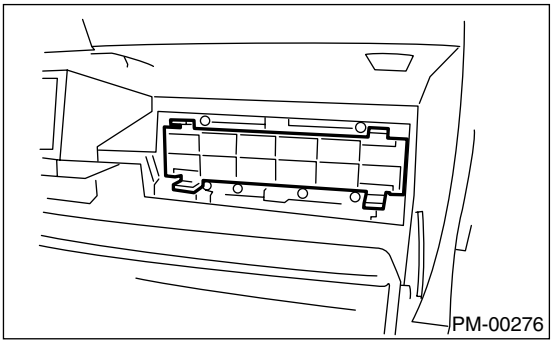



4) Remove the screws to take out the bracket from hole where the storage box was removed.




5) Peel off Velcro tape (B) attaching the insulator, and push up the insulator (A).
6) Remove the A/C filter.




7) Install in the reverse order of removal.

# 30.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 |
| | Noise | Blower motor |
| Compressor | Does not operate. | Refrigerant |
| | | Fuse |
| | | Air conditioning relay |
| | | Magnet clutch |
| | | Compressor |
| | | Pressure switch |
| | | A/C switch |
| | | Blower switch |
| | | Wiring harness |
| | Noise | V-belt |
| | | Magnet clutch |
| | | Compressor |
| Cold air not emitted. | | Refrigerant |
| | | V-belt |
| | | Magnet clutch |
| | | Compressor |
| | | Pressure switch |
| | | A/C switch |
| | | Blower switch |
| | | Wiring harness |
| | | Heater duct |
| | | Heater vent duct |
| Warm air not emitted. | | Engine coolant |
| | | Blower switch |
| | | Heater core |
| | | Heater cock solenoid valve |
| Temperature of air from vents does not change. | | Engine coolant |
| | | Air mix door actuator (Auto A/C) |
| | | Wiring harness (Auto A/C) |
| | | Temperature control cable (Manual 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 |

# HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

# AC(diag)


Page

1. Basic Diagnostic Procedure .....2
2. General Description .....3
3. Electrical Component Location .....5
4. Auto A/C Control Module I/O Signal .....7
5. Diagnostic Chart for Self-diagnosis .....9
6. Diagnostics for A/C System Malfunction .....14
7. Diagnostic Procedure for Actuators .....22
8. Diagnostic Procedure for Sensors .....29
9. Diagnostics with Phenomenon .....39

# 1. Basic Diagnostic Procedure

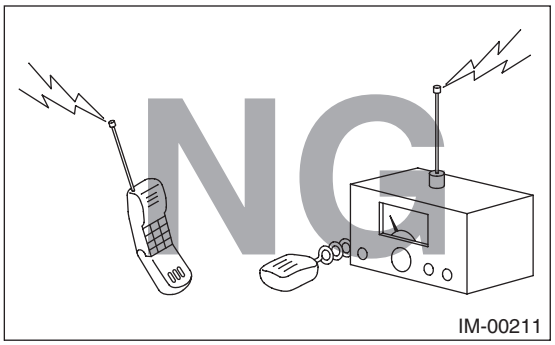
## A: PROCEDURE

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SECURITY INDICATOR LIGHT.**<br>1) Turn the ignition switch to “OFF” or “ACC”.<br>2) Wait at least 60 seconds. | Does the security indicator light blink? | Go to step **2**. | Check the security indicator light circuit. <Ref. to IM(diag)-10, CHECK SECURITY INDICATOR LIGHT CIRCUIT., INSPECTION, Diagnostics Chart for Security Indicator Light.> |
| 2 | **CHECK KEY SWITCH.**<br>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.**<br>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.**<br>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.**<br>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.**<br>Turn the ignition switch to START. | Does the engine start? | Immobilizer system is normal. | Check the DTC display (ECM). Go to step **7**. |
| 7 | **CHECK FOR ANY OTHER DTC ON DISPLAY.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the Subaru Select Monitor to the data link connector. <Ref. to IM(diag)-7, Subaru Select Monitor.><br>3) Turn the ignition switch and Subaru Select Monitor switch to ON.<br>4) Read DTC’s on the display. | Is the DTC displayed on screen? | Go to step **8**. | Repair the related parts. |
| 8 | **PERFORM DIAGNOSIS.**<br>1) Inspect using the “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br>2) Repair the trouble cause.<br>3) Perform the Clear Memory Mode.<br>4) Read DTC’s again. | Is the DTC displayed on screen? | Inspect using the “Diagnostic Procedure with Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-16, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> | Finish the diagnosis. |

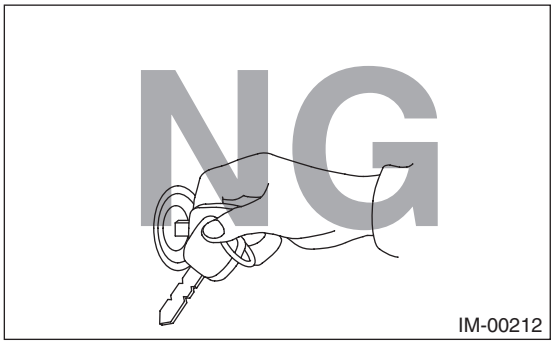
# 2. General Description

## A: CAUTION

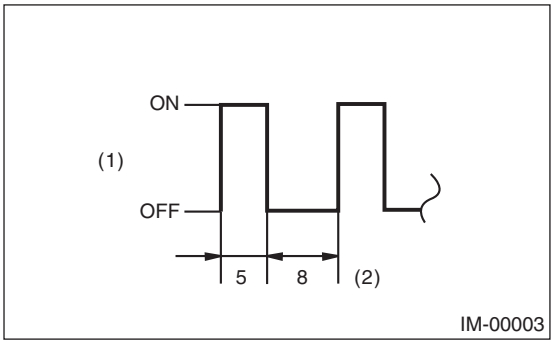
**CAUTION:**
**• Do not use electrical test equipment on the airbag system wiring harness and connector circuits.**
**• Be careful not to damage the airbag system wiring harness.**
**• While diagnostic items are being checked, do not operate radios, portable telephones, etc. which emit electromagnetic waves near or inside the vehicle.**




**• When turning the ignition switch to ON or OFF while diagnostic items are being checked, do not allow keys with different ID codes close to the ignition switch. If the ignition key is on a key holder, remove it from the key holder before performing diagnoses.**




**• When repeatedly turning the ignition switch to ON or OFF while diagnostic items are being checked, it should be switched in cycles of "ON" for at least 5 seconds → "OFF" for at least 8 seconds.**

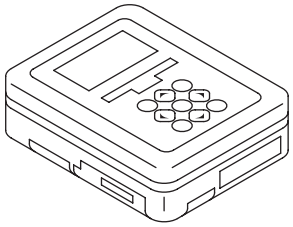



(1) Ignition switch position
(2) Sec.

**• If the engine fails to start with a registered ignition key, detach the ignition key from ignition switch and wait for approx. 1 second until security indicator light begins to flash. And then start the engine again.**
**• Before performing the diagnostics, obtain all keys for the vehicle from the owner.**
**• Do not install or register a body integrated unit already registered to another vehicle to diagnose failures or inspect functions.**

# B: PREPARATION TOOL

## 1. SPECIAL TOOL

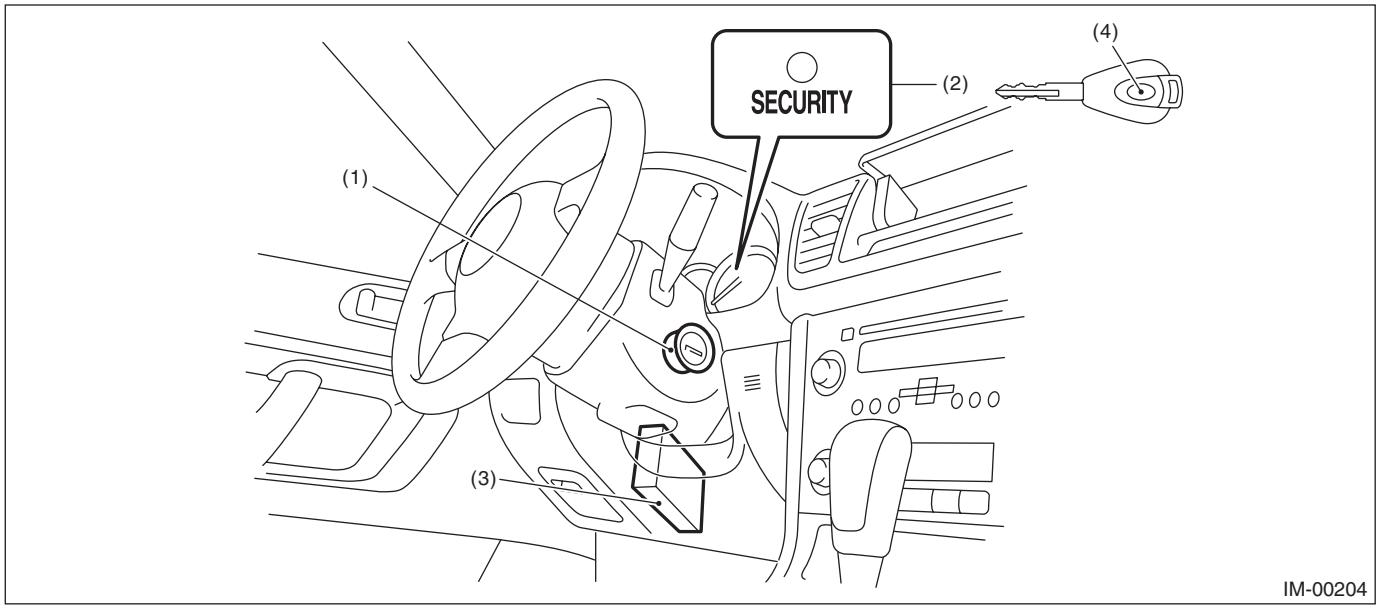
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST1B020XU0 | 1B020XU0 | SUBARU SELECT MONITOR KIT | Used for troubleshooting for electrical system. |

## 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

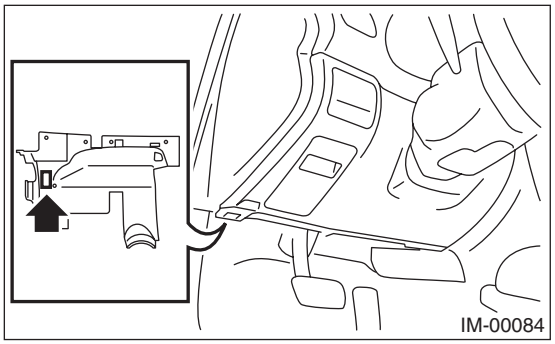
<Ref. to WI-186, WIRING DIAGRAM, Immobilizer System.>

# 5. Subaru Select Monitor

## A: OPERATION

### 1. HOW TO USE THE SUBARU SELECT MONITOR

1) Prepare the Subaru Select Monitor kit.
2) Connect the diagnosis cable to the 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 scan tools other than the 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 DTCs 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) Select {Each System Check} in Main Menu.
3) On the «System Selection Menu» display screen, 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 not, 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) Select {Each System Check} in Main Menu.
2) On the «System Selection Menu» display screen, 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 {Diagnostic Code(s) Display}.
5) On the «Diagnostic Code(s) Display» screen, select {Current Diagnostic Code(s)} or {History Diagnostic Code(s)}.

NOTE:
• For detailed operation procedure, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.
• For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

### 2. BODY INTEGRATED UNIT

1) Select {Each System Check} in Main Menu.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) Select the [OK] after the {Integ. unit mode} 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 “SUBARU SELECT MONITOR OPERATION MANUAL”.
• For detailed concerning DTC, refer to the List of Diagnostic Trouble Codes (DTC). <Ref. to IM(diag)-14, LIST, List of Diagnostic Trouble Code (DTC).>

# 7. Clear Memory Mode

## A: OPERATION

### 1. ECM

1) Select {Each System Check} in Main Menu.
2) On the «System Selection Menu» display screen, 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, turn the ignition switch to OFF and close the Subaru Select Monitor.

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 3 seconds before starting the engine.
• For detailed operation procedure, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

### 2. BODY INTEGRATED UNIT

1) Select {Each System Check} in Main Menu.
2) On the «System Selection Menu» display screen, select the {Integ. unit mode}.
3) Select the [OK] after the {Integ. unit mode} is displayed.
4) On the «Integ. unit mode» display screen, select the {Clear Memory}.
5) When the «Done» is shown on the display screen, turn the ignition switch to OFF and close the Subaru Select Monitor.

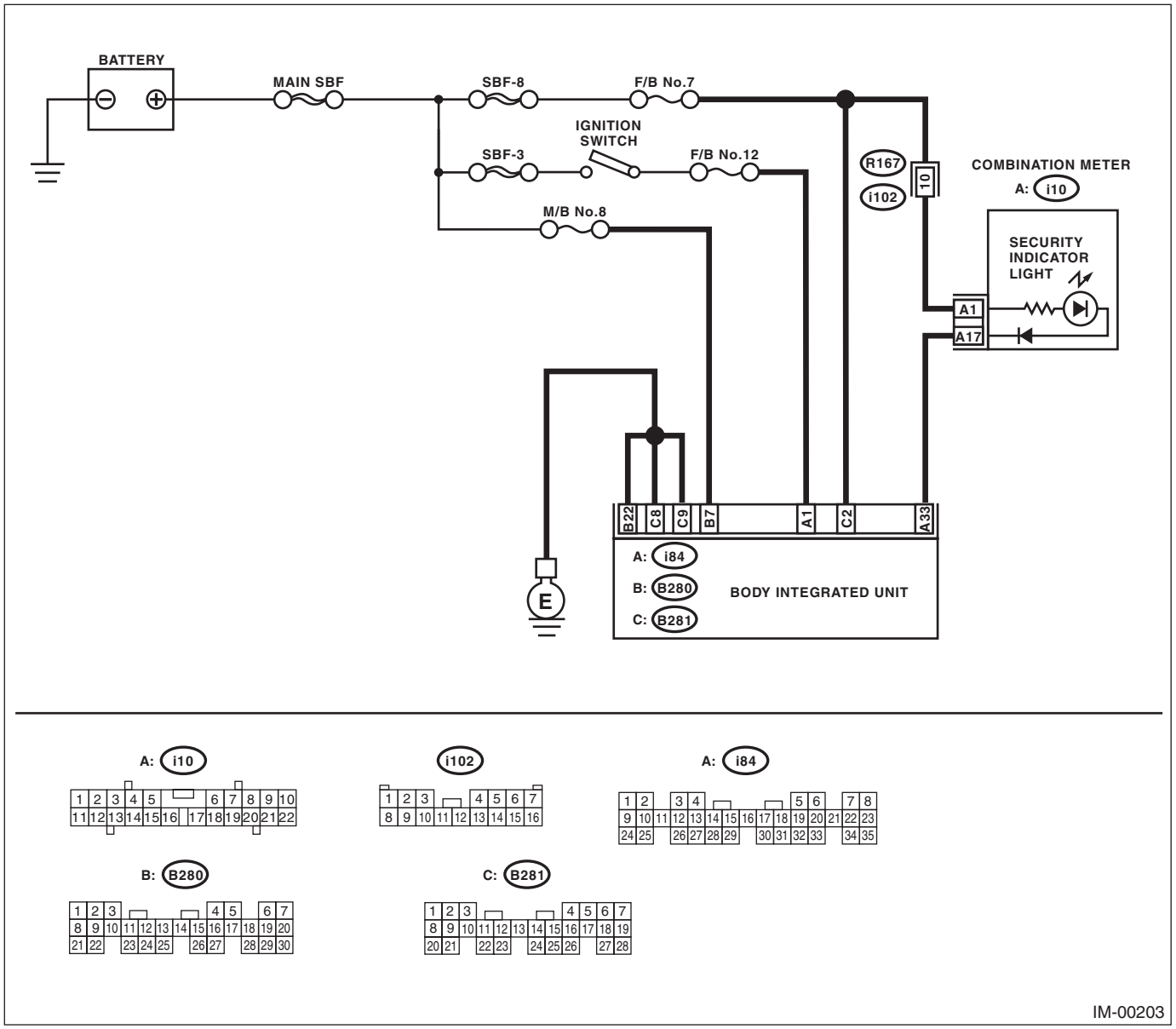
NOTE:
For detailed operation procedure, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

# 8. Diagnostics Chart for Security Indicator Light

## A: INSPECTION

### 1. CHECK SECURITY INDICATOR LIGHT CIRCUIT

**WIRING DIAGRAM:**

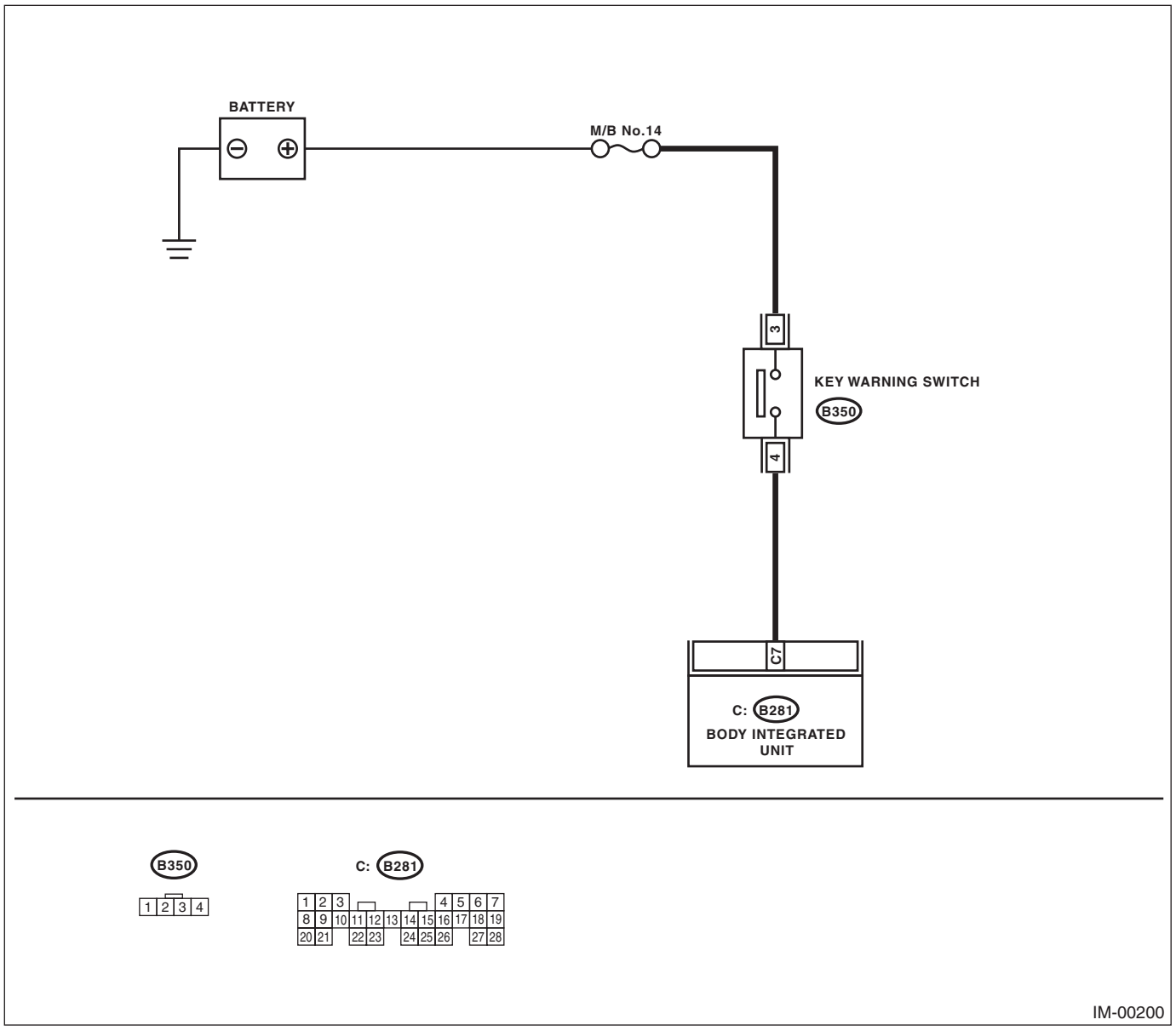


# Diagnostics Chart for Security Indicator Light

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SECURITY INDICATOR LIGHT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector from body integrated unit.<br>3) Connect the resistor (100 Ω) between the 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.**<br>Measure the resistance between body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 22 — Chassis ground:***<br>***(B281) No. 8 — Chassis ground:***<br>***(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.**<br>1) Turn the ignition switch to ON. (engine OFF)<br>2) Measure the voltage between body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Measure the voltage between body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 7 (+) — Chassis ground (–):***<br>***(B281) No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Replace the body integrated unit <Ref. to SL-53, 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 the body integrated unit and fuse. |
| 5 | **CHECK COMBINATION METER CIRCUIT.**<br>1) Remove the combination meter. <Ref. to IDI-19, Combination Meter.><br>2) Measure the voltage between combination meter harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **6**. | Check the harness for open or short between combination meter and fuse. |
| 6 | **CHECK COMBINATION METER CIRCUIT.**<br>Measure the resistance between the body integrated unit harness connector terminal and combination meter harness connector terminal.<br>***Connector & terminal***<br>***(i84) No. 33 — (i10) No. 17:*** | Is the resistance less than 10 Ω? | LED bulb malfunction. Replace the combination meter assembly. <Ref. to IDI-20, DISASSEMBLY, Combination Meter.> | 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.**<br>1) Disconnect the harness connector from key warning switch.<br>2) Turn the ignition switch to “ACC” or “LOCK” (with key inserted).<br>3) Measure the voltage between key warning switch harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B350) No. 3 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | Check the harness for open circuit or short between the key warning switch and fuse. |
| 2 | **CHECK KEY WARNING SWITCH.**<br>1) Insert the ignition key into the ignition switch. (OFF or ACC)<br>2) Measure the resistance between key warning switch connector terminals.<br>***Connector & terminal***<br>***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.**<br>1) Remove the ignition key from the ignition switch.<br>2) Measure the resistance between key warning switch connector terminals.<br>***Connector & terminal***<br>***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.**<br>1) Disconnect the harness connector from key warning switch.<br>2) Disconnect the harness connector from body integrated unit.<br>3) Measure the resistance between key warning switch harness connector terminal and body integrated unit harness connector terminal.<br>***Connector & terminal***<br>***(B350) No. 4 — (B281) No. 7:*** | Is the resistance less than 10 Ω? | Replace the body integrated unit <Ref. to SL-53, 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 | EGI — Immobilizer Communication (Excluding 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 — Immobilizer Communication | Communication failure between key and the body integrated unit | <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)-23, 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 | <Ref. to IM(diag)-24, DTC P1578 METER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |

NOTE:
Perform diagnosis of engine DTC when a DTC other than an immobilizer DTC is detected. <Ref. to EN(H4DOTC)(diag)-81, List of Diagnostic Trouble Code (DTC).> <Ref. to EN(H6DO)(diag)-80, 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)-24, 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)<br>• 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<br>• P1570<br>• 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.
• DTC B1401 and B1402 are recorded as freeze frame data when the ignition switch becomes OFF. Therefore, if the engine is attempted to be started with an immobilizer key that is not registered, the DTC will not appear in the Subaru Select Monitor immediately. Turn the ignition switch to OFF, and turn it back ON to check the DTC. At this time (when turning the ignition switch to ON again), note that the DTC is displayed as freeze frame data even when using a registered immobilizer key.

# 10.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## A: DTC P0513 INCORRECT IMMOBILIZER KEY

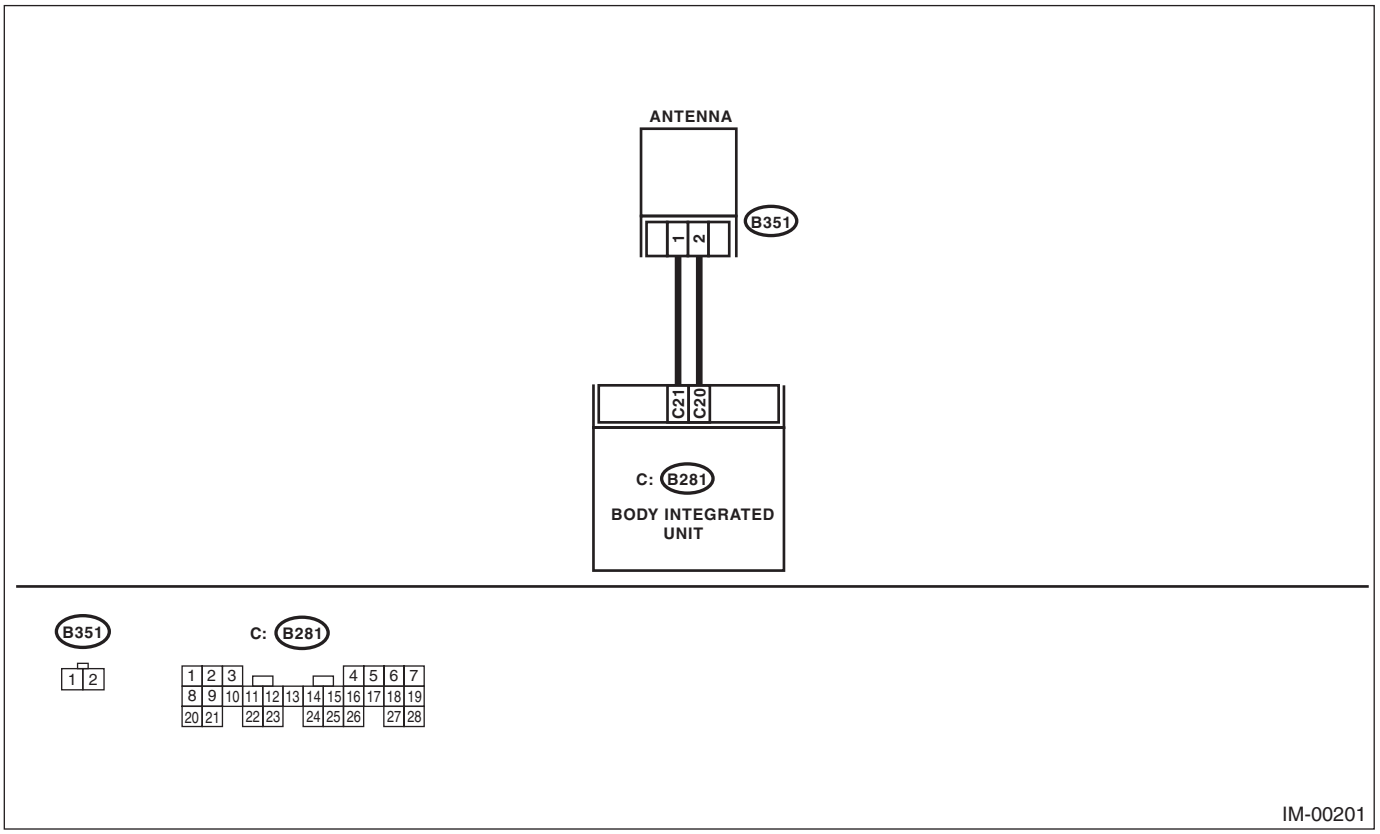
**DTC DETECTING CONDITION:**

Incorrect immobilizer key (Use of unregistered key in body integrated unit)

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | END. | Replace ignition keys (including transponder) which cannot be registered. Go to step **2**. |
| 2 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | END. | Replace the body integrated unit <Ref. to SL-53, 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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector from the antenna. <Ref. to SL-56, Immobilizer Antenna.><br>3) Measure the resistance of the antenna circuit.<br>***Connector & terminal***<br>***(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.**<br>1) Disconnect the harness connector from body integrated unit.<br>2) Measure the resistance between harness connector and chassis ground.<br>***Connector & terminal***<br>***(B281) No. 21 — Chassis ground:*** | Is the resistance less than 10 Ω? | Repair the harness. | Go to step **3**. |
| 3 | **CHECK ANTENNA CIRCUIT.**<br>Measure the resistance between harness connector and chassis ground.<br>***Connector & terminal***<br>***(B281) No. 20 — Chassis ground:*** | Is the resistance less than 10 Ω? | Repair the harness. | Go to step **4**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 4 | **CHECK ANTENNA CIRCUIT.**<br>1) Turn the ignition switch to ON. (engine OFF)<br>2) Measure the voltage between harness connector and chassis ground.<br>***Connector & terminal***<br>***(B281) No. 21 (+) — Chassis ground (–):*** | Is the voltage 0 V? | Go to step **5**. | Repair the harness. |
| 5 | **CHECK ANTENNA CIRCUIT.**<br>Measure the voltage between harness connector and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the harness connector to body integrated unit.<br>3) Insert the key into the ignition switch, then measure changes in voltage between the antenna harness connectors.<br>***Connector & terminal***<br>***(B281) No. 20 (+) — No. 21 (–):*** | Is the voltage –30 — 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-53, 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).**<br>1) Remove the key from ignition switch.<br>2) Start the engine using other key which is already registered. | Does the engine start? | Replace the ignition key (including the transponder). Execute the registration procedure next. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER". | Replace the body integrated unit <Ref. to SL-53, 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

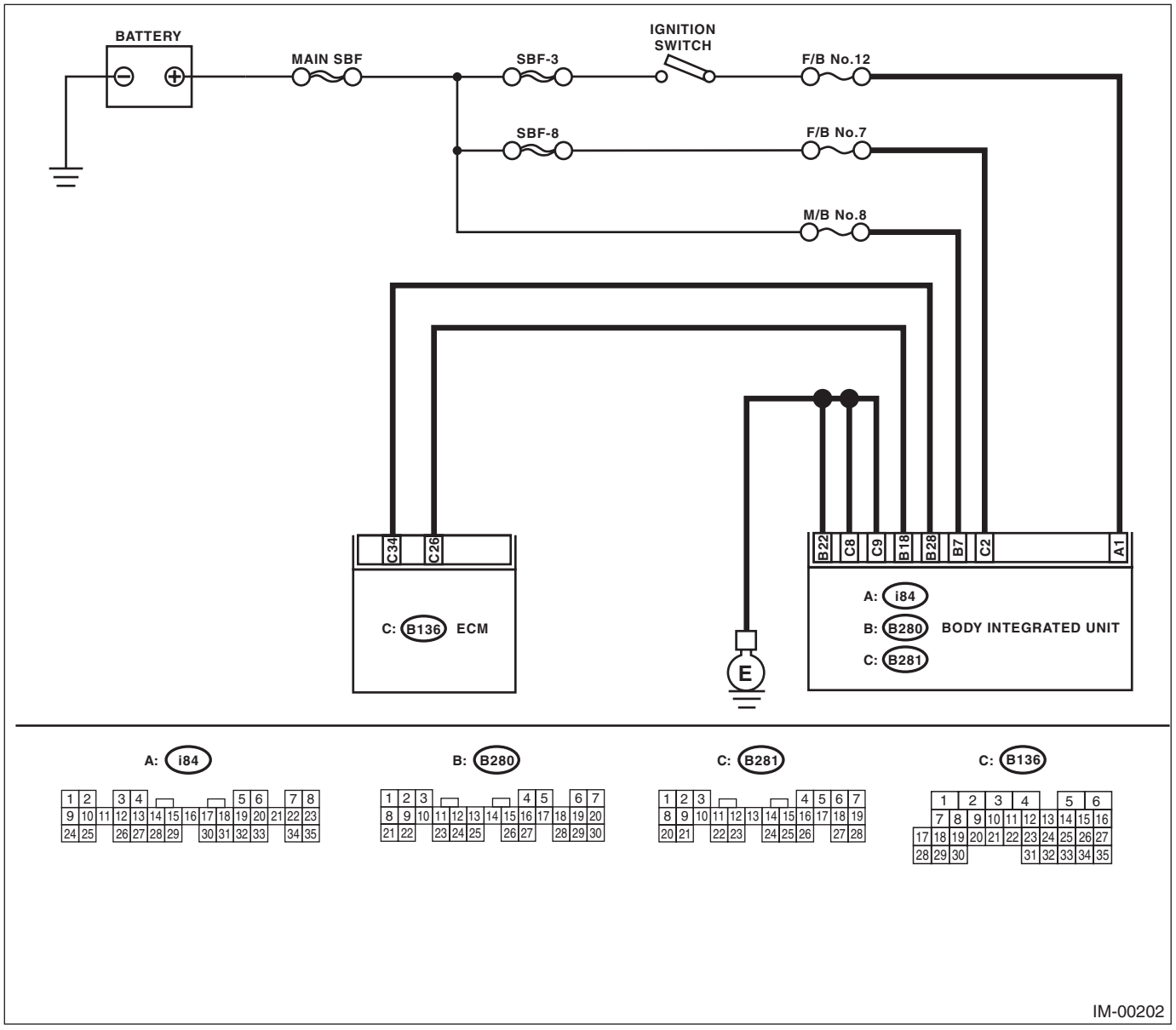
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | END. | Go to step **2**. |
| 2 | **CHECK FOR ANY OTHER DTC ON DISPLAY.** | Is any other immobilizer DTC displayed? | Check the appropriate DTC using the “List of Diagnostic Trouble Code (DTC)”. <Ref. to IM(diag)-14, List of Diagnostic Trouble Code (DTC).> Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Replace the ECM. <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>Replace the body integrated unit <Ref. to SL-53, 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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector from body integrated unit.<br>3) Measure the voltage between body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 7 (+) — Chassis ground (–):***<br>***(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 the body integrated unit and fuse. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 2 | **CHECK BODY INTEGRATED UNIT POWER SUPPLY CIRCUIT.**<br>1) Turn the ignition switch to ON. (engine OFF)<br>2) Measure the voltage between body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(i84) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Check the harness for open or short circuit between body integrated unit and ignition switch. |
| 3 | **CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Measure the resistance between body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 22 — Chassis ground:***<br>***(B281) No. 8 — Chassis ground:***<br>***(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.**<br>1) Disconnect the harness connector from body integrated unit and ECM.<br>2) Measure the resistance between body integrated unit harness connector terminal and ECM harness connector terminal.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance between body integrated unit harness connector terminal and ECM harness connector terminal.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to ON. (engine OFF)<br>2) Measure the voltage between body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 18 (+) — Chassis ground (–):***<br>***(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.**<br>Measure voltage between the ECM harness connector terminal and engine ground.<br>***Connector & terminal***<br>***(B136) No. 26 (+) — Engine ground (–):***<br>***(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. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 8 | **CHECK ECM BY COMMUNICATION LINE CHECK.**<br>1) Connect the harness connector to ECM.<br>2) Disconnect the harness connector from body integrated unit.<br>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-53, 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(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, 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:

Communication failure between key and the body integrated unit

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK BODY INTEGRATED UNIT FUNCTION.**<br>Insert the key into the ignition switch (LOCK position), then measure changes in voltage between the antenna connectors.<br>***Connector & terminal***<br>***(B142) No. 1 (+) — No. 2 (–):*** | Is the voltage –30 — 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-53, 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).**<br>1) Remove the key from ignition switch.<br>2) Start the engine using other key which is already registered. | Does the engine start? | Replace the ignition key (including the transponder). Execute the registration procedure next. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Replace the body integrated unit <Ref. to SL-53, 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
- Inaccessible ROM in ECM during key registration.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | Make sure it is possible to start the engine with all keys that have been taught. This completes the work. | Go to step **2**. |
| 2 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | Make sure it is possible to start the engine with all keys that have been taught. This completes the work. | Go to step **3**. |
| 3 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | Make sure it is possible to start the engine with all keys that have been taught. This completes the work. | Replace the ECM. <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> |

## G: DTC P1577 IMM CONTROL MODULE EEPROM

**DTC DETECTING CONDITION:**

- Body integrated unit malfunctioning
- Failed to access the ROM inside the body integrated unit.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | Make sure it is possible to start the engine with all keys that have been taught. This completes the work. | Go to step **2**. |
| 2 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | Make sure it is possible to start the engine with all keys that have been taught. This completes the work. | Go to step **3**. |
| 3 | **PERFORM REGISTRATION ON IGNITION KEY.**<br>Perform registration on all keys of the vehicle. Refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”. | Is registration for all keys complete? | Make sure it is possible to start the engine with all keys that have been taught. This completes the work. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |

## H: DTC P1578 METER FAILURE

**DTC DETECTING CONDITION:**
Reference code incompatibility between combination meter and body integrated unit

### 1. CHECK LAN COMMUNICATION SYSTEM

Inspect the LAN communication system in the following cases. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.>
- DTC of body integrated unit U1300, U1301, U1302, B1100 or U1321 is displayed.
- “Er IU” or “Er LC” is displayed in combination meter odo/trip meter. (except for the meter with MID)

### 2. REPLACE COMBINATION METER

Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.>Next, perform the registration procedure for all immobilizer parts (combination meter and etc.). 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)*


| | | Page |
|---|---|---|
| 1. | Basic Diagnostic Procedure | 2 |
| 2. | Check List for Interview | 3 |
| 3. | General Description | 5 |
| 4. | Electrical Component Location | 7 |
| 5. | Control Module I/O Signal | 9 |
| 6. | Subaru Select Monitor | 12 |
| 7. | Read Diagnostic Trouble Code (DTC) | 25 |
| 8. | Clear Memory Mode | 26 |
| 9. | Read Current Data | 27 |
| 10. | Function Setting (Customize) | 28 |
| 11. | List of Diagnostic Trouble Code (DTC) | 29 |
| 12. | Diagnostic Procedure with Diagnostic Trouble Code (DTC) | 32 |
| 13. | General Diagnostic Table | 83 |

# 1. General Description

## A: SPECIFICATION

| | | |
|---|---|---|
| Combination meter | Speedometer | Stepping motor type |
| | Tachometer | |
| | Engine coolant temperature gauge | |
| | Fuel gauge | |
| | ECO gauge | |
| | Malfunction indicator light | LED |
| | Oil pressure warning light | |
| | ABS warning light | |
| | Airbag warning light | |
| | Seat belt warning light | |
| | Door open 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 | |
| | Vehicle dynamics control (VDC) warning light | |
| | Vehicle dynamics control (VDC) indicator light | |
| | Turn signal indicator light | |
| | HI-beam indicator light | |
| | Security indicator light | |
| | Cruise indicator light | |
| | Cruise set indicator light | |
| | Front fog light indicator light | |
| | SPORT indicator light | |
| | AT select lever position indicator light | |
| | AT OIL TEMP warning light | |
| | Light illumination indicator light | |
| | Meter illumination light | |
| | LCD back light | |
| | Odo/Trip indicator | LCD |
| | SPORT shift indicator | |
| Multi information display | Odo/Trip indicator, Instant fuel economy/Average fuel economy, Ambient air temperature/Continuous driving time, Drivable distance, Current time, SI-DRIVE mode, Malfunction warning display | LCD |

## 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-163, 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/tripmeter knob three times.
3) Turn the small light switch to OFF, and press the odo/trip meter knob three times.
4) Turn the small light switch to ON, and press the odo/trip meter 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, ABSCM/VDCCM). <Ref. to IDI-15, 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 deactivated automatically for safety.

## 2. LIST OF SELF-DIAGNOSIS MODE OPERATION

### Normal meter

| 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. | 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 sec. from the lowest position to highest position.<br>Speedometer/ Tachometer: Approx. 5 degrees at every movement.<br>Engine coolant temperature / Fuel gauge: Moves approx. 2 degrees at a time. | Light OFF | Keep the position indicated that set in step 1-2. | Display the current meter directing angle on odometer.<br>Ex.) When the speedometer/ tachometer: 135 degrees and engine coolant temperature gauge/fuel gauge: 54 degrees, displays "135054". | "▼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. (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. | Displays the brightness level at the time when the trip knob was released. | "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. | "▲▼8" is displayed. Blinks with buzzer. | Illuminate at the highest brightness. | SPORT shift buzzer beeps. |
| Step 4-2. Press the trip knob: Check the VDC indicator light (Model with VDC) | | | | | | |
| All meter indicator needle returns to lowest position. | VDC warning light and VDC operation indicator light blink. | Illuminate at the highest brightness. Keep the position indicated that set in step 1-2. | Illumination brightness is displayed. | "4" is displayed. | Illuminate at the highest brightness. | VDC 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<br>888888 | 00000<br>000000 | 1111.1<br>111111 | 22222<br>222222 | 3333.3<br>333333 | 44444<br>444444 | 5555.5<br>555555 | 66666<br>666666 | 7777.7<br>777777 | 88888<br>888888 | 9999.9<br>999999 | |
| SPORT shift indicator | 8 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | Go back to 1 and repeat |
| ▲<br>▼ | ▲<br>▼ | ▲ | ▼ | ▲ | ▼ | ▲ | ▼ | ▲ | ▼ | ▲ | ▼ | |
| AT select lever position indicator | P | P | R | R | R | N | N | N | D | D | D | |
| Display time (sec.) | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | |

## 3. LIST OF SELF-DIAGNOSIS MODE OPERATION

### Meter with multi information display

| Speedometer, tachometer, fuel gauge, engine coolant temperature gauge, ECO gauge | Microcomputer running type warning light, indicator light | AT select lever position indicator light | Multi information display | Illumination (indicator needle, plate, ring, LCD) | Buzzer (SPORT shift buzzer, VDC buzzer, speed warning) |
|---|---|---|---|---|---|
| Step 0. Processing to self-diagnosis function | | | | | |
| Operating initial operation | Initial illuminating | Normal | TRIP: Normal<br>ODO: Normal | 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 | Perform the segment check. For the illumination order, refer to the table 1 of illumination order tables. | STEP 1 is displayed.<br>White illumination: 6 seconds.<br>Yellow illumination: 6 seconds. | Illuminate at the highest brightness. | Not beep. |
| Step 1-2. Press the trip knob: sweep completes, AT select lever position indicator display is set | | | | | |
| After quitting sweep in step 1-1, back to lowest position. (Until back to lowest position, ignore trip input.) | Light ON | Keep the position indicated when the trip knob is released. | Keep the illumination color indicated when the trip knob is released. | Illuminate at the highest brightness. | Not beep. |
| Step 2-1. Press the trip knob, and hold it: Check each meter | | | | | |
| Perform the indicator needle check. For the illumination order, refer to the table 2 of illumination order tables. | Light OFF (Low fuel warning light follows the table 2 of tables.) | For the illumination order, refer to the table 2 of illumination order tables. | STEP 2 is displayed.<br>White illumination: 12.5 seconds.<br>Yellow illumination: 12.5 seconds. | 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. (Indicator needle stops moving after movement is completed.) | Light OFF | Keep the position indicated when the trip knob is released. | Keep the illumination color at the time when the trip knob is released. | Illuminate at the highest brightness. | Not beep. |
| Step 3-1. Press the trip knob, and hold it: Check illumination | | | | | |
| Keep the position that specified at step 2-2. | Light OFF | Keep the position that specified at step 2-2. | STEP 3 is displayed, and illumination brightness is displayed. (from ILL6 to ILL1) | 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 | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Speedometer, tachometer, fuel gauge, engine coolant temperature gauge, ECO gauge | Microcomputer running type warning light, indicator light | AT select lever position indicator light | Multi information display | Illumination (indicator needle, plate, ring, LCD) | Buzzer (SPORT shift buzzer, VDC buzzer, speed warning) |
| Keep the position that specified at step 2-2. | Light OFF | Keep the position that specified at step 2-2. | Keep the position indicated when the trip knob is pressed. | 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 multi buzzer | | | | | |
| All meter indicator needle returns to lowest position. | Light OFF | P is displayed in white illumination. | STEP 3 WN BUZZER is displayed.<br>White illumination: 1 seconds.<br>Yellow illumination: 1 seconds. | Illuminate at the highest brightness. | Buzzer beeps when multi information display is yellow illumination. |
| Step 4-2. Press the trip knob: Check the beeping of SPORT shift buzzer (For AT model only, while for MT model, go to the next) | | | | | |
| All meter indicator needle returns to lowest position. | Light OFF | Shift display blinks with buzzer. | STEP 4 SS BUZZER is displayed. | Illuminate at the highest brightness. | SPORT shift buzzer beeps. |
| Step 4-3. Press the trip knob: Check the beeping of VDC buzzer (For the model with VDC only, while for other models, go to the next) | | | | | |
| All meter indicator needle returns to lowest position. | VDC warning light and VDC operation blink with buzzer. | P is displayed in white illumination. | STEP 4 VDC BUZZER is displayed. | Illuminate at the highest brightness. | VDC buzzer beeps. |
| Speed meter indicates the start position of speed warning while other meters indicate the lowest position. | Light OFF | P is displayed in white illumination. | STEP 4 SP BUZZER is displayed. | Illuminate at the highest brightness. | VDC 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

Display Contents 1

| Illuminating order | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ▲ ▼ | | | | | ▲ ▼ | ▲ | ▼ | ▲ | ▼ | ▲ | Go back to 1 and repeat |
| AT select lever position indicator | P | N | R | D | All lights ON | 1 | 2 | 3 | 4 | 5 | |
| Display time (sec.) | 1 | 0.5 | 0.5 | 0.5 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | |
| Back-up light | White light ON | | | | | | | | | | |

Display Contents 2

| Illuminating order | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Speedometer | 0 | 0 | 40 | 60 | 80 | 100 | 80 | 60 | 40 | 0 | |
| Tachometer | 0 | 0 | 1000 | 2000 | 3000 | 4000 | 3000 | 2000 | 1000 | 0 | |
| Fuel gauge | Lowest position | EMPTY | Warning light illumination position | 1/2 | FULL | Highest position | FULL | 1/2 | Warning light illumination position | EMPTY | |
| Engine coolant temperature gauge | Lowest position | C | at the first scale | 1/2 | at the third scale | over the fourth scale (approx. 120°C) | at the third scale | 1/2 | at the first scale | C | |
| ECO gauge | –Max | 0 | +Max | 0 | –Max | 0 | +Max | 0 | –Max | 0 | |
| Low fuel warning light | Light ON | Light ON | Light ON | Light OFF | Light OFF | Light OFF | Light OFF | Light OFF | Light ON | Light ON | |
| AT select lever position indicator | P | N | R | D | All lights ON | ▲1 | ▼2 | ▲3 | ▼4 | ▲5 | |
| Multi meter | STEP 2 is displayed. | | | | | | | | | | |
| Display time (sec.) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | |
| Back-up light (SS of AT model) | White light ON | | | | | | | | | | |
| Back-up light (Multi information display LCD) | White light ON | | | | | Yellow light ON | | | | | |

## 4. SYMPTOM CHART

| Symptom | Repair order | Reference |
|---|---|---|
| Combination meter assembly does not operate. | 1. Power supply<br>2. Ground circuit<br>3. Combination meter | <Ref. to IDI-11, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Combination Meter System.> |
| Speedometer does not operate. | 1. ABSCM or VDCCM<br>2. Harness<br>3. Combination meter | <Ref. to IDI-12, CHECK ABSCM OR VDCCM, INSPECTION, Combination Meter System.> |
| Tachometer does not operate. | 1. ECM<br>2. Harness<br>3. Combination meter | <Ref. to IDI-12, CHECK ENGINE CONTROL MODULE (ECM), INSPECTION, Combination Meter System.> |
| Fuel gauge does not operate. | 1. Communication circuit<br>2. Fuel level sensor<br>3. Harness<br>4. Combination meter | <Ref. to IDI-13, CHECK FUEL LEVEL SENSOR, INSPECTION, Combination Meter System.> |
| Engine coolant temperature gauge does not operate. | 1. Communication circuit<br>2. Engine coolant temperature sensor<br>3. Harness<br>4. Combination meter | <Ref. to IDI-14, CHECK ENGINE COOLANT TEMPERATURE SENSOR, INSPECTION, Combination Meter System.> |
| ECO gauge does not operate. | 1. Communication circuit<br>2. Combination meter | <Ref. to IDI-7, LIST OF SELF-DIAGNOSIS MODE OPERATION, INSPECTION, Combination Meter System.><br>NOTE:<br>After trip meter is reset, average fuel economy is not displayed within 1 km and ECO gauge does not operate. |
| Error display is shown on the odo/trip meter. (Except for meter with MID) | Communication circuit | <Ref. to IDI-15, 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).**

## 5. CHECK POWER SUPPLY AND GROUND CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY FOR COMBINATION METER.**<br>1) Remove the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.><br>2) Disconnect the combination meter harness connector.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 1 (+) — Chassis ground (–):***<br>***(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.**<br>Measure the voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 1 (+) — Chassis ground (–):***<br>***(i10) No. 3 (+) — 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.**<br>1) Turn the ignition switch to OFF.<br>2) Measure the resistance of harness between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***Normal meter model:***<br>***(i10) No. 11 — Chassis ground:***<br>***(i10) No. 12 — Chassis ground:***<br>***Multi information display model:***<br>***(i10) No. 11 — Chassis ground:***<br>***(i10) No. 12 — Chassis ground:*** | Is resistance less than 10 Ω? | Replace the meter case assembly. | Repair the wiring harness. |

## 6. CHECK ABSCM OR VDCCM

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK VEHICLE SPEED SIGNAL.**<br>1) Lift up the vehicle and support it with rigid racks.<br>2) Drive the vehicle faster than 10 km/h (6 MPH).<br>**WARNING:**<br>**Be careful not to be dragged in by the rotating wheel.**<br>3) Measure the voltage between combination meter connector and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 19 (+) — 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 ABSCM OR VDCCM AND COMBINATION METER.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from ABSCM or VDCCM and combination meter.<br>3) Measure the resistance between ABSCM or VDCCM harness connectors and the combination meter harness connector.<br>***Connector & terminal***<br>***Model without VDC***<br>***(B301) No. 23 — (i10) No. 19:***<br>***Model with VDC***<br>***(B310) No. 33 — (i10) No. 19:*** | Is resistance less than 10 Ω? | Model without VDC: Check the ABSCM. <Ref. to ABS(diag)-2, Basic Diagnostic Procedure.> Model with VDC: Check the VDCCM. <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.> | Repair the wiring harness. |

## 7. CHECK ENGINE CONTROL MODULE (ECM)

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ECM SIGNAL.**<br>1) Start the engine.<br>2) Measure the voltage between ECM connector and chassis ground.<br>***Connector & terminal***<br>***(B136) No. 22 (+) — Chassis ground (–):*** | Is the voltage 0 ←→ 14 V or more? | Go to step **2**. | Inspect the ECM. <Ref. to EN(H4SO)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4DOTC)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> |
| 2 | **CHECK HARNESS BETWEEN COMBINATION METER AND ECM.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from ECM and combination meter.<br>3) Measure the resistance between ECM harness connector and combination meter harness connector.<br>***Connector & terminal***<br>***(B136) No. 22 — (i10) No. 20:*** | Is resistance less than 10 Ω? | Replace the meter case assembly. | Repair the wiring harness. |

## 8. CHECK FUEL LEVEL SENSOR

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK COMMUNICATION ERROR DISPLAY.**<br>1) Turn the ignition switch to ON.<br>2) Check that the error code is displayed in odo/trip meter. (Except for meter with MID) | Is the error code "Er xx" displayed on odo/trip meter? (Except for meter with MID) Or is the DTC of low speed LAN system detected? | Check the communication circuit. <Ref. to IDI-15, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.> | Go to step **2**. |
| 2 | **CHECK COMBINATION METER.**<br>1) Remove the fuel sub level sensor. <Ref. to FU(H4SO)-53, REMOVAL, Fuel Sub Level Sensor.> <Ref. to FU(H4DOTC)-63, REMOVAL, Fuel Sub Level Sensor.> <Ref. to FU(H6DO)-52, REMOVAL, Fuel Sub Level Sensor.><br>2) Short the fuel sub level sensor connector terminal to the chassis ground using a suitable lead line wire with 2 — 6 Ω resistance connected between connector terminal and chassis ground.<br>3) Turn the ignition switch to ON.<br>***Terminals***<br>***(R59) No. 1 — Chassis ground:*** | Is the fuel gauge display in combination meter changed to FULL? | Go to step **3**. | Check harness for open or short circuits, and if normal, replace the meter case assembly. |
| 3 | **CHECK FUEL LEVEL SENSOR.**<br>1) Remove the fuel level sensor. <Ref. to FU(H4SO)-52, REMOVAL, Fuel Level Sensor.> <Ref. to FU(H4DOTC)-62, REMOVAL, Fuel Level Sensor.> <Ref. to FU(H6DO)-51, REMOVAL, Fuel Level Sensor.><br>2) Measure the resistance between fuel level sensor terminals when the float is in FULL or EMPTY position.<br>***Terminals***<br>***(R58) No. 1 — No. 4:*** | Is the resistance 1.0 to 3.0 Ω (FULL) and 31 to 33 Ω (EMPTY)? | Go to step **4**. | Replace the fuel level sensor. |
| 4 | **CHECK FUEL SUB LEVEL SENSOR.**<br>1) Remove the fuel sub level sensor. <Ref. to FU(H4SO)-53, REMOVAL, Fuel Sub Level Sensor.> <Ref. to FU(H4DOTC)-63, REMOVAL, Fuel Sub Level Sensor.> <Ref. to FU(H6DO)-52, REMOVAL, Fuel Sub Level Sensor.><br>2) Measure the resistance between fuel sub level sensor terminals when the float is in FULL or EMPTY position.<br>***Terminals***<br>***(R59) No. 1 — No. 2:*** | Is the resistance 1.0 to 3.0 Ω (FULL) and 61 to 63 Ω (EMPTY)? | Go to step **5**. | Replace the fuel sub level sensor. |
| 5 | **CHECK HARNESS BETWEEN FUEL SUB-LEVEL SENSOR AND BODY INTEGRATED UNIT.**<br>1) Disconnect the connector from body integrated unit.<br>2) Check harness for open or short circuits between fuel sub level sensor harness connector terminal and body integrated unit harness connector terminal.<br>***Connector & terminal***<br>***(R59) No. 1 — (B281) No. 19:*** | Is harness normal? | Go to step **6**. | Repair the wiring harness. |

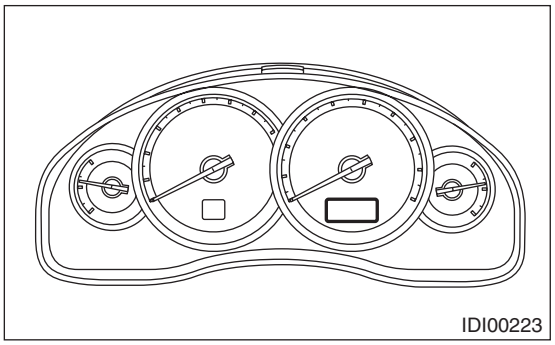
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 6 | **CHECK HARNESS BETWEEN FUEL LEVEL SENSOR AND FUEL SUB LEVEL SENSOR.**<br>Check harness for open or short circuits between fuel level sensor harness connector terminal and fuel sub level sensor harness connector terminal.<br>***Connector & terminal***<br>***(R58) No. 1 — (R59) No. 2:*** | Is harness normal? | Go to step **7**. | Repair the wiring harness. |
| 7 | **CHECK FUEL LEVEL SENSOR GROUND CIRCUIT.**<br>Check harness for open or short circuits between fuel level sensor harness connector terminal and chassis ground harness connector terminal.<br>***Connector & terminal***<br>***(R58) No. 4 — Chassis ground:*** | Is harness normal? | Replace the meter case assembly. | Repair the wiring harness. |

## 9. CHECK ENGINE COOLANT TEMPERATURE SENSOR

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK COMMUNICATION ERROR DISPLAY.**<br>1) Turn the ignition switch to ON.<br>2) Check that the error code is displayed in odo/trip meter. (Except for meter with MID) | Is the error code “Er xx” displayed on odo/trip meter? (Except for meter with MID) Or is the DTC of low speed LAN system detected? | Check the communication circuit. <Ref. to IDI-15, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.> | Go to step **2**. |
| 2 | **CHECK ENGINE COOLANT TEMPERATURE SENSOR.**<br>Check the engine coolant temperature sensor. <Ref. to EN(H4SO)(diag)-2, Basic Diagnostic Procedure.> <Ref. to EN(H4DOTC)(diag)-2, Basic Diagnostic Procedure.> <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. |

## 10.COMMUNICATION ERROR DISPLAY

NOTE:
Communication error display is not displayed on the meter with multi information display.
When the following error code is displayed in the odo/trip meter, inspect the communication circuit since the communication failure 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 | Low-speed CAN communication failure |
| Er EG | EGI Communication failure |
| Er TC | TCM Communication failure |
| Er Ab | ABSCM/VDCCM communication failure |
| Er SP | ABSCM/VDCCM DTC information and vehicle speed pulse malfunction |
| Er SS | Wheel speed data malfunction |

## 11.DTC DISPLAY MODE

Check of DTC can be easily performed by means of combination meter by performing the following procedures.
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/tripmeter knob three times.
3) Turn the small light switch to OFF, and press the odo/trip meter knob four times.
4) Turn the small light switch to ON, and press the odo/trip meter knob four times.

NOTE:
• Perform the steps described in 2) and 4) within 10 seconds after the ignition switch is turned to ON.
• Turn the ignition switch to OFF to deactivate simple DTC display mode.
• When the engine starts during diagnosis, the self-diagnosis function is not cancelled, however, once the vehicle starts driving, the self-diagnosis function is deactivated automatically for safety.

NOTE:
When the DTC display mode operates, {ECM}, {TCM}, {ABSCM/VDCCM} is displayed cyclically in this order for every three seconds or every press of 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.

- Meter without multi information display

| 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 | — | “ ----- ” |

- Meter without multi information display

| 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 ----” |

# 3. Clock System

## A: WIRING DIAGRAM

### 1. CLOCK

<Ref. to WI-175, WIRING DIAGRAM, Clock System.>

## B: INSPECTION

### 1. SYMPTOM CHART

| Symptom | Repair order | Reference |
|---|---|---|
| No display is shown. | 1. Power supply<br>2. Clock body | <Ref. to IDI-17, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Clock System.> |
| Illumination does not illuminate. | 1. Illumination power supply<br>2. Clock body | <Ref. to IDI-18, CHECK ILLUMINATION CIRCUIT, INSPECTION, Clock System.> |
| “Acc” or “ign” is displayed. | ACC or ignition power supply | <Ref. to IDI-18, CHECK ACC OR IGNITION POWER SUPPLY, INSPECTION, Clock System.> |
| “Err” is displayed in all items. | 1. Communication circuit between combination meter and clock<br>2. Clock body | <Ref. to IDI-18, CHECK COMMUNICATION CIRCUIT, INSPECTION, Clock System.> |
| “Err” is displayed when a particular item is selected. | Communication circuit between combination meter and individual control modules | <Ref. to IDI-15, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.> |

### 2. CHECK POWER SUPPLY AND GROUND CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK CLOCK POWER SUPPLY.**<br>1) Disconnect the clock harness connector.<br>2) Measure the voltage between the clock harness connector and chassis ground.<br>***Connector & terminal***<br>***(i59) No. 10 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | Check the harness for a open or short between the fuse and clock. |
| 2 | **CHECK CLOCK GROUND CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Measure the resistance between the clock harness connector and chassis ground.<br>***Connector & terminal***<br>***(i59) No. 6 — Chassis ground:*** | Is resistance less than 10 Ω? | Replace the clock body. | Repair the wiring harness. |

## 3. CHECK ILLUMINATION CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ILLUMINATION CIRCUIT POWER SUPPLY.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the clock harness connector.<br>3) Turn the ignition switch and lighting switch to ON.<br>4) Measure the voltage between the clock harness connector and chassis ground.<br>***Connector & terminal***<br>***Normal meter:***<br>***(i59) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Replace the clock body. | Check the harness for a open or short between the fuse and clock. |

## 4. CHECK ACC OR IGNITION POWER SUPPLY

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ACC POWER SUPPLY.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the clock harness connector.<br>3) Turn the ignition switch to ACC.<br>4) Measure the voltage between the clock harness connector and chassis ground.<br>***Connector & terminal***<br>***(i59) No. 9 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | Check for open circuits in the harness between the fuse and the clock. |
| 2 | **CHECK THE IGNITION POWER SUPPLY.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between the clock harness connector and chassis ground.<br>***Connector & terminal***<br>***Normal meter:***<br>***(i59) No. 8 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Replace the clock body. | Check for open circuits in the harness between the fuse and the clock. |

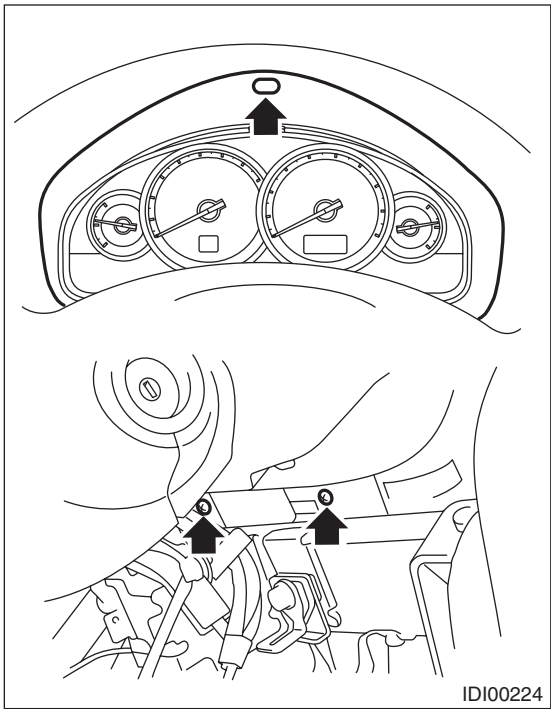
## 5. CHECK COMMUNICATION CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK THE HARNESS BETWEEN CLOCK AND COMBINATION METER.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of the clock and the combination meter.<br>3) Measure the resistance between the harness connector of the clock and the combination meter.<br>***Connector & terminal***<br>***Normal meter:***<br>***(i59) No. 5 — (i10) No. 18:***<br>***Multi meter:***<br>***(i59) No. 1 — (i10) No. 13:*** | Is resistance less than 10 Ω? | Go to step **2**. | Repair the wiring harness. |
| 2 | **CHECK COMMUNICATION ERROR DISPLAY.**<br>1) Connect all the disconnected connectors.<br>2) Turn the ignition switch to ON.<br>3) Check that the error code is displayed in odo/trip meter. | Is the error code “Er xx” displayed on odo/trip meter? (Except for meter with MID) | Check the communication circuit. <Ref. to IDI-15, COMMUNICATION ERROR DISPLAY, INSPECTION, Combination Meter System.> | Replace the clock body. |

# 4. Combination Meter

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Set the tilt steering at the lowest position.
3) Remove the instrument panel lower cover. <Ref. to EI-49, REMOVAL, Instrument Panel Lower Cover.>
4) Remove the screws of the combination meter (one on the upper side, two on lower side) and pull while tilting the meter towards yourself.




5) 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.

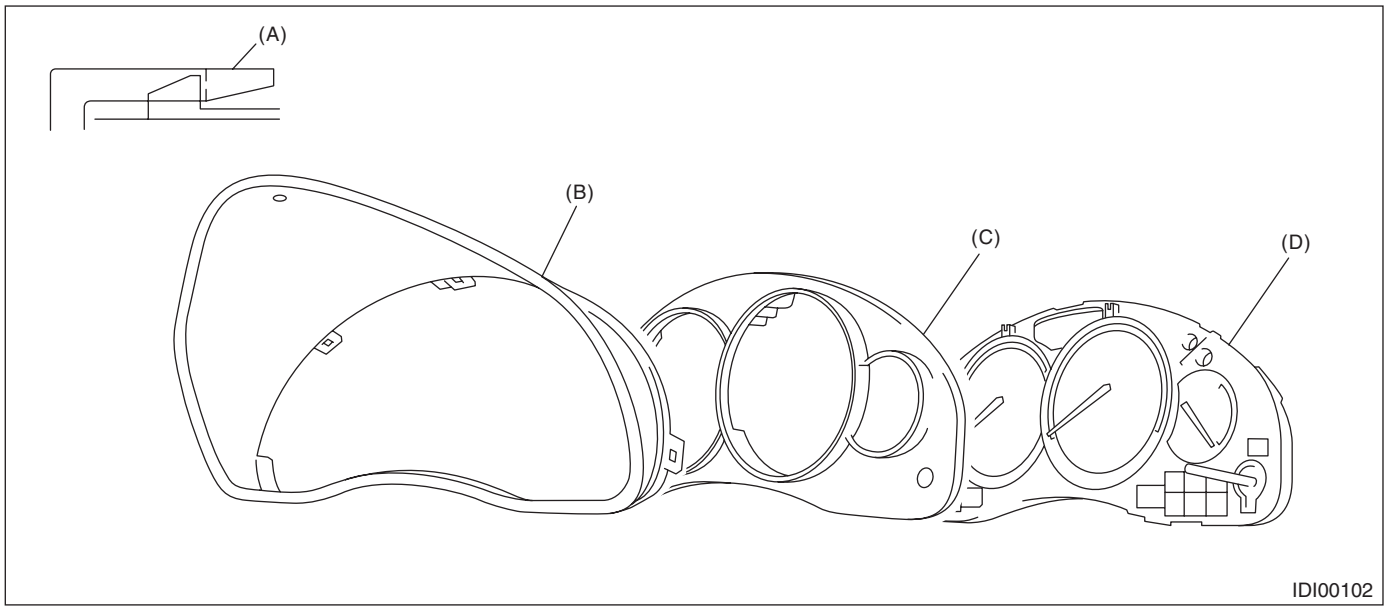
**CAUTION:**
**• Make sure the electrical connector is connected securely.**
**• Make sure that each meter operates normally.**
**• When the combination meter of model with immobilizer has been replaced, be sure to perform the registration of immobilizer.**

## C: DISASSEMBLY

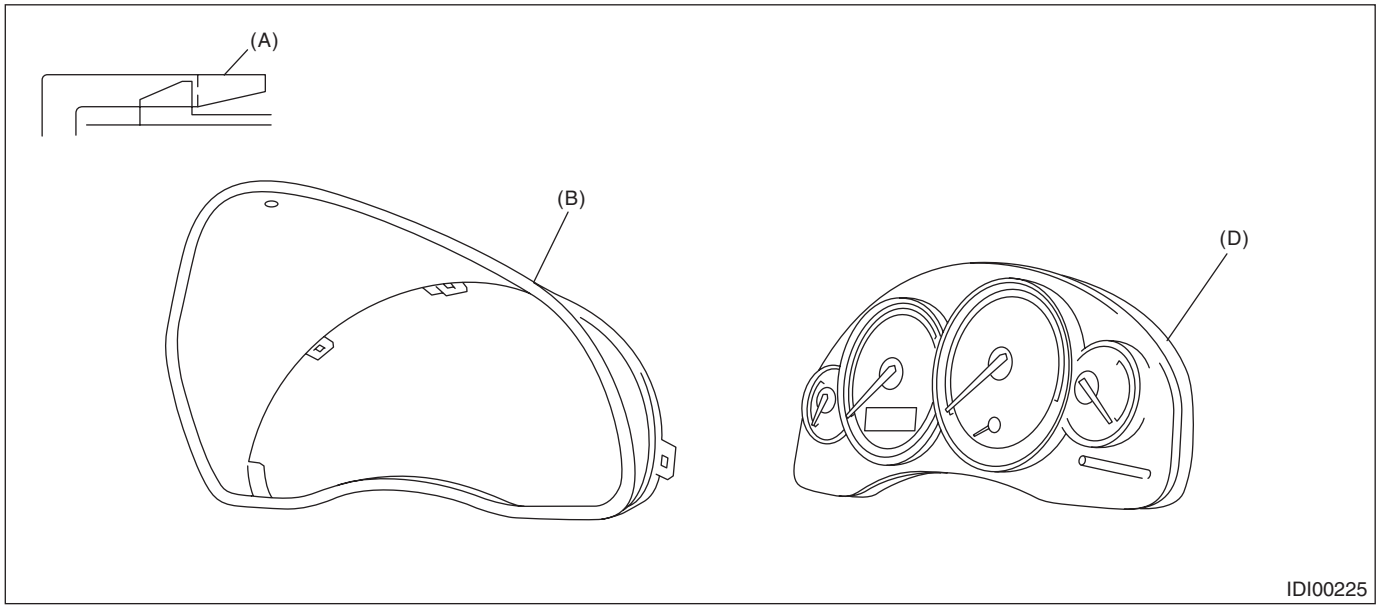
**CAUTION:**
- **Use gloves to avoid damage and getting fingerprints on the glass surface and meter surfaces.**
- **Be careful not to apply excessive force to the trip knob.**
- **Be sure not to touch the meter indicator needle.**

Disengage claw (A), and remove the meter glass assembly (B) and meter panel assembly (C) from the meter case assembly (D).

- Except for meter with multi information




- Meter with multi information




### 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.

# 5. Speedometer

## A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the speedometer alone. (Do not remove the cover on the back surface.)

# 6. Tachometer

## A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the tachometer alone. (Do not remove the cover on the back surface.)

# 7. Fuel Gauge

## A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the fuel gauge alone. (Do not remove the cover on the back surface.)

# 8. Engine Coolant Temperature Gauge

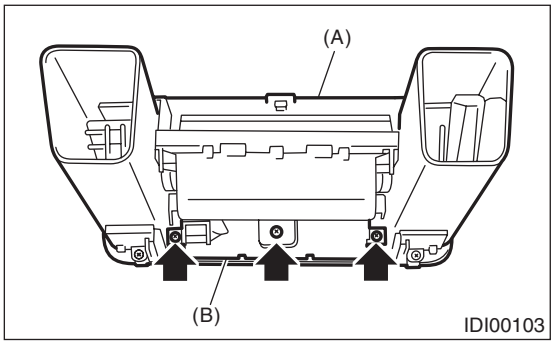
## A: SPECIFICATION

Since the meter case assembly cannot be disassembled, do not remove or inspect the engine coolant temperature gauge alone. (Do not remove the cover on the back surface.)

# 9. Clock

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the center air vent grille. <Ref. to AC-44, REMOVAL, Air Vent Grille.>
3) Loosen the screws, and remove clock (B) from center air vent grille (A).




## B: INSTALLATION

Install in the reverse order of removal.

# SEATS

# SE


Page

1. General Description .....2
2. Front Seat .....9
3. Rear Seat .....17
4. Seat Heater System .....22
5. Power Seat System .....24

# 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 detailed procedure, refer to the REGISTRATION MANUAL FOR IMMOBILIZER.**

NOTE:
• To check harness for open or short circuits, shake the suspected trouble spot or connector.
• Check List for Interview <Ref. to LAN(diag)-3, Check List for Interview.>

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK PRE-INSPECTION.**<br>1) Ask the customer when and how the trouble occurred using the interview check list. <Ref. to LAN(diag)-3, Check List for Interview.><br>2) Check the display of communication error display. (combination meter, odometer/trip meter) (except meters with MID) | Is the communication error displayed? | Go to step **3**. | Go to step **2**. |
| 2 | **BASIC INSPECTION.**<br>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.**<br>1) Read the DTC. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.><br>NOTE:<br>If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to LAN(diag)-32, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).><br>2) Record all DTC. | Is DTC displayed? | Go to step **5**. | Go to step **4**. |
| 4 | **PERFORM GENERAL DIAGNOSTICS.**<br>Inspect using the “General Diagnostics Table”. <Ref. to LAN(diag)-83, General Diagnostic Table.> | Is result of inspection OK? | LAN system is normal. | Go to step **5**. |
| 5 | **PERFORM DIAGNOSIS.**<br>1) Correct the cause of trouble.<br>2) Perform Clear Memory Mode. <Ref. to LAN(diag)-21, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.><br>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. (Except for meter with MID) | When and how often are they displayed?<br>❑ Always<br>❑ Sometimes<br>❑ Only once |
| | Which communication error is displayed? (Record them all)<br>❑ Er IU (Fail in the body integrated unit)<br>❑ Er HC (Fail of high-speed CAN)<br>❑ Er LC (Fail of low-speed CAN)<br>❑ Er — (Fails of both high-speed and low-speed CAN)<br>❑ Er EG (Fail of EGI communication data)<br>❑ Er TC (fail of TCM communication data)<br>❑ Er Ab (Fail of vehicle dynamics control (VDC)/ABS communication data) |
| Ignition key position | ❑ OFF<br>❑ ACC<br>❑ ON (before starting engine)<br>❑ START<br>❑ ON (after starting engine, engine is running)<br>❑ ON (after starting engine, engine is at a standstill) |
| Timing | ❑ Immediately after turning the ignition ON.<br>❑ 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 de-icer does not operate. | ❑ Yes / ❑ No |
| | d) Rear defogger does not operate. | ❑ Yes / ❑ No |
| | e) Door lock does not operate. | ❑ Yes / ❑ No |
| | f) Trunk/rear gate lock does not operate. | ❑ Yes / ❑ No |
| | g) Drivers 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)<br>❑ When the vehicle is running Vehicle speed km/h (MPH)<br>❑ While accelerating Acceleration km/h (MPH) to km/h (MPH)<br>❑ Decelerating (With braking) Deceleration km/h (MPH) to km/h (MPH)<br>❑ Decelerating (Without braking) Deceleration km/h (MPH) to km/h (MPH) |
| | ❑ Flat road<br>❑ Uphill<br>❑ Downhill<br>❑ Gravel road<br>❑ Bumpy road<br>❑ Snowy road |
| | Does it occur when operating any part?<br>Operated part:<br>Trouble symptom: |
| | Are there any other troubles occurred?<br>From where:<br>Trouble symptom: |

# 3. General Description

## A: CAUTION

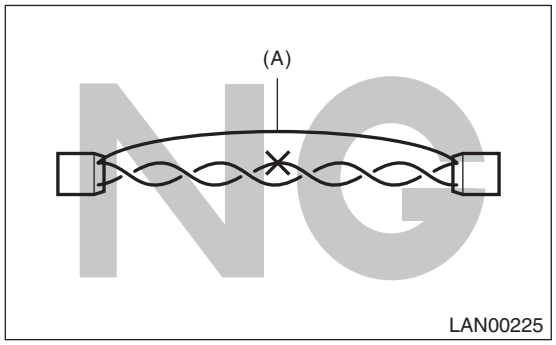
### 1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

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 harness and connector circuit.**
**• Be careful not to damage the airbag system wiring harness when servicing the body integrated unit and LAN system.**

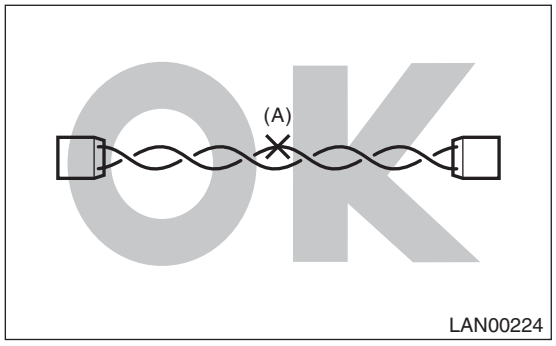
### 2. LAN SYSTEM

• Bus line of LAN system is twisted pair line. Be careful not to 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

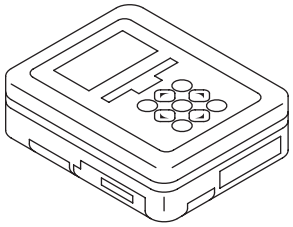
Before performing diagnostics, check the following item which might affect body integrated unit malfunctions.
1) Measure the battery voltage and check electrolyte.

***Standard voltage: 12 V or more***

***Specific gravity: Above 1.260***
2) Check the fuse condition.
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)-19, REGISTRATION BODY INTEGRATED UNIT (EQUIPMENT SETTING), OPERATION, Subaru Select Monitor.>
5) Make sure that a setting that does not match the vehicle equipent, is not set in the function setting (ECM customizing) of the body integrated unit. <Ref. to LAN(diag)-22, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>
6) Confirm "Factory initial setting" of body integrated unit registrations is "Market".
7) Confirm key illumination does not blink with ignition switch turned to ON.

# C: PREPARATION TOOL

## 1. SPECIAL TOOL

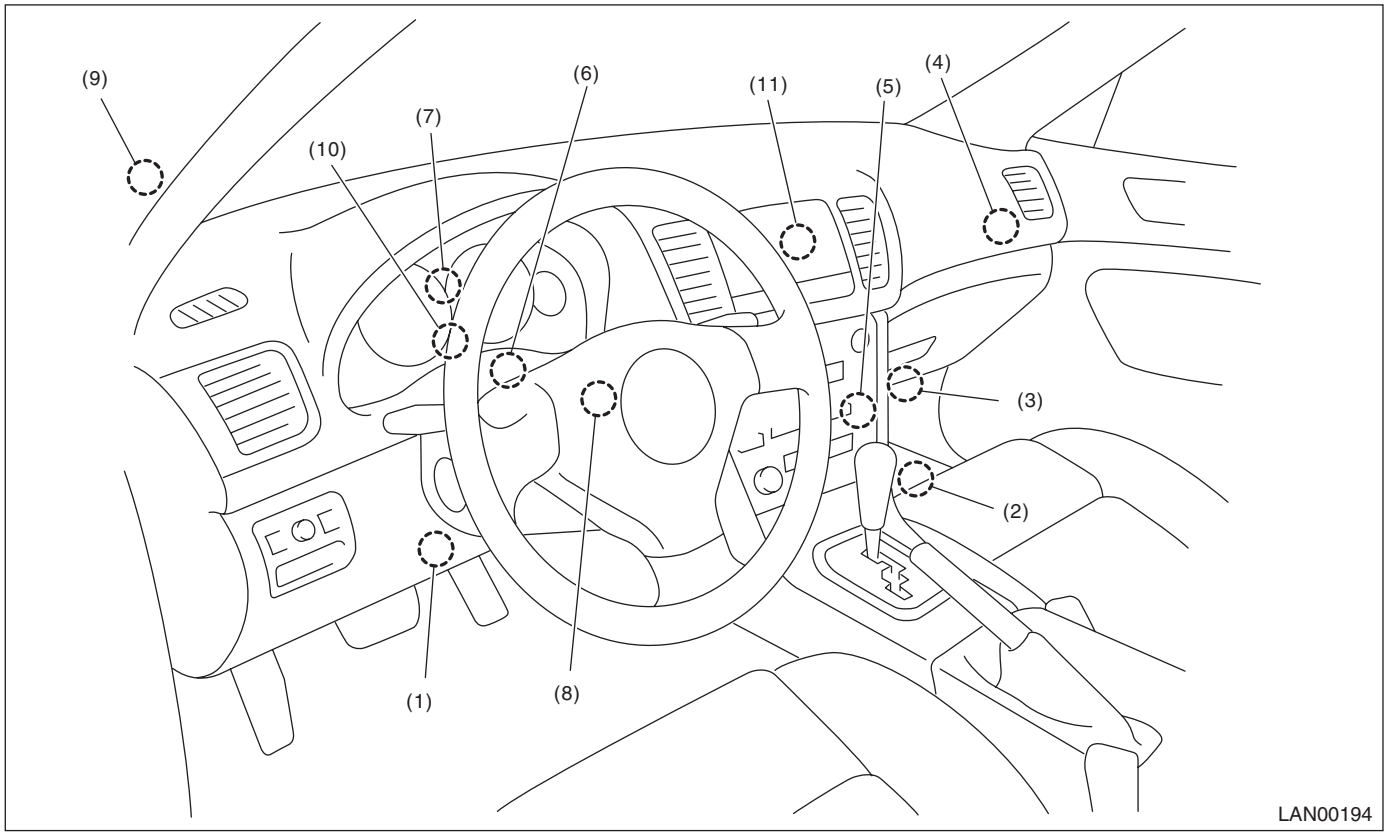
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST1B020XU0 | 1B020XU0 | SUBARU SELECT MONITOR KIT | Used for troubleshooting the electrical system. |

## 2. GENERAL TOOL

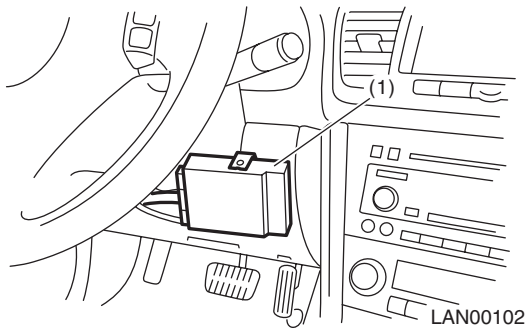
| TOOL NAME | REMARKS |
|---|---|
| Circuit tester | Used for measuring resistance, voltage and current. |

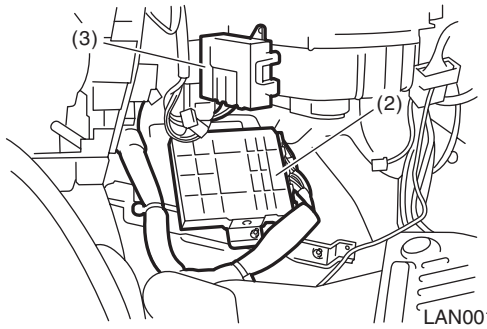
# 4. Electrical Component Location

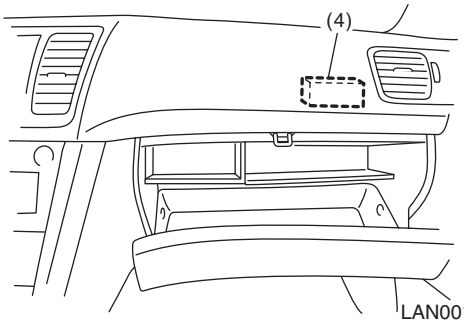
## A: LOCATION

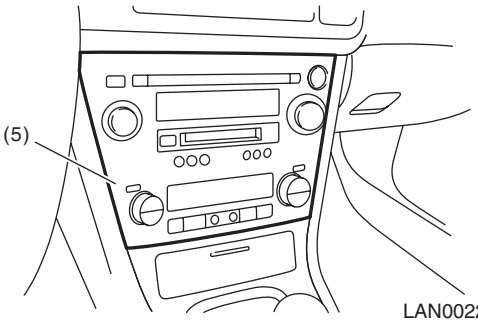


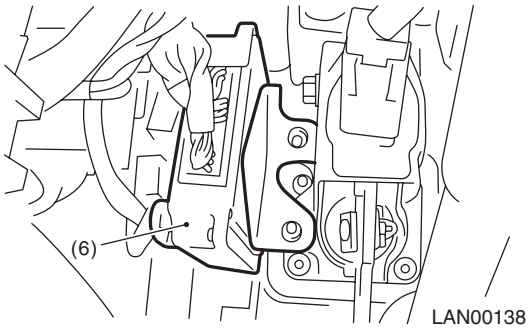

(1) Body integrated unit
(2) Engine control module (ECM)
(3) Auto A/C control module
(4) Keyless entry control module (Antenna)
(5) A/C control panel
(6) Transmission control module (TCM)
(7) Combination meter
(8) Steering angle sensor
(9) ABSCM&H/U or VDCCM&H/U(inside engine room)
(10) Odo/trip meter
(11) Center display

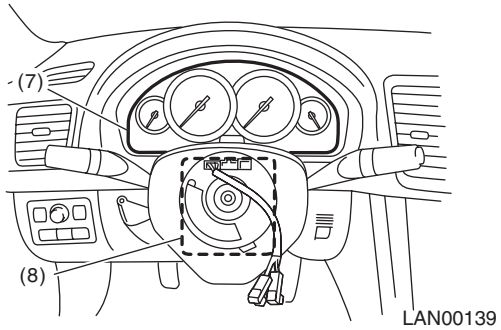

(1)
LAN00102

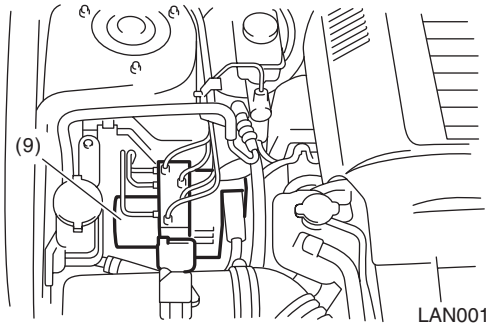

(3)
(2)
LAN00103

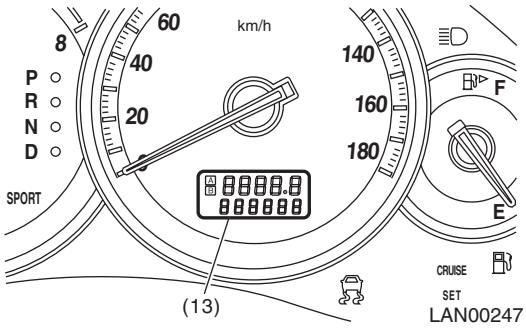

(4)
LAN00136

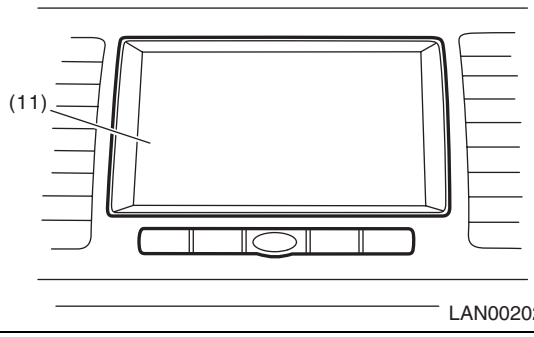

(5)
LAN00226


(6)
LAN00138


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(8)
LAN00139

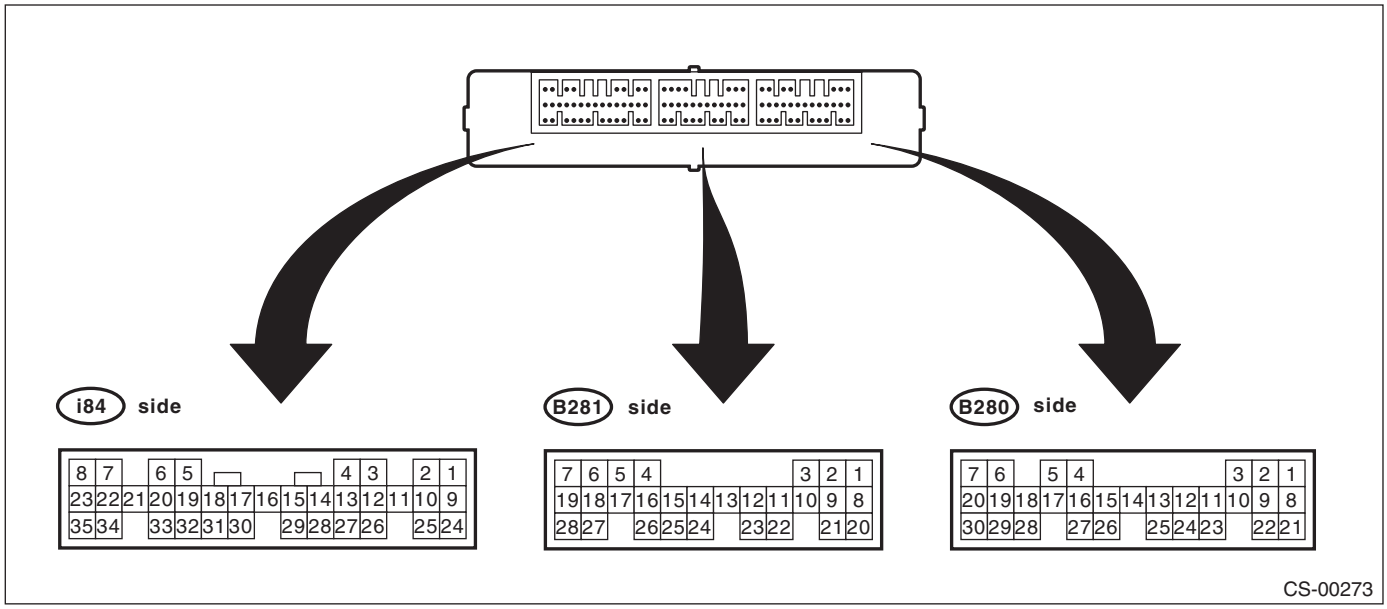

(9)
LAN00140


8
60
km/h
40
140
20
160
180
P
R
N
D
SPORT
F
E
CRUISE
SET
(13)
LAN00247


(11)
LAN00202

# 5. Control Module I/O Signal

## A: ELECTRICAL SPECIFICATION




| Contents | 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 | When backup fuse is installed |
| 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 inserted |
| Stop light switch | B281 | 23 | 10 — 13 V | When brake pedal depressed |
| Illumination control switch (Bright switch) | i84 | 30 | 10 — 13 V (at dimmer ON) | Cancel the extinction of 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 | Small light ON |
| Illumination volume (Vi3) | i84 | 25 | 0 V | Ground circuit |
| Illumination output | i84 | 5 | Pulse signal | Small light ON |
| Front fog light SW 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) |

| Contents | Connector No. | Terminal No. | Signal (V) | Note |
|---|---|---|---|---|
| | | | Ignition switch ON (engine OFF) | |
| Door switch Trunk/Rear gate | i84 | 17 | Less than 1 V (10 — 13 V at OFF) | Trunk/Rear gate open (ON) |
| Manual switch (LOCK) | i84 | 5 | 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 |
| Key/shift lock power supply | B281 | 1 | 10 — 13 V | Always |
| Shift lock output | B280 | 6 | 10 — 13 V | Ignition switch ON, shift position "P" range, foot brake ON (Only AT) |
| Key locking output | B280 | 5 | 10 — 13 V | Except P range, ignition key is inserted, ignition switch ON (AT model) |
| Wiper de-icer switch | i84 | 14 | Less than 1 Ω | Wiper de-icer switch ON |
| Wiper de-icer relay output | B280 | 14 | 1 V or less | Wiper de-icer relay ON |
| Rear defogger switch | i84 | 28 | Less than 1 Ω | Rear defogger switch ON |
| Rear defogger relay output | B281 | 16 | 1 V or less | Rear defogger relay ON |
| Shift switch (ON) | B281 | 26 | Less than 1 Ω | At Manual mode |
| Shift switch (UP) | B281 | 15 | Less than 1 Ω | At Manual mode UP |
| Shift switch (DOWN) | B281 | 25 | Less than 1 Ω | At Manual mode DOWN |
| P range switch | B281 | 13 | Less than 1 Ω | Shift range P position |
| Impact sensor | B281 | 5 | 8 V or more (pulse signal is usually used) | 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 | Less than 1 Ω | When driver's seat belt is not worn |
| Seat belt switch (Passenger's seat) | i84 | 13 | Less than 1 Ω | When passenger's seat belt is not worn |
| Seat belt warning light (driver's seat) | i84 | 20 | Less than 1 Ω | When driver's seat belt is worn |
| Seat belt warning light (Passenger's seat) | B281 | 24 | Less than 1 Ω | When passenger's seat belt is worn |
| Rear wiper switch (ON) | B281 | 6 | Less than 1 Ω | Rear wiper switch ON |
| Rear wiper switch (INT) | B281 | 18 | Less than 1 Ω | Rear wiper switch ON |
| Rear washer switch | B281 | 27 | Less than 1 Ω | Rear washer switch ON |

| Contents | Connector No. | Terminal No. | Signal (V) | Note |
|---|---|---|---|---|
| | | | Ignition switch ON (engine OFF) | |
| 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 | 10 — 13 V | At wiper reversing |
| | | 1 — 8 | 10 — 13 V | |
| Room light output | B280 | 3 | 1 V or less | When LOCK, UNLOCK with keyless entry |
| Key ring illumination output | B280 | 4 | 1 V or less | Ignition key removed, driver's door open |
| Turn hazard output | B280 | 12 | 1 V or less | 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 | 1 V or less | When operating security horn |
| Security indicator light output | i84 | 33 | Approx. 1 V | At ignition key removed, immobilizer operating |
| TPMS registration check signal input | B281 | 4 | 1 V or less | When inputting registration check signal |
| Keyless communication | i84 | 9 | Serial communication | At keyless entry signal received |
| High speed CAN circuit | B280 | 20 | Between B20 — B30 Serial communication | At communicating (sending and receiving) |
| High speed CAN circuit | B280 | 30 | | |
| Low-speed CAN circuit 1 | i84 | 27 | Between A26 — A27 Serial communication | At communicating (sending and receiving) |
| Low-speed CAN circuit 1 | i84 | 26 | | |
| Low-speed CAN circuit 2 | B280 | 26 | Between B25 — B26 Serial communication | At communicating (sending and receiving) (Model with auto A/C) |
| Low-speed CAN circuit 2 | B281 | 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

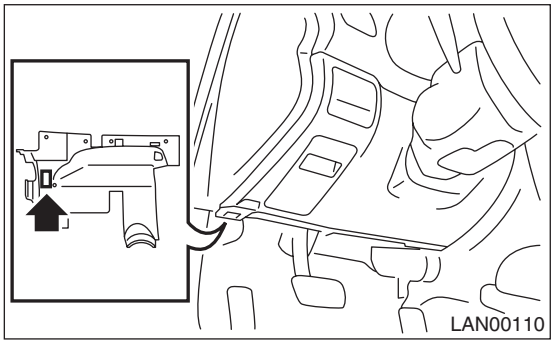
<Ref. to WI-197, WIRING DIAGRAM, CAN Communication System.> <Ref. to WI-115, AUTO A/C MODEL, WIRING DIAGRAM, Air Conditioning System.>

# 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 the data link connector.
Data link connector is located in the lower portion of 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:
• For details concerning operation procedures, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".
• For details concerning DTCs, refer to the List of Diagnostic Trouble Code (DTC). <Ref. to LAN(diag)-29, List of Diagnostic Trouble Code (DTC).>

### 2. READ CURRENT DATA

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 {12 Data Display}.
5) 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 | Remarks | Note |
|---|---|---|---|
| BATT Voltage (Control) | 10 — 15 V | Body integrated unit input value | Always |
| BATT Voltage (BACK UP) | 10 — 15 V | Body integrated unit input value | Always |
| IG Power Supply 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 | Illumination volume input value |
| Illumi. output d-ratio | 0 — 100% | Body integrated unit input value | Small light ON<br>Illumination volume is other than bright. |
| Ambient temp sensor V | 0 — 5 V | Body integrated unit output 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 | Other than parking range<br>Key warning switch ON |
| number of regist. | 0 — 4 | Key No. to register | |
| 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.<br>Reception from VDC |
| Blower fan steps | 0 — 2 levels | CAN data input value | 0: OFF, 1: Low, 2: 2 levels or more<br>Reception from air conditioner ECM (AUTO A/C model) |
| Fuel level resistance2 | 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 |
| Engine coolant temperature | –40 — 130°C | CAN data input value | Reception from ECM |
| Vehicle lateral G | $m/s^2$ | CAN data input value | Reception from VDC unit |
| SPORT Shift Stages | 0 — 7 levels | CAN data input value | (0: Light OFF; 1 — 5: Gear display; 6: Fail; 7: ATF temperature High/Low)<br>Reception from TCM (AT model) |
| 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.)<br>Reception from TCM (AT model) |
| 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 | Remarks | Note |
|---|---|---|---|
| key-lock warning SW | ON/OFF | Body integrated unit input value | On when ignition key is inserted |
| Stop Light SW | ON/OFF | Body integrated unit input value | On when brake pedal is depressed |
| Front fog light SW input | ON/OFF | Body integrated unit input value | ON when Front fog light is ON. |
| Rear fog light SW input | ON/OFF | Body integrated unit input value | Not supported by North American specifications |
| TPMS Input | ON/OFF | Body integrated unit input value | On when TPMS registration completed |
| lighting SW input | ON/OFF | Body integrated unit input value | Not supported by North American specifications |
| 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 in UNLOCK |
| 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 trunk/rear gate 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 | Except automatic A/C |
| 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 |
| 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 | On when rear wiper switch is in INT |
| 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 de-icer switch ON |
| Rear defogger SW | ON/OFF | Body integrated unit input value | Rear defogger switch ON |

| Items to be displayed | Unit of measure | Remarks | Note |
|---|---|---|---|
| Driver's seat belt SW input | ON/OFF | Body integrated unit input value | Driver's seat buckle switch ON |
| P seatbelt SW input | ON/OFF | Body integrated unit input value | Passenger's seat buckle switch ON |
| Fr wiper input | ON/OFF | Body integrated unit input value | On when front wiper is operating |
| Registration SW input | ON/OFF | Body integrated unit input value | Not supported by North American specifications |
| Identification SW input | ON/OFF | Body integrated unit input value | ON for wagon |
| R defogger output | ON/OFF | Body integrated unit output value | On when rear defogger relay is operating |
| Door lock actuator 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 |
| Double lock output | ON/OFF | Body integrated unit output value | Not supported by North American specifications |
| R wiper output | ON/OFF | Body integrated unit output value | On when rear wiper is operating |
| Shift Lock Solenoid | ON/OFF | Body integrated unit output value | On when shift lock solenoid is operating (AT model) |
| Key locking output | ON/OFF | Body integrated unit output value | On when key lock solenoid is operating (AT model) |
| wiper deicer SW input | ON/OFF | Body integrated unit output value | On when wiper de-icer is operating |
| Starter cutting output | ON/OFF | Body integrated unit output value | Not supported by North American specifications |
| Hazard Output | ON/OFF | Body integrated unit output value | On when keyless lock/unlock signal is received (when keyless switch connector is removed) |
| Keyless Buzzer Output | ON/OFF | Body integrated unit output value | On when keyless lock/unlock signal is received (when keyless switch connector is removed) |
| Horn Output | ON/OFF | Body integrated unit output value | On when security warning is operating |
| 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 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 off |
| Illumination light O/P | ON/OFF | Body integrated unit output value | On when illumination is illuminated |
| Room light output | ON/OFF | Body integrated unit output value | On when keyless lock/unlock signal is received (when keyless switch connector is removed) |
| key illumi. light o/p | ON/OFF | Body integrated unit output value | On when key illumination light is illuminated |

| Items to be displayed | Unit of measure | Remarks | Note |
|---|---|---|---|
| R fog light output | ON/OFF | Body integrated unit output value | Not supported by North American specifications |
| R fog light monitor | ON/OFF | Body integrated unit output value | Not supported by North American specifications |
| Immobilizer light output | ON/OFF | Body integrated unit output value | On when immobilizer pilot light blinks |
| Keyless operation 1 | Registration/Normal | Body integrated unit input value | Not supported by North American specifications |
| Keyless operation 2 | Clear/Normal | Body integrated unit input value | Not supported by North American specifications |
| CC Main Light | On/Off | CAN data input value | Cruise control switch on<br>Reception from ECM and transmission to combination meter |
| CC Set Light | On/Off | CAN data input value | On when cruise control vehicle speed is set<br>Reception from ECM and transmission to combination meter |
| SPORT Light | On/Off | CAN data input value | SPORT mode switch ON<br>Reception from TCM and transmission to combination meter (AT model) |
| SPORT Blink | Blink/Off | CAN data input value | TCM error signal reception ON<br>Reception from TCM and transmission to combination meter (AT model) |
| ATF temperature light | On/Off | CAN data input value | ATF oil temperature rise ON<br>Reception from TCM and transmission to combination meter (AT model) |
| ATF Blink | Blink/Off | CAN data input value | 4AT model: During learning control and bleeding control valve air |
| Tire diameter abnormal 1 | On/Off | CAN data input value | 4AT model: When FWD fuse is installed |
| Tire diameter abnormal 2 | Blink/Off | CAN data input value | ON when difference in rotation between front and rear wheels is 4% or more<br>Reception from TCM and transmission to combination meter (AT model) |
| SPORT Shift (UP) | UP/OFF | CAN data input value | ON when shift lever up-operation is possible (AT model) |
| SPORT Shift (DOWN) | DOWN/OFF | CAN data input value | ON when shift lever down-operation is possible (AT model) |
| SPORT Shift (buzzer 1) | ON/OFF | CAN data input value | Reception from TCM and transmission to combination meter (AT model) |
| SPORT Shift (buzzer 2) | ON/OFF | CAN data input value | Not supported by North American specifications |
| 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 | CAN data input value | On when small light is illuminated |
| DRL | ON/OFF | CAN data input value | Headlight switch OFF, ignition switch ON (during DRL operation) |
| Headlight | ON/OFF | CAN data output value | Not supported by North American specifications |
| Headlight HI | ON/OFF | CAN data output value | Not supported by North American specifications |
| Turn signal LH | ON/OFF | CAN data output value | Not supported by North American specifications |
| Turn signal RH | ON/OFF | CAN data output value | Not supported by North American specifications |

| Items to be displayed | Unit of measure | Remarks | Note |
|---|---|---|---|
| R defogger SW | ON/OFF | CAN data input value | Rear defogger switch ON |
| Australia Judging Flag | Australia/Others | CAN data output value | North American specifications have others |
| Large diameter tires | Large diameter/others | CAN data output value | Reception from combination meter |
| Number of cylinders | 4 cylinders/6 cylinders | CAN data input value | — |
| E/G cam shaft specification | SOHC/DOHC | CAN data input value | — |
| E/G Turbo | Turbo/Non-turbo | CAN data input value | — |
| E/G displacement (2.5 L) | 2.5 L/ OFF | CAN data input value | — |
| E/G displacement (3.0 L) | 3.0 L/ OFF | CAN data input value | — |
| AT Model ID Signal | AT model / MT model | CAN data input value | — |
| E/G cooling fan | ON/OFF | CAN data input value | — |
| Heater cock valve output | ON/OFF | CAN data output value | Not supported by North American specifications |
| Power window (Up) | ON/OFF | CAN data output value | Not supported by North American specifications |
| Power window (Down) | ON/OFF | CAN data output value | Not supported by North American specifications |
| Keyless buzzer | ON/OFF | CAN data output value | On when keyless answer-back buzzer operates (when keyless switch connector is removed) |
| P/W ECM Failure | OK/NG | CAN data input value | Not supported by North American specifications |
| Keyless Hook SW | ON/OFF | CAN data input value | Not supported by North American specifications |
| Door lock SW (Open) | ON/OFF | CAN data input value | Not supported by North American specifications |
| Door lock SW (Close) | ON/OFF | CAN data input value | Not supported by North American specifications |
| Door Key SW (Open) | ON/OFF | CAN data input value | Not supported by North American specifications |
| Door Key SW (Close) | ON/OFF | CAN data input value | Not supported by North American specifications |
| Under hook registration | ON/OFF | CAN data input value | Not supported by North American specifications |
| Hook registration end | ON/OFF | CAN data input value | Not supported by North American specifications |
| Unlock request | ON/OFF | CAN data input value | Not supported by North American specifications |
| Center display failure | OK/NG | CAN data input value | Reception from center display (NAVI monitor) |
| NAVI Failure | OK/NG | CAN data input value | 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 | Reception from auto A/C module |
| EBD Warning Light | OK/OFF | CAN data input value | Reception from VDC/ABS and transmission to combination meter |
| ABS Warning Light | OK/OFF | CAN data input value | Reception from VDC/ABS and transmission to combination meter |
| VDC OFF flag | ON/OFF | CAN data input value | Reception from VDC/ABS and transmission to combination meter |
| VDC/ABS OK B | OK/NG | CAN data input value | Reception from VDC/ABS (When an error is detected in either of the yaw rate, G sensor, steering sensor, or pressure sensor) |

NOTE:
For details concerning operation procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

## 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 {12 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)

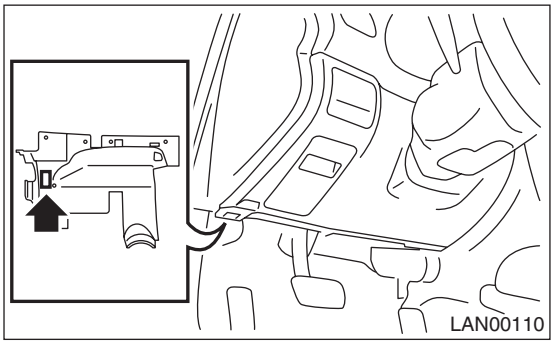
| Contents | Item to confirm | | | | Remarks |
|---|---|---|---|---|---|
| Key No. to register | 1 | 2 | 3 | 4 | Registered ID type |
| Off delay | OFF | Long | Normal | Short | Setting for lighting off time |
| Auto-lock | 60, 50, 40, 30, 20 | | OFF | | Not supported by North American specifications<br>(Unit sec.) |
| Outside Temp Offset | -2°C — +2°C (0.5°C increments) | | | | Adjustment of outside temperature |
| Rr defogger op. mode | Normal | | Continuous | | Normal: Off at 15 minutes of operation<br>Continuous: Operations from switch on to off |
| Wiper deicer op. mode | Normal | | Continuous | | Normal: Off at 15 minutes of operation<br>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<br>OFF: Warning device does not operate |
| Impact Sensor Setup | ON | | OFF | | ON: Impact sensor operation possible<br>OFF: Impact sensor does not operate<br>Turn OFF for vehicles not equipped with an Impact Sensor |
| Alarm monitor delay setting | ON | | OFF | | ON: Monitor after a fixed period of time from reception of the keyless lock signal<br>OFF: Monitor after reception of the keyless lock signal |
| Lockout prevention | ON | | OFF | | ON: Lockout prevention operation<br>OFF: Lockout prevention not operated |
| Impact Sensor | Yes | | No | | Yes: Impact sensor equipped<br>No: Impact sensor not equipped<br>Always set to no for vehicles not equipped with the impact sensor. |
| Siren setting | Yes | | No | | Not supported by North American specifications<br>The horn does not honk when the warning function operates, if the vehicle not equipped with a siren is set to 'Yes'. |
| Answer-back buzzer setup | ON | | OFF | | ON: Answer-back buzzer operation possible<br>OFF: Answer-back buzzer not operated |
| Hazard answer-back setup | ON | | OFF | | ON: Hazard answer-back buzzer operation possible<br>OFF: Hazard answer-back buzzer not operated |
| Automatic locking setup | ON | | OFF | | Not supported by North American specifications |
| Ans.-back Buzzer | Yes | | No | | Yes: Vehicle equipped with answer-back buzzer<br>No: Vehicle not equipped with answer-back buzzer |
| Auto locking | Yes | | No | | Not supported by North American specifications |

| Contents | Item to confirm | | Remarks |
|---|---|---|---|
| Passive arming | ON | OFF | ON: Passive arming operation possible<br>OFF: Passive arming not in operation |
| Belt warning Switch | ON | OFF | ON: All alarms except the first stage not in operation<br>OFF: Belt alarm operation possible |
| Door open warning (prevention of battery run-out) | Yes | No | Yes: Door interlocked room light goes off when on for 10 minutes consecutively when door is open.<br>No: Room light remains illuminated until door is closed. |
| A/C ECM setting | Yes | No | Set models with auto A/C to YES. |
| P/W ECM setting | Yes | No | Not supported by North American specifications |
| Center display failure | Yes | No | Yes: Navigation display equipped vehicles<br>No: Vehicles not equipped with Navigation displays |
| Wiper deicer | Yes | No | Yes: Vehicle equipped with wiper de-icer<br>No: Vehicle not equipped with wiper de-icer |
| Rear fog light setting | Yes | No | Not supported by North American specifications |
| Factory initial setting | Factory | Market | Do not change to the factory mode. Set to market when using normally. |

## 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. It is possible to control the original functions of vehicle when registrations of body integrated unit and function setting are corresponded to vehicle equipment.**
**If registrations and function setting are different from vehicle equipment, vehicle system does not operate normally and diagnosis cannot be performed correctly. Pay attention to following item.**
**• Be sure to correspond registrations and function settings to vehicle equipment.**
**• Do not change the settings of vehicle improperly.**
**• Confirm key illumination does not blink or "Factory initial setting" of body integrated unit registrations is "Market". If "Factory initial 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. (models with immobilizer)**
**• Make a registration of immobilizer when the parts related to immobilizer have been replaced. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**

1) Turn the ignition switch to OFF.
2) Connect the Subaru Select Monitor to the data link connector.




3) Turn the ignition switch to ON and 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].
List of body integrated unit registration item

NOTE:
Setting is different depending on the grade of vehicle.

| 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 | |
| Wiper deicer setting | OFF | ON | ON signal does not output with operation of wiper de-icer switch if wiper de-icer is set to “OFF” in models with a wiper de-icer. |
| | | OFF | |
| Rear fog light setting | OFF | ON | Set to “OFF”. |
| | | OFF | |
| Factory initial setting (Reset of body integrated unit) | Factory | Factory (Reset) | If Factory initial setting is set to “Factory”, registrations of items above is changed to “OFF”. After setting, be sure to set to “Market”. |
| | | Market (Settlement) | |

**CAUTION:**
- **It is possible to control the original functions of vehicle when registrations of body integrated unit and function setting are corresponded to vehicle equipment.**
- **When body integrated unit is a new part or “Factory” mozde, key illumination blinks to show equipment settings have not been completed.**
- **Be sure not to change Factory initial 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 setting. On the «ECM customizing” display screen of Subaru Select Monitor, select the {Factory initial setting}.
8) Change the mode from Factory to Market.
9) Change to the immobilizer cartridge, and register the immobilizer key. (For models with immobilizer, perform the procedures according to “IMMOBILIZER TEACHING OPERATION MANUAL”.)
10) When key registration is completed, “Do you want to register remote engine start?” is displayed. Perform registration only for equipped models.
11) Perform the function setting (ECM customizing).
<Ref. to LAN(diag)-22, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

NOTE:
For details concerning operation procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

## 7. CLEAR MEMORY MODE

1) On the «Main Menu» screen, select {2. 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 {Clear Memory}.

| Display | Contents to be monitored |
|---|---|
| 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 operation procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

## 8. FREEZE FRAME DATA

NOTE:
• Data stored at the time of trouble occurrence is shown on the display.
• Freeze frame data will be memorized maximum to 20.
• If freeze frame data is not stored in memory correctly (caused by low power supply of body integrated unit), DTC will be displayed with “ — ” on the head of it in the Subaru Select Monitor display. This shows it may be an unreliable reading.

## 9. 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 {ECM customizing}.
4) Change the setting with UP/DOWN key and select the [OK].

List of function setting item (ECM customizing)

| 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 key 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 seconds | 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 |
| Outside Temp Offset | 0°C | -2 — +2 (increment of 0.5) | If it is set to +2.0°C at outside temperature of 12°, the displayed outside temperature will be 14°C. | | |
| Rr defogger op. mode | 15 min. | 15 min. | Wiper de-icer stops in 15 minutes automatically after switch is turned to ON. | | |
| | | Continuous | The wiper de-icer 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 de-icer stops in 15 minutes automatically after switch is turned to ON. | | |
| | | Continuous | The wiper de-icer 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 (Always set to OFF for vehicles not equipped with the sensor.) | | |
| Alarm monitor delay setting | 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 (The function 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. (Make sure to set to OFF for models without the 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. (Make sure to set to OFF for models without the siren. Horn does not sound when 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”.<br>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 | OFF | 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. | |
| | | OFF | Vehicle is controlled in answer-back buzzer non-equipped mode. (Always set to OFF for vehicles not equipped with the answer-back.) | |
| Auto locking | OFF | 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. (Always set to OFF for vehicles not equipped with 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 | — | — | — | |
| | | Execution | Settings of each function are initialized. (Off delay time: Normal, Rr defogger op. mode: 15 min., Wiper de-icer op. mode: 15 min., Lockout prevention: ON) | |
| Initial Security setting | — | — | — | Not supported by North American specifications |
| | | Execution | Settings of security system are initialized. (Security Alarm Setup: OFF, Impact Sensor Setup: OFF, Alarm monitor delay setting: ON, Siren setting: OFF) | |
| Passive arming | OFF | ON | Enabled when passive arming is set to “ON”. | |
| | | OFF | | |
| Door open warning (prevention of battery run-out) | ON | ON | If detecting door open for 10 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. | |
| Belt warning Switch | OFF | ON | Alarm is set off with the indicator lit and buzzer beep from the first to third stage according to the vehicle speed and whether or not seat belts are worn. | |
| | | OFF | Turns off the indicator and stops buzzer except for the first stage. | |

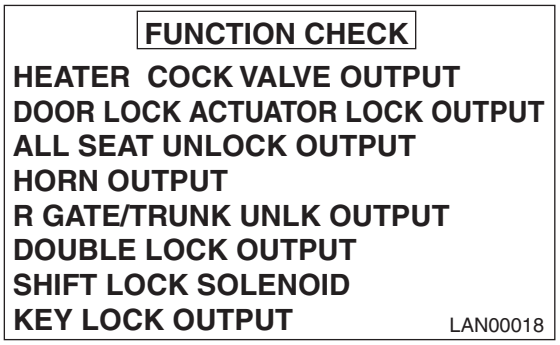
5) After setting, make sure that vehicle equipment matches the changed settings in the {Current Data Display & Save}.

**CAUTION:**
- **The above settings most 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 initial setting except installation of new body integrated unit.**

NOTE:
For details concerning operation procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

## 10.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 {Function Check}.
4) Select the item to be operated on the «Function Check» display screen with «UP/Down key» and select the [OK].




5) Selecting the [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

### 1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Use the Subaru Select Monitor; DTCs cannot be read without it.

### 2. WITH SUBARU SELECT MONITOR

For details concerning the DTC read 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

### 1. WITHOUT SUBARU SELECT MONITOR

NOTE:
Use the Subaru Select Monitor for the Clear Memory Mode.

### 2. WITH SUBARU SELECT MONITOR

For details concerning DTC clear operation, refer to “Subaru Select Monitor”. <Ref. to LAN(diag)-21, 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» screen, select the {12 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)-18, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>

# 10.Function Setting (Customize)

## A: OPERATION

### 1. WITH SUBARU SELECT MONITOR

For detailed procedures of function setting (ECM customizing), refer to “SUBARU SELECT MONITOR”. <Ref. to LAN(diag)-22, FUNCTION SETTING (ECM CUSTOMIZING), OPERATION, Subaru Select Monitor.>

# 11.List of Diagnostic Trouble Code (DTC)

## A: LIST

| DTC | Item | Diagnosis content | Note |
|---|---|---|---|
| None | Communication for Initializing Impossible | Open or short in Subaru Select Monitor communication line | <Ref. to LAN(diag)-32, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| None | Diagnostic Trouble Code (DTC) Is Not Stored | Internal error of combination meter | <Ref. to LAN(diag)-34, DIAGNOSTIC TROUBLE CODE (DTC) IS NOT STORED, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| B1100 | Integ. Unit System Error | Body integrated unit internal error | <Ref. to LAN(diag)-35, 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 | <Ref. to LAN(diag)-36, DTC B1101 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| B1102 | Batt P/Supply Malfunction Cont. | Open or short of battery power supply backup circuit | <Ref. to LAN(diag)-38, DTC B1102 BATT P/SUPPLY MALFUNCTION CONT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| B1103 | Ignition Power Failure | Open or short in IGN power supply circuit | <Ref. to LAN(diag)-40, DTC B1103 IGNITION POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| B1104 | ACC Power Failure | Open or short in ACC power supply circuit | <Ref. to LAN(diag)-42, DTC B1104 ACC POWER FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| B1106 | Shift Lock Circuit Failure | Ground short of 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 | Malfunction of high-speed CAN communication | <Ref. to LAN(diag)-46, DTC U1201 CAN-HS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| U1202 | CAN-HS Bus Off | Any unit is cut communication. | <Ref. to LAN(diag)-51, DTC U1202 CAN-HS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| U1211 | CAN-HS ECM Data Abnormal | Received error data from ECM. | <Ref. to LAN(diag)-56, DTC U1211 CAN-HS ECM DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| U1212 | CAN-HS TCM Data Abnormal | Received error data from TCM. | <Ref. to LAN(diag)-58, 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 unit. | <Ref. to LAN(diag)-60, 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)-62, 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)-64, 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 unit. | <Ref. to LAN(diag)-66, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |

| DTC | Item | Diagnosis content | Note |
|---|---|---|---|
| U1300 | CAN-LS Malfunction | Open or short in CAN-LS circuit, on each side or both sides. | <Ref. to LAN(diag)-68, DTC U1300 CAN-LS MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| U1301 | CAN-LS Counter Abnormal | Malfunction of CAN-LS communication | <Ref. to LAN(diag)-71, DTC U1301 CAN-LS COUNTER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| U1302 | CAN-LS Bus Off | Any unit is cut communication. | <Ref. to LAN(diag)-73, DTC U1302 CAN-LS BUS OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| U1311 | CAN-LS Meter Unit Data Abnormal | Received error data from meter. | <Ref. to LAN(diag)-76, 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)-78, 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)-79, 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 | Immobilizer 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)-81, 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.

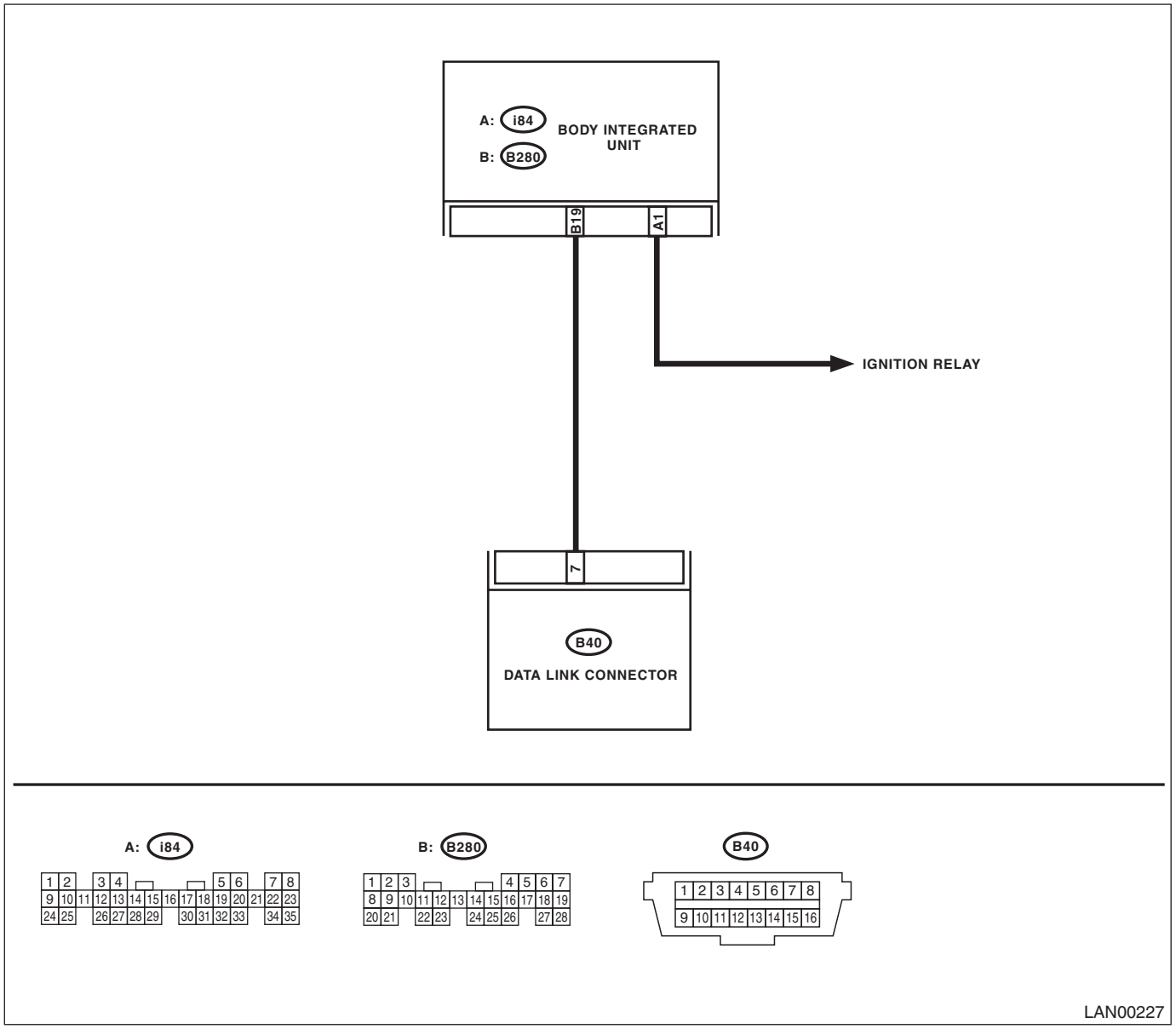
| DTC to Check | Diagnostic Code that was displayed. | | | | | Probable cause |
|---|---|---|---|---|---|---|
| | Body integrated unit | ECM | TCM | VDC/ ABSCM | Combination meter display (except for meter with MID) | |
| B1100<Ref. to LAN(diag)-35, DTC B1100 INTEG. UNIT SYSTEM ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> | B1100 | — | — | — | Er IU | There could be a problem in the body integrated unit. |
| U1221<Ref. to LAN(diag)-62, 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)-64, DTC U1222 CAN-HS TCM NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> | U1222 | P0600 | — | C0057 | Er HC | It is possible that the TCM is faulty. |
| U1223<Ref. to LAN(diag)-66, 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/ABSCM is faulty. |
| U1321<Ref. to LAN(diag)-79, 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)-78, DTC U1313 CAN-LS MONITOR DATA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> | U1313 | — | — | — | — | It is possible that the navigation monitor is faulty. |
| B1500<Ref. to LAN(diag)-81, 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.
**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.**<br>1) Turn the ignition switch to OFF.<br>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.**<br>1) Turn the ignition switch to ON.<br>2) Using the Subaru Select Monitor, check whether communication to other systems can be executed normally. | Are system and model year displayed? | Go to step **7**. | Go to step **5**. |
| 5 | **CHECK COMMUNICATION OF SUBARU SELECT MONITOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the body integrated unit connector.<br>3) Turn the ignition switch to ON.<br>4) Check whether communication to other systems can be executed normally. | Are system and model year displayed? | Go to step **7**. | Go to step **6**. |
| 6 | **CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL UNIT AND SUBARU SELECT MONITOR.**<br>1) Turn the ignition switch to ON.<br>2) Disconnect the body integrated unit connector.<br>3) Measure the resistance between data link connector and chassis ground.<br>***Connector & terminal***<br>***(B40) No. 7 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **7**. | Repair the harness and connector between each control unit and Subaru Select Monitor. |
| 7 | **CHECK OUTPUT SIGNAL TO BODY INTEGRATED UNIT.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between body integrated unit and chassis ground.<br>***Connector & terminal***<br>***(B40) No. 7 (+) — Chassis ground (–):*** | Is the voltage less than 1 V? | Go to step **8**. | Repair the harness and connector between each control unit and Subaru Select Monitor. |
| 8 | **CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND DATA LINK CONNECTOR.**<br>Measure the resistance between body integrated unit and data link connector.<br>***Connector & terminal***<br>***(B40) 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.**<br>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.**<br>1) Turn the ignition switch to ON (engine OFF).<br>2) Measure the ignition voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the connector from body integrated unit.<br>3) Measure the resistance of harness between the body integrated unit and chassis ground.<br>***Connector & terminal***<br>***(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 unit ground and Subaru Select Monitor? | Repair the poor contact of connector. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |

**CAUTION:**
**When replacing body integrated unit on the model with immobilizer system, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".**

## B: DIAGNOSTIC TROUBLE CODE (DTC) IS NOT STORED

**DIAGNOSIS:**
Defective combination meter
**TROUBLE SYMPTOM:**
- Communication error display in odo/trip meter is not cleared. (Except for meter with MID)
- "No trouble code" is displayed on Subaru Select Monitor.

NOTE:
If DTC is not displayed on Subaru Select Monitor, LAN communication System should be OK.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK COMMUNICATION ERROR DISPLAY WITH COMBINATION METER.**<br>Turn the ignition switch to ON. | Is communication error displayed? (except for meter with MID) | Inspect the DTC. | Go to step **2**. |
| 2 | **CHECK COMBINATION METER.**<br>Perform the self-diagnosis of combination meter. | Is combination meter OK? | Go to step **3**. | Replace the combination meter. <Ref. to IDI-19, Combination Meter.> |
| 3 | **CHECK BODY INTEGRATED UNIT.**<br>1) Display the current data of ECM using Subaru Select Monitor.<br>2) Check data of "body integrated unit data received". | Is "Yes" displayed? | Go to step **4**. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |
| 4 | **CHECK BODY INTEGRATED UNIT.**<br>1) Display the current data of ECM using Subaru Select Monitor.<br>2) Check data of "body Integrated unit counter update". | Is "Yes" displayed? | Repair the poor contact of connector. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |

## C: DTC B1100 INTEG. UNIT SYSTEM ERROR

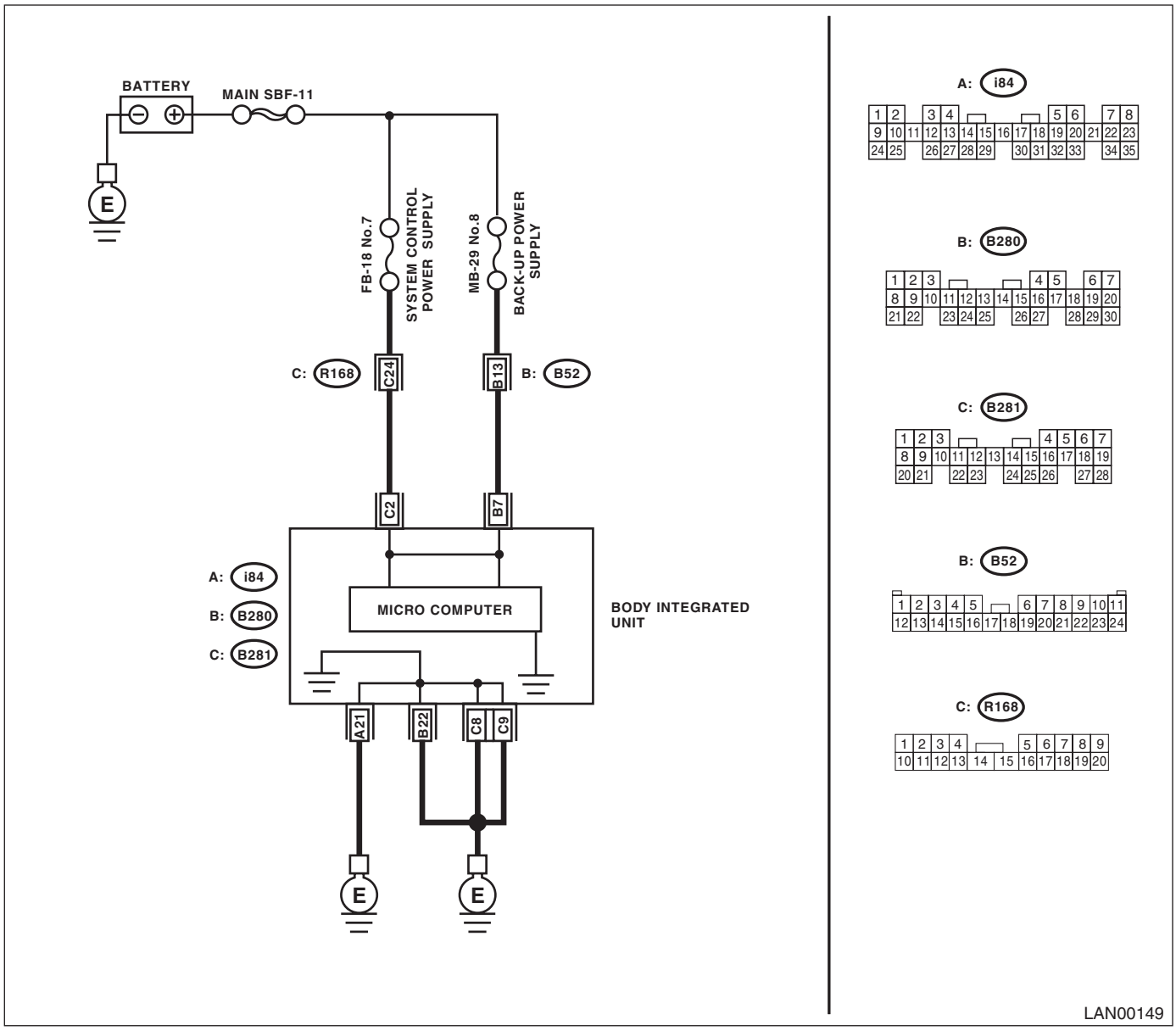
**DTC DETECTING CONDITION:**
System error in body integrated unit
**TROUBLE SYMPTOM:**
• Check light comes on in the combination meter, and displays communication error display “Er IU”. (Except for meter with MID)
• LAN communication immobilizer function may not be executed normally.

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of body integrated unit. Go to step **3**. | Go to step **3**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Go to step **5**. | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK ALL DTCS.** | Is DTC concerning ECM displayed? | Go to step **6**. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |
| 6 | **CHECK DTC CONCERNING ECM.** | Is output DTC on ECM concerning CAN communication failure? | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> | Perform the diagnosis according to DTC concerning ECM. |

## D: DTC B1101 BATT P/SUPPLY MALFUNCTION CONT

**DTC DETECTING CONDITION:**
Battery power supply control circuit is open or shorted.
**TROUBLE SYMPTOM:**
No malfunction occurs because the back-up power supply is activated.

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:**

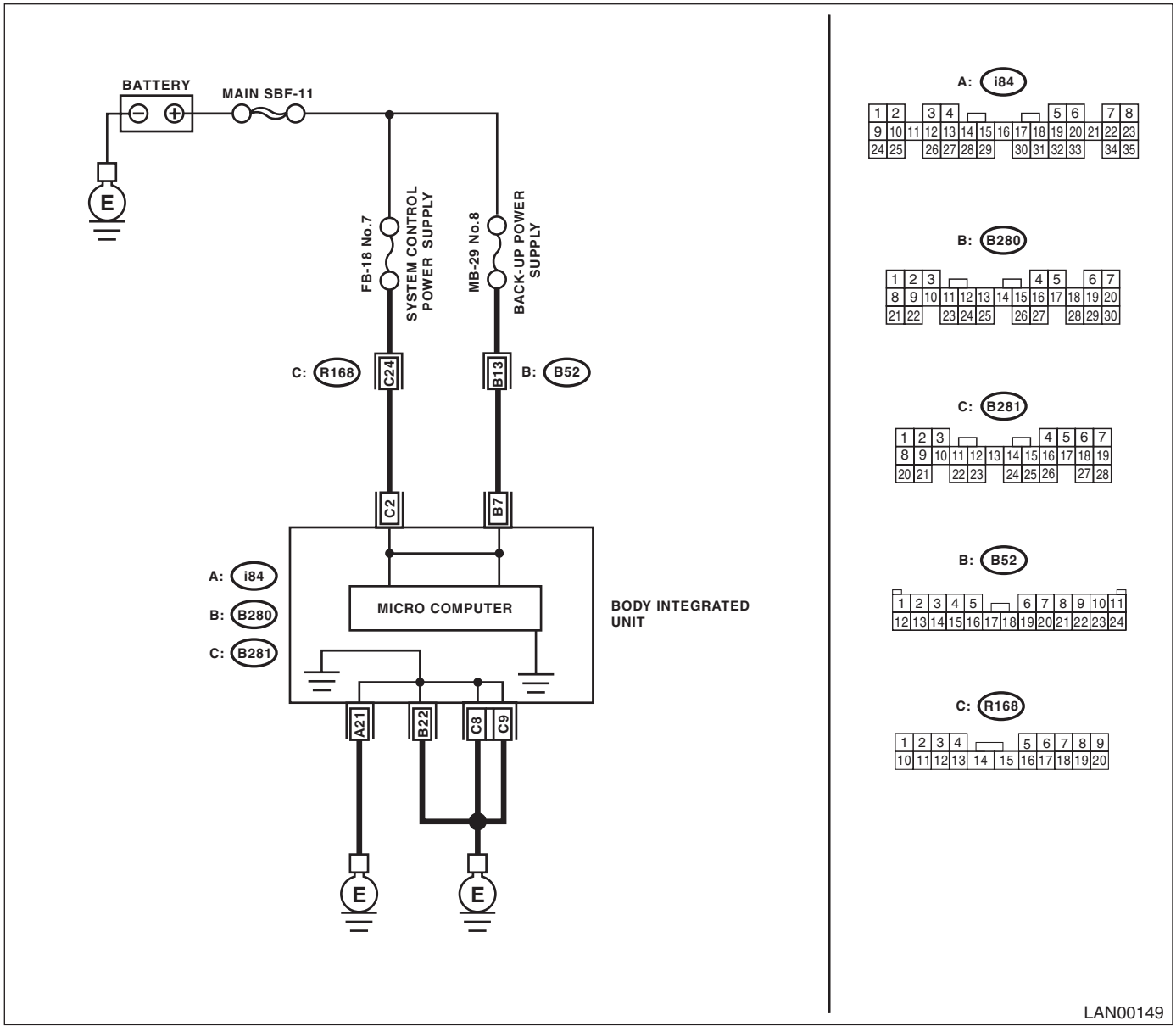


| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the fuse (No. 7). | Is the fuse blown out? | Replace the fuse (No. 7). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 7) and body integrated unit. | Go to step **2**. |
| 2 | **CONTINUITY CHECK OF WIRING HARNESS.**<br>1) Disconnect the connector (B281) from body integrated unit.<br>2) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B281) No. 2 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Repair the harness for open or shorted circuit between body integrated unit and fuse. |
| 3 | **CHECK POOR CONTACT OF CONNECTORS.** | Is there poor contact in body integrated unit connector? | Repair the poor contact of connector. | Go to step **4**. |
| 4 | **CHECK BODY INTEGRATED UNIT HARNESS.**<br>1) Connect all connectors.<br>2) Perform the Clear Memory Mode.<br>3) Read DTC. | Is the same DTC displayed? | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> | Temporary poor contact occurs. |

# E: DTC B1102 BATT P/SUPPLY MALFUNCTION CONT

**DTC DETECTING CONDITION:**
Battery power supply backup circuit is open or shorted.
**TROUBLE SYMPTOM:**
- Engine malfunction indicator light may illuminates.
- Keyless entry, room light and key illumination do not operate.
- “En IU” may display in combination meter. (Except for meter with MID)

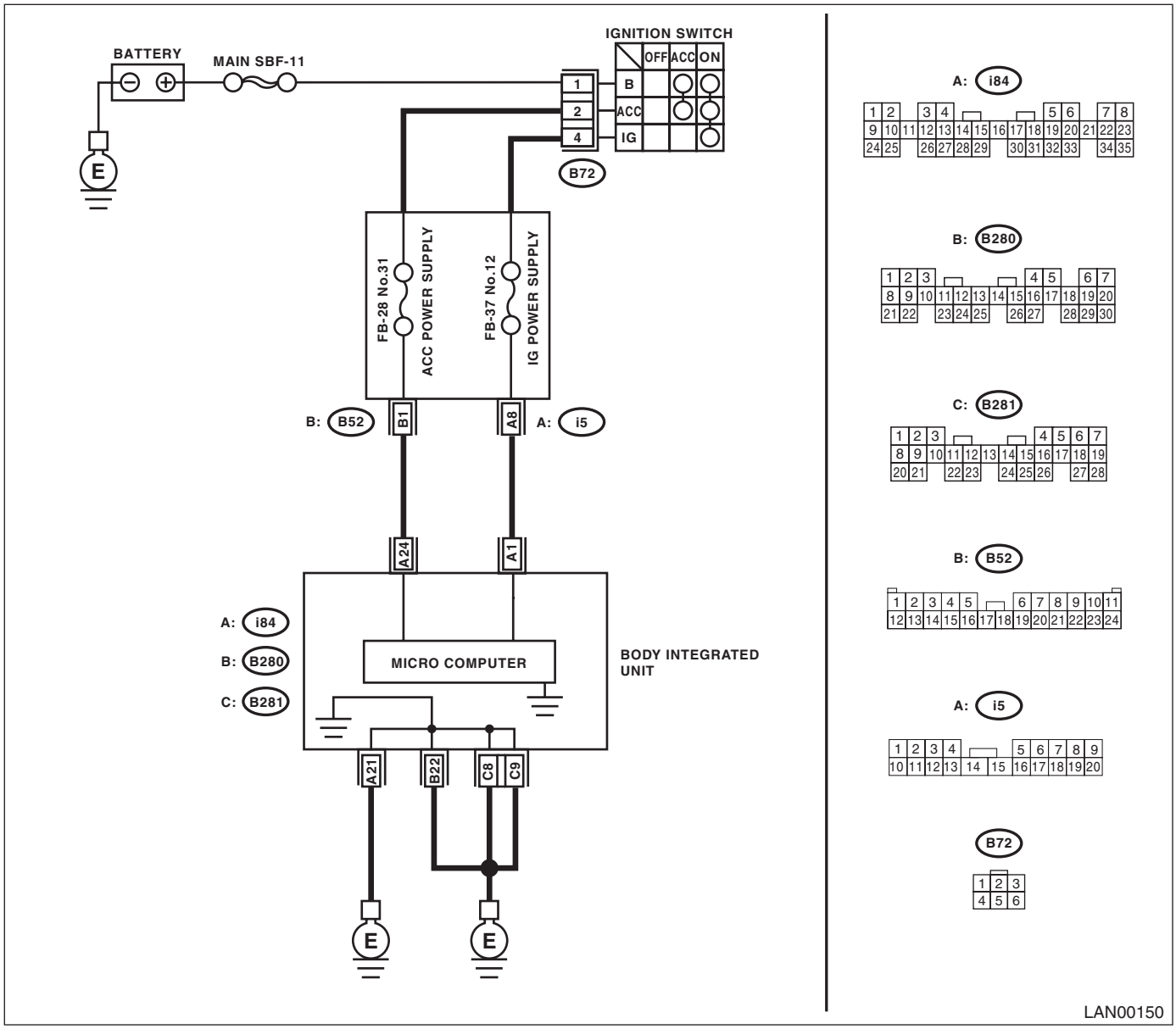
NOTE:
When some B1101 BATT p/supply (control) malfunction cont. are output at the same time, all function of body integrated unit may not function.
**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the fuse (No. 8). | Is the fuse blown out? | Replace the fuse (No. 8). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 8) and body integrated unit. | Go to step **2**. |
| 2 | **CONTINUITY CHECK OF WIRING HARNESS.**<br>1) Disconnect the connector (B280) from body integrated unit.<br>2) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 7 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Repair the harness for open or shorted circuit between body integrated unit and fuse. |
| 3 | **CHECK POOR CONTACT OF CONNECTORS.** | Is there poor contact in body integrated unit connector? | Repair the poor contact of connector. | Go to step **4**. |
| 4 | **CHECK BODY INTEGRATED UNIT HARNESS.**<br>1) Connect all connectors.<br>2) Perform the Clear Memory Mode.<br>3) Read DTC. | Is the same DTC displayed? | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> | Temporary poor contact occurs. |

# F: DTC B1103 IGNITION POWER FAILURE

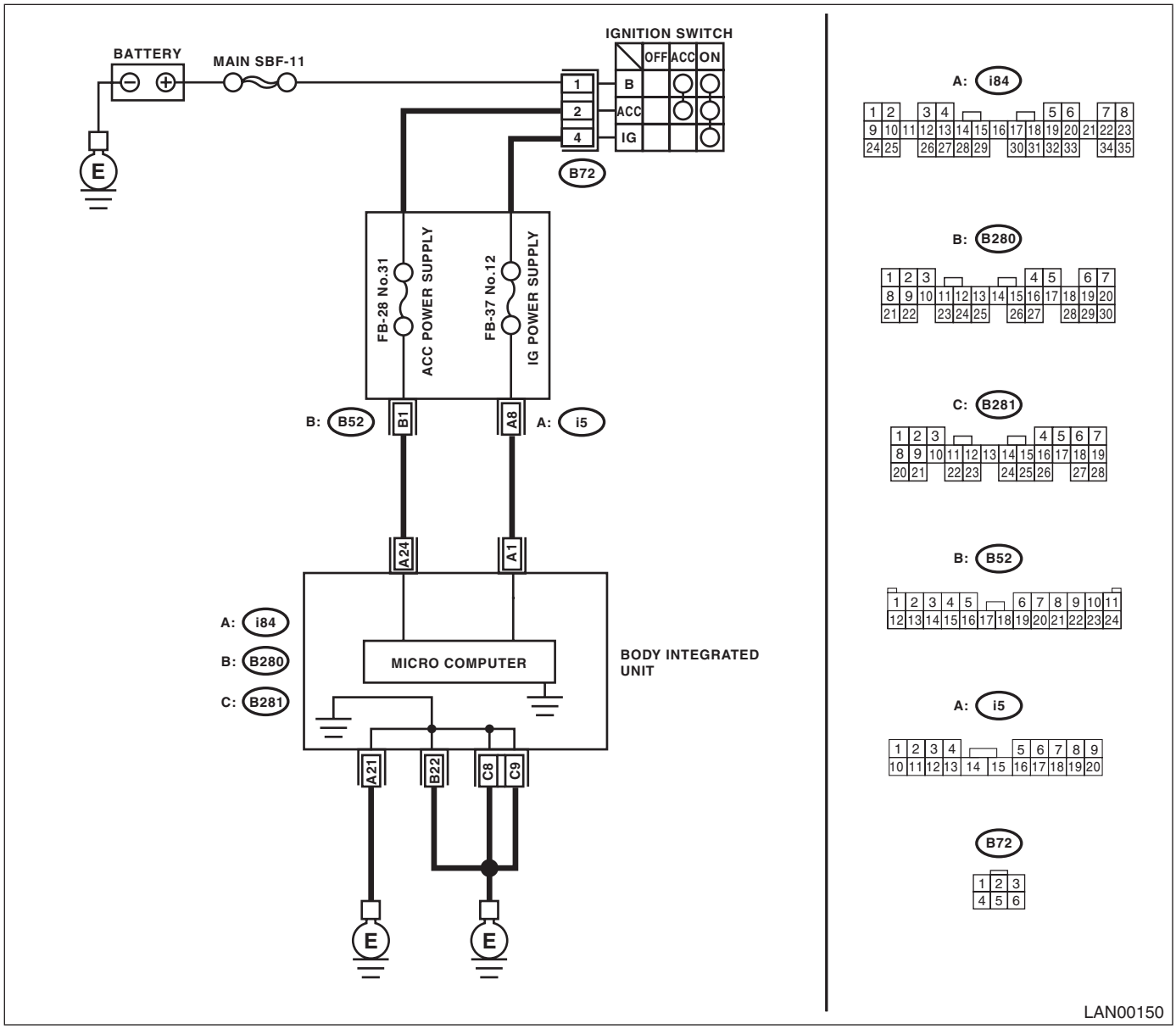
**DTC DETECTING CONDITION:**
IGN power supply circuit is open or shorted.
**TROUBLE SYMPTOM:**
Symptoms such as illuminating the malfunction indicator light or high speed CAN error display “Er HC” may occur. (Except for meter with MID)
**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the fuse (No. 12). | Is the fuse blown out? | Replace the fuse (No. 12). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 12) and body integrated unit. | Go to step **2**. |
| 2 | **CONTINUITY CHECK OF WIRING HARNESS.**<br>1) Disconnect the connector (i84) from body integrated unit.<br>2) Turn the ignition switch to ON.<br>3) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(i84) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Repair the harness for open or shorted circuit between body integrated unit and fuse. |
| 3 | **CHECK POOR CONTACT OF CONNECTOR.** | Is there poor contact in body integrated unit connector? | Repair the poor contact of connector. | Go to step **4**. |
| 4 | **CHECK BODY INTEGRATED UNIT HARNESS.**<br>1) Connect all connectors.<br>2) Perform the Clear Memory Mode.<br>3) Read DTC. | Is the same DTC displayed? | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> | Temporary poor contact occurs. |

## G: DTC B1104 ACC POWER FAILURE

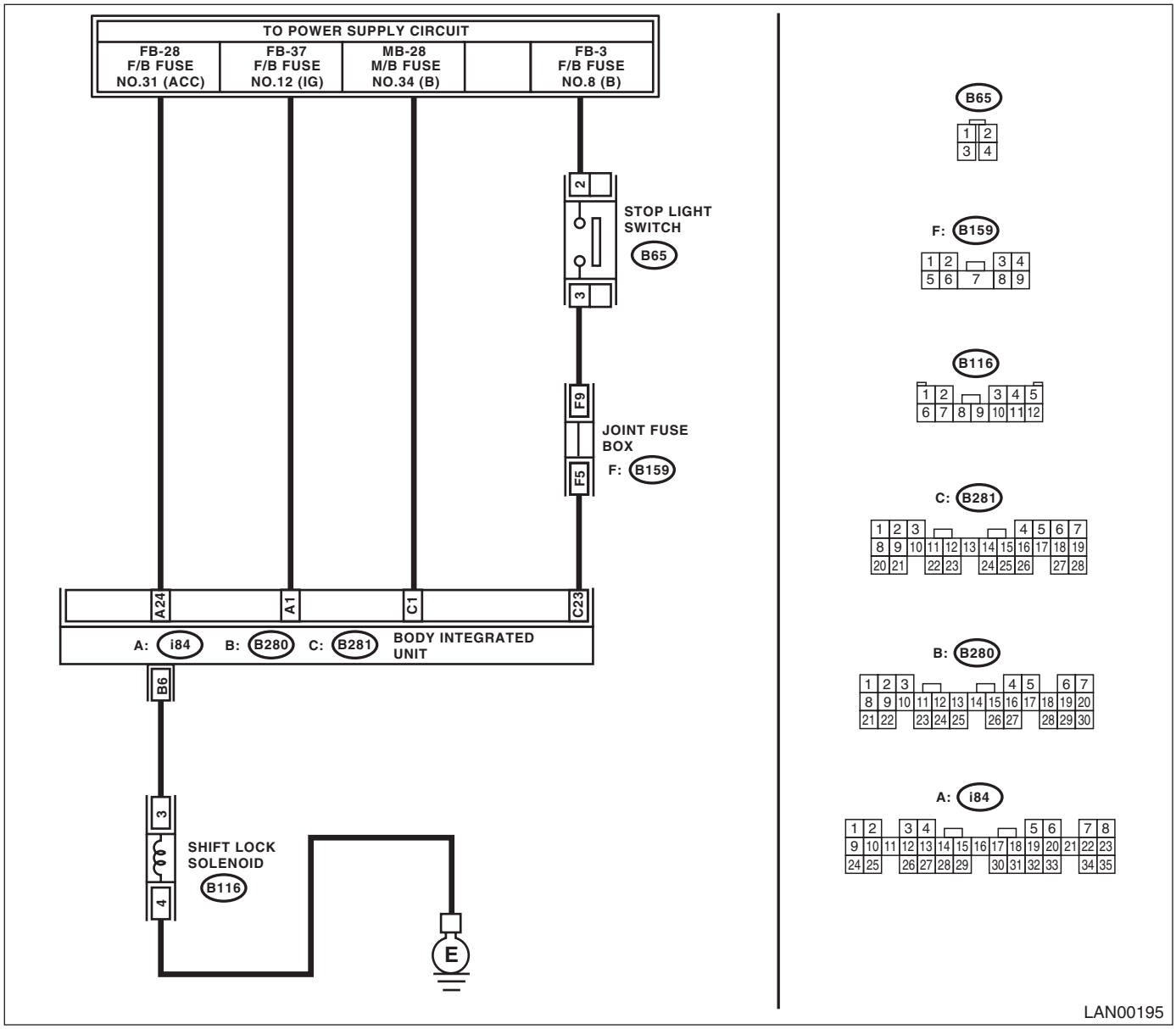
**DTC DETECTING CONDITION:**
ACC power supply circuit is open or shorted.
**TROUBLE SYMPTOM:**
Rear wiper may not operate at ACC position.
**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>1) Turn the ignition switch to OFF.<br>2) Remove the fuse (No. 31). | Is the fuse blown out? | Replace the fuse (No. 31). If the replaced fuse has blown out easily, repair the short circuit of harness between fuse (No. 31) and body integrated unit. | Go to step **2**. |
| 2 | **CONTINUITY CHECK OF WIRING HARNESS.**<br>1) Disconnect the connector (i84) from body integrated unit.<br>2) Turn the ignition switch to ON.<br>3) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(i84) No. 24 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Repair the harness for open or shorted circuit between body integrated unit and fuse. |
| 3 | **CHECK POOR CONTACT OF CONNECTOR.** | Is there poor contact in body integrated unit connector? | Repair the poor contact of connector. | Go to step **4**. |
| 4 | **CHECK BODY INTEGRATED UNIT HARNESS.**<br>1) Connect all connectors.<br>2) Perform the Clear Memory Mode.<br>3) Read DTC. | Is DTC displayed? | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> | 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 HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Measure the resistance between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 6 — Chassis ground:*** | Is the resistance 22±5 Ω? | Go to step **5**. | Go to step **2**. |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Disconnect the shift lock solenoid connector.<br>3) Measure the resistance between body integrated unit connector and shift lock solenoid connector.<br>***Connector & terminal***<br>***(B280) No. 6 — (B116) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Repair or replace the open or short circuit of harness. |
| 3 | **CHECK SHIFT LOCK SOLENOID.**<br>1) Disconnect the shift lock solenoid connector.<br>2) Measure the internal resistance of shift lock solenoid.<br>***Connector & terminal***<br>***(B116) No. 3 — No. 4:*** | Is the resistance 22±5 Ω? | Go to step **4**. | Replace the shift lock solenoid. |
| 4 | **CHECK GROUND CIRCUIT.**<br>1) Disconnect the shift lock solenoid connector.<br>2) Measure the resistance between the shield connector and chassis ground.<br>***Connector & terminal***<br>***(B116) No. 4 — Chassis ground:*** | Is the resistance less than 10 Ω? | Temporary poor contact occurs. Check the connection of each terminal and repair when necessary. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |
| 5 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280) and shift lock solenoid connector (B116).<br>2) Measure the resistance between body integrated unit connector (B280) and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 6 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> | Repair the short circuit of harness or replace harness. |

# I: DTC U1201 CAN-HS COUNTER ABNORMAL

**DTC DETECTING CONDITION:**

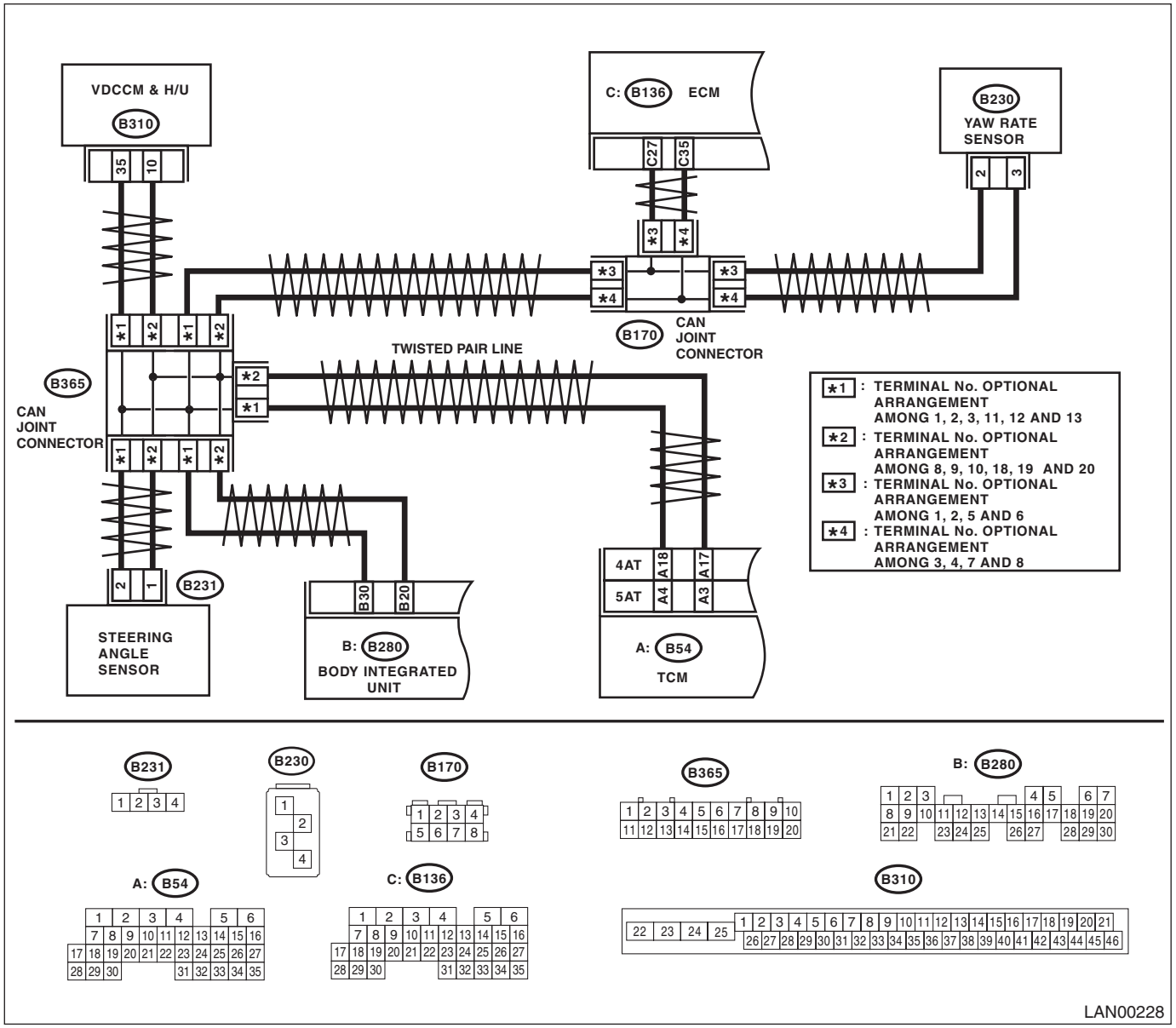
High speed CAN communication of body integrated unit which monitor the error data and non-received data are faulty.

**TROUBLE SYMPTOM:**

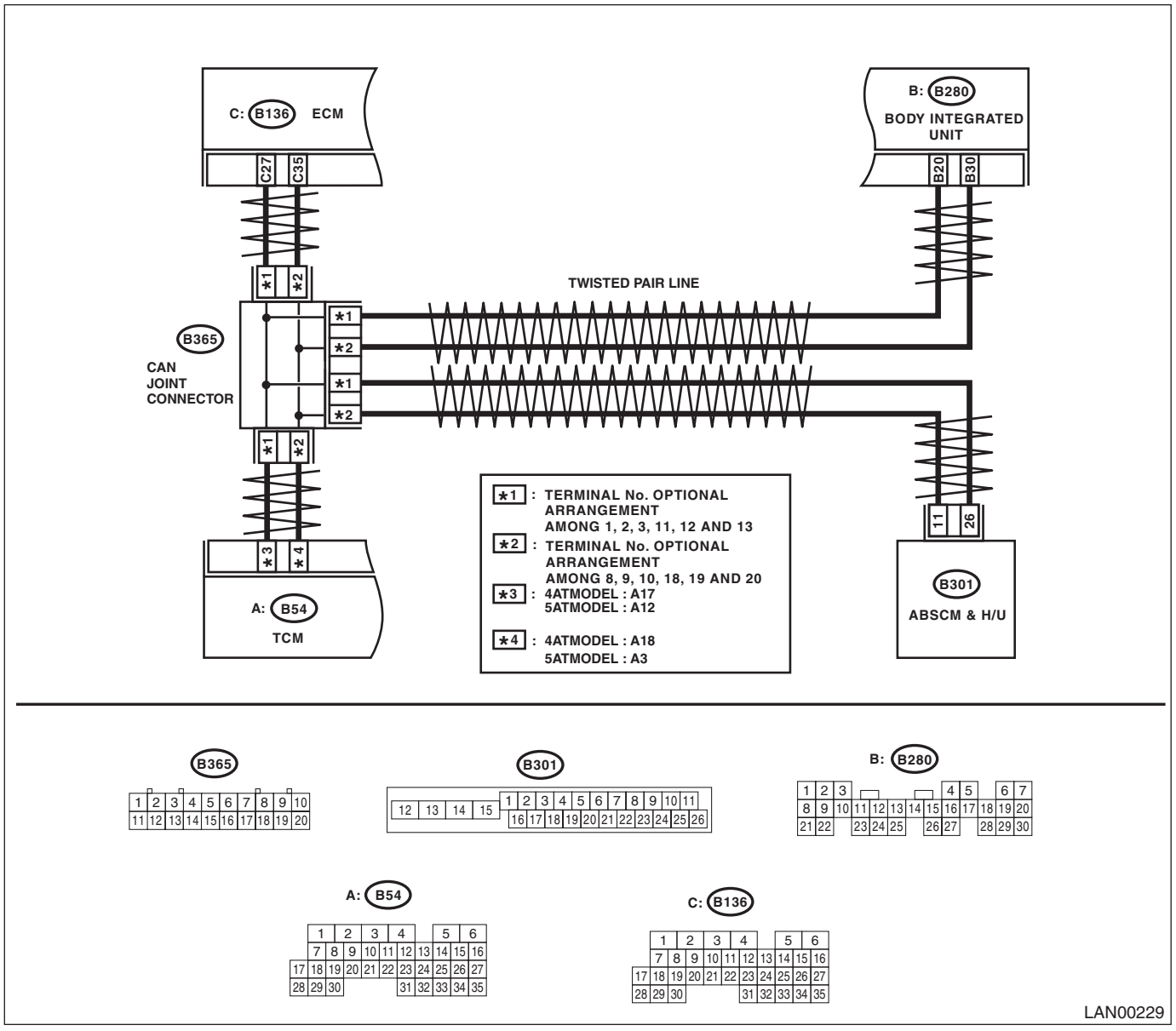
- "Er HC" is displayed in odo/trip meter. (Except for meter with MID)
- Malfunction indicator light illuminates.

**WIRING DIAGRAM:**

- VDC model:



- ABS model


C: B136 ECM
C27
C35
B: B280
BODY INTEGRATED UNIT
B20
B30
TWISTED PAIR LINE
B365
CAN JOINT CONNECTOR
*1
*2
*3
*4
A: B54
TCM
B301
ABSCM & H/U
11
26
*1 : TERMINAL No. OPTIONAL ARRANGEMENT AMONG 1, 2, 3, 11, 12 AND 13
*2 : TERMINAL No. OPTIONAL ARRANGEMENT AMONG 8, 9, 10, 18, 19 AND 20
*3 : 4ATMODEL : A17
5ATMODEL : A12
*4 : 4ATMODEL : A18
5ATMODEL : A3
B365
B301
B: B280
A: B54
C: B136
LAN00229

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **4**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Go to step **5**. | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Connect the tester to vehicle side connector, and measure the resistance.<br>***Connector & terminal***<br>***(B280) No. 20 — No. 30:*** | Is the resistance between 55 — 65 Ω? | Go to step **6**. | Go to step **9**. |
| 6 | **CHECK HARNESS.**<br>1) Disconnect the TCM connector (B54).<br>2) Connect the tester to vehicle side connector, and measure the resistance.<br>***Connector & terminal***<br>***5AT model:***<br>***(B54) No. 3 — No. 4:***<br>***4AT model:***<br>***(B54) No. 17 — No. 18:*** | Is the resistance between 55 — 65 Ω? | Go to step **7**. | Go to step **9**. |
| 7 | **CHECK HARNESS.**<br>NOTE:<br>For ABS model, Go to step **12**.<br>1) Disconnect the yaw rate sensor connector (B230).<br>2) Connect the tester to vehicle side connector, and measure the resistance.<br>***Connector & terminal***<br>***(B230) No. 2 — No. 3:*** | Is the resistance between 55 — 65 Ω? | Go to step **8**. | Go to step **9**. |
| 8 | **CHECK HARNESS.**<br>1) Disconnect the steering angle sensor connector (B231).<br>2) Connect the tester to vehicle side connector, and measure the resistance.<br>***Connector & terminal***<br>***(B231) No. 1 — No. 2:*** | Is the resistance between 55 — 65 Ω? | Go to step **12**. | Go to step **9**. |
| 9 | **CHECK HARNESS.** | Is the measured resistance 115 — 125 Ω when connecting the tester to vehicle side connector? | Go to step **12**. | Go to step **10**. |
| 10 | **CHECK HARNESS.** | Is the measured resistance less than 10 Ω when connecting the tester to vehicle side connector? | Repair or replace the short circuit of measured related harness. | Go to step **11**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 11 | **CHECK HARNESS.** | Is the measured resistance 30 MΩ or more when connecting the tester to vehicle side connector? | Repair or replace the open circuit of measured related harness. | Go to step **12**. |
| 12 | **CHECK HARNESS.**<br>1) Disconnect the VDC/ABS CM connector.<br>2) Connect the tester to vehicle side harness, and measure the resistance.<br>***Connector & terminal***<br>***VDC model:***<br>***(B310) No. 10 — No. 35:***<br>***ABS model:***<br>***(B301) No. 11 — No. 26:*** | Is the resistance between 115 — 125 Ω? | Go to step **13**. | Go to step **14**. |
| 13 | **CHECK CONTROL MODULE.**<br>1) Connect the VDC/ABS CM connector.<br>2) Disconnect the connector from ECM.<br>3) Connect the tester to vehicle side harness, and measure the resistance between terminals.<br>***Connector & terminal***<br>***(B136) No. 27 — No. 35:*** | Is the resistance between 115 — 125 Ω? | Go to step **16**. | Replace the VDC/ABS CM. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).> |
| 14 | **CHECK HARNESS.**<br>1) Connect the VDC/ABS CM connector.<br>2) Disconnect the connector from ECM.<br>3) Connect the tester to vehicle side harness, and measure the resistance between terminals.<br>***Connector & terminal***<br>***(B136) No. 27 — No. 35:*** | Is the resistance between 115 — 125 Ω? | Go to step **15**. | Repair or replace the open circuit of main wiring harness. |
| 15 | **CHECK CONTROL MODULE.**<br>Connect the tester to ECM terminal, and measure the resistance.<br>***Connector & terminal***<br>***(B136) No. 27 — No. 35:*** | Is the resistance between 115 — 125 Ω? | Go to step **16**. | Replace the ECM. <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> |
| 16 | **CHECK CONTROL MODULE.**<br>1) Connect all the control module connectors.<br>2) Connect the Subaru Select Monitor and perform the clear memory.<br>3) Disconnect the TCM connector (B54).<br>4) Turn the ignition switch to ON and read the DTC of body integrated unit. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> | Is DTC U1201 displayed? | Go to step **17**. | Check the TCM. <Ref. to 5AT(diag)-16, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> |
| 17 | **CHECK CONTROL MODULE.**<br>1) Connect the TCM control module connector.<br>2) Using the Subaru Select Monitor, perform the clear memory.<br>3) Disconnect the steering angle sensor connector (B231).<br>4) Turn the ignition switch to ON and read the DTC of the body integrated unit. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> | Is DTC U1201 displayed? | Go to step **18**. | Check the steering angle sensor. <Ref. to VDC(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 18 | **CHECK CONTROL MODULE.**<br>1) Connect the steering angle sensor connector.<br>2) Using the Subaru Select Monitor, perform the clear memory.<br>3) Disconnect the yaw rate sensor connector (B230).<br>4) Turn the ignition switch to ON and read the DTC of the body integrated unit. <Ref. to LAN(diag)-12, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> | Is DTC U1201 displayed? | Go to step **19**. | Check the yaw rate sensor. <Ref. to VDC(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> |
| 19 | **CHECK CONTROL MODULE.**<br>1) Connect all the control module connectors.<br>2) Check the data of “body integrated unit data received” on the current data display of ECM using Subaru Select Monitor. | Is the “Yes” displayed? | Go to step **20**. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |
| 20 | **CHECK CONTROL MODULE.**<br>Check the data of “body integrated unit counter update” on the data display of ECM. | Is the “Yes” displayed? | Inspect the ABS/VDC CM and ECM. <Ref. to ABS(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to VDC(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to EN(H6DO)(diag)-42, Read Diagnostic Trouble Code (DTC).> | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

## J: DTC U1202 CAN-HS BUS OFF

**DTC DETECTING CONDITION:**

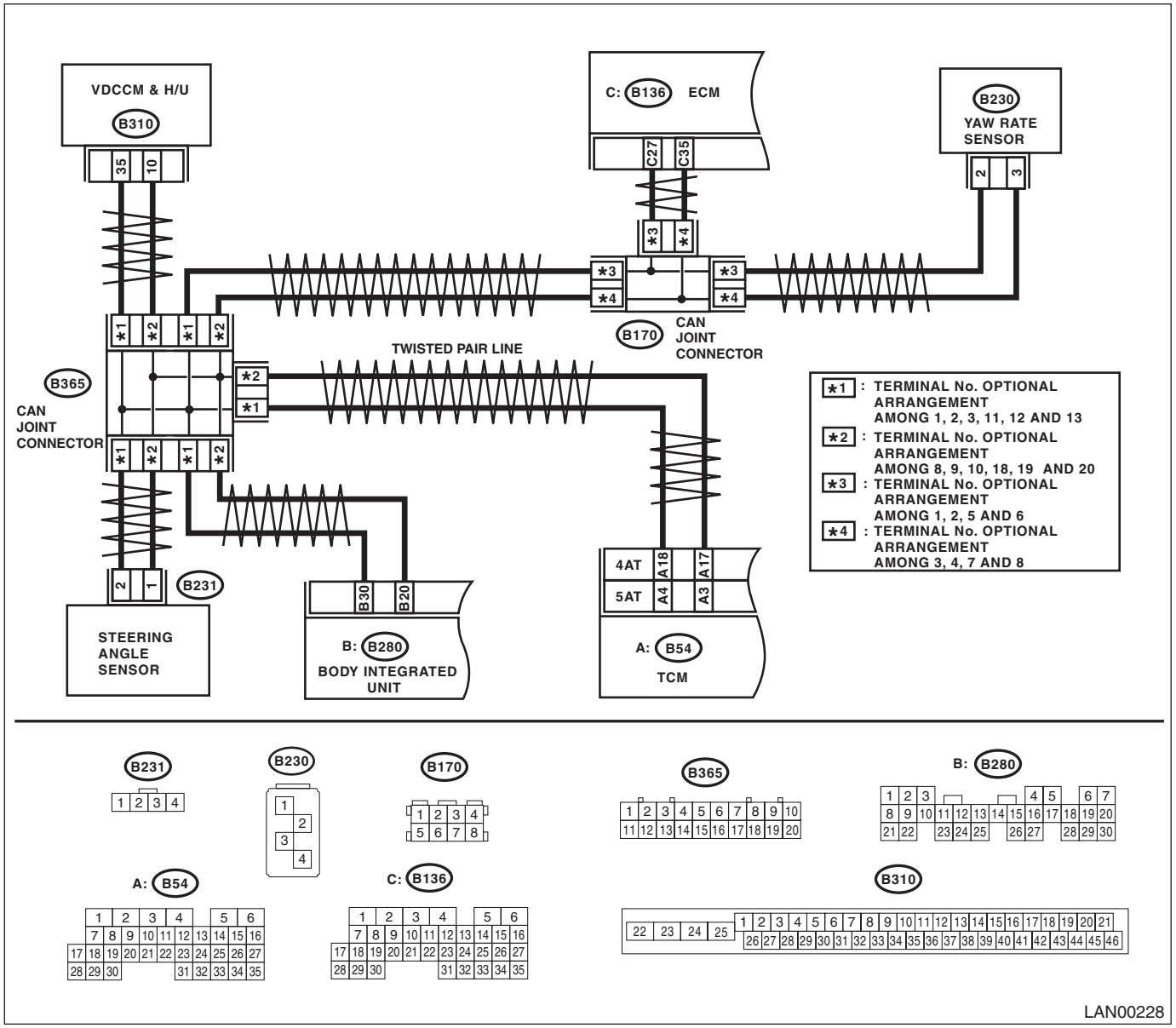
- Find the unit or CAN line in which trouble occurs, and repair and replace it.
- Not received data and error data may be detected at the same time.

**TROUBLE SYMPTOM:**

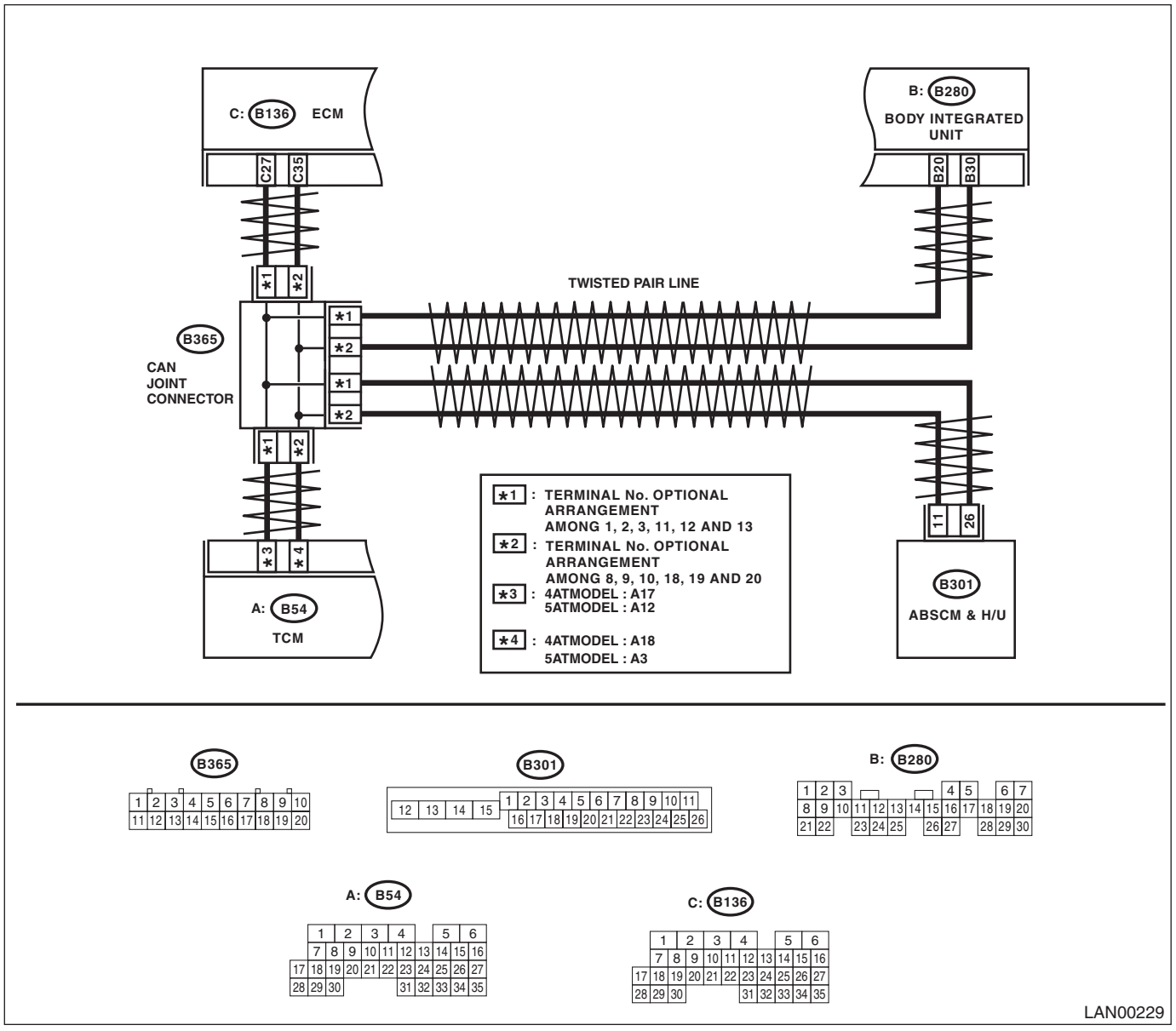
"Er HC" is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**

- VDC model:



- ABS model


C: B136 ECM
C27
C35
B: B280
BODY INTEGRATED UNIT
B20
B30
TWISTED PAIR LINE
B365
CAN JOINT CONNECTOR
*1
*2
*3
*4
A: B54
TCM
B301
ABSCM & H/U
11
26
*1 : TERMINAL No. OPTIONAL ARRANGEMENT AMONG 1, 2, 3, 11, 12 AND 13
*2 : TERMINAL No. OPTIONAL ARRANGEMENT AMONG 8, 9, 10, 18, 19 AND 20
*3 : 4ATMODEL : A17
5ATMODEL : A12
*4 : 4ATMODEL : A18
5ATMODEL : A3
B365
B301
B: B280
A: B54
C: B136
LAN00229

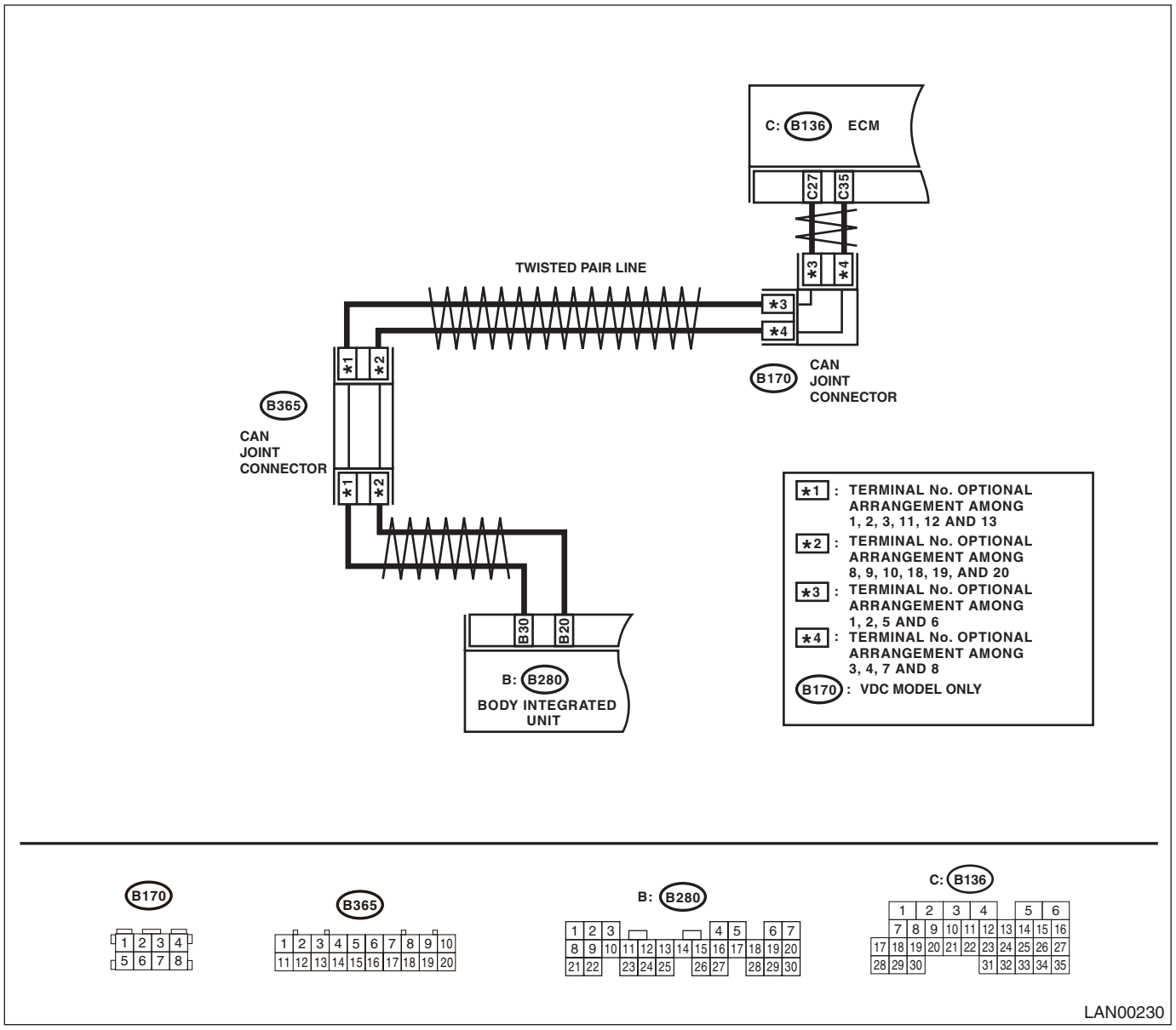
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **2**. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **4**. | Go to step **3**. |
| 3 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **4**. |
| 4 | **CHECK TCM.**<br>1) Disconnect the TCM connector (B54).<br>2) Perform the clear memory operation for the body integrated unit. <Ref. to LAN(diag)-21, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.><br>3) Read DTC of the body integrated unit. | Is DTC (U1202) displayed? | Go to step **5**. | Check the TCM. <Ref. to 5AT(diag)-16, Subaru Select Monitor.> |
| 5 | **CHECK STEERING ANGLE SENSOR.**<br>1) Disconnect the steering angle sensor connector (B231).<br>2) Perform Clear Memory Mode for the body integrated unit. <Ref. to LAN(diag)-21, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.><br>3) Read DTC of the body integrated unit. | Is DTC (U1202) displayed? | Go to step **6**. | Replace the steering angle sensor. <Ref. to VDC-17, REPLACEMENT, Steering Angle Sensor.> |
| 6 | **CHECK YAW RATE SENSOR.**<br>1) Disconnect the yaw rate sensor connector (B230).<br>2) Perform Clear Memory Mode for the body integrated unit.<br>3) Read DTC of the body integrated unit. | Is DTC (U1202) displayed? | Go to step **7**. | Check the yaw rate sensor. <Ref. to VDC(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> |
| 7 | **CHECK BODY INTEGRATED UNIT.**<br>1) Disconnect the body integrated unit connector (i84).<br>2) Read data between VDC/ABS CM and ECM.<br>Check item:<br>• Engine speed<br>• Average front wheel speed (at constant speed) | Engine speed and front wheel speed are normal in communication. (Their values are the same.) | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> | Go to step **8**. |
| 8 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal (B280) No. 20 — No. 30:*** | Is the resistance between 55 — 65 Ω? | Go to step **14**. | Go to step **9**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 9 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(B280) No. 20 — No. 30:*** | Is the resistance between 115 — 125 Ω? | Go to step **11**. | Go to step **10**. |
| 10 | **CHECK HARNESS.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(B280) No. 20 — No. 30:*** | Is the resistance 30 MΩ or more? | Open circuit in related line of body integrated unit. Repair the open circuit of harness or replace harness. | Go to step **11**. |
| 11 | **CHECK HARNESS.**<br>1) Disconnect the VDC/ABS CM connector.<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***VDC model:***<br>***(B310) No. 10 — No. 35:***<br>***ABS model:***<br>***(B301) No. 11 — No. 26:*** | Is the resistance between 115 — 125 Ω? | Go to step **12**. | Go to step **13**. |
| 12 | **CHECK VDC/ABS CU.**<br>1) Disconnect the VDC/ABS CU connector.<br>2) Measure the resistance between VDC/ABS CU connector terminals.<br>***Connector & terminal***<br>***VDC model:***<br>***(B310) No. 10 — No. 35:***<br>***ABS model:***<br>***(B301) No. 11 — No. 26:*** | Is the resistance between 115 — 125 Ω? | Go to step **13**. | End resistance of VDC/ABS CU is open. Replace the VDC/ABS CU. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).> |
| 13 | **CHECK ECM.**<br>1) Disconnect the ECM connector (B135 or B136).<br>2) Measure the resistance between ECM connector terminals.<br>***Connector & terminal***<br>***(B136) No. 27 — No. 35:*** | Is the resistance between 115 — 125 Ω? | Repair or replace the open circuit of the harness connector. | End resistance of ECM is open. Replace the ECM. <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> |
| 14 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Measure the resistance between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 20 — Chassis ground:***<br>***(B280) No. 30 — Chassis ground:*** | Is the resistance less than 10 Ω? | Go to step **15**. | Go to step **16**. |
| 15 | **CHECK CONTROL MODULE.**<br>1) Turn the ignition switch to ON.<br>2) Disconnect each control module connector one by one with the tester connected to vehicle side harness.<br>***Connector & terminal***<br>***(B280) No. 20 — Chassis ground:***<br>***(B280) No. 30 — Chassis ground:*** | Are there any modules whose resistance has become 10 Ω or more? | Replace modules whose resistance has become 10 Ω or more. | Repair or replace the short circuit of the harness. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 16 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 20 (+) — Chassis ground (–):***<br>***(B280) No. 30 (+) — Chassis ground (–):*** | Is the voltage 6 V or more? | Go to step **17**. | Go to step **18**. |
| 17 | **CHECK CONTROL MODULE.**<br>1) Turn the ignition switch to ON.<br>2) Disconnect each control module connector one by one with the tester connected to vehicle side harness.<br>***Connector & terminal***<br>***(B280) No. 20 — Chassis ground:***<br>***(B280) No. 30 — Chassis ground:*** | Is there any module for which the voltage has changed to 6 V or less? | Replace modules whose voltage has changed to 6 V or less. | Repair or replace the short circuit of the harness. |
| 18 | **CHECK DTC.**<br>Connect the Subaru Select Monitor and read the Diagnostic Trouble Code (DTC) of ECM. <Ref. to EN(H6DO)(diag)-42, OPERATION, Read Diagnostic Trouble Code (DTC).> | Is DTC other than "CAN communication" displayed? | Perform the diagnosis according to DTC. | Go to step **19**. |
| 19 | **CHECK DTC.**<br>Connect the Subaru Select Monitor and read the Diagnostic Trouble Code (DTC) of VDC/ABS CU. <Ref. to VDC(diag)-14, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> | Is DTC other than "CAN communication" or "C0057" displayed? | Perform the diagnosis according to DTC. | Go to step **20**. |
| 20 | **CHECK DTC.**<br>Connect the Subaru Select Monitor and read the Diagnostic Trouble Code (DTC) of TCM. <Ref. to 5AT(diag)-16, OPERATION, Subaru Select Monitor.> | Is DTC other than "CAN communication" displayed? | Perform the diagnosis according to DTC. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

## 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. (Except for meter with MID)
**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **4**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Replace the ECM. <Ref. to FU(H4DOTC)-44, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H4SO)-35, REMOVAL, Engine Control Module (ECM).> | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK ECM.**<br>Read the DTC of ECM using the Subaru Select Monitor. <Ref. to EN(H6DO)(diag)-42, OPERATION, Read Diagnostic Trouble Code (DTC).> | Is DTC other than “CAN communication” displayed? | Perform the diagnosis according to DTC. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |

# L: DTC U1212 CAN-HS TCM DATA ABNORMAL

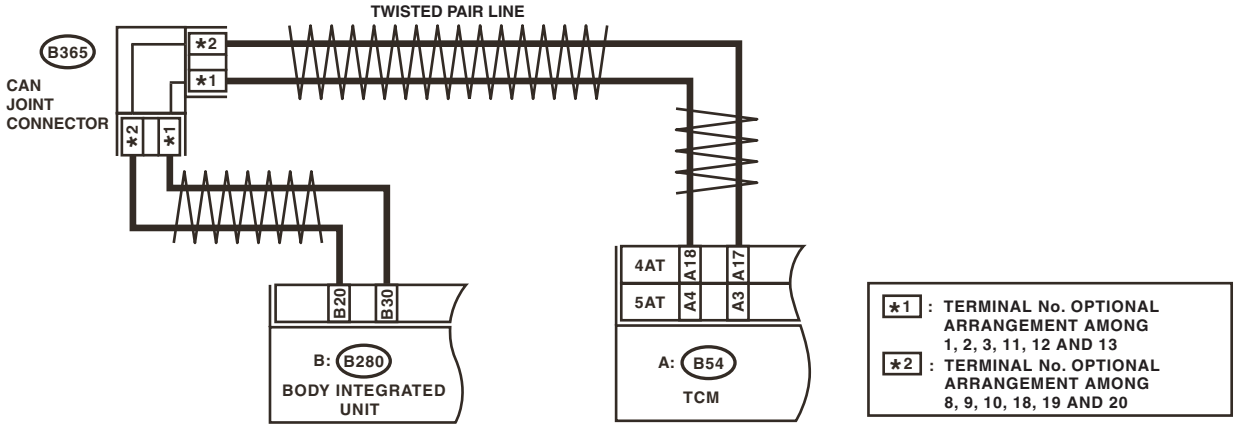
**DTC DETECTING CONDITION:**

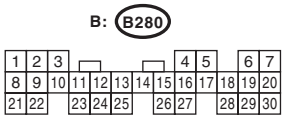
TCM has error, harness between the main harness splice and TCM is open or shorted, connectors are not connected securely, or the terminal has poor crimping.

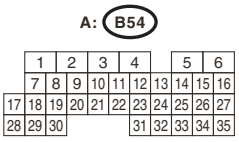
**TROUBLE SYMPTOM:**

- SPORT indicator light blinks.
- “Er HC” or “Er tC” is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**




LAN00231

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **4**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Replace the TCM. <Ref. to 5AT-58, Transmission Control Module (TCM).> | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK TCM.**<br>Read the DTC of the TCM using Subaru Select Monitor. <Ref. to 5AT(diag)-16, OPERATION, Subaru Select Monitor.> | Is DTC other than “CAN communication” displayed? | Perform the diagnosis according to DTC. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

## M: DTC U1213 CAN-HS VDC/ABS DATA ABNORMAL

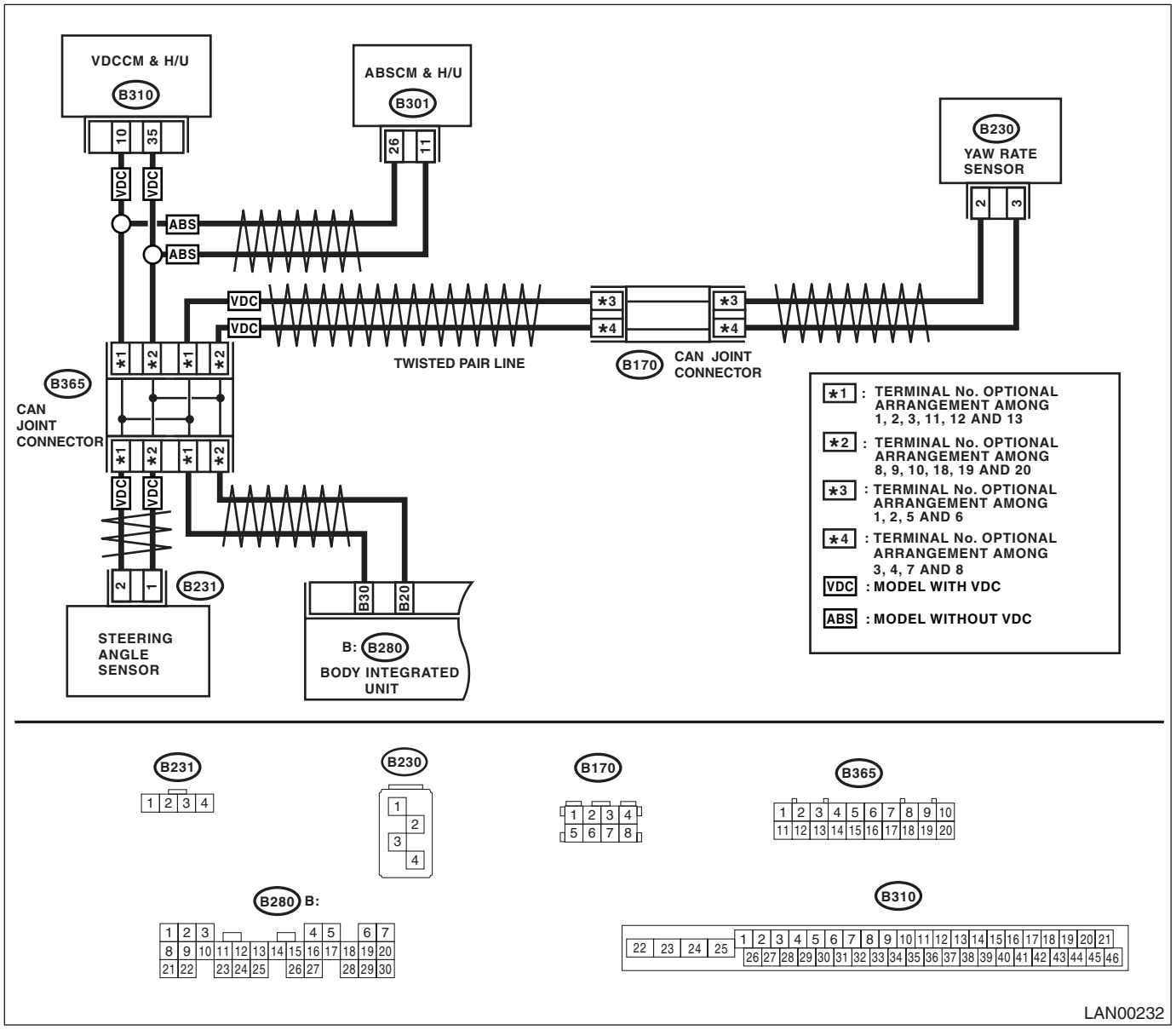
**DTC DETECTING CONDITION:**

VDC/ABSCM itself is malfunctioning, the main harness is open or shorted, the connector is not connected properly, or the terminal is crimped poorly.

**TROUBLE SYMPTOM:**

- ABS warning light and VDC warning light illuminates.
- “Er HC” or “Er Ab” is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**




LAN00232

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **4**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Replace the VDC/ABS CU. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).> | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK VDC/ABS CU.**<br>Read the DTC of VDCCM using the Subaru Select Monitor. | Is DTC other than “CAN communication” displayed? | Perform the diagnosis according to DTC. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

## N: DTC U1221 CAN-HS ECM NO-RECEIVE DATA

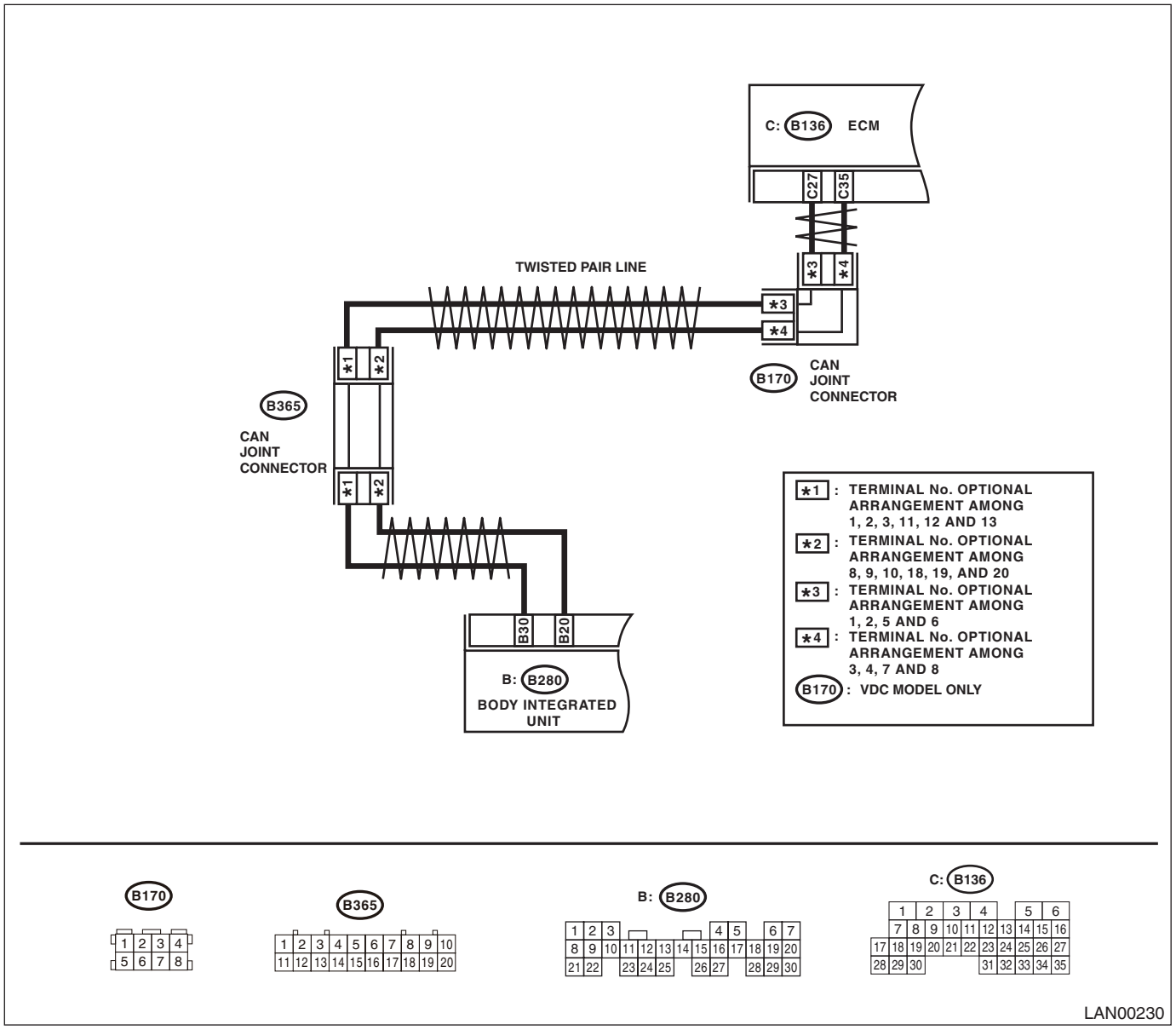
**DTC DETECTING CONDITION:**

Defective ECM. (If error is in the main harness, DTC P0600 CAN communication link is input simultaneously.)

**TROUBLE SYMPTOM:**

- Malfunction indicator light illuminates.
- "Er HC" is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**




LAN00230

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **3**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Go to step **5**. | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Measure the resistance between harness connectors.<br>***Connector & terminal (B280) No. 20 — No. 30:*** | Is the resistance 55 — 65 Ω? (Specification 60 Ω) | Go to step **8**. | Go to step **6**. |
| 6 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280).<br>2) Measure the resistance between harness connectors.<br>***Connector & terminal (B280) No. 20 — No. 30:*** | Is the resistance 115 — 125 Ω? (End resistance or main wiring harness is open.) | Go to step **7**. | If the resistance is 1 M Ω or larger, a line related to the body integrated unit is open. Repair the open circuit of harness or replace harness. |
| 7 | **CHECK ECM.**<br>Read the DTC of ECM using the Subaru Select Monitor. <Ref. to EN(H6DO)(diag)-33, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> | Are there any DTCs other than one for “CAN communication”? | Perform the diagnosis according to DTC. <Ref. to EN(H6DO)(diag)-33, READ DIAGNOSTIC TROUBLE CODE (DTC) FOR ENGINE (NORMAL MODE), OPERATION, Subaru Select Monitor.> | Go to step **8**. |
| 8 | **CHECK BODY INTEGRATED UNIT.**<br>1) Connect all the control module connectors.<br>2) Check the data of “body integrated unit data received” on the current data display of ECM using Subaru Select Monitor. | Is the “Yes” displayed? | Go to step **9**. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |
| 9 | **CHECK BODY INTEGRATED UNIT.**<br>Check the data of “body integrated unit counter update” on the data display of ECM. | Is the “Yes” displayed? | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> | Inspect the ECM. <Ref. to FU(H4SO)-35, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, REMOVAL, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).> |

# O: DTC U1222 CAN-HS TCM NO-RECEIVE DATA

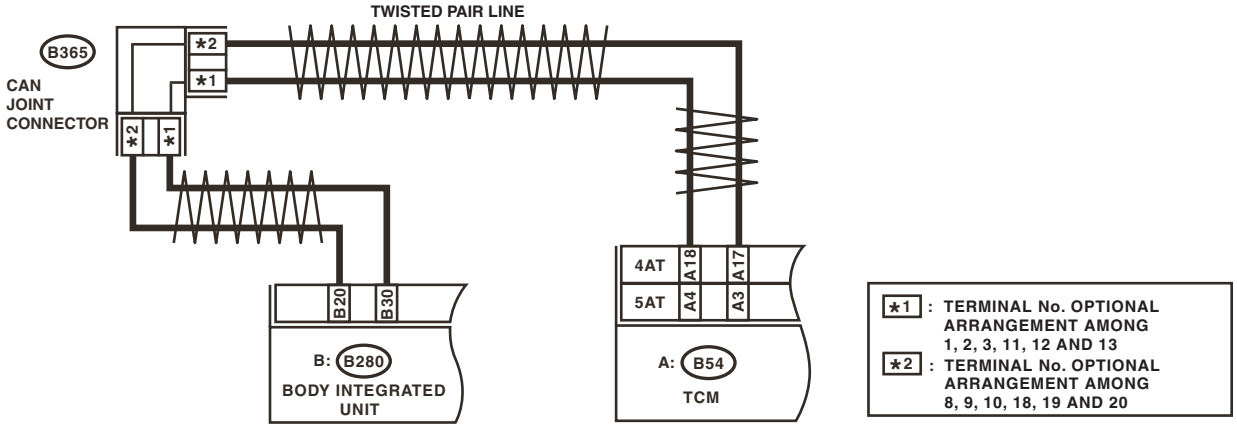
**DTC DETECTING CONDITION:**

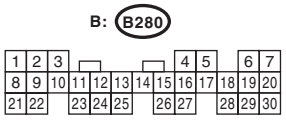
TCM has error, harness between the main harness splice and TCM is open or shorted, connectors are not connected securely, or the terminal has poor crimping.

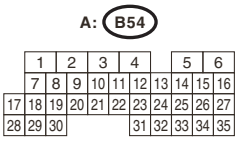
**TROUBLE SYMPTOM:**

- Malfunction indicator light illuminates.
- “Er HC” is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**




LAN00231

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **3**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Go to step **5**. | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK HARNESS.**<br>1) Disconnect the TCM connector (B54).<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***4AT model:***<br>***(B54) No. 17 — No. 18:***<br>***5AT model:***<br>***(B54) No. 3 — No. 4:*** | Is the resistance 1 MΩ or more? | Open circuit in related lines of TCM. Repair the open circuit of harness or replace harness. | Go to step **6**. |
| 6 | **CHECK TCM.**<br>Read the DTC of the TCM using Subaru Select Monitor. <Ref. to 5AT(diag)-16, OPERATION, Subaru Select Monitor.> | Is DTC other than “CAN communication” displayed? | Perform the diagnosis according to DTC. | Go to step **7**. |
| 7 | **CHECK BODY INTEGRATED UNIT.**<br>1) Connect all the control module connectors.<br>2) Check the data of “body integrated unit data received” on the current data display of ECM using Subaru Select Monitor. | Is the “Yes” displayed? | Go to step **8**. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |
| 8 | **CHECK BODY INTEGRATED UNIT.**<br>Check the data of “body integrated unit counter update” on the data display of ECM. | Is the “Yes” displayed? | Replace the TCM. <Ref. to 4AT-60, REMOVAL, Transmission Control Module (TCM).> <Ref. to 5AT-58, REMOVAL, Transmission Control Module (TCM).> | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

# P: DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA

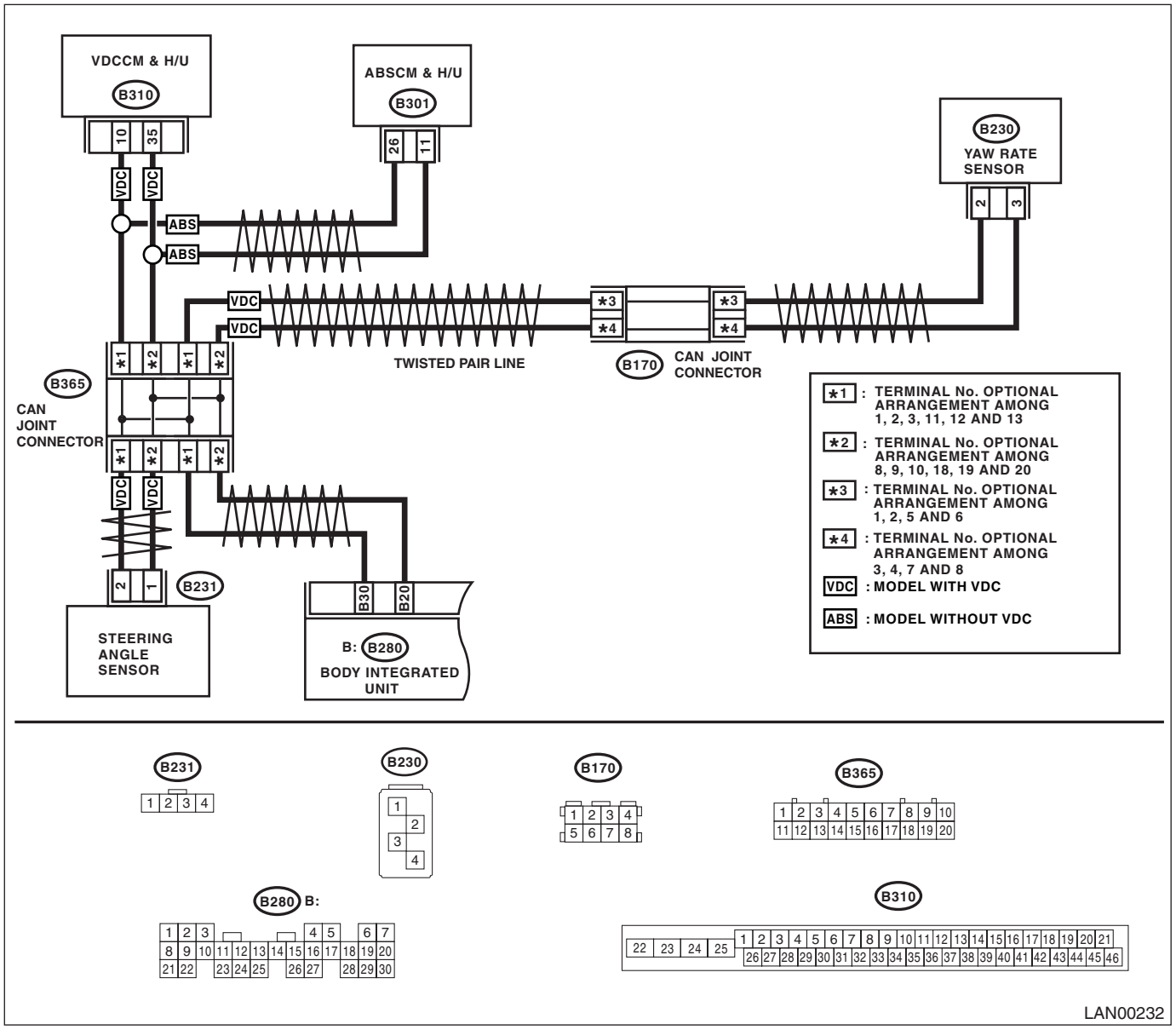
**DTC DETECTING CONDITION:**

Defective VDC/ABSCM. (If error is in the main harness, DTC P0600 High-speed CAN circuit is input at the same time.)

**TROUBLE SYMPTOM:**

- ABS warning light and VDC warning light illuminates.
- "Er HC" is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**




LAN00232

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read all DTCs. | Are there DTCs other than that of body integrated unit? | Perform the diagnosis according to DTCs for other control units. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **3**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Does the displayed DTC indicate current malfunction? | Go to step **5**. | Go to step **4**. |
| 4 | **CHECK CURRENT DATA.**<br>Using the Subaru Select Monitor, display engine speed and vehicle speed signal from EGM, TCM, VDC/ABS and body integrated unit under the same conditions and compare data. | Does each data match each other? | Temporary poor contact occurs. Perform the clear memory operation. | Go to step **5**. |
| 5 | **CHECK HARNESS.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal (B280) No. 20 — No. 30:*** | Is the resistance between 55 — 65 Ω? | Go to step **6**. | Open circuit in related line of body integrated unit. Repair the open circuit of harness or replace harness. |
| 6 | **CHECK VDC/ABS CU.**<br>1) Connect all connectors.<br>2) Read the DTC of VDC/ABS CU using the Subaru Select Monitor. | Is DTC other than “CAN communication” displayed? | Perform the diagnosis according to DTC of VDC/ABS CU. | Go to step **7**. |
| 7 | **CHECK BODY INTEGRATED UNIT.**<br>1) Connect all the control module connectors.<br>2) Check the data of “body integrated unit data received” on the current data display of ECM using Subaru Select Monitor. | Is the “Yes” displayed? | Go to step **8**. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |
| 8 | **CHECK BODY INTEGRATED UNIT.**<br>Check the data of “body integrated unit counter update” on the data display of ECM. | Is the “Yes” displayed? | Replace the VDC/ABS CU. <Ref. to VDC-7, REMOVAL, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).> <Ref. to ABS-6, REMOVAL, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).> | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

# Q: DTC U1300 CAN-LS MALFUNCTION

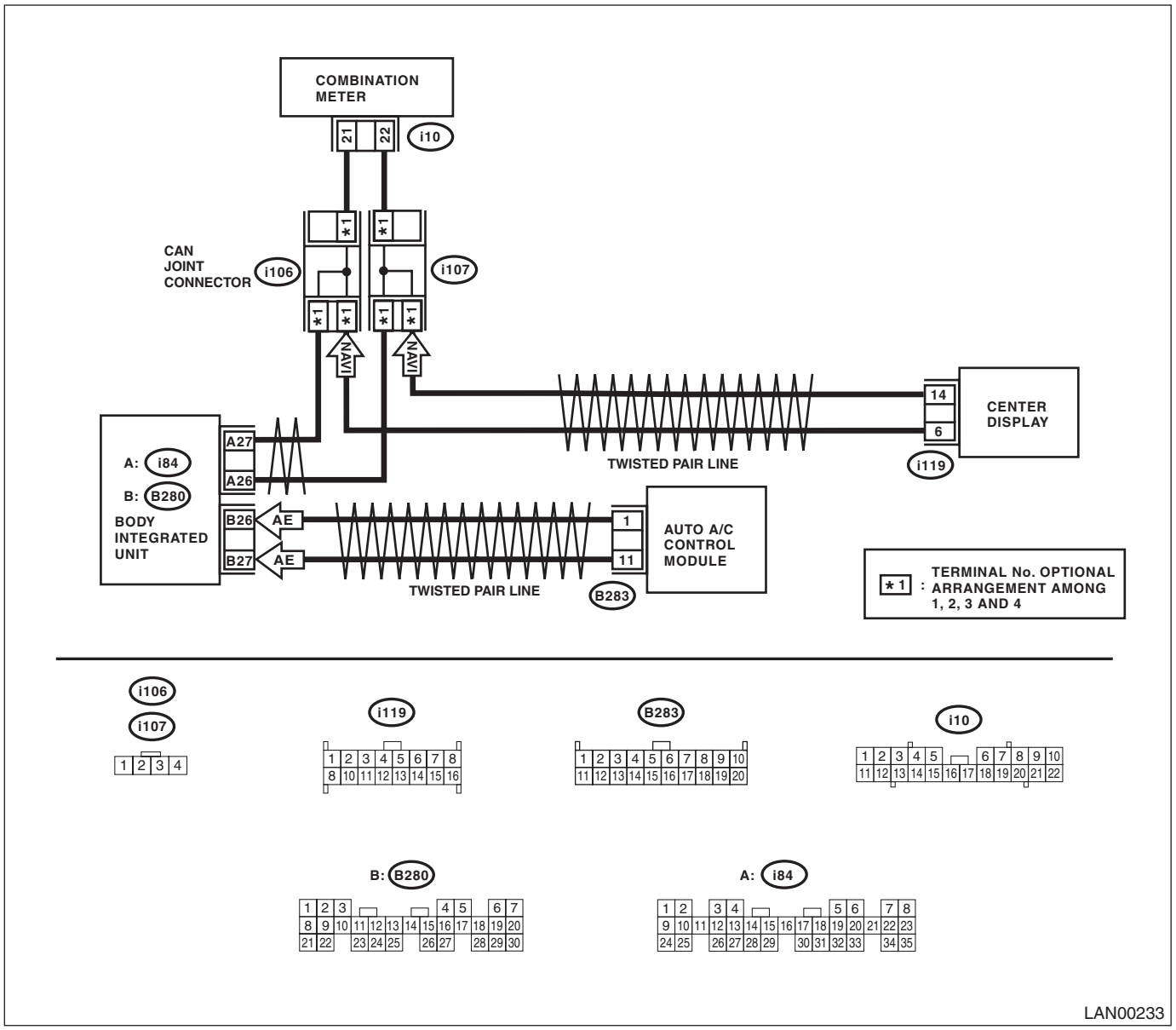
**DTC DETECTING CONDITION:**

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 (except for meters with MID), but communicating function is normal.

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read DTC of body integrated unit. | Are there DTCs other than U1300? | Perform the diagnosis according to other DTCs. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Is U1300 current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **3**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Is U1300 current malfunction? | Go to step **4**. | Temporary poor contact occurs. |
| 4 | **CHECK CURRENT DATA.**<br>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)-9, OPERATION, Diagnostic Chart for Self-diagnosis.> |
| 5 | **CHECK AUTO A/C ECM.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the auto A/C ECM connector (B283).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1300 detected? | Go to step **7**. | Go to step **6**. |
| 6 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283).<br>2) Check open or short conditions between body integrated unit connector and auto A/C control module connector.<br>***Connector & terminal***<br>***(B283) No. 1 — (B280) No. 26:***<br>***(B283) No. 11 — (B280) No. 27:*** | Is harness normal? | Repalce auto A/C ECM. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).> | Repair or replace the open or short circuit of harness. |
| 7 | **CHECK CURRENT DATA.**<br>Check current data (center display failure) of the body integrated unit. | Is OK displayed? | Go to step **8**. | Repair or replace the center display. <Ref. to ET-17, REMOVAL, Navigation Display.> |
| 8 | **CHECK CENTER DISPLAY.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the center display connector (i119).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1300 detected? | Go to step **10**. | Go to step **9**. |
| 9 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (i84) and center display connector (i119).<br>2) Check open or short conditions between body integrated unit connector and center display connector.<br>***Connector & terminal***<br>***(i119) No. 14 — (i84) No. 26:***<br>***(i119) No. 6 — (i84) No. 27:*** | Is harness normal? | Replace the center display. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).> | Repair or replace the open or short circuit of harness. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 10 | **CHECK CURRENT DATA.**<br>Check current data (meter failure) of the body integrated unit. | Is OK displayed? | Go to step **11**. | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> |
| 11 | **CHECK COMBINATION METER.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the combination meter connector (i10).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1300 detected? | Go to step **13**. | Go to step **12**. |
| 12 | **CHECK HARNESS.**<br>1) Disconnect the combination meter connector (i10).<br>2) Check open or short conditions between body integrated unit connector and combination meter connector.<br>***Connector & terminal***<br>***(i10) No. 21 — (i84) No. 27:***<br>***(i10) No. 22 — (i84) No. 26:*** | Is harness normal? | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> | Repair or replace the open or short circuit of harness. |
| 13 | **CHECK HARNESS.**<br>1) Disconnect connectors of A/C ECM (B283), center monitor (i119), combination meter (i10) and body integrated unit connector (i84).<br>2) Measure the resistance between connector terminals.<br>***Connector & terminal***<br>***(i84) No. 27 — (i84) No. 26:*** | Is the resistance 1 MΩ or more? | Go to step **14**. | Repair the short circuit of harness or replace harness. |
| 14 | **CHECK HARNESS.**<br>1) Connect the junction connector.<br>2) Measure the resistance between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 27 — Chassis ground:***<br>***(B280) No. 26 — Chassis ground:***<br>***(i84) No. 26 — Chassis ground:***<br>***(i84) No. 27 — Chassis ground:*** | Is the resistance less than 10 Ω? | Repair the short circuit of harness or replace harness. | Go to step **15**. |
| 15 | **CHECK HARNESS.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 27 (+) — Chassis ground (–):***<br>***(B280) No. 26 (+) — Chassis ground (–):***<br>***(i84) No. 26 (+) — Chassis ground (–):***<br>***(i84) No. 27 (+) — Chassis ground (–):*** | Is the voltage 6 V or more? | Repair the short circuit of harness or replace harness. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

## R: DTC U1301 CAN-LS COUNTER ABNORMAL

**DTC DETECTING CONDITION:**

Find the unit in which trouble occurs and open or short CAN line, and repair and replace them.
(Free running counter error may be detected at the same time from the unit in which the malfunction occurs.)

**TROUBLE SYMPTOM:**

"Er LC" is displayed in odo/trip meter. (Except for meter with MID)

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read DTC of body integrated unit. | Are there DTCs other than U1301? | Perform the diagnosis according to other DTCs. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Is U1301 current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **3**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Is U1301 current malfunction? | Go to step **4**. | Temporary poor contact occurs. |
| 4 | **CHECK CURRENT DATA.**<br>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)-9, OPERATION, Diagnostic Chart for Self-diagnosis.> |
| 5 | **CHECK AUTO A/C ECM.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the auto A/C ECM connector (B283).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1301 detected? | Go to step **7**. | Go to step **6**. |
| 6 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283).<br>2) Check open or short conditions between body integrated unit connector and auto A/C control module connector.<br>***Connector & terminal***<br>***(B283) No. 1 — (B280) No. 26:***<br>***(B283) No. 11 — (B280) No. 27:*** | Is harness normal? | Replace auto A/C ECM. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).> | Repair or replace the open or short circuit of harness. |
| 7 | **CHECK CURRENT DATA.**<br>Check current data (center display failure) of the body integrated unit. | Is OK displayed? | Go to step **8**. | Repair or replace the center display. <Ref. to ET-17, REMOVAL, Navigation Display.> |
| 8 | **CHECK CENTER DISPLAY.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the center display connector (i119).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1301 detected? | Go to step **10**. | Go to step **9**. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 9 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280) and center display connector (i119).<br>2) Check open or short conditions between body integrated unit connector and center display connector.<br>***Connector & terminal***<br>***(i119) No. 14 — (i84) No. 26:***<br>***(i119) No. 6 — (i84) No. 27:*** | Is harness normal? | Replace the center display. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).> | Repair or replace the open or short circuit of harness. |
| 10 | **CHECK CURRENT DATA.**<br>Check current data (meter failure) of the body integrated unit. | Is OK displayed? | Go to step **11**. | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> |
| 11 | **CHECK COMBINATION METER.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the combination meter connector (i10).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1301 detected? | Go to step **13**. | Go to step **12**. |
| 12 | **CHECK HARNESS.**<br>1) Disconnect the combination meter connector (i10).<br>2) Check open or short conditions between body integrated unit connector and combination meter connector.<br>***Connector & terminal***<br>***(i10) No. 21 — (i84) No. 27:***<br>***(i10) No. 22 — (i84) No. 26:*** | Is harness normal? | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> | Repair or replace the open or short circuit of harness. |
| 13 | **CHECK HARNESS.**<br>1) Disconnect connectors of A/C ECM (B283), center monitor (i119), combination meter (i10) and body integrated unit connector (i84).<br>2) Measure the resistance between connector terminals.<br>***Connector & terminal***<br>***(i84) No. 27 — (i84) No. 26:*** | Is the resistance 1 MΩ or more? | Go to step **14**. | Repair the short circuit of harness or replace harness. |
| 14 | **CHECK HARNESS.**<br>1) Connect the junction connector.<br>2) Measure the resistance between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 27 — Chassis ground:***<br>***(B280) No. 26 — Chassis ground:***<br>***(i84) No. 26 — Chassis ground:***<br>***(i84) No. 27 — Chassis ground:*** | Is the resistance less than 10 Ω? | Repair the short circuit of harness or replace harness. | Go to step **15**. |
| 15 | **CHECK HARNESS.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 27 (+) — Chassis ground (–):***<br>***(B280) No. 26 (+) — Chassis ground (–):***<br>***(i84) No. 26 (+) — Chassis ground (–):***<br>***(i84) No. 27 (+) — Chassis ground (–):*** | Is the voltage 6 V or more? | Repair the short circuit of harness or replace harness. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

## S: DTC U1302 CAN-LS BUS OFF

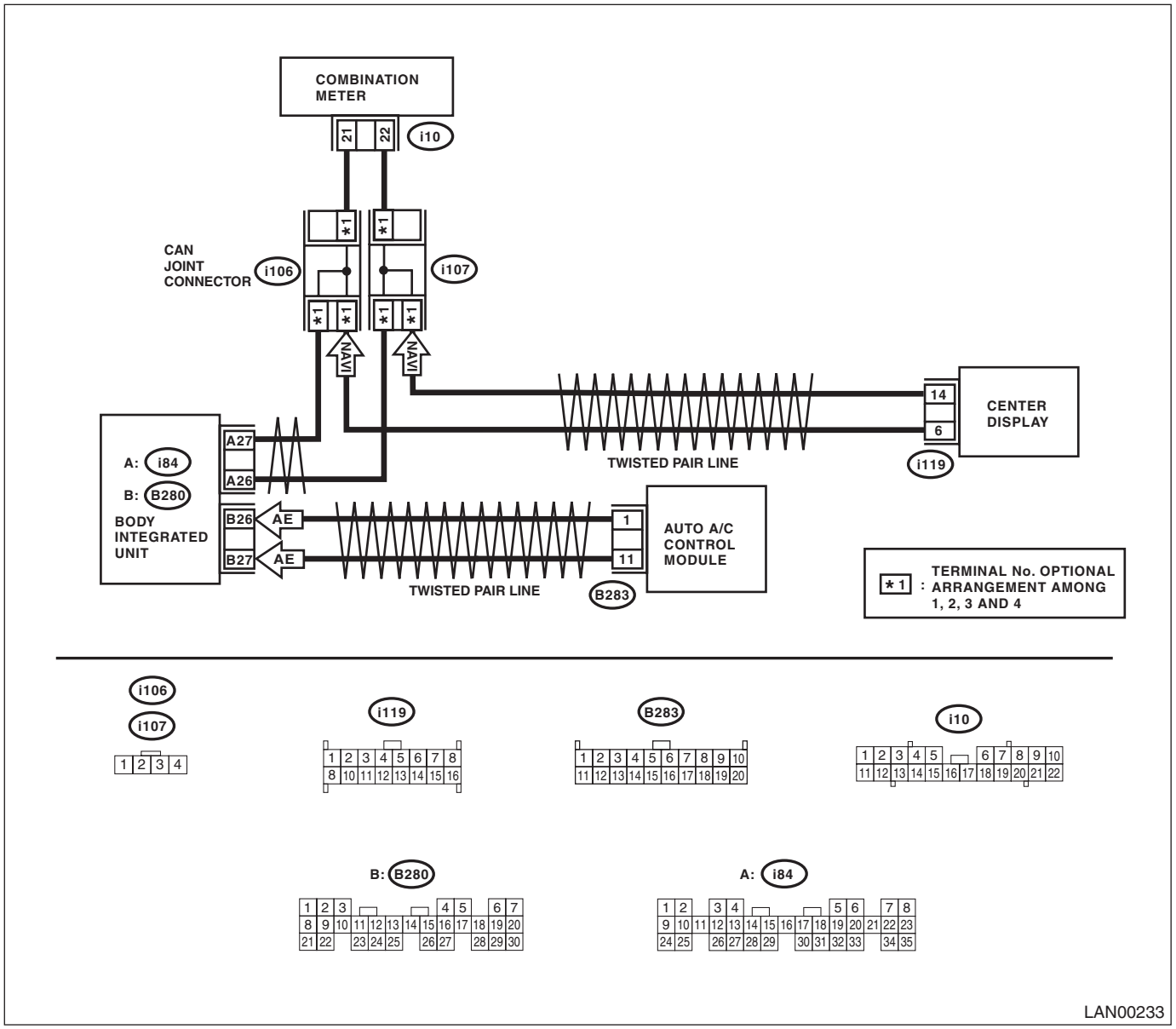
**DTC DETECTING CONDITION:**

- Because of a lot of error data occurred, some units have been disconnected not to affect other units.
- Communication failure from the unit in which error is occurred is input at the same time.

**TROUBLE SYMPTOM:**

"Er LC" is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**




LAN00233

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read DTC of body integrated unit. | Are there DTCs other than U1302? | Perform the diagnosis according to other DTCs. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **3**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Is U1302 current malfunction? | Go to step **4**. | Temporary poor contact occurs. |
| 4 | **CHECK CURRENT DATA.**<br>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)-9, OPERATION, Diagnostic Chart for Self-diagnosis.> |
| 5 | **CHECK AUTO A/C ECM.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the auto A/C ECM connector (B283).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1302 detected? | Go to step **7**. | Go to step **6**. |
| 6 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280) and auto A/C control module connector (B283).<br>2) Check open or short conditions between body integrated unit connector and auto A/C control module connector.<br>***Connector & terminal***<br>***(B283) No. 1 — (B280) No. 26:***<br>***(B283) No. 11 — (B280) No. 27:*** | Is harness normal? | Repalce auto A/C ECM. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).> | Repair or replace the open or short circuit of harness. |
| 7 | **CHECK CURRENT DATA.**<br>Check current data (center display failure) of the body integrated unit. | Is OK displayed? | Go to step **8**. | Repair or replace the center display. <Ref. to ET-17, REMOVAL, Navigation Display.> |
| 8 | **CHECK CENTER DISPLAY.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the center display connector (i119).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1302 detected? | Go to step **10**. | Go to step **9**. |
| 9 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (B280) and center display connector (i119).<br>2) Check open or short conditions between body integrated unit connector and center display connector.<br>***Connector & terminal***<br>***(i119) No. 14 — (i84) No. 26:***<br>***(i119) No. 6 — (i84) No. 27:*** | Is harness normal? | Replace the center display. <Ref. to AC-32, REMOVAL, Control Unit (Auto A/C Model).> | Repair or replace the open or short circuit of harness. |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 10 | **CHECK CURRENT DATA.**<br>Check current data (meter failure) of the body integrated unit. | Is OK displayed? | Go to step **11**. | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> |
| 11 | **CHECK COMBINATION METER.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the combination meter connector (i10).<br>3) Connect the Subaru Select Monitor and then turn the ignition switch to ON.<br>4) Perform the clear memory operation for the body integrated unit.<br>5) Read the DTC of the body integrated unit. | Is DTC U1302 detected? | Go to step **13**. | Go to step **12**. |
| 12 | **CHECK HARNESS.**<br>1) Disconnect the combination meter connector (i10).<br>2) Check open or short conditions between body integrated unit connector and combination meter connector.<br>***Connector & terminal***<br>***(i10) No. 21 — (i84) No. 27:***<br>***(i10) No. 22 — (i84) No. 26:*** | Is harness normal? | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> | Repair or replace the open or short circuit of harness. |
| 13 | **CHECK HARNESS.**<br>1) Disconnect connectors of A/C ECM (B283), center monitor (i119), combination meter (i10) and body integrated unit connector (i84).<br>2) Measure the resistance between connector terminals.<br>***Connector & terminal***<br>***(i84) No. 27 — (i84) No. 26:*** | Is the resistance 1 MΩ or more? | Go to step **14**. | Repair the short circuit of harness or replace harness. |
| 14 | **CHECK HARNESS.**<br>1) Connect the junction connector.<br>2) Measure the resistance between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 27 — Chassis ground:***<br>***(B280) No. 26 — Chassis ground:***<br>***(i84) No. 26 — Chassis ground:***<br>***(i84) No. 27 — Chassis ground:*** | Is the resistance less than 10 Ω? | Repair the short circuit of harness or replace harness. | Go to step **15**. |
| 15 | **CHECK HARNESS.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between body integrated unit connector and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 27 (+) — Chassis ground (–):***<br>***(B280) No. 26 (+) — Chassis ground (–):***<br>***(i84) No. 26 (+) — Chassis ground (–):***<br>***(i84) No. 27 (+) — Chassis ground (–):*** | Is the voltage 6 V or more? | Repair the short circuit of harness or replace harness. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |

# T: DTC U1311 CAN-LS METER UNIT DATA ABNORMAL

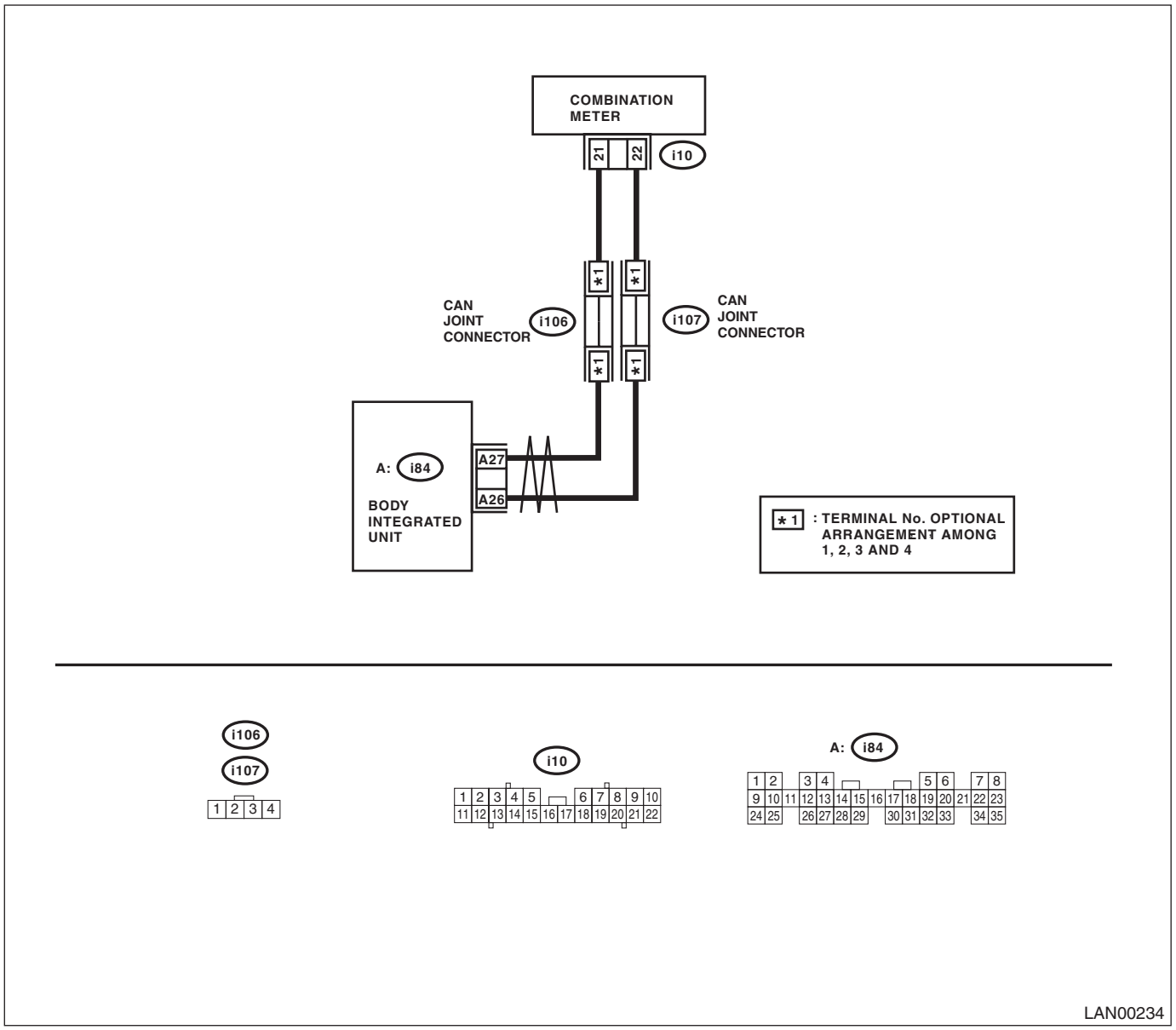
**DTC DETECTING CONDITION:**

Combination meter has error, the harness between main harness splice and combination meter 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. (Except for meter with MID)

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read DTC of body integrated unit. | Are there DTCs other than U1311? | Perform the diagnosis according to other DTCs. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **3**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Is U1311 current malfunction? | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> | Go to step **4**. |
| 4 | **CHECK COMBINATION METER.**<br>Perform self-diagnosis of the combination meter. <Ref. to IDI-4, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.> | Is the self-diagnosis OK? | Temporary poor contact occurs. | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> |

# U: DTC U1313 CAN-LS MONITOR DATA ABNORMAL

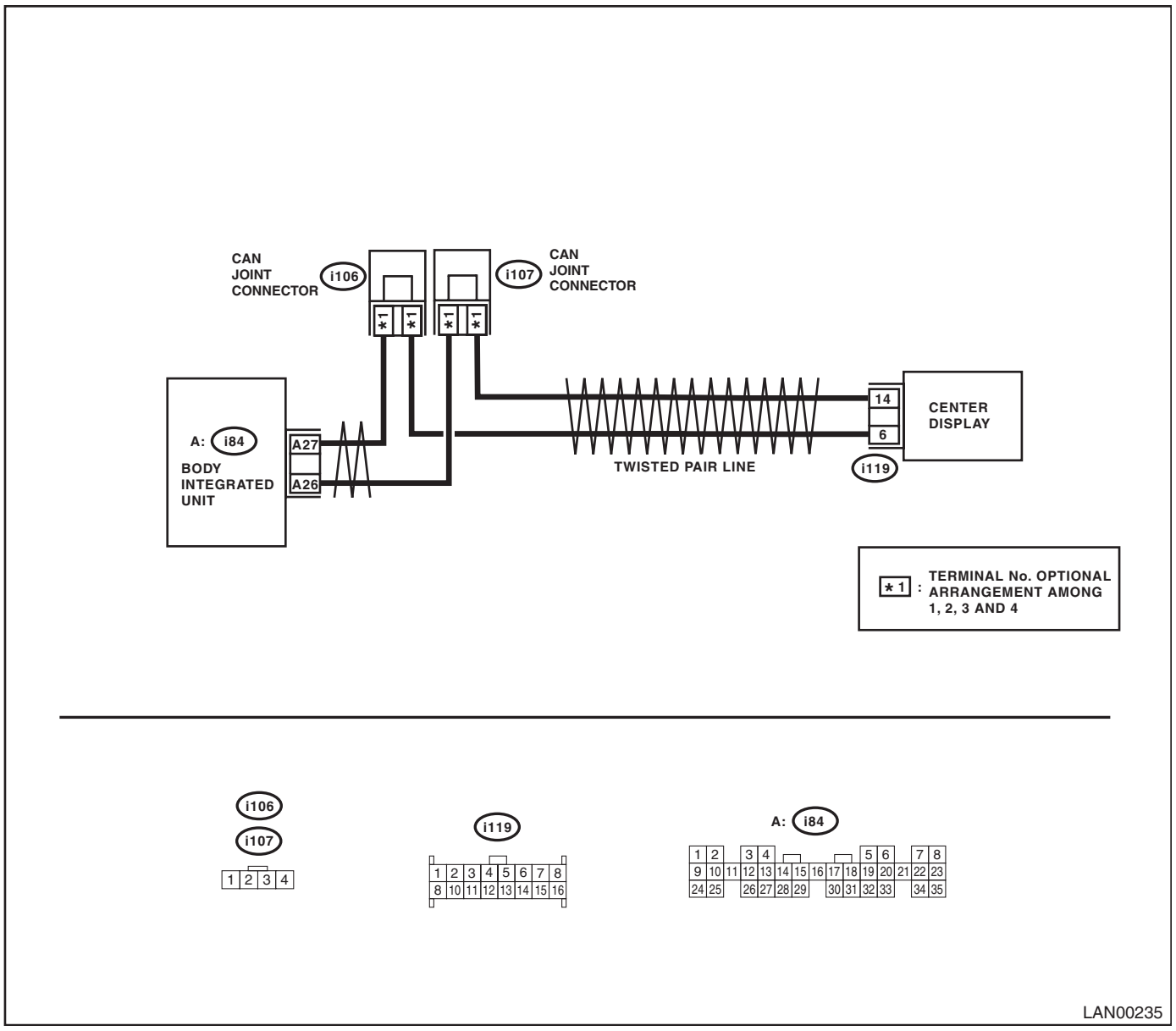
**DTC DETECTING CONDITION:**

Center display unit error, or harness between the main harness splice and center display unit is open or shorted, the connector is not connected securely and the terminal has poor crimping.

**TROUBLE SYMPTOM:**

"Er LC" is displayed in odo/trip meter. (Except for meter with MID)

**WIRING DIAGRAM:**




| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK CENTER MONITOR.**<br>1) Display the current data of body integrated unit using Subaru Select Monitor.<br>2) Display the center display fail display. | Is the displayed data OK? | Go to step **2**. | Refer to the navigation display. <Ref. to ET-17, REMOVAL, Navigation Display.> |
| 2 | **CHECK NAVIGATION.**<br>1) Display the current data of body integrated unit using Subaru Select Monitor.<br>2) Display NAVI fail. | Is the displayed data OK? | Refer to the navigation display. <Ref. to ET-17, REMOVAL, Navigation Display.> | Refer to the navigation unit. <Ref. to ET-19, REMOVAL, Navigation Body.> |

# V: DTC U1321 CAN-LS METER NO-RECEIVE DATA

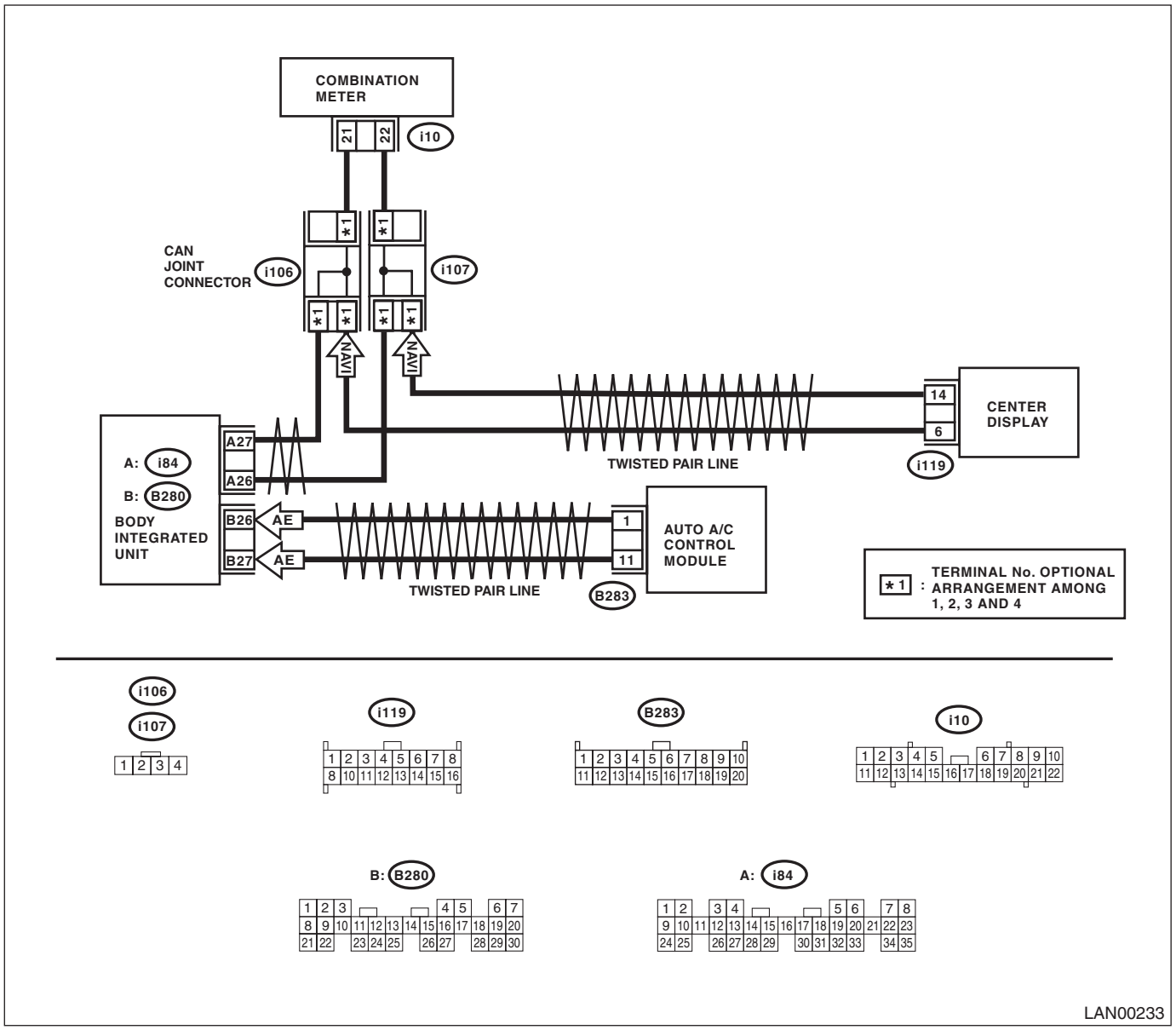
**DTC DETECTING CONDITION:**

Combination meter unit error, or harness between the main harness splice and combination meter unit is open or shorted, the connector is not connected properly and the terminal has poor crimping.

**TROUBLE SYMPTOM:**

Fail mode occurs because the data is not received from combination meter unit.

**WIRING DIAGRAM:**




LAN00233

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK COMMUNICATION LINE.**<br>1) Warm up the engine.<br>2) Compare the data of body integrated unit and combination meter using Subaru Select Monitor.<br>Check item:<br>• Engine speed<br>• Shift range | Is the data displayed same? | Go to step **2**. | Perform self-diagnosis of the combination meter. <Ref. to IDI-4, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.> |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit and combination meter connector.<br>2) Measure the resistance between harness connectors.<br>***Connector & terminal***<br>***(i10) No. 21 — (i84) No. 27:***<br>***(i10) No. 22 — (i84) No. 26:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Go to step **3**. |
| 3 | **CHECK HARNESS.**<br>1) Disconnect the CAN joint connectors (i106 and i107) with the connector of the unit disconnected.<br>2) Measure the resistance between harness connectors.<br>***Connector & terminal***<br>***(i10) No. 21 — (i106) No. 1 — 4:***<br>***(i10) No. 22 — (i106) No. 1 — 4:***<br>***(i84) No. 27 — (i107) No. 1 — 4:***<br>***(i84) No. 26 — (i107) No. 1 — 4:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair or replace the open circuit of harness. |
| 4 | **CHECK HARNESS.**<br>Measure the resistance between harness connectors (i106 and i107) and chassis ground.<br>***Connector & terminal***<br>***(i106) No. 1 — 4 — Chassis ground:***<br>***(i107) No. 1 — 4 — Chassis ground:*** | Is the resistance less than 10 Ω? | Repair the short circuit of harness or replace harness. | Go to step **5**. |
| 5 | **CHECK HARNESS.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between harness connectors (i106 and i107) and chassis ground.<br>***Connector & terminal***<br>***(i106) No. 1 — 4 (+) — Chassis ground (–):***<br>***(i107) No. 1 — 4 (+) — Chassis ground (–):*** | Is the voltage 6 V or more? | Repair the short circuit of harness or replace harness. | Go to step **6**. |
| 6 | **CHECK COMBINATION METER.**<br>Perform self-diagnosis of the combination meter. <Ref. to IDI-4, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.> | Is the self-diagnosis OK? | Temporary poor contact occurs. Check the connection of each connector. | Replace the combination meter. <Ref. to IDI-19, REMOVAL, Combination Meter.> |

## W: DTC B1500 KEYLESS UART COM. MALFUNCTION

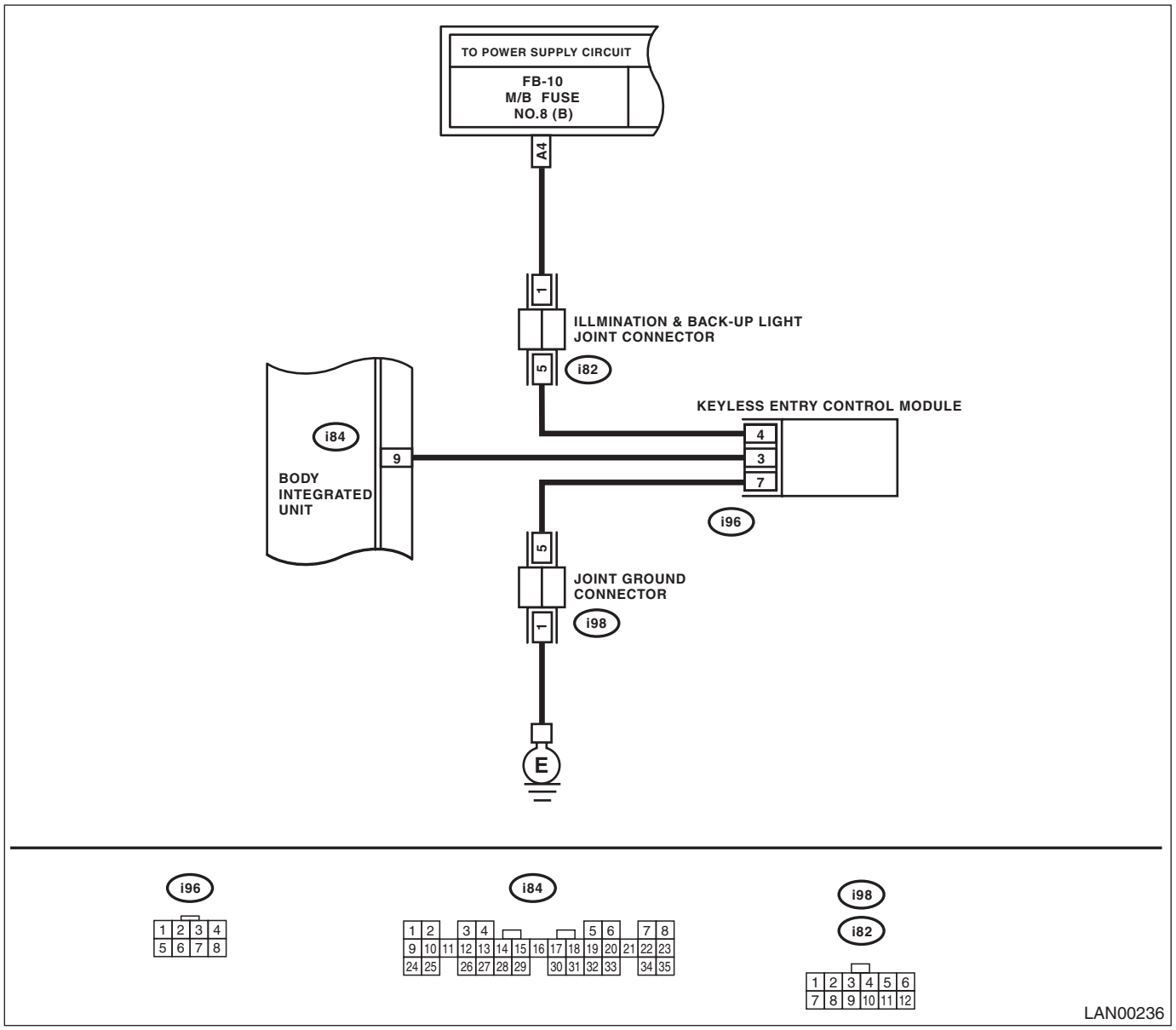
**DTC DETECTING CONDITION:**

UART between keyless control unit and body integrated unit is open or shorted, the connector is not connected properly, or the terminal is crimped improperly.

**TROUBLE SYMPTOM:**

Door lock does not operate with keyless.

**WIRING DIAGRAM:**



| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DTC.**<br>Connect the Subaru Select Monitor to read DTC of body integrated unit. | Are there DTCs other than B1500? | Perform the diagnosis according to other DTCs. | Go to step **2**. |
| 2 | **CHECK DTC.**<br>Check DTC indicated by body integrated unit. | Does the displayed DTC indicate current malfunction? | Check the connection of harness connectors. Go to step **3**. | Go to step **4**. |
| 3 | **CHECK DTC.**<br>Turn the ignition switch to OFF and read DTCs again. | Is B1500 current malfunction? | <Ref. to LAN(diag)-82, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> | <Ref. to LAN(diag)-82, DTC B1500 KEYLESS UART COM. MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 4 | **CHECK HARNESS.**<br>1) Disconnect the body integrated unit connector (i84) and keyless entry control module connector (i96).<br>2) Measure the resistance between harnesses.<br>***Connector & terminal***<br>***(i84) No. 9 — (i96) No. 3:*** | Is the resistance less than 10 Ω? | Go to step **5**. | Repair the open circuit of harness or replace harness. |
| 5 | **CHECK HARNESS.**<br>Measure the resistance between harness connector and chassis ground.<br>***Connector & terminal***<br>***(i84) No. 9 — Chassis ground:*** | Is the resistance less than 1 MΩ? | Repair the short circuit of harness or replace harness. | Go to step **6**. |
| 6 | **CHECK HARNESS.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between harness connector and chassis ground.<br>***Connector & terminal***<br>***(i84) No. 9 (+) — Chassis ground (–):*** | Is the voltage 6 V or more? | Repair the short circuit of harness or replace harness. | Go to step **7**. |
| 7 | **CHECK OPERATION.**<br>Check the door lock operation when the doors LOCK/UNLOCK using manual LOCK switch. | Does it operate on switch operation? | Go to step **8**. | Replace the body integrated unit. <Ref. to SL-53, REMOVAL, Body Integrated Unit.> |
| 8 | **CHECK OPERATION.**<br>1) Remove the ignition key.<br>2) Close all the doors, and then perform the LOCK/UNLOCK operation on keyless entry operation. | Does it operate? | Temporary poor contact occurs. | Replace the keyless entry control module. <Ref. to SL-51, REMOVAL, Keyless Entry Control Module.> |

# 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 | |
| Diagnostic code | DTC is not displayed when inspecting all DTCs. | DTC is not displayed. | Perform the diagnosis according to DTC. | — |
| Engine coolant temperature | 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. |
| R 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. |
| R defogger output | When switch input, it is output. | Output | Check 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. | The door lock switch is connected to the Low-speed CAN. |
| Door lock actuator | When locked with door lock switch, it is output. | Output | Check the body integrated unit. | — |

## 2. BODY INTEGRATED UNIT

| Item | Operation | Specifications | | Note |
|---|---|---|---|---|
| | | YES | NO | |
| Illumination VR power supply | 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. | Check 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. | — |
| Customize | When changing customize setting, the registration completes correctly. | Registered | Inspect the body integrated unit. | — |
| 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. | — |
| 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. | — |

# 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


| | | Page |
|---|---|---|
| 1. | Basic Diagnostic Procedure | 3 |
| 2. | Working Precautions | 14 |
| 3. | Power Supply Circuit | 15 |
| 4. | Ground Circuit | 22 |
| 5. | Engine Electrical System | 34 |
| 6. | Radiator Fan System | 78 |
| 7. | Charging System | 80 |
| 8. | Starter System | 81 |
| 9. | Remote Engine Start System | 83 |
| 10. | AT Control System | 88 |
| 11. | AT Shift Lock Control System | 104 |
| 12. | Anti-lock Brake System | 105 |
| 13. | Vehicle Dynamics Control System | 107 |
| 14. | TPM Control System | 111 |
| 15. | Air Conditioning System | 112 |
| 16. | Power Seat System | 119 |
| 17. | Airbag System | 122 |
| 18. | Seat Belt Warning System | 126 |
| 19. | Occupant Detection System | 127 |
| 20. | Seat Heater System | 128 |
| 21. | Headlight System | 129 |
| 22. | Front Fog Light System | 132 |
| 23. | Back-up Light System | 133 |
| 24. | Stop Light System | 134 |
| 25. | Clearance Light and Illumination Light System | 135 |
| 26. | Turn Signal Light and Hazard Light System | 140 |
| 27. | Interior Light System | 142 |
| 28. | Front Wiper and Washer System | 146 |
| 29. | Rear Wiper and Washer System | 147 |
| 30. | Wiper Deicer System | 148 |
| 31. | Audio System | 149 |
| 32. | Front Accessory Power Supply Socket System | 151 |
| 33. | Rear Accessory Power Supply Socket System | 152 |
| 34. | Navigation System | 153 |
| 35. | Multi-Infomation Display (MID) System | 155 |
| 36. | Horn System | 156 |
| 37. | Power Window System | 157 |
| 38. | Remote Control Mirror System | 161 |
| 39. | Rear Defogger System | 162 |
| 40. | Combination Meter System | 163 |
| 41. | Speedometer System | 174 |
| 42. | Clock System | 175 |
| 43. | Fuel Gauge System | 177 |

44. Coolant Temperature System .....178
45. Oil Pressure Warning Light System .....179
46. Parking Brake / Brake Fluid Level Warning Light System .....180
47. Sunroof Control System .....181
48. Security System .....183
49. Immobilizer System .....186
50. Keyless Entry System .....187
51. Cruise Control System .....191
52. CAN Communication System .....197
53. Harness Components Location .....200
54. Front Wiring Harness .....202
55. Bulkhead Wiring Harness (In Engine Compartment) .....204
56. Bulkhead Wiring Harness (In Compartment) .....206
57. Engine Wiring Harness and Transmission Cord .....209
58. Instrument Panel Wiring Harness .....215
59. Rear Wiring Harness .....217
60. Door Cord .....223
61. Rear Wiring Harness and Trunk Lid Cord .....225
62. Rear Wiring Harness and Rear Gate Cord .....227

# 1. General Description

## A: SPECIFICATION

| | | | |
|---|---|---|---|
| Headlight | Halogen type low beam | | 12 V — 55 W |
| | Halogen type high beam | | 12 V — 60 W |
| Front turn signal, parking, front side marker light | | | 12 V — 27/8 W |
| Front fog light | OUTBACK | | 12 V — 51 W |
| | Except for OUTBACK | | 12 V — 55 W |
| Side turn signal light | | | 12 V — 2.7 W (LED) |
| Rear combination light | Stop/tail light | | 12 V — 21/5 W |
| | Turn signal light | | 12 V — 21 W |
| | Wagon | Rear side marker light | 12 V — 5 W |
| Back-up light | Sedan | | 12 V — 16 W |
| | Wagon | | 12 V — 16 W |
| License plate light | | | 12 V — 5 W |
| High-mounted stop light | Sedan | | 12 V — 21 W |
| | Wagon | | 12 V — 1.3 W (LED) |
| Room light | | | 12 V — 8 W |
| Spot map light | | | 12 V — 8 W |
| Luggage room light | | | 12 V — 13 W |
| Trunk room light | | | 12 V — 5 W |
| Glove box light | | | 12 V — 1.4 W |
| Door step light | | | 12 V — 3.5 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.
- The airbag system wiring harness is routed near electrical parts and switches. Airbag system wiring harnesses and connectors are 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-129, WIRING DIAGRAM, Headlight System.>

### 2. CLEARANCE LIGHT AND ILLUMINATION LIGHT

<Ref. to WI-135, WIRING DIAGRAM, Clearance Light and Illumination Light System.>

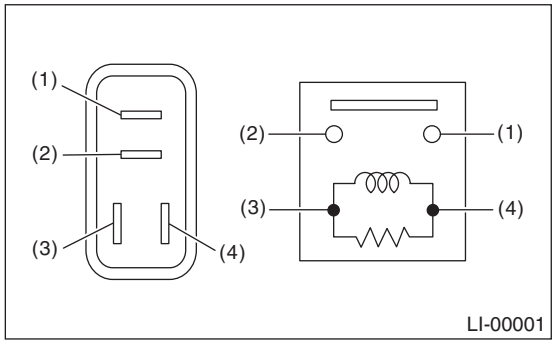
## B: INSPECTION

### 1. HEADLIGHT SWITCH

<Ref. to LI-11, INSPECTION, Combination Switch (Light).>

### 2. HEADLIGHT RELAY

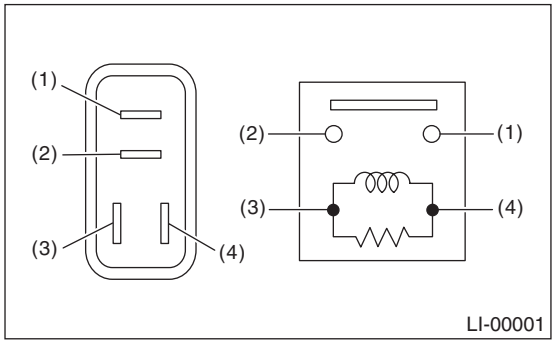
Measure the headlight relay resistance between terminals when connecting terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal.




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

### 3. TAIL AND ILLUMINATION RELAY

Measure the resistance between the tail and illumination 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 |

# 3. Day Time Running Lamp System

## A: WIRING DIAGRAM

<Ref. to WI-129, WIRING DIAGRAM, Headlight System.>

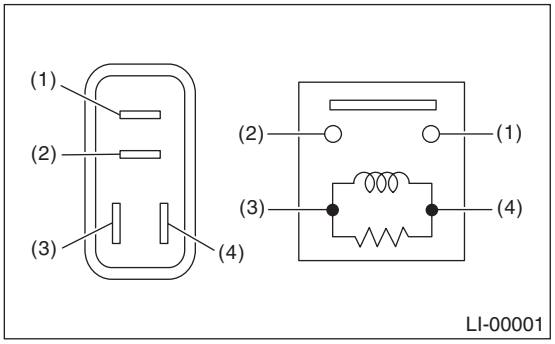
## B: INSPECTION

### 1. DAYTIME RUNNING LIGHT MODULE CHECK

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK THE POWER SUPPLY CIRCUIT.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage between the daytime running light module terminal and chassis ground.<br>***Connector & terminal***<br>***(B96) No. 2 (+) — Chassis ground (–):***<br>***(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.**<br>1) Disconnect the daytime running light module connector.<br>2) Measure the resistance between the daytime running light module connector and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Connect the daytime running light module connector.<br>2) Measure the resistance between the terminal and chassis ground when pulling parking brake lever and releasing.<br>***Connector & terminal***<br>***(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.**<br>Turn the ignition switch to ON ⇔ Starter and measure the voltage of terminal.<br>***Connector & terminal***<br>***(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.**<br>Turn the headlight switch to LO ⇔ OFF and measure the voltage of terminal.<br>***Connector & terminal***<br>***(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.**<br>Turn the headlight switch to HI ⇔ OFF and measure the voltage of terminal.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to ON.<br>2) Turn the headlight from LO to ON/OFF and measure the voltage of terminal.<br>***Connector & terminal***<br>***(B242) No. 5 (+) — Chassis ground (–):*** | Does the voltage change to 0⇔ battery voltage? | Go to step **8**. | Check the headlight LO circuit. |
| 8 | **CHECK THE HEADLIGHT SIGNAL.**<br>1) Turn the ignition switch to ON.<br>2) Measure the voltage of terminal on passing of headlight.<br>***Connector & terminal***<br>***(B96) No. 3 (+) — 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. DAYTIME RUNNING RELAY

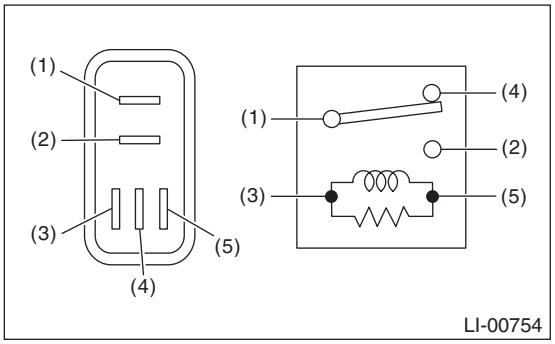
Measure the resistance between the daytime running relay terminals when connecting terminal No. 4 to the battery positive terminal and terminal No. 3 to the battery ground terminal.




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

## 3. DAYTIME RUNNING RELAY (TAIL)

Measure the resistance between the daytime running relay (tail) terminals when connecting terminal No. 3 to the battery positive terminal and terminal No. 5 to the battery ground terminal.




| Continuity | Terminal No. | Standard |
|---|---|---|
| Yes | 1 and 2 | Less than 1 Ω |
| No | | 1 MΩ or more |
| Yes | 1 and 4 | 1 MΩ or more |
| No | | Less than 1 Ω |

# 4. Front Fog Light System

## A: WIRING DIAGRAM

### 1. FRONT FOG LIGHT

<Ref. to WI-132, WIRING DIAGRAM, Front Fog Light System.>

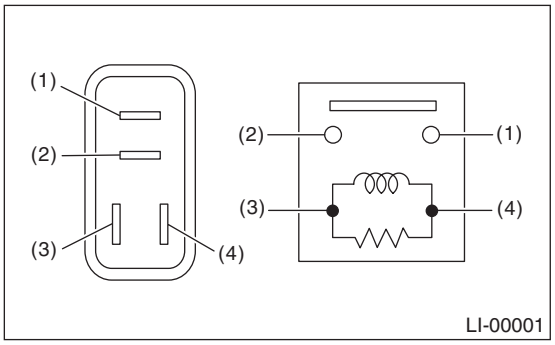
## B: INSPECTION

### 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-140, WIRING DIAGRAM, Turn Signal Light and Hazard Light System.>

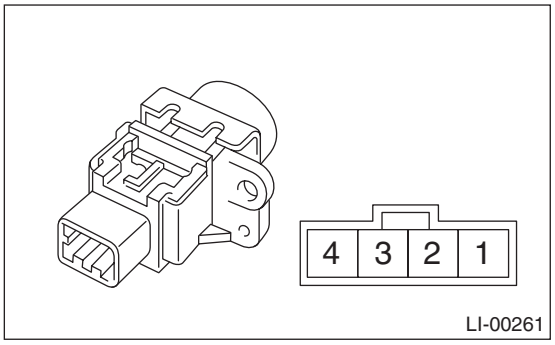
## B: INSPECTION

### 1. TURN SIGNAL SWITCH

<Ref. to LI-11, INSPECTION, Combination Switch (Light).>

### 2. HAZARD SWITCH

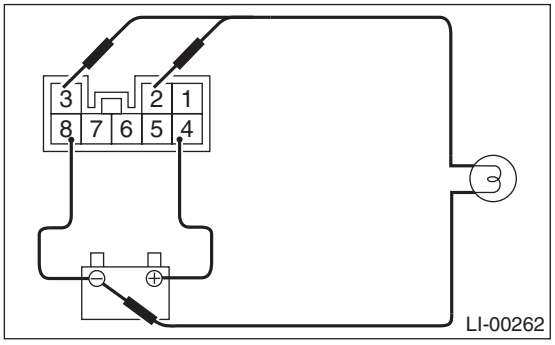
Measure the resistance between hazard switch terminals.




| 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

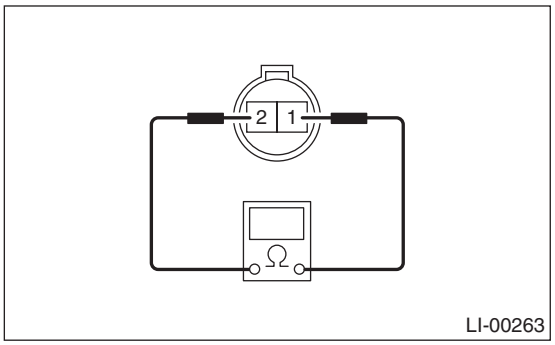
### 1. BACK-UP LIGHT

<Ref. to WI-133, WIRING DIAGRAM, Back-up Light System.>

## B: INSPECTION

### 1. BACK-UP LIGHT SWITCH (MT MODEL)

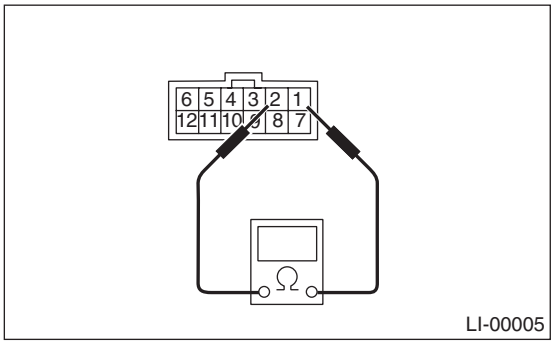
Measure the resistance between the back-up light switch terminals.




| Switch position | Terminal No. | Standard |
|---|---|---|
| When shift lever is set in reverse position | 1 and 2 | Less than 1 Ω |
| Other positions | | 1 MΩ or more |

### 2. INHIBITOR SWITCH (4AT MODEL)

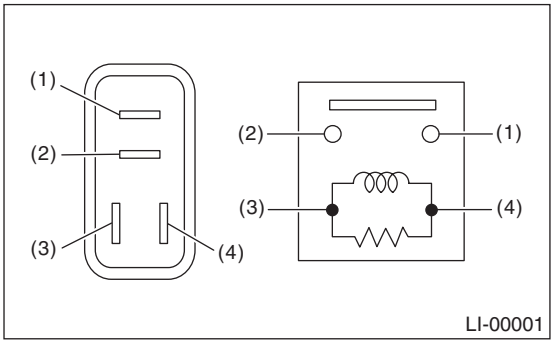
Measure the resistance between the inhibitor switch terminals.




| Switch position | Terminal No. | Standard |
|---|---|---|
| When the selector lever is in the “R” range | 1 and 2 | Less than 1 Ω |
| Other positions | | 1 MΩ or more |

### 3. BACK-UP LIGHT RELAY (5AT MODEL)

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 |

NOTE:
Checks other than the back-up light relay. <Ref. to 4AT-45, INSPECTION, Inhibitor Switch.>

# 7. Stop Light System

## A: WIRING DIAGRAM

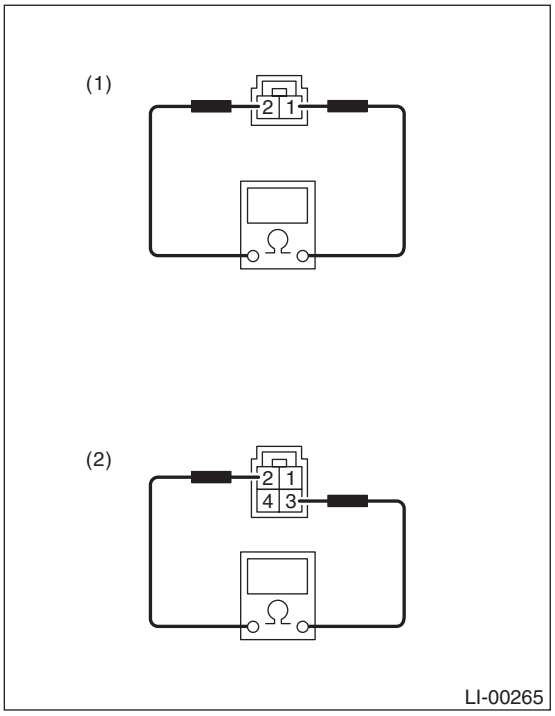
### 1. STOP LIGHT

<Ref. to WI-134, WIRING DIAGRAM, Stop Light System.>

## B: INSPECTION

### 1. STOP LIGHT SWITCH

Measure the resistance between stop light switch terminals.




(1) Models without cruise control
(2) Models with cruise control

| Switch position | Terminal No. | Standard |
|---|---|---|
| When brake pedal is depressed | Models without cruise control: 1 and 2 | Less than 1 Ω |
| When brake pedal is released | Models with cruise control: 2 and 3 | 1 MΩ or more |

# 8. Room Light System

## A: WIRING DIAGRAM

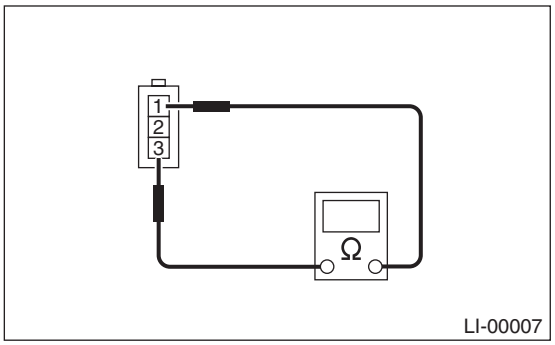
### 1. ROOM LIGHT

<Ref. to WI-142, WIRING DIAGRAM, Interior Light System.>

## B: INSPECTION

### 1. DOOR SWITCH

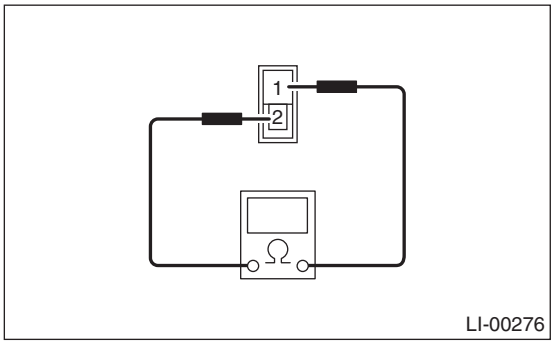
Measure the resistance between door switch terminals.




| 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

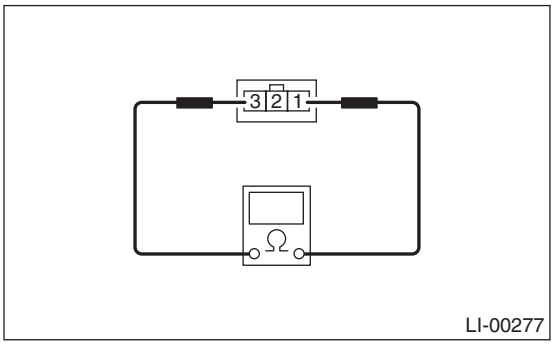
Measure the resistance between rear gate latch switch terminals.




| 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. TRUNK ROOM LIGHT SWITCH

Measure the resistance between the trunk room light switch terminals.

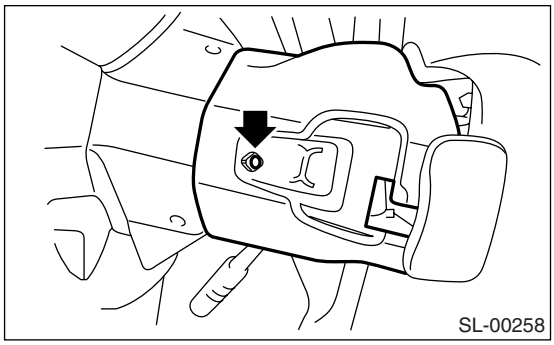



| Switch position | Terminal No. | Standard |
|---|---|---|
| When trunk lid is opened | 1 and 3 | Less than 1 Ω |
| When trunk lid is closed | | 1 MΩ or more |

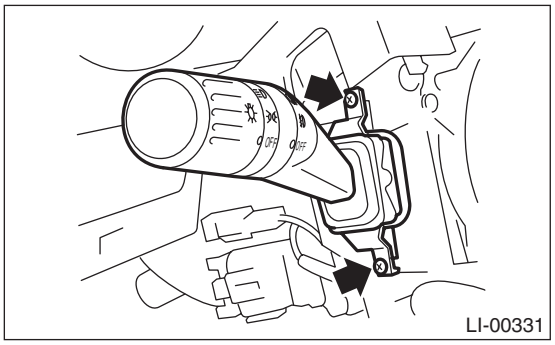
# 9. Combination Switch (Light)

## 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.

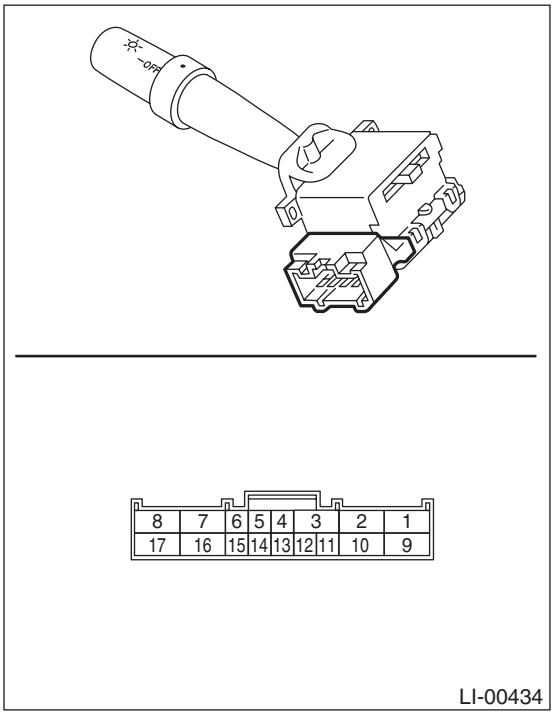



## B: INSTALLATION

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 |

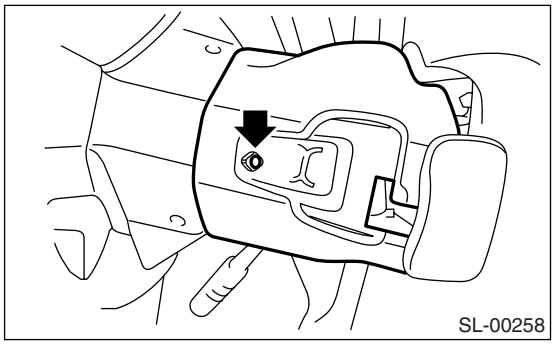
### 4. FRONT FOG LIGHT

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | 1 MΩ or more |
| ON | 10 and 11 | Less than 1 Ω |

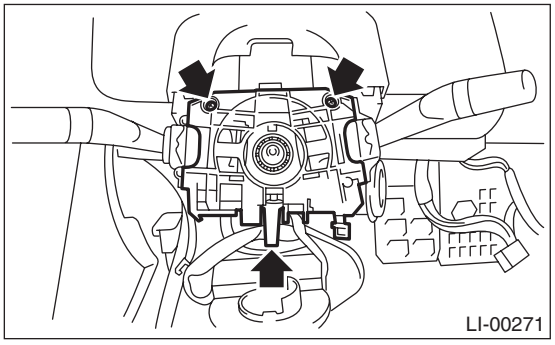
# 10.Combination Base Switch Assembly

## A: REMOVAL

1) Remove the driver's airbag module. <Ref. to AB-15, REMOVAL, Driver's Airbag Module.>
2) Remove the steering wheel. <Ref. to PS-14, REMOVAL, Steering Wheel.>
3) Remove the screws and remove the steering column lower cover.


SL-00258

4) Remove the combination switch. <Ref. to LI-11, REMOVAL, Combination Switch (Light).> <Ref. to WW-6, REMOVAL, Combination Switch (Wiper).>
5) Remove the four screws and remove the roll connector.
6) Remove the three screws.


LI-00271

7) Disconnect the connector and remove the combination base switch assembly.

## B: INSTALLATION

1) Install in the reverse order of removal.
2) Before installing the steering wheel, be sure to adjust the direction of roll connector with steering. <Ref. to AB-24, ADJUSTMENT, Roll Connector.>

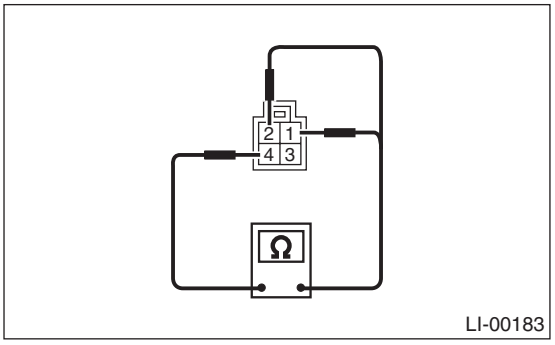
## C: INSPECTION

### 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.



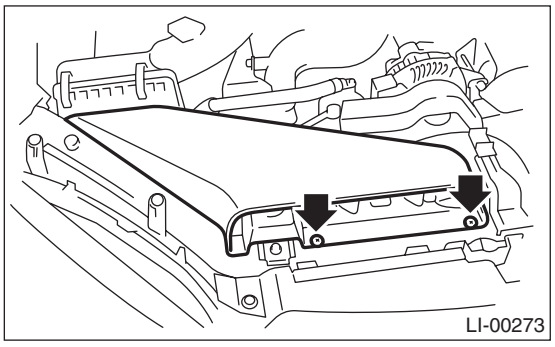
LI-00183

| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | 2 and 4 | Less than 1 Ω |
| ON | 1 and 4 | Less than 1 Ω |

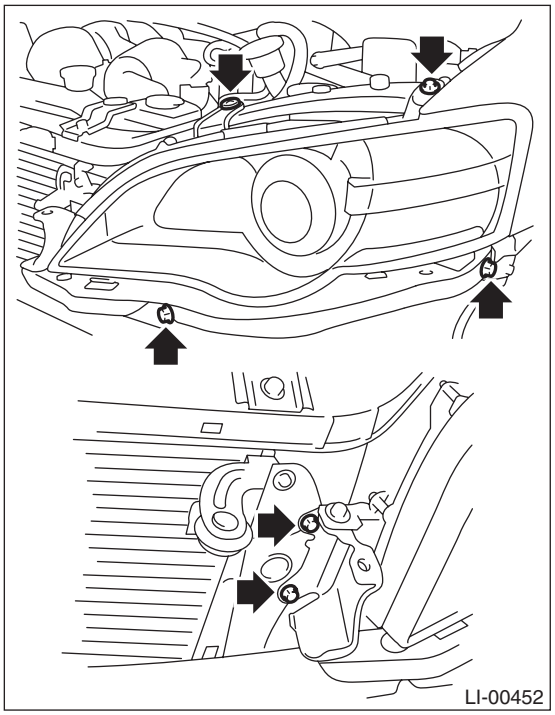
# 11.Headlight Assembly

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the air intake duct. (When removing the headlight RH).




3) Remove the front grille. <Ref. to EI-24, REMOVAL, Front Grille.>
4) Remove the front bumper. <Ref. to EI-30, REMOVAL, Front Bumper.>
5) Disconnect harness connectors.
6) Remove the 5 bolts, disengage 1 clip, then detach the headlight assembly.




## B: INSTALLATION

Install in the reverse order of removal.

# C: ADJUSTMENT

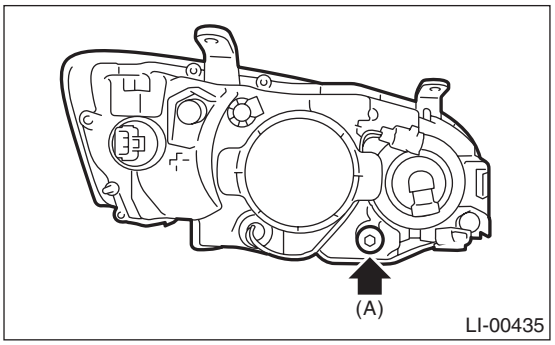
## 1. HEADLIGHT BEAM ADJUSTMENT

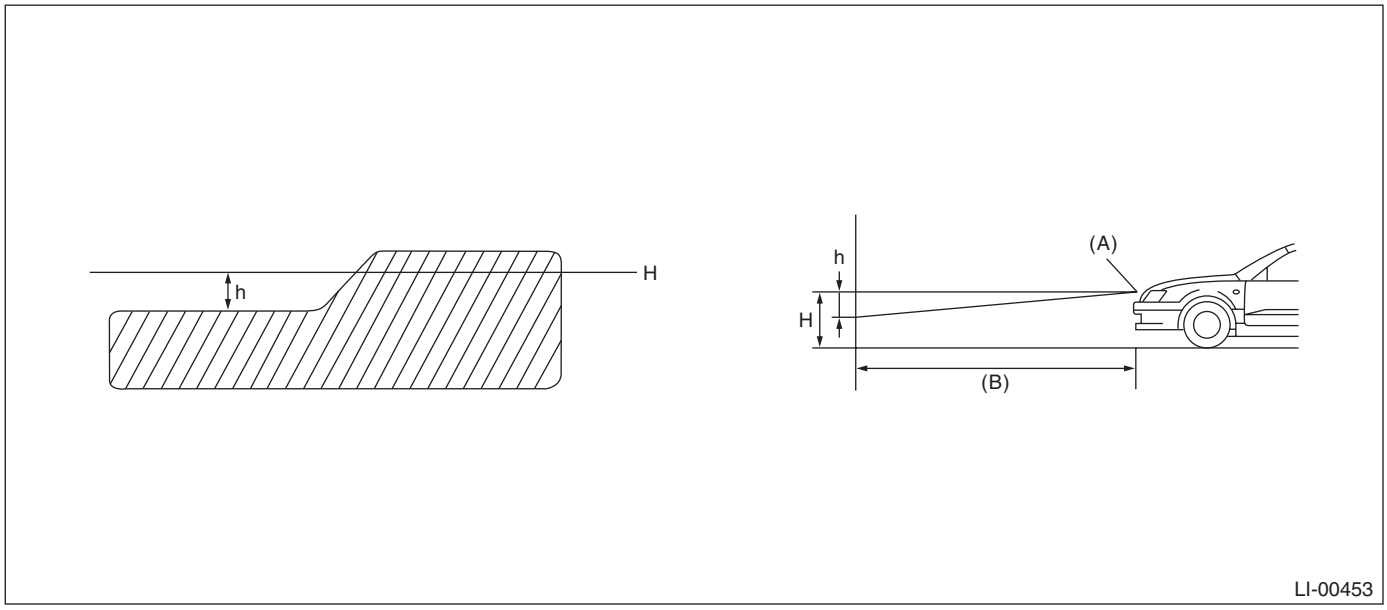
NOTE:
The headlight can only be adjusted in the vertical direction but not the horizontal direction.

**CAUTION:**
**Turn off the light before adjusting the headlight beam level. If it is necessary to inspect the beam level, do not keep the light on for two minutes or more.**

NOTE:
Before checking the headlight beam level, be sure of the following:
• Check the area around the headlight for any scratches, damage or other types 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) Turn the headlights on and then adjust the low beam pattern.

NOTE:
Adjust the headlight beam level by turning the adjusting screw (A).




(A) Bulb center marking
(B) 3 m (10 ft)
(H) Height of the headlight LOW beam center

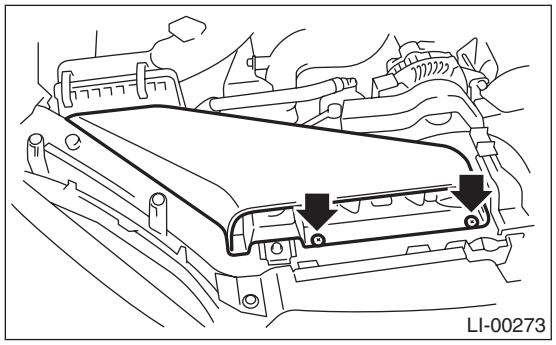
| h mm (in) at 3 m (10 ft) |
|---|
| 21 (0.83) |

# 12.Headlight Bulb

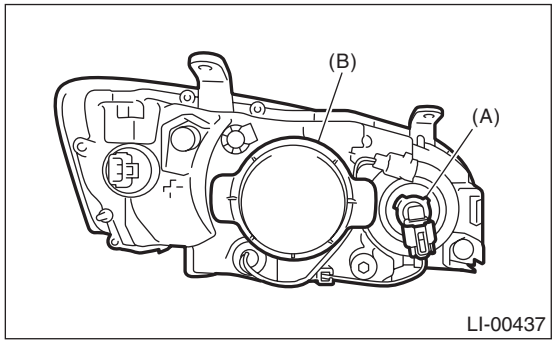
## A: REMOVAL

### 1. HIGH BEAM AND 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).

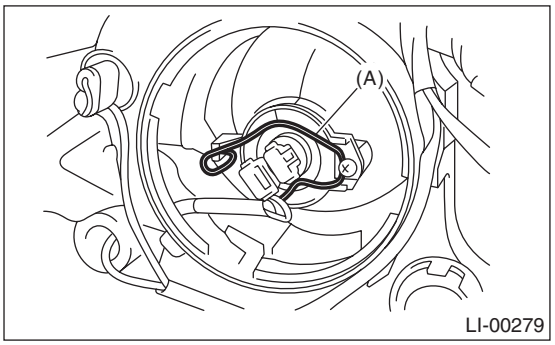

LI-00273

3) Remove the battery cover. (When removing the headlight bulb LH)
4) Tilt the washer tank filler neck. (When removing the headlight bulb LH)
5) Disconnect the harness connector.
6) 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 7.



LI-00437

7) Remove the light bulb retaining spring (A) to remove bulb.



LI-00279

## B: INSTALLATION

Install in the reverse order of removal.

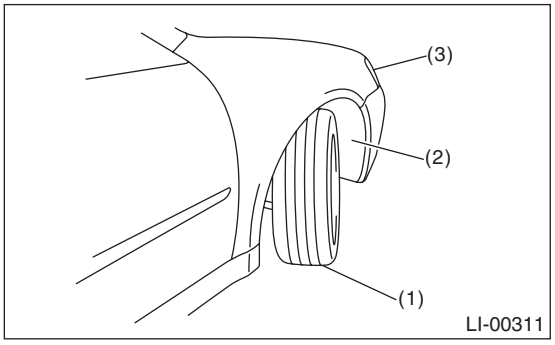
## C: INSPECTION

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.

# 13.Front Turn Signal Light Bulb

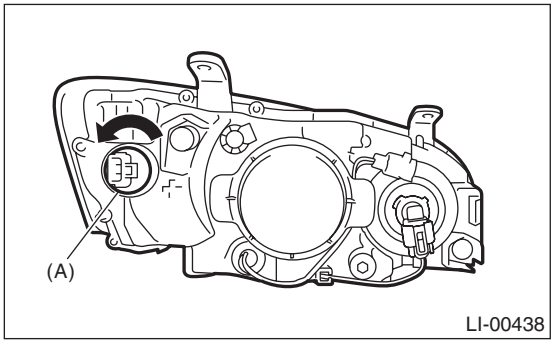
## A: REMOVAL

1) When removing the turn signal light bulb, fully turn the steering wheels to opposite direction from the turn signal light bulb to remove.




(1) Turn the steering wheel fully.
(2) Mud guard
(3) Front turn signal light

2) Turn the mud guard inward.
3) Turn socket (A) from the wheel arch, and remove the front turn signal light bulb.




**CAUTION:**
**ON the 5AT model, the turn signal light bulb LH cannot be removed from the wheel arch. Remove the bulb from the engine compartment, by removing the battery.**

## 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-16, REMOVAL, Front Turn Signal Light Bulb.>

# 15.Front Side Marker Light Bulb

## A: SPECIFICATION

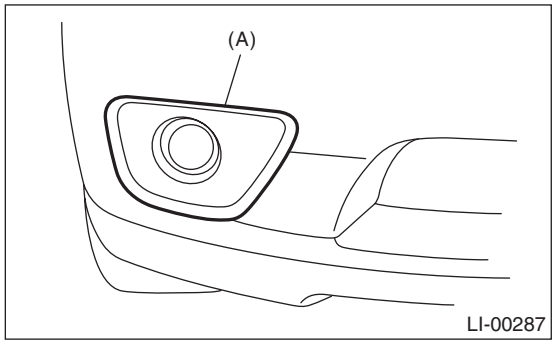
The front side marker light bulb is integrated into the front turn signal light bulb as a unit; therefore, refer to “Front Turn Signal Light Bulb” for the removal procedures. <Ref. to LI-16, REMOVAL, Front Turn Signal Light Bulb.>

# 16.Front Fog Light Assembly

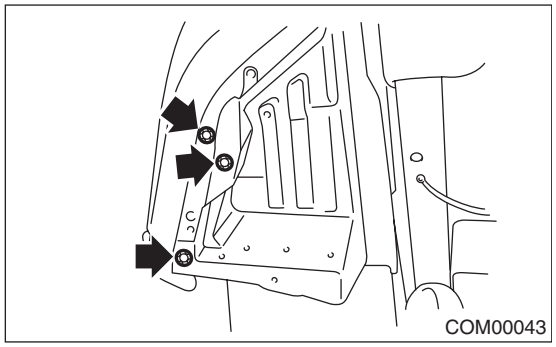
## A: REMOVAL

### 1. EXCEPT FOR OUTBACK MODEL

1) Disconnect the ground cable from the battery.
2) Remove the front fog light cover (A).




3) Disengage the two clips, and then turn over the lower mud guard.

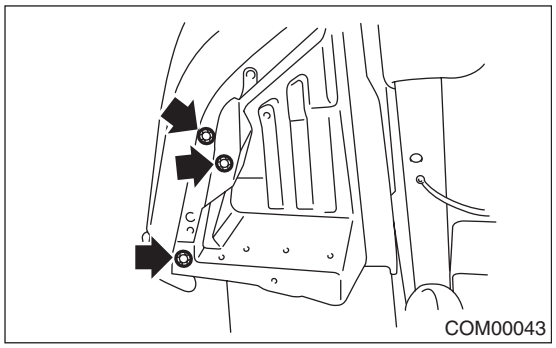



4) Disconnect the harness connector.
5) Remove the mounting bolts, and pull and detach the fog light assembly.

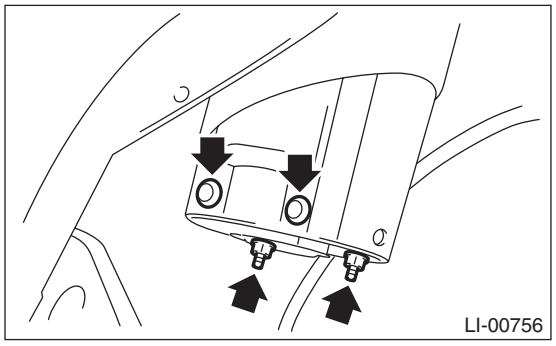



### 2. OUTBACK MODEL

1) Disconnect the ground cable from the battery.
2) Disengage the two clips, and then turn over the lower mud guard.




3) Disconnect the harness connector.
4) Remove the mounting nuts and clips, and detach the fog light assembly by pulling it out.




## B: INSTALLATION

Install in the reverse order of removal.

## C: ADJUSTMENT

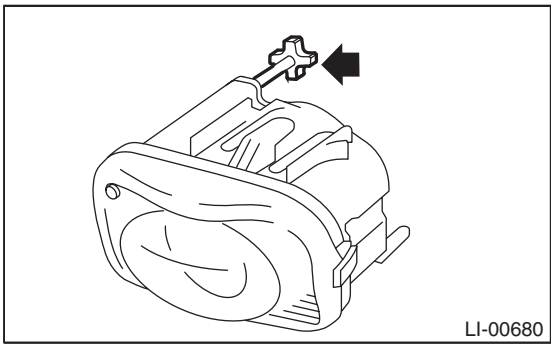
### 1. FOG LIGHT AIMING

NOTE:
Before checking the fog light beam level, be sure of the following:
- The area around the fog light has not sustained any accident, damage or other type of deformation.
- Vehicle is parked on a level surface.
- The inflation pressure of tires is correct.
- Vehicle's fuel tank is fully filled.

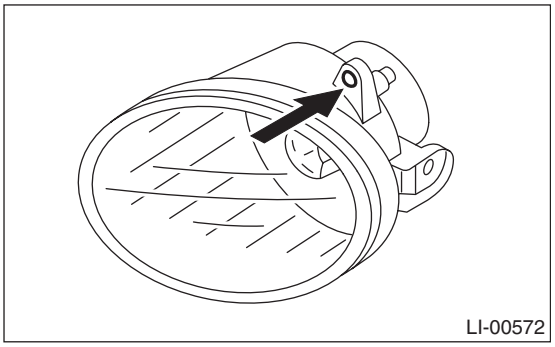
1) Bounce the vehicle several times to normalize the suspension.
2) Make certain that someone is seated in the driver's seat.
3) Adjust the fog light pattern by inserting a Philips screwdriver to the aiming screw hole.

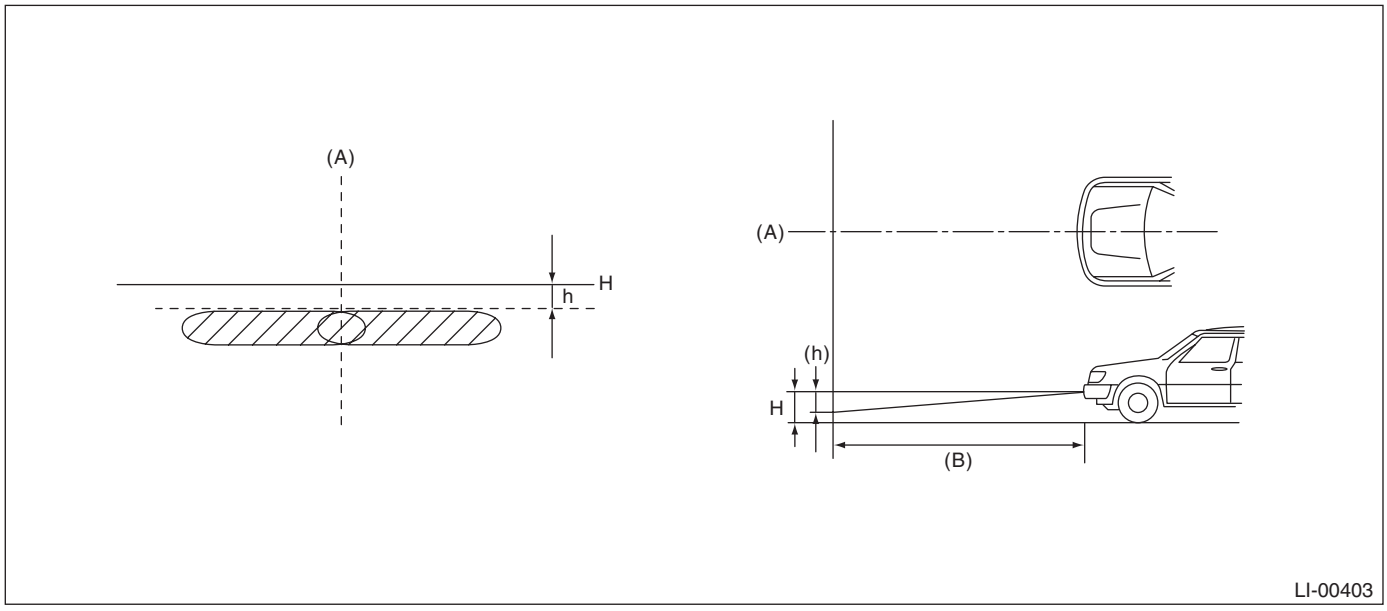
NOTE:
Perform the adjustment after removing the front fog light cover.

- Except for OUTBACK model




- OUTBACK model



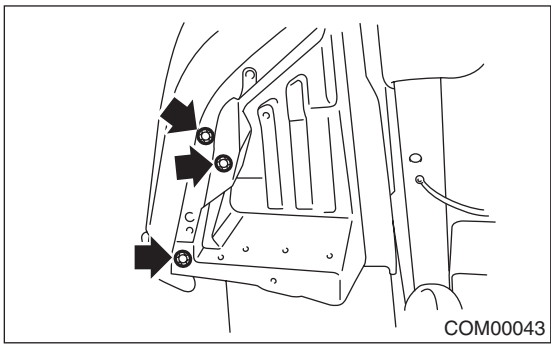

(A) Vehicle center (B) 3 m (10 ft) (H) Height of fog light center

| h mm (in) at 3 m (10 ft) |
|---|
| 40 (1.58) |

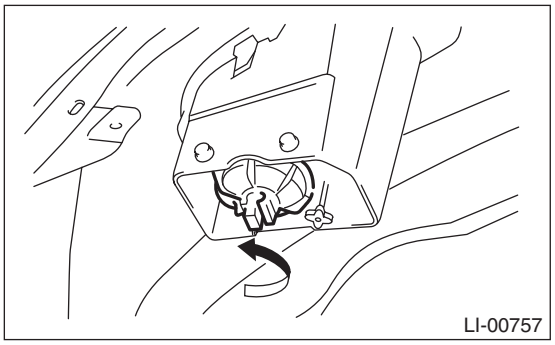
# 17.Front Fog Light Bulb

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Disengage the two clips, and then turn over the lower mud guard.




3) Disconnect the harness connector.
4) Remove the back cover.




5) Remove the spring retainer then detach the fog light bulb.

## B: INSTALLATION

Install in the reverse order of removal.

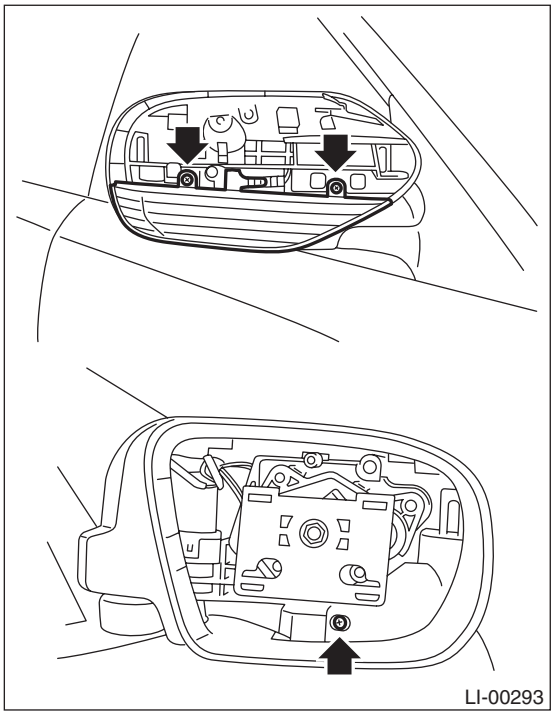
## C: INSPECTION

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 part.

# 18. Side Turn Signal Light Assembly

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the scalp cap. <Ref. to GW-18, REPLACEMENT, Scalp Cap.>
3) Remove the mirror. <Ref. to GW-20, REPLACEMENT, Outer Mirror.>
4) Disconnect the harness connector, remove the 3 mounting screws 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.

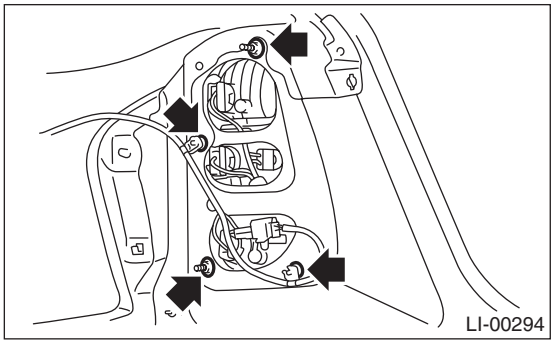
NOTE:
Since LED (Light Emitting Diode) is used for the side turn signal light, replace the side turn signal light assembly if the LED burns out.

# 19. Rear Combination Light Assembly

## A: REMOVAL

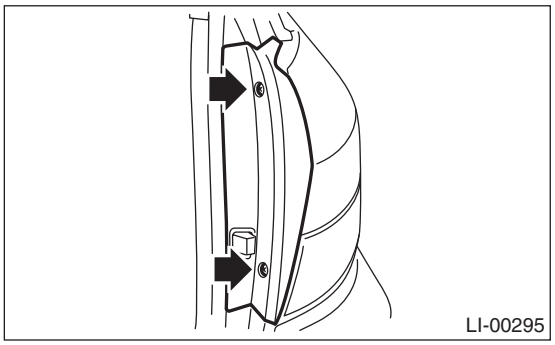
### 1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Remove the trunk room side trim. <Ref. to EI-67, REMOVAL, Trunk Room Trim.>
3) Remove the four nuts, and then detach the rear combination light after disconnecting the connector.

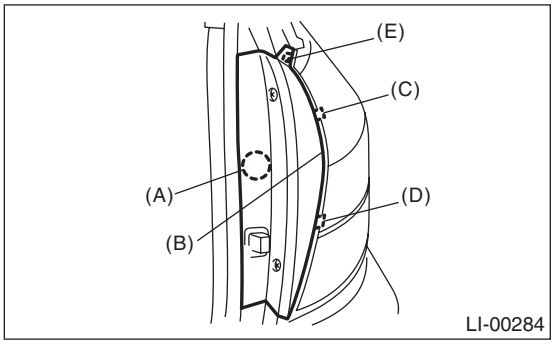



### 2. WAGON MODEL

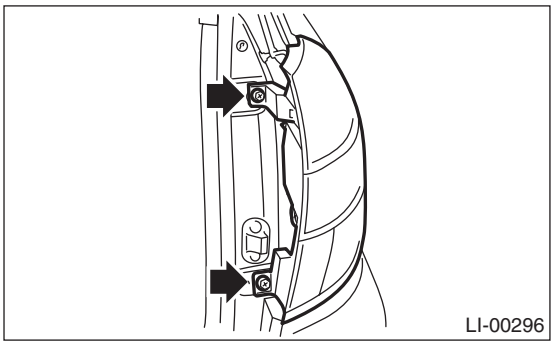
1) Disconnect the ground cable from battery.
2) Remove the clip.




3) While pressing the section (A), insert your finger or a flat-tip screwdriver wrapped with tape into the clearance (B) to remove claws in the order of (C), (D), (E), and remove the rear combination cover.




4) Remove the two bolts, and then detach the rear combination light by pulling it to the rear side of vehicle.




5) After turning the sockets of the tail/stop light bulbs and rear turn signal light bulbs, remove the rear combination light.

## B: INSTALLATION

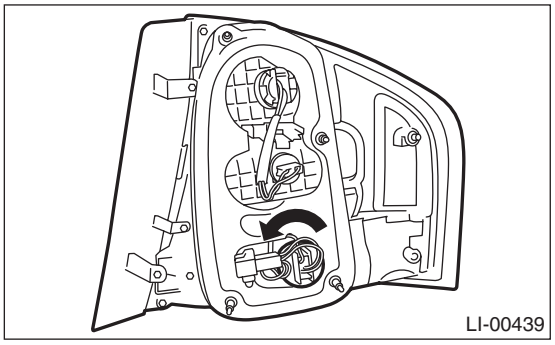
Install in the reverse order of removal.

# 20.Tail/Stop Light Bulb

## A: REMOVAL

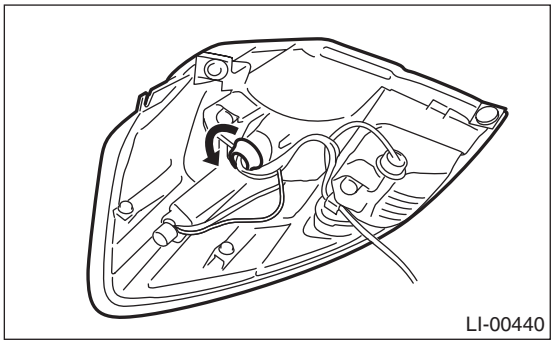
### 1. SEDAN MODEL

1) Remove the trunk side trim cover.
2) Turn the socket and remove the bulb.




### 2. WAGON MODEL

1) Remove the rear combination light assembly. <Ref. to LI-23, WAGON MODEL, REMOVAL, Rear Combination Light Assembly.>
2) Turn the socket and remove the bulb.




## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

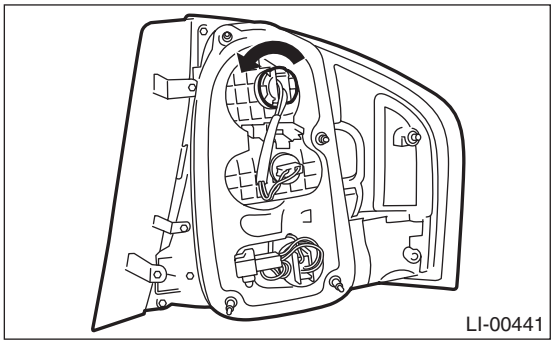
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

# 21.Rear Turn Signal Light Bulb

## A: REMOVAL

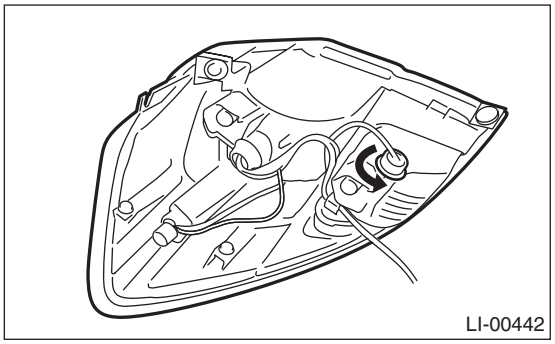
### 1. SEDAN MODEL

1) Remove the trunk side trim cover.
2) Turn the socket and remove the bulb.




### 2. WAGON MODEL

1) Remove the rear combination light assembly. <Ref. to LI-23, WAGON MODEL, 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 part.

# 22.Rear Side Marker Light Bulb

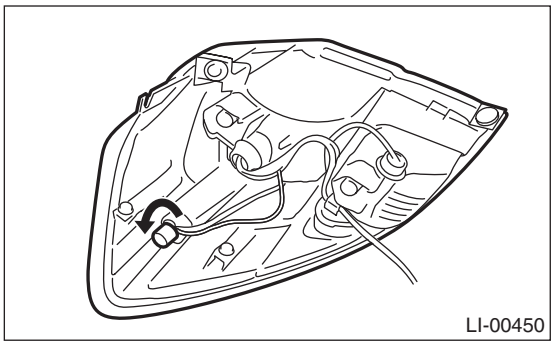
## A: REMOVAL

### 1. SEDAN MODEL

The rear side marker light bulb is integrated into the tail/stop light bulb as a single unit. <Ref. to LI-24, SEDAN MODEL, REMOVAL, Tail/Stop Light Bulb.>

### 2. WAGON MODEL

1) Remove the rear combination light assembly. <Ref. to LI-23, WAGON MODEL, 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 part.

# 23.Back-up Light Assembly

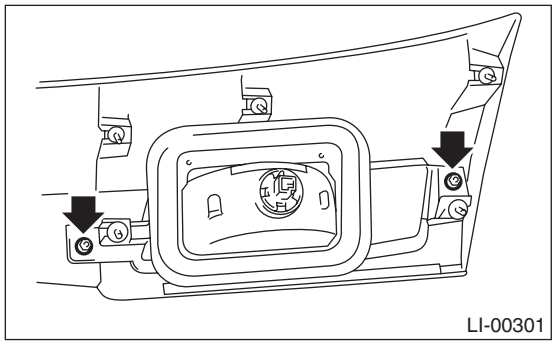
## A: REMOVAL

### 1. SEDAN MODEL

Remove the rear combination light. <Ref. to LI-23, REMOVAL, Rear Combination Light Assembly.>

### 2. WAGON MODEL

1) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
2) Disconnect the harness connector and remove the rear gate garnish. <Ref. to EI-72, REMOVAL, Rear Gate Garnish.>
3) Remove the attachment nuts and remove the back-up light assembly.




## B: INSTALLATION

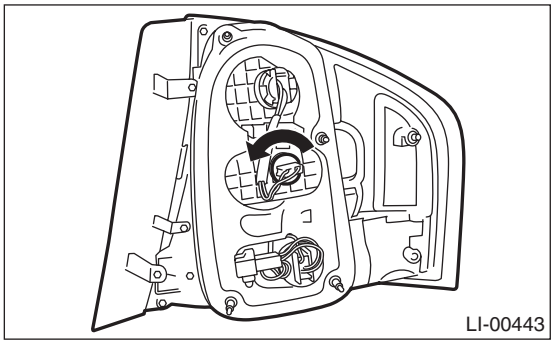
Install in the reverse order of removal.

# 24.Back-up Light Bulb

## A: REMOVAL

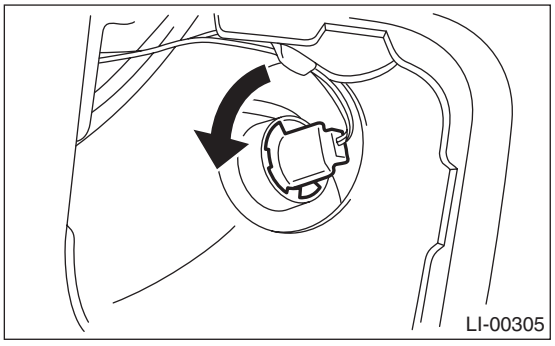
### 1. SEDAN MODEL

1) Remove the trunk side trim cover.
2) Turn the socket and remove the bulb.




### 2. WAGON MODEL

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

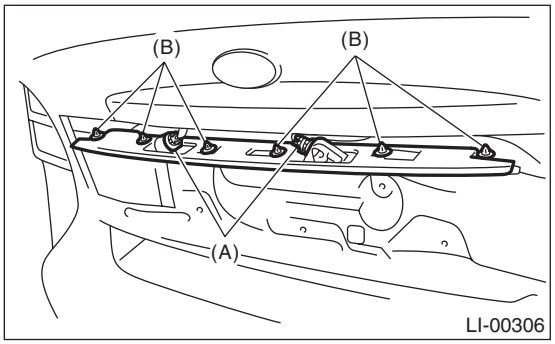
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

# 25.License Plate Light Assembly

## A: REMOVAL

### 1. SEDAN MODEL

1) Remove the trunk lid garnish. <Ref. to EI-71, REMOVAL, Trunk Lid Garnish.>
2) Remove the trunk lid trim. <Ref. to EI-67, TRUNK LID TRIM, REMOVAL, Trunk Room Trim.>
3) Turn and remove the bulb socket (A). Disengage clip (B) and remove the license plate light assembly.




## B: INSTALLATION

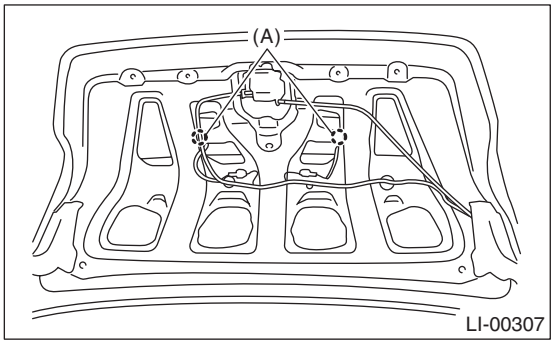
Install in the reverse order of removal.

# 26.License Plate Light

## A: REMOVAL

### 1. SEDAN MODEL

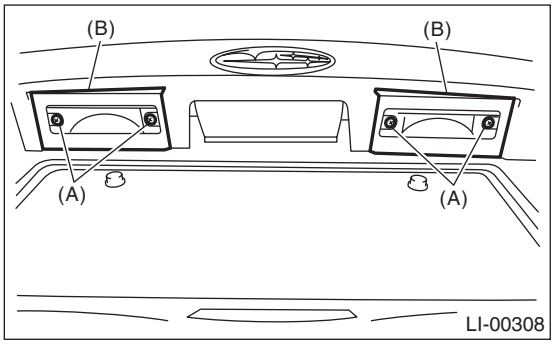
1) Remove the trunk lid trim. <Ref. to EI-67, TRUNK LID TRIM, REMOVAL, Trunk Room Trim.>
2) Turn and remove the bulb socket (A).




3) Remove the bulb.

### 2. WAGON MODEL

1) Remove the license plate light mounting screw (A) and then remove the lens (B).




2) Remove the bulb.

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

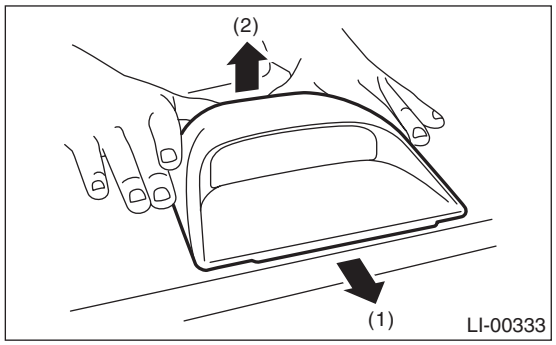
1) Visually check the bulb for blow out.
2) Check the bulb specification. <Ref. to LI-2, SPECIFICATION, General Description.>
3) If NG, replace the bulb with a new part.

# 27.High-mounted Stop Light

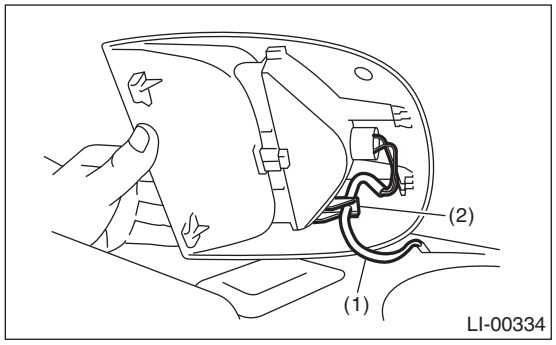
## A: REMOVAL

### 1. SEDAN MODEL

1) Disconnect the ground cable from battery.
2) Push the high-mounted stop light towards the rear of the vehicle (1), raise the rear end (2) and remove the clips to remove the stop ligt

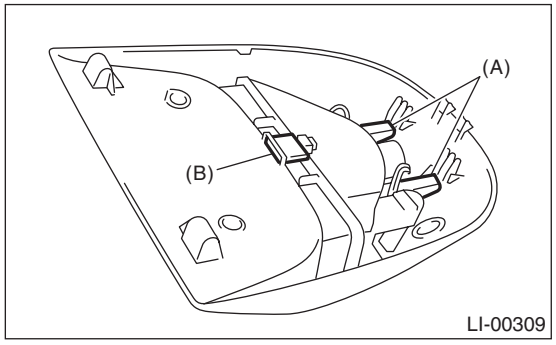



3) Remove the harness from the clamp.

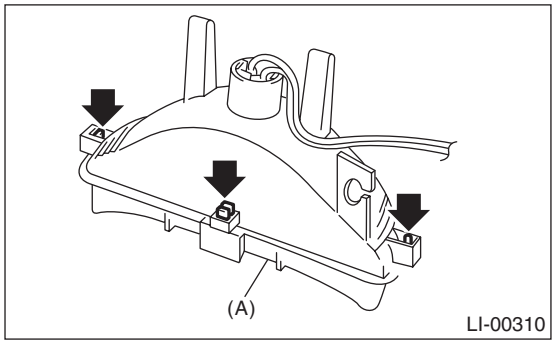



(1) Harness
(2) Clamp

4) Disengage two claws (A), pull out the high-mounted stop light from the cover and remove claw (B).



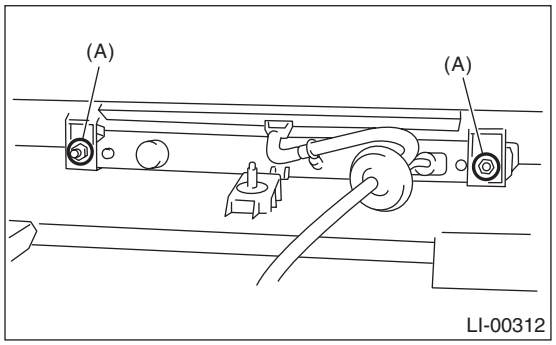

5) Disengage the three claws and remove lens (A).




6) Remove the bulb.

### 2. WAGON MODEL

1) Disconnect the ground cable from battery.
2) Remove the roof spoiler. <Ref. to EI-40, REMOVAL, Roof Spoiler.>
3) Remove the nuts (A), then detach the high-mounted stop light.




## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

### 1. SEDAN MODEL

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. WAGON MODEL

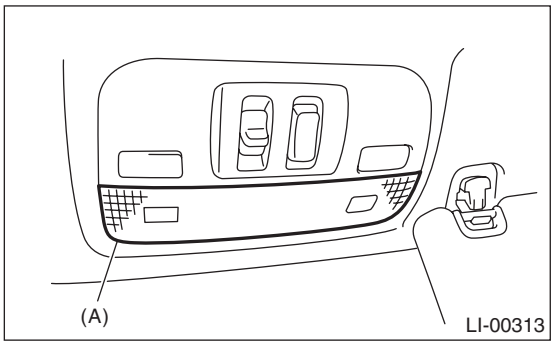
1) Install the high-mounted stop light to test if it illuminates normally.
2) If the high-mounted stop light does not illuminate, replace it with a new part.

NOTE:
Since LED (Light Emitting Diodes) is used for the high-mounted stop light of the wagon model, replace the high-mounted stop light as an assembly when the LED burns out.

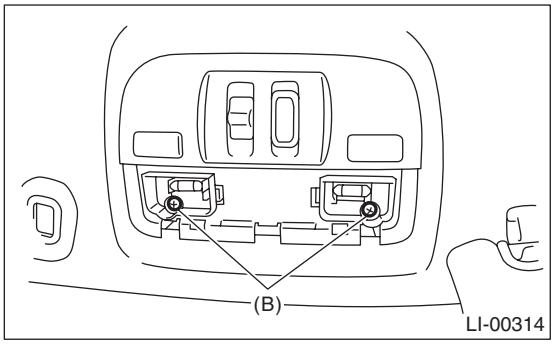
# 28.Spot Map Light

## A: REMOVAL

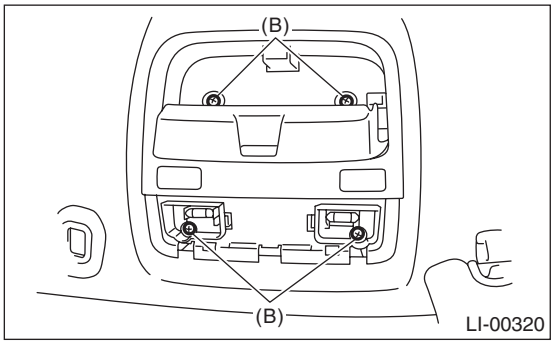
1) Disconnect the ground cable from battery.
2) Remove the lens (A) and spot map light mounting screws (B).




- Model with sunroof




- Models without sunroof




3) 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 part.

### 2. SPOT MAP LIGHT SWITCH

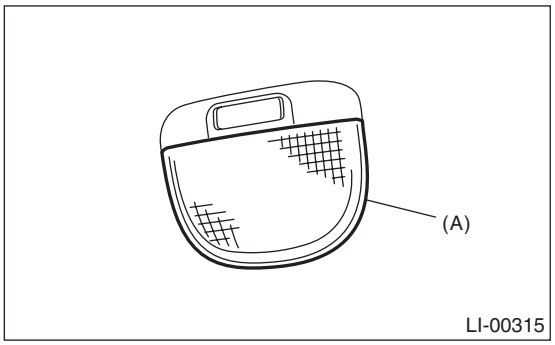
Measure the resistance between spot map light switch terminals.

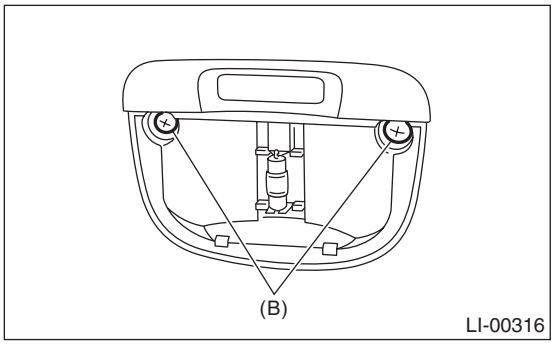
| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | 1 MΩ or more |
| ON | 1 and 2 | 18±5.4 Ω |

# 29.Room Light

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the lens (A) and mounting screws (B).




3) Disconnect the harness connector and remove the room light.

## B: INSTALLATION

Install in the reverse order of removal.

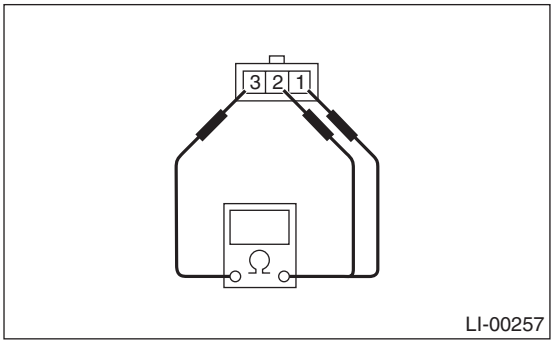
## C: INSPECTION

### 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 part.

### 2. ROOM LIGHT SWITCH

Measure the resistance between room light switch terminals.

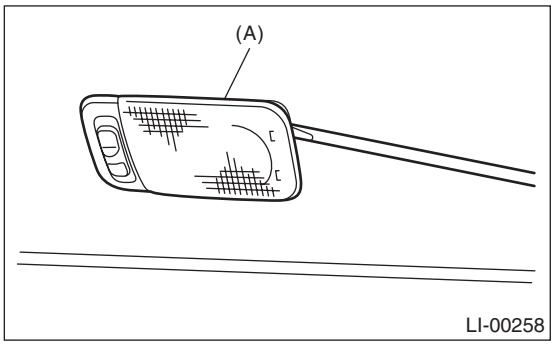



| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | 1 MΩ or more |
| ON | 1 and 3 | 1.5±0.5 Ω |
| DOOR | 2 and 3 | 1.5±0.5 Ω |

# 30.Luggage Room Light

## A: REMOVAL

1) Disconnect the ground cable from 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.

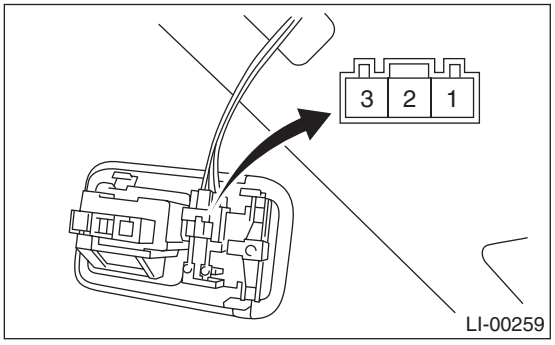
## C: INSPECTION

### 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 part.

### 2. LUGGAGE ROOM LIGHT SWITCH

Measure the resistance between luggage room light switch terminals.

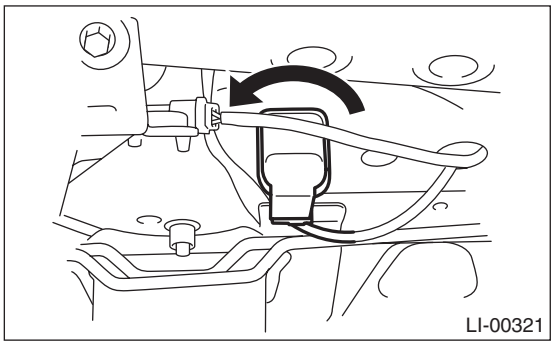



| Switch position | Terminal No. | Standard |
|---|---|---|
| OFF | — | 1 MΩ or more |
| ON | 1 and 2 | 1.5±0.5 Ω |
| DOOR | 2 and 3 | 1.5±0.5 Ω |

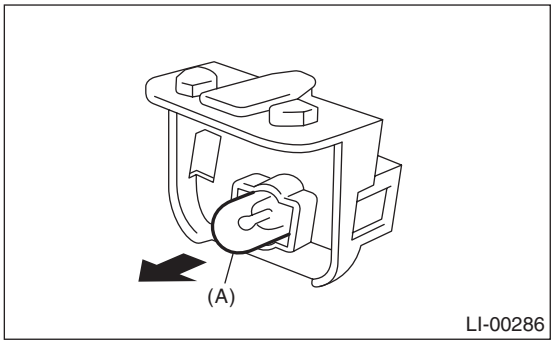
# 31.Trunk Room Light

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Turn the trunk room light counterclockwise 60° to remove it and disconnect the harness connector.




3) Remove bulb (A).




## B: INSTALLATION

Install in the reverse order of removal.

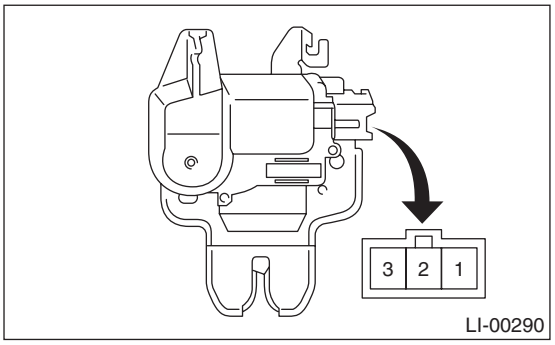
## C: INSPECTION

### 1. TRUNK 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 part.

### 2. TRUNK LID SWITCH (TRUNK ROOM LIGHT SWITCH)

Measure the resistance between trunk lid switch terminals.

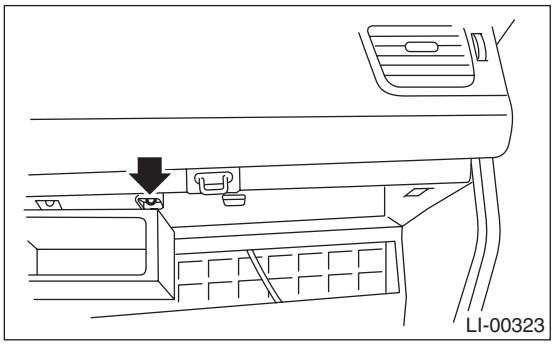



| Trunk lid position | Terminal No. | Standard |
|---|---|---|
| Close | 1 and 3 | 1 MΩ or more |
| Open | | 1.5±0.5 Ω |

# 32.Glove Box Light

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove the glove box. <Ref. to EI-50, REMOVAL, Glove Box.>
3) Disconnect the harness connector.
4) Remove the glove box light.




## B: INSTALLATION

Install in the reverse order of removal.

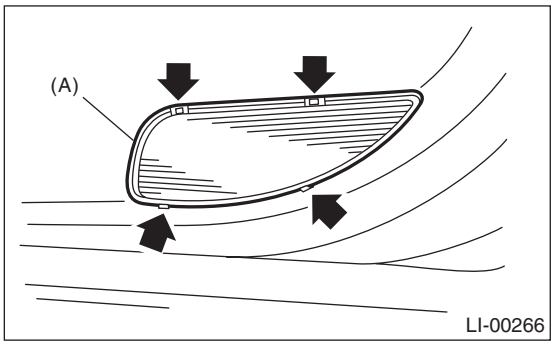
## C: INSPECTION

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 part.

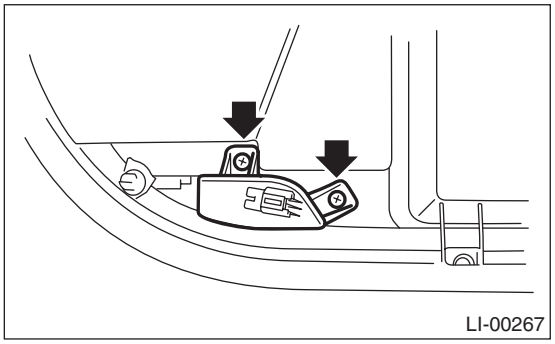
# 33.Door Step Light

## A: REMOVAL

1) Disconnect the ground cable from battery.
2) Remove lens (A), and then remove the door step light bulb.




3) Remove the front door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
4) Disconnect the harness connector.
5) 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.

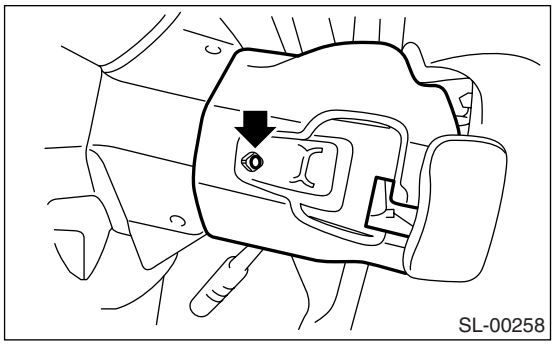
## C: INSPECTION

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 part.

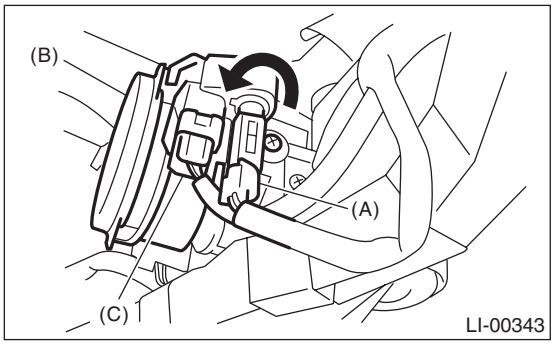
# 34.Ignition Switch Illumination

## A: REMOVAL

1) Disconnect the ground cable from 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.

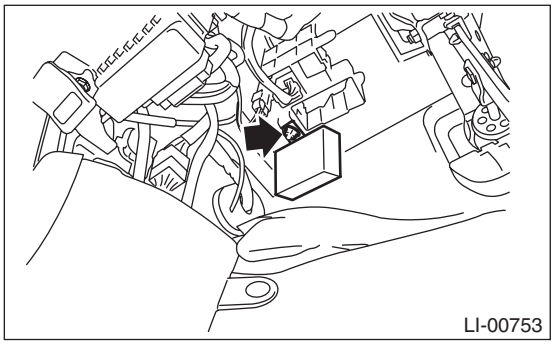
## C: INSPECTION

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK THE IGNITION SWITCH ILLUMINATION.**<br>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.**<br>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-20, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.> |

# 35.Day Time Running Lamp Unit

## A: REMOVAL

1) Remove the instrument panel lower cover. <Ref. to EI-49, 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.

# WIPER AND WASHER SYSTEMS

WW


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Wiper and Washer System | 5 |
| 3. | Combination Switch (Wiper) | 6 |
| 4. | Wiper Blade | 9 |
| 5. | Washer Tank and Motor | 11 |
| 6. | Front Wiper Arm | 12 |
| 7. | Front Wiper Motor and Link | 13 |
| 8. | Front Washer Nozzle | 14 |
| 9. | Rear Wiper Arm | 15 |
| 10. | Rear Wiper Motor | 16 |
| 11. | Rear Washer | 17 |

# 1. Basic Diagnostic Procedure

## A: PROCEDURE

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK WARNING LIGHT.**<br>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.**<br>1) Turn the ignition switch to OFF.<br>2) Connect the Subaru Select Monitor to the data link connector.<br>3) Turn the ignition switch to ON, and run the Subaru Select Monitor.<br>4) Read the DTC. <Ref. to OD(diag)-19, OPERATION, Read Diagnostic Trouble Code (DTC).><br>NOTE:<br>If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to AB(diag)-33, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.><br>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)-40, Airbag Warning Light Failure.> |
| 3 | **PERFORM DIAGNOSIS.**<br>1) Determine the possible cause from “List of Diagnostic Trouble Code”. <Ref. to OD(diag)-24, List of Diagnostic Trouble Code (DTC).><br>2) Inspect the DTC using “List of Diagnostic Trouble Code (DTC)”.<br>3) Repair the trouble cause.<br>4) Perform the Clear Memory Mode. <Ref. to OD(diag)-21, Clear Memory Mode.><br>5) Perform the Inspection Mode. <Ref. to OD(diag)-20, Inspection Mode.><br>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<br>miles | V.I.N. | |
| Date problem occurred | / / | Registration year | / / |
| Weather | ❑ Fine<br>❑ Cloudy<br>❑ Rainy<br>❑ Snowy<br>❑ Others: | | |
| Temperature | °C ( °F) | | |
| Road condition | ❑ Flat road<br>❑ Uphill<br>❑ Downhill<br>❑ Gravel road<br>❑ Others: | | |
| Vehicle operation | ❑ Starting<br>❑ Idling<br>❑ Driving<br>❑ Constant speed<br>❑ Accelerating<br>❑ Decelerating<br>❑ Turning<br>❑ Others: | | |
| Details of problem | | | |
| Airbag warning light operation | ❑ Normal (After turning the ignition switch to ON, illuminates for 6 seconds then goes off.)<br>❑ Remains ON<br>❑ Remains OFF | | |
| Passenger's airbag ON/OFF indicator does not operate. | ❑ Normal (After turning the ignition switch to ON, illuminates for 6 seconds then goes off for 2 seconds; Lights ON (adult) or OFF (children/unoccupied).)<br>❑ Both remain ON<br>❑ Both remain OFF | | |
| DTC output | ❑ OK code<br>❑ DTC: (Code: ) | | |

# 3. General Description

## A: CAUTION

1) If the seat cushion cover is removed or replaced, make sure to perform passenger 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 passenger detection system.
2) The passenger detection system (passenger seat only) control unit and the passenger detection sensor are fixed to the seat cushion frame. Never remove the passenger detection control unit or the pressure sensor from the seat cushion frame.
3) 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 passenger detection system may not operate properly.
4) If the seat cushion cover is removed, make sure to replace the hang wire on the seat cushion side with a new wire.
5) Never connect the battery in reverse polarity.
Occupant detection system may be destroyed instantly.
6) Do not disconnect the battery terminals while the engine is running.
A large counter electromotive force will be generated in the generator, and this voltage may damage electronic parts such as occupant detection control module.
7) Before disconnecting the connectors of each sensor and control module, be sure to turn the ignition switch to OFF and wait for 20 seconds or more.
Occupant detection control module may be damaged.
8) All passenger detection system parts are precision components. Do not drop them.

**CAUTION:**
**• Do not use electrical test equipment on the airbag system wiring harness and connector circuit.**
**• 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***

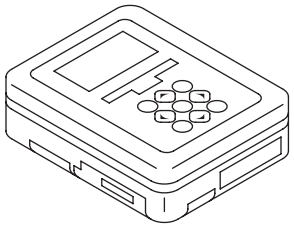
***Specific gravity:***
***1.260 or more***

***Fluid level:***
***Between the upper level and lower level***

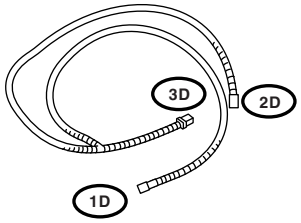
# C: PREPARATION TOOL

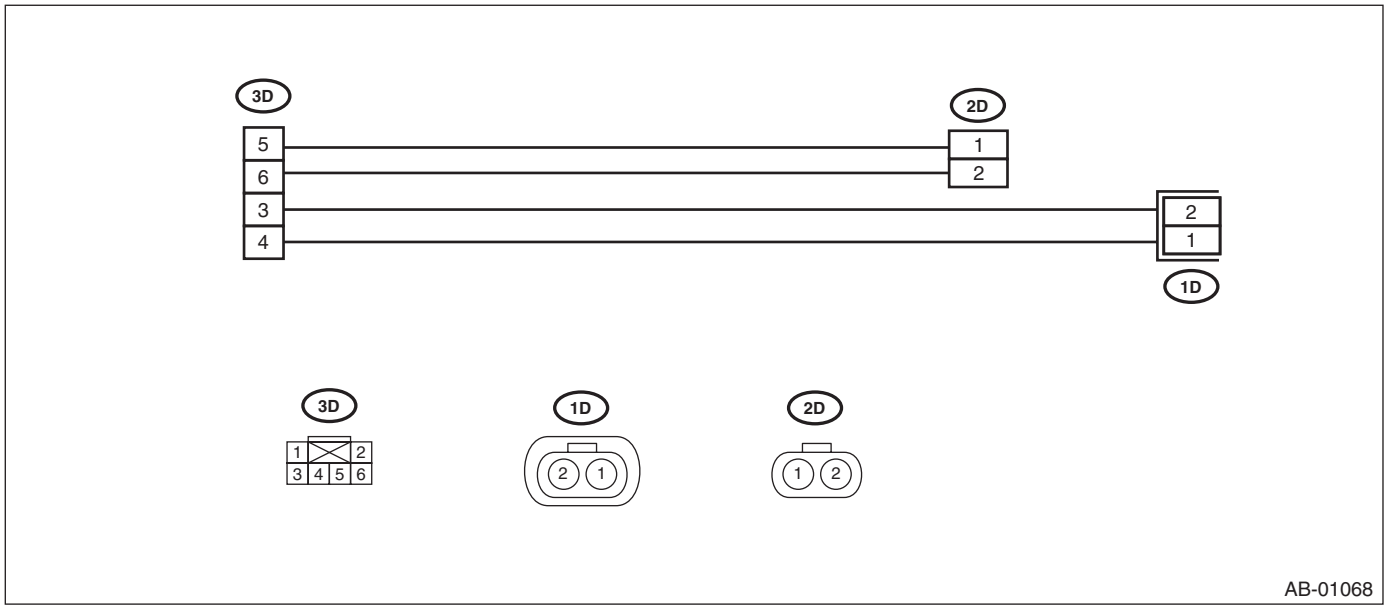
**CAUTION:**
**To measure the voltage and resistance of airbag system and occupant detection system components, be sure to use the specified test harness.**

## 1. SPECIAL TOOL

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST1B020XU0 | 1B020XU0 | SUBARU SELECT MONITOR KIT | Used for troubleshooting the electrical system. |

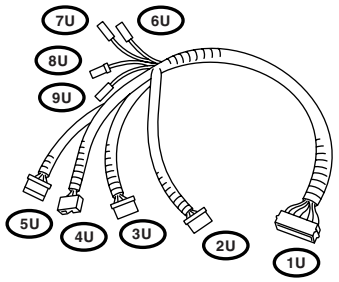
- TEST HARNESS D

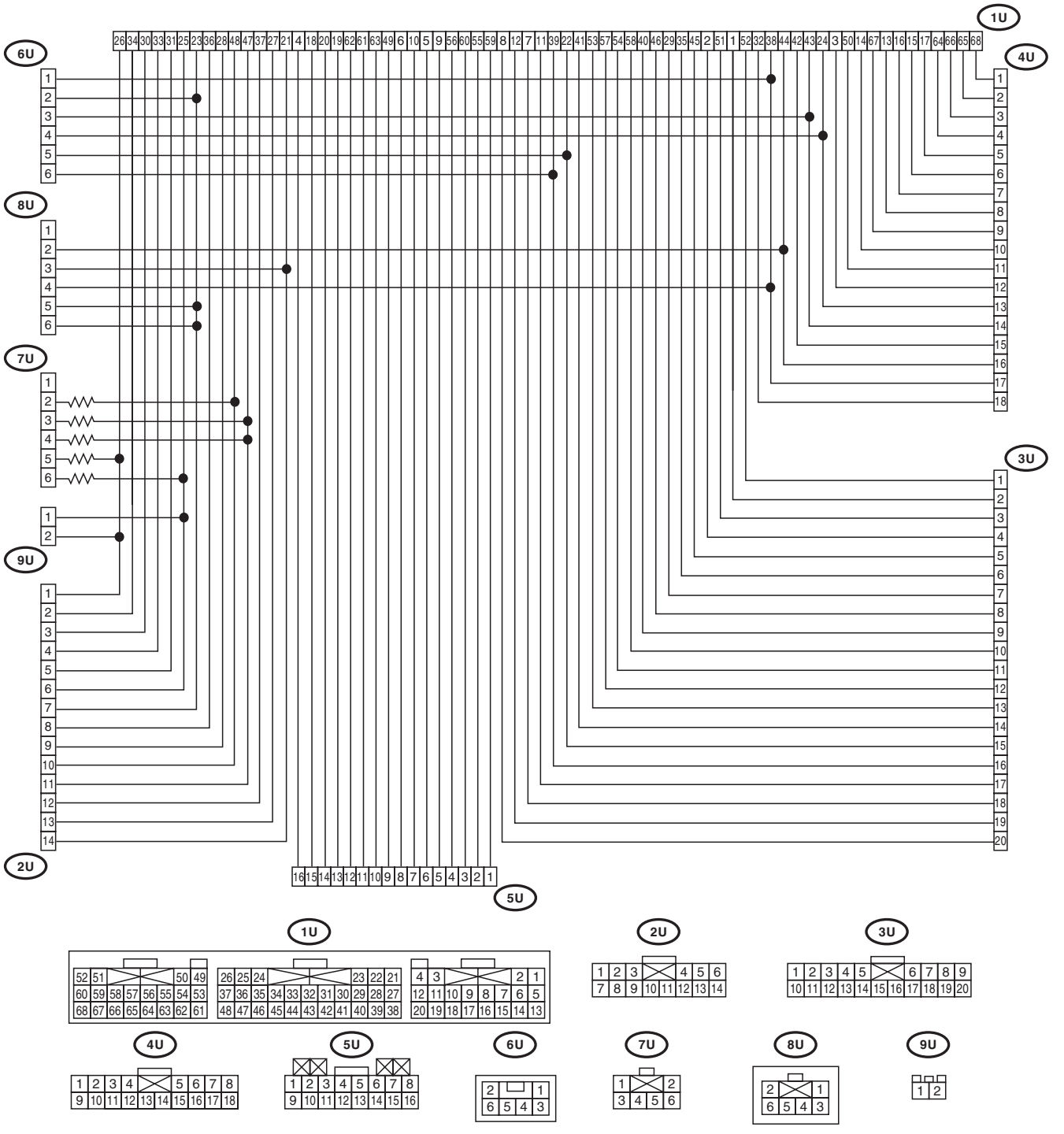
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|   ST98299AG060 | 98299AG060 | TEST HARNESS D | Used when measuring voltage and resistance of the front seat belt buckle switch. |



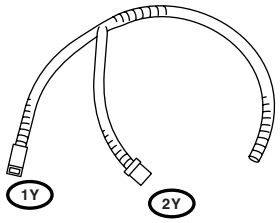
AB-01068

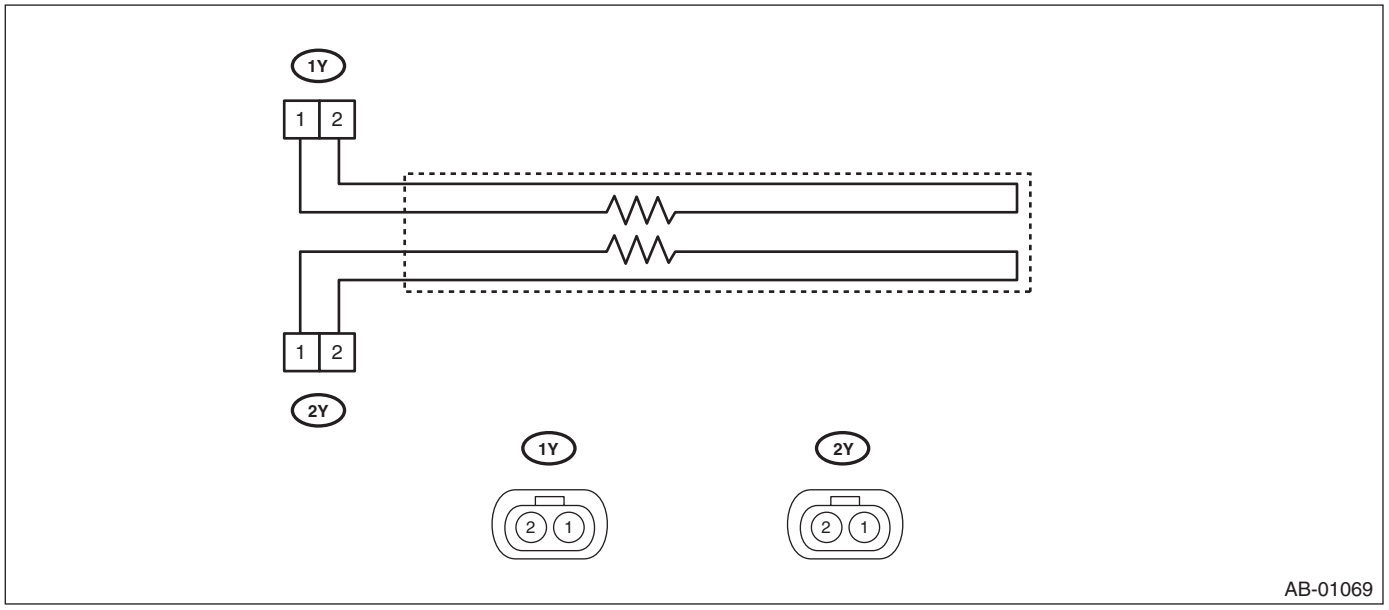
- TEST HARNESS U

| 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

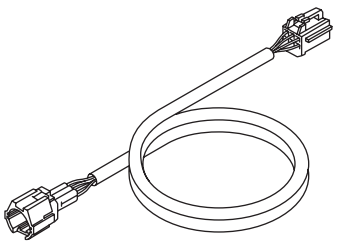
- TEST HARNESS Y

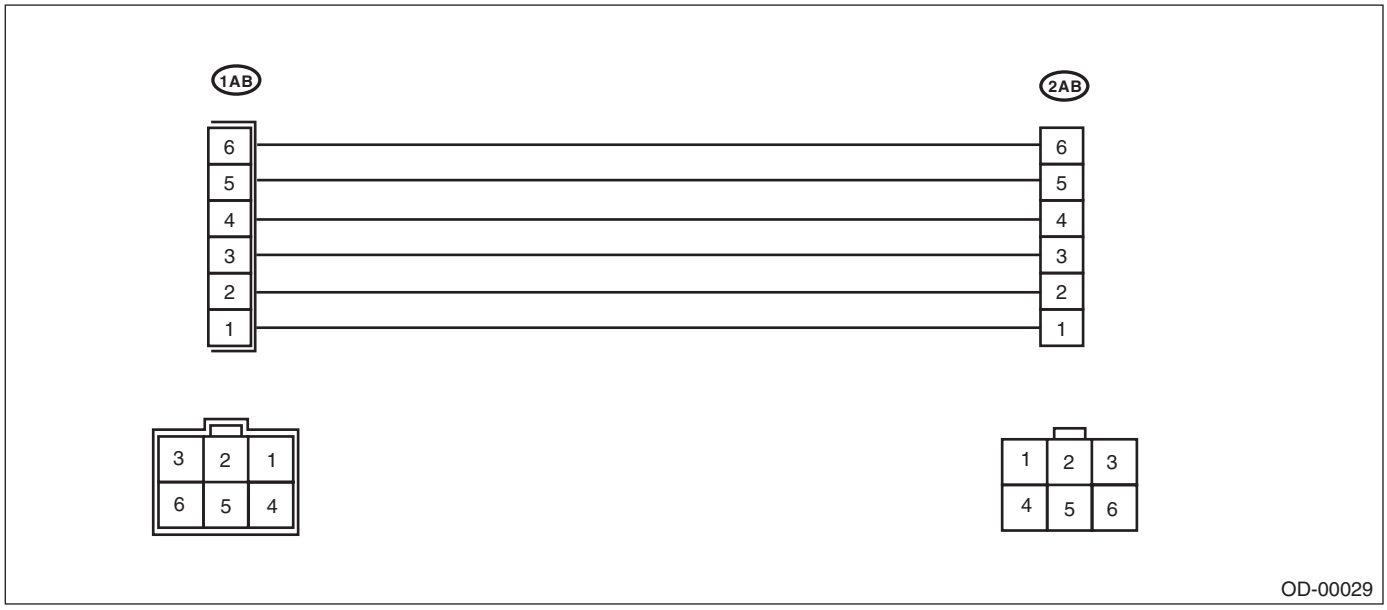
| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299AG040 | 28299AG040 | TEST HARNESS Y | Used for diagnosing seat belt buckle switch. |



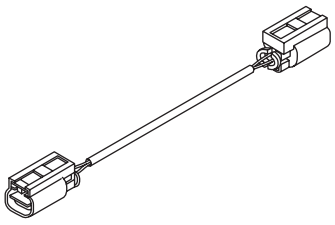
AB-01069

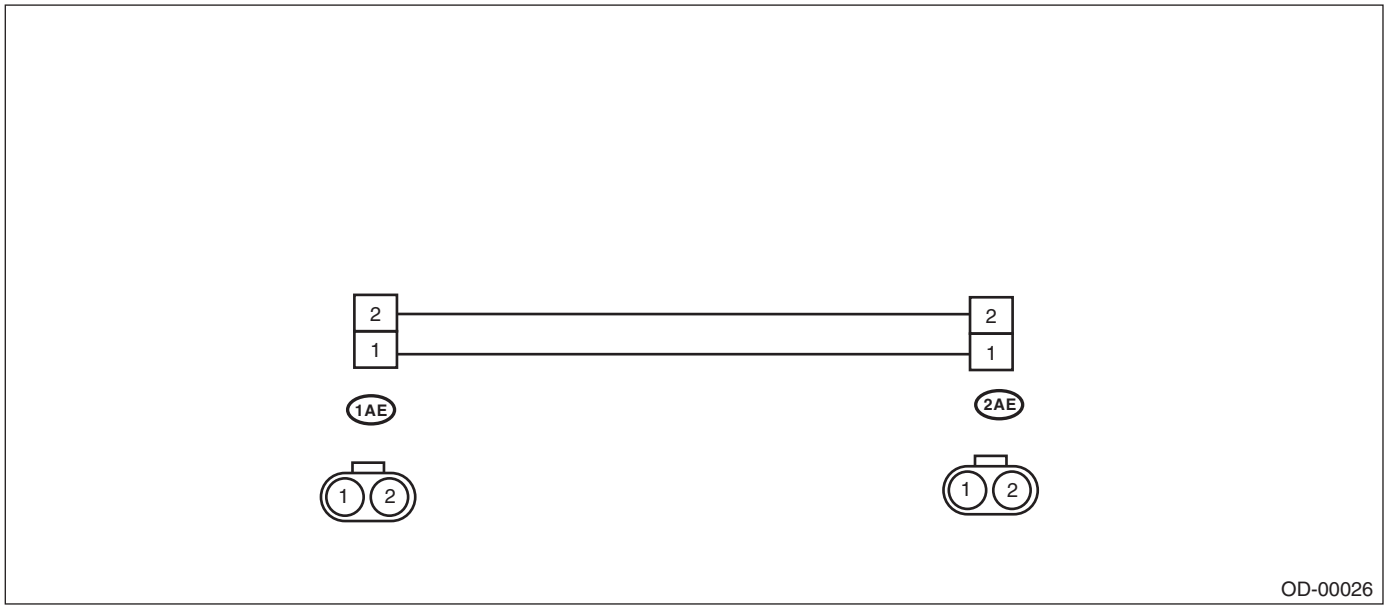
- TEST HARNESS AB

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

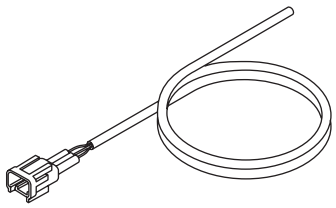


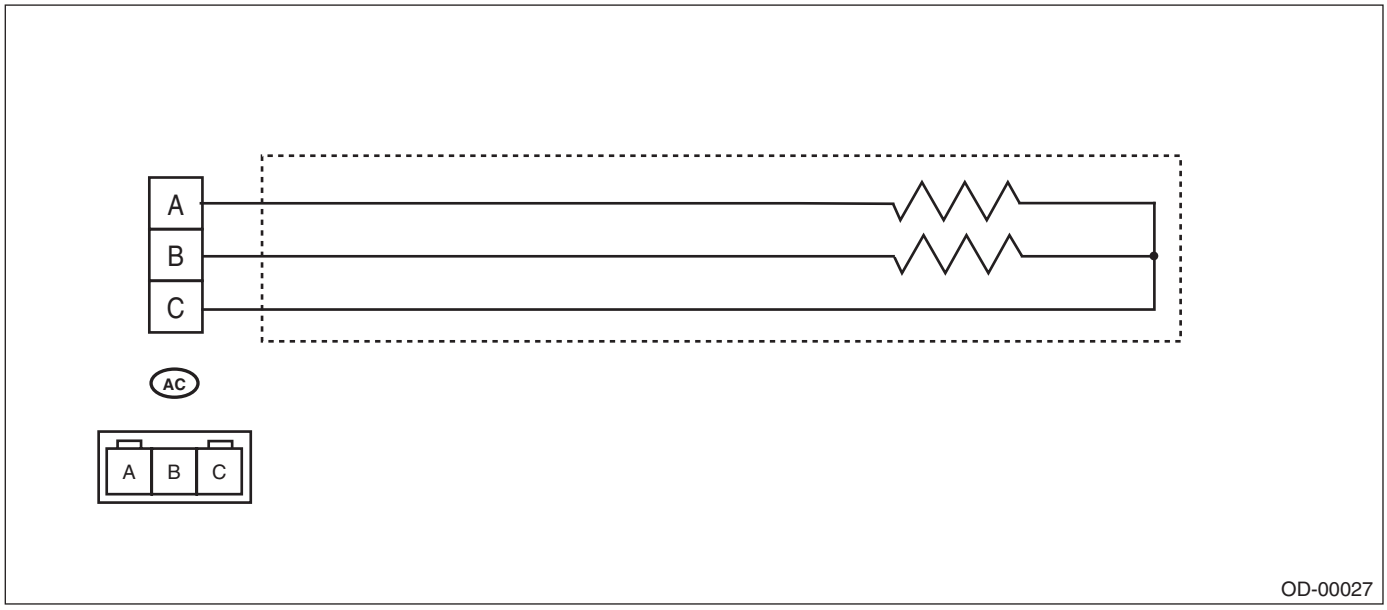
- TEST HARNESS AE

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST98299XA030 | 98299XA030 | TEST HARNESS AE | TEST HARNESS Y ADAPTER HARNESS<br>Used for diagnosing seat belt buckle switch. |

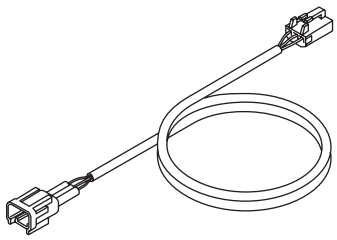


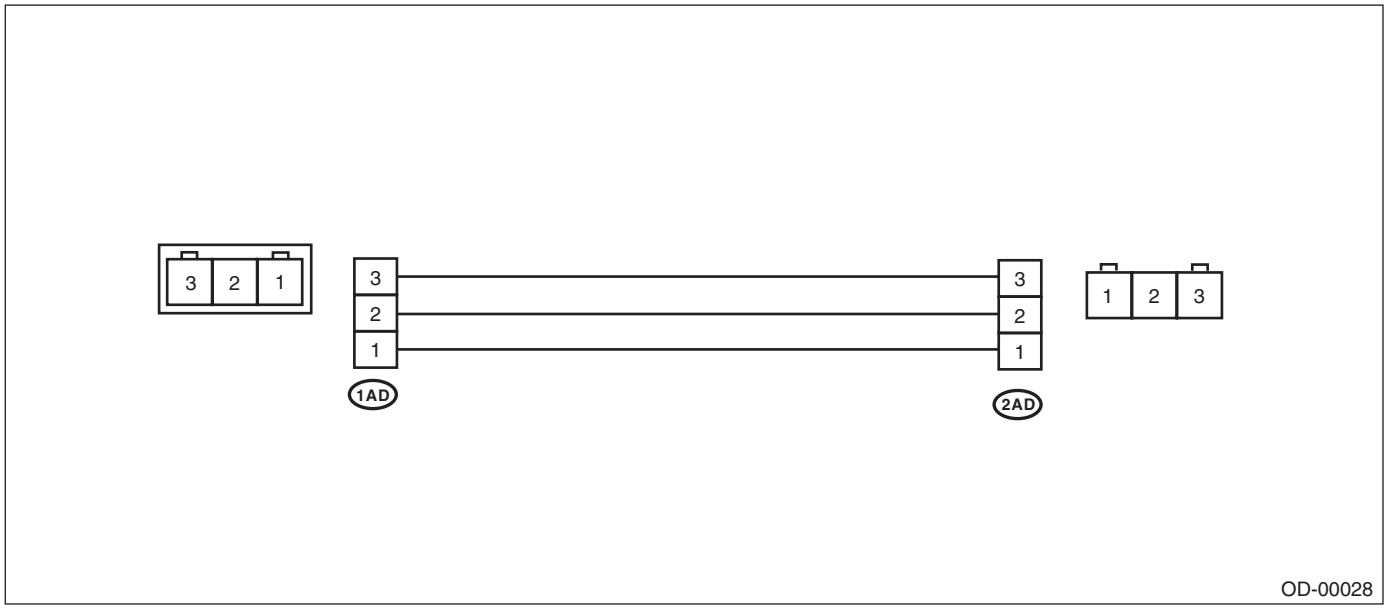
- TEST HARNESS AC

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

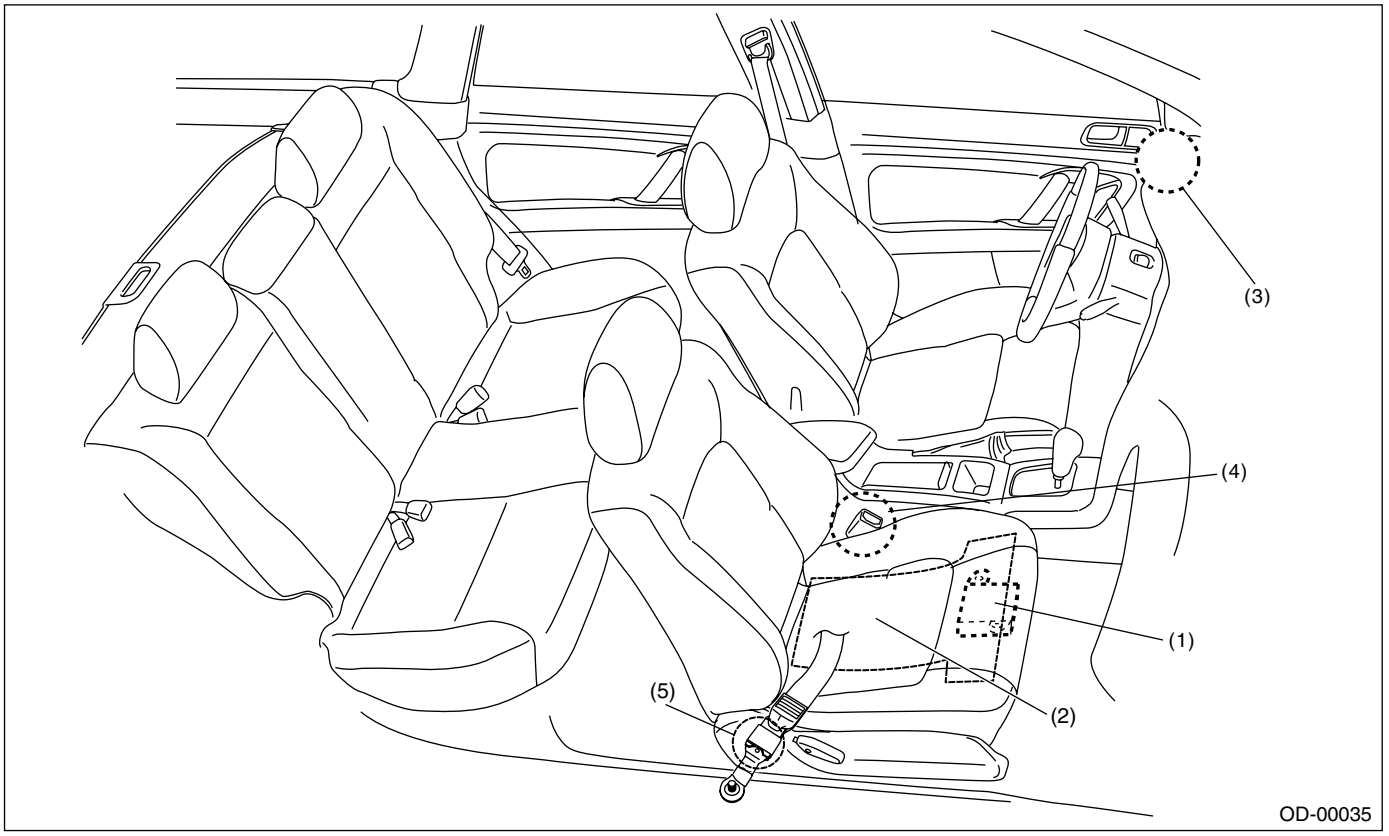



## 2. GENERAL TOOL

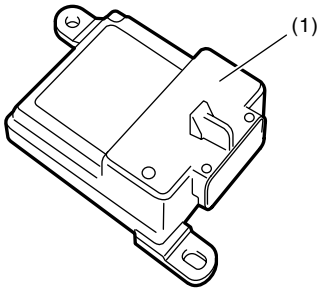
| TOOL NAME | REMARKS |
|---|---|
| Circuit tester | Used for measuring resistance, voltage and current. |

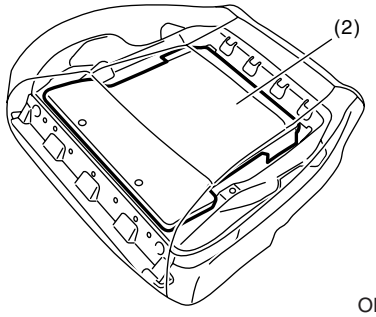
# 4. Electrical Component Location

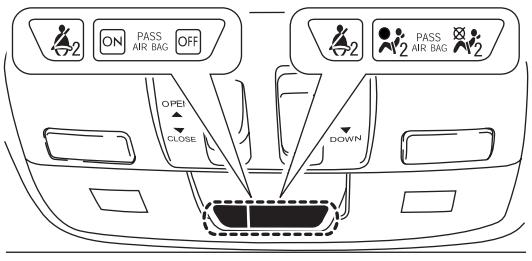
## A: LOCATION

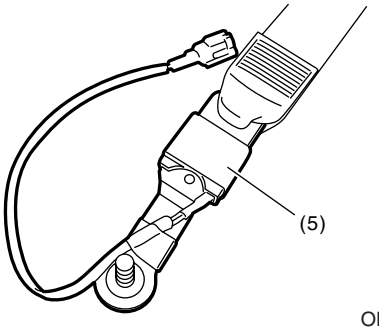



(1) Occupant detection control module
(2) Occupant detection sensor
(3) Airbag ON/OFF indicator light (Map light)
(4) Buckle switch (Passenger's seat)
(5) Seat belt tension sensor



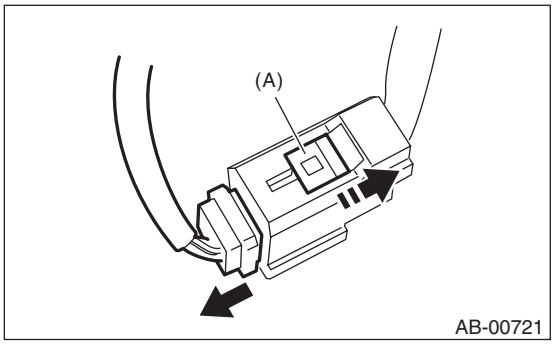



# 5. Airbag Connector

## A: PROCEDURE

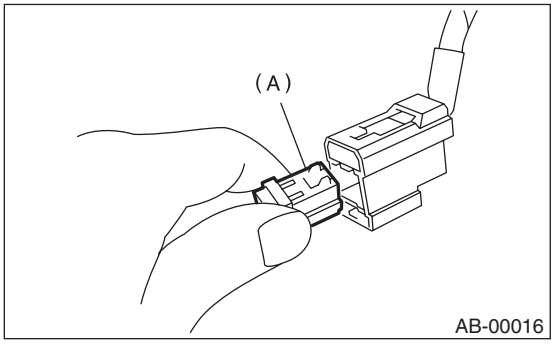
### 1. BUCKLE SWITCH

1) How to disconnect:
(1) Move the slide lock (A) in the direction of arrow.
(2) While holding the slide lock (A) in the 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 tension 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 diagram. <Ref. to WI-126, WIRING DIAGRAM, Seat Belt Warning 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)-31, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.>

NOTE:
• For details concerning operation procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.
• For details concerning DTCs, refer to the “List of Diagnostic Trouble Code (Airbag system, Occupant detection system)”. <Ref. to AB(diag)-45, 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 the 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 the {Airbag System}.
3) On the «Airbag System» display screen, select the {Status Data}.
The following table is for support data.

| Contents | 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 airbag operating state
*11: Passenger’s airbag non-operating state

NOTE:
For details concerning operation procedures, refer to the “SUBARU SELECT MONITOR OPERATION MANUAL”.

## 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» display screen, select the {Airbag System}.
3) On the {Airbag System} menu screen, select the {Clear Memory}.
4) When the "Clear Memory?" is shown on the screen, select the [OK].
5) When Done is displayed, turn the ignition switch to OFF and close the Subaru Select Monitor.

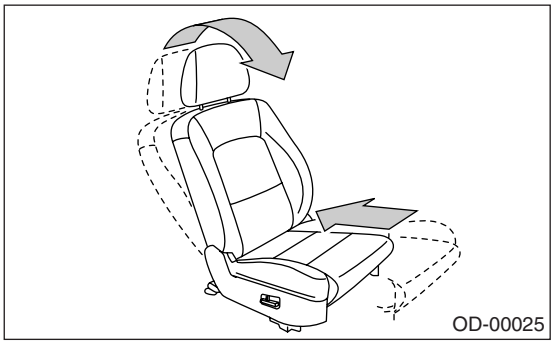
NOTE:
For details concerning operation procedures, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".

## 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» display screen, select the {Occupant Detection System}.
4) On the {Occupant Detection System} display screen, select the {Zero Point Adjustment}.
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 fully upright. (For models with power seats, press the power seat button until the backrest comes to a stop.)
• Adjust the seat slide position all the way back. (For models with power seats, press the power seat button until the seat slide does not move any further.)
• Do not place anything on the top of the seat cushion.
• Sit on the seat cushion to smooth the seat surface.
• Check that the passenger's seat belt is not inserted into the buckle, not tense or not stuck.
• Check that ambient temperature is in a range from 0 to 40°C.
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«Re-zeroing 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 «Re-zeroing is unsuccessful See service manual Press OK to END» is displayed, turn the ignition switch to OFF once and turn it ON again, then read the DTC of the airbag system. <Ref. to AB(diag)-31, READ DIAGNOSTIC TROUBLE CODE (DTC), 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 the airbag system, and perform the diagnosis while referring to "List of Diagnostic Trouble Code". <Ref. to AB(diag)-31, READ DIAGNOSTIC TROUBLE CODE (DTC), OPERATION, Subaru Select Monitor.> <Ref. to AB(diag)-45, 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)-33, 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.

NOTE:
- For detailed operation procedures, refer to "Airbag Warning Light Failure". <Ref. to AB(diag)-40, Airbag Warning Light Failure.>
- When the airbag warning light is OFF and "NO TROUBLE CODE" is displayed on Subaru Select Monitor, the system is operating properly.

# 8. Read Diagnostic Trouble Code (DTC)

## A: OPERATION

For details on reading DTCs, refer to “Airbag System (Diagnosis) Subaru Select Monitor”. <Ref. to AB(diag)-31, Subaru Select Monitor.>

# 9. Inspection Mode

## A: PROCEDURE

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

# 10.Clear Memory Mode

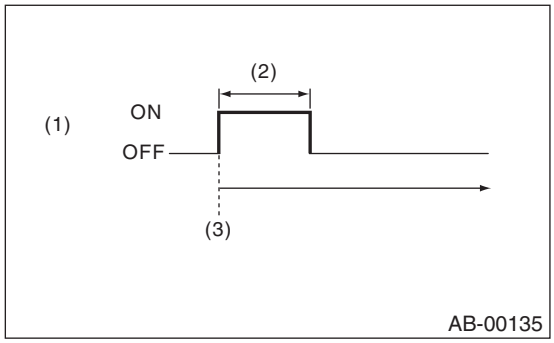
## A: OPERATION

• Clear the memory in the following steps after the malfunction is repaired.
• For details to clear the DTC, refer to “Airbag System (Diagnosis) Subaru Select Monitor”. <Ref. to AB(diag)-31, Subaru Select Monitor.>

# 11.Airbag Warning Light Illumination Pattern

## A: INSPECTION

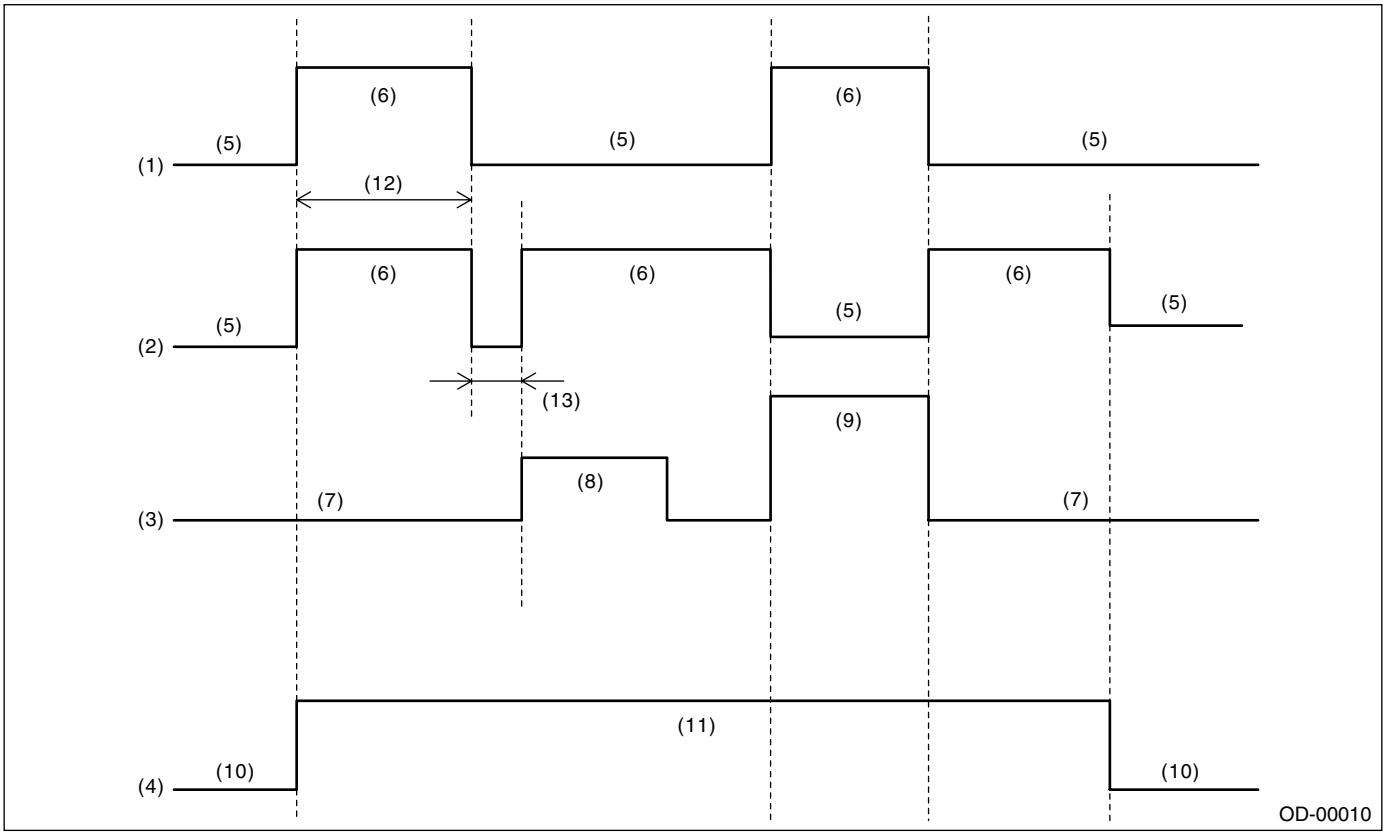
Turn the ignition switch to ON, and confirm that the airbag warning light remains on for approx. 6 seconds and then goes off afterwards.




(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 | Diagnosis content | Reference |
|---|---|---|---|
| 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.<br>• Wrong occupant detection system was installed.<br>• 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.<br>• Airbag main harness circuit is open or shorted.<br>• Occupant detection system is faulty.<br>• Occupant detection harness is faulty. | <Ref. to OD(diag)-26, DTC 2C BELTTANTION SENSOR FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 27 | ODS Communication Error | • Occupant detection control module and airbag control module communication is faulty.<br>• Airbag rear harness circuit is open, shorted, shorted to ground or shorted to power supply.<br>• Occupant detection harness is faulty.<br>• Occupant detection system is faulty.<br>• Airbag control module is faulty. | <Ref. to OD(diag)-28, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> |
| 29 | ODS Failure | • Occupant detection sensor is faulty.<br>• Occupant detection control module is faulty.<br>• Occupant detection harness is faulty.<br>• 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 buckle switch circuit is open, shorted or shorted to ground.<br>• Occupant detection system is faulty.<br>• 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 properly.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **PERFORM RE-ZEROING.**<br>Perform system calibration using the Subaru Select Monitor. <Ref. to OD(diag)-17, SYSTEM CALIBRATION (REZEROING), OPERATION, Subaru Select Monitor.> | Did the system calibration complete properly? | 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.

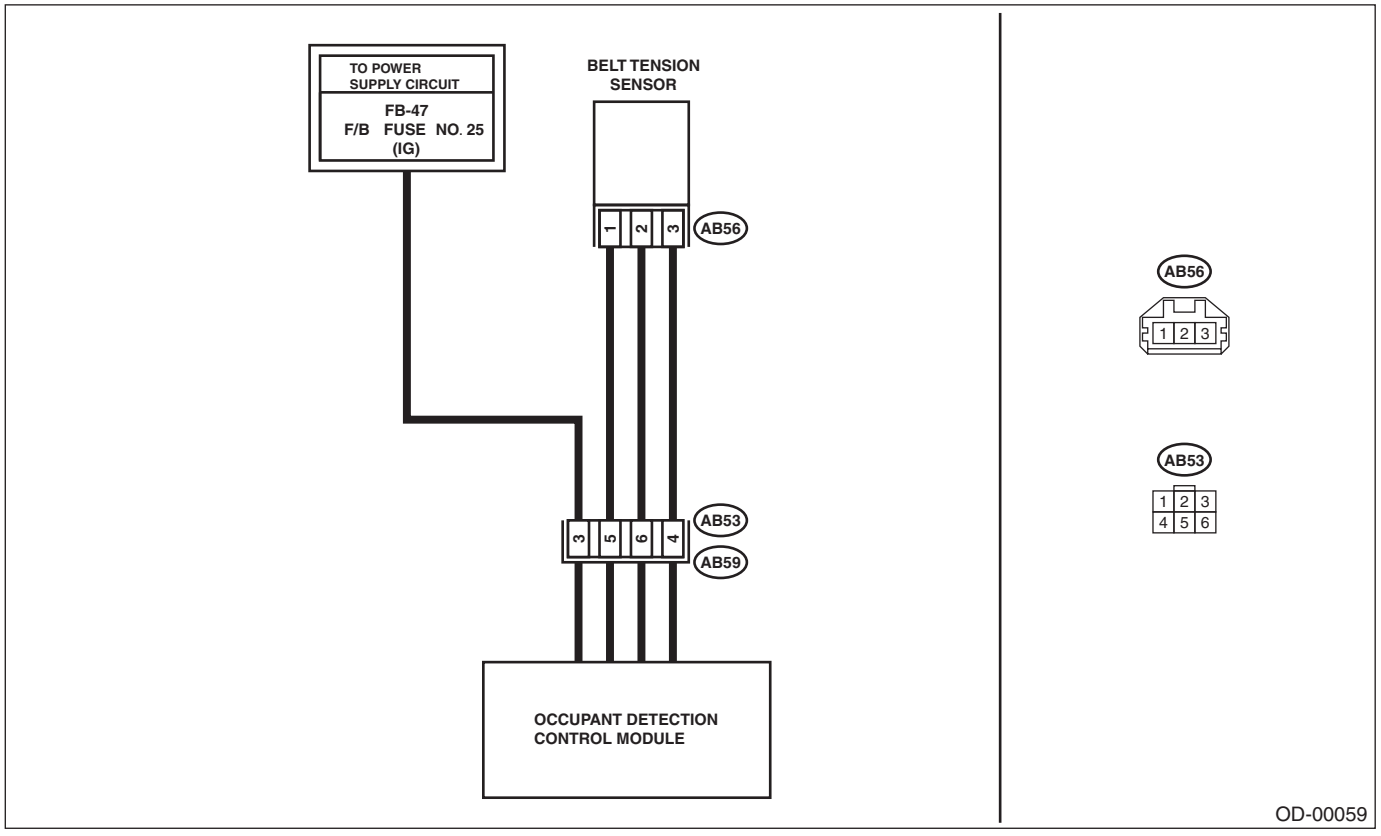
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK OCCUPANT DETECTION SYSTEM.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Replace the passenger's seat frame assembly. <Ref. to SE-9, REMOVAL, Front Seat.> <Ref. to SE-15, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.><br>3) Connect the ground cable to the battery.<br>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.> | Did the system calibration complete properly? | Finish the diagnosis. | Go to step **2**. |
| 2 | **CHECK AIRBAG CONTROL SYSTEM.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Replace the airbag control module. <Ref. to AB-21, REMOVAL, Airbag Control Module.><br>3) Connect the ground cable to the battery.<br>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.> | Did the system calibration complete properly? | Finish the diagnosis. | Check between the occupant detection control module and airbag control module. |

## C: DTC 2C BELTTANTION 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 IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the belt tension sensor connector (AB56) from the airbag harness.<br>3) Connect the test harness AC to the connector (AB56).<br>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-10, OUTER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.> | Go to step **3**. |
| 3 | **CHECK AIRBAG HARNESS.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more.<br>2) Disconnect the test harness AC from the belt tension sensor connector (AB56).<br>3) Connect the test harness AD (1AD) to the connector (AB56).<br>4) Disconnect the airbag harness connector (AB53), and connect connector (1AB) of test harness AB.<br>5) Measure the resistance between test harness terminals.<br>***Connector & terminal***<br>***(2AB) No. 5 — (2AD) No. 1:***<br>***(2AB) No. 4 — (2AD) No. 3:***<br>***(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 AIRBAG HARNESS.**<br>Measure the resistance between test harness terminals, and between test harness terminal and chassis ground.<br>***Connector & terminal***<br>***(2AB) No. 4 — (2AD) No. 1:***<br>***(2AB) No. 4 — (2AD) No. 2:***<br>***(2AB) No. 4 — chassis ground:***<br>***(2AB) No. 5 — (2AD) No. 2:***<br>***(2AB) No. 5 — chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **5**. | Replace the airbag harness along with chassis harness. |
| 5 | **CHECK AIRBAG HARNESS.**<br>1) Connect the battery ground terminal and turn the ignition switch to ON.<br>2) Measure the voltage between test harness and chassis ground.<br>***Connector & terminal***<br>***(2AD) No. 1 — chassis ground:***<br>***(2AD) No. 3 — chassis ground:*** | Is the voltage 1 V or less? | 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-15, DISASSEMBLY, Front Seat.> |

## D: DTC 27 ODS COMMUNICATION ERROR

Perform the diagnosis following diagnostic procedures for the airbag system. <Ref. to AB(diag)-69, 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.

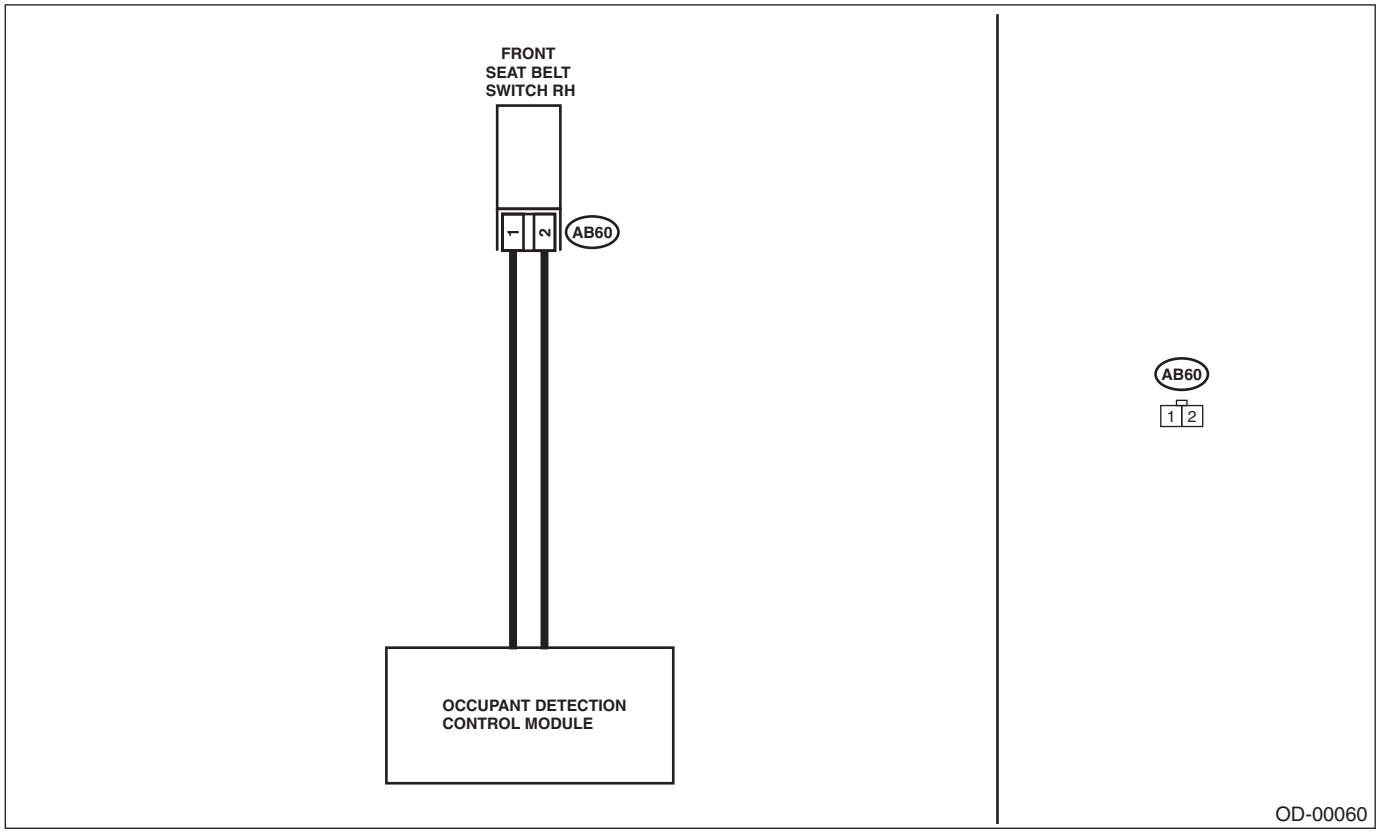
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>Check for poor contact of the connectors between the occupant detection control module and airbag control module. | Is there poor contact? | Reconnect the connector. If the fault is not fixed, replace the airbag harness. | Go to step **2**. |
| 2 | **CHECK DIAGNOSTIC TROUBLE CODE (DTC).**<br>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-15, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.> |

# F: DTC 37 BUCKLE SWITCH RH FAILURE

**DTC DETECTING CONDITION:**

- Passenger's buckle switch circuit is open, shorted or shorted to ground.
- Seat harness circuit is open, shorted or shorted to ground.
- Occupant detection control module is faulty.

**WIRING DIAGRAM:**




| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POOR CONTACT IN CONNECTORS.**<br>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.**<br>1) Turn the ignition switch to OFF, disconnect the battery ground terminal, and wait for 20 seconds.<br>2) Disconnect the buckle switch connector (AB60).<br>3) Connect the test harness AE1 and test harness connector Y to the buckle switch connector (AB60).<br>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-10, 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

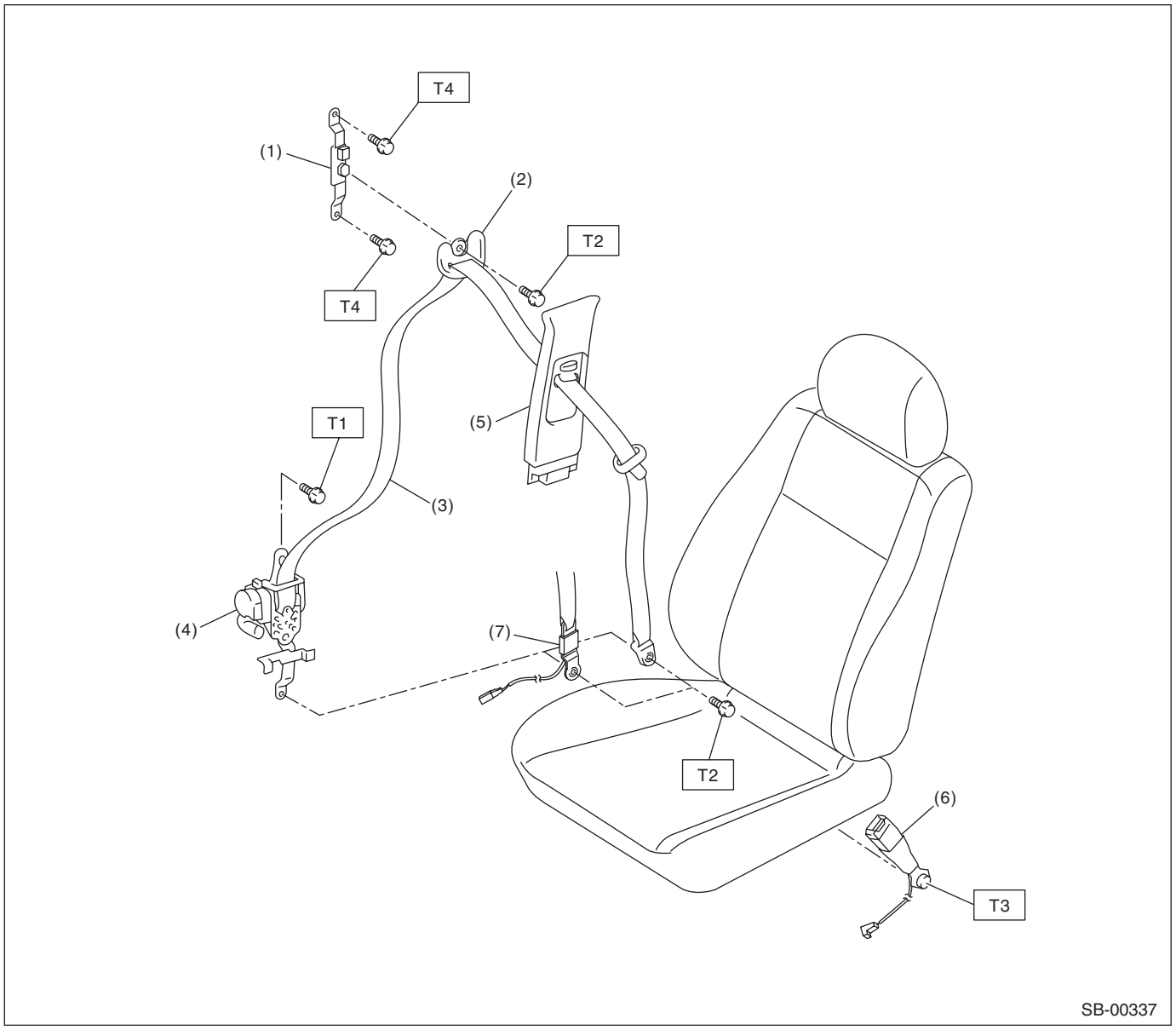

Page

1. General Description .....2
2. Pretensioner Connector .....6
3. Inspection Locations After a Collision .....7
4. Seat Belt Warning System .....8
5. Front Seat Belt .....10
6. Rear Seat Belt .....12

# 1. General Description

## A: COMPONENT

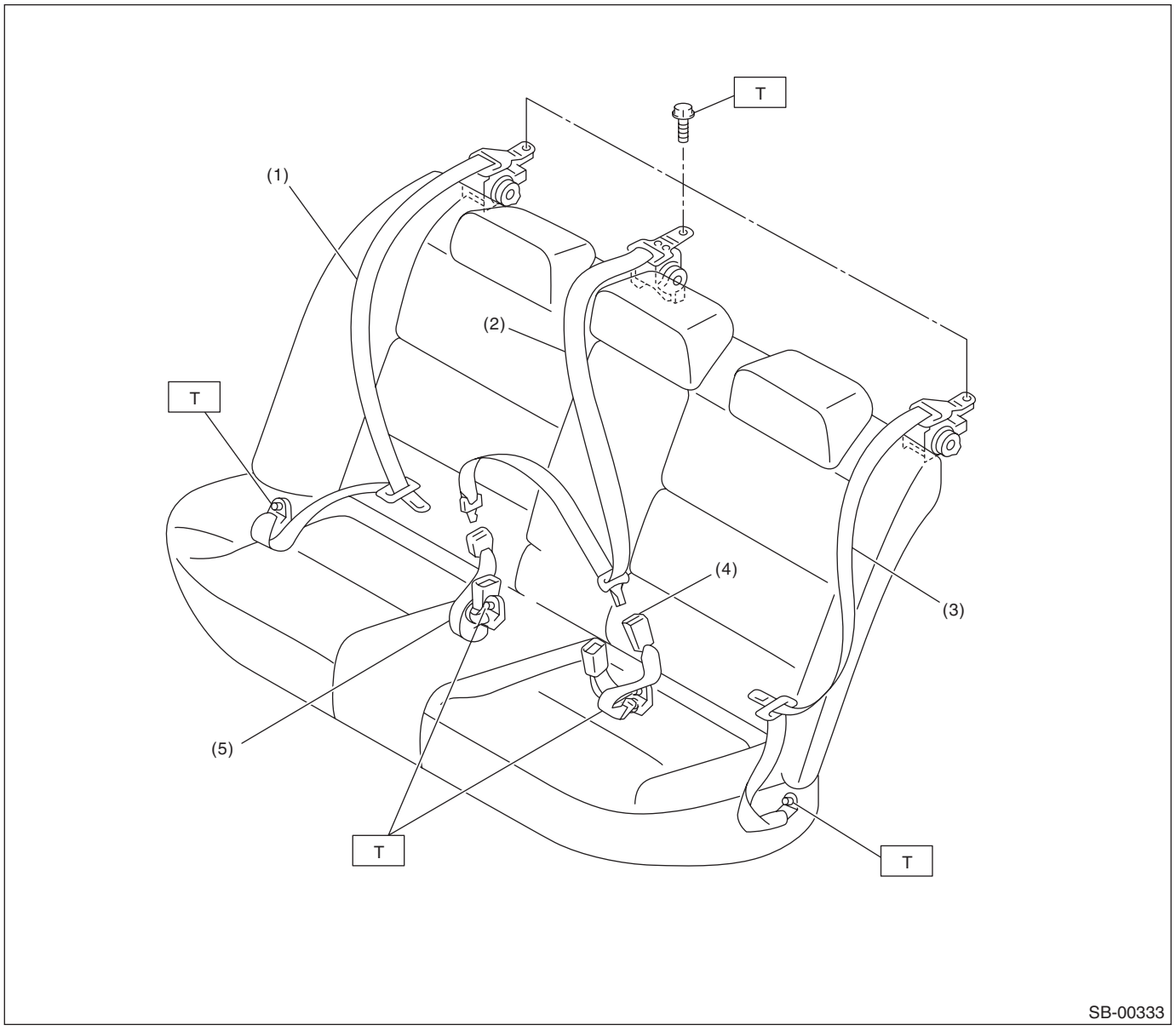
### 1. FRONT SEAT BELT




(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 (Passengers side only)

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 7.5 (0.77, 5.53)***
***T2: 30 (3.1, 22)***
***T3: 38 (3.9, 28)***
***T4: 53 (5.4, 39)***

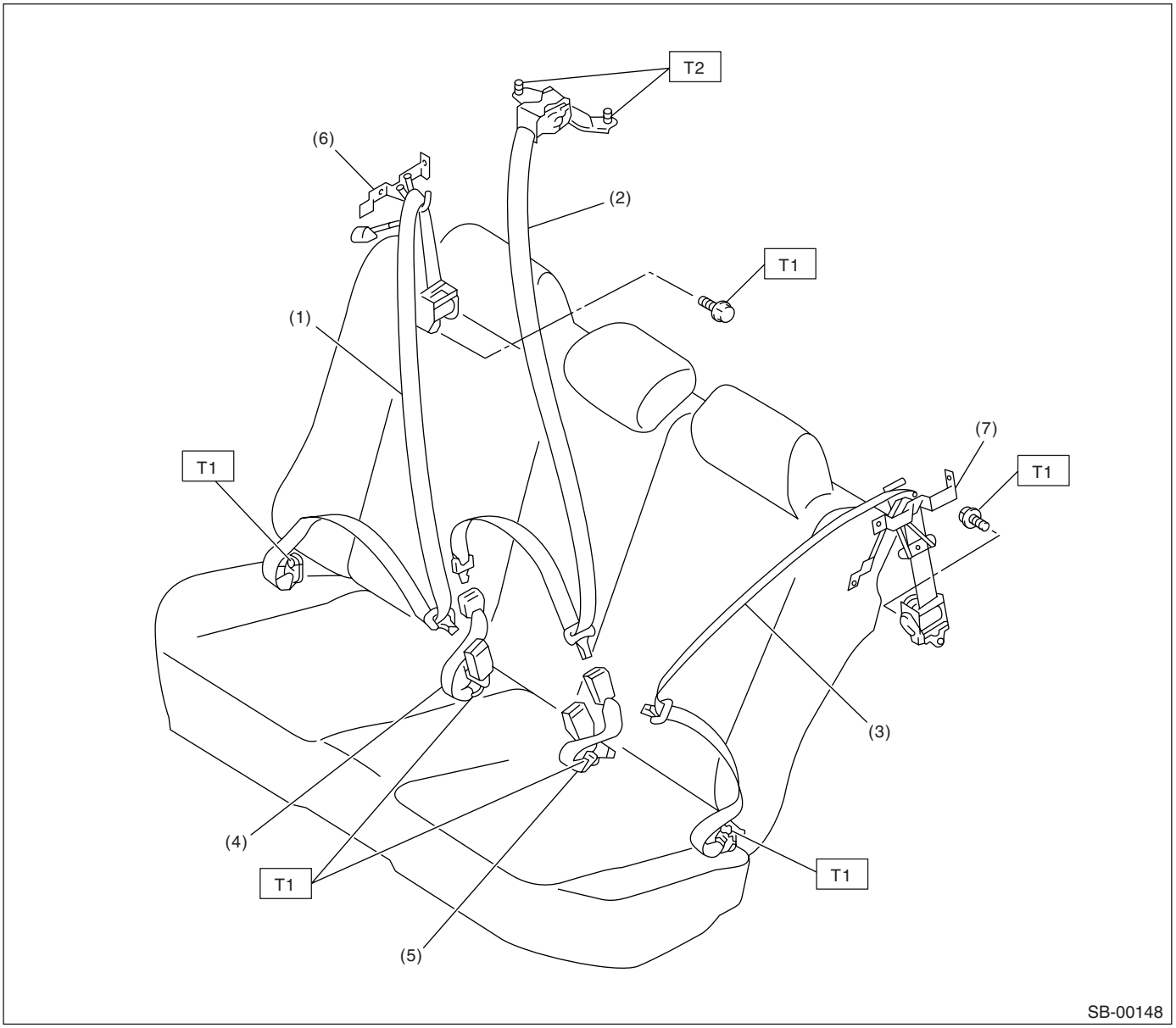
## 2. REAR SEAT BELT (SEDAN MODEL)




(1) Outer seat belt RH ASSY
(2) Shoulder seat belt center ASSY
(3) Outer seat belt LH ASSY
(4) Center seat belt LH ASSY
(5) Center seat belt RH ASSY

***Tightening torque:N·m (kgf-m, ft-lb)***
***T: 30 (3.1, 22)***

## 3. REAR SEAT BELT (WAGON MODEL)




(1) Outer seat belt RH ASSY
(2) Shoulder seat belt center ASSY
(3) Outer seat belt LH ASSY
(4) Center seat belt RH ASSY
(5) Center seat belt LH ASSY
(6) Outer belt guide RH
(7) Outer belt guide LH

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 30 (3.1, 22)***
***T2: 53 (5.4, 39.1)***

## 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. GENERAL TOOL

| TOOL NAME | REMARKS |
|---|---|
| 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-9, PROCEDURE, Airbag Connector.>

# 3. Inspection Locations After a Collision

## A: INSPECTION

Check for the following, and replace with new parts if necessary.

- Center piller lower trim is discolored or cracked.
- Wiring harness and connector are damaged.

# 4. Seat Belt Warning System

## A: WIRING DIAGRAM

<Ref. to WI-126, 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.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON. (engine OFF)<br>3) Run the Subaru Select Monitor.<br>4) Read the data of the driver's seat belt switch using the Subaru Select Monitor. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.> | Is the seat belt switch display OFF? | Go to step **2**. | Go to step **6**. |
| 2 | **CHECK SEAT BELT WARNING LIGHT.**<br>Read the data of driver's seat belt warning light using the Subaru Select Monitor. | Is the seat belt warning light display ON? | Go to step **3**. | Check the harness between combination meter and body integrated unit. |
| 3 | **CHECK BODY INTEGRATED UNIT.**<br>1) Connect the driver's seat belt.<br>2) Read the data of driver's seat belt switch using Subaru Select Monitor. | Is the seat belt switch display ON? | Go to step **4**. | Go to step **6**. |
| 4 | **CHECK SEAT BELT WARNING LIGHT.**<br>Read the data of driver's seat belt warning light using the Subaru Select Monitor. | Is the seat belt warning light display OFF? Also, is the seat belt warning light in the combination meter gone off? | Go to step **5**. | Check the harness between ignition switch and body integrated unit. |
| 5 | **CHECK SEAT BELT WARNING BUZZER.**<br>1) Connect the driver's seat belt.<br>2) Turn the ignition switch to ON. | Does the buzzer beep? | Go to step **6**. | Replace the body integrated unit. |
| 6 | **CHECK DRIVER'S SEAT BELT BUCKLE SWITCH.**<br>1) Insert the tongue plate to the driver's seat belt buckle.<br>2) Measure the voltage between connector (R8) and chassis ground.<br>***Connector & terminal***<br>***(R8) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **7**. | Repair the harness between driver's seat buckle switch and chassis ground. |
| 7 | **CHECK DRIVER'S SEAT BELT BUCKLE SWITCH.**<br>1) Disconnect the connector (R8) from driver's seat inner seat belt assembly.<br>2) Measure the resistance between connector (R8) and chassis ground.<br>***Connector & terminal***<br>***(R8) No. 1 — Chassis ground:***<br>***(R8) No. 3 — Chassis ground:*** | Is the resistance 1 MΩ or more? | Go to step **8**. | Replace the driver's seat inner belt. <Ref. to SB-10, Front Seat Belt.> |
| 8 | **CHECK BODY HARNESS.**<br>Measure the voltage between connector (R167) and chassis ground.<br>***Connector & terminal***<br>***(R167) No. 11 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? Also, does the seat belt warning light illuminate? | Go to step **9**. | Repair or replace the driver's seat inner belt and body harness. |

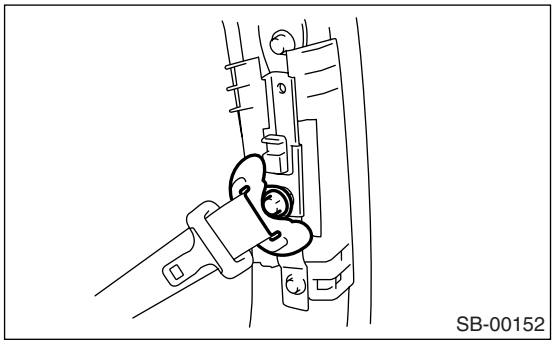
| | Step | Check | Yes | No |
|---|---|---|---|---|
| 9 | **CHECK BODY INTEGRATED UNIT.**<br>Measure the voltage between connector (i84) and chassis ground.<br>***Connector & terminal***<br>***(i84) No. 4 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **10**. | Check the body integrated unit. |
| 10 | **CHECK COMBINATION METER.**<br>Measure the voltage between connector (R167) and chassis ground.<br>***Connector & terminal***<br>***(R167) No. 20 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? Also, does the seat belt warning light Illuminate? | Go to step **11**. | Replace the body integrated unit. |
| 11 | **CHECK COMBINATION METER.**<br>Measure the voltage between connector (i10) and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 9 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? Also, does the seat belt warning light Illuminate? | Go to step **12**. | Check the combination meter. |
| 12 | **CHECK SEAT BELT WARNING SYSTEM.**<br>1) Disconnect the driver's seat belt.<br>2) Turn the ignition switch to ON. | Does the seat belt warning buzzer beep and warning light blink for 6 seconds after turning the ignition switch to ON? | Go to step **13**. | Replace the body integrated unit. |
| 13 | **CHECK SEAT BELT WARNING SYSTEM.**<br>Wait for 6 seconds from the step 12 condition (seat belt warning buzzer beeps and warning light blinks). | Does the seat belt warning light repeat illuminating/blinking every 15-seconds, and the warning buzzer beep? | Go to step **14**. | Replace the body integrated unit. |
| 14 | **CHECK SEAT BELT WARNING SYSTEM.**<br>Connect the driver's seat belt buckle in the step 13 condition (seat belt warning light repeat illuminating/blinking every 15-seconds, and warning buzzer beeps). | Does the seat belt warning light go off and the buzzer stop? | Go to step **15**. | Replace the body integrated unit. |
| 15 | **CHECK SEAT BELT WARNING SYSTEM.**<br>Disconnect the driver's seat belt. | Does the seat belt warning light repeat illuminating/ blinking every 15-seconds? | Go to step **16**. | Replace the body integrated unit. |
| 16 | **CHECK SEAT BELT WARNING SYSTEM.**<br>1) Lift-up the vehicle.<br>NOTE:<br>Raise all wheels off the floor.<br>2) Start the engine, and set the vehicle speed to 15 km/h (9 MPH) or faster.<br>NOTE:<br>When there is a speed difference between front and rear wheels, the ABS or VDC warning may illuminate, but this does not indicate a malfunction. When diagnosis is complete, perform clear memory for ABS or VDC. <Ref. to ABS(diag)-14, Subaru Select Monitor.> or <Ref. to VDC(diag)-14, Subaru Select Monitor.> | Does the seat belt warning light repeat illuminating/blinking every 15-seconds, and the warning buzzer beep? | Go to step **17**. | Replace the body integrated unit. |
| 17 | **CHECK SEAT BELT WARNING SYSTEM.**<br>Connect the driver's seat belt in the step 16 condition. | Does the seat belt warning light go off and the buzzer stop? | Go to step **18**. | Replace the body integrated unit. |
| 18 | **SEAT BELT WARNING SYSTEM.**<br>Disconnect the driver's seat belt in the step 17 condition. | Does the seat belt warning light repeat illuminating/ blinking every 15-seconds? | Go to step **19**. | Replace the body integrated unit. |
| 19 | **CHECK SEAT BELT WARNING SYSTEM.**<br>Connect the driver's seat belt. | Does the seat belt warning light go off and the buzzer stop? | Temporary poor contact. | Replace the body integrated unit. |

# 5. Front Seat Belt

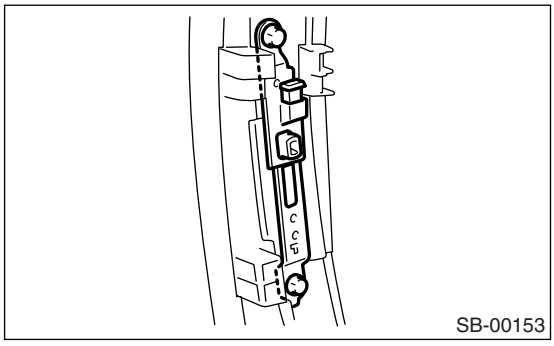
## A: REMOVAL

### 1. OUTER SEAT BELT ASSEMBLY

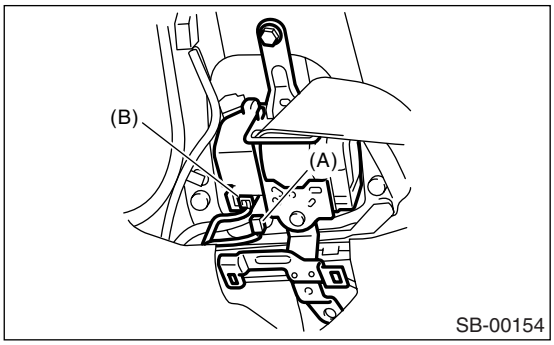
1) Fold the backrest all the way forward, and then move the front seat all the way forward.
2) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait 20 seconds or more.
3) Remove the center pillar lower trim. <Ref. to EI-58, REMOVAL, Lower Inner Trim.>
4) Remove the center pillar upper trim. <Ref. to EI-59, REMOVAL, Upper Inner Trim.>
5) Remove the bolt, then remove the center pillar inner protector lower.
6) Remove the bolt, and then remove the shoulder anchor.


SB-00152

7) Remove the bolt, and then remove the adjustable anchor assembly.

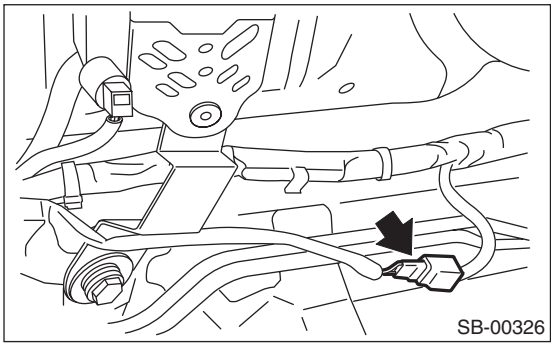

SB-00153

8) Disconnect the pretensioner connector (A), remove the bolt, and remove the seat belt retractor.



SB-00154

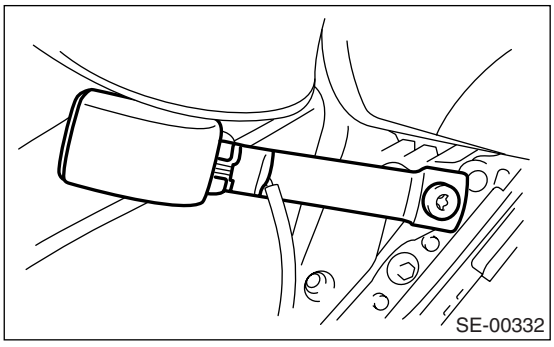
NOTE:
Disconnect the tension reducer connector (B) for the seat belt retractor with a tension reducer function.
9) Disconnect the connector of belt tension sensor on passenger's side.


SB-00326

**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 wait 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 slide rail.
5) Remove the TORX® bolt, and then remove the inner seat belt assembly.


SE-00332

## 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.**

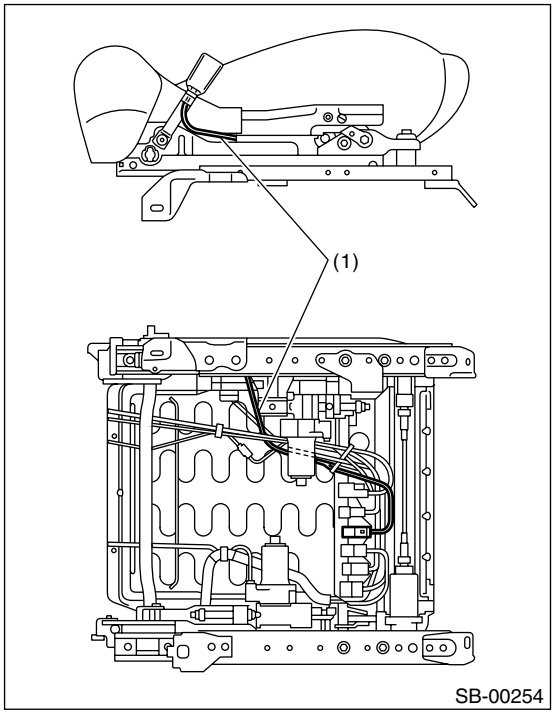
***Tightening torque:***
***<Ref. to SB-2, FRONT SEAT BELT, COMPONENT, General Description.>***

### 2. INNER SEAT BELT ASSEMBLY

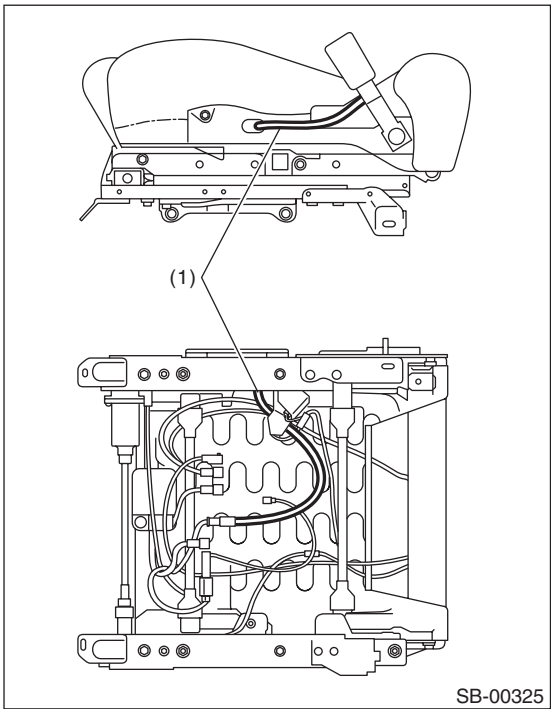
Install in the reverse order of removal.

**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 in {Status Data} of "Airbag System". <Ref. to AB(diag)-32, 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

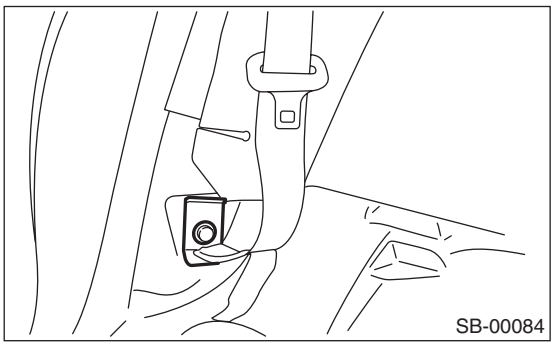
Check for the following, and replace with new parts if necessary.
• Pretensioner is cracked or deformed.
• The belt tension sensor is cracked. Or deformed.
• Seat belt is slackened, bent or worn. Seat belt is abnormally wound or extended.
• Inner seat belt assembly is deformed or damaged.
• Seat belt buckle cannot be engaged properly.

# 6. Rear Seat Belt

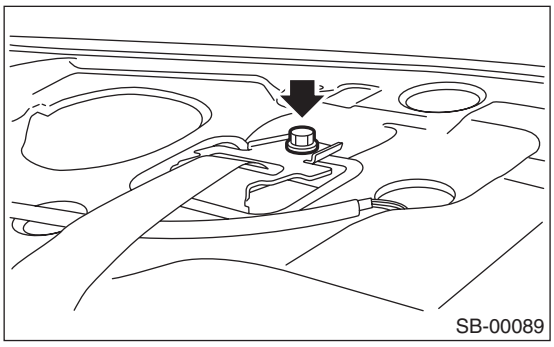
## A: REMOVAL

### 1. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (SEDAN MODEL)

1) Remove the rear seat cushion and backrest shoulder. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the seat belt lower anchor bolt.

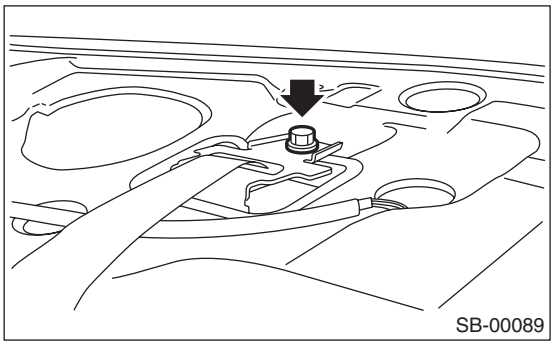

SB-00084

3) Remove the rear quarter trim. <Ref. to EI-60, SEDAN MODEL, REMOVAL, Rear Quarter Trim.>
4) Remove the bolts, and then detach the outer seat belt assembly.


SB-00089

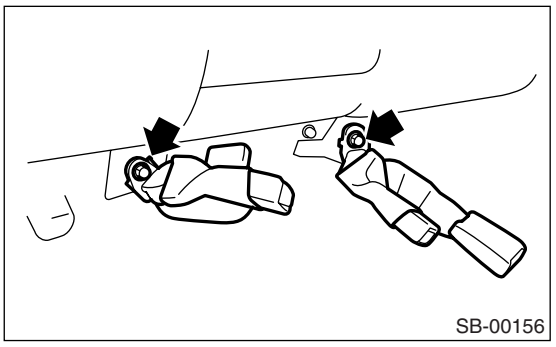
### 2. SHOULDER SEAT BELT CENTER ASSEMBLY (SEDAN MODEL)

1) Remove the rear seat cushion and backrest shoulder. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the rear quarter trim. <Ref. to EI-60, REMOVAL, Rear Quarter Trim.>
3) Remove the rear shelf trim. <Ref. to EI-66, REMOVAL, Rear Shelf Trim.>
4) Remove the bolts, then remove the shoulder seat belt assembly.


SB-00089

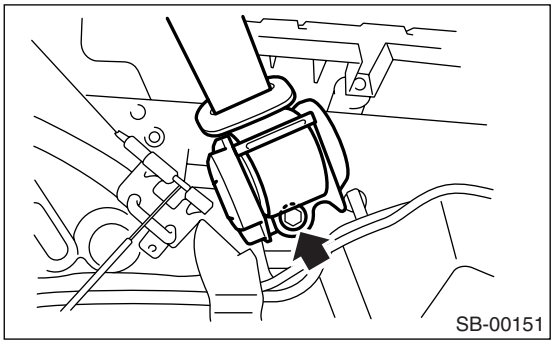
### 3. CENTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (SEDAN MODEL)

1) Remove the rear seat cushion. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the bolts, then remove the center seat belt LH assembly.

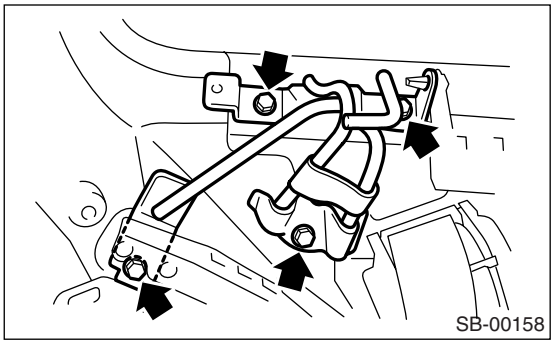

SB-00156

### 4. OUTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

1) Remove the luggage floor box. <Ref. to EI-70, REMOVAL, Luggage Floor Box.>
2) Remove the rear seat cushion and backrest shoulder. <Ref. to SE-17, SEDAN MODEL, REMOVAL, Rear Seat.>
3) Remove the rear quarter lower trim. <Ref. to EI-60, WAGON MODEL, REMOVAL, Rear Quarter Trim.>
4) Remove the bolt to remove outer seat belt retractor.

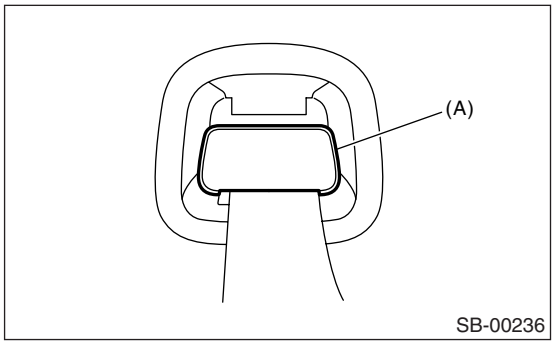

SB-00151

5) Remove the bolt to remove the outer seat belt guide.

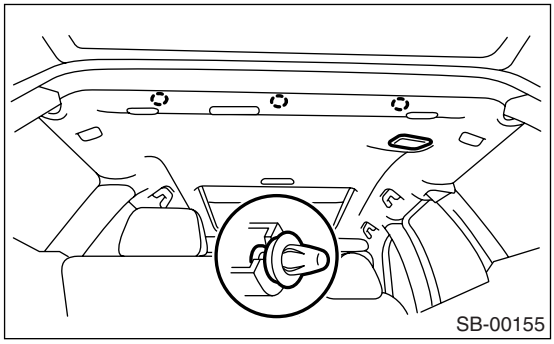

SB-00158

### 5. SHOULDER SEAT BELT CENTER ASSEMBLY (WAGON MODEL)

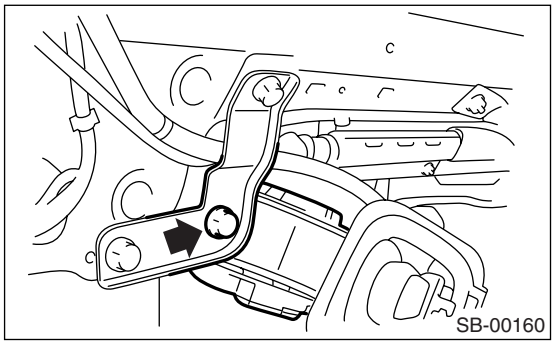
1) Remove the quarter rear pillar trim. <Ref. to EI-60, WAGON MODEL, REMOVAL, Rear Quarter Trim.>
2) Remove the cover (A) from roof trim, and then insert it to the inside of roof trim.




3) Remove the clips, and then lower the roof trim end.

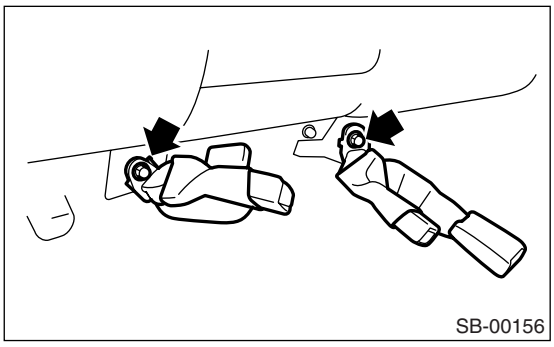



**CAUTION:**
**When removing the roof trim clip, do not pull the roof trim end backward with excessive force, otherwise roof trim may be damaged.**
4) Remove the bolt to remove the seat belt retractor.




### 6. CENTER SEAT BELT RH ASSEMBLY AND LH ASSEMBLY (WAGON MODEL)

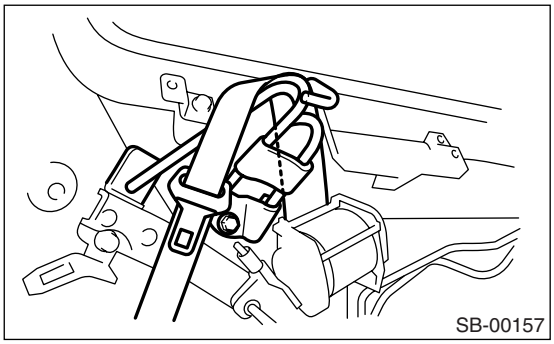
1) Remove the rear seat cushion. <Ref. to SE-17, SEDAN MODEL, REMOVAL, Rear Seat.>
2) Remove the bolts, then remove the center seat belt assembly.




## B: INSTALLATION

Install in the reverse order of removal.

**CAUTION:**
**• During installation, make sure that the seat belts are not twisted.**
**• During installation, make sure that the center seat belt assembly (RH & LH) are properly pulled out from the slit of seat cushions.**
**• After installation, make sure that the seat belts are smoothly extended and wound.**
**• If the vehicle is equipped with rear outer seat belts (wagon model), make sure that the seat belts are wound after installing the seat belt guide.**




## 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

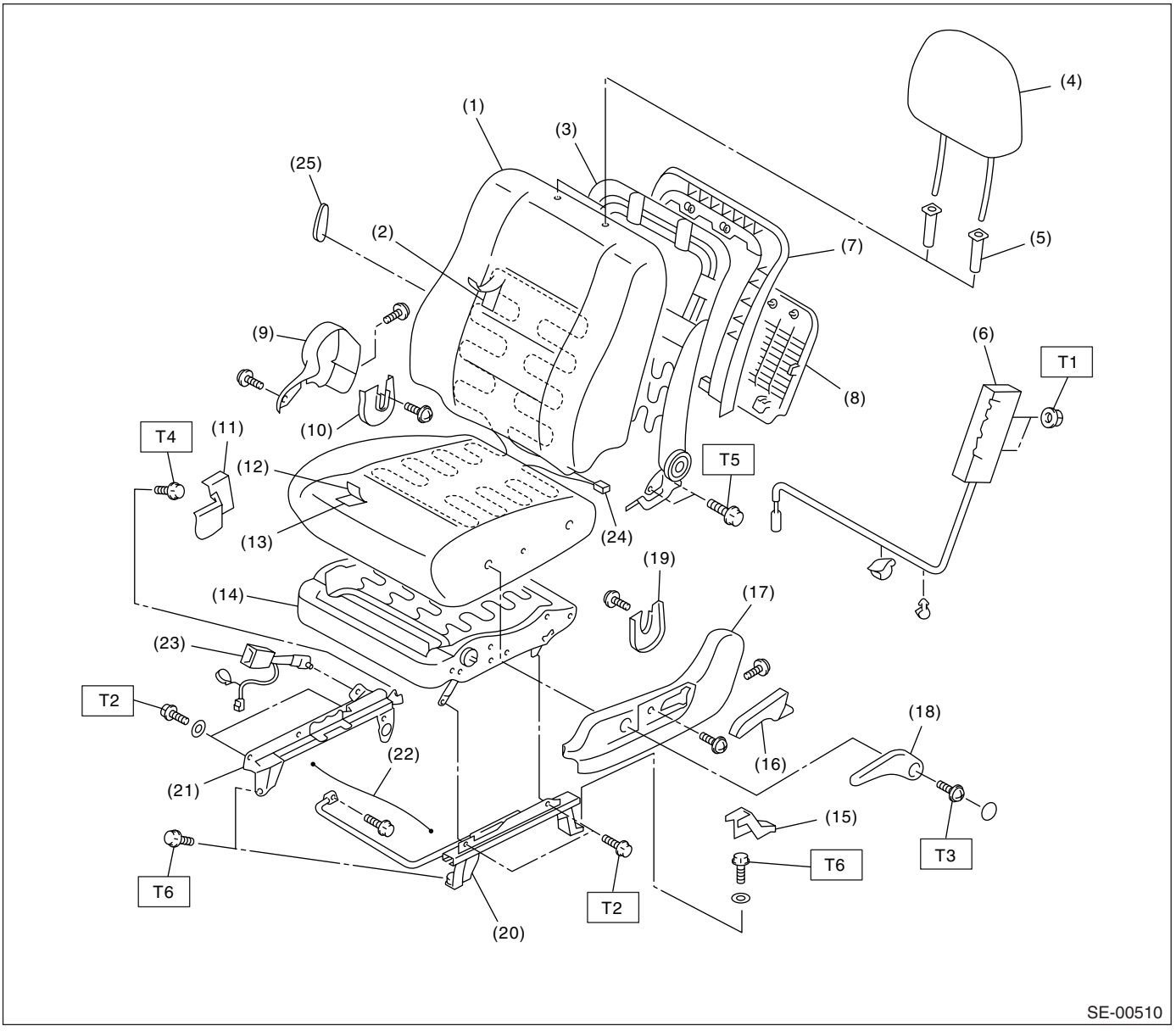
# LI


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Headlight and Tail Light System | 3 |
| 3. | Day Time Running Lamp System | 4 |
| 4. | Front Fog Light System | 6 |
| 5. | Turn Signal Light and Hazard Light System | 7 |
| 6. | Back-up Light System | 8 |
| 7. | Stop Light System | 9 |
| 8. | Room Light System | 10 |
| 9. | Combination Switch (Light) | 11 |
| 10. | Combination Base Switch Assembly | 12 |
| 11. | Headlight Assembly | 13 |
| 12. | Headlight Bulb | 15 |
| 13. | Front Turn Signal Light Bulb | 16 |
| 14. | Parking Light Bulb | 17 |
| 15. | Front Side Marker Light Bulb | 18 |
| 16. | Front Fog Light Assembly | 19 |
| 17. | Front Fog Light Bulb | 21 |
| 18. | Side Turn Signal Light Assembly | 22 |
| 19. | Rear Combination Light Assembly | 23 |
| 20. | Tail/Stop Light Bulb | 24 |
| 21. | Rear Turn Signal Light Bulb | 25 |
| 22. | Rear Side Marker Light Bulb | 26 |
| 23. | Back-up Light Assembly | 27 |
| 24. | Back-up Light Bulb | 28 |
| 25. | License Plate Light Assembly | 29 |
| 26. | License Plate Light | 30 |
| 27. | High-mounted Stop Light | 31 |
| 28. | Spot Map Light | 32 |
| 29. | Room Light | 33 |
| 30. | Luggage Room Light | 34 |
| 31. | Trunk Room Light | 35 |
| 32. | Glove Box Light | 36 |
| 33. | Door Step Light | 37 |
| 34. | Ignition Switch Illumination | 38 |
| 35. | Day Time Running Lamp Unit | 39 |

# 1. General Description

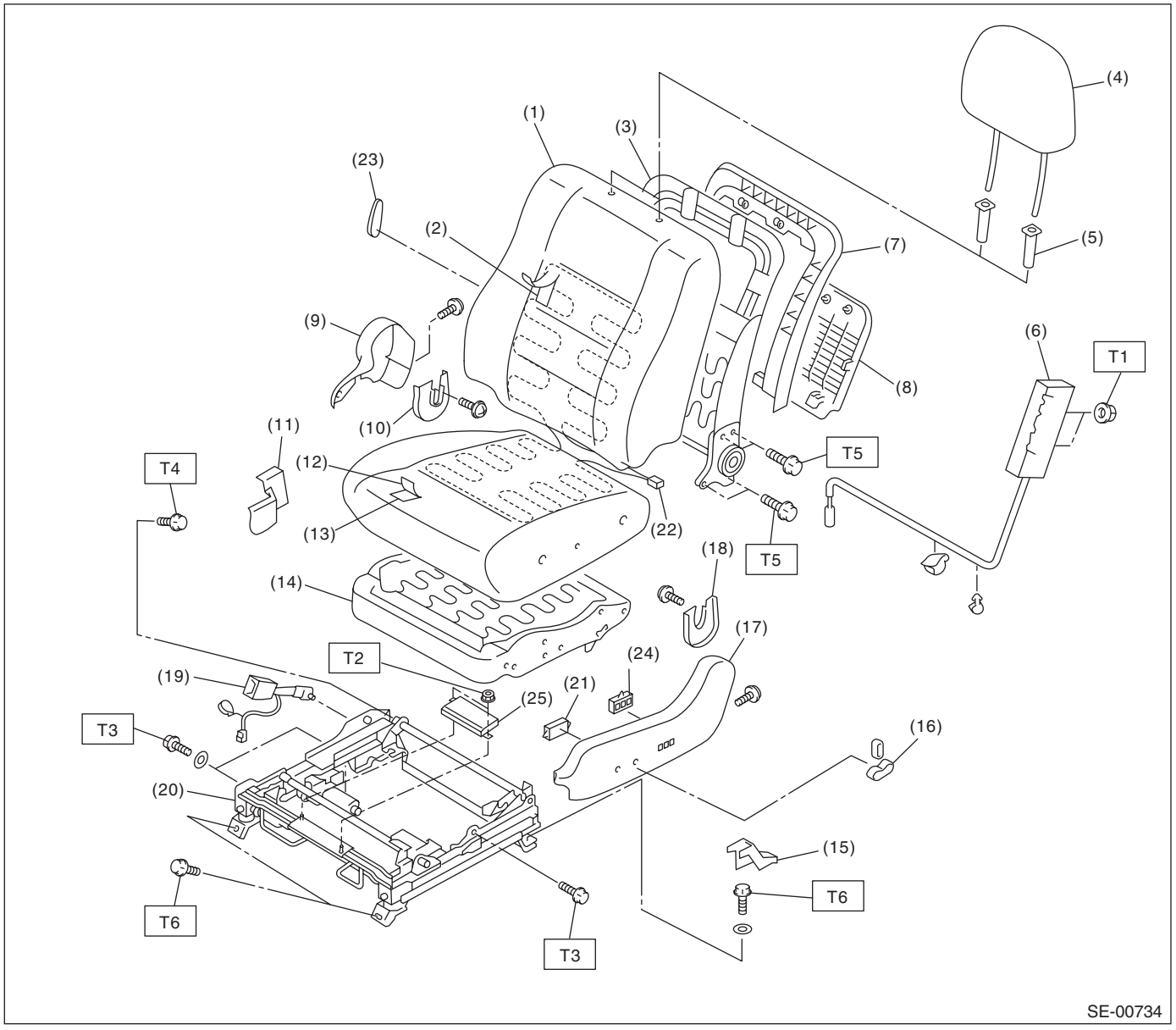
## A: COMPONENT

### 1. FRONT SEAT LH (MANUAL SEAT)




| | | | | | |
|---|---|---|---|---|---|
| (1) | Backrest cover | (12) | Seat cushion cover | (23) | Inner seat belt ASSY |
| (2) | Backrest pad | (13) | Seat cushion pad | (24) | Seat heater unit |
| (3) | Backrest frame ASSY | (14) | Seat cushion frame ASSY | (25) | Lumber support lever |
| (4) | Headrest ASSY | (15) | Rear bolt cover outside | | |
| (5) | Headrest lock bushing | (16) | Reclining lever | ***Tightening torque:N·m (kgf-m, ft-lb)*** | |
| (6) | Side airbag module | (17) | Seat side cover outside | ***T1: 6 (0.61, 4.43)*** | |
| (7) | Cover frame | (18) | Lifter lever | ***T2: 10 (1.02, 7.38)*** | |
| (8) | Backrest back cover | (19) | Hinge inner cover LH | ***T3: 22 (2.24, 16.2)*** | |
| (9) | Seat side cover inside | (20) | Outer slide rail | ***T4: 30 (3.06, 22.1)*** | |
| (10) | Hinge inner cover RH | (21) | Inner slide rail | ***T5: 52 (5.30, 38.4)*** | |
| (11) | Rear bolt cover inside | (22) | Connecting wire | ***T6: 53 (5.40, 39.1)*** | |

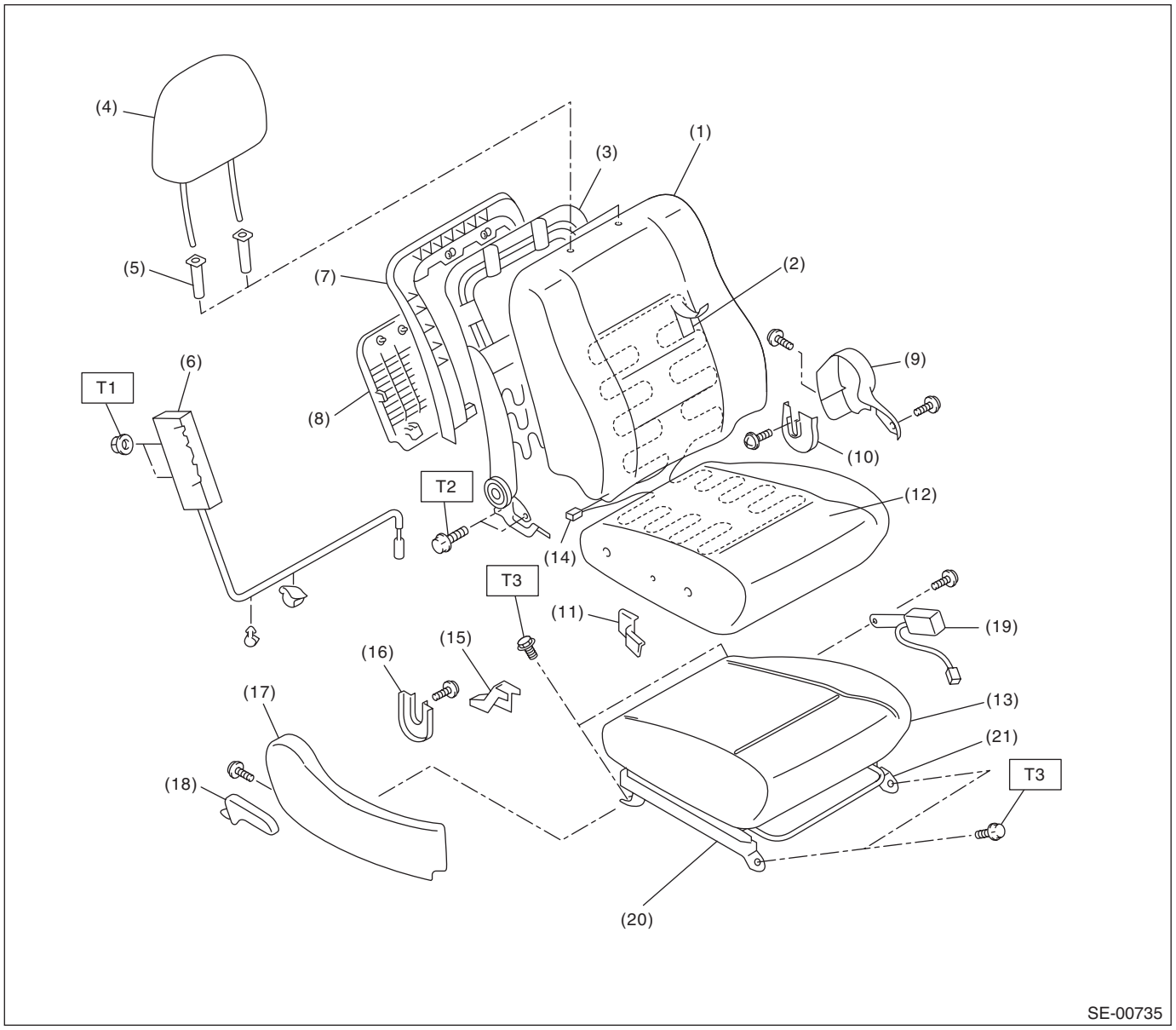
## 2. FRONT SEAT LH (POWER SEAT)




(1) Backrest cover
(2) Backrest pad
(3) Backrest frame ASSY
(4) Headrest ASSY
(5) Headrest lock bushing
(6) Side airbag module
(7) Cover frame
(8) Backrest back cover
(9) Seat side cover inside
(10) Hinge inner cover RH
(11) Rear bolt cover inside
(12) Seat cushion cover
(13) Seat cushion pad
(14) Seat cushion frame ASSY
(15) Rear bolt cover outside
(16) Power seat switch knob
(17) Seat side cover outside
(18) Hinge inner cover LH
(19) Inner seat belt ASSY
(20) Slide rail ASSY
(21) Power seat switch unit
(22) Seat heater unit
(23) Lumber support lever
(23) Lumber support lever
(24) Memory switch (memory-equipped)
(25) Memory module (memory-equipped)

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 6 (0.61, 4.43)***
***T2: 22 (2.24, 16.2)***
***T3: 52 (5.30, 38.4)***
***T4: 53 (5.40, 39.1)***

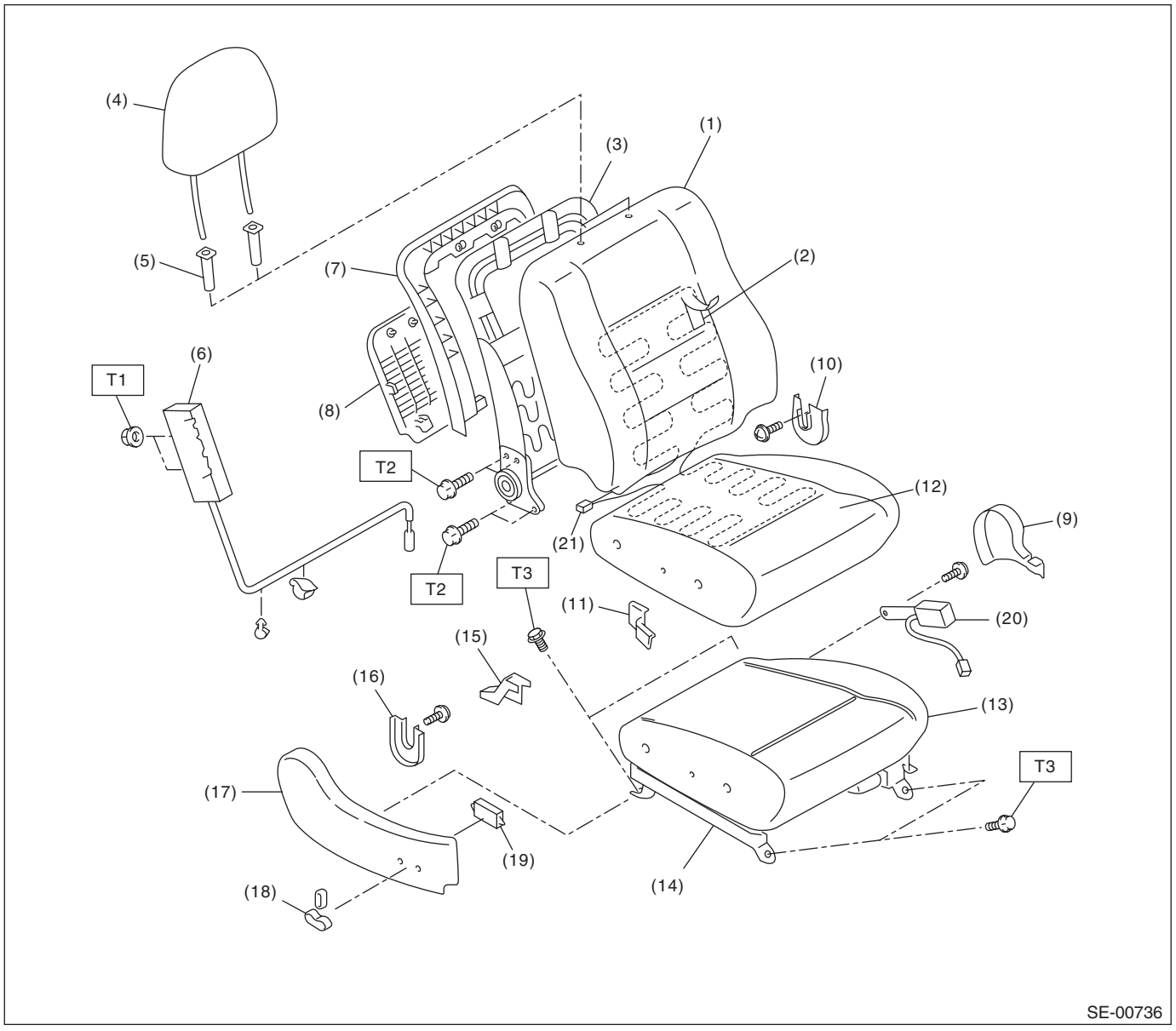
## 3. FRONT SEAT RH (MANUAL SEAT)




(1) Backrest cover
(2) Backrest pad
(3) Backrest frame ASSY
(4) Headrest ASSY
(5) Headrest lock bushing
(6) Side airbag module
(7) Cover frame
(8) Backrest back cover
(9) Seat cover inside
(10) Hinge inner cover LH
(11) Rear bolt cover inside
(12) Seat cushion cover
(13) Seat cushion pad and frame ASSY
(14) Seat heater unit
(15) Rear bolt cover outside
(16) Hinge inner cover RH
(17) Seat side cover outside
(18) Reclining lever
(19) Inner seat belt ASSY
(20) Outer slide rail
(21) Inner slide rail

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 6 (0.61, 4.43)***
***T2: 52 (5.30, 38.4)***
***T3: 53 (5.40, 39.1)***

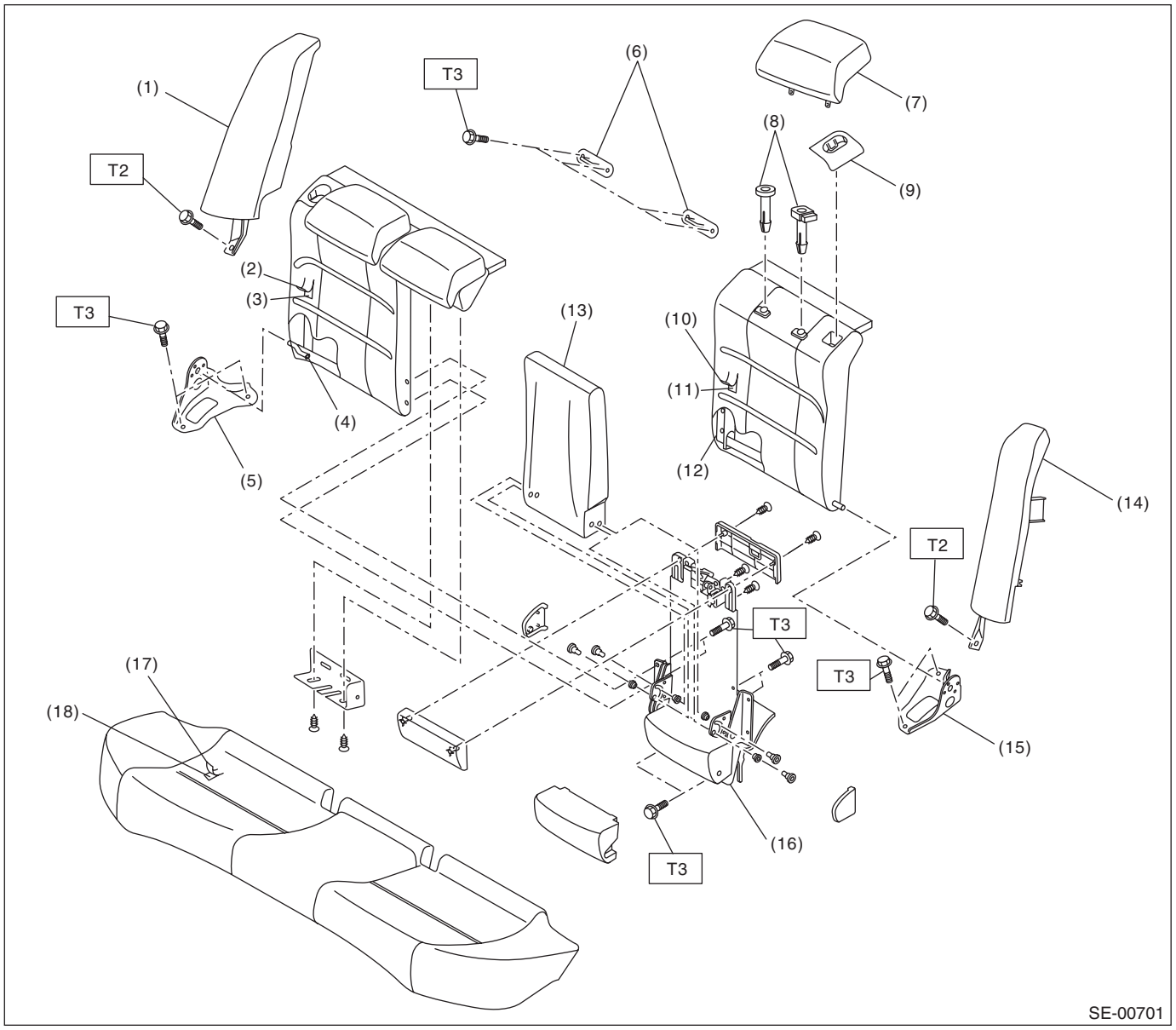
## 4. FRONT SEAT RH (POWER SEAT)




(1) Backrest cover
(2) Backrest pad
(3) Backrest frame ASSY
(4) Headrest ASSY
(5) Headrest lock bushing
(6) Side airbag module
(7) Cover frame
(8) Backrest back cover
(9) Seat side cover inside
(10) Hinge inner cover LH
(11) Rear bolt cover inside
(12) Seat cushion cover
(13) Seat cushion pad and frame ASSY
(14) Slide rail ASSY
(15) Rear bolt cover outside
(16) Hinge inner cover RH
(17) Seat side cover outside
(18) Power seat switch knob
(19) Power seat switch unit
(20) Inner seat belt ASSY
(21) Seat heater unit

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 6 (0.61, 4.43)***
***T2: 52 (5.30, 38.4)***
***T3: 53 (5.40, 39.1)***

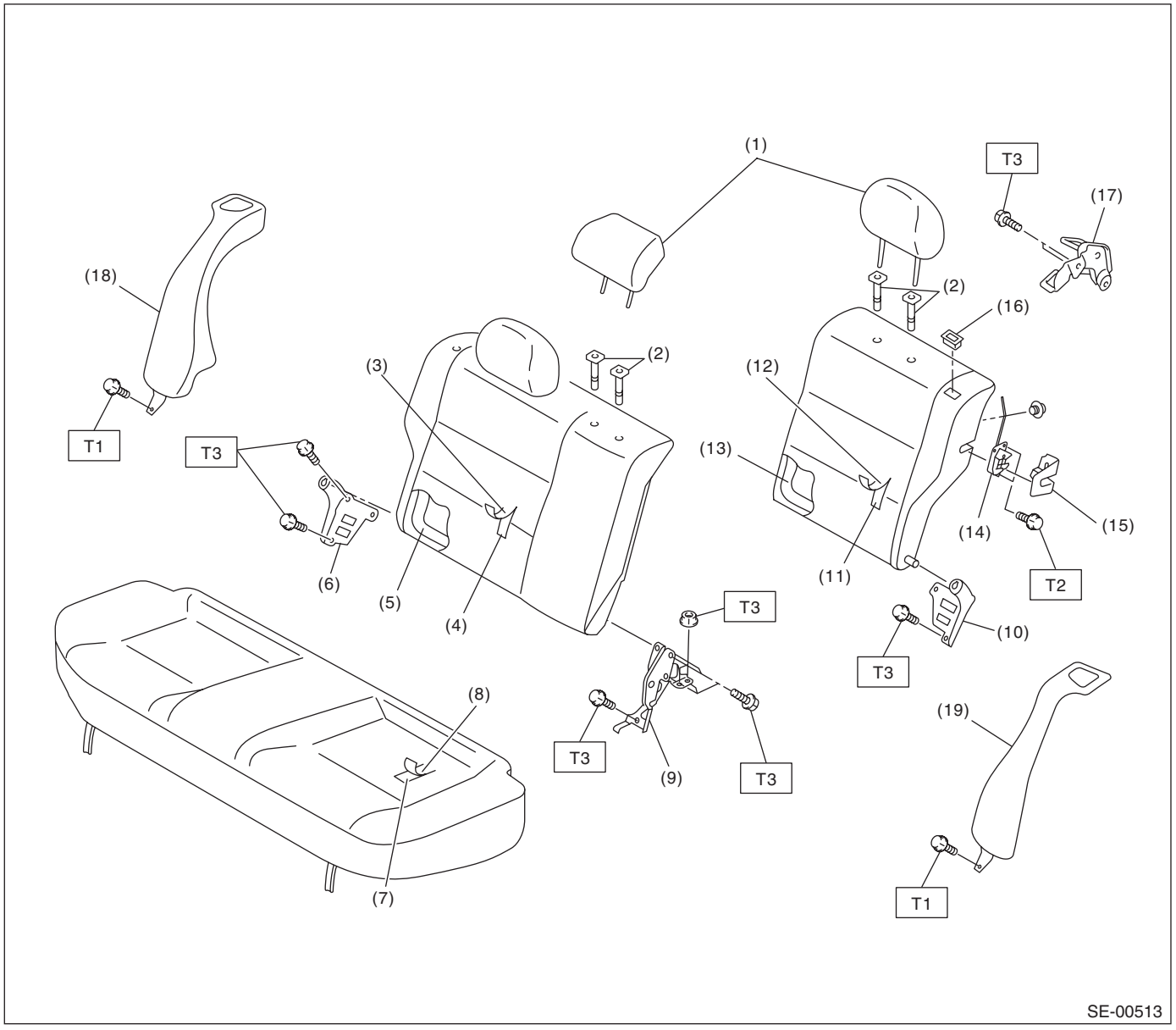
## 5. REAR SEAT (SEDAN MODEL)




(1) Backrest shoulder RH
(2) Backrest cover RH
(3) Backrest pad RH
(4) Backrest frame RH ASSY
(5) Hinge ASSY RH
(6) Backrest striker
(7) Headrest
(8) Headrest bushing
(9) Holder & button cover
(10) Backrest cover LH
(11) Backrest pad LH
(12) Backrest frame LH ASSY
(13) Armrest
(14) Backrest shoulder LH
(15) Hinge ASSY LH
(16) Trunk through backboard ASSY
(17) Seat cushion cover
(18) Seat cushion pad

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 9.8 (1.0, 7.23)***
***T2: 13.7 (1.4, 10.1)***
***T3: 25 (2.5, 18.4)***

## 6. REAR SEAT (WAGON MODEL)




(1) Headrest
(2) Headrest bushing
(3) Backrest cover RH
(4) Backrest pad RH
(5) Backrest frame RH
(6) Hinge ASSY RH
(7) Seat cushion pad
(8) Seat cushion cover
(9) Hinge ASSY center
(10) Hinge ASSY LH
(11) Backrest pad LH
(12) Backrest cover LH
(13) Backrest frame LH
(14) Seat backrest latch
(15) Seat backrest latch cover
(16) Holder & button
(17) Striker
(18) Backrest shoulder RH
(19) Backrest shoulder LH

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 13.7 (1.40, 10.1)***
***T2: 17 (1.73, 12.3)***
***T3: 22 (2.24, 16.2)***

## B: CAUTION

• If the seat cushion cover is removed or replaced, make sure to perform passenger 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 passenger detection system.
• The passenger detection system (passenger seat only) control unit and the passenger detection sensor are fixed to the seat cushion frame. Never remove the passenger 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 passenger detection system may not operate properly.
• If the seat cushion cover is removed, make sure to replace the hang 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: 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. |
| TORX® T50 | Used for removing and installing the inner seat belt assembly. |

# 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-38, 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 bolt cover, and remove the two bolts at the rear side of the slide rail.
4) Move the seat towards the rear, and remove the two bolts at the front side of the slide rail.
5) Disconnect the ground cable from battery, and wait for 20 seconds or more 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 (model with seat heater)
• Power seat connector (model with power seats)
7) Remove the seat from vehicle.

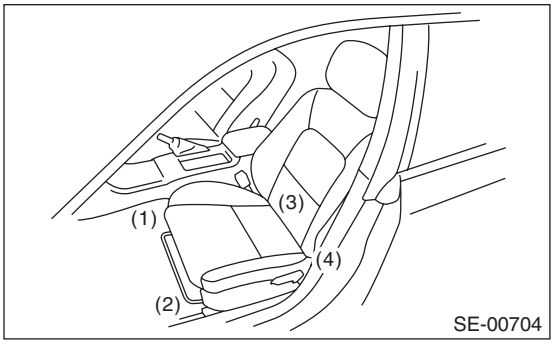
### 2. PASSENGER'S SEAT

**CAUTION:**
**Refer to "CAUTION" of "General Description" before starting the work. <Ref. to SE-8, CAUTION, General Description.>**
1) Remove the headrest.
2) Tilt the backrest forward, and move the seat forward.
3) Remove the rear bolt cover, and then remove the rear side of slide rail.
4) Move the seat backward, remove the front bolt cover, and then remove the bolt at the front side of slide rail.
5) Disconnect the ground cable from battery, and wait for 20 seconds or more 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 (model with power seats)
• Seat heater connector (model with seat heater)
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)-32, DISPLAY OF STATUS INFORMATION, OPERATION, Subaru Select Monitor.>**

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

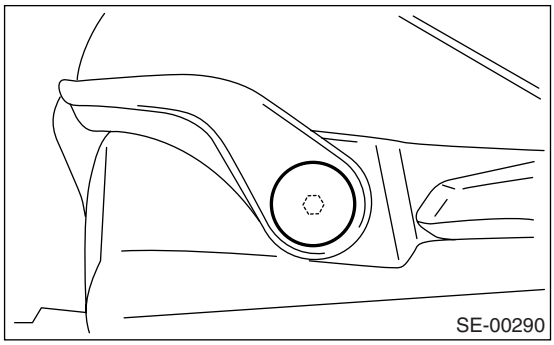
## C: DISASSEMBLY

### 1. DRIVER'S SEAT

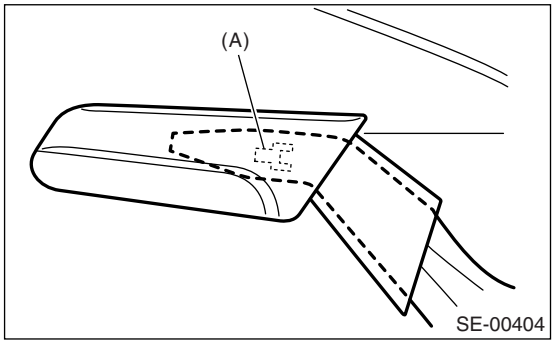
#### MANUAL SEAT

1) Remove the seat from vehicle. <Ref. to SE-9, REMOVAL, Front Seat.>

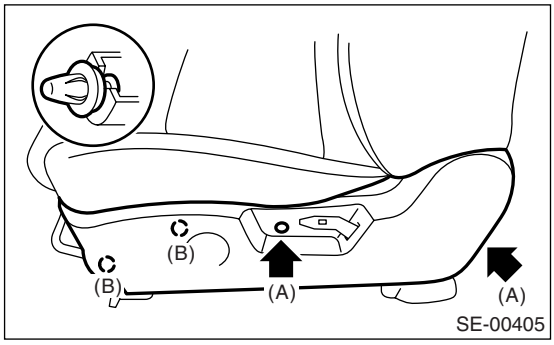
2) Remove the seat lifter cover using a flat tip screwdriver and loosen the inner bolt to remove the seat lifter lever.



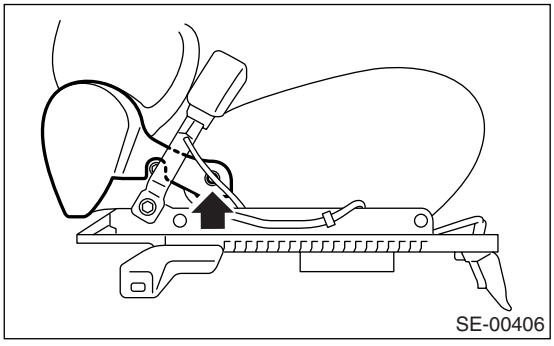

3) Remove hook (A) and detach the reclining lever cover.



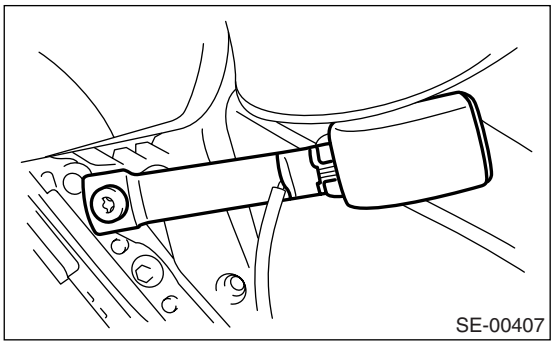

4) Remove screws (A) and clips (B), and then detach the seat side cover outside.



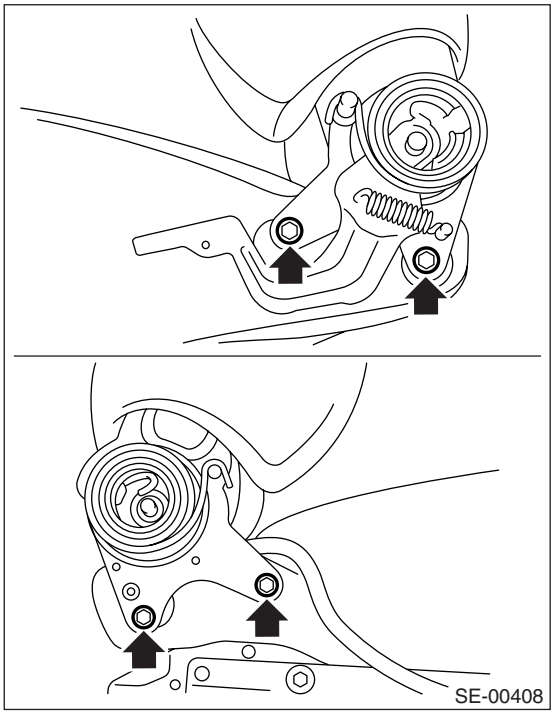

5) Loosen the screws to detach the seat side cover inside.



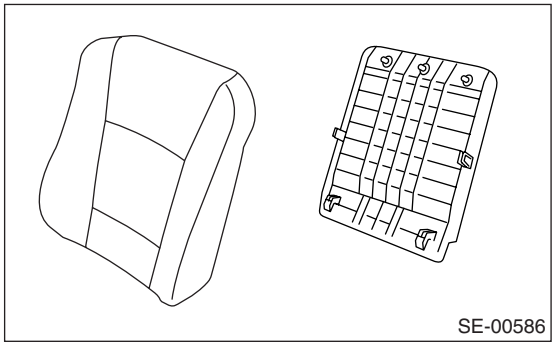

6) Remove the TORX® bolt, and then remove the inner seat belt assembly.



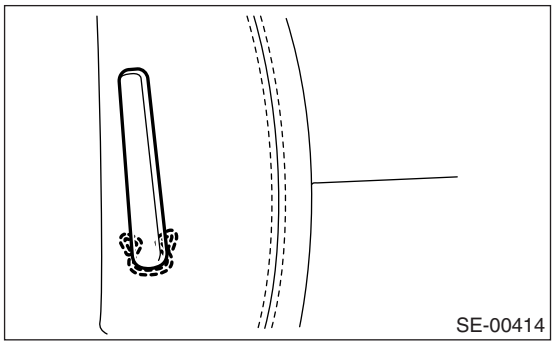

7) Remove the two bolts from the reclining hinge on each left and right side.



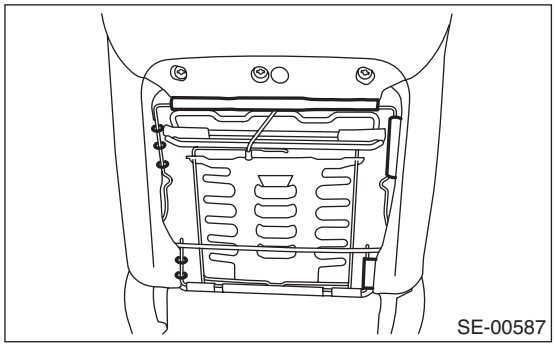

8) Remove the clips and hooks, and then detach the backrest back cover.



9) Remove the lock clip, and then remove the lumber support lever.

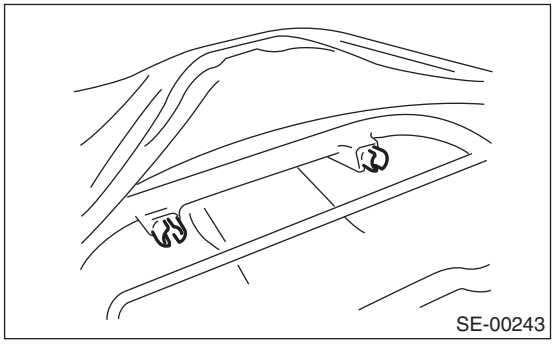



10) Remove the hooks and hog rings at the rear side of backrest.

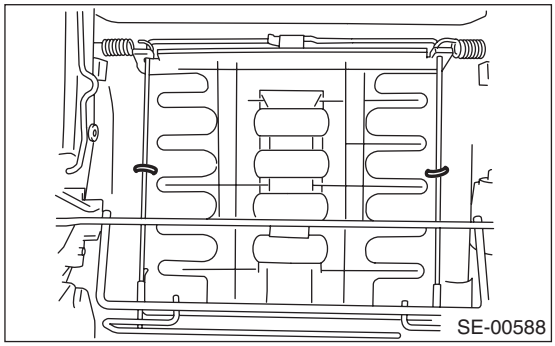



11) Remove the headrest lock bushing.

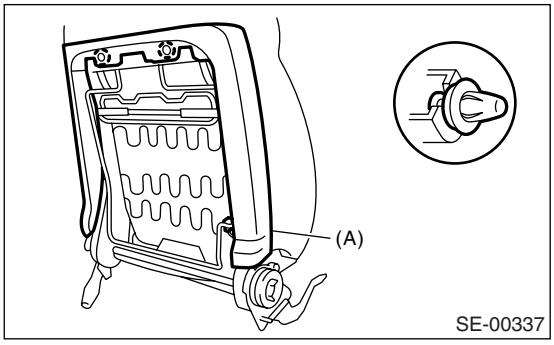
NOTE:
Push outside to remove it from the inside of seat.



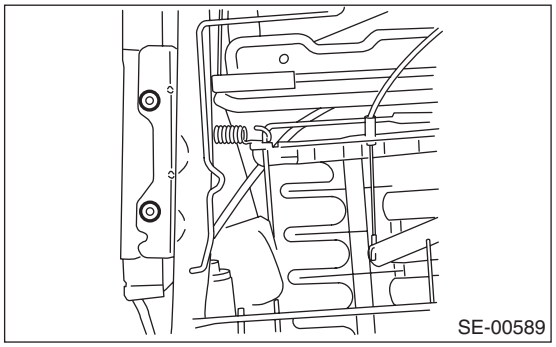

12) Remove the hog rings.



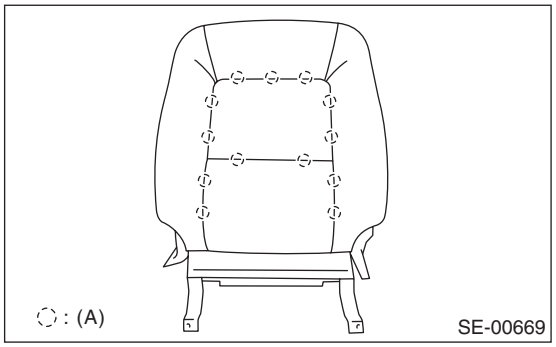

13) Remove the cover frame (A).



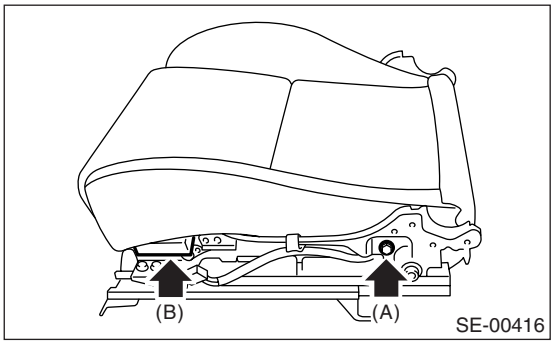

14) Pull out the backrest frame assembly.
15) Remove the side airbag module.



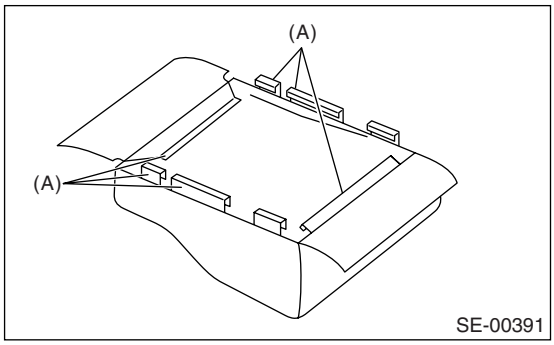

16) Remove the hog rings (A) on the surface side of backrest, and then remove the backrest cover from backrest.



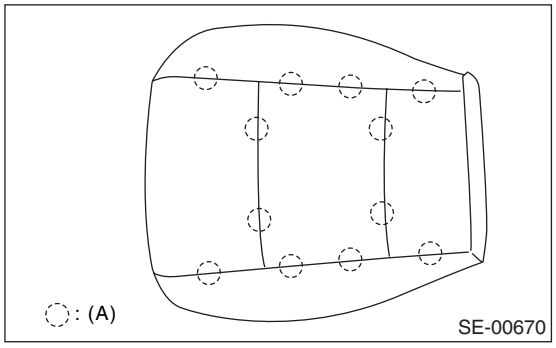

17) Remove the bolt (A) and hook (B) on left and right side, and then remove the seat cushion frame from slide rail assembly.



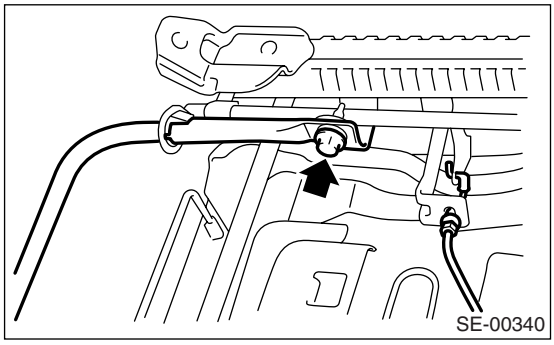
18) Remove the hooks (A), and then remove the seat cushion from seat cushion frame.



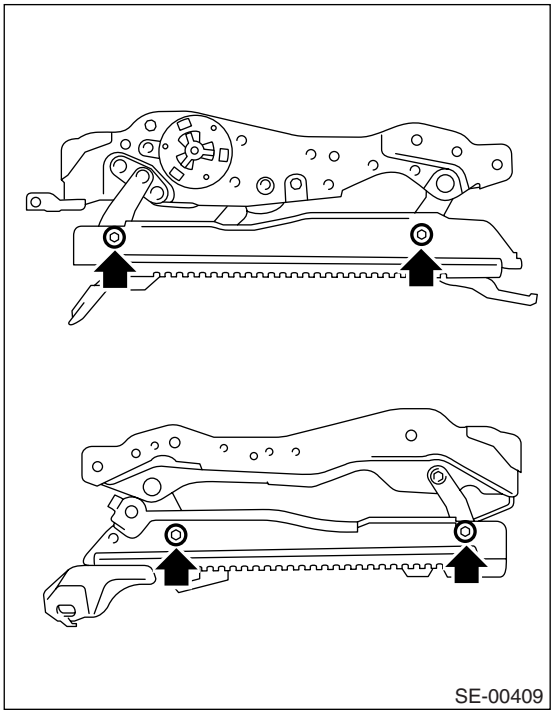

19) Remove the hog rings (A), and then remove the seat cushion cover from seat cushion pad.




20) Remove the bolt of the sliding adjustment bar and connecting wire.

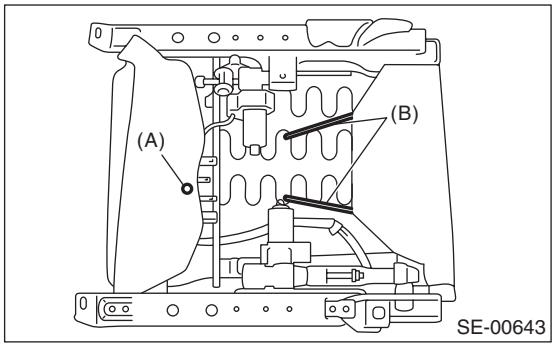



21) Remove the bolts, then remove the slide rail.



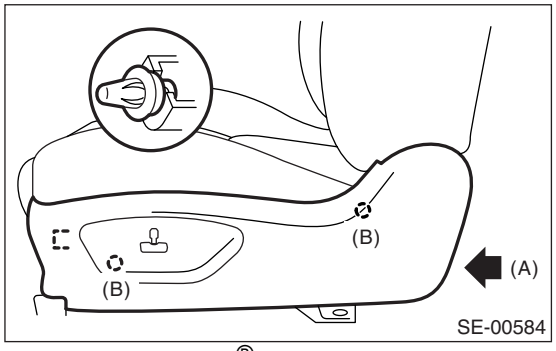

**Power seat**

1) Remove the seat from vehicle. <Ref. to SE-9, DRIVER'S SEAT, REMOVAL, Front Seat.>
2) Remove the clip (A) and straps (B) on the back of seat cushion.

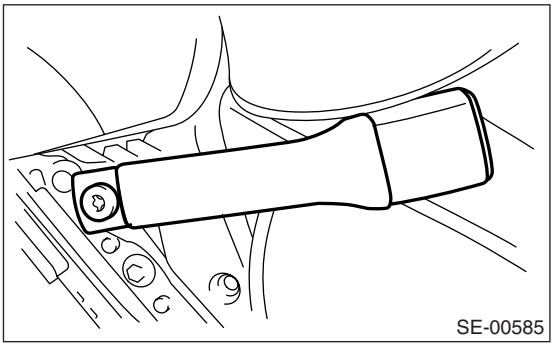



3) Disconnect the following connectors from the backside of seat cushion.
- Side airbag
- Seat position sensor
- Seat heater
- Power seat
- Seat belt

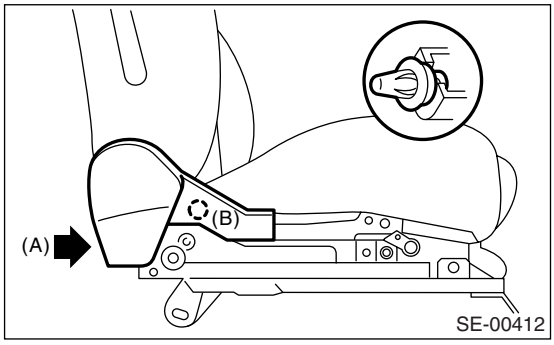
4) Remove the screw (A) and clips (B), and then disconnect the seat switch connector to remove seat side cover outside.



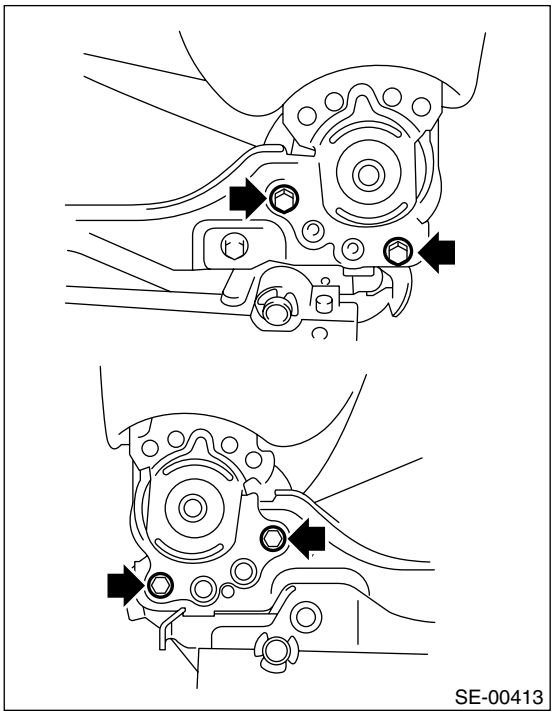

5) Remove the TORX® bolt, and then remove the inner seat belt assembly.



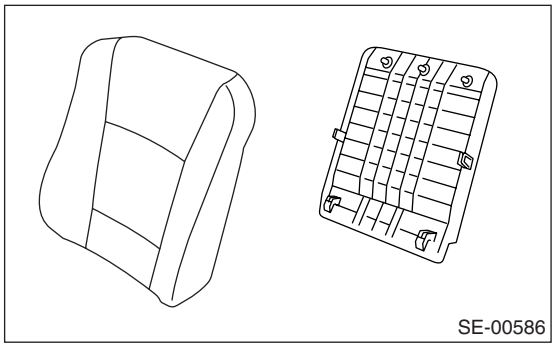

6) Remove the screw (A) and clip (B), and then remove the seat side cover inside.



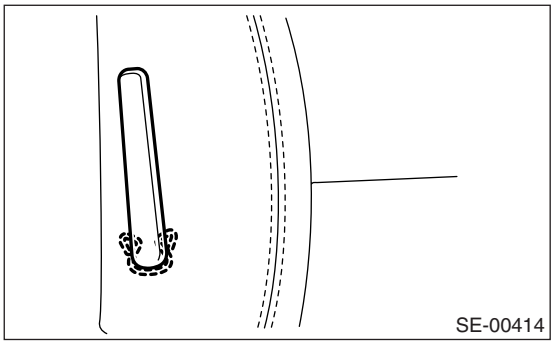

7) Remove the two bolts from the reclining hinge on each left and right side.



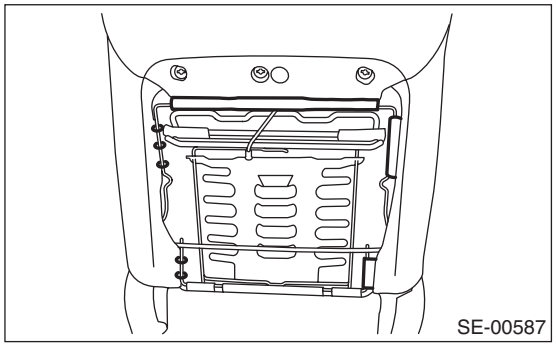

8) Remove the clips and hooks, and then detach the backrest back cover.




9) Remove the lock clip, and then remove the lumber support lever.

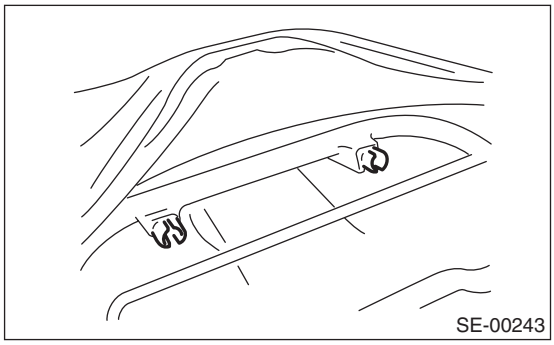


10) Remove the hooks and hog rings at the rear side of backrest.

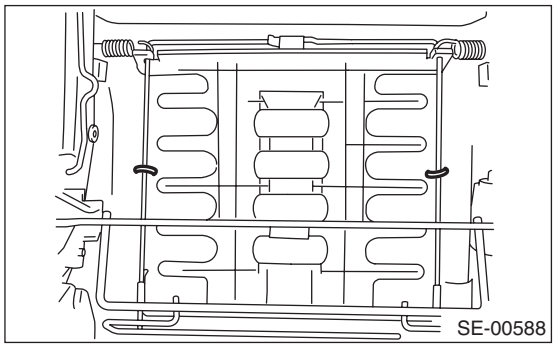



11) Remove the headrest lock bushing.

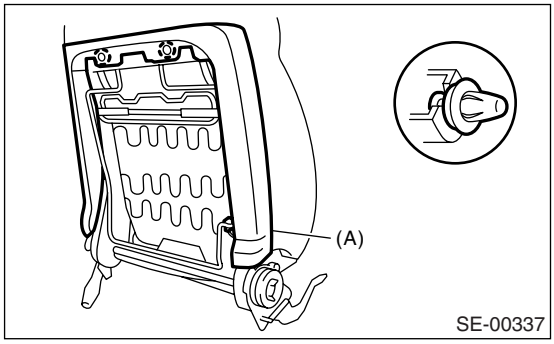
NOTE:
Push outside to remove it from the inside of seat.




12) Remove the hog rings.

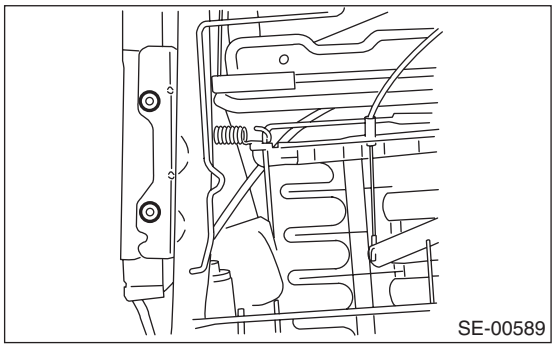



13) Remove the cover frame (A).

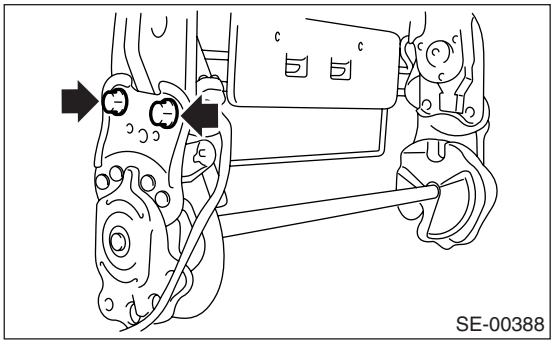



14) Pull out the backrest frame assembly.

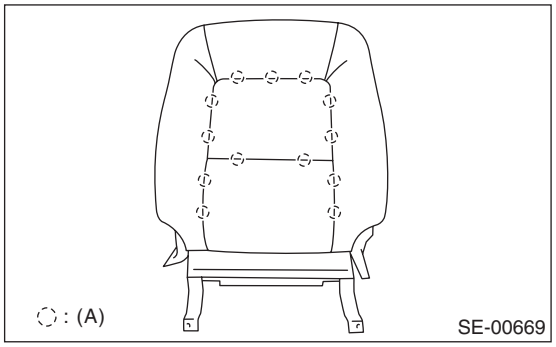
15) Remove the side airbag module.



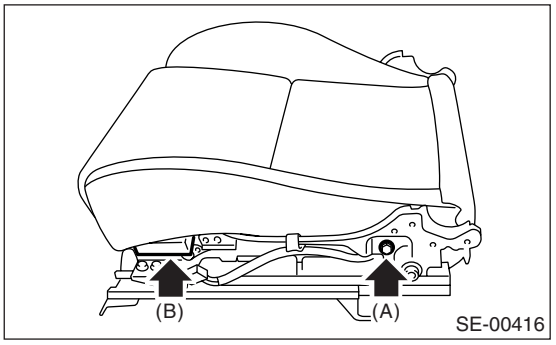

16) Remove the two bolts on each left and right side, and then remove the reclining motor assembly.



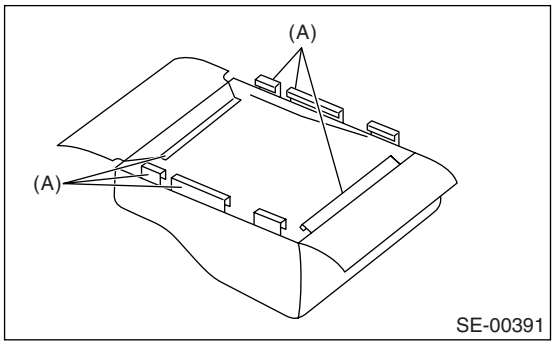

17) Remove the hog rings (A) on the surface side of backrest, and then remove the backrest cover from backrest.



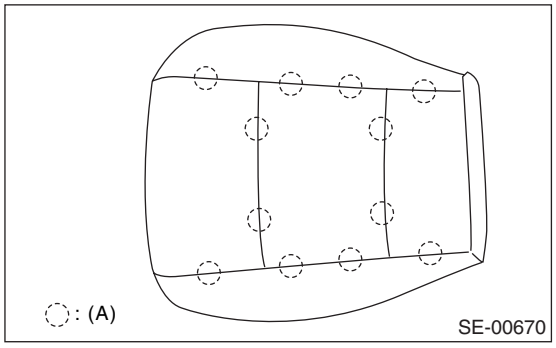

18) Remove the bolt (A) and hook (B) on left and right side, and then remove the seat cushion frame from slide rail assembly.



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.

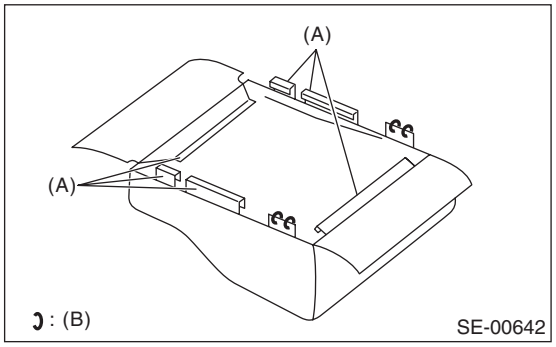



### 2. PASSENGER'S SEAT

**CAUTION:**
**• If the seat cushion cover is removed or replaced, make sure to perform passenger 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 passenger detection system (passenger seat only) control unit, passenger detection sensor, seat cushion pad and seat cushion frame are considered as a single seat cushion pad and frame assembly. Never remove the passenger detection control unit or the pressure sensor from the seat cushion frame.**
**• If the seat cushion cover is removed, make sure to replace the hang wire on the seat cushion side with a new wire.**

1) Remove the seat from vehicle. <Ref. to SE-9, 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).



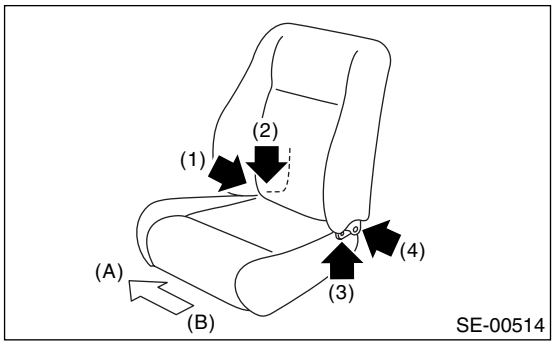

## D: ASSEMBLY

**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 backrest 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-11, 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.

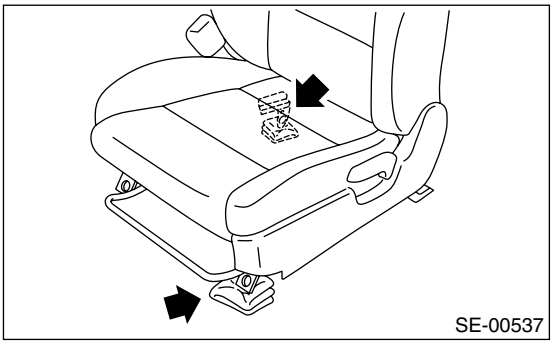



(A) Vehicle inside
(B) Vehicle outside

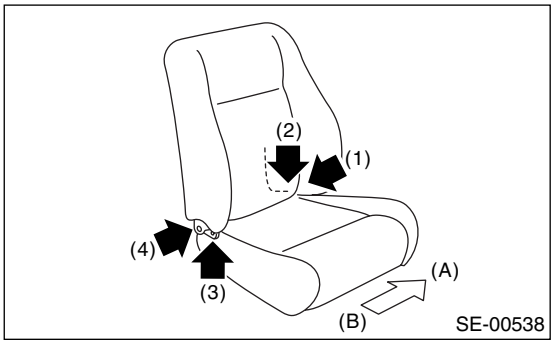
4) Assemble in the reverse order of disassembly.

### 2. PASSENGER'S SEAT

**CAUTION:**
**Make sure to adhere to the following rules when assembling the passenger seat. Improper work procedures can cause the passenger detection system to not operate properly.**
**• If the seat cushion cover is removed or replaced, make sure to perform passenger 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 passenger detection system (passenger seat only) control unit, passenger detection sensor, seat cushion pad and seat cushion frame are considered as a single seat cushion pad and frame assembly. Never remove the passenger detection control unit or the pressure sensor from the seat cushion frame.**
**• If the seat cushion cover is removed, make sure to replace the hang wire on the seat cushion side with a new wire.**
**• 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 installing the backrest assembly to the seat cushion assembly, fill the gap in the front side of slide rail LH and in the rear side of slide rail RH with cloth etc. in order to stabilize the seat cushion assembly.




4) Temporarily tighten the reclining hinge bolts in the order of (1) through (4) to an extent that the seat backrest assembly is not held securely.




(A) Vehicle inside
(B) Vehicle outside

5) Use the reclining lever to place the backrest in the most upright position, and check the first lock position of recliner.
6) 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.**
7) 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 no tear or fray on the backrest cover and seat cushion cover.

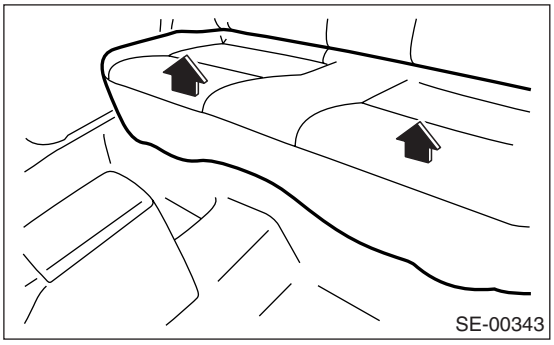
NOTE:
If the door side of the backrest cover is torn or frayed, the side airbag may not be deployed properly. In this case, replace the backrest cover.

# 3. Rear Seat

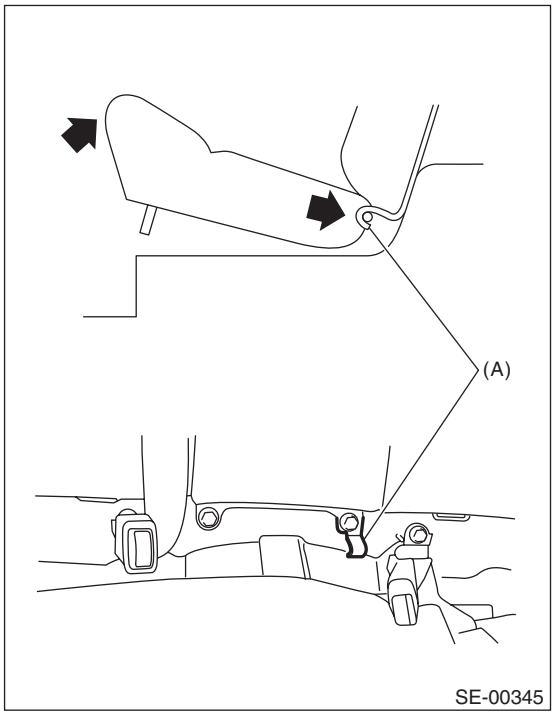
## A: REMOVAL

### 1. SEDAN MODEL

1) Remove the two hooks while lifting up the rear seat cushion.

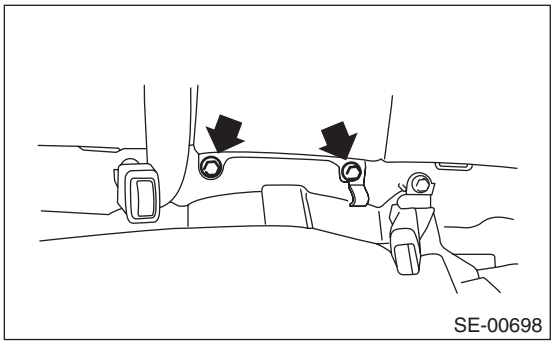

SE-00343

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



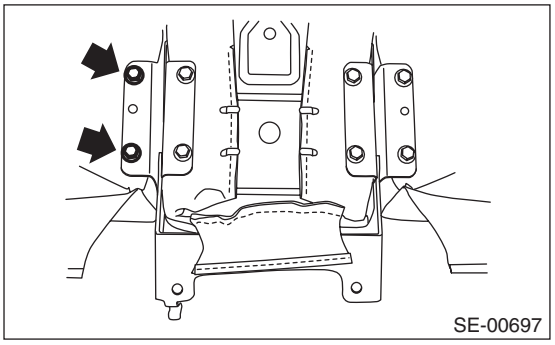
SE-00345

3) Remove two bolts in the center of the backrest.

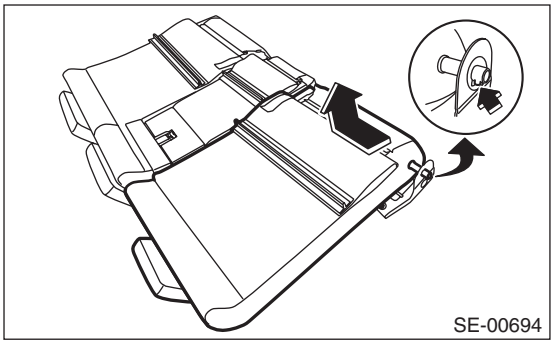

SE-00698

4) Tilt the backrest forward, remove the plastic fastener at the rear mat.

5) Remove the hinge assembly center bolts.


SE-00697

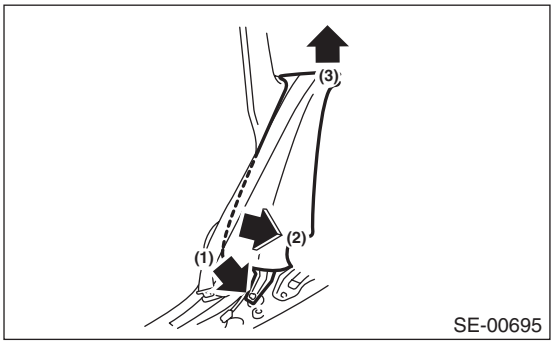
6) Push the entire seat to the direction of arrow and remove backrest assembly LH from the hinge assembly.


SE-00694

NOTE:
The backrest cannot be detached while the cutout on hinge assembly side and the pin on the backrest side are not aligned.

7) Similarly, remove the backrest assembly RH by performing the above step 6).

8) Remove the backrest shoulders (left and right) by performing the following procedures.

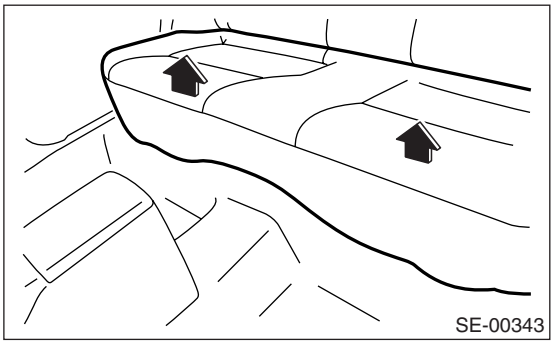


SE-00695

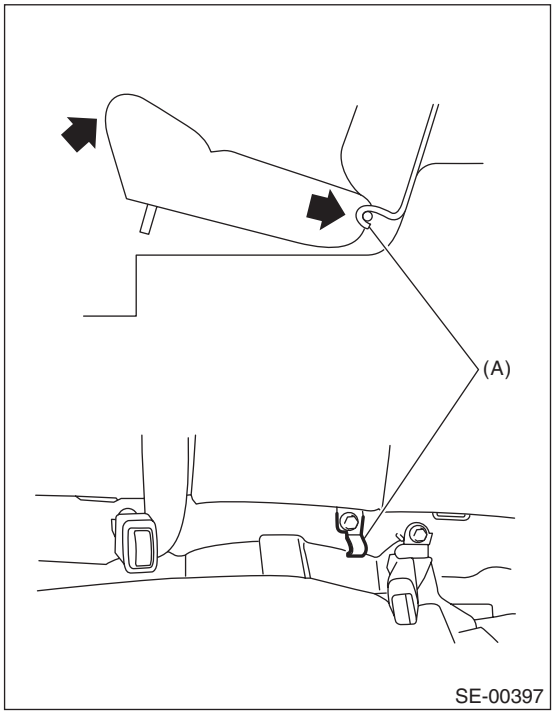
(1) Remove the bolt.
(2) Moving the lower side of backrest shoulder to the direction of arrow, and remove it from the stud bolt.
(3) Lift to remove the backrest shoulder.

## 2. WAGON MODEL

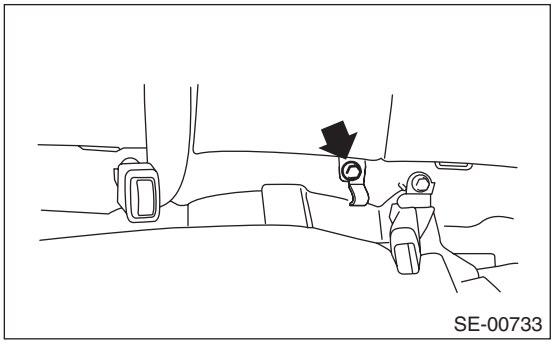
1) Disconnect the ground cable from the battery.
2) Remove the two hooks while lifting up the rear seat cushion.



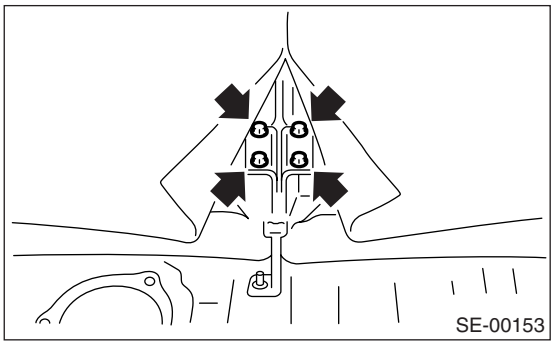

3) Remove the hook (A) by pushing it back while lifting the front side of the seat cushion, and remove the seat cushion.



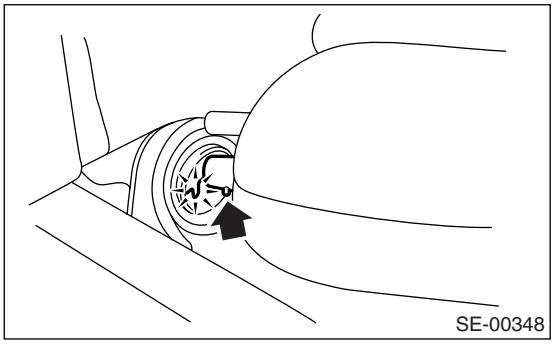

4) Remove bolt in the center of the backrest.



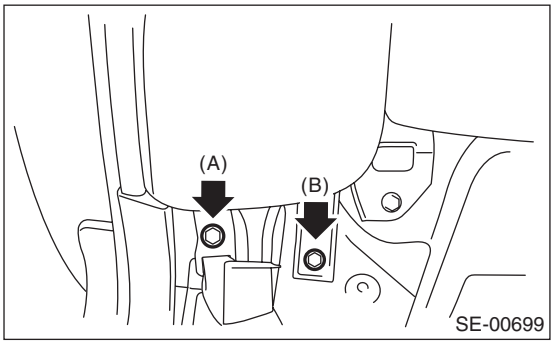

5) Remove the headrest, and then tilt the backrest forward.
6) Remove the luggage floor box. <Ref. to EI-70, REMOVAL, Luggage Floor Box.>
7) Peel the rear face mat and remove the hinge assembly center bolts.



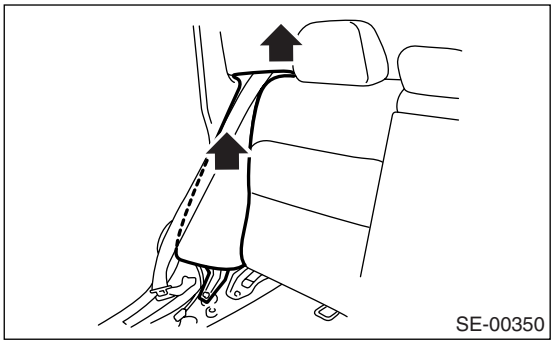

8) Remove the backrest assembly LH from hinge assembly LH.



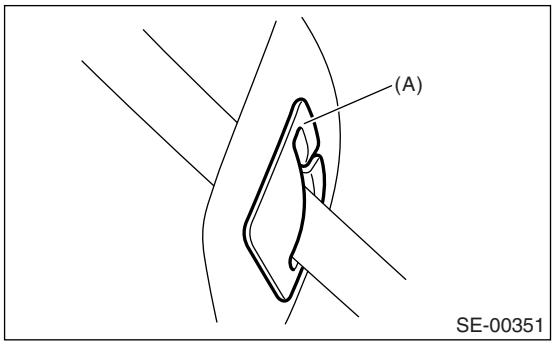

NOTE:
The backrest cannot be detached while the hinge assembly side and the backrest pin are not aligned.
9) Similarly, remove the backrest assembly RH by performing the above step 8).
10) Remove the lower anchor bolt (A) of the outer seat belt and backrest shoulder bolt (B).




11) Remove the backrest shoulder with lifting it up.



12) Remove the belt cover (A) from the backrest shoulder, then pull the seat belt out.




## B: INSTALLATION

Install in the reverse order of removal.

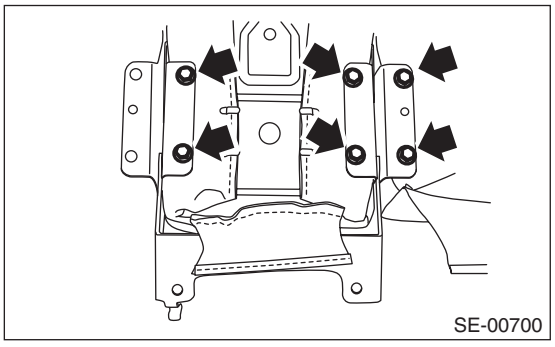
NOTE:
• After installing the backrest, make sure that each seat belt operates normally.
• Make sure that they are properly secured on each hook on the vehicle side.

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

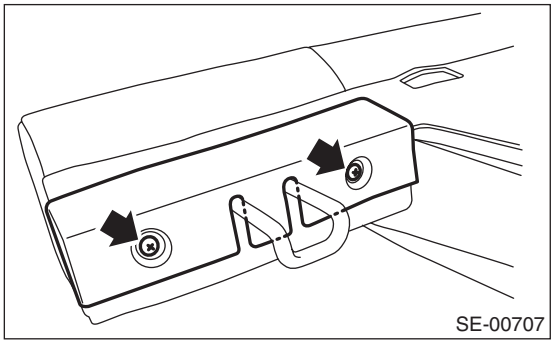
## C: DISASSEMBLY

### 1. SEDAN MODEL

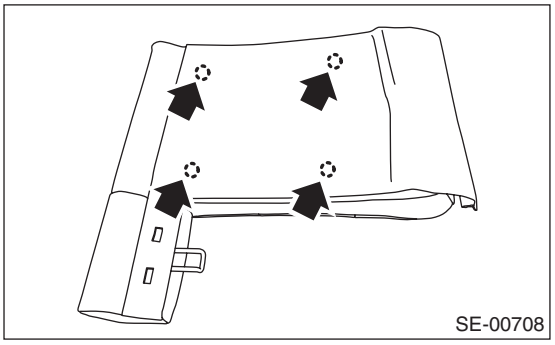
1) Remove the rear seat. <Ref. to SE-17, SEDAN MODEL, REMOVAL, Rear Seat.>
2) Remove the headrest.
3) Remove the hinge assembly center bolts.



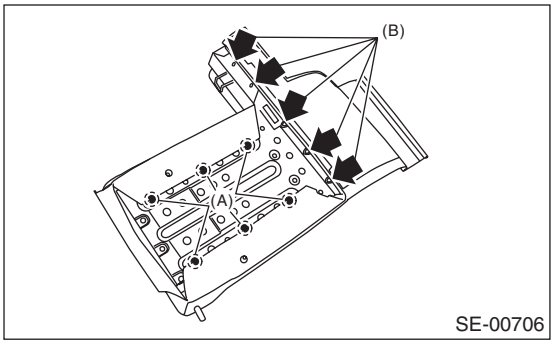

4) Remove the screws and detach the cover.




5) Remove tree clips and peel the back cover.



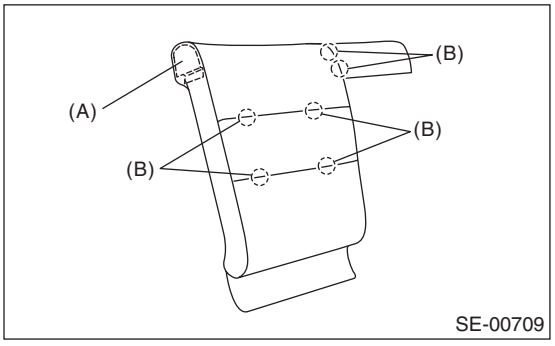

6) Turn over the backrest cover to remove hog rings (A) and hooks (B).




7) Remove the headrest bushing.
8) Remove the button cover.

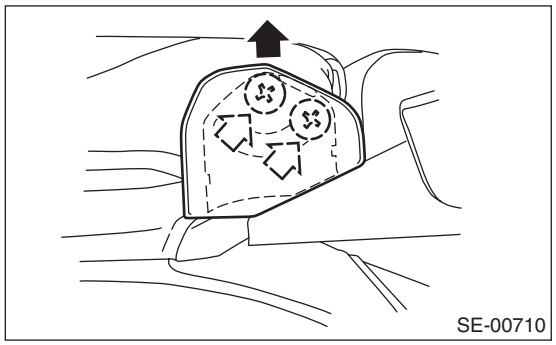
**CAUTION:**
**The front and side faces of button cover have claws. Forceful removal can cause damage.**

9) Remove the plate of should section (A).
10) Remove the hog rings (B) on the front side of backrest, and then remove the backrest cover.

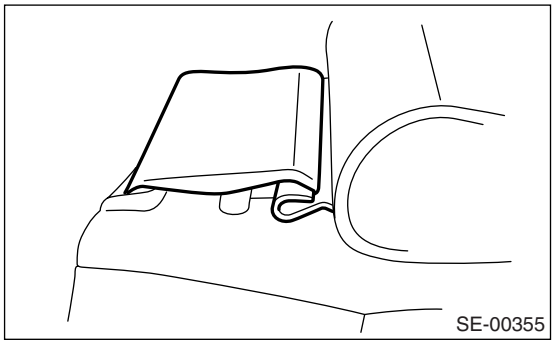



11) Remove the seat frame assembly from the backrest pad.
12) Disassemble the backrest assembly LH by referring to above procedures.

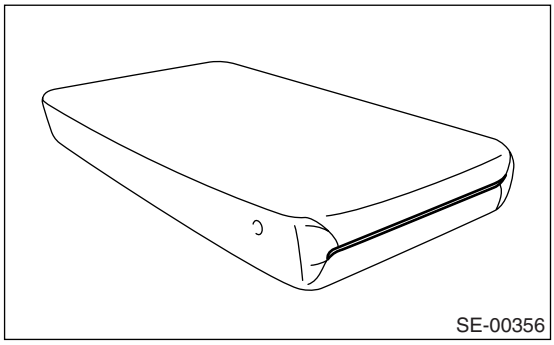
13) Remove the armrest hinge covers on both sides in direction of black arrow, and loosen the screws to remove the armrests.


SE-00710

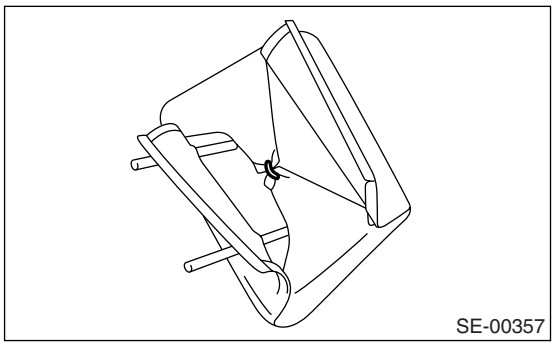
14) Remove the hinge assembly center from trunk through backboard.
15) Remove the hook, and then detach the center through cover.


SE-00355

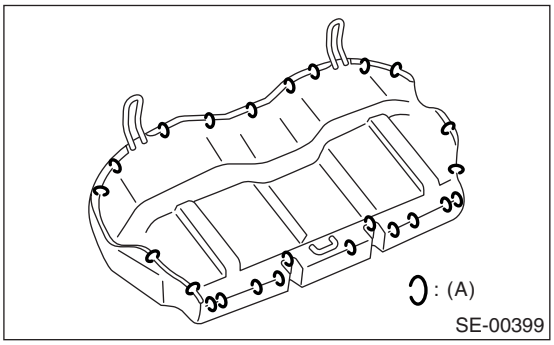
16) Remove the hook, and then remove the armrest cover.


SE-00356

17) Remove the hook and hog ring, and then remove the headrest cover.

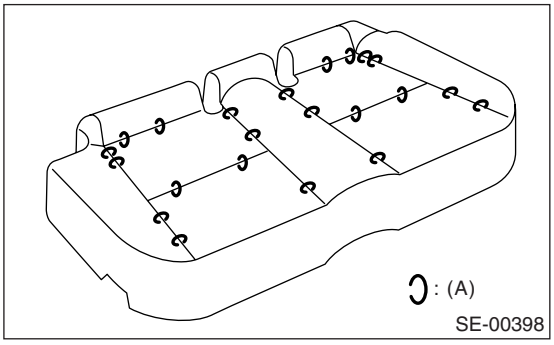

SE-00357

18) Remove the hog rings (A) on the rear side of the seat cushion.



SE-00399

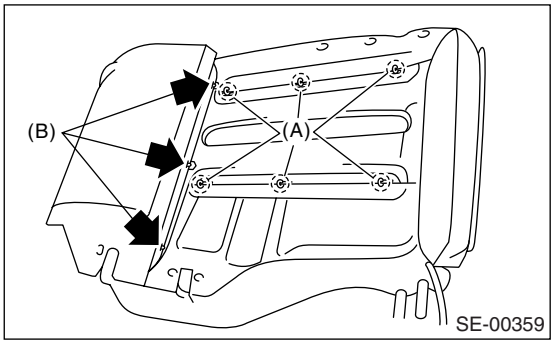
19) Remove the hog rings (A), then remove the seat cushion cover.



SE-00398

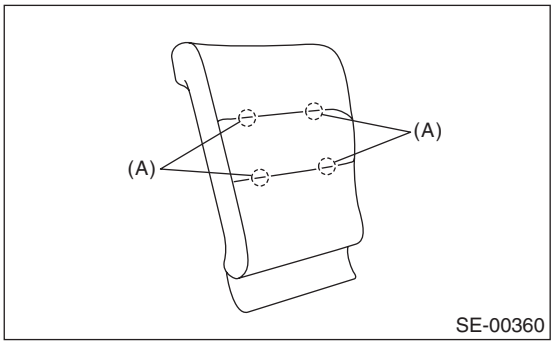
## 2. WAGON MODEL

1) Remove the rear seat. <Ref. to SE-18, WAGON MODEL, REMOVAL, Rear Seat.>
2) Remove the hooks at the bottom of backrest assembly LH, and then turn over the backrest cover to remove the hog rings (A) and hooks (B).



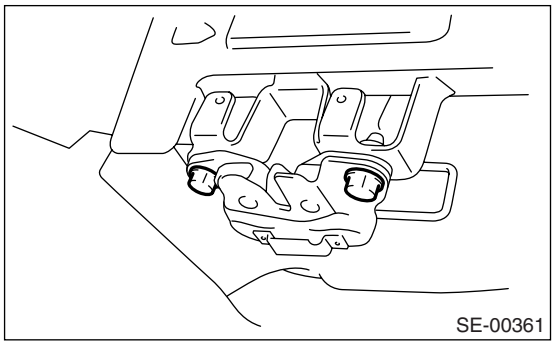
SE-00359

3) Remove the headrest bushing.
4) Remove the hog rings (A) on the front side of backrest, and then remove the backrest cover.

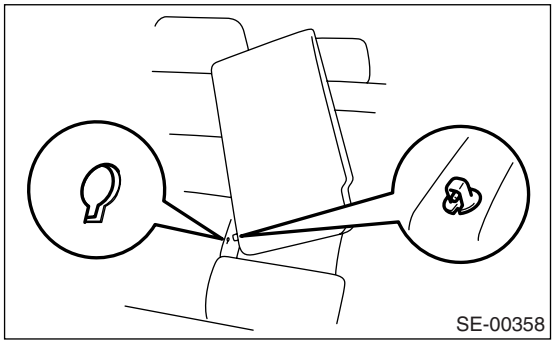


SE-00360

5) Remove the bolts, and then remove the backrest latch.


SE-00361

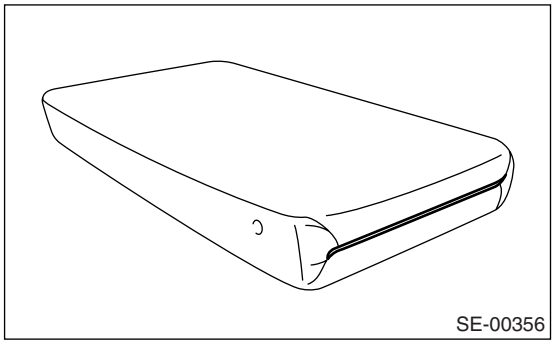
6) Loosen the screws to remove the armrest from backrest assembly RH.


SE-00358

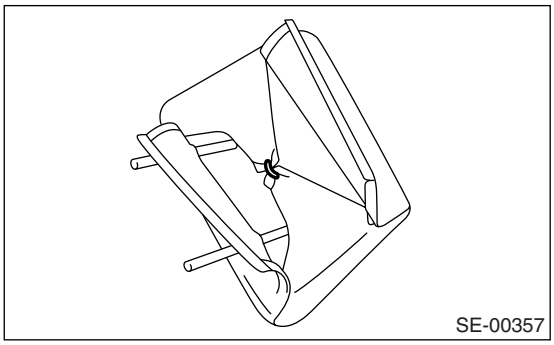
NOTE:
The armrests cannot be detached while the backrest assembly RH and armrest side pin positions are not aligned.

7) Disassemble the backrest assembly RH by referring to above procedures.

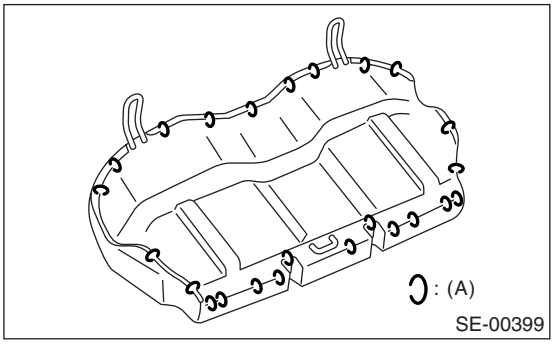
8) Remove the hook, and then remove the armrest cover.


SE-00356

9) Remove the hook and hog ring, and then remove the headrest cover.

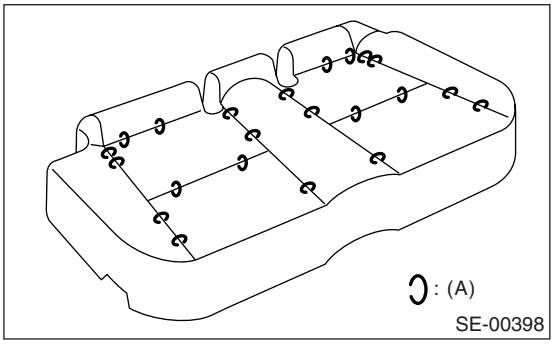

SE-00357

10) Remove the hog rings (A) on the rear side of the seat cushion.



SE-00399

11) Remove the hog rings (A), then remove the seat cushion cover.



SE-00398

## D: ASSEMBLY

Assemble in the reverse order of disassembly.

**CAUTION:**
- **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.**

NOTE:
- Do not contaminate or damage the cover.
- While installing the hog rings, prevent the seat from getting wrinkled.

## E: INSPECTION

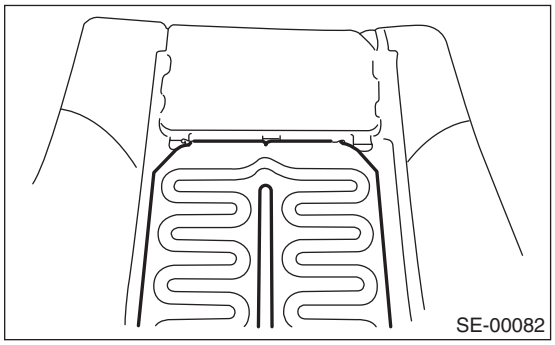
Check that no tear or fray on the seat cover.

# 4. Seat Heater System

## A: REMOVAL

### 1. SEAT HEATER UNIT

1) Remove the front seats. <Ref. to SE-9, REMOVAL, Front Seat.>
2) Remove the backrest cover of front seat and seat cushion cover. <Ref. to SE-9, DISASSEMBLY, Front Seat.>
3) Remove the hog rings, and then remove the seat heater unit.




### 2. SEAT HEATER SWITCH

1) Remove the console box. <Ref. to EI-51, REMOVAL, Console Box.>
2) Remove the seat heater switch from the console box.

## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

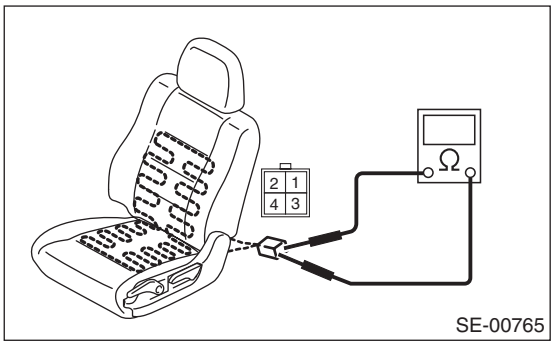
### 1. WIRING DIAGRAM

<Ref. to WI-119, WIRING DIAGRAM, Power Seat System.>

### 2. SEAT HEATER UNIT

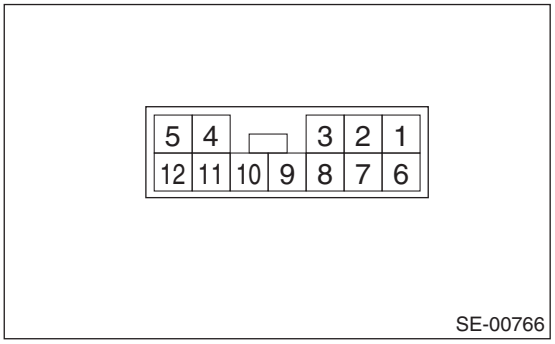
Disconnect the seat heater unit connector, and check the continuity between terminals of connector.

***Connector & terminal***
***No. 1 — No. 3:***
***No. 1 — No. 4:***
***No. 3 — No. 4:***




If no continuity exists, replace the seat heater unit with a new part.

### 3. SEAT HEATER SWITCH




**• CHECK THERMISTOR OUTPUT VOLTAGE**

1) Connect the battery to the connector.

***With SI-DRIVE***
***Connector terminals No. 12 (+):***

***Without SI-DRIVE***
***Connector terminals No. 11 (+):***

2) Measure the voltage between connector and chassis ground.

***Connector & terminal:***

***With SI-DRIVE***
***LHD side seat***
***(C2) No. 8 (+) — Chassis ground (–):***
***RHD side seat***
***(C2) No. 6 (+) — Chassis ground (–):***

***Without SI-DRIVE***
***LHD side seat***
***(C2) No. 2 (+) — Chassis ground (–):***
***RHD side seat***
***(C2) No. 4 (+) — Chassis ground (–):***

If voltage is not 1.5 V or more, replace the seat heater switch.

- **CHECK SWITCH OUTPUT VOLTAGE**

1) Connect the battery to the connector.

***With SI-DRIVE***
***Connector terminals No. 12 (+):***

***Without SI-DRIVE***
***Connector terminals No. 11 (+):***

2) Measure the voltage between connector and chassis ground when turning the switch to other than OFF position.

***Connector & terminal:***

***With SI-DRIVE***
***LHD side seat***
***(C2) No. 11 (+) — Chassis ground (–):***
***RHD side seat***
***(C2) No. 10 (+) — Chassis ground (–):***

***Without SI-DRIVE***
***LHD side seat***
***(C2) No. 10 (+) — Chassis ground (–):***
***RHD side seat***
***(C2) No. 5 (+) — Chassis ground (–):***

If voltage does not change from 10 V or more to zero, replace the seat heater switch.

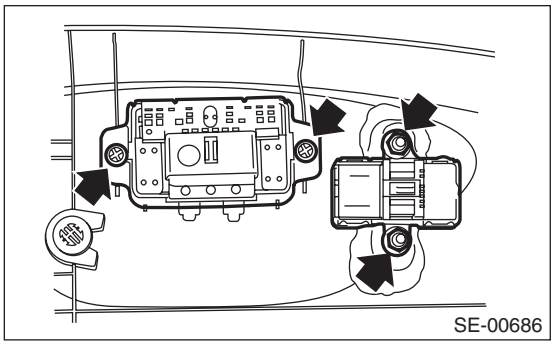
# 5. Power Seat System

## 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

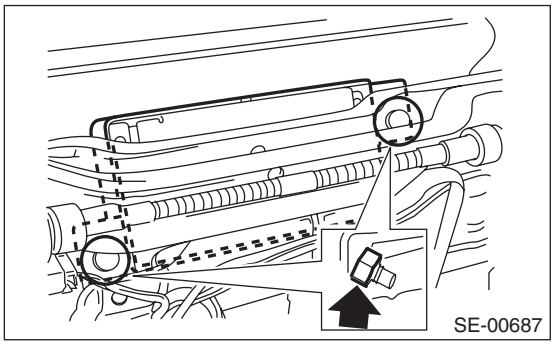
1) Detach the connectors and remove the seat side cover outside. <Ref. to SE-9, DISASSEMBLY, Front Seat.>
2) Remove the screws to remove the power seat switch assembly.


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-38, ADJUSTMENT, Power Seat System.>
• Check the following items after replacing the memory-equipped seat or the memory module.
  • AT model
  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.
  • MT model
  1. Memory feature is restored after turning ignition switch to ON and pulling parking brake lever.
  2. Memory feature is not restored after turning the ignition switch to ON and pushing parking brake lever.

## C: INSPECTION

### 1. WIRING DIAGRAM

<Ref. to WI-119, WIRING DIAGRAM, Power Seat System.>

### 2. TROUBLE SYMPTOM

• Driver's seat (without memory)

| Symptom | Criteria |
|---|---|
| All function fails to operate. <Ref. to SE-26, ALL FUNCTION FAILS TO OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.> | • Power seat switch<br>• Power seat harness<br>• Body harness |
| A part of function does not operate. <Ref. to SE-27, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.> | • Power seat switch<br>• Power seat harness<br>• Relevant motor |

- Driver's seat (memory-equipped)

| Symptom | Criteria |
|---|---|
| Does not operate by manual operation. <Ref. to SE-29, DOES NOT OPERATE IN MANUAL OPERATION (DRIVER'S SEAT, MEMORY-EQUIPPED), INSPECTION, Power Seat System.> | • Power seat switch<br>• Power seat harness<br>• Body harness<br>• Relevant motor and encoder |
| A part of function does not operate. <Ref. to SE-30, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.> | • Power seat switch<br>• Power seat harness<br>• Relevant motor and encoder<br>• Memory module |
| Fails to store the location to the memory <Ref. to SE-34, FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.> | • Memory switch<br>• Power seat harness<br>• Memory module |
| Restoring operation is impossible <Ref. to SE-35, FAILS TO PERFORM THE REPLAY OPERATION (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.> | • Memory switch<br>• Memory module<br>• Motor and encoder |
| Initial setting is impossible <Ref. to SE-36, INITIALIZATION IS IMPOSSIBLE., INSPECTION, Power Seat System.> | • Power seat harness<br>• Memory module |

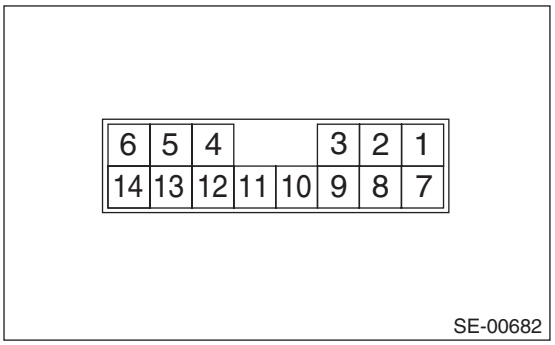
- Passenger's seat

| Symptom | Criteria |
|---|---|
| All function fails to operate. <Ref. to SE-36, ALL FUNCTION FAILS TO OPERATE. (PASSENGER'S SEAT), INSPECTION, Power Seat System.> | • Power seat switch<br>• Power seat harness<br>• Body harness |
| A part of function does not operate. <Ref. to SE-37, SOME OF THE MOTORS DO NOT OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.> | • Power seat switch<br>• Power seat harness<br>• Relevant motor |

## 3. CHECK POWER SEAT SWITCH

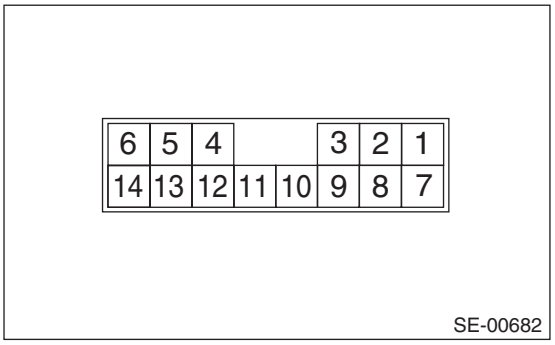
Move each switch and measure the resistance between connector terminals.

- Driver's seat (without memory)



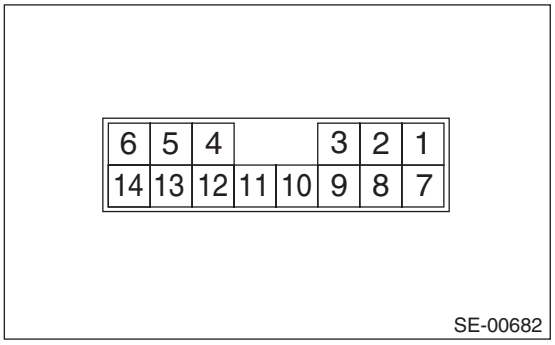

| Switch position | Terminal No. | Standard |
|---|---|---|
| Slide forward | 7 and 14<br>8 and 13 | Less than 10 Ω |
| Slide backward | 7 and 13<br>8 and 14 | Less than 10 Ω |
| Tilt up | 7 and 2<br>8 and 1 | Less than 10 Ω |
| Tilt down | 7 and 1<br>8 and 2 | Less than 10 Ω |
| Lifter up | 7 and 5<br>8 and 6 | Less than 10 Ω |
| Lifter down | 7 and 6<br>8 and 5 | Less than 10 Ω |
| Reclining forward | 7 and 3<br>8 and 4 | Less than 10 Ω |
| Reclining backward | 7 and 4<br>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 |

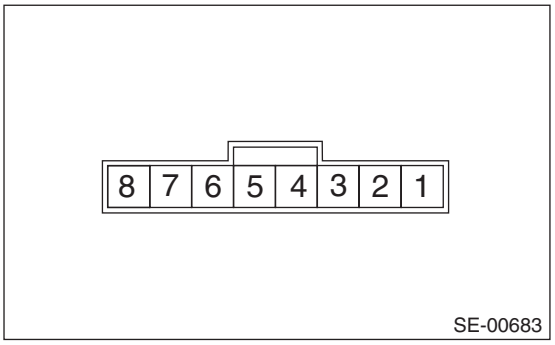
- Passenger's seat




| Switch position | Terminal No. | Standard |
|---|---|---|
| Slide forward | 7 and 13<br>8 and 14 | Less than 10 Ω |
| Slide backward | 7 and 14<br>8 and 13 | Less than 10 Ω |
| Reclining forward | 7 and 4<br>8 and 3 | Less than 10 Ω |
| Reclining backward | 7 and 3<br>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.**<br>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-27, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY), INSPECTION, Power Seat System.> |
| 2 | **CHECK FUSE.**<br>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.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the voltage between harness connector and chassis ground.<br>***Connector & terminal***<br>***(R190) No. 7 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **4**. | Check body harness. |
| 4 | **CHECK POWER SUPPLY CIRCUIT.**<br>Measure the resistance between power seat switch harness connector and chassis ground.<br>***Connector & terminal***<br>***(R190) No. 8 — Chassis ground:*** | Is resistance less than 10 Ω? | Replace the power seat switch assembly. | Check body harness. |

## 6. SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITHOUT MEMORY)

• Malfunction of slide operation

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SWITCH.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **2**. | Replace the power seat switch assembly. |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and slide motor connector.<br>2) Measure the resistance between the power seat switch connector and slide motor connector.<br>***Connector & terminal***<br>***(R192) No. 1 — (R190) No. 14:***<br>***(R192) No. 2 — (R190) No. 13:*** | Is resistance less than 10 Ω? | Go to step **3**. | Check power seat harness. |
| 3 | **CHECK SLIDE MOTOR.**<br>1) Connect the power seat switch connector and slide motor connector.<br>2) Apply 12 V to the slide motor and check the motor rotation.<br>***Connector & terminal***<br>***(R190) No. 14 (+) — (R190) No. 13 (–):***<br>***(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.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **2**. | Replace the power seat switch assembly. |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and tilt motor connector.<br>2) Measure the resistance between power seat switch connector and tilt motor connector.<br>***Connector & terminal***<br>***(R197) No. 2 — (R190) No. 2:***<br>***(R197) No. 3 — (R190) No. 1:*** | Is resistance less than 10 Ω? | Go to step **3**. | Check power seat harness. |
| 3 | **CHECK TILT MOTOR.**<br>1) Connect the power seat switch connector and tilt motor connector.<br>2) Apply 12 V to the tilt motor and check the motor rotation.<br>***Connector & terminal***<br>***(R190) No. 2 (+) — (R190) No. 1 (–):***<br>***(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.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **2**. | Replace the power seat switch assembly. |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and lifter motor connector.<br>2) Measure the resistance between the power seat switch connector and lifter motor connector.<br>***Connector & terminal***<br>***(R194) No. 4 — (R190) No. 5:***<br>***(R194) No. 3 — (R190) No. 6:*** | Is resistance less than 10 Ω? | Go to step **3**. | Check power seat harness. |
| 3 | **CHECK LIFTER MOTOR.**<br>1) Connect the power seat switch connector and lifter motor connector.<br>2) Apply 12 V to the lifter motor and check the motor rotation.<br>***Connector & terminal***<br>***(R190) No. 5 (+) — (R190) No. 6 (–):***<br>***(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.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **2**. | Replace the power seat switch assembly. |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and reclining motor connector.<br>2) Measure the resistance between the power seat switch connector and reclining motor connector.<br>***Connector & terminal***<br>***(R191) No. 2 — (R190) No. 3:***<br>***(R191) No. 1 — (R190) No. 4:*** | Is resistance less than 10 Ω? | Go to step **3**. | Check power seat harness. |
| 3 | **CHECK RECLINING MOTOR.**<br>1) Connect the power seat switch connector and reclining motor connector.<br>2) Apply 12 V to the reclining motor and check the motor rotation.<br>***Connector & terminal***<br>***(R190) No. 3 (+) — (R190) No. 4 (–):***<br>***(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.**<br>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-30, SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.> |
| 2 | **CHECK FUSE.**<br>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.**<br>1) Disconnect the memory module connector.<br>2) Measure the voltage between harness connector and chassis ground.<br>***Connector & terminal***<br>***(R195) No. 10 (+) — Chassis ground (–):***<br>***(R196) No. 8 (+) — Chassis ground (–):***<br>***(R196) No. 3 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **4**. | Check body harness. |
| 4 | **CHECK POWER SUPPLY CIRCUIT.**<br>Measure the resistance between memory module harness connector and chassis ground.<br>***Connector & terminal***<br>***(R196) No. 14 — Chassis ground:***<br>***(R196) No. 12 — Chassis ground:*** | Is resistance less than 10 Ω? | Go to step **5**. | Check body harness. |
| 5 | **CHECK IGNITION CIRCUIT.**<br>Measure the voltage between harness connector and chassis ground while turning the ignition switch to ON.<br>***Connector & terminal***<br>***(R195) No. 11 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **6**. | Check body harness. |
| 6 | **CHECK TRANSMISSION CIRCUIT.**<br>Measure the resistance between harness connector and chassis ground in the following condition.<br>• AT model: Select lever shifted to P position.<br>• MT model: Parking brake lever pulled.<br>***Connector & terminal***<br>***(R195) No. 12 — Chassis ground:*** | Is resistance less than 10 Ω? | Go to step **7**. | Check body harness. |
| 7 | **CHECK SWITCH.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Replace the memory module. | Replace the power seat switch assembly. |

## 8. SOME OF THE MOTORS DO NOT OPERATE (DRIVER'S SEAT, WITH MEMORY)

- Malfunction of slide operation

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK OPERATION.**<br>Check the slide motor rotation while moving the switch to slide forward and slide backward. | 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.**<br>1) Disconnect the harness connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **3**. | Replace the power seat switch assembly. |
| 3 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and slide motor connector.<br>2) Measure the resistance between the memory module connector and power seat switch connector.<br>***Connector & terminal***<br>***(R195) No. 7 — (R190) No. 13:***<br>***(R195) No. 6 — (R190) No. 14:*** | Is resistance less than 10 Ω? | Go to step **4**. | Check power seat harness. |
| 4 | **CHECK HARNESS.**<br>1) Disconnect the slide motor connector.<br>2) Measure the resistance between the memory module connector and slide motor connector.<br>***Connector & terminal***<br>***(R196) No. 16 — (R206) No. 1:***<br>***(R196) No. 15 — (R206) No. 2:*** | Is resistance less than 10 Ω? | Go to step **5**. | Check power seat harness. |
| 5 | **CHECK SLIDE MOTOR.**<br>Apply battery voltage to the memory module connector and check the motor rotation.<br>***Connector & terminal***<br>***(R196) No. 16 (+) — (R196) No. 15 (–):***<br>***(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.**<br>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.**<br>1) Disconnect the harness connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to tilt up and tilt down. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **3**. | Replace the power seat switch assembly. |
| 3 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and tilt motor connector.<br>2) Measure the resistance between the memory module connector and power seat switch connector.<br>***Connector & terminal***<br>***(R195) No. 3 — (R190) No. 5:***<br>***(R195) No. 2 — (R190) No. 6:*** | Is resistance less than 10 Ω? | Go to step **4**. | Check power seat harness. |
| 4 | **CHECK HARNESS.**<br>1) Disconnect the tilt motor connector.<br>2) Measure the resistance between the memory module connector and tilt motor connector.<br>***Connector & terminal***<br>***(R196) No. 4 — (R197) No. 3:***<br>***(R196) No. 5 — (R197) No. 2:*** | Is resistance less than 10 Ω? | Go to step **5**. | Check power seat harness. |
| 5 | **CHECK TILT MOTOR.**<br>Apply battery voltage to the memory module connector and check the motor rotation.<br>***Connector & terminal***<br>***(R196) No. 4 (+) — (R196) No. 5 (–):***<br>***(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.**<br>Check the lifter motor rotation while turning the switch to lifter up and lifter 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.**<br>1) Disconnect the harness connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to lifter up and lifter down. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **3**. | Replace the power seat switch assembly. |
| 3 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and lifter motor connector.<br>2) Measure the resistance between the memory module connector and power seat switch connector.<br>***Connector & terminal***<br>***(R195) No. 5 — (R190) No. 2:***<br>***(R195) No. 4 — (R190) No. 1:*** | Is resistance less than 10 Ω? | Go to step **4**. | Check power seat harness. |
| 4 | **CHECK HARNESS.**<br>1) Disconnect the lifter motor connector.<br>2) Measure the resistance between the memory module connector and lifter motor connector.<br>***Connector & terminal***<br>***(R196) No. 1 — (R194) No. 4:***<br>***(R196) No. 2 — (R194) No. 3:*** | Is resistance less than 10 Ω? | Go to step **5**. | Check power seat harness. |
| 5 | **CHECK LIFTER MOTOR.**<br>Apply battery voltage to the memory module connector and check the motor rotation.<br>***Connector & terminal***<br>***(R196) No. 1 (+) — (R196) No. 2 (–):***<br>***(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.**<br>Check the reclining motor rotation while moving the switch to reclining forward and reclining backward. | Does the motor rotate for one second or more when operating the switch? | Go to step **2**. | Encoder defection. Replace the backrest hinge and motor assembly. |
| 2 | **CHECK SWITCH.**<br>1) Disconnect the harness connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **3**. | Replace the power seat switch assembly. |
| 3 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and reclining motor connector.<br>2) Measure the resistance between the memory module connector and power seat switch connector.<br>***Connector & terminal***<br>***(R195) No. 9 — (R190) No. 4:***<br>***(R195) No. 8 — (R190) No. 3:*** | Is resistance less than 10 Ω? | Go to step **4**. | Check power seat harness. |
| 4 | **CHECK HARNESS.**<br>1) Disconnect the slide motor connector.<br>2) Measure the resistance between the memory module connector and reclining motor connector.<br>***Connector & terminal***<br>***(R196) No. 6 — (R191) No. 1:***<br>***(R196) No. 7 — (R191) No. 2:*** | Is resistance less than 10 Ω? | Go to step **5**. | Check power seat harness. |
| 5 | **CHECK RECLINING MOTOR.**<br>Apply battery voltage to the memory module connector and check the motor rotation.<br>***Connector & terminal***<br>***(R196) No. 6 (+) — (R196) No. 7 (–):***<br>***(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.**<br>1) Disconnect the harness connector of memory switch assembly.<br>2) Perform the memory switch inspection.<br><Ref. to SE-26, CHECK MEMORY SWITCH (MEMORY-EQUPPED), INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **2**. | Replace the memory switch assembly. |
| 2 | **CHECK HARNESS.**<br>Measure the resistance between the memory switch connector and memory module connector.<br>***Connector & terminal***<br>***(R195) No. 13 — (R198) No. 3:***<br>***(R195) No. 14 — (R198) No. 2:***<br>***(R195) No. 15 — (R198) No. 8:*** | Is resistance less than 10 Ω? | Go to step **3**. | Check power seat harness. |
| 3 | **CHECK COMBINATION METER.**<br>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.**<br>Perform the memory seat system initialization. <Ref. to SE-38, ADJUSTMENT, Power Seat System.> | Is the initialization completed successfully? | Replace the memory module. | <Ref. to SE-36, 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.**<br>Perform the memory operation of the seat position. | Is the seat position correctly memorized? | Go to step **2**. | <Ref. to SE-34, FAILS TO STORE THE LOCATION TO THE MEMORY (DRIVER'S SEAT, WITH MEMORY), INSPECTION, Power Seat System.> |
| 2 | **CHECK SWITCH.**<br>1) Disconnect the harness connector of memory switch assembly.<br>2) Perform the memory switch inspection. <Ref. to SE-26, CHECK MEMORY SWITCH (MEMORY-EQUPPED), INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **3**. | Replace the memory switch assembly. |
| 3 | **CHECK HARNESS.**<br>Measure the resistance between the memory switch connector and memory module connector.<br>***Connector & terminal***<br>***(R195) No. 13 — (R198) No. 3:***<br>***(R195) No. 14 — (R198) No. 2:***<br>***(R195) No. 15 — (R198) No. 8:*** | Is resistance less than 10 Ω? | Go to step **4**. | Check power seat harness. |
| 4 | **CHECK COMBINATION METER.**<br>Turn the ignition switch to ON and check the indicator light inside the meter.<br>• AT model: when the select lever is in P position<br>• MT model: when the parking brake lever is pulled | Is indicator light displayed? | Go to step **5**. | Check the combination meter. <Ref. to IDI-4, INSPECTION, Combination Meter System.> |
| 5 | **CHECK OPERATION.**<br>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.**<br>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.**<br>1) Disconnect the harness connector of power seat switch assembly.<br>2) Measure the resistance between all the connector terminals of power seat switch assembly.<br><Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | 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.**<br>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-37, SOME OF THE MOTORS DO NOT OPERATE (PASSENGER'S SEAT), INSPECTION, Power Seat System.> |
| 2 | **CHECK FUSE.**<br>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.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the voltage between harness connector and chassis ground.<br>***Connector & terminal***<br>***(R200) No. 7 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **4**. | Check body harness. |
| 4 | **CHECK POWER SUPPLY CIRCUIT.**<br>Measure the resistance between power seat switch harness connector and chassis ground.<br>***Connector & terminal***<br>***(R200) No. 8 — Chassis ground:*** | Is resistance less than 10 Ω? | Replace the power seat switch assembly. | Check body harness. |

## 13.SOME OF THE MOTORS DO NOT OPERATE (PASSENGER'S SEAT)

- Malfunction of slide operation

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SWITCH.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to slide forward and slide backward. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **2**. | Replace the power seat switch assembly. |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and slide motor connector.<br>2) Measure the resistance between the power seat switch connector and slide motor connector.<br>***Connector & terminal***<br>***(R202) No. 1 — (R200) No. 13:***<br>***(R202) No. 2 — (R200) No. 14:*** | Is resistance less than 10 Ω? | Go to step **3**. | Check power seat harness. |
| 3 | **CHECK SLIDE MOTOR.**<br>1) Connect the power seat switch connector and slide motor connector.<br>2) Apply 12 V to the slide motor and check the motor rotation.<br>***Connector & terminal***<br>***(R200) No. 14 (+) — (R200) No. 13 (–):***<br>***(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.**<br>1) Disconnect the connector of power seat switch assembly.<br>2) Measure the resistance between connector terminals when moving the switch to reclining forward and reclining backward. <Ref. to SE-25, CHECK POWER SEAT SWITCH, INSPECTION, Power Seat System.> | Is the inspection result correct? | Go to step **2**. | Replace the power seat switch assembly. |
| 2 | **CHECK HARNESS.**<br>1) Disconnect the power seat switch connector and reclining motor connector.<br>2) Measure the resistance between the power seat switch connector and reclining motor connector.<br>***Connector & terminal***<br>***(R201) No. 2 — (R200) No. 4:***<br>***(R201) No. 1 — (R200) No. 3:*** | Is resistance less than 10 Ω? | Go to step **3**. | Check power seat harness. |
| 3 | **CHECK RECLINING MOTOR.**<br>1) Connect the power seat switch connector and reclining motor connector.<br>2) Apply 12 V to the reclining motor and check the motor rotation.<br>***Connector & terminal***<br>***(R200) No. 3 (+) — (R200) No. 4 (–):***<br>***(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

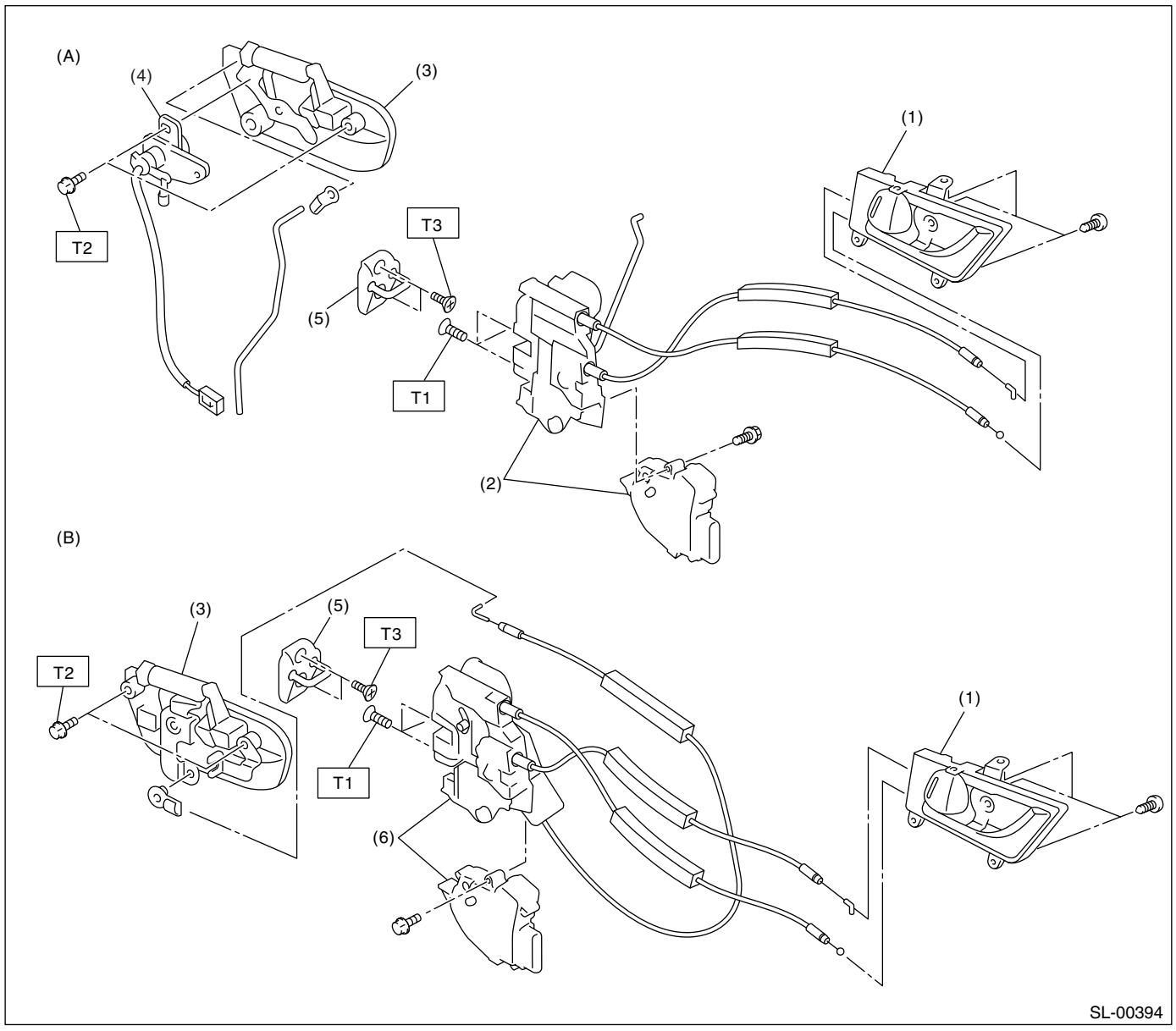
# SL


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Door Lock Control System | 7 |
| 3. | Keyless Entry System | 10 |
| 4. | Security System | 23 |
| 5. | Front Inner Remote | 32 |
| 6. | Front Outer Handle | 33 |
| 7. | Front Door Latch and Door Lock Actuator Assembly | 34 |
| 8. | Front Door Lock Actuator | 35 |
| 9. | Rear Inner Remote | 36 |
| 10. | Rear Outer Handle | 37 |
| 11. | Rear Door Latch and Door Lock Actuator Assembly | 38 |
| 12. | Rear Door Lock Actuator | 39 |
| 13. | Rear Gate Outer Handle | 40 |
| 14. | Rear Gate Latch Assembly | 41 |
| 15. | Trunk Lid Lock Assembly | 42 |
| 16. | Trunk Lid Release Handle | 43 |
| 17. | Front Hood Lock Assembly | 44 |
| 18. | Remote Openers | 45 |
| 19. | Ignition Key Lock | 47 |
| 20. | Key Lock Cylinders | 48 |
| 21. | Security Control Unit | 49 |
| 22. | Impact Sensor | 50 |
| 23. | Keyless Entry Control Module | 51 |
| 24. | Keyless Buzzer | 52 |
| 25. | Body Integrated Unit | 53 |
| 26. | Transmitter | 54 |
| 27. | Immobilizer Control Module | 55 |
| 28. | Immobilizer Antenna | 56 |

# 1. General Description

## A: COMPONENT

### 1. DOOR LOCK ASSEMBLY

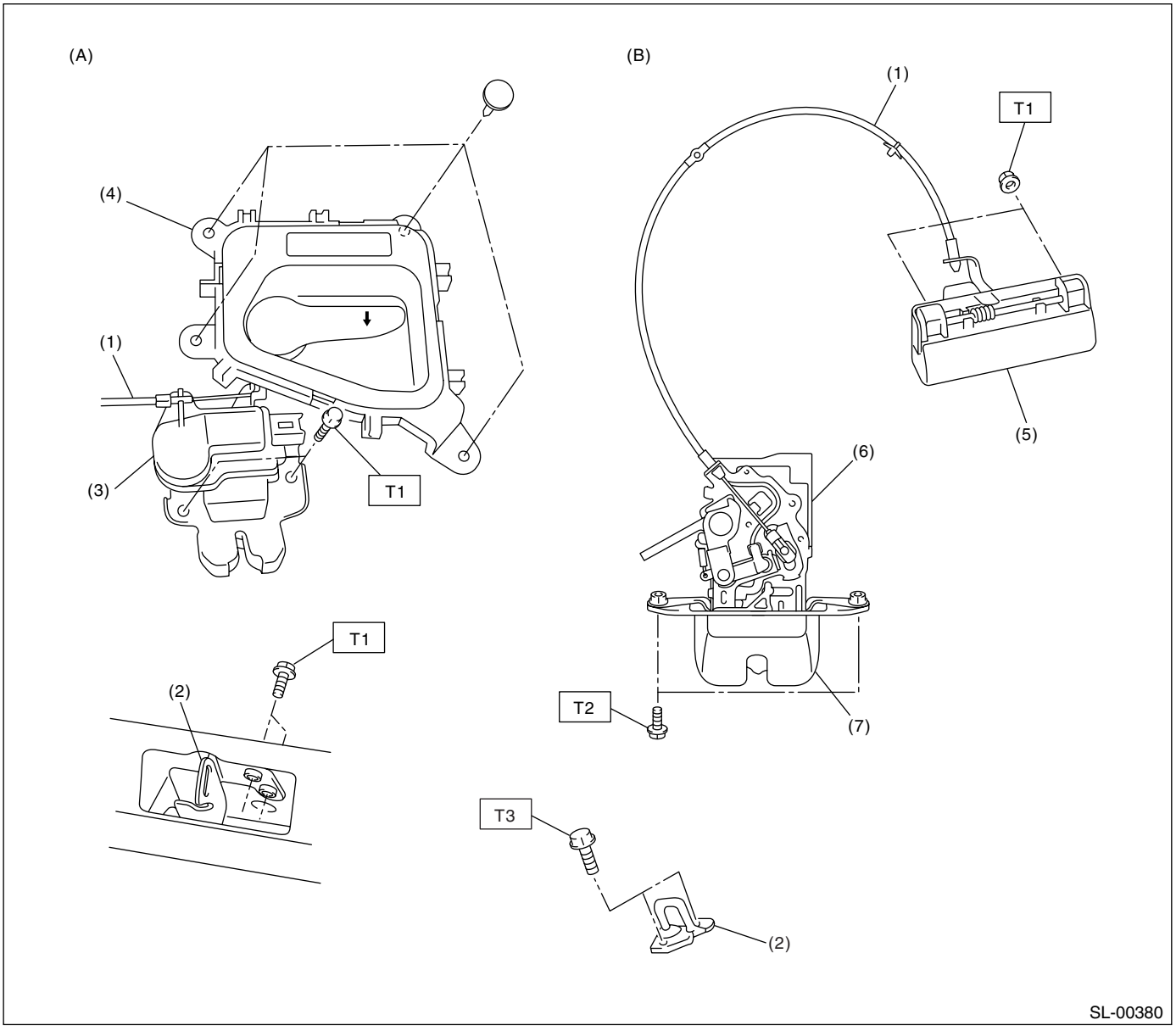



(A) Front
(B) Rear

(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

***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. TRUNK LID AND REAR GATE LOCK

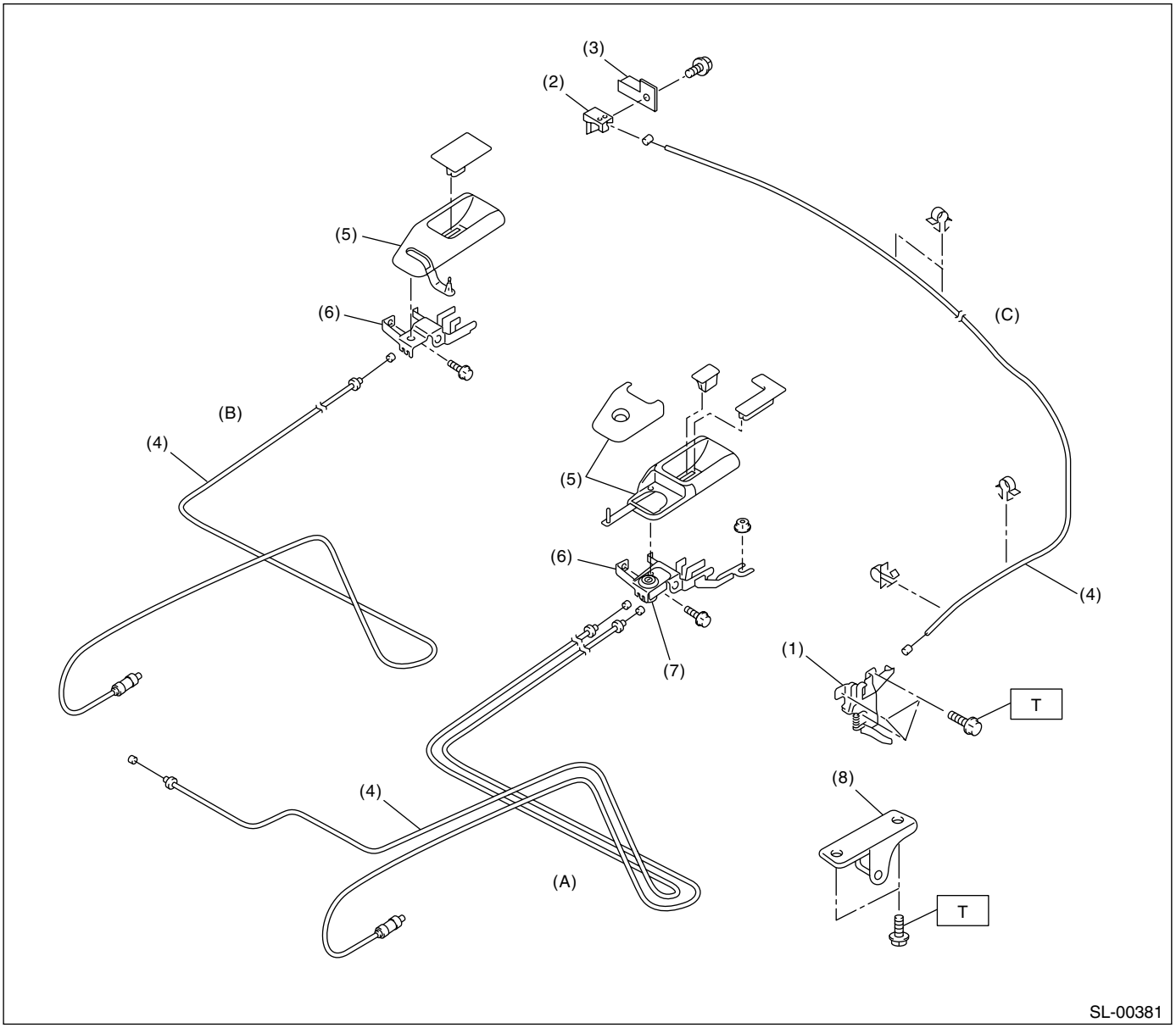



(A) Trunk
(B) Rear gate

(1) Cable
(2) Striker
(3) Trunk lid lock ASSY
(4) Trunk lid release handle
(5) Rear gate outer handle
(6) Rear gate actuator
(7) Rear gate latch

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 7.5 (0.76, 5.5)***
***T2: 18 (1.8, 13.3)***
***T3: 25 (2.5, 18.4)***

## 3. FRONT HOOD LOCK AND REMOTE OPENERS

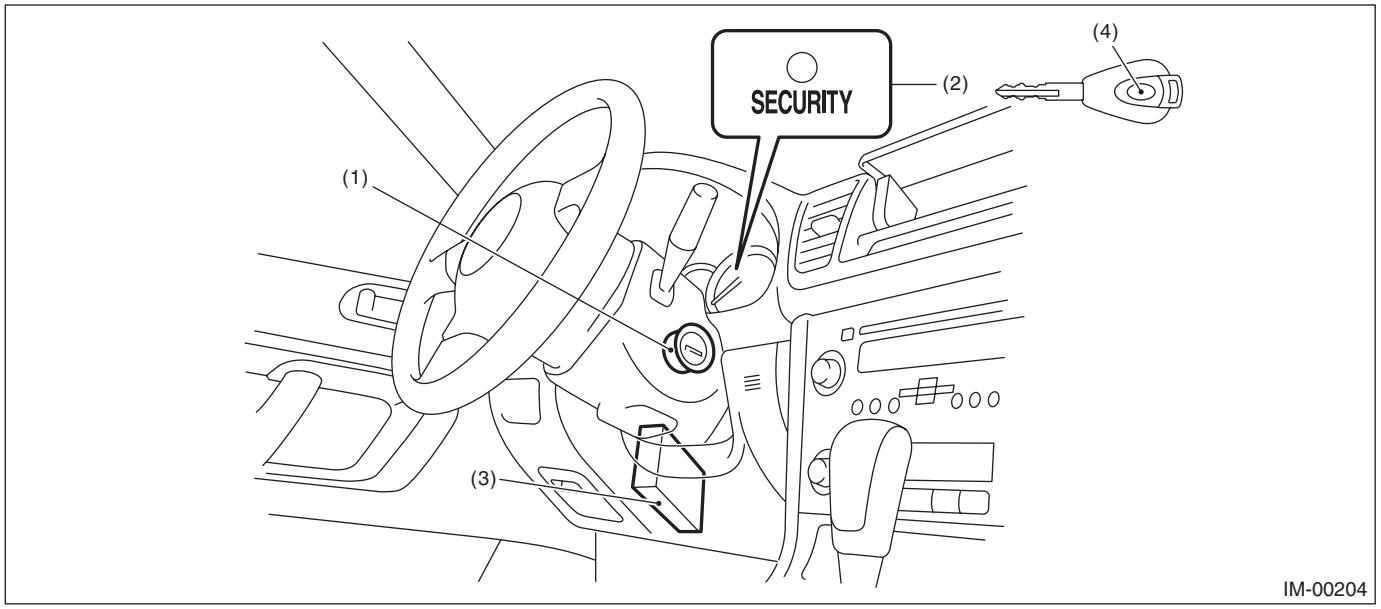



(A) Sedan model
(B) Wagon model
(C) Hood

(1) Front hood lock ASSY
(2) Lever ASSY
(3) Lever ASSY bracket
(4) Cable
(5) Cover
(6) Pull handle ASSY
(7) Key cylinder
(8) Striker

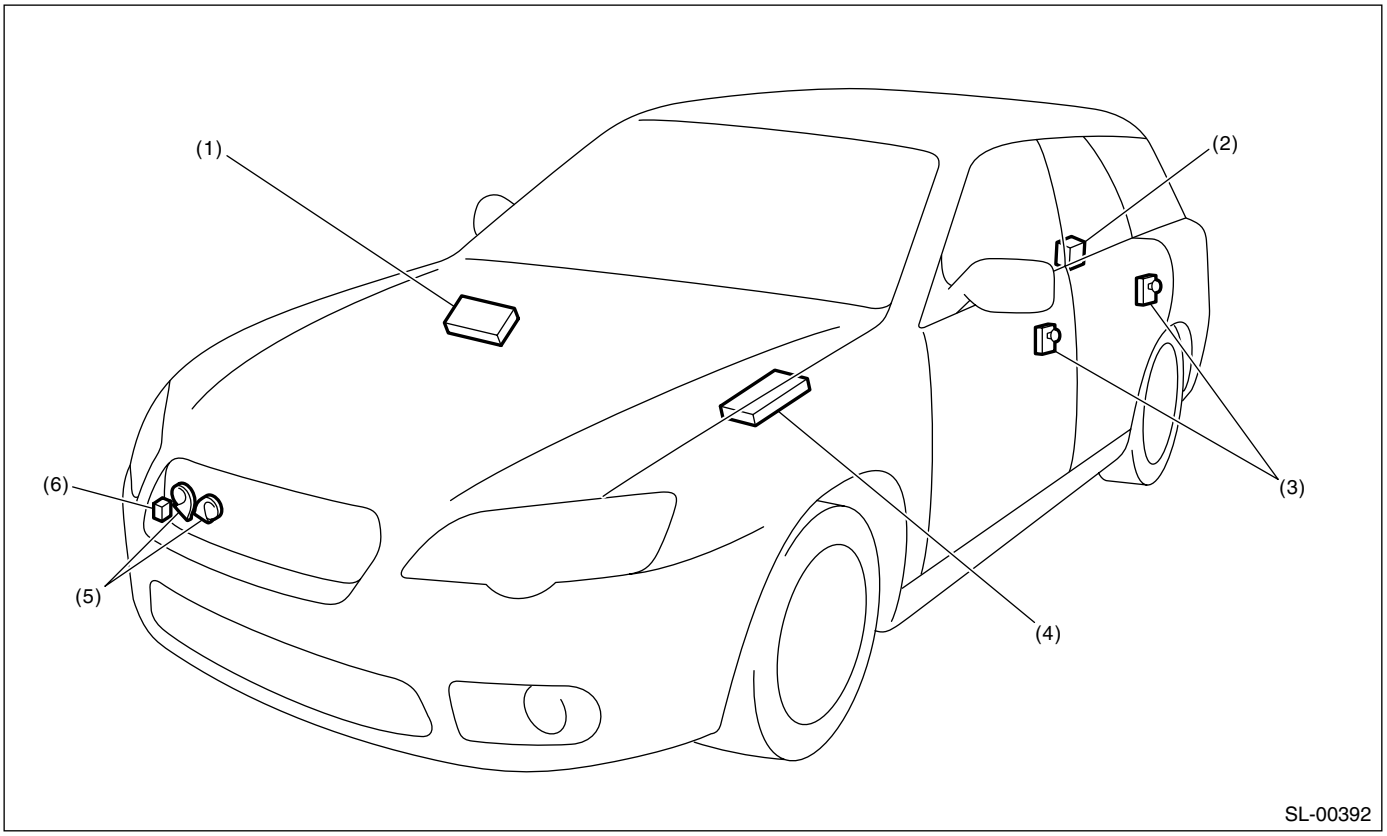
***Tightening torque:N·m (kgf-m, ft-lb)***
***T: 33 (3.36, 24.2)***

## 4. IMMOBILIZER SYSTEM




(1) Antenna
(2) Security indicator light (LED bulb)
(3) Body integrated unit
(4) Transponder

## 5. KEYLESS ENTRY SYSTEM



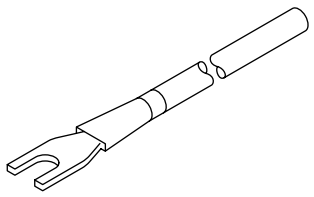

(1) Keyless entry control module
(2) Rear gate latch switch (Wagon model)
(3) Door switch
(4) Body integrated unit
(5) Horn
(6) Keyless buzzer

## 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, make sure all the functional parts operate smoothly.
• The airbag system wiring harness is routed near electrical parts and switches.
• Do not use the electrical test equipment on the airbag system wiring harnesses and connector circuits.
• Be careful not to damage the airbag system wiring harness when servicing the ignition key cylinder.

## C: PREPARATION TOOL

### 1. SPECIAL TOOL

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|---|---|---|
|  ST-925580000 | 925580000 | PULLER | Used for removing trim clip |

### 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. |

# 2. Door Lock Control System

## A: WIRING DIAGRAM

### 1. DOOR LOCK CONTROL

<Ref. to WI-187, WIRING DIAGRAM, Keyless Entry System.>

## B: INSPECTION

### 1. SYMPTOM CHART

| Symptom | Repair order | Reference |
|---|---|---|
| The door lock control system does not operate. | 1. Check the fuse. | <Ref. to SL-7, CHECK FUSE, INSPECTION, Door Lock Control System.> |
| | 2. Check the power supply and ground circuit for body integrated unit. | <Ref. to SL-7, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.> |
| | 3. Check the door lock switch and the circuit. | <Ref. to SL-8, CHECK DOOR LOCK SWITCH, INSPECTION, Door Lock Control System.> |
| | 4. Check the door lock actuator and the circuit. | <Ref. to SL-9, CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.> |
| The door lock switch does not operate. | Check the door lock switch. | <Ref. to SL-8, 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-9, CHECK DOOR LOCK ACTUATOR AND CIRCUIT, INSPECTION, Door Lock Control System.> |

### 2. CHECK FUSE

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check the fuse No. 3 (in the fuse & relay box) and No. 7 (in the fuse & relay box). | Is the fuse blown out? | Replace the fuse with a new part. | Check the power supply and ground circuit. <Ref. to SL-7, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Door Lock Control System.> |

### 3. CHECK POWER SUPPLY AND GROUND CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(i84) No. 34 (+) — Chassis ground (–):***<br>***(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.**<br>Measure the resistance between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 22 — Chassis ground:***<br>***(B281) No. 8 — Chassis ground:***<br>***(B281) No. 9 — Chassis ground:*** | Is the resistance less than 10 Ω? | The power supply and ground circuit are OK. | Repair the harness. |

## 4. CHECK DOOR LOCK SWITCH

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DOOR LOCK SWITCH.**<br>Check the input from door lock switch to body integrated unit using Subaru Select Monitor.<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display & Save}.<br>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.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK.<br>***Connector & terminal***<br>***(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.**<br>1) Disconnect the door lock switch harness connector.<br>2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***Driver's side:***<br>***(D7) No. 4 — No. 7:***<br>***Passenger's side:***<br>***(D125) No. 4 — No. 3:*** | Is the resistance less than 1 Ω? | Go to step **5**. | Replace the door lock switch. |
| 5 | **CHECK DOOR LOCK SWITCH.**<br>Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK.<br>***Connector & terminal***<br>***Driver's side:***<br>***(D7) No. 5 — No. 7:***<br>***Passenger's side:***<br>***(D125) No. 1 — No. 3:*** | 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. |

## 5. CHECK DOOR LOCK ACTUATOR AND CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK OUTPUT SIGNAL.**<br>Measure the voltage between the harness connector terminal of body integrated unit and chassis ground when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***(i84) No. 7 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |
| 2 | **CHECK OUTPUT SIGNAL.**<br>Measure the voltage between the harness connector terminal of body integrated unit and chassis ground when moving the door lock switch to UNLOCK.<br>***Connector & terminal***<br>***Driver's side:***<br>***(i84) No. 23 (+) — Chassis ground (–):***<br>***Except for driver's side:***<br>***(i84) No. 8 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |
| 3 | **CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL.**<br>Measure the voltage between the harness connector terminal of the power window main switch and chassis ground when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***(D7) No. 4 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **4**. | Replace the power window main switch. <Ref. to GW-9, Power Window Control Switch.> |
| 4 | **CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL.**<br>Measure the voltage between the harness connector terminal of power window main switch and chassis ground when moving the door lock switch to UNLOCK.<br>***Connector & terminal***<br>***(D7) No. 5 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **5**. | Replace the power window main switch. <Ref. to GW-9, Power Window Control Switch.> |
| 5 | **CHECK DOOR LOCK ACTUATOR.**<br>Check the door lock actuator.<br>• Front door lock actuator <Ref. to SL-35, Front Door Lock Actuator.><br>• Rear door lock actuator <Ref. to SL-39, Rear Door Lock Actuator.><br>• Rear gate latch lock actuator <Ref. to SL-41, 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

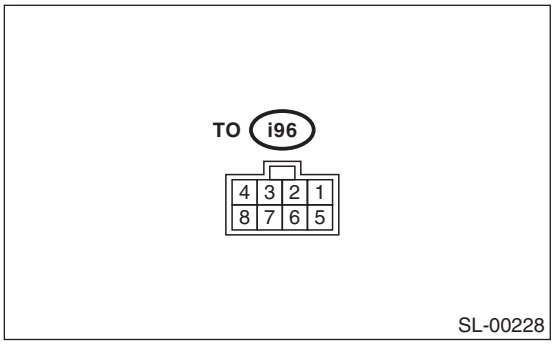
## A: WIRING DIAGRAM

### 1. KEYLESS ENTRY

<Ref. to WI-187, WIRING DIAGRAM, Keyless Entry System.>

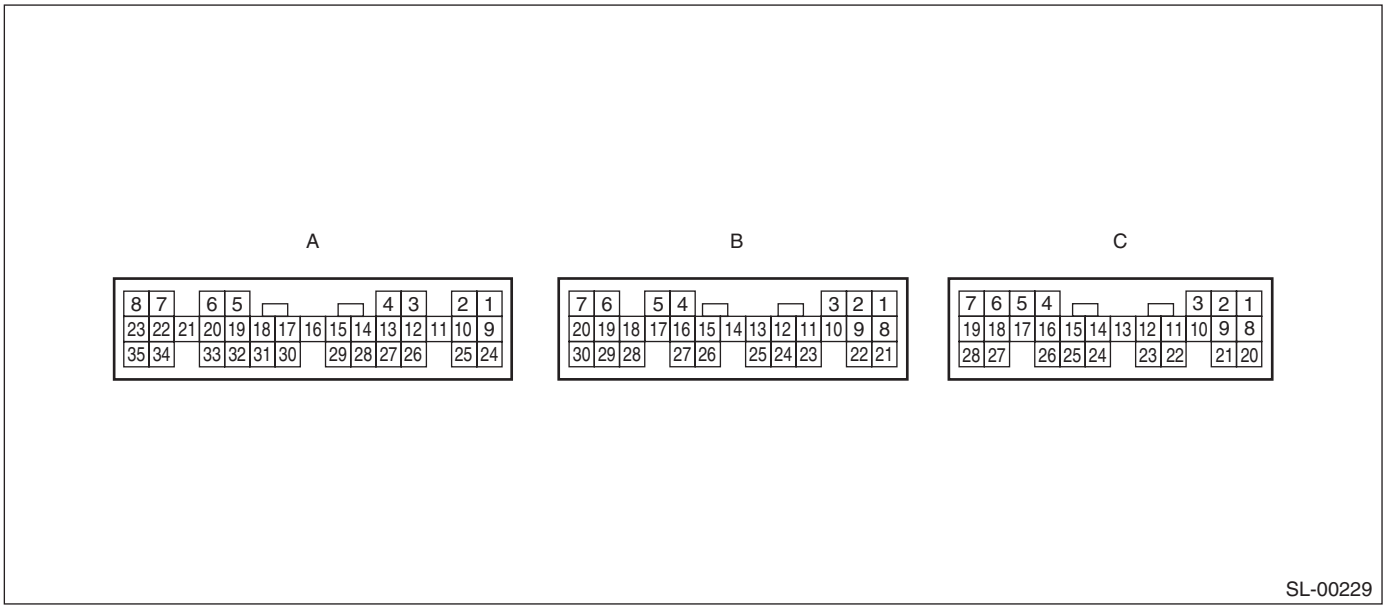
## B: ELECTRICAL SPECIFICATION

### 1. KEYLESS ENTRY CONTROL MODULE




| Remarks | Terminal No. | Measuring condition |
|---|---|---|
| Body integrated unit | 3 (OUTPUT) | Battery voltage cannot be measured because of digital signal. |
| Power supply (Backup) | 4 | Battery voltage is constantly present. |
| Ground | 7 | 0 V is constantly present. |

## 2. BODY INTEGRATED UNIT




| Remarks | Terminal No. | Measuring condition |
|---|---|---|
| Ignition switch (ON) | A1 (INPUT) | Battery voltage is present when ignition switch is turned to ON. |
| Keyless buzzer | A6 (INPUT) | 0 V is present when pressing the LOCK or UNLOCK button of transmitter. |
| Driver's side front door 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) |
| Trunk lid switch or rear gate latch switch | A17 (INPUT) | 0 V is present when opening the trunk lid or rear gate. |
| Rear door switch RH | A18 (INPUT) | 0 V is present when opening the rear door RH. |
| Front door switch RH | A19 (INPUT) | 0 V is present when opening the front door RH. |
| Ground | A21 | 0 V is constantly present. |
| Trunk lid actuator | A22 (OUTPUT) | Battery voltage is present when pressing the TRUNK button of the transmitter. |
| 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 LH | A32 (INPUT) | 0 V is present when opening the front door LH. |
| Power supply | A34 | Battery voltage is constantly present. |
| Room light | B3 (INPUT) | • 0 V is present when pressing the UNLOCK button of keyless transmitter.<br>• 0 V is present when opening the door. |
| Power supply | B7 | Battery voltage is constantly present. |
| Horn circuit | B11 (INPUT) | 0 V is present when pressing the panic button of transmitter |
| Turn signal & hazard circuit | B12 (OUTPUT) | 0 V is present when pressing the LOCK or UNLOCK button of transmitter. |
| Ground | B22 | 0 V is constantly present. |
| Power supply | C1 | Battery voltage is constantly present. |
| Power supply | C2 | Battery voltage is constantly present. |
| Key warning switch | C7 (INPUT) | Battery voltage is present when inserting the key into ignition switch. |
| Ground | C8 | 0 V is constantly present. |
| Ground | C9 | 0 V is constantly present. |

# C: INSPECTION

## 1. SYMPTOM CHART

| Symptom | Repair order | Reference |
|---|---|---|
| None of the functions of the keyless entry system operate. | 1. Check the transmitter battery. | <Ref. to SL-14, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the fuse. | <Ref. to SL-14, CHECK FUSE, INSPECTION, Keyless Entry System.> |
| | 3. Check the keyless entry control module. | <Ref. to SL-15, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.> |
| | 4. Check the power supply and ground circuit for body integrated unit. | <Ref. to SL-15, CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.> |
| | 5. Check the key warning switch. | <Ref. to SL-17, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.> |
| | 6. Check the door switch. | <Ref. to SL-16, CHECK DOOR SWITCH, INSPECTION, Keyless Entry System.> |
| | 7. Check the body integrated unit. | <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> |
| The keyless transmitter cannot be registered. | 1. Check the key warning switch. | <Ref. to SL-17, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.> |
| | 2. Check the door lock switch signal. | <Ref. to SL-19, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.> |
| | 3. Check the ignition switch. | <Ref. to SL-22, CHECK IGNITION SWITCH., INSPECTION, Keyless Entry System.> |
| | 4. Check the door switch. | <Ref. to SL-16, 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.<br>NOTE:<br>If the door lock control system does not operate when using the door lock switch, check the door lock control system. <Ref. to SL-7, INSPECTION, Door Lock Control System.> | 1. Check the transmitter battery. | <Ref. to SL-14, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the keyless entry control module. | <Ref. to SL-15, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.> |
| | 3. Check the key warning switch. | <Ref. to SL-17, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.> |
| | 4. Check the door switch. | <Ref. to SL-16, 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-14, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the horn operation. | <Ref. to SL-20, CHECK HORN OPERATION, INSPECTION, Keyless Entry System.> |
| | 3. Check the body integrated unit. | <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> |
| Trunk lid unlock does not operate. (Sedan model) | 1. Check the transmitter battery. | <Ref. to SL-14, CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.> |
| | 2. Check the keyless entry control module. | <Ref. to SL-15, CHECK KEYLESS ENTRY CONTROL MODULE, INSPECTION, Keyless Entry System.> |
| | 3. Check the key warning switch. | <Ref. to SL-17, CHECK KEY WARNING SWITCH, INSPECTION, Keyless Entry System.> |
| | 4. Check the trunk lid lock actuator. | <Ref. to SL-18, CHECK TRUNK LID LOCK ACTUATOR, INSPECTION, Keyless Entry System.> |
| | 5. Check the body integrated unit. | <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> |
| Buzzer and hazard light do not operate. | 1. Check the buzzer operation. | <Ref. to SL-21, CHECK KEYLESS BUZZER, INSPECTION, Keyless Entry System.> |
| | 2. Check the hazard light operation. | <Ref. to SL-18, 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-17, 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-20, CHECK IGNITION SWITCH ILLUMINATION, INSPECTION, Keyless Entry System.> |
| | 2. Check the body integrated unit. | <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> |

## 2. CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK KEYLESS TRANSMITTER BATTERY.**<br>1) Remove the battery from the transmitter. <Ref. to SL-54, REMOVAL, Transmitter.><br>2) Check the battery voltage. <Ref. to SL-54, INSPECTION, Transmitter.> | Is the voltage 2.5 V or more? | Go to step **2**. | Replace the transmitter battery. <Ref. to SL-54, Transmitter.> |
| 2 | **CHECK KEYLESS TRANSMITTER.**<br>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.><br>1) Close all the doors and rear gate of inspection target vehicle.<br>2) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle. | Does the inspection target vehicle operate lock and unlock normally? | Go to step **3**. | Due to vehicle malfunction, continue the keyless entry system diagnosis. |
| 3 | **CHECK KEYLESS TRANSMITTER.**<br>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.**<br>Check the registered keyless transmitter.<br>1) Close all the doors and rear gate of the vehicle which operates keyless system normally.<br>2) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle. | Does the vehicle operate lock and unlock normally? | The keyless transmitter is OK. | Replace the keyless 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 FUSE

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check the fuse No. 3 (in the fuse & relay box) and No. 7 (in the fuse & relay box). | Is the fuse blown out? | Replace the fuse with a new part. | Check the power supply and ground circuit. <Ref. to SL-15, CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Keyless Entry System.> |

## 4. CHECK KEYLESS ENTRY CONTROL MODULE

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DIAGNOSTIC TROUBLE CODE (DTC).**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Diagnostic Trouble Code}.<br>5) Check if 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.**<br>1) Disconnect the keyless entry control module harness connector.<br>2) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(i84) No. 9 — (i96) No. 3:*** | Is the resistance less than 10 Ω? | Replace the keyless entry control module. <Ref. to SL-51, Keyless Entry Control Module.> | Repair the harness. |

## 5. CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY OF BODY INTEGRATED UNIT.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display}.<br>5) Check the following data display. | Is the data display 10 V or more (BATT voltage (Control), BATT voltage (BACKUP), IG power supply voltage and ACC voltage)? | Go to step **2**. | Keyless entry control module is normal. |
| 2 | **CHECK BODY INTEGRATED UNIT GROUND CIRCUIT.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the resistance between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B280) No. 22 — Chassis ground:***<br>***(B281) No. 8 — Chassis ground:***<br>***(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. |

## 6. CHECK DOOR SWITCH

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DOOR SWITCH CIRCUIT.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display}.<br>5) Read the display of data (driver's door, passenger's door, rear right door, rear left door, rear gate switch) when each door is opened/closed. | Is the data displayed ON (opened)/OFF (closed) when each door or rear gate is opened/closed? | The door switch circuit is OK. | Go to step **2**. |
| 2 | **CHECK DOOR SWITCH CIRCUIT.**<br>Measure the voltage between the body integrated unit harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***Front door RH:***<br>***(i84) No. 32 (+) — Chassis ground (–):***<br>***Front door LH:***<br>***(i84) No. 19 (+) — Chassis ground (–):***<br>***Rear door RH:***<br>***(i84) No. 18 (+) — Chassis ground (–):***<br>***Rear door LH:***<br>***(i84) No. 31 (+) — Chassis ground (–):***<br>***Rear gate:***<br>***(i84) No. 17 (+) — Chassis ground (–):*** | Is the voltage 10 V or more when each door or rear gate is closed? | The door switch is OK. | Go to step **3**. |
| 3 | **CHECK DOOR SWITCH.**<br>1) Disconnect the door switch harness connector.<br>2) Measure the resistance between door switch terminals.<br>***Connector & terminal***<br>***(R12) Front RH door switch:***<br>***(R9) Front LH door switch:***<br>***(R16) Rear RH door switch:***<br>***(R22) Rear LH door switch:***<br>***No. 1 — No. 3:***<br>***Rear gate latch switch (Wagon model):***<br>***(D46) No. 1 — No. 2:***<br>***Trunk lid switch (Sedan model):***<br>***(R186) No. 1 — No. 3:*** | Is the resistance 1 MΩ or more when door switch is pushed? | Go to step **4**. | Replace the door switch. |
| 4 | **CHECK DOOR SWITCH.**<br>Measure the resistance between door switch terminals.<br>***Connector & terminal***<br>***(R12) Front RH door switch:***<br>***(R9) Front LH door switch:***<br>***(R16) Rear RH door switch:***<br>***(R22) Rear LH door switch:***<br>***No. 1 — No. 3:***<br>***Rear gate latch switch (Wagon model):***<br>***(D46) No. 1 — No. 2:***<br>***Trunk lid switch (Sedan model):***<br>***(R186) No. 1 — No. 3:*** | 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. |

## 7. CHECK KEY WARNING SWITCH

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check the fuse No. 14 (in the main fuse box). | Is the fuse blown out? | Replace the fuse with a new part. | Go to step **2**. |
| 2 | **CHECK KEY WARNING SWITCH CIRCUIT.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Insert the key into ignition switch. (LOCK position)<br>3) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Remove the key from ignition switch.<br>2) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Disconnect the key warning switch harness connector.<br>2) Insert the key into ignition switch. (LOCK position)<br>3) Measure the resistance between key warning switch terminals.<br>***Connector & terminal***<br>***(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.**<br>1) Remove the key from ignition switch.<br>2) Measure the resistance between key warning switch terminals.<br>***Connector & terminal***<br>***(B350) No. 3 — No. 4:*** | Is the resistance 1 MΩ or more? | Check the following:<br>• Harness for open circuits and shorts between the key warning switch and fuse<br>• Harness for open or short between the body integrated unit and key warning switch | Replace the key warning switch. |

## 8. CHECK ROOM LIGHT OPERATION

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK ROOM LIGHT OPERATION.**<br>Make sure the room light illuminates when the room light switch is turned to 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.**<br>1) Disconnect the body integrated unit harness connector and room light harness connector.<br>2) Measure the resistance between the body integrated unit harness connector terminal and room light harness connector terminal.<br>***Connector & terminal***<br>***(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. |

## 9. CHECK HAZARD LIGHT OPERATION

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK HAZARD LIGHT OPERATION.**<br>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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the key warning switch harness connector.<br>3) Connect the Subaru Select Monitor to the data link connector.<br>4) Turn the ignition switch to ON.<br>5) Select {Integ. unit} from main menu.<br>6) Select {ECM customizing}.<br>7) Check {Hazard answer-back setup}, and then switch to ON setting if necessary.<br>8) Select the {Current Data Display & Save}.<br>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.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Disconnect the turn signal and hazard unit harness connector.<br>3) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(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. |

## 10.CHECK TRUNK LID LOCK ACTUATOR

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK TRUNK LID LOCK ACTUATOR.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the key warning switch harness connector.<br>3) Connect the Subaru Select Monitor to the data link connector.<br>4) Turn the ignition switch to ON.<br>5) Select {Integ. unit} from main menu.<br>6) Select the {Current Data Display & Save}.<br>7) When operating the TRUNK button of the transmitter, check the trunk unlock output signal of the body integrated unit. | Is an output signal present when operating the transmitter TRUNK button? | Go to step **2**. | Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> |
| 2 | **CHECK THE CIRCUIT OF TRUNK LID ACTUATOR.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Disconnect the trunk lid actuator harness connector.<br>3) Measure the resistance between harness connectors.<br>***Connector & terminal***<br>***(i84) No. 22 — (R186) No. 2:*** | Is the resistance less than 10 Ω? | Go to step **3**. | Repair the harness. |
| 3 | **CHECK THE GROUND CIRCUIT OF TRUNK LID ACTUATOR.**<br>1) Disconnect the trunk lid actuator harness connector.<br>2) Measure the resistance between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(R186) No. 1 — Chassis ground:*** | Is the resistance less than 10 Ω? | Check the trunk lid lock actuator. <Ref. to SL-42, Trunk Lid Lock Assembly.> | Repair the harness. |

## 11.CHECK DOOR LOCK SWITCH

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DOOR LOCK SWITCH.**<br>Check the input signal from door lock switch to body integrated unit using Subaru Select Monitor.<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display & Save}.<br>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.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the resistance between the harness connector terminal and chassis ground when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***(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.**<br>Measure the resistance between the harness connector terminal and chassis ground when the door lock switch is moved to UNLOCK.<br>***Connector & terminal***<br>***(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.**<br>1) Disconnect the door lock switch harness connector.<br>2) Measure the resistance between the door lock switch terminals when moving the door lock switch to LOCK.<br>***Connector & terminal***<br>***Driver's side:***<br>***(D7) No. 4 — No. 7:***<br>***Passenger's side:***<br>***(D125) No. 4 — No. 3:*** | Is the resistance less than 1 Ω? | Go to step **5**. | Replace the door lock switch. |
| 5 | **CHECK DOOR LOCK SWITCH.**<br>Measure the resistance between the door lock switch terminals when moving the door lock switch to UNLOCK.<br>***Connector & terminal***<br>***Driver's side:***<br>***(D7) No. 5 — No. 7:***<br>***Passenger's side:***<br>***(D125) No. 1 — No. 3:*** | 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. |

## 12.CHECK IGNITION SWITCH ILLUMINATION

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSE.**<br>Remove and visually check the fuse No. 14 (in the main fuse box). | Is the fuse blown out? | Replace the fuse with a new part. | Go to step **2**. |
| 2 | **CHECK POWER SUPPLY.**<br>1) Disconnect the ignition switch illumination harness connector.<br>2) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(B224) 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.**<br>1) Disconnect the harness connector of body integrated unit and ignition switch illumination harness connector.<br>2) Measure the resistance between body integrated unit harness connector terminal and ignition switch illumination harness connector terminal.<br>***Connector & terminal***<br>***(B280) No. 4 — (B224) No. 1:*** | Is the resistance less than 10 Ω? | Replace the ignition switch illumination bulb with a new part. <Ref. to LI-38, REMOVAL, Ignition Switch Illumination.> | Check the harness for open circuits and shorts between the body integrated unit and ignition switch illumination. |

## 13.CHECK HORN OPERATION

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK HORN OPERATION.**<br>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.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Connect the harness connector terminal to ground using a suitable lead wire.<br>***Connector & terminal***<br>***(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. |

## 14.CHECK KEYLESS BUZZER

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK KEYLESS BUZZER SOUND.**<br>1) Using the Subaru Select Monitor, set the keyless buzzer sound to ON.<br>2) Operate the LOCK/UNLOCK button of the transmitter and check whether the keyless buzzer sounds or not. | Does the keyless buzzer sound? | Keyless buzzer is normal. | Go to step **2**. |
| 2 | **CHECK FOR POWER SUPPLY OF KEYLESS BUZZER.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the keyless buzzer harness connector.<br>3) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(F102) 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 keyless buzzer and fuse. |
| 3 | **CHECK FOR GROUND CIRCUIT OF KEYLESS BUZZER.**<br>1) Disconnect the harness connector of body integrated unit.<br>2) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(i84) No. 6 — (F102) No. 1:*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair the harness. |
| 4 | **CHECK KEYLESS BUZZER.**<br>1) Remove the keyless buzzer.<br>2) Connect the battery to the keyless buzzer terminal, and check the buzzer sounds. | Does the keyless buzzer sound? | Check the body integrated unit. <Ref. to LAN(diag)-2, Basic Diagnostic Procedure.> <Ref. to GW-9, Power Window Control Switch.> | Replace the keyless buzzer. |

## 15.CHECK IGNITION SWITCH.

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK FUSIBLE LINK.**<br>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.**<br>1) Disconnect the ignition switch harness connector.<br>2) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Insert the ignition key into ignition switch, and turn the each position.<br>2) Measure the resistance between ignition switch terminals.<br>***Connector & terminal***<br>***No. 3 — No. 4: (ACC position)***<br>***No. 3 — No. 4 — No. 6 — No. 1 (ON position)***<br>***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 part. <Ref. to SL-47, REPLACEMENT, Ignition Key Lock.> |

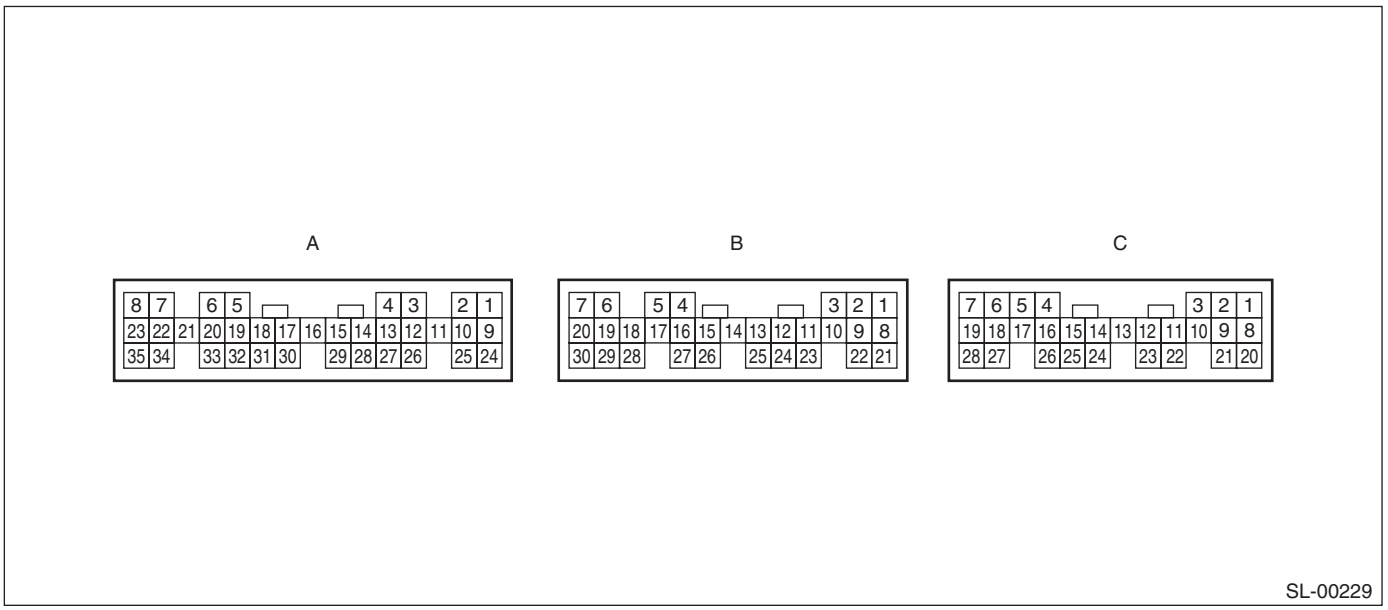
**CAUTION:**
**When the ignition key lock is replaced, all ignition keys also must be registered. (Refer to the "IMMOBILIZER TEACHING OPERATION MANUAL".)**

# 4. Security System

## A: WIRING DIAGRAM

<Ref. to WI-183, WIRING DIAGRAM, Security System.>

## B: ELECTRICAL SPECIFICATION




| Remarks | Terminal No. | Measuring condition |
|---|---|---|
| Ignition switch | A1 (INPUT) | Battery voltage is present when ignition switch is turned to ON. |
| Door key cylinder switch | A3 | 0 V is present when door key cylinder is moved to the LOCK side. |
| Keyless entry control module | A9 (INPUT) | Communication line (Cannot be measured because of digital signal) |
| Door key cylinder switch | A12 | 0 V is present when door key cylinder is moved to UNLOCK side. |
| Trunk lid switch or rear gate latch switch | A17 (INPUT) | 0 V is present when opening the trunk lid or 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 | B11 (OUTPUT) | Battery voltage is present when the alarm operation is activated. |
| Turn signal & hazard circuit | B12 (OUTPUT) | Battery voltage is present when the alarm operation is activated. |
| Ground | B22 | 0 V is constantly present. |
| Power supply | C2 | Battery voltage is constantly present. |
| Impact sensor | C5 | When not applying vibration to the impact sensor, it repeats displaying the 0 V and battery voltage in every 45 milliseconds. |
| Ground | C8 | 0 V is constantly present. |
| Ground | C9 | 0 V is constantly present. |

# C: INSPECTION

## 1. BASIC DIAGNOSTIC PROCEDURE

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **INITIAL CHECK.**<br>Check keyless entry system. | Does the keyless entry system operate normally? | Go to step **2**. | Check keyless entry system. <Ref. to SL-12, INSPECTION, Keyless Entry System.> |
| 2 | **CHECK SECURITY ON/OFF SETTING.**<br>1) Remove the key from ignition switch, and then close all doors.<br>2) Press the UNLOCK button of the keyless transmitter.<br>3) Check the security indicator light blinking patterns. | Is the security indicator light blinking patterns as follows?<br>•Model with immobilizer: Blinks in every 3 seconds | Go to step **3**. | Check the security indicator light circuit. <Ref. to SL-29, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.> |
| 3 | **CHECK SECURITY ON/OFF SETTING.**<br>1) Press the LOCK button of the transmitter.<br>2) Check the security indicator light blinking patterns. | Is the security indicator light blinking patterns as follows?<br>•When monitoring lag is set to 0 seconds: Blinks twice within 0.5 seconds at 2 second intervals.<br>•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.**<br>Change the setting of security system to ON. <Ref. to SL-26, 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-30, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.><br>• Check the door lock switch circuit. <Ref. to SL-19, CHECK DOOR LOCK SWITCH, INSPECTION, Keyless Entry System.> |
| 5 | **CHECK THE SETTING CHANGE OF SECURITY SYSTEM.**<br>1) Remove the key from ignition switch, and then close all doors.<br>2) Press the LOCK button of the transmitter.<br>3) Check the security indicator light blinking patterns. | Is the security indicator light blinking patterns as follows?<br>•When monitoring lag is set to 0 seconds: Blinks twice within 0.5 seconds at 2 second intervals.<br>•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-53, Body Integrated Unit.> |
| 6 | **CHECK SECURITY SYSTEM OPERATION.**<br>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-53, Body Integrated Unit.> |

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 7 | **CHECK SECURITY SYSTEM CANCEL OPERATION.**<br>Insert the key to the door key cylinder to unlock. | Is the security indicator light blinking patterns as follows?<br>•Model with immobilizer: Blinks in every 3 seconds | Press the LOCK button of keyless transmitter, and wait for 30 seconds. Go to step **8**. | Check the door key cylinder circuit. <Ref. to SL-31, CHECK DOOR KEY CYLINDER SWITCH AND CIRCUIT, INSPECTION, Security System.> |
| 8 | **CHECK SECURITY ALARM OPERATION.**<br>1) Unlock all doors using the door lock switch on driver's door.<br>2) Open any door, trunk or rear gate. | Does the security alarm operate when opening any door, trunk or rear gate? | Go to step **9**. | • Check the door switch. <Ref. to SL-27, CHECK DOOR SWITCH, INSPECTION, Security System.><br>• Check the trunk lid switch or rear gate latch switch. <Ref. to SL-28, CHECK TRUNK LID SWITCH (SEDAN) OR REAR GATE LATCH SWITCH (WAGON), INSPECTION, Security System.> |
| 9 | **CHECK SECURITY ALARM OPERATION.**<br>Check the security alarm operation. | Does all security alarm operate?<br>•Horn sounds •Hazard light blinks<br>•Security indicator light illuminates | Go to step **10**. | • Check the horn. <Ref. to SL-29, CHECK HORN, INSPECTION, Security System.><br>• Check the hazard light. <Ref. to SL-30, CHECK HAZARD LIGHT OPERATION, INSPECTION, Security System.> |
| 10 | **CHECK SECURITY ALARM CANCEL OPERATION.**<br>Press any button of transmitter while operating security alarm. Or turn the ignition switch to OFF → ON three times. | Does all security alarm stop?<br>•Horn •Hazard light | Go to step **11**. | Check the ignition switch circuit. <Ref. to SL-30, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.> |
| 11 | **CHECK SECURITY SYSTEM CONDITION MEMORY.**<br>Check that the system function properly when the battery is not connected temporarily. <Ref. to SL-26, CHECK SECURITY SYSTEM CONDITION MEMORY, INSPECTION, Security System.> | Does the system function properly when the battery is not connected temporarily? | Go to step **12**. | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |
| 12 | **CHECK IMPACT SENSOR.**<br>Check the sensitivity of impact sensor. <Ref. to SL-50, 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-50, IMPACT SENSITIVITY ADJUSTMENT, ADJUSTMENT, Impact Sensor.> |

**CAUTION:**
- **Siren YES/NO setting**

**The {Siren YES/NO} setting of the item {Unit customization} of the Subaru Select Monitor always shall be set to "NO". If it is set to "YES", the horn of the security alarm will not sound.**

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. (Siren YES/NO)
- The horn sounds when setting the security to ON using the keyless transmitter. (Impact sensor YES/NO)

## 2. CHECK SECURITY SYSTEM CONDITION MEMORY

1) Remove the key from ignition switch.
2) Close all the doors, trunk lid and 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 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, trunk lid and rear gate, and sit down on the driver 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.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display & Save}.<br>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 DOOR SWITCH CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of body integrated unit.<br>3) Disconnect the harness connector of faulty door switch.<br>4) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(i84) No. 19 — (R9) No. 1: (front door LH)***<br>***(i84) No. 32 — (R12) No. 1: (front door RH)***<br>***(i84) No. 31 — (R22) No. 1: (rear door LH)***<br>***(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 GROUND CIRCUIT OF DOOR SWITCH.**<br>1) Disconnect the harness connector of faulty door switch.<br>2) Measure the resistance of harness connector and chassis ground.<br>***Connector & terminal***<br>***(R9) No. 3 — Chassis ground: (front door LH)***<br>***(R12) No. 3 — Chassis ground: (front door RH)***<br>***(R22) No. 3 — Chassis ground: (rear door LH)***<br>***(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.**<br>1) Disconnect the harness connector of faulty door switch.<br>2) Measure the resistance between door switch terminals.<br>***Terminals***<br>***No. 1 — No. 3:*** | Is the resistance 1 MΩ or more when door switch is pushed? | Go to step **5**. | Replace the door switch. |
| 5 | **CHECK DOOR SWITCH.**<br>Measure the resistance between door switch terminals.<br>***Terminals***<br>***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 TRUNK LID SWITCH (SEDAN) OR REAR GATE LATCH SWITCH (WAGON)

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK INPUT FROM TRUNK LID SWITCH OR REAR GATE LATCH SWITCH.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display & Save}.<br>5) Check the input signal to the body integrated unit when opening the trunk lid or rear gate. | Is the input signal present when opening the trunk lid or rear gate? | The trunk lid switch or rear gate latch switch circuit is OK. | Go to step **2**. |
| 2 | **CHECK CIRCUIT FOR TRUNK LID SWITCH OR REAR GATE LATCH SWITCH.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of body integrated unit.<br>3) Disconnect the harness connector of the trunk lid switch or the rear gate latch switch.<br>4) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(i84) No. 17 — (D46) No. 2: (Wagon model)***<br>***(i84) No. 17 — (R186) No. 3: (Sedan model)*** | Is the resistance less than 10 Ω? | Go to step **3**. | Repair the harness. |
| 3 | **CHECK GROUND CIRCUIT OF TRUNK LID SWITCH OR REAR GATE LATCH SWITCH.**<br>1) Disconnect the harness connector of the trunk lid switch or the rear gate latch switch.<br>2) Measure the resistance between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(D46) No. 1 — Chassis ground: (Wagon model)***<br>***(R186) No. 1 — Chassis ground: (Sedan model)*** | Is the resistance less than 10 Ω? | Go to step **4**. | Repair the harness. |
| 4 | **CHECK TRUNK LID SWITCH OR REAR GATE LATCH SWITCH.**<br>1) Disconnect the harness connector of the trunk lid switch or the rear gate latch switch.<br>2) Measure the resistance between switch terminals.<br>***Terminals***<br>***No. 1 — No. 2: (Wagon model)***<br>***No. 1 — No. 3: (Sedan model)*** | Is the resistance 1 MΩ or more when switch is pushed? | Go to step **5**. | Replace the trunk lid switch or the rear gate latch switch. |
| 5 | **CHECK TRUNK LID SWITCH OR REAR GATE LATCH SWITCH.**<br>Measure the resistance between switch terminals.<br>***Terminals***<br>***No. 1 — No. 2: (Wagon model)***<br>***No. 1 — No. 3: (Sedan model)*** | 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 trunk lid switch or the rear gate latch switch. |

## 6. CHECK SECURITY INDICATOR LIGHT CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK SECURITY INDICATOR LIGHT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of body integrated unit.<br>3) Connect the resistor (100 Ω) between body integrated unit harness connector terminal (i84) No. 33 and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Disconnect the connector from the combination meter.<br>2) Measure the voltage between the combination meter harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(i10) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **3**. | Check the harness for open or short circuits between combination meter and fuse. |
| 3 | **CHECK SECURITY INDICATOR LIGHT CIRCUIT.**<br>Measure the resistance between the combination meter harness connector terminal and the security control unit harness connector terminal.<br>***Connector & terminal***<br>***(i10) No. 17 — (i84) No. 33:*** | Is the resistance less than 10 Ω? | Replace the combination meter. <Ref. to IDI-19, Combination Meter.> | Check the harness for open or short circuits between the combination meter and body integrated unit. |

## 7. CHECK HORN

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK HORN OPERATION.**<br>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.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select {Function Check}.<br>5) Select {Horn Output} and execute | Does the horn sound? | Horn circuit is OK. | Go to step **3**. |
| 3 | **CHECK HORN RELAY CIRCUIT.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of body integrated unit.<br>3) Disconnect the main fuse box harness connector (B186).<br>4) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(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.**<br>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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the key warning switch harness connector.<br>3) Connect the Subaru Select Monitor to the data link connector.<br>4) Turn the ignition switch to ON.<br>5) Select {Integ. unit} from main menu.<br>6) Select {ECM customizing}.<br>7) Check the {Hazard answer-back setup}, and then switch to ON setting.<br>8) Select the {Current Data Display & Save}.<br>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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of body integrated unit.<br>3) Disconnect the turn signal and hazard unit harness connector.<br>4) Measure the resistance between harness connector terminals.<br>***Connector & terminal***<br>***(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.**<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display & Save}.<br>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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of body integrated unit.<br>3) Turn the ignition switch to ON.<br>4) Measure the voltage between harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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 the body integrated unit and fuse. |

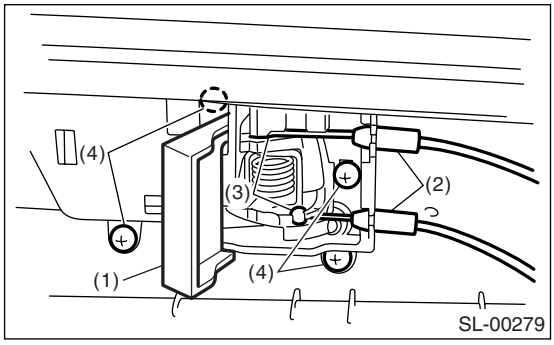
## 10.CHECK DOOR KEY CYLINDER SWITCH AND CIRCUIT

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK DOOR KEY CYLINDER SWITCH CIRCUIT.**<br>Measure the resistance between the harness connector terminal and chassis ground when moving the door key cylinder switch to UNLOCK.<br>***Connector & terminal***<br>***(i84) No. 12 — Chassis ground:*** | Is the resistance less than 10 Ω? | Door key cylinder switch is OK. | Go to step **2**. |
| 2 | **CHECK DOOR KEY CYLINDER SWITCH.**<br>1) Disconnect the door key cylinder switch harness connector.<br>2) Measure the resistance between door key cylinder switch terminals when turning the door key cylinder switch to LOCK.<br>***Terminals***<br>***No. 1 — No. 2:*** | Is the resistance less than 1 Ω? | Check the harness for open or short circuits between the body integrated unit and the door key cylinder switch. | Replace the door key cylinder switch. |

# 5. Front Inner Remote

## A: REMOVAL

1) Remove the door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
2) Remove the back cover (1) of inner remote.
3) Remove the cable (2).
4) Remove the cable end ball (3).
5) Remove the screws (4), and remove the inner remote.




## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the inner remote works correctly after installation.

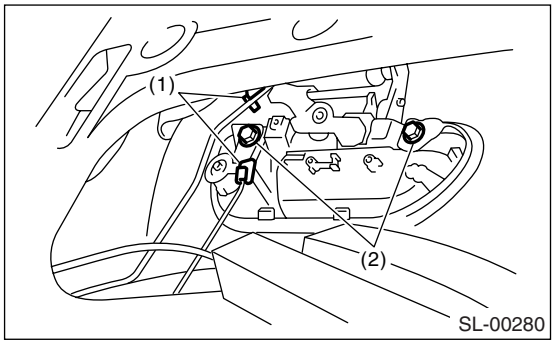
## C: INSPECTION

1) Check the cable of the door opener and door lock for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the front door latch and door lock actuator assembly.
2) Check the handle and cable for smooth operation.

# 6. Front Outer Handle

## A: REMOVAL

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the cable from the front inner remote. <Ref. to SL-32, REMOVAL, Front Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-19, REMOVAL, Front Sealing Cover.>
5) Remove the rod clamps (1).
6) Remove bolts (2), then remove the front outer handle.




**CAUTION:**
**Do not apply excessive force to remove the handle from the door panel. The door panel may become deformed.**

## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure that the outer handle works correctly after installation.

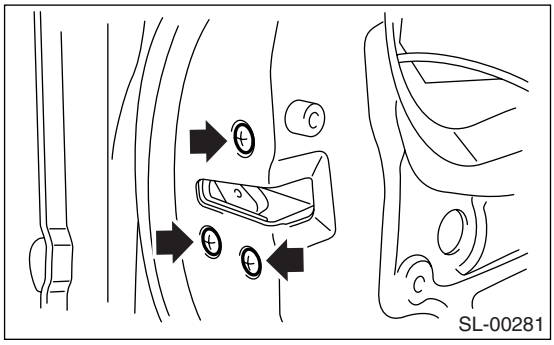
## C: INSPECTION

1) Check the rod for deformation.
2) Check the lever and rod for smooth operation.

# 7. Front Door Latch and Door Lock Actuator Assembly

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the cable from the front inner remote. <Ref. to SL-32, REMOVAL, Front Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-19, REMOVAL, Front Sealing Cover.>
5) Remove the front door glass. <Ref. to GW-11, REMOVAL, Front Door Glass.>
6) Remove the rear sash. <Ref. to GW-16, REMOVAL, Front Regulator and Motor Assembly.>
7) Open the handle rod cover of the latch assembly.
8) Remove the three screws.




9) Remove the front door latch & door lock actuator assembly, and disconnect the connector.

## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

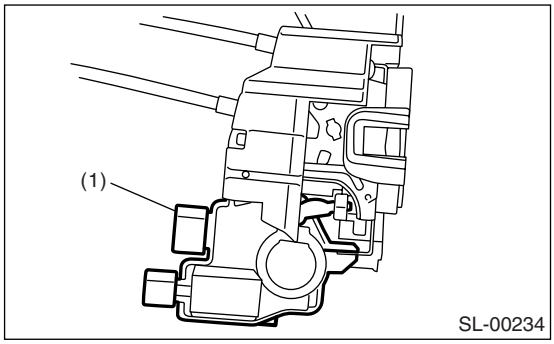
## C: INSPECTION

1) Check the rod and cable for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the front door latch and door lock actuator assembly.
2) Check the lever, rod and cable for smooth operation.

# 8. Front Door Lock Actuator

## A: REMOVAL

1) Remove the front door latch and door lock actuator assembly. <Ref. to SL-34, REMOVAL, Front Door Latch and Door Lock Actuator Assembly.>
2) Remove the claw 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

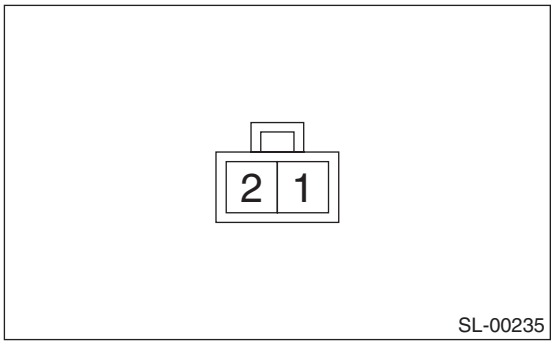
## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

## C: INSPECTION

1) Disconnect the door lock actuator harness connector.
2) Connect the battery to door lock actuator terminals.
If defective, replace the door lock actuator.

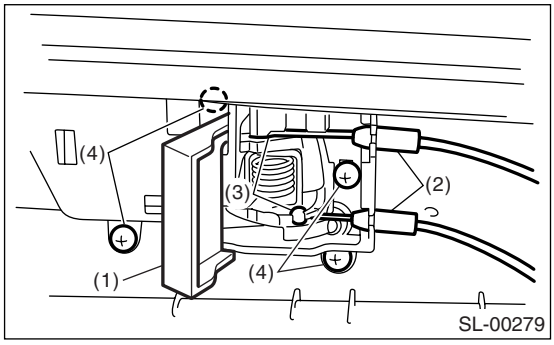



| Terminal No. | Actuator operation |
|---|---|
| No. 2 (+) and No. 1 (–) | Unlock → Lock |
| No. 2 (+) and No. 1 (–) | Lock → Unlock |

# 9. Rear Inner Remote

## A: REMOVAL

1) Remove the rear door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
2) Remove the back cover (1) of inner remote.
3) Remove the cable (2).
4) Remove the cable end ball (3).
5) Remove screws (4), and remove the inner remote handle.




## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the inner remote works correctly after installation.

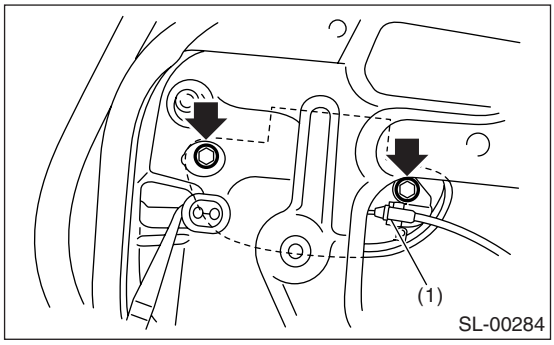
## C: INSPECTION

1) Check the cable of the door opener and door lock for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the rear door latch and door lock actuator assembly.
2) Check the handle and cable for smooth operation.
3) 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) Remove the rear door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the sealing cover. <Ref. to EB-23, REMOVAL, Rear Sealing Cover.>
4) Remove the rear door latch assembly. <Ref. to SL-38, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
5) Pull out the cable from the cable clamp (1) of the outer handle.
6) Remove two bolts.




7) Remove the rear outer handle.

**CAUTION:**
**Do not apply excessive force to remove the handle from the door panel. The door panel may become deformed.**

## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure that the outer handle works correctly after installation.

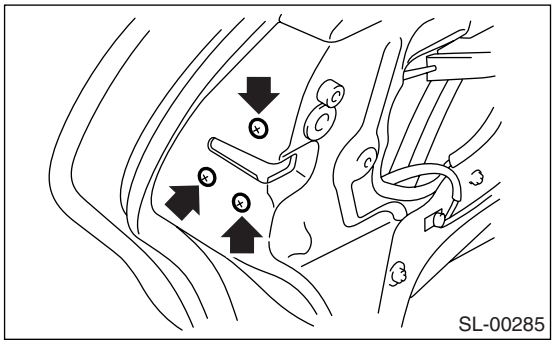
## C: INSPECTION

1) Check the cable for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the rear door latch and door lock actuator assembly.
2) Check the handle and cable for smooth operation.

# 11.Rear Door Latch and Door Lock Actuator Assembly

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the cable from rear inner remote. <Ref. to SL-36, REMOVAL, Rear Inner Remote.>
4) Remove the sealing cover. <Ref. to EB-23, REMOVAL, Rear Sealing Cover.>
5) Remove the rear door glass. <Ref. to GW-22, REMOVAL, Rear Door Glass.>
6) Remove the rear sash. <Ref. to GW-24, REMOVAL, Rear Regulator and Motor Assembly.>
7) Pull out the cable from the cable clamp of the outer handle.
8) Remove the three screws.




9) 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:
Make sure the lock works correctly after installation.

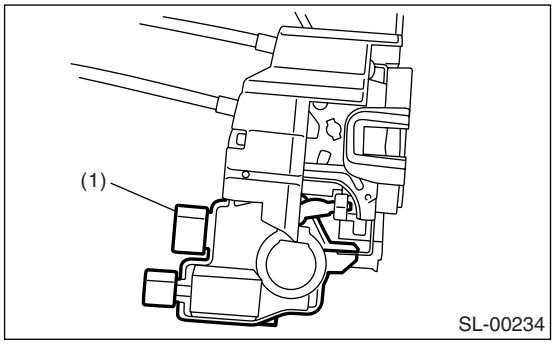
## C: INSPECTION

1) Check the cable for deformation. When it is deformed, straighten it because failure operations may occur. When it is unrepairable, replace the rear door latch and door lock actuator assembly.
2) Check that the lever and cable operates smoothly.

# 12.Rear Door Lock Actuator

## A: REMOVAL

1) Remove the rear door latch and door lock actuator assembly. <Ref. to SL-38, REMOVAL, Rear Door Latch and Door Lock Actuator Assembly.>
2) Remove the claw of rear door latch security cover, and then remove the cover.
3) Remove the screw from the rear door latch and door lock actuator, and then remove the door lock actuator.




(1) Rear door lock actuator

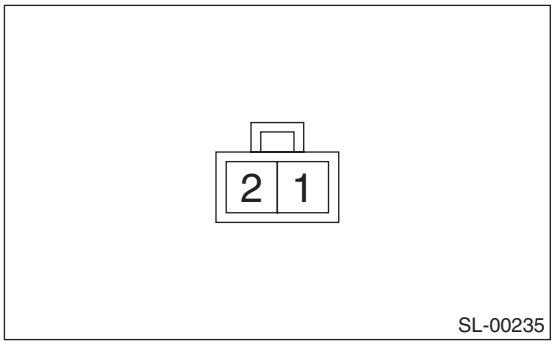
## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

## C: INSPECTION

1) Disconnect the door lock actuator harness connector.
2) Connect the battery to door lock actuator terminals.
If defective, replace the door lock actuator.

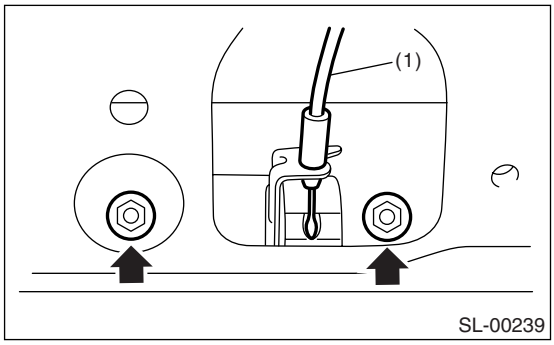



| Terminal No. | Actuator operation |
|---|---|
| No. 2 (+) and No. 1 (–) | Unlock → Lock |
| No. 1 (+) and No. 2 (–) | Lock → Unlock |

# 13.Rear Gate Outer Handle

## A: REMOVAL

1) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
2) Remove the rear gate garnish. <Ref. to EI-72, REMOVAL, Rear Gate Garnish.>
3) Remove the two nuts, and take out the rear gate outer handle.
4) Remove cable (1) of the rear gate handle.




## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure that the outer handle works correctly after installation.

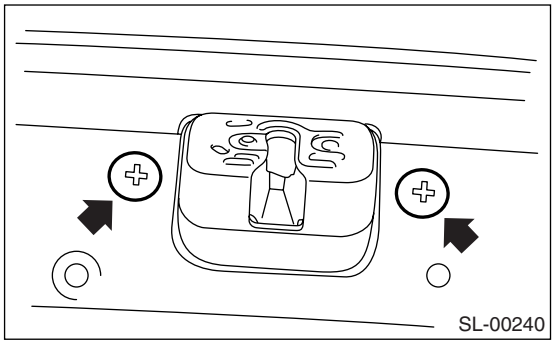
## C: INSPECTION

1) Check the cable of the rear gate handle for deformation.
2) Check the rear gate outer handle and cable of the rear gate handle for smooth operation.

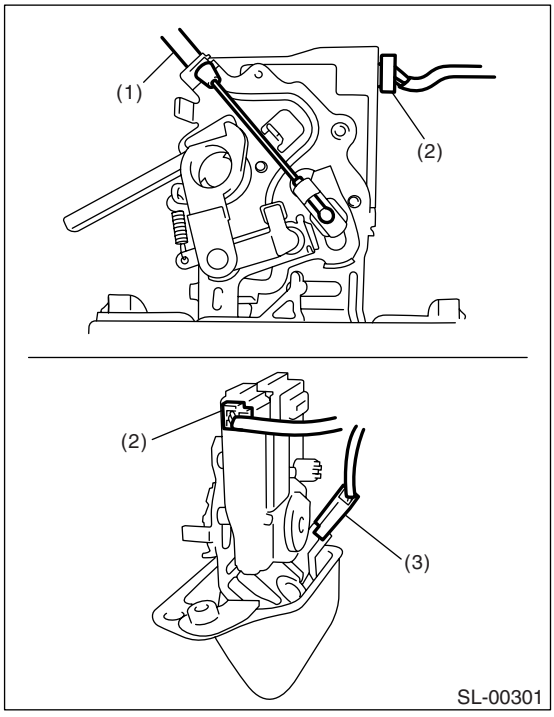
# 14.Rear Gate Latch Assembly

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear gate trim. <Ref. to EI-65, REMOVAL, Rear Gate Trim.>
3) Remove the two screws.




4) Disconnect connectors and cables of the rear gate handle.




(1) Cable
(2) Rear gate lock actuator connector
(3) Rear gate latch switch connector

5) Remove the rear gate latch assembly.

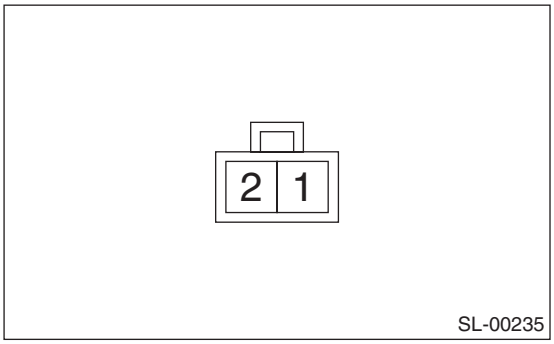
## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
Make sure the lock works correctly after installation.

## C: INSPECTION

1) Disconnect the rear gate lock actuator harness connector.
2) Connect the battery to rear gate lock actuator terminals.



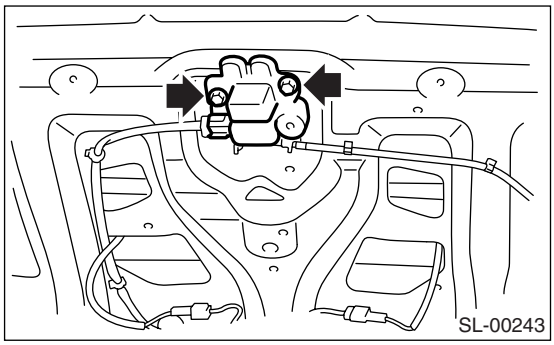

| Terminal No. | Actuator operation |
|---|---|
| No. 2 (+) and No. 1 (–) | Unlock → Lock |
| No. 1 (+) and No. 2 (–) | Lock → Unlock |

Replace the rear gate latch assembly if faulty.
3) Check the cable of the rear gate handle for deformation.
4) Check the lever and cable of the rear gate handle for smooth operation.

# 15.Trunk Lid Lock Assembly

## A: REMOVAL

1) Remove the trunk lid release handle. <Ref. to SL-43, REMOVAL, Trunk Lid Release Handle.>
2) Disconnect the connectors and remove the cable of the trunk opener.
3) Remove the two bolts to remove the trunk lid lock assembly.



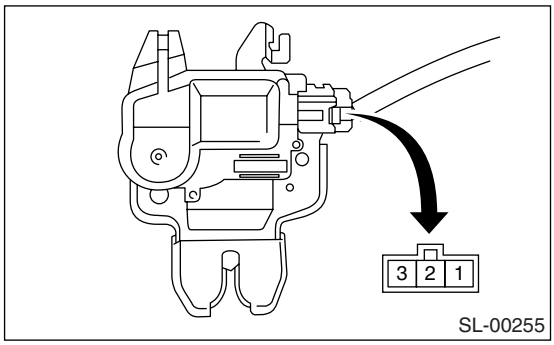

## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
- Apply grease to the movable part.
- Make sure the lock works correctly after installation.

## C: INSPECTION

1) Disconnect the trunk lid actuator harness connector.
2) Connect the battery to the trunk lid actuator terminals.



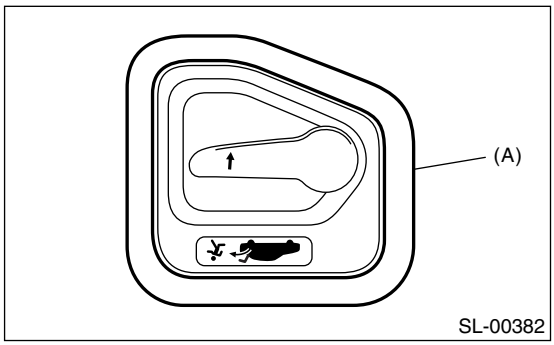

| Terminal No. | Actuator operation |
|---|---|
| No. 2 (+) and No. 1 (–) | Lock → Unlock |

If defective, replace the trunk lid actuator.
3) Check the striker for deformation or abnormal wear.
4) Check the safety lever for improper movement.
5) Check other levers and springs for rust formation or unsmooth movement.
6) Check the cable of the trunk opener for smooth operation.

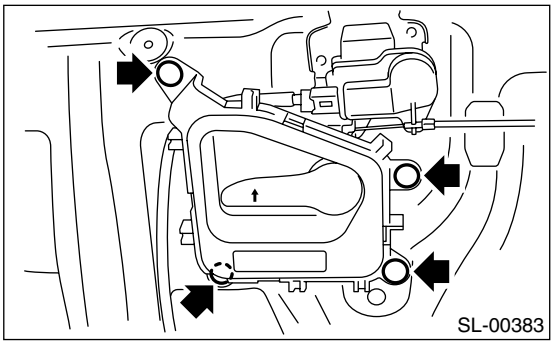
# 16.Trunk Lid Release Handle

## A: REMOVAL

1) Remove the cover (A).




2) Remove the trunk lid trim. <Ref. to EI-67, REMOVAL, Trunk Room Trim.>
3) Remove the four clips to remove the trunk lid release handle.




## B: INSTALLATION

Install in the reverse order of removal.

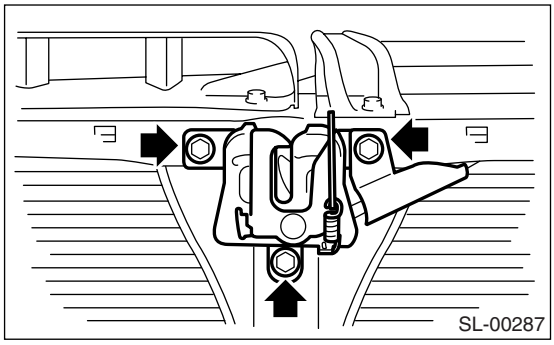
## C: INSPECTION

Make sure the lever works smoothly.

# 17.Front Hood Lock Assembly

## A: REMOVAL

1) Open the front hood.
2) Remove the bolts, and then detach the front hood lock assembly.
3) Remove the cable from lock assembly.



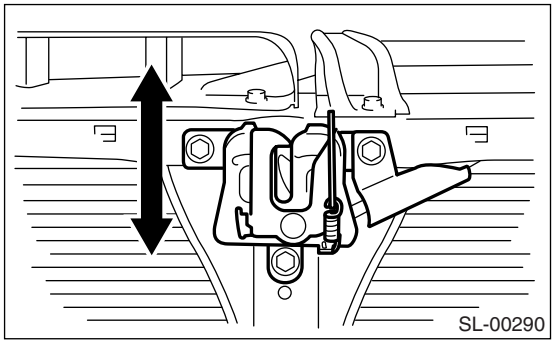

## B: INSTALLATION

Install in the reverse order of removal.

NOTE:
- Apply grease to the movable part.
- Make sure the cable works correctly after installation.

## C: ADJUSTMENT

Loosen the bolt, and adjust the lock assembly while moving it up and down.




## D: INSPECTION

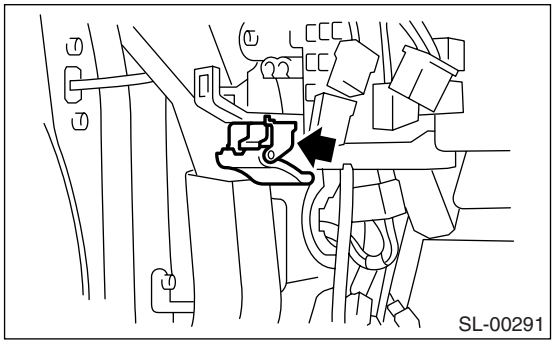
1) Check the striker for deformation or abnormal wear.
2) Check the safety lever for improper movement.
3) Check other levers and springs for rust formation or unsmooth movement.

# 18.Remote Openers

## A: REMOVAL

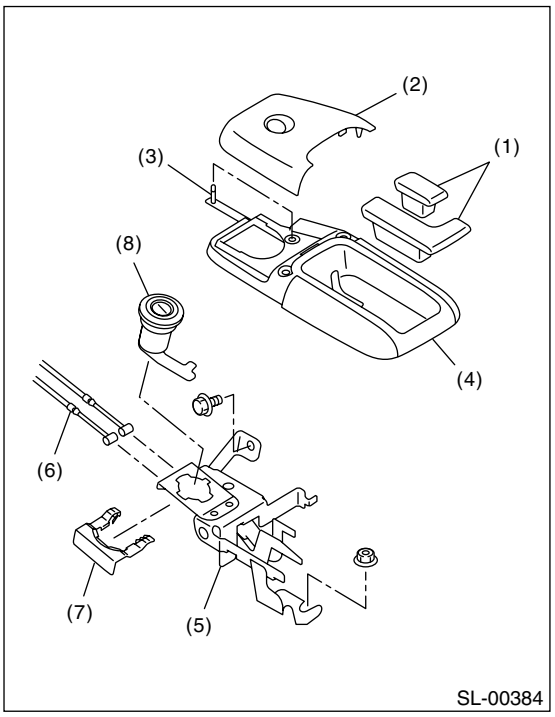
### 1. FRONT HOOD OPENER

1) Remove the cable from the front hood lock.
2) Remove the bolt, and then detach the opener lever.




### 2. TRUNK LID OPENER

1) Remove the rear seat. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the center pillar lower trim, side sill cover, rear pillar lower trim and floor mat on the driver's side. Remove the clip holding the cable.
3) Remove the opener lever (1) and rear cover (2).
4) Remove the pin (3) and remove front cover (4).
5) Remove the bolt and nut, and remove the pull handle assembly (5).

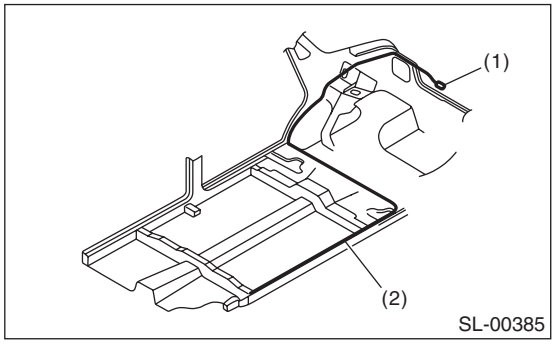



(1) Opener lever
(2) Rear cover
(3) Pin
(4) Front cover
(5) Pull handle ASSY
(6) Cable
(7) Clamp
(8) Key cylinder

6) Remove the cable from the pull handle assembly (5).
7) Remove clamp (7) to remove the key cylinder (8).

**CAUTION:**
**Remove the key cylinder in the UNLOCK position.**

8) Remove the trunk lid lock assembly from the trunk lid.
9) Remove the cable from the trunk lid lock assembly.




(1) Trunk lid lock ASSY
(2) Cable

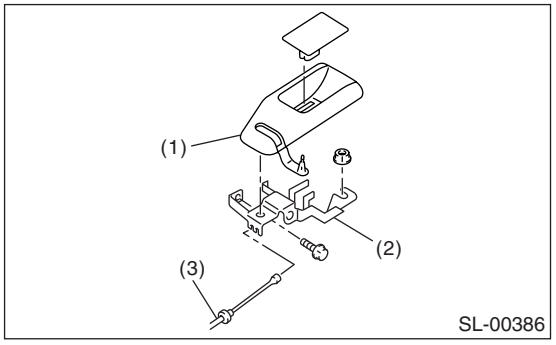
### 3. FUEL FILLER FLAP LID OPENER

**Sedan**

<Ref. to SL-45, TRUNK LID OPENER, REMOVAL, Remote Openers.>

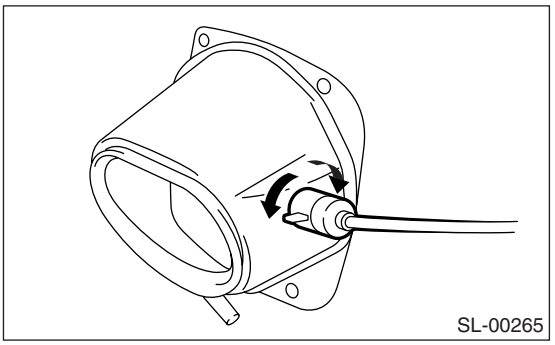
**Wagon**

1) Remove the rear seat. <Ref. to SE-17, REMOVAL, Rear Seat.>
2) Remove the center pillar lower trim, side sill cover, rear pillar lower trim and floor mat on the driver's side. Remove the clip holding the cable.
3) Remove the bolt and nut, and then detach the pull handle assembly.




(1) Cover
(2) Pull handle ASSY
(3) Cable

4) Remove the cable from pull handle assembly.
5) Remove the rear quarter trim RH. <Ref. to EI-60, REMOVAL, Rear Quarter Trim.>
6) 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.

**CAUTION:**
**Install the key cylinder to the trunk lid in the UNLOCK position.**

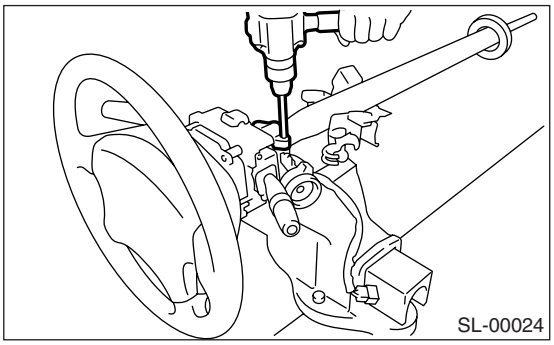
## C: INSPECTION

Make sure the front hood, trunk lid and fuel filler flap lid open and close smoothly.

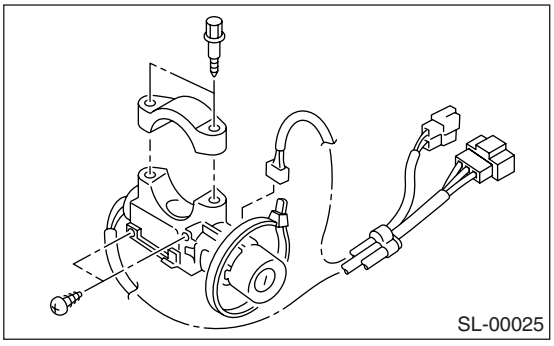
# 19.Ignition Key Lock

## A: REPLACEMENT

1) Disconnect the ground cable from the battery.
2) Remove the steering column. <Ref. to PS-17, REMOVAL, Tilt Steering Column.>
3) Secure the steering column in a vise. Remove the bolt with a drill.

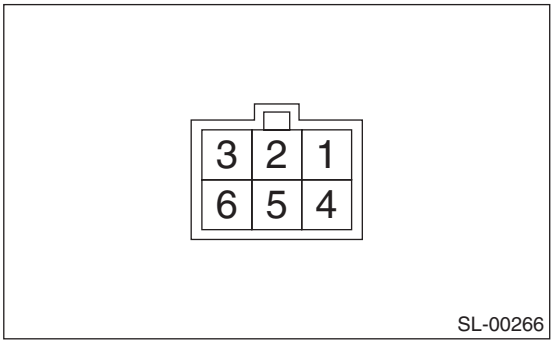



4) Remove the ignition key lock.
5) Using a new bolt, tighten the bolts all the way.




## B: INSPECTION

1) Remove the instrument panel lower panel.
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.



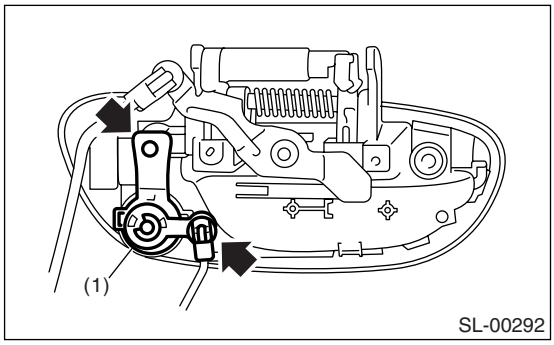

| Switch position | Terminal No. | Standard |
|---|---|---|
| LOCK | — | — |
| ACC | No. 3 and No. 4 | Less than 1 Ω |
| ON | No. 3, No. 1 and No. 4<br>No. 3 and No. 6 | Less than 1 Ω |
| ST | No. 3 and No. 1<br>No. 3, No. 2 and No. 6 | Less than 1 Ω |

If NG, replace the ignition switch.

# 20.Key Lock Cylinders

## A: REPLACEMENT

1) Raise the front door glass to the top position.
2) Remove the door trim. <Ref. to EI-47, REMOVAL, Door Trim.>
3) Remove the sealing cover.
4) Remove the rod clamp and the bolt, then replace the key cylinder (1).



# 21.Security Control Unit

## A: NOTE

The control of security system is carried out in body integrated unit.

## B: REMOVAL

<Ref. to SL-53, REMOVAL, Body Integrated Unit.>

## C: INSTALLATION

<Ref. to SL-53, INSTALLATION, Body Integrated Unit.>

# 22.Impact Sensor

## A: REMOVAL

1) Remove the key from ignition switch.
2) Close all the doors, trunk lid and 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 the doors, trunk lid and 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 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) Connect the Subaru Select Monitor to the data link connector.
2) Turn the ignition switch to ON.
3) Select {Integ. unit} from main menu.
4) Select {ECM customizing}.
5) Make a impact monitor setting.
- When installing: ON
- When removing: OFF

6) Make a impact monitor ON/OFF setting.
- When installing: ON
- When removing: OFF

7) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

## D: ADJUSTMENT

### 1. CHECK IMPACT SENSOR

1) Remove the key from ignition switch.
2) Close all the windows.
3) Close all the doors, trunk lid and rear gate. Leave open the front hood.
4) Press the LOCK button of the keyless transmitter from outside of vehicle.
5) Check that the security indicator light blinks twice within 0.5 seconds in 2 second cycles after 30 seconds.
6) Hit 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) Connect the Subaru Select Monitor to the data link connector.
2) Turn the ignition switch to ON.
3) Select {Impact Sensor} from the main menu.
4) Make a {Sensitivity Adjustment Mode}.
- Sensitivity can be adjusted in 11 levels (0 to 10).
- Initial setting is 5.
- Smaller number means more sensitive.
- Larger number means less sensitive.

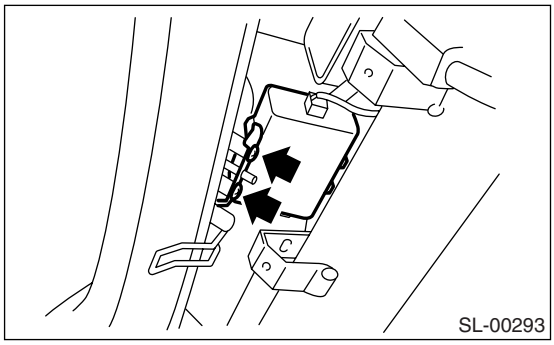
5) Turn the ignition switch to OFF, and then remove the Subaru Select Monitor.

NOTE:
- Set the sensor so 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.

# 23.Keyless Entry Control Module

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the glove box. <Ref. to EI-50, REMOVAL, Glove Box.>
3) Remove the screw, disconnect the connector and remove the keyless entry control module.




## B: INSTALLATION

Install in the reverse order of removal.

# 24.Keyless Buzzer

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the front bumper. <Ref. to EI-30, REMOVAL, Front Bumper.>
3) Remove the keyless buzzer installed to the back side of the horn 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.

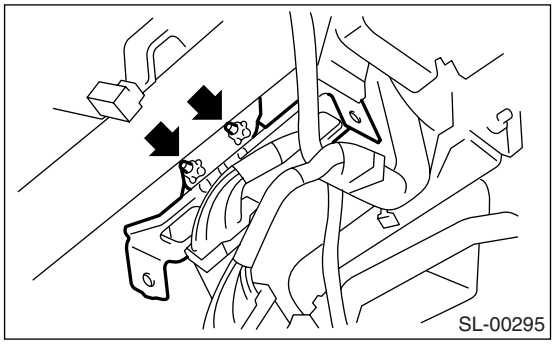
# 25.Body Integrated Unit

## A: REMOVAL

NOTE:
• When replacing the body integrated unit, check the current setting and note it. <Ref. to LAN(diag)-18, 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-49, 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.**
4) Remove the body integrated unit from the body integrated unit mounting bracket using a flat tip screwdriver.

**CAUTION:**
**Be careful when removing the unit. Removing by force from the bracket will damage the unit.**
5) Remove the clutch pedal stopper arm. (MT model) <Ref. to CL-31, REMOVAL, Clutch Pedal.>
6) Remove two mounting bolts 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)-18, CONFIRMATION OF CURRENT SETTING, OPERATION, Subaru Select Monitor.>

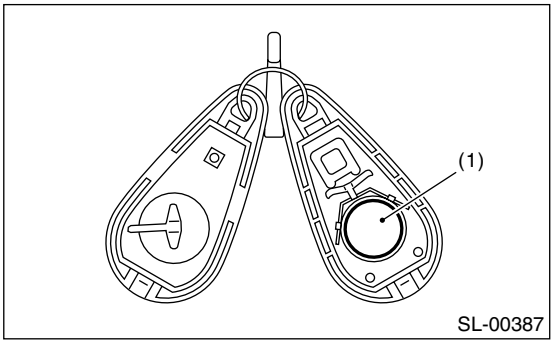
# 26.Transmitter

## A: REMOVAL

### 1. TRANSMITTER BATTERY

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

### 1. TRANSMITTER BATTERY

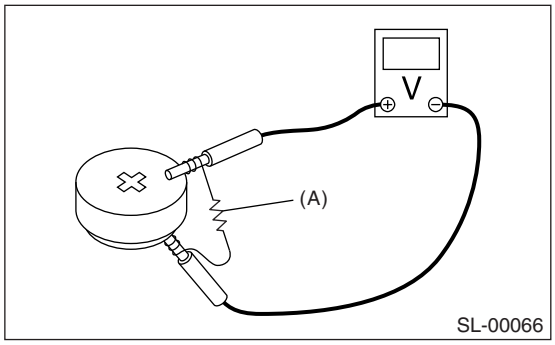
Install in the reverse order of removal.

## C: INSPECTION

### 1. TRANSMITTER BATTERY

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 CR2025 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) Connect the Subaru Select Monitor to the vehicle.
2) Turn the ignition switch to ON.
3) From the «Main menu» on the Subaru Select Monitor, select the {2. Check individual system} → {7. Integrated unit mode} → {8. Transmitter ID registration}, and select the [OK].
4) Input the 8-digit ID number attached to the plastic bag of the keyless transmitter or inside the transmitter, from left to right. Select the [OK].

NOTE:
Select the [▲] on the Subaru Select Monitor to increase the number, and the [▼] to decrease. Select the [<] to move to the digit in the left, and [>] to the right.
5) The ID number you have entered will be shown. Make sure that the ID number shown is the same as that of plastic bag or inside of transmitter.
6) Select the [OK] if the ID number is correct. Select the [NO] if incorrect, to return to the step 3) and try again.
7) «ID registration in process···» is displayed and registration starts.
8) «ID registration done » will be displayed when the registration process is done.
9) To exit, select «END: NO», and select the [NO] to return to {8. Keyless transmitter ID registration}. If there are additional keyless transmitters to be registered, select «Next registration: OK», and select the [OK] to return to the step 4).

NOTE:
• If the registration fails, «ID registration failed. Try again.» will be shown. Select the [OK] to return to the {8. Transmitter ID registration}. And retry from the step 3).
• «END: NO» is shown on the Subaru Select Monitor when fourth keyless transmitter has been registered. Select the [NO] to return to {8. Keyless transmitter ID registration}.

# 27.Immobilizer Control Module

## A: NOTE

The control of immobilizer system is carried out in body integrated unit.

## B: REMOVAL

<Ref. to SL-53, REMOVAL, Body Integrated Unit.>

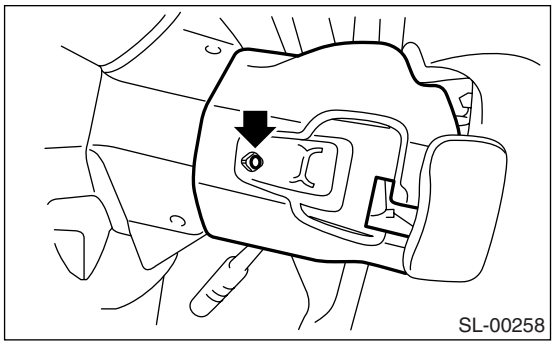
## C: INSTALLATION

Install in the reverse order of removal.

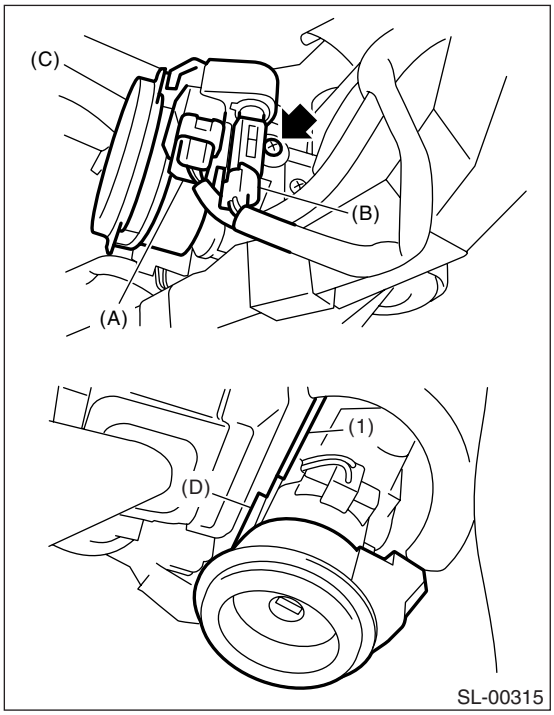
# 28.Immobilizer Antenna

## 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-49, 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)

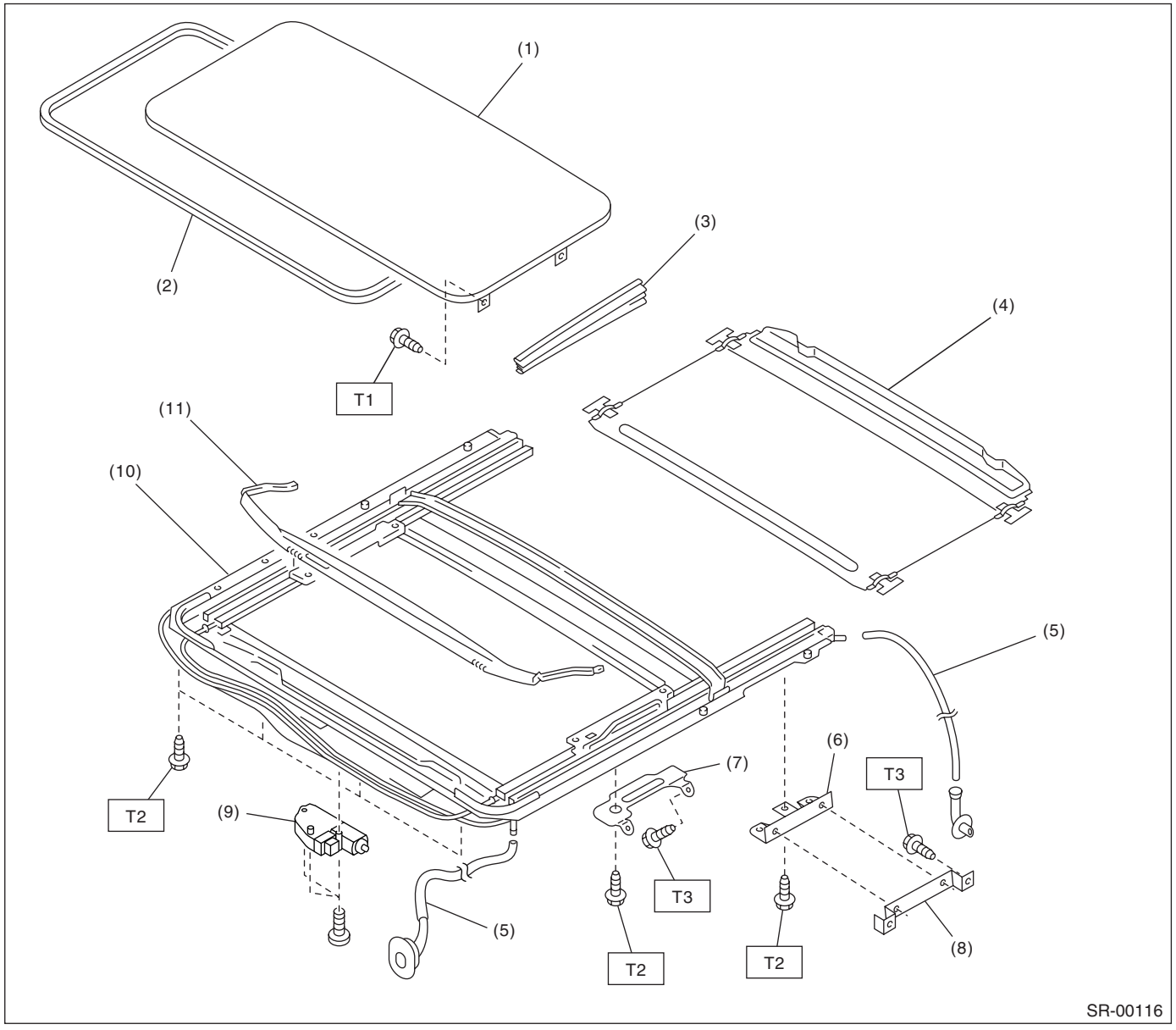
# SR


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Sunroof Control System | 5 |
| 3. | Glass Lid | 6 |
| 4. | Sunroof Assembly | 9 |
| 5. | Sunroof Motor | 11 |
| 6. | Sunroof Switch | 14 |
| 7. | Sunshade | 15 |

# 1. General Description

## A: COMPONENT

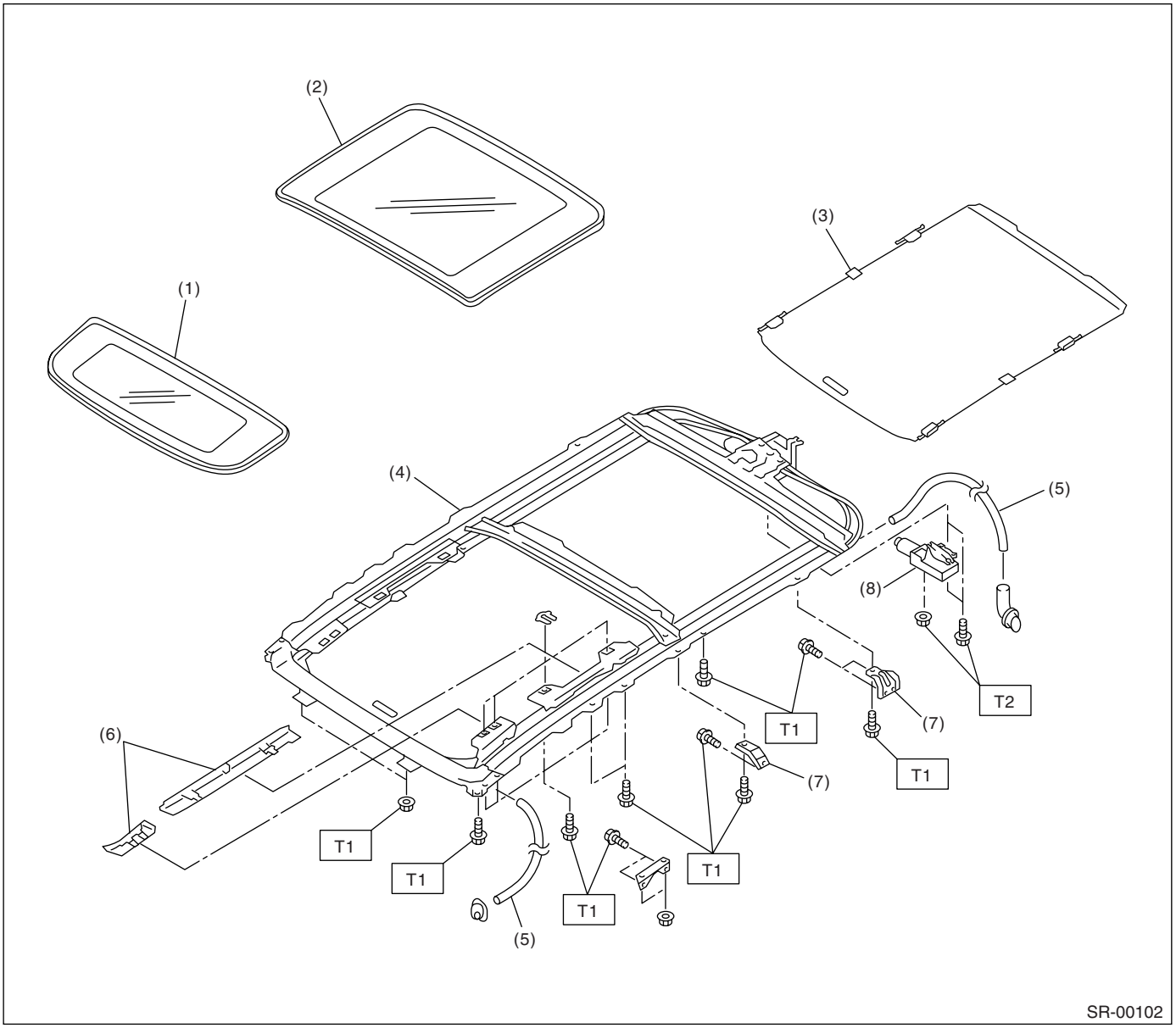
### 1. SEDAN MODEL




(1) Glass lid
(2) Weather strip
(3) Cover
(4) Sunshade
(5) Drain tube
(6) Assist rail bracket (Rear)
(7) Assist rail bracket (Front)
(8) Sunroof bracket (Rear)
(9) Motor ASSY
(10) Frame ASSY
(11) Deflector

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 4.5 (0.46, 3.3)***
***T2: 6.0 (0.61, 4.4)***
***T3: 7.5 (0.76, 5.3)***

## 2. WAGON MODEL




| | | | | |
|---|---|---|---|---|
| (1) | Glass lid (Front) | (5) | Drain tube | ***Tightening torque:N·m (kgf-m, ft-lb)*** |
| (2) | Glass lid (Rear) | (6) | Cover (Front and rear) | ***T1: 7.5 (0.76, 5.3)*** |
| (3) | Sunshade | (7) | Frame bracket | ***T2: 4.5 (0.46, 3.0)*** |
| (4) | Frame ASSY | (8) | Motor ASSY | |

## 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 removing and installing the sunroof motor, glass lid and sunshade. (Sedan model) |

# 2. Sunroof Control System

## A: WIRING DIAGRAM

### 1. SUNROOF

<Ref. to WI-181, WIRING DIAGRAM, Sunroof Control System.>

## B: INSPECTION

| Symptom | Inspection order |
|---|---|
| Water leakage | 1. Check roof panel and glass lid for improper or poor sealing.<br>2. Check drain tube for clogging.<br>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.<br>2. Check sunshade and roof trim for improper clearance. |
| Abnormal motor noise | 1. Check installing part of motor for looseness.<br>2. Check gears and bearings for wear.<br>3. Check cable for wear.<br>4. Check cable pipe for deformities. |
| Failure of sunroof<br>(Motor operates properly.) | 1. Check guide rail for foreign particles.<br>2. Check guide rail for improper installation.<br>3. Check parts for mutual interference.<br>4. Check cable slider for improper clinching.<br>5. Check cable for improper installation. |
| Motor does not rotate or rotate improperly. | 1. Check fuse for blown out.<br>2. Check switch for improper function.<br>3. Check motor for incorrect terminal voltage.<br>4. Check the relay for improper operation.<br>5. Check poor grounding system.<br>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 (SEDAN MODEL)

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) Keep pressing the tilt up switch within 5 seconds from releasing the switch. The glass lid will tilt down → slides open → slides close automatically. (When 5 seconds pass, the position detecting function is cancelled.)
5) Initialize operation is completed.

### 2. INITIALIZE OPERATION (WAGON MODEL)

1) Apply force to the glass lid in the opening direction while the glass lid (rear) is closing, and make it reverse five times in a row.
However, in the following situation, the initialize operation is canceled.
- When the lid is fully closed once during one of the auto-reverse operations five times in a row.
- When the interval between the auto-reverse operations was 30 seconds or more even once.

2) When the operation of glass lid shifts to inching operation*, fully close the lid by switch operation.
3) Initialize operation is completed.

* Inching operation: A condition where the glass lid only operates for only at the moment when the switch is pressed, even when the switch is held down.

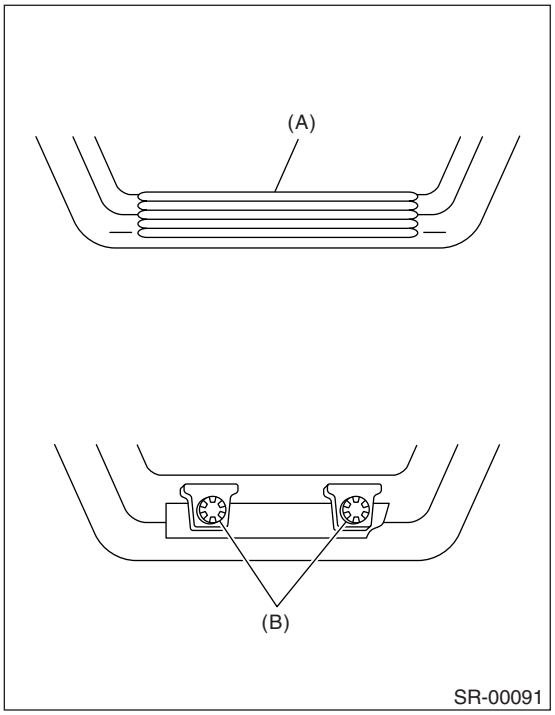
# 3. Glass Lid

## A: REMOVAL

### 1. SEDAN MODEL

1) Completely close the glass lid, and then open the sunshade.
2) Remove the cover (A), and then remove the TORX® bolts (B).

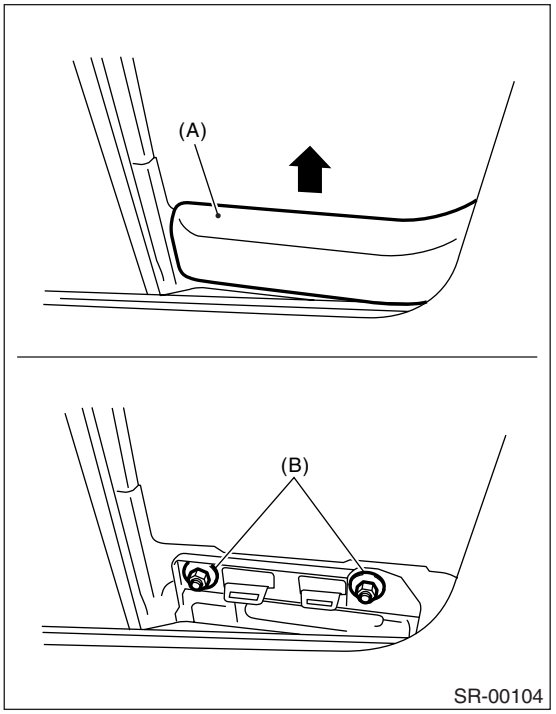
**CAUTION:**
**The thread locker is applied to the TORX® bolts, so use the new parts once they are removed.**




3) Remove the glass lid carefully.

### 2. WAGON MODEL (FRONT)

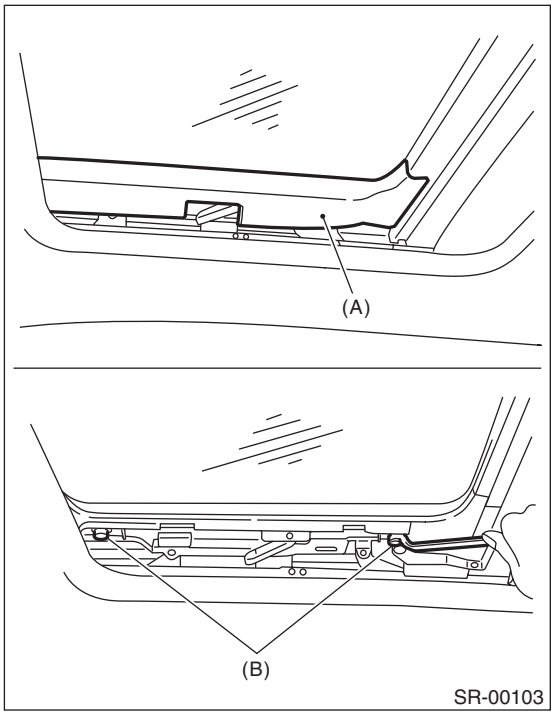
1) Open the sunshade.
2) Pull out the cover (A) towards the arrow mark, and remove the nuts (B).




3) Remove the glass lid (front) carefully.

### 3. WAGON MODEL (REAR)

1) Tilt the glass lid (front) up, then open the sunshade.
2) Remove the cover (A), then remove the nuts (B).




3) Remove the glass lid carefully.

## B: INSTALLATION

Install in the reverse order of removal.

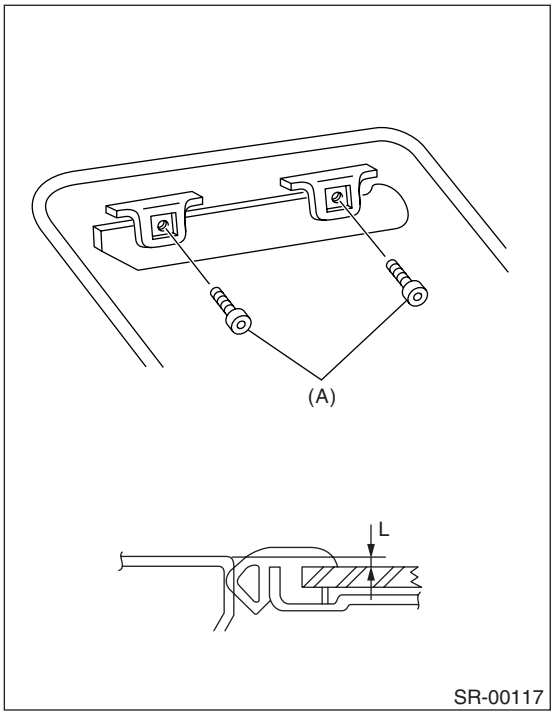
## C: ADJUSTMENT

### 1. SEDAN MODEL

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)***

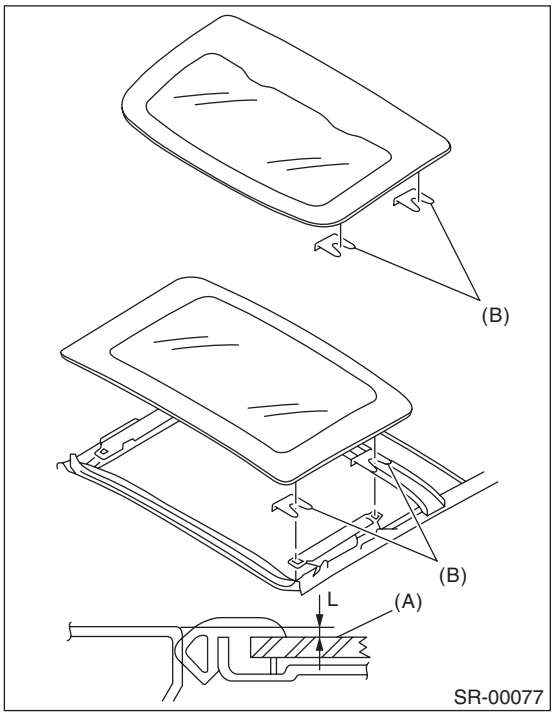



### 2. WAGON MODEL

Loosen the glass lid installation nuts, and adjust the height by adding (max: four pieces) or extracting (min: zero piece) shims (B) (standard: two pieces) between the glass lid (A) and body.

***Difference in height between glass lid and roof panel L:***

***2.0±1.0 mm (0.079±0.039 in)***



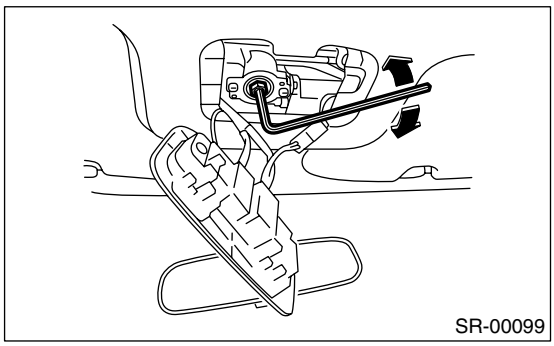
## D: FORCED DRIVE

If glass lid does not operate or is not supplied with power, move the glass lid using the hexagon wrench.
Sedan model: bolt width 4 mm (0.16 in)
Wagon model: bolt width 5 mm (0.20 in)

### 1. SEDAN MODEL

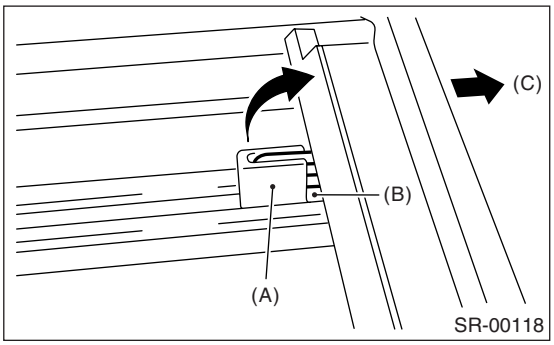
1) Remove the spot map light. <Ref. to LI-32, REMOVAL, Spot Map Light.>
2) Insert the hexagon wrench securely until it touches the motor shaft end.
3) Turn the hexagon wrench, and move the glass lid.

- Turning right, the glass lid open.
- Turning left, the glass lid close.



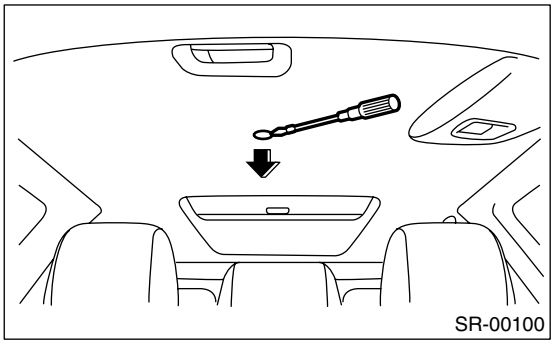

### 2. WAGON MODEL

1) Slide the slider (A) towards the rear of the vehicle (C), and remove the sun shade from the slider by raising the rod (B).

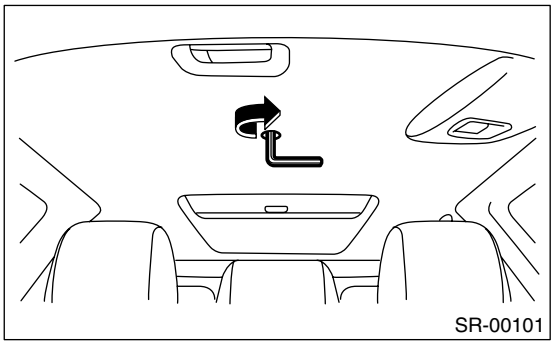



**CAUTION:**
**Be careful not to damage the adjacent parts with the rod end when moving the glass lid with the hexagon wrench.**

2) Slide the sunshade forward.
3) Remove the plug to the rear of the roof trim.




4) Insert the hexagon wrench securely until it touches the motor shaft end.
5) Turn the wrench to right, and close the glass lid (front and rear).



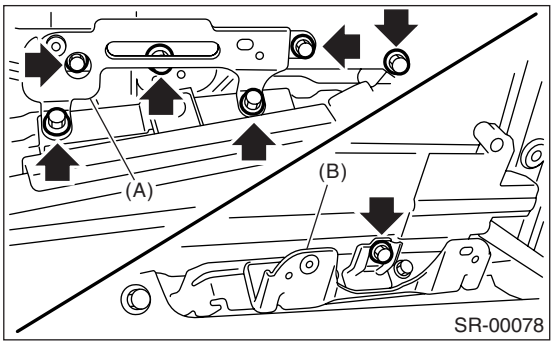

**CAUTION:**
**After a forced operation, make sure to perform an initialize operation. <Ref. to SR-5, INSPECTION, Sunroof Control System.>**

# 4. Sunroof Assembly

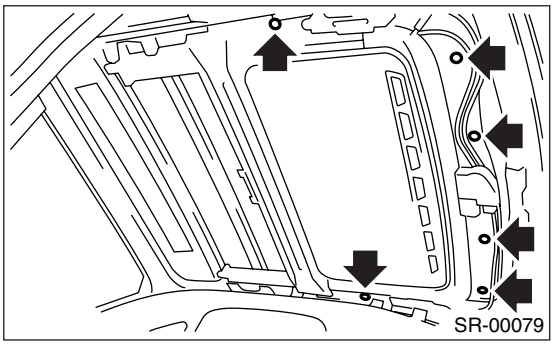
## A: REMOVAL

### 1. SEDAN MODEL

1) Disconnect the ground cable from the battery.
2) Remove the roof trim. <Ref. to EI-64, SEDAN MODEL, REMOVAL, Roof Trim.>
3) Disconnect the harness connector of sunroof motor.
4) Remove the glass lid. <Ref. to SR-6, SEDAN MODEL, REMOVAL, Glass Lid.>
5) Remove the drain tube from frame assembly.
6) Remove the assist rail bracket (front) (A) and sunroof bracket (rear) (B).

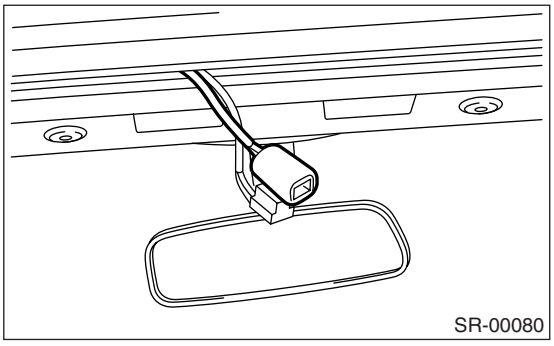



7) Remove the nuts, and then remove the frame assembly.

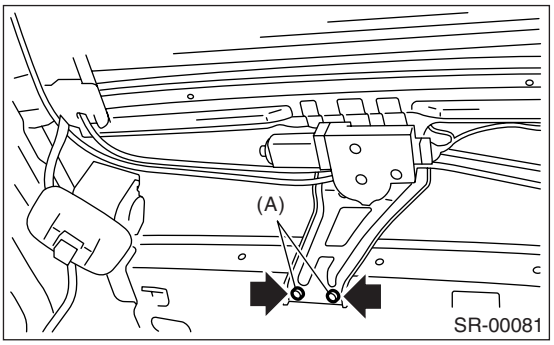



### 2. WAGON MODEL

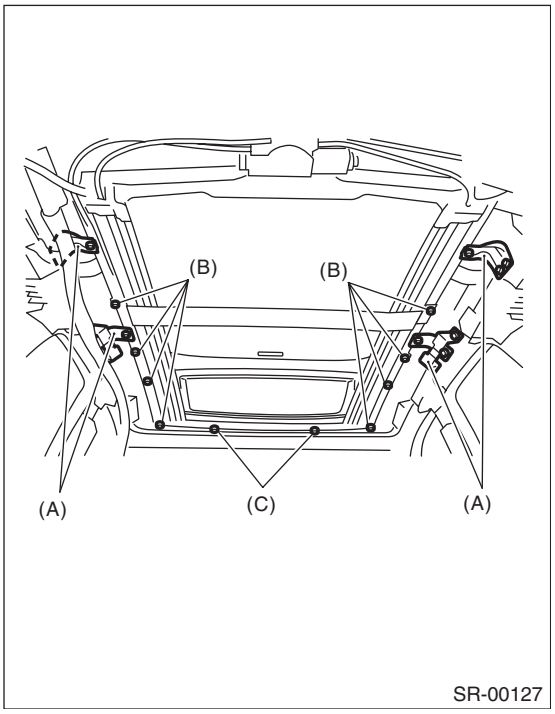
1) Disconnect the ground cable from the battery.
2) Remove the roof trim. <Ref. to EI-64, WAGON MODEL, REMOVAL, Roof Trim.>
3) Disconnect the harness connector of the motor assembly.




4) Remove the front and rear glass lid. <Ref. to SR-6, WAGON MODEL (FRONT), REMOVAL, Glass Lid.> <Ref. to SR-6, WAGON MODEL (REAR), REMOVAL, Glass Lid.>
5) Remove the attachment bolts (A) on the rear frame bracket of the frame assembly.




6) Remove the drain tube from frame assembly.
7) Remove the frame bracket (A).
8) Remove bolts (B) and nuts (C), then remove the frame assembly.



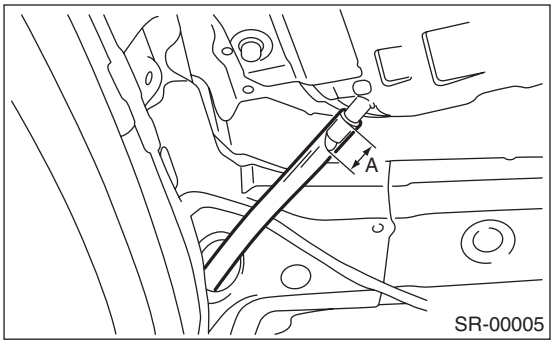
## B: INSTALLATION

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-11, REMOVAL, Sunroof Motor.>
2) Remove the sunshade. <Ref. to SR-15, REMOVAL, Sunshade.>

## D: ASSEMBLY

Assemble in the reverse order of disassembly.

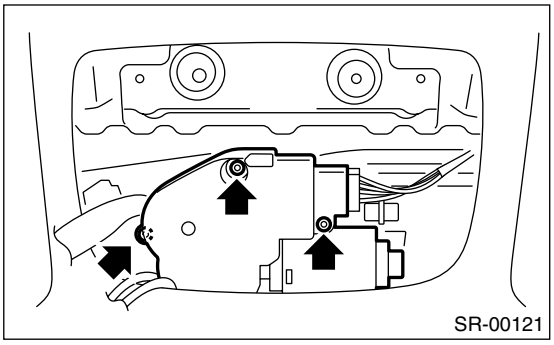
# 5. Sunroof Motor

## A: REMOVAL

**CAUTION:**
**• When removing the clip, use great care not to damage the roof trim.**
**• Never rotate the sunroof motor assembly after removing it.**

### 1. SEDAN MODEL

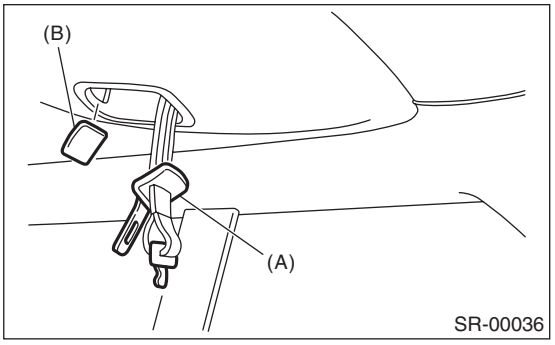
1) Completely close the glass lid.
2) Disconnect the ground cable from the battery.
3) Remove the spot map light. <Ref. to LI-32, REMOVAL, Spot Map Light.>
4) Disconnect the harness connector and remove the TORX® bolts, and then remove the motor assembly.




**CAUTION:**
**When removing the motor assembly, secure the cable wires to prevent moves.**

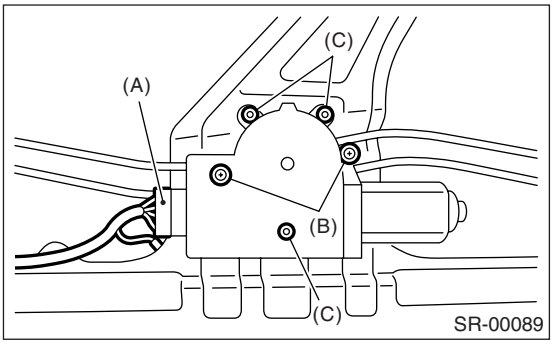
### 2. WAGON MODEL

1) Fully close the glass lid (front) and glass lid (rear).
2) Disconnect the ground cable from the battery.
3) Remove the luggage room light. <Ref. to LI-34, ROOM LIGHT SWITCH, REMOVAL, Luggage Room Light.>
4) Remove the roof trim. <Ref. to EI-64, WAGON MODEL, REMOVAL, Roof Trim.>
5) Pass the seat belt tongue located on the center of the rear seat through the hole, and then pull it out to the opposite side of the trim.




(A) Tongue
(B) Cover

6) Remove the clips, and let the rear end of the roof trim hang.
7) Disconnect the harness connector (A), and then remove the motor assembly mounting bolts (B) and nut (C).

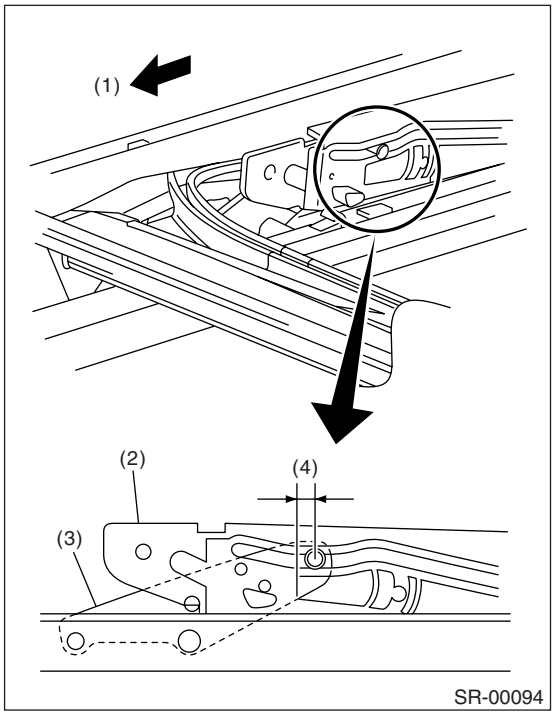


## B: INSTALLATION

**CAUTION:**
**When installing the motor assembly, be careful not to move the sunroof cable.**

### 1. SEDAN MODEL

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)

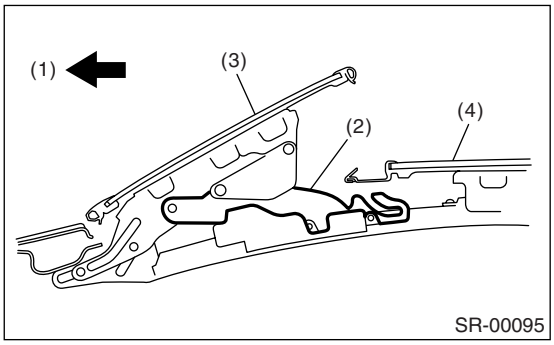
2) Install the motor assembly.
3) Connect the harness connector of motor assembly, and then connect the battery ground cable to battery.
4) Perform the initialize operation of motor.
(1) Tilt up the glass lid.
(2) Release the switch once, and press the tilt up switch again for 15 seconds.
(3) When the 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 closes 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.

### 2. WAGON MODEL

Check that the wedge of the glass lid (front) bracket is in contact at the vehicle forward direction end. At this time, the lid is at the fully open position.




(1) Front
(2) Wedge
(3) Glass lid (Front)
(4) Glass lid (Rear)

1) Install the motor assembly.
2) After the installation of the motor assembly, check again that the wedge of glass lid (front) bracket part is in contact at the vehicle forward direction end.
3) Connect the harness connector of motor assembly, and then connect the battery ground cable to battery.
4) Perform the initialize operation of motor.
• When replacing the motor, fully close the glass once and perform position initialization, because the movement of the glass lid will shift to inching operation.
• When reusing the motor, operate the auto-reverse function five times in a row to shift to the inching operation, then perform the initialization of position.

5) Check the operation of sunroof with following table.

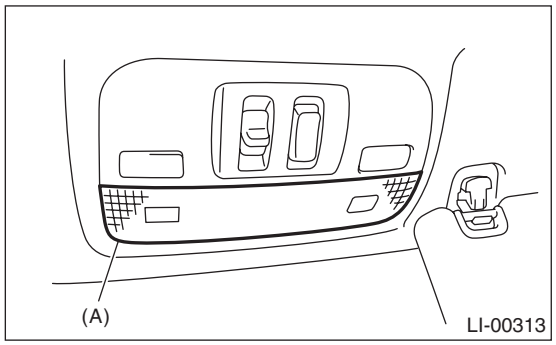
| Operation | Switch position |
|---|---|
| (1) Glass lid (front) and glass lid (rear) closes completely. | Close |
| (2) Glass lid (front) tilts up to the ventilating position. | Open |
| (3) Glass lid (front) tilts up to top position, and glass lid (rear) opens to just before the completely open position. | Open |
| (4) Glass lid (rear) opens completely. | Open |
| (5) Glass lid (rear) closes at a position 150 mm (5.91 in) from rear end of the tilted up glass lid (front). | Close |
| (6) Glass lid (rear) closes completely, and glass lid (front) stops in the ventilating position. | Close |
| (7) Glass lid (front) lowers, and then glass lid (front) and glass lid (rear) closes completely. | Close |

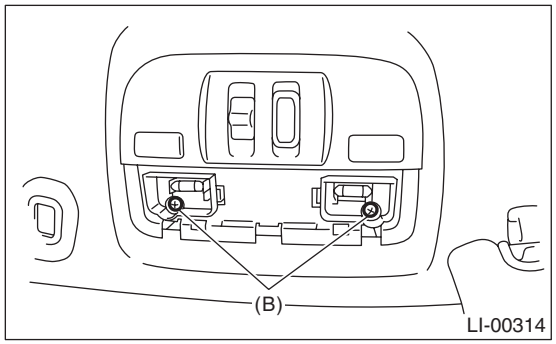
6) Install the trim in the reverse order of removal.

# 6. Sunroof Switch

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the spot map light lens (A) and sunroof switch mounting screws (B).




3) Disconnect the harness connector, and then remove the sunroof switch.

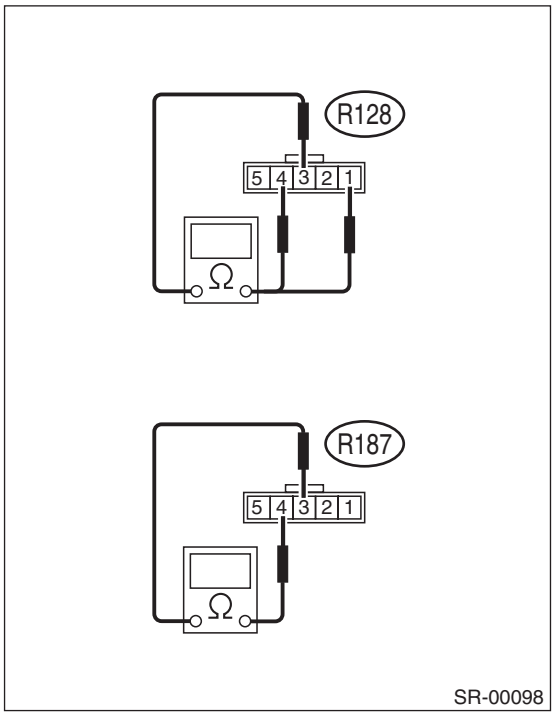
## B: INSTALLATION

Install in the reverse order of removal.

## C: INSPECTION

### 1. SEDAN MODEL

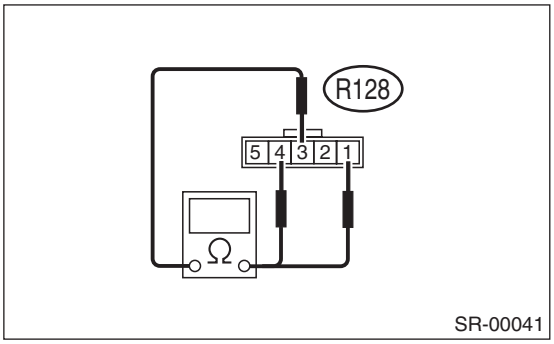
Measure the sunroof switch resistance.




| 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 | |

### 2. WAGON MODEL

Measure the sunroof switch resistance.




| Switch position | Terminal No. | Standard |
|---|---|---|
| Open | 1 and 3 | Less than 1 Ω |
| Close | 3 and 4 | Less than 1 Ω |

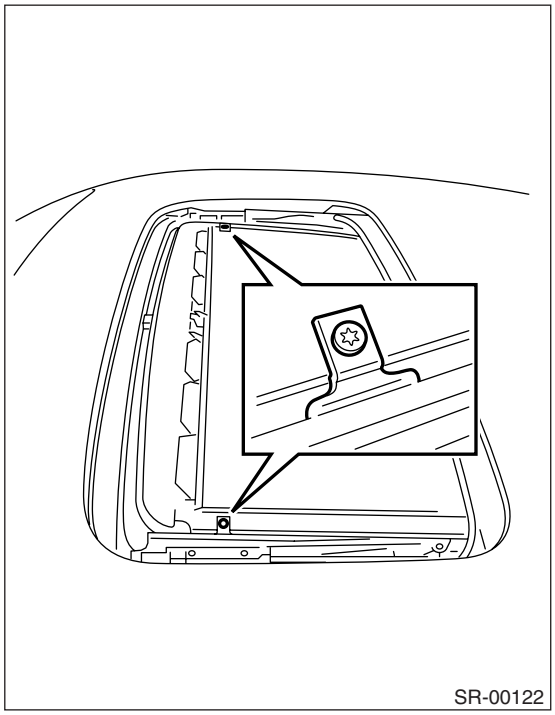
NOTE:
If glass lid does not operate or is not supplied with power, move the glass lid using the hexagon wrench. <Ref. to SR-8, FORCED DRIVE, Glass Lid.>

# 7. Sunshade

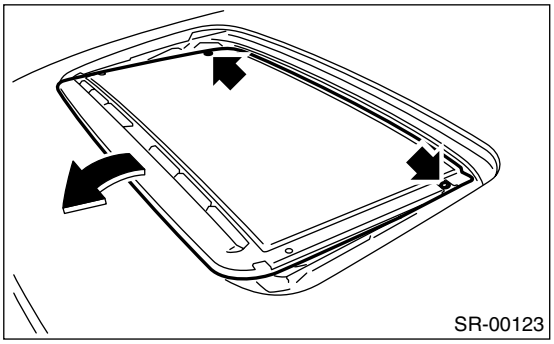
## A: REMOVAL

### 1. SEDAN MODEL

1) Remove the glass lid. <Ref. to SR-6, SEDAN MODEL, REMOVAL, Glass Lid.>
2) Loosen the TORX® bolt to remove the front sunshade bracket.

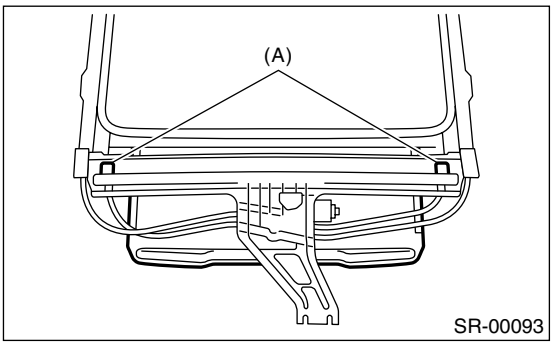

SR-00122

3) Pull the sunshade until the rear sunshade bracket comes into the sight, then loosen the TORX ® bolts to remove the sunshade.


SR-00123

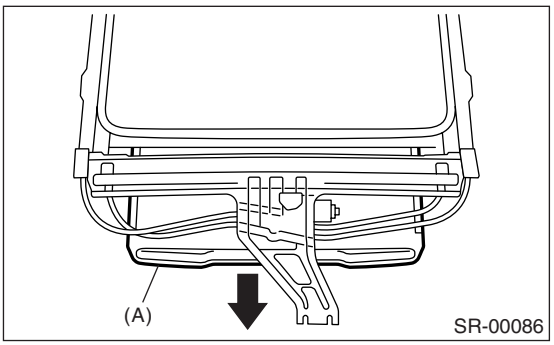
### 2. WAGON MODEL

1) Remove the frame assembly.
2) Remove the shade stopper (A) of the sunshade.



SR-00093

3) Pull out the sunshade (A) from the sunroof frame.



SR-00086

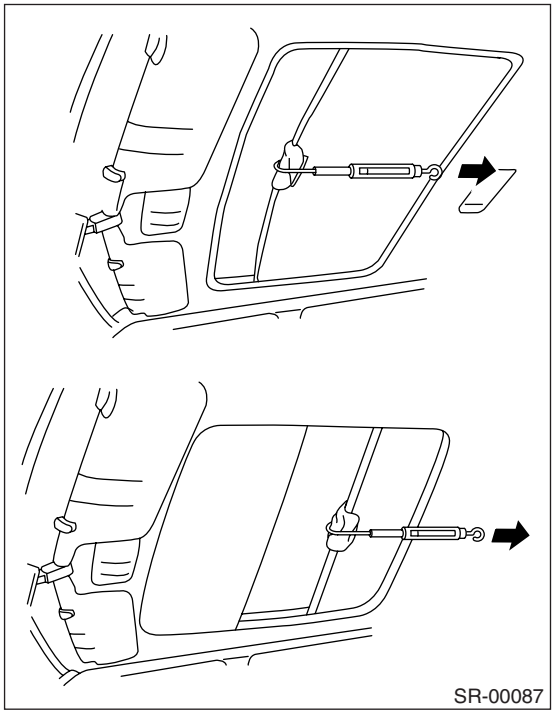
## B: INSTALLATION

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.




2) Pull the spring scale to measure moving load of the sunshade.

***Moving load of sunshade:***
***Standard***
***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


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Front Grille | 24 |
| 3. | Front Hood Grille | 25 |
| 4. | Front Under Cover | 26 |
| 5. | Floor Under Protector | 27 |
| 6. | Fuel Tank Protector | 28 |
| 7. | Mud Guard | 29 |
| 8. | Front Bumper | 30 |
| 9. | Rear Bumper | 37 |
| 10. | Cowl Panel | 39 |
| 11. | Roof Spoiler | 40 |
| 12. | Side Sill Spoiler | 41 |
| 13. | Side Protector | 42 |
| 14. | Side Garnish | 44 |
| 15. | Rear Quarter Protector | 45 |
| 16. | Roof Rail | 46 |
| 17. | Door Trim | 47 |
| 18. | Instrument Panel Lower Cover | 49 |
| 19. | Glove Box | 50 |
| 20. | Console Box | 51 |
| 21. | Center Console | 52 |
| 22. | Instrument Panel Assembly | 54 |
| 23. | Lower Inner Trim | 58 |
| 24. | Upper Inner Trim | 59 |
| 25. | Rear Quarter Trim | 60 |
| 26. | Sun Visor | 62 |
| 27. | Assist Grip | 63 |
| 28. | Roof Trim | 64 |
| 29. | Rear Gate Trim | 65 |
| 30. | Rear Shelf Trim | 66 |
| 31. | Trunk Room Trim | 67 |
| 32. | Floor Mat | 69 |
| 33. | Luggage Floor Box | 70 |
| 34. | Trunk Lid Garnish | 71 |
| 35. | Rear Gate Garnish | 72 |
| 36. | Heat Shield Cover | 73 |
| 37. | Ornament | 74 |

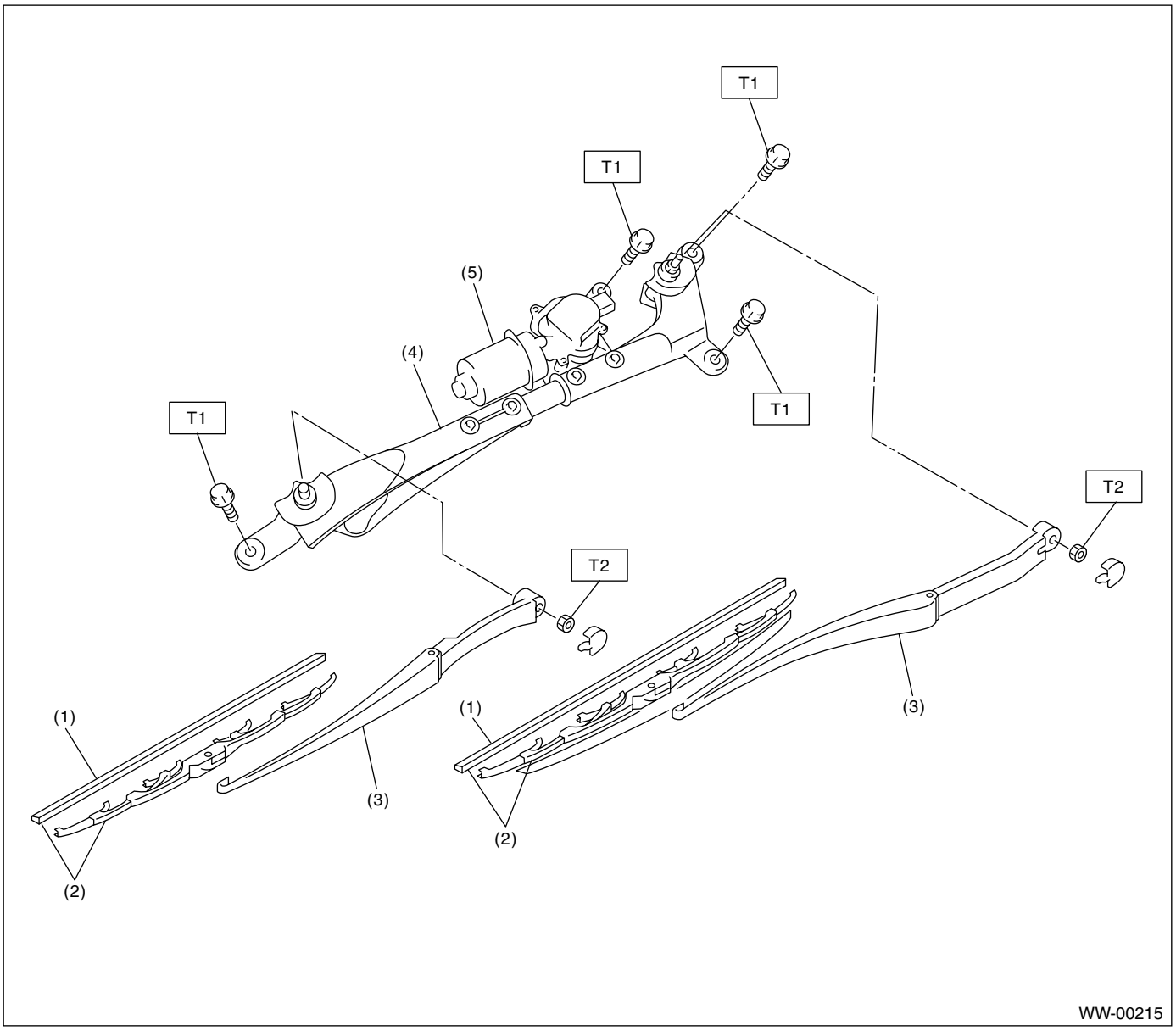
# 1. General Description

## 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

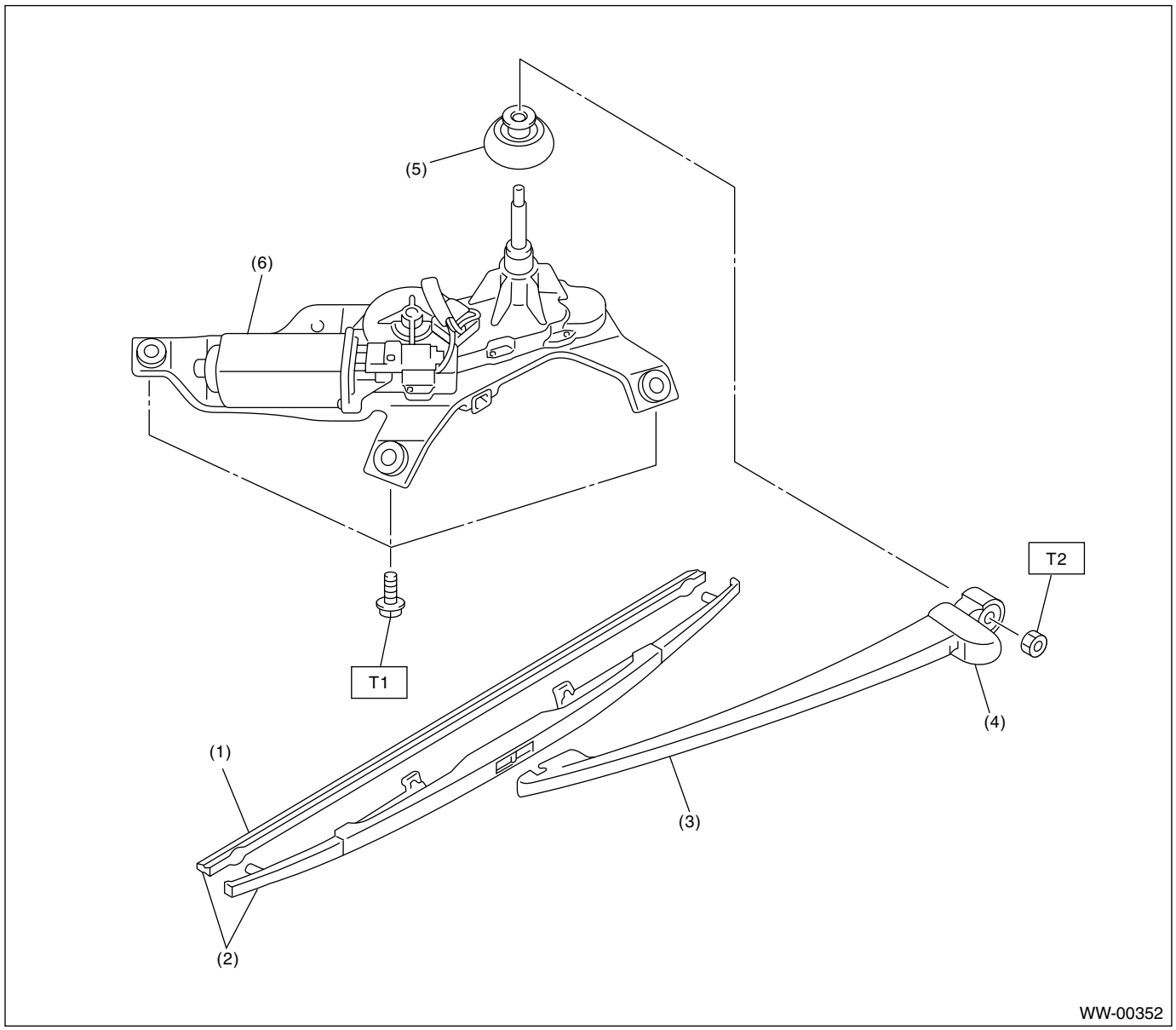
### 1. FRONT WIPER




(1) Wiper rubber
(2) Wiper blade ASSY
(3) Wiper arm
(4) Wiper link ASSY
(5) Wiper motor ASSY

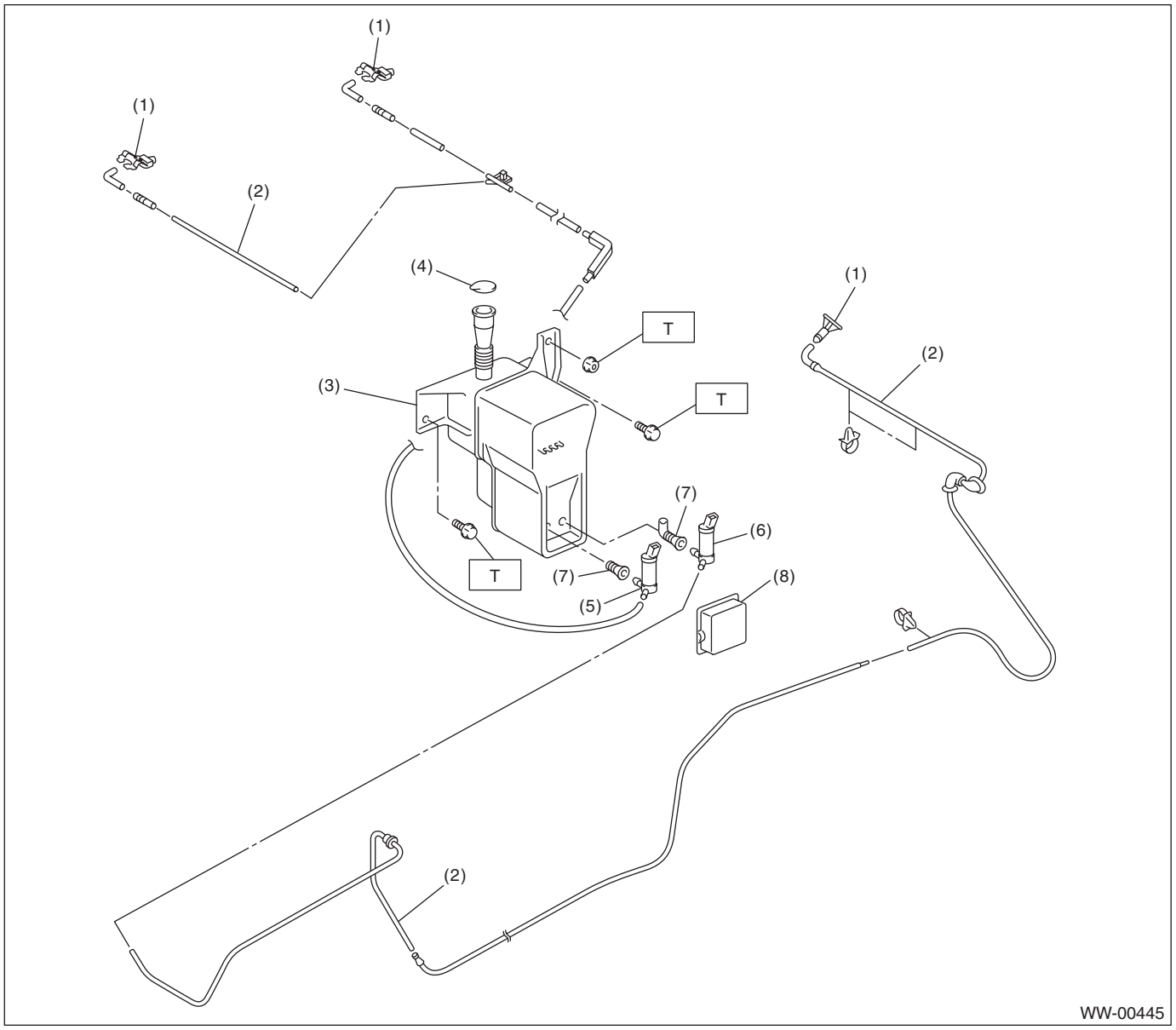
***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 6.0 (0.61, 4.4)***
***T2: 20 (2.0, 14.5)***

## 2. REAR WIPER (WAGON MODEL)




| | | | | |
|---|---|---|---|---|
| (1) | Wiper rubber | (4) | Wiper arm cover | ***Tightening torque:N·m (kgf-m, ft-lb)*** |
| (2) | Wiper blade ASSY | (5) | Cap | ***T1: 7.5 (0.77, 6.0)*** |
| (3) | Wiper arm | (6) | Wiper motor ASSY | ***T2: 8.0 (0.82, 5.9)*** |

## 3. WASHER TANK




| | | | | |
|---|---|---|---|---|
| (1) | Washer nozzle | (5) | Front washer motor | |
| (2) | Washer hose | (6) | Rear washer motor | |
| (3) | Washer tank | (7) | Grommet | |
| (4) | Washer tank cap | (8) | Washer motor cover | |

***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.

# 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-147, WIRING DIAGRAM, Rear Wiper and Washer System.>

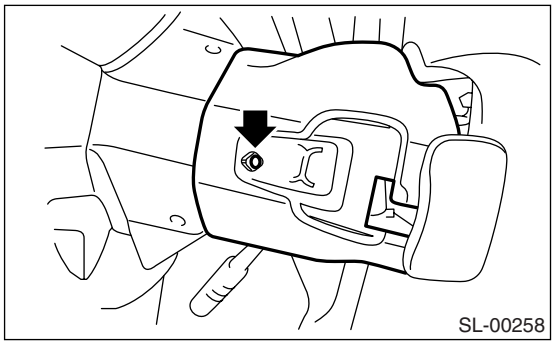
## B: INSPECTION

| Symptom | Repair order |
|---|---|
| Wiper and washers do not operate. | 1. Wiper fuse (Front: F/B No. 30, Rear: F/B No. 23)<br>2. Combination switch<br>3. Wiper motor assembly<br>4. Wiring harness<br>5. Body integrated unit (rear wiper only) |
| Wipers do not operate in LO or HI. | 1. Combination switch<br>2. Wiper motor assembly<br>3. Wiring harness |
| Wipers do not operate in INT. | 1. Combination switch<br>2. Wiper motor assembly<br>3. Wiring harness<br>4. Body integrated unit (rear wiper only) |
| Washer motor does not operate. | 1. Washer switch<br>2. Washer motor<br>3. Wiring harness |
| Wipers do not operate when washer switch is ON. | 1. Wiper motor assembly<br>2. Wiring harness |
| Washer fluid spray does not operate properly. | 1. Washer motor<br>2. Washer hose and nozzle |

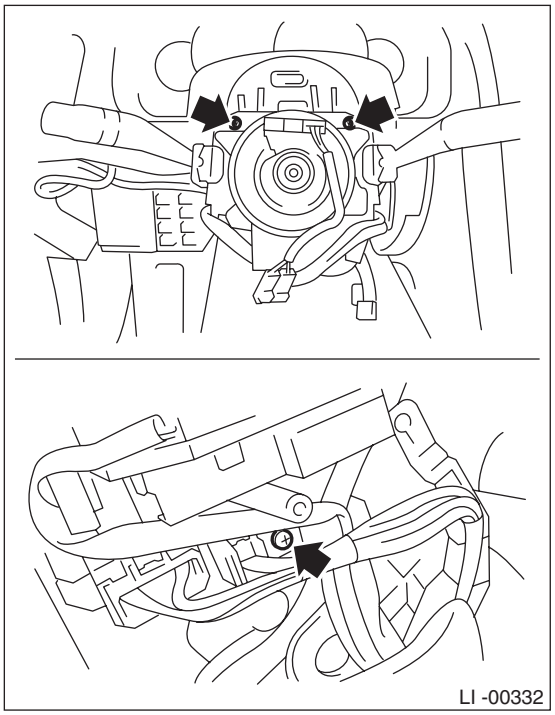
# 3. Combination Switch (Wiper)

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the driver's airbag module. <Ref. to AB-15, REMOVAL, Driver's Airbag Module.>
3) Remove the steering wheel. <Ref. to PS-14, REMOVAL, Steering Wheel.>
4) Remove the screws and remove the steering column covers (upper and 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.

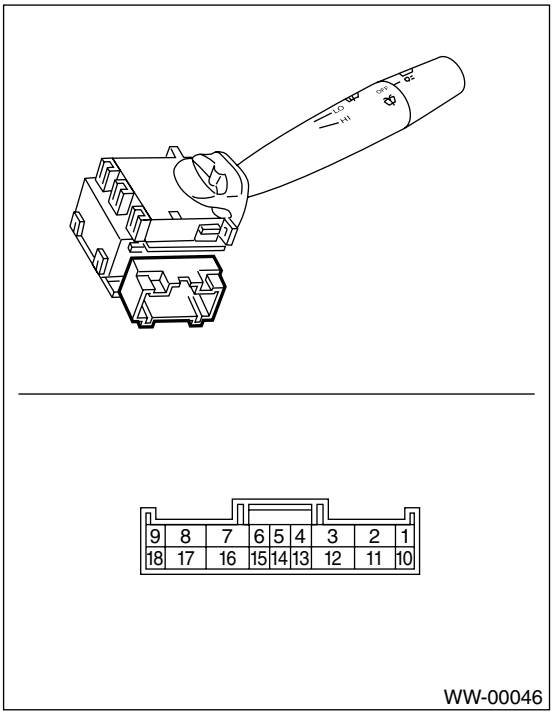
## B: INSTALLATION

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 | OFF | 7 and 16 | Less than 1 Ω |
| | INT | 7 and 16 | Less than 1 Ω |
| | 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 | — | 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<br>12 and 10<br>2 and 10 | Less than 1 Ω |

2) If continuity is not as specified, replace the switch.

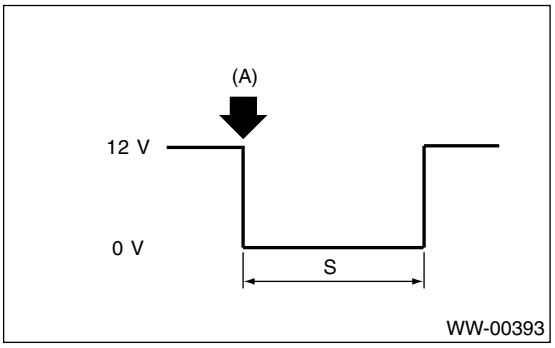
## 2. FRONT WIPER

1) Check with Subaru Select Monitor
When the front wiper switch is operated, check the input signal using the Subaru Select Monitor.
(1) Connect the Subaru Select Monitor to the data link connector.
(2) Turn the ignition switch to ON.
(3) Select {Integ. unit} from main menu.
(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-53, 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 to the connector. (Terminal No. 17 — (+), terminal No. 2 & 16 — (–))
(3) Turn the wiper switch to INT.
(4) Connect the battery (+) to the terminal No. 16 for 5 seconds.
(5) Connect the battery (–) to the terminal No. 16, and check the voltage between terminal No. 7 — No. 2 when performing the intermittent operation.
(6) Perform step 1) to 5) when intermittent control switch is in MIN or MAX. If operation is not as specified, replace the switch.

***Intermittent stationary time***
***MIN: Approx. 2 seconds***
***MAX: Approx. 16 seconds***




(A): Connect the battery (–) to the terminal No. 16.
S: Intermittent downtime (sec.)

## 3. REAR WIPER

1) Check with Subaru Select Monitor

| Step | | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK INPUT OF REAR WIPER SWITCH.**<br>Check the input from body integrated unit using the Subaru Select Monitor.<br>1) Connect the Subaru Select Monitor to the data link connector.<br>2) Turn the ignition switch to ON.<br>3) Select {Integ. unit} from main menu.<br>4) Select the {Current Data Display & Save}.<br>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-6, INSPECTION, Combination Switch (Wiper).> |
| 2 | **CHECK OUTPUT OF BODY INTEGRATED UNIT.**<br>When the rear wiper switch is operated, check the output using the Subaru Select Monitor.<br>1) Turn the ignition switch to ON.<br>2) Operate the rear wiper switch and set to each position of ON and INT.<br>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-16, INSPECTION, Rear Wiper Motor.> | Replace the body integrated unit. <Ref. to SL-53, Body Integrated Unit.> |

2) Check rear wiper motor circuit

| | Step | Check | Yes | No |
|---|---|---|---|---|
| 1 | **CHECK POWER SUPPLY CIRCUIT OF THE REAR WIPER MOTOR.**<br>1) Disconnect the harness connector of the rear wiper motor.<br>2) Turn the ignition switch to ACC.<br>3) Measure the voltage between the rear wiper motor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(D43) No. 1 (+) — Chassis ground (–):*** | Is the voltage 10 V or more? | Go to step **2**. | • Check the fuse (No. 23 in fuse & relay box).<br>• Check the fusible link (No. 6 in main fuse box). |
| 2 | **CHECK GROUND CIRCUIT OF REAR WIPER MOTOR.**<br>1) Turn the ignition switch to OFF.<br>2) Measure the resistance between the rear wiper motor harness connector terminal and chassis ground.<br>***Connector & terminal***<br>***(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.**<br>1) Turn the ignition switch to OFF.<br>2) Disconnect the harness connector of body integrated unit.<br>3) Disconnect the harness connector of the rear wiper motor.<br>4) Measure the resistance between the harness connector terminals of the body integrated unit and rear wiper motor.<br>***Connector & terminal***<br>***(B280) No. 1 — (D43) No. 2:***<br>***(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.**<br>1) Remove the rear wiper motor.<br>2) Check the rear wiper motor. <Ref. to WW-16, INSPECTION, Rear Wiper Motor.> | Does the rear wiper motor rotate normally? | End. | Replace the rear wiper motor. |

NOTE:
Rear wiper intermittent time (AT model only)

| Select lever position (AT model only) | Vehicle speed (km/h (MPH)) | Intermittent stopping time (sec.) |
|---|---|---|
| Rev. | — | Continuous operation |
| Except for reverse mode | 80 — (50 — ) | 3 |
| | 50 — 80 (31 — 50) | 6 |
| | 20 — 50 (12 — 31) | 9 |
| | 0 — 20 (0 — 12) | 12 |

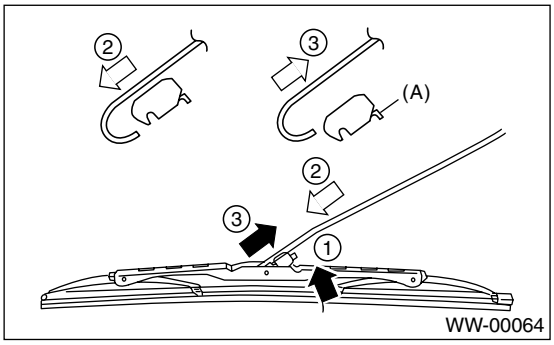
# 4. Wiper Blade

## A: REMOVAL

**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.**

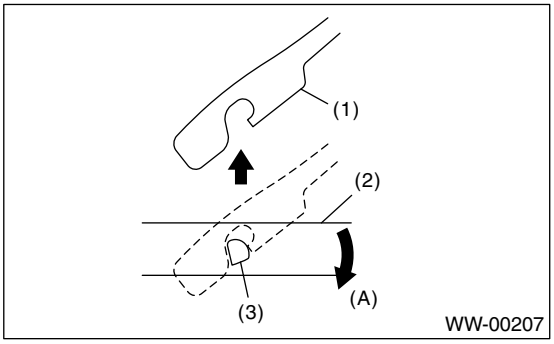
### 1. FRONT

While pushing the locking clip (A) up, pull out the blade to the direction of the arrow and remove it from the wiper arm.




### 2. REAR

Turn the blade in the direction of arrow (A) and remove it from arm.




(A) Turn the wiper blade.
(1) Wiper arm
(2) Wiper blade
(3) Wiper blade attachment section

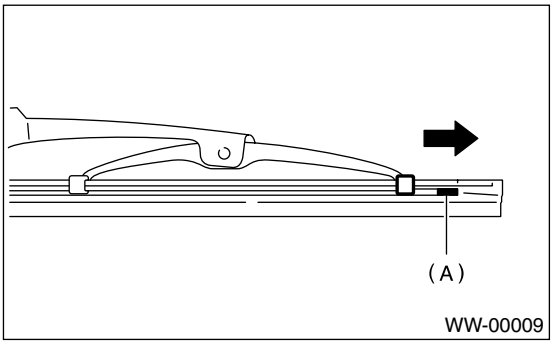
## B: INSTALLATION

1) Install in the reverse order of removal.
2) Confirm that the clip is locked securely.

## C: DISASSEMBLY

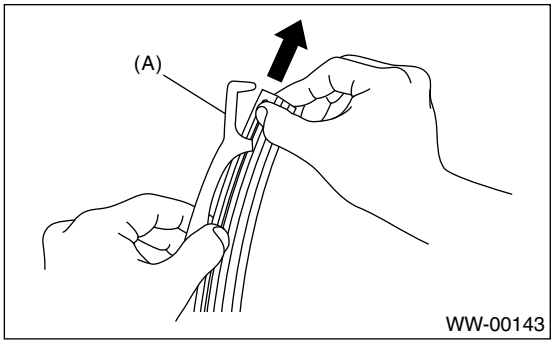
### 1. FRONT

Pull side (A) of the wiper rubber stopper and remove the rubber from the blade assembly.




### 2. REAR

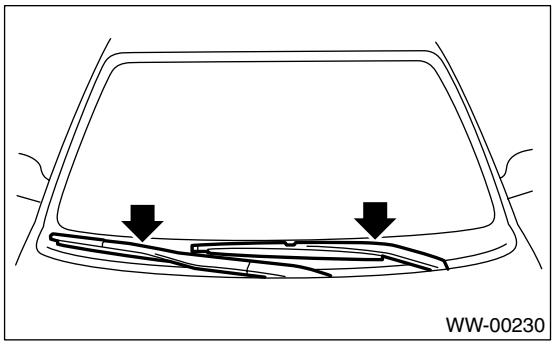
Pull the wiper rubber top slightly from stopper (A) and pull out completely.



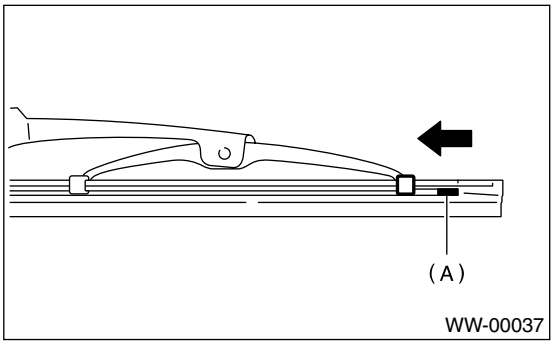
## D: ASSEMBLY

### 1. FRONT

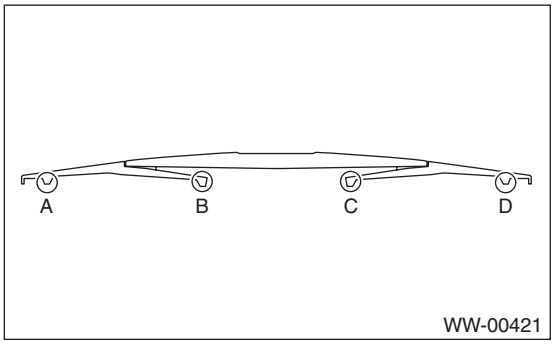
1) Insert the wiper rubber onto the blade so that the stopper is in the position shown in the figure.



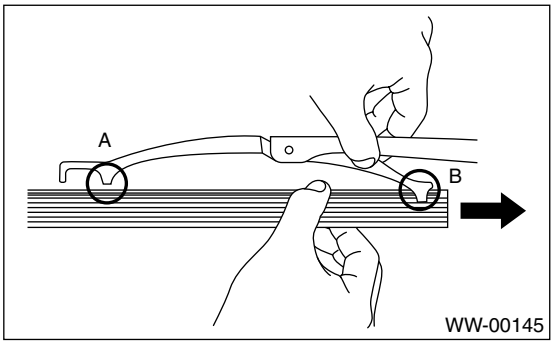

2) Make sure the wiper rubber is securely fastened to the pull stopper (A).



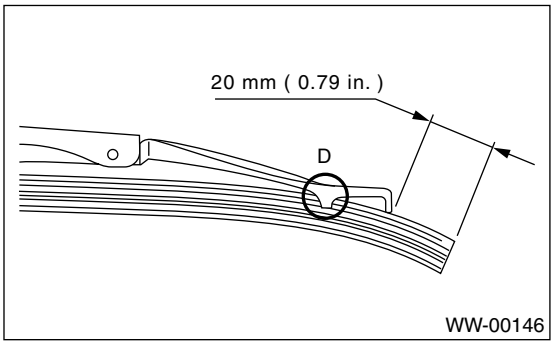

### 2. REAR



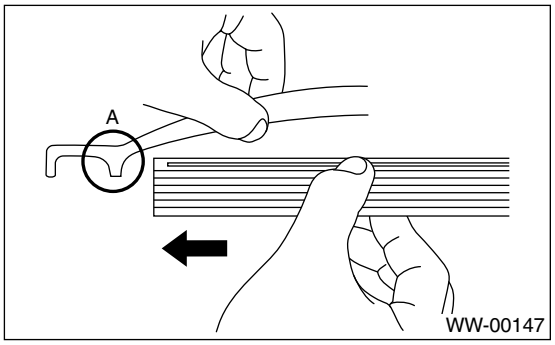

1) Insert the wiper rubber into claw B.




2) Insert the wiper rubber until its top end protrudes approx. 20 mm (0.79 in) from stopper D.




3) Insert the wiper rubber into claw A.




## E: INSPECTION

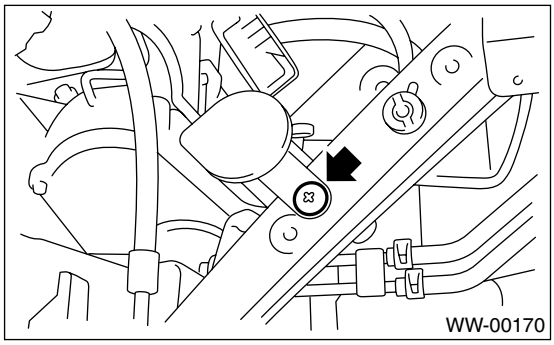
1) When the wiper does not operate properly, inspect the following item.
- Make sure the movable part of wiper blade assembly moves smoothly.
- Make sure the wiper rubber is not deformed or damaged.

2) If damaged, replace with a new part.

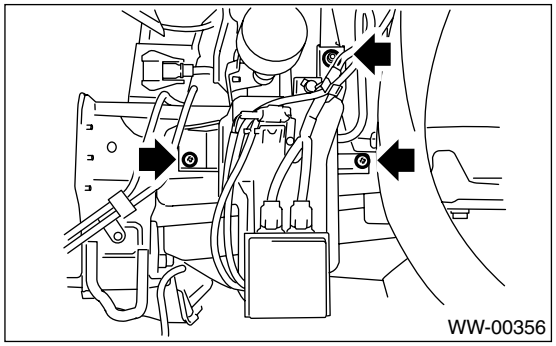
# 5. Washer Tank and Motor

## A: REMOVAL

1) Open the front hood.
2) Disconnect the ground cable from the battery.
3) Remove the front bumper. <Ref. to EI-30, 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.



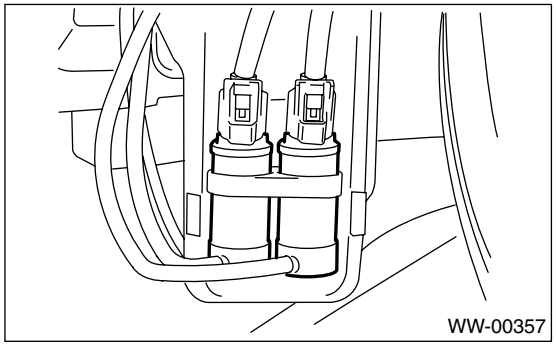

## B: INSTALLATION

Install in the reverse order of removal.

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

## C: DISASSEMBLY

Pull out the washer motor from the tank.

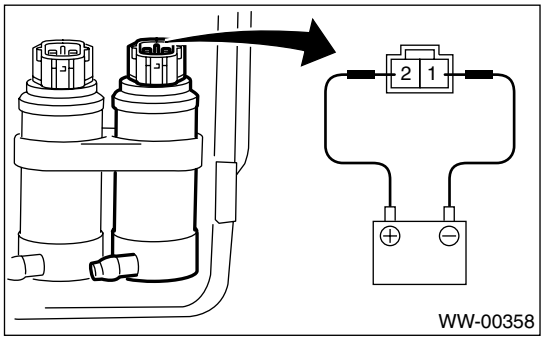



## D: ASSEMBLY

1) Assemble in the reverse order of disassembly.
2) Confirm that water does not leak from installation area of motor.

## E: INSPECTION

Apply battery voltage to the connector terminal of the washer motor and make sure the motor operates.

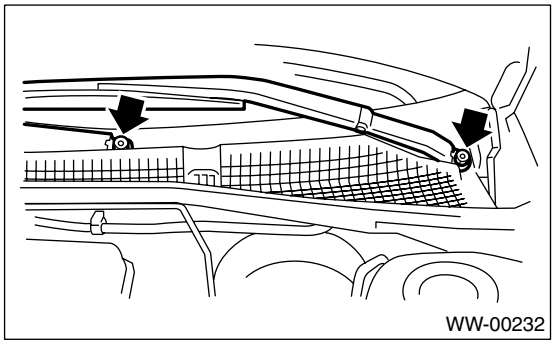


# 6. Front Wiper Arm

## A: REMOVAL

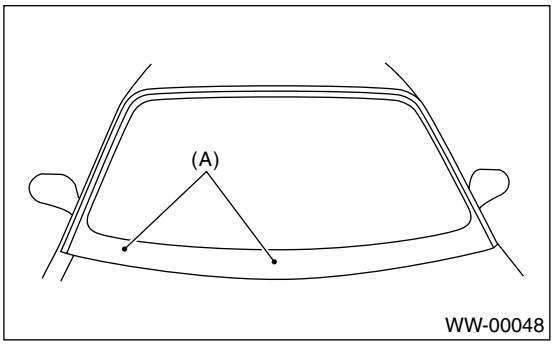
**CAUTION:**
**When standing up the wiper arm, be sure to stand up the driver's side wiper arm first, and then passenger's side wiper arm next. Also, when putting the wiper arms back, be sure to start with passenger's side first, then drivers side next. Doing this in the reverse order may result in the driver's side wiper blade hitting the passenger's side wiper arm and causing damage.**

1) Open the front hood.
2) Remove the cap.
3) Remove the nut and remove the wiper arm.




## B: INSTALLATION

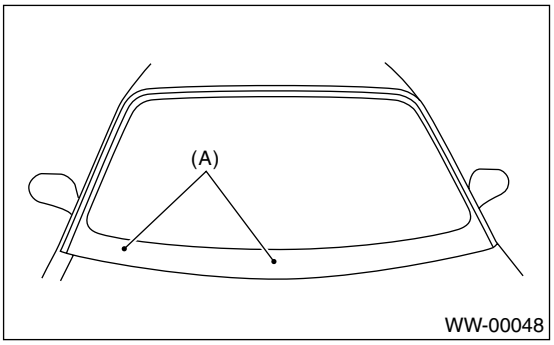
1) Install in the reverse order of removal.
2) Operate the wiper once.
3) Align the wiper blade to ceramic print point mark (A) of front window panel.




***Tightening torque:***
***Refer to "COMPONENT" of "General Description".***
***<Ref. to WW-2, FRONT WIPER, COMPONENT, General Description.>***

## C: ADJUSTMENT

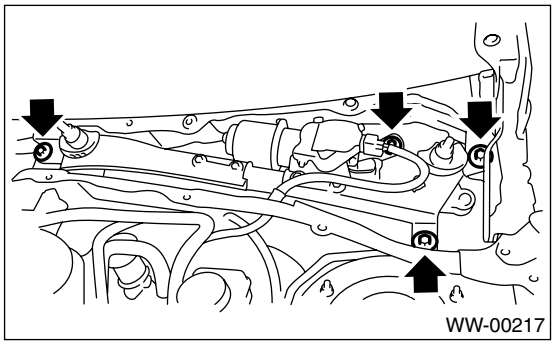
Operate the wiper once. Align the wiper blade to ceramic print point mark (A) of front window panel.



# 7. Front Wiper Motor and Link

## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the cowl panel. <Ref. to EI-39, REMOVAL, Cowl Panel.>
3) Disconnect the connector of wiper motor assembly.
4) Remove the bolt, and then remove the wiper assembly.


WW-00217

NOTE:
The wiper motor and wiper link is an assembly part and is not to be disassembled.

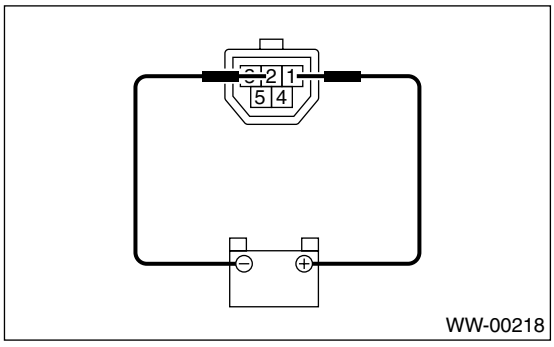
## B: INSTALLATION

Install in the reverse order of removal.

***Tightening torque:***
***Refer to "COMPONENT" of "General Description".***
***<Ref. to WW-2, FRONT WIPER, COMPONENT, General Description.>***

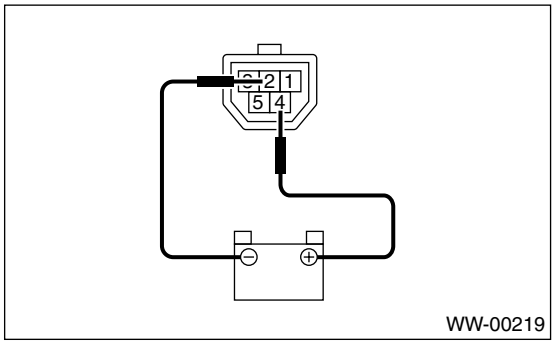
## C: INSPECTION

1) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at low speed.



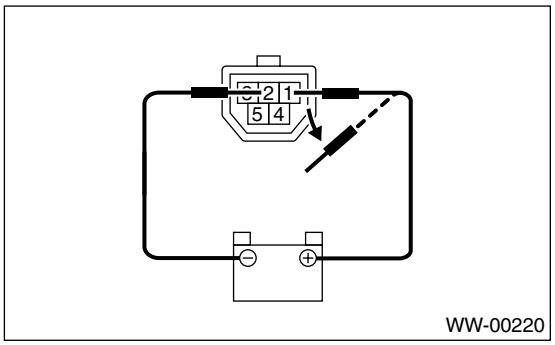
WW-00218

2) When the battery is connected to the terminal of connectors, confirm that the wiper motor operates at high speed.



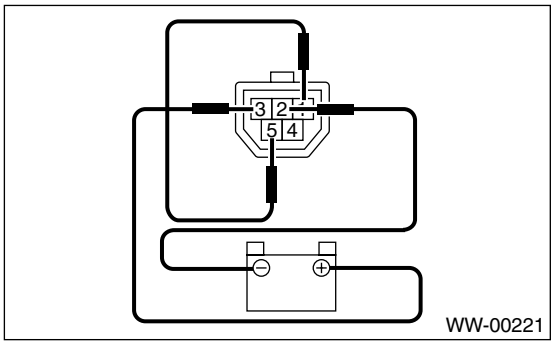
WW-00219

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.



WW-00220

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.

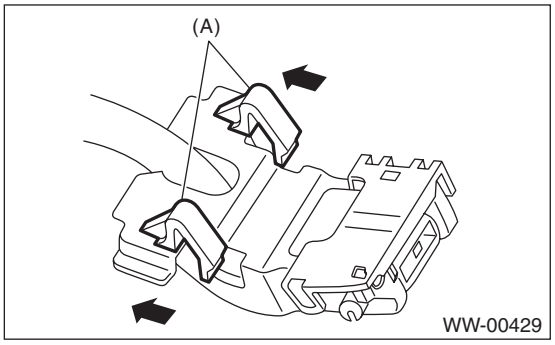


WW-00221

# 8. Front Washer Nozzle

## A: REMOVAL

1) Remove the front hood insulator. <Ref. to EB-13, 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.

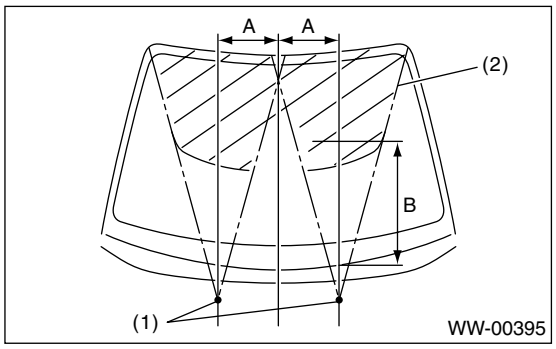
## B: INSTALLATION

1) Install in the reverse order of removal.
2) Adjust the washer nozzle position.

## 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: 535 mm (21.06 in)***

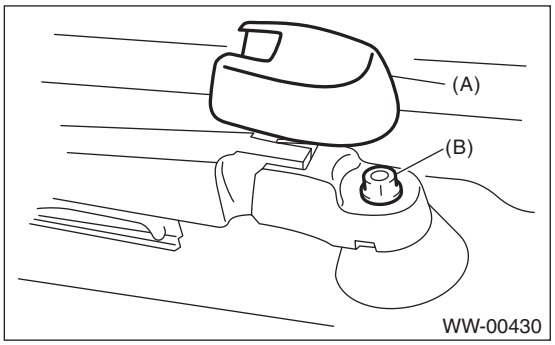



(1) Nozzle
(2) Spray area (shaded area)

# 9. Rear Wiper Arm

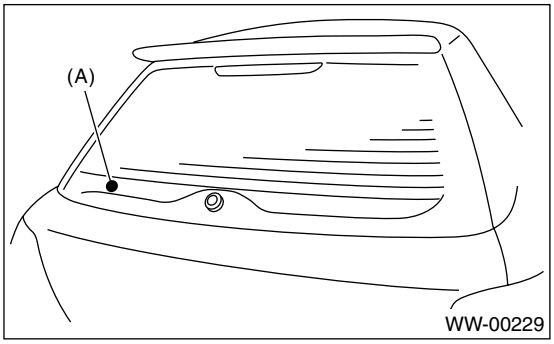
## A: REMOVAL

1) Detach the wiper arm cover (A).
2) Remove the nut (B) to remove the wiper arm.




## B: INSTALLATION

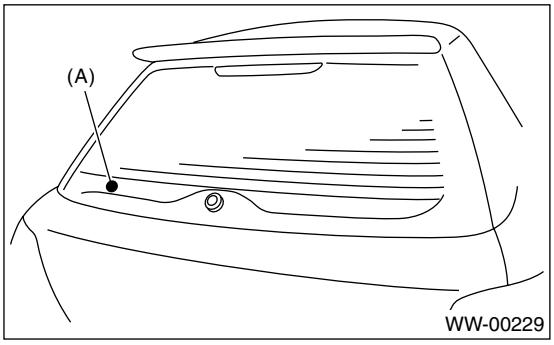
1) Install in the reverse order of removal.
2) Operate the rear wiper once.
3) Align the blade with the marking (A) of the glass.




***Tightening torque:***
***Refer to "COMPONENT" of "General Description".***
***<Ref. to WW-3, REAR WIPER (WAGON MODEL), COMPONENT, General Description.>***

## C: ADJUSTMENT

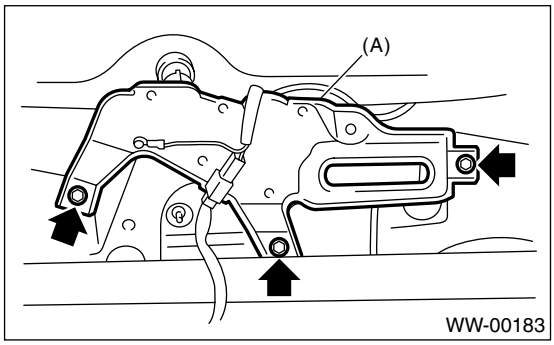
1) Operate the rear wiper once.
2) Align the blade with the marking (A) of the glass.



# 10.Rear Wiper Motor

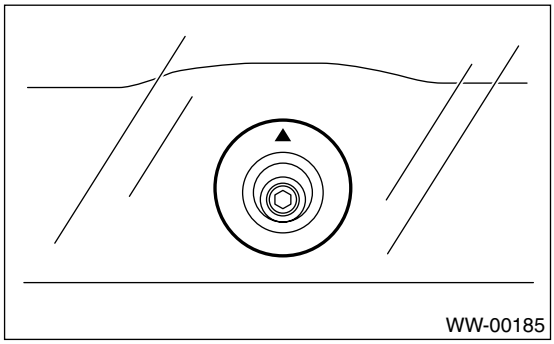
## A: REMOVAL

1) Disconnect the ground cable from the battery.
2) Remove the rear wiper arm. <Ref. to WW-15, REMOVAL, Rear Wiper Arm.>
3) Remove the rear gate lower trim. <Ref. to EI-65, 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

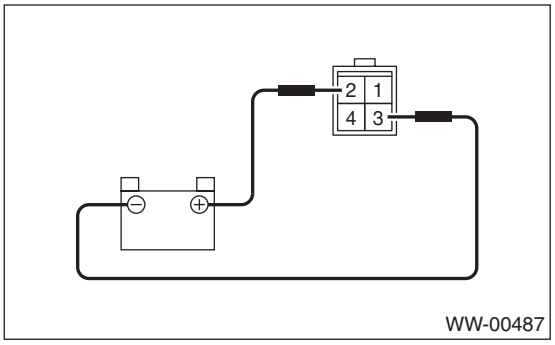
1) Install in the reverse order of removal.
2) Be sure that the pivot cap with the arrow mark facing up, as shown in the figure.



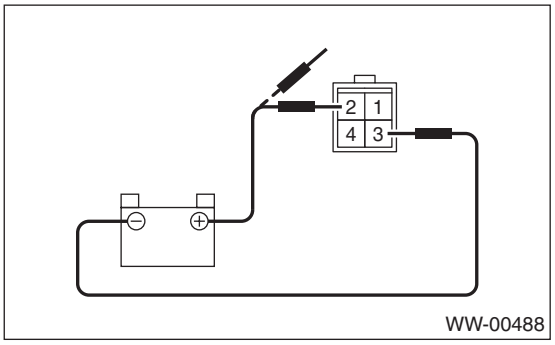

***Tightening torque:***
***Refer to "COMPONENT" of "General Description".***
***<Ref. to WW-3, REAR WIPER (WAGON MODEL), COMPONENT, General Description.>***

## C: INSPECTION

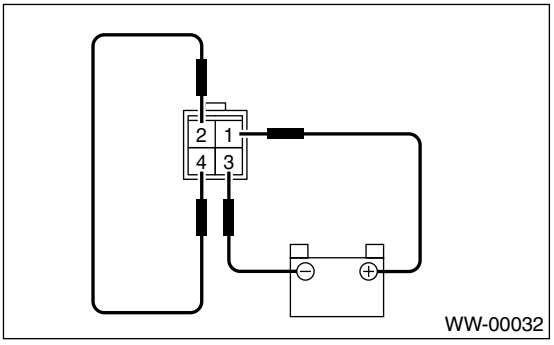
1) Connect the battery to the wiper motor connector and confirm that wiper motor operates.




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.



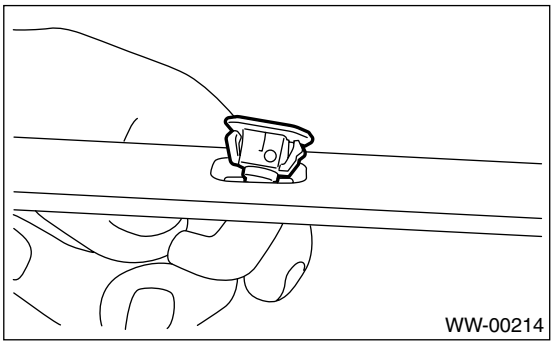

3) Connect the battery and confirm that the wiper motor stops at the automatic stop position after the wiper motor operates at low speed again.



# 11.Rear Washer

## A: REMOVAL

1) Remove the roof spoiler. <Ref. to EI-40, REMOVAL, Roof Spoiler.>
2) Remove the washer hose from washer nozzle.
3) Push the claw of the nozzle from the reverse side of roof spoiler with a flat tip screwdriver or equivalent, and remove the washer nozzle.



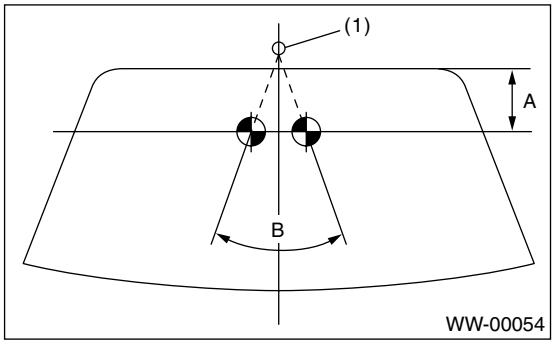

## B: INSTALLATION

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
(A) 70 mm (2.76 in)
(B) 70°

# ENTERTAINMENT

# ET


| | | Page |
|---|---|---|
| 1. | General Description | 2 |
| 2. | Audio System | 3 |
| 3. | Front Accessory Power Supply Socket System | 4 |
| 4. | Rear Accessory Power Supply Socket System | 5 |
| 5. | Navigation System | 6 |
| 6. | Audio | 8 |
| 7. | Front Speaker | 11 |
| 8. | Tweeter | 12 |
| 9. | Rear Speaker | 13 |
| 10. | Antenna | 14 |
| 11. | Antenna Amplifier | 15 |
| 12. | Noise Suppressor | 16 |
| 13. | Navigation Display | 17 |
| 14. | GPS Antenna | 18 |
| 15. | Navigation Body | 19 |
| 16. | AUX Input Terminal | 20 |
| 17. | Front Accessory Power Supply Socket | 21 |
| 18. | Rear Accessory Power Supply Socket | 22 |
| 19. | Steering Satellite Switch | 23 |